Lucent Technologies
Bell Labs Innovations

DACS II
Release 9.0, PDS
2.048-Mb/s Interface
Command and Message Manual

Volume I

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About This Document

Purpose

The *DACS II Release 9.0 Command and Message Manual* describes the input commands and output messages of Release 9.0 of the Digital Access and Cross-Connect System II (DACS II). In addition, it provides full support for previous product releases.

NOTE:
Those customers using this manual with Releases 3 through 7.0.3 software should be aware that all features of a particular message shown for Release 9.0 may or may not apply to previous releases.

This manual consists of three volumes as follows:

- **Volume I** - This volume contains general information about the document, a detailed introduction that defines DACS II messages, relates how to communicate with DACS II, introduces the administrative links, and discusses in detail NPC addressing, on-line help feature, system configuration and features a listing of related documentation. Message listings in this volume include alphabetical and numerical, summary list of input commands and a list of autonomous messages. A comprehensive presentation of input commands and output messages (ABT through DGN) concludes this volume.
- **Volume II and III** - These two volumes contain input commands and output messages in the following order:
  - **Volume II** - DGRTH through RST
  - **Volume III** - SAVE through UTL and the Glossary

Reason for Issue

The *DACS II Release 9.0 Command and Message Manual* has been issued to include updated and new commands applicable to Release 9.0.

Intended Audiences

This manual is a catalog of messages intended for reference by a technician or craftperson who needs additional details about a message. It provides the user with supplemental information for the Digital Access and Cross-Connect System II (DACS II) that is programmed in the Program Documentation Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

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Introduction

1

Introduction

Foreword

This manual contains commands and messages for Digital Access and Cross-Connect System II (DACS II) software Release 9.0.

Who Should Use This Manual

This manual is a catalog of messages intended for reference by a technician or craftsperson who needs additional details about a message. It provides the user with supplemental information for the DACS II that is programmed in the Program Document Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

How To Use This Manual

The user refers to a particular message via the message number or the action verb. The messages are arranged in alphabetical order by action verb; for example, add, audit, broadcast, change, etc. A numerical list, an alphabetical list, and a summary of input commands list provide cross referencing of messages and should help in locating a particular message.

A *message* is a communication between a user* and DACS II. Input messages, or

---

* A *user* can be a person operating a terminal connected to a DACS II or an Operations System (OS), such as TIRKS† system, SARTS, etc.

†

commands, are sent by a user to a DACS II. Output messages are originated by a DACS II and sent to the user.

How the Manual Is Organized

This manual consists of three volumes as follows:

Volume I Contents

- Introduction
  - About This Manual
  - DACS II Messages
  - Communicating With DACS II
  - DACS II Administrative Links
  - NPC Addressing
  - On-Line Help Feature
  - System Configuration
  - Documentation Support
  - Message Lists
    - Alphabetical List of Messages
    - Numerical List of Messages
    - Summary of Input Commands
    - List of Autonomous Messages
  - Messages (ABT through DGN).

Volume II Contents

- Messages (DGRTH through RST).

Volume III Contents

- Messages (SAVE through UTL).
- Glossary

DACS II Messages

In this manual, DACS II messages are arranged in alphabetical order with the input command preceding the output message(s) associated with that command. Table 1, following the "Output Message Format" section, groups the messages according to functional category, message number, verb, and keyword. The inexperienced technician or craftsperson should find this table helpful in locating a particular message, group of messages, verb, or keyword.

How the Messages In This Manual Are Formatted

Each message is presented in actual input command format with accompanying explanations of parameters. Additionally, all responses to the input command, such as the completion, the denial, and any autonomous messages generated from the input or that are activated by the machine, are shown.

Understanding Message Numbering

Messages are grouped according to verbs and keywords and are indexed for reference by a *message number*.

IMPORTANT: In the PDS language, the message number is used for organization and reference and does not appear in an actual message.

Message numbers have the following format:

`I.mmmmn`	Input command
`O.mmmmn`	Output message reporting a successful or conditional completion (`COMPL`) of the input command
`O.mmmmn.pp`	Output message reporting a denial (`DNY`) of the input command.

Input commands are prefixed by an `I`; output messages are prefixed by an `O`. All messages related to each other have the same `mmmm` digits. An input command may have more than one completion output message. In this case, the last digit, `n`, indicates the particular completion message. Denial output messages are referenced by the additional digits `pp`.

For example, consider the monitor test access group of messages (`mmmm` = `2100`). Below is a replica of the input command followed by the possible output messages for this group:

```
I.21001    TTST:FRM xy,SEQ ww:MON[, TO ghijjj], TP kk!
O.21001    ::TTST MON TP COMPL
O.21001.01 ::TTST TP DNY
O.21001.02 ::TTST MON TP DNY
```

```
O.21001.03 ::TTST MON TP ASSGN DNY
O.21001.04 ::TTST MON TP DNY
```

Usage of Uppercase and Lowercase Characters

In the command and message formats, uppercase and lowercase letters distinguish between information that is constant (uppercase) and information that is variable (lowercase). Any character written in uppercase appears on the output device exactly as written. A variable represented by lowercase letters will be replaced on the printout or screen by a value listed under the EXPLANATION OF PARAMETERS for that particular variable.

Representation of Lines Longer Than the Page Width

Many message lines in this document exceed the width of the margins of the page on which they are printed. Consequently, a way to present the message on more than one line while maintaining an accurate representation of the message's parameter fields and the character spacing between them has been devised. The backslash character is used in both input and output message representations to mark the point in the message text where a single line has been truncated and continued onto another line. This is consistent with the present use of the backslash character on input to enter a command whose length exceeds 80 characters. The user can easily construct the single-line representation because the backslash marks the extent of any blank characters in the message.

Rather than using the backslash convention discussed above, some utility (UTL) output messages are printed in a reduced type font because of their volume.

Delimiters

Delimiters are used to enclose a field in a message:

- `[ ]` Brackets indicate an optional field, one which may or may not be used in the input command or appear in the output message.
- `{ }` Braces indicate a field containing alternate choices. For input commands, the user must select one of the choices. In output messages, braces indicate that only one of the fields within the braces will appear.
- `< >` The less than and greater than symbols enclose an abbreviation representing variable length information. These delimiters are never used in actual DACS II input commands or output messages but are used only in describing the message format in this manual.
- `( )` Parentheses **are** part of the message text and must be entered where shown.

Message Layout and Heading Definitions

The layout or skeleton for a message in this manual contains the following major headings:

- INPUT COMMAND FORMAT
  - Nonhierarchical Format
  - Hierarchical Format
- EXPLANATION OF COMMAND
- EXPLANATION OF PARAMETERS
- COMPLETION MESSAGE
  - Nonhierarchical Format
  - Hierarchical Format
- DENIAL MESSAGE (Not applicable to every message)
  - Nonhierarchical Format
  - Hierarchical Format
- AUTONOMOUS MESSAGES (Not applicable to every message)
  - Nonhierarchical Format
  - Hierarchical Format.

INPUT COMMAND FORMAT shows the command exactly as it appears when entered at the terminal. An exception is that some input commands are too long to be displayed on a single line; therefore, these messages are presented on multiple lines. Both the nonhierarchical and hierarchical NPC numbering formats are shown (refer to the "NPC Addressing" section).

EXPLANATION OF COMMAND explains the input command in general terms.

EXPLANATION OF PARAMETERS explains keywords and variables in detail, such as the specific entity, condition code, etc., for that command. The uppercase letters denote keywords and the lowercase letters denote variables.

COMPLETION MESSAGE is the normal response to the input command and indicates the successful completion of the command or the task requested by the command.

DENIAL MESSAGE indicates the input command has been denied and will not be executed. The denial message includes an error code describing the reason for the denial.

AUTONOMOUS MESSAGES report a change in the equipment/operations state of the DACS II. For example, a frame audit message (FRADTS) will be generated when a diagnostic and audit background test finds a problem with the equipment.

Communicating With DACS II

Input Command Modes

An input command requests an action to be performed; this command contains necessary information for DACS II to accomplish the requested action. The user has two basic modes for inputting commands: The command mode and the menu/prompt mode.

Command Mode

The command mode is for the experienced user or machine-machine operation. A command must be selected along with variables and entered within a single line. The user types a single-line command with the only carriage return occurring at the end. "Single-line" refers to the input *command*, not to the display of the command. *A long single-line command may extend for several lines on a display terminal.*

DACS II accepts up to 120 characters of input per command. If an input command exceeds 80 characters (the standard width of most terminal screens), the input will continue on the next line of the display beginning with the 81st character. However, the command line can be broken at a convenient place by typing a backslash (\) followed by a carriage return. The display of the input command will continue on the next line, but the command will be interpreted as a single-line command. If 120 characters is not sufficient or if the user finds entering long commands error-prone, the single-line command can be broken up into several smaller commands.

Entering a carriage return without the backslash terminates the input and causes the line to be interrupted. An exclamation point (!) also terminates the input command (that is, DACS interprets the carriage return and ! as the end of the command). If the carriage return is used, ! is echoed back to the terminal.

Menu/Prompt Mode

The **menu/prompt mode** consists of **on-line help** to assist a user in completing an input command. This mode aids the user by providing a list of context sensitive alternative variables or keywords.

The user starts the menu/prompt mode by entering a question mark (**?**) in the command line at the point in question. In response, DACS II presents a list of possible keywords. This list is presented to the user in menu or prompt form. At this point, the user may continue or return to the command line. If the user continues, he/she should refer to the detailed examples (menu form and prompt form) in the "On-Line Help Feature" section.

Aborting an Input Command or Output Message

The `ABT` command is entered to *interrupt an input command or an output message*. If `ABT` is entered for a particular link, the output from this link will be interrupted just after the `ABT` command is entered or after one or two output lines. The output message on the other links may or may not be interrupted, option dependent. When `ABT` is used, the command generating the output will be completed unless the autonomous message, `ERR CMD ABT TM STOPPED` (Message O.01121), appears. See the `ABT` command (I.55711) in this

document for a list of commands and messages that may be aborted.

For a nonabortable message, the output message will not be affected.

If a nonabortable message is being printed out but DACS II is executing an abortable command, the `ABT` command will stop that command and `ERR CMD ABT TM STOPPED` will be outputted on all links.

Input Command Format

General

The general format for an input command is:

```
VERB:FRM xy,SEQ ww:DATA [  ] !
```

`VERB` is the action verb telling the system to do something: add, change, cross-connect, restore, etc. The verbs are listed in Table 1 and in the Glossary.

The `FRM xy` field is optional and identifies the DACS II frame to which the command is being sent. A DACS II frame is identified by a 2-digit number whose range is from 00 through ZZ. This number is assigned to the frame when it is placed into operation.

The sequence field `SEQ ww` assigns an identifying 2-digit number to the command and is also optional. The number is arbitrarily chosen by the operator. This field is commonly used when two or more remote operators using an OS are sharing the same administrative link. Sequence numbers enable the operators to keep track of their commands.

The frame and sequence fields are optional. If the sequence field is omitted, sequence number "00" is assigned to the command by default.

The `DATA` field consists of keywords and numbers as required by the command. A delimiter, brackets [ ] in this case, encloses variable optional information which gives specific information that is required by the verb to execute that command. All variables are positional by significance within the command line.

Colons are used to separate the variables (also called group, block, field); but if they are logically connected, these variables are separated by commas. The colon (`:`) is used as a variable field delimiter.

Additional variable information is contained in the EXPLANATION OF PARAMETERS as required for the message. Verbs, keywords, and variables are positionally significant within the command line.

Command Example

```
RST:FRM 05,SEQ 12:NPC 097! PF
```

The above command asks DACS II to restore to service (`RST`) network processing circuit number 97 (`NPC 097`) in DACS II frame number 5 (`FRM 05`). The operator has arbitrarily assigned the sequence number 12 (`SEQ 12`) to the command.

Keywords

An input command consists of *keywords* that combine the equipment and circuit identification variables. A *keyword* is an alphanumeric string of characters representing:

- Verb (also called action verb or command verb)
- Entity identification
- Address specification
- Results of a command.

Verbs are keywords or action verbs that tell the system to do something. Table 1 lists all Release 9.0 verbs and their associated keywords.

Entity identification is a keyword that identifies a specific system or circuit pack within the system. For example, the keyword `NPC` refers to a network processing circuit.

Address specification is a keyword that refers to a specific address. `TP 03`, for example, refers to a specific test port (Test Port 03).

Keywords sometimes report the results of a command. In response to a diagnostic command, DACS II might return the keyword `ATP` to indicate "All Tests Passed."

The "Glossary" section contains a listing of all keywords and their definitions.

Input Command Control Characters

The following characters may be used while entering the input command:

& (or **CONTROL-x**, or **CTRL-x**). *Abandon message*. Entering any one of these characters will cause the message to be abandoned and will return the DACS II system prompt.

^ h (or **CONTROL-h** or **CTRL-h**), _ (underline), **S** (or **BACKSPACE**). *Erase last character*. Depressing the CONTROL and the H keys simultaneously or depressing the underline key or the BACKSPACE key causes DACS II to ignore the last character of a message and echo an underline (_). Entering *n* number of erase character symbols causes DACS II to ignore the last *n* characters of a message.

BREAK. *Interrupt output message*. The BREAK key interrupts an output message. The message continues after an allotted amount of time has passed or after the operator completes entering the input command.

Input Command Acknowledgements

After DACS II has received the execute character of the input command, an immediate reply will appear with one of the following acknowledgements:

`PF` (Printout Follows)

DACS II received the input command and processed it. An output message will soon be returned. The output message will report the results of the work initiated by the command. If the system cannot complete the command, the reason will be printed.

`RL` (Retry Later)

DACS II cannot execute the requested command now because it does not currently have system resources available.

— The system could be temporarily overloaded.

— The command queue could be excessively long.

— The requested program may be busy, etc.

Wait, and enter the command later.

`NG` (No Good)

The basic format of the command is correct, but the system is in trouble. For example, MP = MCOND means the main processor is in the maintenance condition state.

`NA` (No Acknowledgement)

The command has been accepted by the parser, but processing control has been lost, thus making correct acknowledgement impossible. An example is when the communications interface (CI) has detected a local area network (LAN) failure.

If either NA or RL is sent as an input acknowledgement, a normal or error output message may not be sent. Also, if the input command itself is in error, the input acknowledgement will indicate this fact and either the normal or error message will not be sent.

Acknowledgement	*Meaning*
?V<cr><lf>	Command code error
?D<cr><lf>	Parameter block error
?E<cr><lf>	Error in command, cannot be identified as either ?V or ?D
?P<cr><lf>	Parity error occurred in the input
?T<cr><lf>	The time between characters exceeded timeout threshold
?X<cr><lf>	Command aborted, in response to a <cancel> or <break> from user.

Output Message Format

There are three types of DACS II output messages. The normal or **completion message** indicates that the input command from the user has been executed and completed. An error response or **denial message** means the input command has been denied and gives the reason or condition code for the denial. An autonomous output message reports a change in the operational state of the DACS II.

General Format of a Single-Line Output Message

The format for an output message is:

```
PA TIME FRM,SEQ LINK IDENT DATA TERM
```

The priority of action (PA) field is a 2-character field indicating the priority level as follows:

`*C`	Immediate action, critical alarm
`**`	Immediate action, major alarm
`*`	Action, minor alarm
`M^`	Results of manual action
`A^`	Autonomously generated action message
`I^`	Autonomously generated information message.

Note: The ^ indicates a space.

`TIME` is the time of day using a 24-hour clock with an hours:minutes:seconds (`hh:mm:ss`) format.

The 2-digit `FRM` field identifies the DACS II frame that sent the message.

The `LINK` field contains a digit from 1 through 6, optionally followed by two more digits, that identifies the DACS II administrative link that originated the command. A blank `LINK` field indicates an autonomous message generated within DACS II. The optional two digits identify the virtual circuit number and range from 1 through 16.

The `IDENT` and `DATA` fields identify the action verb and associated keywords, variables, and data to which the output message is responding.

The termination field, `TERM`, indicates the results of a requested command. Some possible terminations are:

`COMPL`	Requested action is completed.

`STOPPED`	Requested action stopped before normal completion.
`IN PROGRESS`	Requested action is in progress.
`[ ] DNY`	Requested action is denied. The reason for denial is indicated in the output message. The brackets signify various keywords and data used to explain the reason.

Completion Message

A possible response to the input command `RST:FRM 05,SEQ 12:NPC 097!` (restore to service network processing circuit number 097 in DACS II Frame 05) could be:

```
M 07:39:20 05,12 2 RST NPC 097 TYPE DE100 COND 00 COMPL
```

`M`, the priority of action, indicates the result of a manually entered command. The time (07:39:20), the DACS II frame number executing the command (05), the message sequence number (12), and the link number (2) follow. The remaining fields reflect the input command that originated the output message and the results of the command. In this case, network processing circuit number 097 (`NPC 097`), a standard DE100 digroup card (`TYPE DE100`), was restored to service (`RST`). Restoration of the NPC occurred without error (`COND 00`), and the command was successfully completed (`COMPL`).

Denial Message

A possible response to the input command `RST:FRM 05,SEQ 12:NPC 097!` could be:

```
M 07:39:20 05,12 2 RST NPC 097 TYPE DE100 COND 02 DNY
```

The denial reason in this example (`COND 02`) means that the NPC is not equipped. The other fields in the message are the same as the completion message.

Autonomous Messages

This example of an autonomous output message (65041) reports that a major or minor alarm for a parameter has been idled or cleared:

Nonhierarchical Format

```
I 07:39:20 05,12 ALM IDLD <parameter> NPC 097 COMPL
```

Hierarchical Format

```
I 07:39:20 05,12 ALM IDLD <parameter> NPC 01423 COMPL
```

Table 1. Functional Categories of Messages

MESSAGE CATEGORY	NUMBER	VERB	KEYWORD
Input Denials	01100	*	BAD, CMD, STOPPED, INACT
Startup Messages	01200	*	STARTUP, BOOT, RESET
Error Messages	01300	*	ERR, OVERLOAD, RESET
One-Way Cross-Connect Two-Way Cross-Connect	11000	OCON TCON	FROM, TO, MPM
One-Way Terminated and Two-Way Terminated Cross-Connections	12000	OCNT TCNT	FROM, TO, MPM
Broadcast Cross-Connect	13000	BCON	FROM, TO, TOX, BCAST, COND
Alternate Cross-Connect	14000	ACON	OLD, NEW, INCL, CUS, RDC
One-Way Disconnect Two-Way Disconnect	15000	ODIS TDIS	FROM, TO, BCAST
Broadcast Disconnect	15200	BDIS	FROM, TOX, BCAST
Change Circuit Parameters	17000	CHG	TCON, OCON, FROM, TO
Change Circuit Parameters	18.20	CHG	BCON, SWCH
Edit Macro or Alternate Map	19000	ED	MACRO, MAP, APPEND, OPEN DELETE, LIST, SAVE, MOVE
Two-Way Monitor Test Access	20000 21000	CTST TTST	FAD, FROM MON, TP, ASSGN
Two-Way Split Test Access	23000	TTST	SPL, TP
Two-Way Hub Test Access	24000	TTST	HUB, TP

* Autonomous Output Message

Table 1. Functional Categories of Messages (Contd)

MESSAGE CATEGORY	NUMBER	VERB	KEYWORD
Two-Way Terminate and Leave Activate/Release Test Access	25000	TTST	TLA, TLR, TP, NUTST UASGN, PTLA, NTLA
Two-Way Test Port Release Test Access	27000	TTST	TPR, TP, ALL, COND
Two-Way Looped Test Access	29000	TTST	LPD, TP
Growth	30000	GRTH	FRAME, SYNC, UNIT, TB NPC, TP, TLI, RTMI, FC
Degrowth	32000	DGRTH	SYNC, UNIT, TB, TLI NPC, TP, FTMI, TYPE
Remove	33000	RMV	MC, LINK, SYNC, CCNI CCB, TSI, TSIS, UNIT CRO, CCN, UC, FC, NPC CCI, ETSI, ETSIS, ECCN
Restore	34000	RST	MC, LINK, SYNC, CCNI CCB, TSI, TSIS, CCN UNIT, NPC, TLI, CRO ALL, UC, FC CCI, ETSI, ETSIS, ECCN
Configure	35000	CFR	XC, SYNC, FRAME
Add	36000	ADD	LINK, LEV, LANG
Edit/Delete	37000	DLT	NPC, USER, FPKG
Change Unit, CCN, NPC Parameters, User/Link profile, and Memory Allotment	38.20	CHG	FRM, SYNC, UNIT, SETOP NPC, PASSWD, SCR GR, MAP SPACE

Table 1. Functional Categories of Messages (Contd)

MESSAGE CATEGORY	NUMBER	VERB	KEYWORD
Activate Map, Execute Macro, Login, Logoff	39000	ACT, EXC, STOP, LOGIN, LOGOFF	MAP, MACRO, USER, TCON
Diagnose	41000	DGN	FRM, MC, LINK, CI, SSC, DISK, TAPE, XC, SYNC, CCNI, CCB, TSI, TSIS, UNIT, NPC CCI, ETSI, ETSIS, ECCN
Utilities	51000	UTL	TOD, ACO, INIT, WHO QRY, DATE, BMTR, CLR FRM, VEDRSN, RCY, PASSWD CNFGR, ALM, FPKG
Utilities	52000	UTL	QRY, CMAP, DMAP, FROM TO, BCAST, TYPE, ALL, SYNC, EQD, UNITS, TSIS MARK
Utilities	53000	UTL	QRY, EQD, TPS, OPTS PEST, FAIL, OSS, ALMS ETSIS
Utilities	55000	UTL	QRY, ESR, STR, ECCN
Utilities	56000	UTL	CLR, STATE, LOC
Utilities	58.20	UTL	BOOT, CLR
Alarm	65000	ALM	CGA, DC, AR01, MJ, MN IDLD, ECCN, OOS, BMTR
Audits	8.200	AUD	QRY, ALL, FTU, NPCS
Frame Audits	8.200	FRADTS*	DGN, FRCMP, BMCMP, MC

* Autonomous Output Message

DACS II Administrative Links

The DACS II can be administered (managed, operated) from a local terminal or remotely from an operations system (OS) connected via an administrative link. Six physical links can be connected to the DACS II frame. Links 1–4 are asynchronous and links 5 and 6 can be asynchronous or synchronous depending on the communications interface. Sixteen virtual

circuits may be established on a synchronous link.

Variables n and vv are used within the message formats to represent the physical and virtual link numbers, respectively.

A level of message screening can be assigned to each link. A user may choose to always receive output messages in response to his/her commands, to receive selected messages, or to receive all messages from the other links. Autonomous messages may be blocked for a particular link to prevent other output messages from being interspersed among the user's messages. Some uses of an administrative link are:

- DS0 channel and clear DS1 signal cross-connections and test access
- Subrate data feature cross-connections
- Common equipment and feature equipment provisioning and maintenance
- Equipment and channel status information
- DS1 and DS3 facility provisioning and maintenance
- DS1 and DS3 facility performance readings
- DS3 facility alarm surveillance and control (AS&C) and DS3 performance monitoring using telemetry asynchronous block serial (TABS) protocol.

Administrative links carry output messages in response to one of the following occurrences:

- An input command

  The output message reports that the input command was either completed successfully or denied; additionally, it may contain information requested by the input command. A *normal response* is an output message reporting a successful completion; and *error response* is an output message reporting a denial.

- An autonomous change in DACS II operation state

  The output message reports a change in the DACS II system operation state which includes alarms and other trouble indications. This type of output message is referred to as an *autonomous response*.

NPC Addressing

Two addressing or numbering schemes for network processing circuits are available: the **nonhierarchical or extended format** and the **hierarchical**. These numbering methods are used to provide a means of locating network processing circuits. The NPC numbering schemes for various NPC types are listed in Chapter 2.

Nonhierarchical Numbering

The **nonhierarchical or extended method** uses consecutive numbering to count through the units in the frame. Each unit has a fixed starting number (for example, 161 for unit 2; 21 for unit 3; 481 for unit 4). The starting number is the same for FTU or DSPU type units.

Hierarchical Numbering

The **hierarchical method** uses a three-part number: the unit number (uv), the module or group number within the unit (m), and the NPC number within the module (np) for a total of five digits (uvmnp).

On-Line Help Feature

Description

DACS II provides on-line assistance to the user when constructing commands at the terminal. This assistance is in the form of a menu-driven help routine. Different menus are displayed during the routine to provide the user with information on all of the command fields. The menu items include: command verbs, applicable keywords for a command, definitions of keywords, and the possible choices or number range for a variable field. Inappropriate selections bring error messages.

The help routine can be used to the degree needed to complete the command: either through the entire command in every field or only for a particular part of the command. Help will probably not be needed after some experience is gained at entering commands, since all the commands are documented and the direct entry of commands is so much faster.

The question mark and RETURN are entered to invoke the different levels of the help routine. A question mark is entered by simultaneously depressing [SHIFT] and [?/i] . The question mark is used to initiate the routine or to get more information, and RETURN is used to see the alternative choices at a given point. The dialogue can be terminated either by typing CTRL-x or by completing the current command line when it is displayed. These functions are demonstrated in the following portion.

Summary: The Help Feature

By entering [SHIFT] [?/i], the user may ask DACS II for help at any time before or during the construction of an input command.

In the help mode, DACS II will offer the user menus for the selection of the message keywords and/or prompt for values of variable fields. Entering [SHIFT] [?/i] provides a greater detail of information on the keywords or variables.

A user may select a keyword from a menu by selecting its index number or by entering the keyword itself.

The [RETURN] key displays the command line that has been constructed so far. The user may then enter the remaining keywords and values to complete the command or may enter [SHIFT] [?/i] to return to the menu/prompt mode.

Constructing An Entire Command Using Help

The following sequence demonstrates the use of the menus in the help routine to construct a simple `UTL` (utility) command. Only portions of long menu lists are shown here, but these examples still serve to demonstrate how selections are made.

(1) To invoke the help routine at the start level, enter [SHIFT] [?/i] . DACS II will respond with `OK` and the following menu:

```
Select from:

     1.  ABT
     2.  ADD
     3.  AUD
          .
          .
          .
    20.  UTL

Selection?
```

(2) To obtain more explanation, enter SHIFT ?/. DACS II will respond with `OK` and the following list:

```
Select from:

     1.  ABT (abort the current command)
     2.  ADD (adjust link parameters)
     3.  AUD (query facility alarm data)
          .
          .
          .
    20.  UTL (perform a general utility)

Selection (1-20 or the actual literal)?
```

(3) Here you can enter either `20` or `UTL` followed by SHIFT ?/. The DACS responds with this menu:

```
Select from:

     1.  ,
     2.  :
     3.  FRM
     4.  SEQ

Selection?
```

(4) To bypass the frame and sequence number, which is normally done unless that information is needed for records or to direct the command to a different location, the user enters either **1** or **:** followed by SHIFT ?/. The question mark prompts DACS II to respond with a list of possible keywords that could appear next in the command. The list is long; DACS II prompts the user to enter RETURN to page through it.

```
Select from:

     1.  ACO
     2.  ALL
     3.  ALMS
           .
           .
           .
    81.  UNITS
    82.  WHO
    83.  XC
```

(5) If the user enters a keyword and **?**, DACS II responds with `OK` and supplies the only appropriate keyword(s) to complete the command. For example, if the user enters `WHO` and [SHIFT] [?/], DACS II responds:

```
UTL::WHO,QRY!
Command-line complete. Submit (YES/NO)?
```

(6) To enter the command, the user simply enters `Y` followed by [RETURN] .

Obtaining Help at a Particular Point on a Command Line

In addition to being used to construct a command from scratch, DACS II's on-line help can be used to obtain information on particular fields of a command. If the command format is not known or if the keywords or variables are not clear, the help dialogue can be initiated at any point by entering [SHIFT] [?/] .

(1) Assume the user desires to cross-connect a multipoint circuit and enters the following command:

```
TCON:FROM 001001,TO 002003,MPM(SYM,LEG),TRSP!
```

DACS II responds:

```
M  08:19:06 01,00 2 TCON INERR BAD SYNTAX  2 LN MSG:
TCON::FROM 001001,TO 002003, =MPM=(SYM,LEG),TRSP! DNY
```

`=MPM=` indicates a problem.

(2) The user can use the help feature to obtain information to reenter the correct command. He or she enters `TCON::FROM` and [SHIFT] [?/] . DACS II responds:

```
ds3u unit number =
```

(3) The user desires a circuit using a DSPU NPC (Digital Signal Processing Unit Network Processing Circuit), not an FTU (Facility Terminating Unit). He or she enters [RETURN] to see the next option which is:

```
ftu npc number =
```

Another [RETURN] brings the desired option which is:

```
dspu npc number =
```

(4) To get more information at this point, the user enters [SHIFT] [?/i], and DACS II responds:

```
dspu npc number (3-digit decimal integer, range 641-941) =
```

This is where the trouble occurred in the original command; one of the NPCs must be an MB-type in the range 641-941 (for specific values, see Message 11021). The user enters 641 and [SHIFT] [?/i].

(5) DACS II responds:

```
dmb conference number =
```

The user enters [SHIFT] [?/i] to get more information:

```
dmb conference number (decimal integer, range 1-85) =
```

(6) The user enters the conference number, `2`. To view the current command line, the user enters [RETURN] DACS II echos the command line completed so far:

```
TCON::FROM 6412
```

The user may complete the command by directly entering remaining keywords and parameter values. By entering [SHIFT] [?/i] , DACS II proceeds with the menu and prompts for the remainder of the command:

```
Select from:

     1.  CUS
           .
           .
           .
     8.  TO
     9.  TRB
    10.  TRSP


Selection?
```

(7) The user enters `8` selecting the `TO` keyword (`TCON::FROM 641002,TO . . .`). The user then enters [SHIFT] [?/i] to ask for information in the next command field. DACS II responds:

```
ftu npc number =
```

(8) The user enters [SHIFT] [?/i] to get information on FTU NPC values. DACS II responds:

```
ftu npc number (3-digit decimal integer, range 001-640) =
```

(9) The user enters FTU NPC number `002` and [RETURN] DACS II responds with the command line developed to this point:

```
TCON::FROM 6412,TO 002
```

(10) By entering [SHIFT] [?/i], the user may continue to be prompted through the construction of the remainder of the command or may directly input the remainder of the command for execution:

```
TCON::FROM 641002,TO 002003, MPM(SYM,LEG), TRSP!
```

System Configuration

Frame Configuration and Bay Growth

This section discusses the frame configuration for a standard DACS II Capacity Expansion Frame (CEF) and for a retrofitted CEF. In addition, it details the bay growth schemes and requirements for the CEF. The same command is used to configure a non-CEF system. However, the responses will vary since a non-CEF can have a maximum of two interface bays.

Frame Configuration

A DACS II CEF supports one switch bay and up to six interface bays. The switch bay, always bay 2, controls the overall DACS II system operations and provides the switch matrix, power, timing and alarm, and administrative link connections. The interface bay terminates digital facilities and/or provides the digital signal processing function. Interface bays 1, 3, 4, and 5 support three unit positions, while interface bays 6 and 7 support two units. Therefore, a CEF can be equipped with a total of 16 units. Two interface bay types are supported:

- Original Interface Bay

  The original interface bay supports two facility terminating units (FTUs) in its two upper unit positions and one digital signal processing unit (DSPU) or DS3 unit (DS3U) in its lower unit position. The original interface bay only appears in a retrofitted Release 5.0 CEF. An interface bay used for a CEF can be an original interface bay only if the frame is a retrofit CEF. In such a case, the original interface bay can only be in bays 1 and 3. Bay 3 can be an original interface bay only if the CEF is retrofitted from a 3-bay frame. If bay 3 of a CEF is an original interface bay, bay 1 must also be an original interface bay.

- Flexible Interface Bay

  The flexible interface bay allows fully flexible unit provisioning. Each of the unit positions can be independently equipped as an IFTU, DSPU, or DS3U. The flexible interface bay can occupy any interface bay location; that is, it can occupy bay 1, 3, 4, 5, 6, or 7. The flexible interface bay is the standard interface bay type for the Release 5.0 CEF.

Bay Growth

The minimum bay equipage for a CEF is two bays: Bay 1 (an interface bay) and bay 2 (the switch bay). DACS II allows additional peripheral units and/or bays to be added to an in-service CEF without causing a hit to the existing service.

The bay choices and growth are provisioned by entries to the configuration file using the configuration file command:

```
[I.35021]
CFR:FRM xy,SEQ ww:FRAME!
```

After all data is entered into the configuration file and it is accepted, DACS II outputs the following response:

```
[O.35021]
M hh:mm:ss xy,ww n[vv] CFR FRAME[ COND cc] COMPL
```

Procedure For Configuring the Frame

When the configuration file command is entered, DACS II leads the user to complete the entry of the file by displaying the Main Menu below:

```
1:  Initialize/Reset Configuration File
2:  Add new bay(s) and unit(s)
3:  Add unit(s) to existing bay(s)
4:  Change unit(s) type
5:  Remove unit(s) OR bay(s) and unit(s)
6:  Recall configuration data
7:  Exit
```

Option 1, Initialize/Reset Configuration File

If Option 1 (initializing or resetting the configuration file) is selected, DACS II leads the user through the steps detailed below.

Note: A default option has been assigned to each step and each time a step is entered, DACS II presents its default option unless a user has previously selected an option. In such case, the user-selected option is displayed.

Step 1. Choose the Software Serial Number.

Default = 12345678.2.

Step 2. Choose the height of the bay.

The options are:

```
1: 7’0’’
2: 11’6’’

Default = 7’0’’.
```

Step 3. Choose the Cross-Connect Network designation.

Choose ECCN for a CEF
Choose CCN1 for a non-CEF multibay frame
Choose CCN2 for a single-bay frame (SBF)

Step 4. Choose the allowable nonhierarchical NPC addressing scheme.

The options are:

```
1: Both 3-digit and 4-digit are allowed
2: Only 3-digit is allowed
3: Only 4-digit is allowed

Default = Option 1 (both 3-digit and 4-digit).
```

Selection of option 1 or 3 will be denied if the frame is non-CEF. Selection of option 3 on a CEF will be denied if there is one or more administrative link or if the user has chosen the 3-digit scheme. Similarly, the selection of option 2 on a CEF will be denied if there is one or more administrative links or users using the 4-digit scheme. The denial causes an error message to be displayed; after that, DACS II returns to the Main Menu. In this case, all the choices entered in the previous steps are discarded. Once the Main Menu is shown, the user can either exit to change the provisioning of the link (or user) or select another option from the menu.

Note that for domestic DACS II frames, the 3-digit NPC addressing scheme is the default for DACS II administrative links/users. Also, since the hierarchical NPC addressing scheme does not restrict the frame configuration, there is no selection needed here.

Step 5. Choose total number of bays.

The options are:

```
1: 1 bay
2: 2 bays
3: 3 bays
4: 4 bays
5: 5 bays
6: 6 bays
7: 7 bays

Default = 2 bays (Option 2).
```

Option 1 above (1 bay) is not allowed for a CEF. Options 4 through 7 must not be selected for a non-CEF. Options 4 through 7 are allowed only if the 4-digit scheme (i.e., Option 3 of Step 4) is selected. Otherwise, an error message will be generated and Step 4 will be displayed again.

Step 6. Choose bays.

Step 6.1 If the total number of bays selected is 2, choose bays 1 and 2.

Choose bay 1 type. In the figure below, the boxes shown represent the physical relationship between the switch bay (bay 2) and the bay selected; that is, the one surrounded by asterisks (*).

```
********--------
*       |      |
* Bay 1 | ECCN |
*       |      |
********--------

SELECT BAY 1 TYPE

1: Flexible Interface Bay (Units 1, 2, 5)
2: Original Interface Bay (Units 1, 2, 5)

Default = Option 1 (Flexible Interface Bay).
```

Step 6.2 If the total number of bays selected is 3, choose the third bay as below.

```
********----------------********
*       |       |      |       *
* Bay 4 | Bay 1 | ECCN | Bay 3 *
*       |       |      |       *
********----------------********

SELECT THE NEXT BAY POSITION

1: (Bay 3, Flexible Interface Bay (Units 3, 4, 6)
2: (Bay 3, Original Interface Bay (Units 3, 4, 6)
3: (Bay 4 (Units 7, 8, 11)

Default = Option 1 Bay 3, Flexible Interface Bay)
```

Step 6.3 If the total number of bays selected is 4, select the fourth bay.

Depending on which bay is selected as the third bay, the options chosen for the fourth bay will be one of the following:

Step 6.3.1 If bay 3 is the third bay configured, the fourth bay can only be one of the following:

```
********-------------------------********
*       |       |      |       |       *
* Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 *
*       |       |      |       |       *
********-------------------------********

SELECT THE NEXT BAY POSITION

1: Bay 4 (Units 7, 8, 11)
2: Bay 5 (Units 9, 10, 12)

Default = Option 1.
```

Step 6.3.2 If Bay 4 is the third bay configured, the fourth bay can only be one of the followings:

```
********************************
*       |       |       |      |       *
* Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 *
*       |       |       |      |       *
********************************

SELECT THE NEXT BAY POSITION

1: Bay 3, Flexible Interface Bay (Units 3, 4, 5)
2: Bay 3, Original Interface Bay (Units 3, 4, 5)
3: Bay 6 (Units 13, 14)

Default = Option 1.
```

Bay 1 must also be an original interface bay. If this rule is violated, the type for both bays (bays 1 and 3) must be reentered.

Step 6.4 If the total number of bays is 5, choose the fifth bay.

Depending on the third and fourth bays selected, the selection for the fifth bay will be one of the following:

Step 6.4.1 If bays 3 and 4 are the third and fourth bays (in any order), the options are:

```
*************************************
*       |       |       |      |       |       *
* Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 *
*       |       |       |      |       |       *
*************************************

SELECT THE NEXT BAY POSITION

1: Bay 5 (Units 9, 10, 12)
2: Bay 6 (Units 13, 14)

Default = Option 1.
```

Step 6.4.2 If bays 3 and 5 are the third and fourth bays (in any order), the options are:

```
********--------------------------------********
*       |       |      |       |       |       *
* Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 *
*       |       |      |       |       |       *
********--------------------------------********

SELECT THE NEXT BAY POSITION

1: Bay 4 (Units 7, 8, 11)
2: Bay 7 (Units 15, 16)

Default = Option 1.
```

Step 6.4.3 If bays 4 and 6 are the third and fourth bays, the options are:

```
--------------------------------********
|       |       |       |      |       *
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 *
|       |       |       |      |       *
--------------------------------********

SELECT THE NEXT BAY POSITION

1: Bay 3, Flexible Interface Bay (Units 3, 4, 6)
2: Bay 3, Original Interface Bay (Units 3, 4, 6)

Default = Option 1.
```

Note: Option 2 is allowed only if bay 1 is an original interface bay. If this rule is violated, the bay type for both bays (bays 1 and 3) must be reentered.

Step 6.5 If the total number of bays is 6, choose the sixth bay.

Depending on which bays are already configured, the option displayed will be one of the following:

Step 6.5.1 If bays 3, 4, and 5 were chosen

```
********----------------------------------------********
*       |       |       |      |       |       |       *
* Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 *
*       |       |       |      |       |       |       *
********----------------------------------------********

SELECT THE NEXT BAY POSITION

1: Bay 6 (Units 13, 14)
2: Bay 7 (Units 15, 16)

Default = Option 1.
```

Step 6.5.2 If bay 4 has not been chosen, choose bay 4 as the sixth bay configured.

```
********----------------------------------------
*       |       |      |       |       |       |
* Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 |
*       |       |      |       |       |       |
********----------------------------------------

    THE NEXT BAY IS BAY 4
```

Step 6.5.3 If bay 5 was not selected, choose bay 5 as the sixth bay configured.

```
----------------------------------------********
|       |       |       |      |       |       *
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 *
|       |       |       |      |       |       *
----------------------------------------********

    THE NEXT BAY IS BAY 5
```

Step 6.6 If the 7-bay option is selected, determine if the bay type for bays 1 and 3 has already been stored in the data base. If so, go to Step 7. Otherwise, choose these two bays.

Step 6.6.1 Choose the type for bay 1:

```
-----------------*******-------------------------------
|       |       |       |      |       |       |       |
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 |
|       |       |       |      |       |       |       |
-----------------*******-------------------------------

SELECT BAY 1 TYPE

1: Flexible Interface Bay (Units 1, 2, 5)
2: Original Interface Bay (Units 1, 2, 5)

Default = Option 1.
```

Step 6.6.2 Choose the type for bay 3:

```
--------------------------------*******----------------
|       |       |       |      |       |       |       |
| Bay 6 | Bay 4 | Bay 1 | ECCN | Bay 3 | Bay 5 | Bay 7 |
|       |       |       |      |       |       |       |
--------------------------------*******----------------

SELECT BAY 3 TYPE

1: Flexible Interface Bay (Units 3, 4, 6)
2: Original Interface Bay (Units 3, 4, 6)

Default = Option 1.
```

Step 7. Choose unit types.

Step 7.1 For original interface bay 1, the unit types are:

Units 1, 2: FTU or NONE

Unit 5: DS3U, DSPU, or NONE

Default for units 1 and 2 = FTU.
Default for unit 5 = DSPU.

Step 7.2 For the flexible interface bay 1, unit types are:

Units 1, 2, 5: IFTU, DSPU, DS3U or NONE

Default = IFTU. This is applicable to IFTU and IFTU2.

Step 7.3 For original interface bay 3, the unit types are:

Units 3, 4: FTU or NONE

Unit 6: DSPU, DS3U or NONE

Default for units 3 and 4 = FTU.
Default for unit 6 = DSPU.

Step 7.4 For flexible interface bay 3, the unit type can be:

Units 3, 4, 6: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.5 Bay 4 is restricted to the flexible interface bay type, and the unit type can be:

Units 7, 8, 11: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.6 Bay 5 is restricted to a flexible interface bay type, and the unit type can be:

Units 9, 10, 12: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.7 Bay 6 is restricted to the flexible interface bay type, and the unit type can be:

Units 13, 14: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Step 7.8 Bay 7 is restricted to a flexible interface bay type, and the unit type can be:

Units 15, 16: IFTU, DSPU, DS3U or NONE

Default = IFTU.

Note: It is acceptable for all units to be configured with the option NONE. Also, if the software used on the frame does not support the DS3 termination feature, the DS3U option will not be displayed.

Step 8. After all unit types are chosen and accepted by DACS II, the following will be displayed:

```
Are the Frame # and UID to be unprotected?

  1: YES
  2: NO

  Default = unprotected.
```

When all required data for initializing/resetting the configuration file is entered, the user must press the RETURN key to view the Main Menu. Recalling data, changing data or exiting must be implemented through the Main Menu. Note that DACS II does not back up the configuration data to DISK until the user exits.

To interrupt the data entry and exit, press the DELETE key followed by the RETURN key. Once this interrupt signal is received, DACS II denies the input command, and all newly entered data is discarded. In this case, the input command I.35021 must be reentered to allow initialization or editing of the configuration file.

Option 2, Add New Bay(s) and Unit(s)

To add new bay(s) and/or unit(s) from the Main Menu, DACS II first verifies that the action is allowed. The action of adding new bay(s) and/or unit(s) (option 2 from Main Menu) will be denied if any of the following conditions exist:

a. The configuration file is not initialized.

b. All bays are configured.

c. DACS II is a single bay frame (SBF) or a 3-bay non-CEF.

d. DACS II is a 3-bay CEF equipped with bays 1, 2 and 3, and at least one of its links/users is using the 3-digit scheme.

Once the selection is accepted, DACS II displays the allowable nonhierarchical NPC addressing scheme. If DACS II is currently a 2-bay frame, DACS II displays the same choices as displayed in Step 4 above, except that, instead of the default option, the currently recorded option is displayed. In this case, all requirements for Step 4 above apply.

If the frame is already equipped with three or more bays, DACS II displays the following:

```
THE NONHIERARCHICAL NPC ADDRESS SCHEME IS THE 4-DIGIT SCHEME
```

Option 3, Add Unit(s) to Existing Bay(s)

To add unit(s) to an existing bay from the Main Menu, enter option 3. Units listed are those configured as type NONE. DACS II lists the units in ascending order, with the first unit listed being the default.

Once the unit is selected, DACS II displays the unit type as shown in Step 7 above. However, DACS II only shows up to three options (IFTU/FTU, DSPU, and DS3U) for each unit, depending on the feature package used. The NONE option will not be shown.

After the unit type is selected, if there are other units configured as NONE, DACS II asks the user if another unit is to be added. If the answer is yes, the unit list will be shown again and the same procedure must be repeated. Otherwise, DACS II will allow the user to return to the Main Menu.

The selection of option 3 from the Main Menu will be denied if either of the following two conditions exists:

a. The configuration file is not initialized.

b. No units are configured as NONE.

Option 4, Change Unit(s) Type

To change the unit(s) type, enter option 4 from the Main Menu. Units listed are types IFTU, DSPU and DS3U. Note that an FTU cannot be changed to another unit type and vice versa. DACS II lists the units in ascending order. The first unit listed is the default.

Once the unit is selected, DACS II shows the two allowable choices of the new unit type.

If the original unit type is IFTU, the choice is:

```
1: DSPU
2: DS3U
```

If the original unit type is DSPU, the choice is:

```
1: IFTU
2: DS3U
```

If the original unit type is DS3U, the choice is:

```
1: IFTU
2: DSPU
```

Note: The DS3U option will not be displayed if the DS3 termination feature is not supported by the frame.

After the new type unit is selected, DACS II asks the user if another unit is to be changed to a new type. If the answer is yes, the same procedure must be repeated.

The choice of option 4 from the Main Menu will be denied if one of the following conditions exists:

a. The configuration file is not initialized.

b. The selected unit is grown by the GRTH command.

c. All units are configured with type NONE or FTU.

Option 5, Delete Unit(s) or Bay(s) and Unit(s)

To delete unit(s) or bay(s) and units(s) from the Main Menu, choose the unit number. The units listed are those of a type other than NONE. DACS II lists the units in ascending order, and the first unit listed is the default.

Once the unit is selected, DACS II shows that the unit type is NONE and asks if another unit is to be deleted. If the answer is yes, the same procedure must be repeated. If the answer is no, DACS II then checks to verify if there is a bay with all units as type NONE. If such a bay exists and the bay is not bay 1, DACS II queries the user if the bay is to be deleted. If the response is yes, DACS II deletes the bay and its units from the configuration file. DACS II repeats the routine for each qualified bay. Note that although all three units of bay 1 can be designated as NONE, bay 1 cannot be deleted from the frame.

Note: If all units are configured as type NONE when the option is selected, DACS II immediately starts the bay deletion check.

The deletion of the unit is denied if either of the following conditions exists:

a. The configuration file is not initialized.

b. The selected unit is grown by the GRTH command.

Option 6, Recall Configuration Data

If option 6 is entered from the Main Menu, DACS II presents the configuration file from the most recently completed session. If no session was previously completed, the file stored before the current command is entered will be displayed.

A 7-bay configuration is shown below as an example:

```
Bay6      Bay4      Bay1      Bay2      Bay3      Bay5      Bay7

Unit14    Unit8     Unit2               Unit4     Unit10    Unit16
TYPE      TYPE      TYPE                TYPE      TYPE      TYPE

Unit13    Unit7     Unit1     ECCN      Unit3     Unit9     Unit15
TYPE      TYPE      TYPE                TYPE      TYPE      TYPE

------    Unit11    Unit5               Unit6     Unit12    ------
     TYPE      TYPE                TYPE      TYPE

Bay 1 Type:                           Original Interface Bay
Bay 3 Type:                           Flexible Interface Bay
Height of Bay:                        7’0’’
Software Serial Number:               12345678.2
Frame Number:                         UNINITIALIZED (UNPROTECTED)
Unique Id:                            UNINITIALIZED
Nonhierarchical NPC Address Scheme:   4 digits
```

Note that the TYPE can be IFTU, DSPU, DS3U, or NONE, depending on the type provisioned. The bay type for bays 1 and 3 can be either the original interface bay or flexible interface bay. The word "UNINITIALIZED" is shown for the frame number and for the unique ID number if these numbers are not entered. Otherwise, the number and/or ID stored will be output instead of the word "UNINITIALIZED." DACS II shows whether or not the frame number is protected (in parentheses).

If a specific bay has not been selected, its space will be filled with blanks. An example of a 3-bay frame configuration follows:

```
Bay1      Bay2      Bay3

Unit2               Unit4
TYPE                TYPE

Unit1     ECCN      Unit3
TYPE                TYPE

Unit5               Unit6
TYPE                TYPE
```

After the configuration file is recalled, DACS II instructs the user to return to the Main Menu.

If the configuration file is not initialized, the recall option will be denied.

Option 7, Exit

If Option 7 is selected from the Main Menu, DACS II shows all data in the configuration file as if the "recall" option were chosen. In addition, DACS II displays the following:

```
Is the above data correct ? (if not, reenter the data)
     1: YES
     2: NO
  IS DATA CORRECT ?
```

If the answer is yes, DACS II displays the following menu:

```
Preparing to write Configuration File to DISK
Please wait while writing to disk
Are you sure? (YES/NO)
```

If the answer is yes, DACS II begins writing the configuration file to DISK. When the configuration file backup is completed, output message O.35021 appears. DACS II backs up the configuration file to DISK before generating message O.35021.

Note: DACS II generates the completion message even if the content of the configuration file is unchanged.

Configuration File Completion

The configuration file command can only be executed if the conditions listed are met:

1. The MC is in maintenance condition.
2. The command is entered from link 1.
3. The command is entered by the superuser.

The configuration file command allows the configuration information to be entered all at once or at the time that a new bay or unit is added to the frame. The entry of unit types into the unit positions in the configuration file does not equip these units; rather it limits unit equipage to be consistent with the configuration file and makes the equipment locate function available to assist the craft installation operations before the equipment has been placed in service.

Documentation Support

The following sections provide descriptions of the following types of DACS II documents:

- Customer Reference Manual
- Operation and Maintenance Manual
- Command and Message Manual
- Quick Reference Guide
- Customer Information Releases

Customer Reference Manual

This manual provides the overall description of the DACS II equipment and features including physical, functional, application, and capability considerations and administrative link connections.

The following table lists the Customer Reference Manual by select code, issue, and applicable software release.

Document #	Subject	Iss.	Release					
			1	2	3	4	5	6
365-301-002	DACS II Customer Reference Manual	1	X					
		2			X			
		3			X	X		
		4				X	X	
365-352-000	DACS II Customer Reference Manual	1	X	X	X	X	X	
365-353-000 *	DACS II Customer Reference Manual	1	X	X	X	X	X	X

* Last version.

Operation and Maintenance Manuals

The operation and maintenance manuals contain instructions on how to operate the DACS II and how to clear trouble messages. These manuals are intended to be the guide for daily use and for troubleshooting before requesting technical help. The operation and maintenance manuals for the basic core software and all features are available in both MML and PDS versions.

The following table lists the Operation and Maintenance Manual by select code, issue, and applicable software release.

Operation and Maintenance Manual										
Document #	**Subject**	**Iss.**	**Release**							
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
365-301-601	DACS II Operation and Maintenance Manual	1	X							
365-301-605	DACS II (PDS)	1		X						
365-301-606	DACS II (MML)	1		X						
365-301-615	DACS II (PDS)	1			X	X				
365-301-616	DACS II (MML)	1			X	X				
365-301-617	DACS II (PDS) Subrate Feature	1			X	X				
		2			X	X	X			
365-301-618	DACS II (MML) Subrate Feature	1			X	X				
		2			X	X	X			
365-301-619	DACS II (PDS) *SLC®* 96 Carrier Feature	B			X	X				
		2			X	X	X			
365-301-620	DACS II (MML) *SLC®* 96 Carrier Feature	A			X	X				
		2			X	X	X			
365-301-615AI	DACS II (PDS) 2.048 Mb/s and Enhanced 2.048 Mb/s Features	Prel.			X					
		1			X	X				
365-301-616AI	DACS II (MML) 2.048 Mb/s and Enhanced 2.048 Mb/s Features	1			X					
		2			X	X				
365-301-621	DACS II (PDS) Gateway Feature	1			X	X				
365-301-622	DACS II (MML) Gateway Feature	1			X	X				
365-301-623	DACS II PDS Domestic	2				X				

Operation and Maintenance Manual										
Document #	**Subject**	**Iss.**	**Release**							
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
365-352-001	DACS II PDS Domestic	1				X	X			
365-352-011	DACS II MML Domestic	1				X	X			
365-352-021	DACS II PDS 2.048 Mb/s	1				X	X			
365-352-031	DACS II MML 2.048 Mb/s	1				X	X			
365-301-627	DACS II Capacity Expansion Frame, (PDS) Core with DS1, DS3, and Gateway Features	1					X			
365-301-627AI	DACS II Capacity Expansion Frame, (PDS) Core with 2.048 Mb/s and Enhanced 2.048 Mb/s Features	1					X			
365-301-628	DACS II Capacity Expansion Frame, (MML) Core with DS1, DS3, and Gateway Features	1					X			
365-301-628AI	DACS II Capacity Expansion Frame, (MML) Core with 2.048 Mb/s and Enhanced 2.048 Mb/s Features	1					X			
365-353-001	DACS II PDS Domestic	1						X		
365-353-011	DACS II MML Domestic	1						X		
365-353-021	DACS II PDS 2.048 Mb/s	1						X		
365-353-031	DACS II MML 2.048 Mb/s	1						X		

Operation and Maintenance Manual (*Contd*)										
Document #	**Subject**	**Iss.**	**Release**							
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
365-353-054	DACS II PDS Domestic	1							X	
365-353-064	DACS II MML Domestic	1							X	
365-353-074	DACS II PDS 2.048 Mb/s	1							X	
365-353-084	DACS II MML 2.048 Mb/s	1							X	
365-353-121	DACS II PDS Domestic	1								X
365-353-131	DACS II MML Domestic	1								X
365-353-141	DACS II PDS 2.048 Mb/s	1								X
365-353-151	DACS II MML 2.048 Mb/s	1								X

Command and Message Manuals

The command and message manuals are the reference documents for all the input and output messages and explanations of all message fields. These manuals are available in both MML and PDS versions.

The following table lists the Command and Message Manuals by select code, title, issue, and applicable software release.

Command and Message Manuals

Document #	Subject	Iss.	Release							
			1	2	3	4	5	6	7	8
365-301-603	Volumes I and II	1	X							
365-301-606	DACS II PDS	1		X						
365-301-610	DACS II MML	1		X						
365-301-651	DACS II (PDS) Core	1			X	X				
365-301-651AI	DACS II (PDS) 2.048 Mb/s and Enhanced 2.048 Mb/s	1			X	X				
365-301-652	DACS II (MML) Core	1			X	X				
365-301-652AI	DACS II (MML) 2.048 Mb/s and Enhanced 2.048 Mb/s	1			X	X				
365-301-653	DACS II (PDS) Subrate Feature	1			X	X				
365-301-654	DACS II (MML) Subrate Feature	1			X	X				
365-301-655	DACS II (PDS) *SLC*® Carrier Feature	1			X	X				
365-301-656	DACS II (MML) *SLC*® Carrier Feature	1			X	X				

Command and Message Manuals (*Contd*)										
Document #	**Subject**	**Iss.**	**Release**							
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
365-301-657	DACS II (PDS) Gateway Feature	1			X	X				
365-301-658	DACS II (MML) Gateway Feature	1			X	X				
365-301-661	DACS II (PDS)	1			X	X				
365-301-662	DACS II (MML)	1			X	X				
365-301-661AI	DACS II (PDS) 2.048 Mb/s	1			X	X				
365-301-662AI	DACS II (MML) 2.048 Mb/s	1			X	X				
365-301-663	DACS II (PDS)	1					X			
365-301-663AI	DACS II (PDS) 2.048 Mb/s	1					X			
365-301-664	DACS II (MML)	1					X			
365-301-664AI	DACS II (MML) 2.048 Mb/s	1					X			

Command and Message Manuals (*Contd*)										
Document #	**Subject**	**Iss.**	**Release**							
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
365-352-002	DACS II PDS 24 Channel	1				X	X			
365-352-012	DACS II MML 24 Channel	1				X	X			
365-352-022	DACS II PDS 2.048 Mb/s	1				X	X			
365-352-032	DACS II MML 2.048 Mb/s	1				X	X			
365-353-002	DACS II PDS 24 Channel	1						X		
365-353-012	DACS II MML 24 Channel	1						X		
365-353-022	DACS II PDS 2.048 Mb/s	1						X		
365-353-032	DACS II MML 2.048 Mb/s	1						X		
365-353-052	DACS II PDS 24 Channel	1							X	
365-353-062	DACS II MML 24 Channel	1							X	
365-353-072	DACS II PDS 2.048 Mb/s	1							X	
365-353-082	DACS II MML 2.048 Mb/s	1							X	
365-353-122	DACS II PDS 24 Channel	1								X
365-353-132	DACS II MML 24 Channel	1								X
365-353-142	DACS II PDS 2.048 Mb/s	1								X
365-353-152	DACS II MML 2.048 Mb/s	1								X

Quick Reference Guides

These guides contain frequently used commands organized into categories of functions, tables and illustrations of cross-connections, a summary of corrective action for frame audit messages, and for PDS, the meanings of the command denial condition codes. The guides are intended to support the experienced user and to serve as a handy reference for commands. Different guides cover two feature set: 2.048 Mb/s alone or subrate SLC® carrier, DS1, DS3, and clear-DS1. Both MML and PDS versions are available for each feature set.

The following table lists each Quick Reference Guide by select code, title, issue, and applicable software release.

Quick Reference Guide										
Document #	**Subject**	**Iss.**	**Release**							
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
365-301-602	DACS II Quick Reference Guide	1	X							
365-301-607	DACS II PDS	1		X						
365-301-608	DACS II MML	1		X						
365-301-625	DACS II (PDS) 24 Channel	1			X					
		2			X	X				
		3					X			
365-301-626	DACS II (MML) 24 Channel	1			X					
		2			X	X				
		3					X			
365-301-625AI	DACS II (PDS) 30 Channel	1			X	X				
		2					X			
365-301-626AI	DACS II (MML) 30 Channel	1			X					
		2			X	X				
		3					X			
365-352-003	DACS II PDS 24 Channel	1				X	X			
365-352-013	DACS II MML 24 Channel	1				X	X			
365-352-023	DACS II PDS 2.048 Mb/s	1				X	X			
365-352-033	DACS II MML 2.048 Mb/s	1				X	X			
365-353-003	DACS II PDS 24 Channel	1						X		
365-353-013	DACS II MML 24 Channel	1						X		
365-353-023	DACS II PDS 2.048 Mb/s	1						X		
365-353-033	DACS II MML 2.048 Mb/s	1						X		

Quick Reference Guide (*Contd*)										
Document #	**Subject**	**Iss.**	**Release**							
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
365-353-053	DACS II PDS 24 Channel	1							X	
365-353-063	DACS II MML 24 Channel	1							X	
365-353-073	DACS II PDS 2.048 Mb/s	1							X	
365-353-083	DACS II MML 2.048 Mb/s	1							X	
365-353-123	DACS II PDS 24 Channel	1								X
365-353-133	DACS II MML 24 Channel	1								X
365-353-143	DACS II PDS 2.048 Mb/s	1								X
365-353-153	DACS II MML 2.048 Mb/s	1								X

Customer Information Releases

Customer Information Releases (CIRs) are designed both to assist sales personnel and as a vehicle to get new feature information to customers.

The following table lists CIRs by number, issue and title.

Customer Information Releases

CIR No.	Iss.	Title
365-099-031NP	2	Digital Access and Cross-Connect System II
365-099-032NP	1	Multiple DACS Complex
365-099-053TS	1	DACS II, Technical Specification
365-099-055TD	1	DACS II, Release 2 Features
365-099-059TD	1	DACS II, Stratum 2 Clock
365-099-091NP	1	DACS II, Release 2 Features
365-099-093TD	1	DACS II, Release 3 Features
365-099-095IR	1	DACS II Communication Interfaces Circuit Pack Ordering Information
365-099-098IR	1	New Dacs II Dual Digroup Card Announcement and Ordering Information
365-099-100MA	1	Normal Tape Operations for the DACS II, DACS III-2000, and DACS IV-2000 Systems
365-099-105TD	1	DACS II Release 4 Technical Description
365-099-111TD	1	DACS II Release 5.0 Technical Description
365-099-123IR	1	UL Listed DACS II Digital Access and Cross-Connect System
365-099-126TS	1	Digital Access and Cross-Connect System II (DACS II) Release 5.0 Technical Specification

Customer Information Releases (*Contd*)		
CIR No.	**Iss.**	**Title**
365-099-129TD	1	DACS II Release 6.0 Technical Description
365-099-130TS	1	DACS II Release 6.0 Technical Specification

Glossary

Some keywords are used in a generic manner by DACS II. For example, CCN also represents ECCN. Some other keywords used in this manner are: MIU and EMIU, MXR and EMXR, and FTU and IFTU. The Glossary is located in Vol III.

NPC Numbering and XYZ Parameters

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NPC Numbering and XYZ Parameters

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NPC Numbering and XYZ Parameters

Overview

This chapter contains information on the following topics:

- NPC Numbering Schemes
- NPC type (xyz) Parameters.

The numbering schemes and parameters are listed in this chapter to eliminate redundancy throughout the manual. The user should become familiar with these items before using any of the individual commands.

The two addressing or numbering schemes for network processing circuits are available:

- Nonhierarchical
- Hierarchical.

These numbering methods are used to provide a means of locating network processing circuits.

The NPC parameters define specific NPC operational attributes.

Nonhierarchical NPC Numbering

The **nonhierarchical method** uses consecutive numbering to count through the units in the frame. Each unit has a fixed starting number (for example, 161 for unit 2; 321 for unit 3; 481 for unit 4). The starting number is the same for FTU or DSPU type units.

Within the nonhierarchical numbering scheme, there are two numbering formats:

- 3-digit format (i.e., NPC abc)
- 4-digit (extended) format (i.e. NPC [s]abc).

NPC numbers denoted by [s]abc in commands can represent both formats of the nonhierarchical numbering scheme. The extended format variable, [s], is used with a Capacity Expansion Frame.

This section lists the non-hierarchical NPC numbering for various NPC types.

CB Type NPC Numbering on the DSPU

The following tables contain the nonhierarchical CB type NPC numbering (single or non-range) on Unit Type DP (DSPU).

If NPC numbers are expressed in three digits, the valid values are:

CB type NPC numbers listed by unit number, Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001	161	321	481	641	801
021	181	341	501	661	821
041	201	361	521	681	841
061	221	381	541	701	861
081	241	401	561	721	881
101	261	421	581	741	901
121	281	441	601	761	921
141	301	461	621	781	941

If NPC numbers are expressed in four digits, the valid values are:

CB type NPC numbers listed by unit number, Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001	0161	0321	0481
0021	0181	0341	0501
0041	0201	0361	0521
0061	0221	0381	0541
0081	0241	0401	0561
0101	0261	0421	0581
0121	0281	0441	0601
0141	0301	0461	0621
Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641	0801	0961	1121
0661	0821	0981	1141
0681	0841	1001	1161
0701	0861	1021	1181
0721	0881	1041	1201
0741	0901	1061	1221
0761	0921	1081	1241
0781	0941	1101	1261

Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281	1441	1601	1761
1301	1461	1621	1781
1321	1481	1641	1801
1341	1501	1661	1821
1361	1521	1681	1841
1381	1541	1701	1861
1401	1561	1721	1881
1421	1581	1741	1901
Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921	2081	2241	2401
1941	2101	2261	2421
1961	2121	2281	2441
1981	2141	2301	2461
2001	2161	2321	2481
2021	2181	2341	2501
2041	2201	2361	2521
2061	2221	2381	2541

DE/DS/IU/DA and ST110 Type NPC Numbering on the IFTU2/IFTU/FTU

The following table contains the hierarchical NPC numbering for DE, DS, DA, and ST110 type NPCs on Unit Type FT (IFTU2/IFTU/FTU). Includes IU type only for pre-R6.0 releases.

If NPC numbers are expressed in three digits, the valid values are:

DE, DS, DA, and ST110 type NPC numbers listed by unit number, Unit Type FT (IFTU2/IFTU/FTU)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC 001-160	NPC 161-320	NPC 321-480	NPC 481-640	NPC 641-800	NPC 801-960

If NPC numbers are expressed in four digits, the valid values are:

DE, DS, DA, and ST110 type NPC numbers listed by unit number, Unit Type FT (IFTU2/IFTU/FTU)

Unit 1	Unit 2	Unit 3	Unit 4
NPC 0001-0160	NPC 0161-0320	NPC 0321-0480	NPC 0481-0640
Unit 5	Unit 6	Unit 7	Unit 8
NPC 0641-0800	NPC 0801-0960	NPC 0961-1120	NPC 1121-1280
Unit 9	Unit 10	Unit 11	Unit 12
NPC 1281-1440	NPC 1441-1600	NPC 1601-1760	NPC 1761-1920
Unit 13	Unit 14	Unit 15	Unit 16
NPC 1921-2080	NPC 2081-2240	NPC 2241-2400	NPC 2401-2560

MB Type NPC Numbering on the DSPU

The following tables contain the nonhierarchical MB type NPC numbering range on Unit Type DP (DSPU).

If NPC numbers are expressed in three digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-002	161-162	321-322	481-482	641-642	801-802
021-022	181-182	341-342	501-502	661-662	821-822
041-042	201-202	361-362	521-522	681-682	841-842
061-062	221-222	381-382	541-542	701-702	861-862
081-082	241-242	401-402	561-562	721-722	881-882
101-102	261-262	421-422	581-582	741-742	901-902
121-122	281-282	441-442	601-602	761-762	921-922
141-142	301-302	461-462	621-622	781-782	941-942

If NPC numbers are expressed in four digits, the valid values are:

MB type NPC numbers listed by unit number, Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0002	0161-0162	0321-0322	0481-0482
0021-0022	0181-0182	0341-0342	0501-0502
0041-0042	0201-0202	0361-0362	0521-0522
0061-0062	0221-0222	0381-0382	0541-0542
0081-0082	0241-0242	0401-0402	0561-0562
0101-0102	0261-0262	0421-0422	0581-0582
0121-0122	0281-0282	0441-0442	0601-0602
0141-0142	0301-0302	0461-0462	0621-0622
Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641-0642	0801-0802	0961-0962	1121-1122
0661-0662	0821-0822	0981-0982	1141-1142
0681-0682	0841-0842	1001-1002	1161-1161
0701-0702	0861-0862	1021-1022	1181-1182
0721-0722	0881-0882	1041-1042	1201-1202
0741-0742	0901-0902	1061-1062	1221-1222
0761-0762	0921-0922	1081-1082	1241-1242
0781-0782	0941-0942	1101-1102	1261-1262

Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281-1282	1441-1442	1601-1602	1761-1762
1301-1302	1461-1462	1621-1622	1781-1782
1321-1322	1481-1482	1641-1642	1801-1802
1341-1342	1501-1502	1661-1662	1821-1822
1361-1362	1521-1522	1681-1682	1841-1842
1381-1382	1541-1542	1701-1702	1861-1862
1401-1402	1561-1562	1721-1722	1881-1882
1421-1422	1581-1582	1741-1742	1901-1902
Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921-1922	2081-2082	2241-2242	2401-2402
1941-1942	2101-2102	2261-2262	2421-2422
1961-1962	2121-2122	2281-2282	2441-2442
1981-1982	2141-2142	2301-2302	2461-2462
2001-2002	2161-2162	2321-2322	2481-2482
2021-2022	2181-2182	2341-2342	2501-2502
2041-2042	2201-2202	2361-2362	2521-2522
2061-2062	2221-2222	2381-2382	2541-2542

MB/SR/MJ Type NPC Numbering on the DSPU

The following tables contain the nonhierarchical MB, SR, and MJ, type NPC numbering (single or non-range) on Unit Type DP (DSPU).

If NPC numbers are expressed in three digits, the valid values are:

MB, SR, MJ, and CB type NPC numbers listed by unit number, Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001	161	321	481	641	801
021	181	341	501	661	821
041	201	361	521	681	841
061	221	381	541	701	861
081	241	401	561	721	881
101	261	421	581	741	901
121	281	441	601	761	921
141	301	461	621	781	941

If NPC numbers are expressed in four digits, the valid values are:

MB, SR, MJ, and CB type NPC numbers listed by unit number, Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001	0161	0321	0481
0021	0181	0341	0501
0041	0201	0361	0521
0061	0221	0381	0541
0081	0241	0401	0561
0101	0261	0421	0581
0121	0281	0441	0601
0141	0301	0461	0621

Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641	0801	0961	1121
0661	0821	0981	1141
0681	0841	1001	1161
0701	0861	1021	1181
0721	0881	1041	1201
0741	0901	1061	1221
0761	0921	1081	1241
0781	0941	1101	1261
Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281	1441	1601	1761
1301	1461	1621	1781
1321	1481	1641	1801
1341	1501	1661	1821
1361	1521	1681	1841
1381	1541	1701	1861
1401	1561	1721	1881
1421	1581	1741	1901
Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921	2081	2241	2401
1941	2101	2261	2421
1961	2121	2281	2441
1981	2141	2301	2461
2001	2161	2321	2481
2021	2181	2341	2501
2041	2201	2361	2521
2061	2221	2381	2541

PA/PB/PC and ST100 Type NPC Numbering on the IFTU2/IFTU/FTU

The following table contains the hierarchical NPC numbering for PA, PB, PC, and ST100 type NPCs on Unit Type FT (IFTU2/IFTU/FTU).

If NPC numbers are expressed in three digits, the valid values are:

PA, PB, PC, and ST100 type NPC numbers listed by unit number, Unit Type FT (IFTU2/IFTU/FTU)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-032	161-192	321-352	481-512	641-672	801-832
041-072	201-232	361-392	521-552	681-712	841-872
081-112	241-272	401-432	561-592	721-752	881-912
121-152	281-312	441-472	601-632	761-792	921-952

If NPC numbers are expressed in four digits, the valid values are:

PA, PB, PC, and ST100 type NPC numbers listed by unit number Unit Type FT (IFTU2/IFTU/FTU)

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0032	0161-0192	0321-0352	0481-0512
0041-0072	0201-0232	0361-0392	0521-0552
0081-0112	0241-0272	0401-0432	0561-0592
0121-0152	0281-0312	0441-0472	0601-0632
Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641-0672	0801-0832	0961-0992	1121-1152
0681-0712	0841-0872	1001-1032	1161-1192
0721-0752	0881-0912	1041-1072	1201-1232
0761-0792	0921-0952	1081-1112	1241-1272
Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281-1312	1441-1472	1601-1632	1761-1792
1321-1352	1481-1512	1641-1672	1801-1832
1361-1392	1521-1552	1681-1712	1841-1872
1401-1432	1561-1592	1721-1752	1881-1912

Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921-1952	2081-2112	2241-2272	2401-2432
1961-1992	2121-2152	2281-2312	2441-2472
2001-2032	2161-2192	2321-2352	2481-2512
2041-2072	2201-2232	2361-2392	2521-2552

PB/PC Type Numbering on the FTU

The following tables contain the nonhierarchical PB and PC type NPC numbering (single or non-range) on Unit Type FT (FTU).

If NPC numbers are expressed in three digits, the valid values are:

PB and PC type NPC numbers listed by unit number, Unit Type FT (FTU)

Unit 1	Unit 2
NPC	NPC
030	190
032	192
070	230
072	232

If NPC numbers are expressed in four digits, the valid values are:

PA, PB, and PC type NPC numbers listed by unit number, Unit Type FT (FTU)

Unit 1	Unit 2
NPC	NPC
0030	0190
0032	0192
0070	0230
0072	0232

SD Type NPC Numbering on the IFTU2/IFTU/FTU

The following tables contain the nonhierarchical SD type NPC numbering on Unit Type FT (IFTU2/IFTU/FTU).

If NPC numbers are expressed in three digits, the valid values are:

SD type NPC numbers listed by unit number, within an **International module** in Unit Type FT (FTU/IFTU/IFTU2). Only odd NPC numbers are valid for SD type NPCs. The even numbered NPCs immediately following an odd SD type NPC are not available for any other NPC type.

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-031	161-191	321-351	481-511	641-671	801-831
041-071	201-231	361-391	521-551	681-711	841-871
081-111	241-271	401-431	561-591	721-751	881-911
121-151	281-311	441-471	601-631	761-791	921-951

If NPC numbers are expressed in four digits, the valid values are:

SD type NPC numbers listed by unit number, within an **International module** in Unit Type FT (FTU/IFTU/IFTU2). Only odd NPC numbers are valid for SD type NPCs. The even numbered NPCs immediately following an odd SD type NPC are not available for any other NPC type.

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0031	0161-0191	0321-0351	0481-0511
0041-0071	0201-0231	0361-0391	0521-0551
0081-0111	0241-0271	0401-0431	0561-0591
0121-0151	0281-0311	0441-0471	0601-0631
Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641-0671	0801-0831	0961-0991	1121-1151
0681-0711	0841-0871	1001-1031	1161-1191
0721-0751	0881-0911	1041-1071	1201-1231
0761-0791	0921-0951	1081-1111	1241-1271

Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281-1311	1441-1471	1601-1631	1761-1791
1321-1351	1481-1511	1641-1671	1801-1831
1361-1391	1521-1551	1681-1711	1841-1871
1401-1431	1561-1591	1721-1751	1881-1911
Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921-1951	2081-2111	2241-2271	2401-2431
1961-1991	2121-2151	2281-2311	2441-2471
2001-2031	2161-2191	2321-2351	2481-2511
2041-2071	2201-2231	2361-2391	2521-2551

If NPC numbers are expressed in three digits, the valid values are:

SD type NPC numbers listed by unit number,
within a **North American module** in Unit Type FT
(FTU/IFTU/IFTU2).
Only odd NPC numbers are valid for SD type NPCs.
The even numbered NPCs immediately following an odd SD type
NPC are not available for any other NPC type.

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-039	161-199	321-359	481-519	641-679	801-839
041-079	201-239	361-399	521-559	681-719	841-879
081-119	241-279	401-439	561-599	721-759	881-919
121-159	281-319	441-479	601-639	761-799	921-959

If NPC numbers are expressed in four digits, the valid values are:

SD type NPC numbers listed by unit number,
within a **North American module** in Unit Type FT
(FTU/IFTU/IFTU2).
Only odd NPC numbers are valid for SD type NPCs.
The even numbered NPCs immediately following an odd SD type
NPC are not available for any other NPC type.

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0039	0161-0199	0321-0359	0481-0519
0041-0079	0201-0239	0361-0399	0521-0559
0081-0119	0241-0279	0401-0439	0561-0599
0121-0159	0281-0319	0441-0479	0601-0639

Unit	Unit	Unit	Unit
5	6	7	8
NPC	NPC	NPC	NPC
0641-0679	0801-0839	0961-0999	1121-1159
0681-0719	0841-0879	1001-1039	1161-1199
0721-0759	0881-0919	1041-1079	1201-1239
0761-0799	0921-0959	1081-1119	1241-1279
Unit	Unit	Unit	Unit
9	10	11	12
NPC	NPC	NPC	NPC
1281-1319	1441-1479	1601-1639	1761-1799
1321-1359	1481-1519	1641-1679	1801-1839
1361-1399	1521-1559	1681-1719	1841-1879
1401-1439	1561-1599	1721-1759	1881-1919
Unit	Unit	Unit	Unit
13	14	15	16
NPC	NPC	NPC	NPC
1921-1959	2081-2119	2241-2279	2401-2439
1961-1999	2121-2159	2281-2319	2441-2479
2001-2039	2161-2199	2321-2359	2481-2519
2041-2079	2201-2239	2361-2399	2521-2559

SP Type NPC Numbering on the FTU

The following tables contain the nonhierarchical SP type NPC numbering on Unit Type FT (FTU).

Note: Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

If NPC numbers are expressed in three digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-031	161-191	321-351	481-511	641-671	801-831
041-071	201-231	361-391	521-551	681-711	841-871
081-111	241-271	401-431	561-591	721-751	881-911
121-151	281-311	441-471	601-631	761-791	921-951

If NPC numbers are expressed in four digits, the valid values are:

SP type NPC numbers listed by unit number, Unit Type FT (FTU)

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0031	0161-0191	0321-0351	0481-0511
0041-0071	0201-0231	0361-0391	0521-0551
0081-0111	0241-0271	0401-0431	0561-0591
0121-0151	0281-0311	0441-0471	0601-0631
Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641-0671	0801-0831	0961-0991	1121-1151
0681-0711	0841-0871	1001-1031	1161-1191
0721-0751	0881-0911	1041-1071	1201-1231
0761-0791	0921-0951	1081-1111	1241-1271
Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281-1311	1441-1471	1601-1631	1761-1791
1321-1351	1481-1511	1641-1671	1801-1831
1361-1391	1521-1551	1681-1711	1841-1871
1401-1431	1561-1591	1721-1751	1881-1911

Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921-1951	2081-2111	2241-2271	2401-2431
1961-1991	2121-2151	2281-2311	2441-2471
2001-2031	2161-2191	2321-2351	2481-2511
2041-2071	2201-2231	2361-2391	2521-2551

ST Type NPC Numbering on the IFTU2/IFTU/FTU

The following table contains the hierarchical NPC numbering for ST type NPCs on Unit Type FT (IFTU2/IFTU/FTU).

If NPC numbers are expressed in three digits, the valid values are:

ST type NPC numbers listed by unit number, within an **International module** in Unit Type FT (FTU/IFTU/IFTU2).

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-032	161-192	321-352	481-512	641-672	801-832
041-072	201-232	361-392	521-552	681-712	841-872
081-112	241-272	401-432	561-592	721-752	881-912
121-152	281-312	441-472	601-632	761-792	921-952

If NPC numbers are expressed in four digits, the valid values are:

ST type NPC numbers listed by unit number, within an **International module** in Unit Type FT (FTU/IFTU/IFTU2).

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0032	0161-0192	0321-0352	0481-0512
0041-0072	0201-0232	0361-0392	0521-0552
0081-0112	0241-0272	0401-0432	0561-0592
0121-0152	0281-0312	0441-0472	0601-0632
Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641-0672	0801-0832	0961-0992	1121-1152
0681-0712	0841-0872	1001-1032	1161-1192
0721-0752	0881-0912	1041-1072	1201-1232
0761-0792	0921-0952	1081-1112	1241-1272
Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281-1312	1441-1472	1601-1632	1761-1792
1321-1352	1481-1512	1641-1672	1801-1832
1361-1392	1521-1552	1681-1712	1841-1872
1401-1432	1561-1592	1721-1752	1881-1912

Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921-1952	2081-2112	2241-2272	2401-2432
1961-1992	2121-2152	2281-2312	2441-2472
2001-2032	2161-2192	2321-2352	2481-2512
2041-2072	2201-2232	2361-2392	2521-2552

If NPC numbers are expressed in three digits, the valid values are:

ST type NPC numbers listed by unit number, within a **North American module** in Unit Type FT (FTU/IFTU/IFTU2).

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-040	161-200	321-360	481-520	641-680	801-840
041-080	201-240	361-400	521-560	681-720	841-880
081-120	241-280	401-440	561-600	721-760	881-920
121-160	281-320	441-480	601-640	761-800	921-960

If NPC numbers are expressed in four digits, the valid values are:

ST type NPC numbers listed by unit number, within a **North American module** in Unit Type FT (FTU/IFTU/IFTU2).

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0040	0161-0200	0321-0360	0481-0520
0041-0080	0201-0240	0361-0400	0521-0560
0081-0120	0241-0280	0401-0440	0561-0600
0121-0160	0281-0320	0441-0480	0601-0640
Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641-0680	0801-0840	0961-1000	1121-1160
0681-0720	0841-0880	1001-1040	1161-1200
0721-0760	0881-0920	1041-1080	1201-1240
0761-0800	0921-0960	1081-1120	1241-1280

Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281-1320	1441-1480	1601-1640	1761-1800
1321-1360	1481-1520	1641-1680	1801-1840
1361-1400	1521-1560	1681-1720	1841-1880
1401-1440	1561-1600	1721-1760	1881-1920
Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921-1960	2081-2120	2241-2280	2401-2440
1961-2000	2121-2160	2281-2320	2441-2480
2001-2040	2161-2200	2321-2360	2481-2520
2041-2080	2201-2240	2361-2400	2521-2560

SR/MJ/CB Type NPC Numbering on the DSPU

The following tables contain the nonhierarchical SR, MJ, and CB type NPC numbering (single or non-range) on Unit Type DP (DSPU).

If NPC numbers are expressed in three digits, the valid values are:

SR, MJ, and CB type NPC numbers listed by unit number
Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001	161	321	481	641	801
021	181	341	501	661	821
041	201	361	521	681	841
061	221	381	541	701	861
081	241	401	561	721	881
101	261	421	581	741	901
121	281	441	601	761	921
141	301	461	621	781	941

If NPC numbers are expressed in four digits, the valid values are:

SR, MJ, and CB type NPC numbers listed by unit number
Unit Type DP (DSPU)

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001	0161	0321	0481
0021	0181	0341	0501
0041	0201	0361	0521
0061	0221	0381	0541
0081	0241	0401	0561
0101	0261	0421	0581
0121	0281	0441	0601
0141	0301	0461	0621

Unit 5	Unit 6	Unit 7	Unit 8
NPC	NPC	NPC	NPC
0641	0801	0961	1121
0661	0821	0981	1141
0681	0841	1001	1161
0701	0861	1021	1181
0721	0881	1041	1201
0741	0901	1061	1221
0761	0921	1081	1241
0781	0941	1101	1261
Unit 9	Unit 10	Unit 11	Unit 12
NPC	NPC	NPC	NPC
1281	1441	1601	1761
1301	1461	1621	1781
1321	1481	1641	1801
1341	1501	1661	1821
1361	1521	1681	1841
1381	1541	1701	1861
1401	1561	1721	1881
1421	1581	1741	1901
Unit 13	Unit 14	Unit 15	Unit 16
NPC	NPC	NPC	NPC
1921	2081	2241	2401
1941	2101	2261	2421
1961	2121	2281	2441
1981	2141	2301	2461
2001	2161	2321	2481
2021	2181	2341	2501
2041	2201	2361	2521
2061	2221	2381	2541

TA Type NPC Numbering on the DS3U

The following tables contain the nonhierarchical TA type NPC numbering range on Unit Type DT (DS3U).

If NPC numbers are expressed in three digits, the valid values are:

TA type NPC numbers listed by unit number
Unit Type DT (DS3U)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC 001-160 16A-16H	NPC 161-320 32A-32H	NPC 321-480 48A-48H	NPC 481-640 64A-64H	NPC 641-800 80A-80H	NPC 801-960 96A-96H

If NPC numbers are expressed in four digits, the valid values are:

TA type NPC numbers listed by unit number
Unit Type DT (DS3U)

Unit 1	Unit 2	Unit 3	Unit 4
NPC 0001-0160 016A-016H	NPC 0161-0320 032A-032H	NPC 0321-0480 048A-048H	NPC 0481-0640 064A-064H
Unit 5	Unit 6	Unit 7	Unit 8
NPC 0641-0800 080A-080H	NPC 0801-0960 096A-096H	NPC 0961-1120 112A-112H	NPC 1121-1280 128A-128H
Unit 9	Unit 10	Unit 11	Unit 12
NPC 1281-1440 144A-144H	NPC 1441-1600 160A-160H	NPC 1601-1760 176A-176H	NPC 1761-1920 192A-192H
Unit 13	Unit 14	Unit 15	Unit 16
NPC 1921-2080 208A-208H	NPC 2081-2240 224A-224H	NPC 2241-2400 240A-240H	NPC 2401-2560 256A-256H

TE/TI Type NPC Numbering on the DS3U/HDS3U

The following tables contain nonhierarchical TE and TI type NPC numbering range on Unit Type DT (DS3U) or HT (HDS3U). Includes TI type only for pre-R6.0 releases.

If NPC numbers are expressed in three digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U) or HT (HDS3U)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC 001-160 16A-16H	NPC 161-320 32A-32H	NPC 321-480 48A-48H	NPC 481-640 64A-64H	NPC 641-800 80A-80H	NPC 801-960 96A-96H

If NPC numbers are expressed in four digits, the valid values are:

TE type NPC numbers listed by unit number, Unit Type DT (DS3U) or HT (HDS3U)

Unit 1	Unit 2	Unit 3	Unit 4
NPC 0001-0160 016A-016H	NPC 0161-0320 032A-032H	NPC 0321-0480 048A-048H	NPC 0481-0640 064A-064H
Unit 5	Unit 6	Unit 7	Unit 8
NPC 0641-0800 080A-080H	NPC 0801-0960 096A-096H	NPC 0961-1120 112A-112H	NPC 1121-1280 128A-128H
Unit 9	Unit 10	Unit 11	Unit 12
NPC 1281-1440 144A-144H	NPC 1441-1600 160A-160H	NPC 1601-1760 176A-176H	NPC 1761-1920 192A-192H
Unit 13	Unit 14	Unit 15	Unit 16
NPC 1921-2080 208A-208H	NPC 2081-2240 224A-224H	NPC 2241-2400 240A-240H	NPC 2401-2560 256A-256H

TH Type NPC Numbering on the HDS3U

The following tables contain the nonhierarchical TH type NPC numbering range on Unit Type HT (HDS3U).

If NPC numbers are expressed in three digits, the valid values are:

TH type NPC numbers listed by unit number
Unit Type HT (HDS3U)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
NPC	NPC	NPC	NPC	NPC	NPC
001-003	161-163	321-323	481-483	641-643	801-803
005-007	165-167	325-327	485-487	645-647	805-807
009-011	169-171	329-331	489-491	649-651	809-811
	.				
	.				
	.				
157-159	317-319	477-479	637-639	797-799	957-959
16A-16C	32A-32C	48A-48C	64A-64C	80A-80C	96A-96C
16E-16G	32E-32G	48E-48G	64E-64G	80E-80G	96E-96G

If NPC numbers are expressed in four digits, the valid values are:

TH type NPC numbers listed by unit number
Unit Type HT (HDS3U)

Unit 1	Unit 2	Unit 3	Unit 4
NPC	NPC	NPC	NPC
0001-0003	0161-0163	0321-0323	0481-0483
0005-0007	0165-0167	0325-0327	0485-0487
0009-0011	0169-0171	0329-0331	0489-0491
	.		
	.		
	.		
0157-0159	0317-0319	0477-0479	0637-0639
016A-016C	032A-032C	048A-048C	064A-064C
016E-016G	032E-032G	048E-048G	064E-064G

Unit	Unit	Unit	Unit
5	6	7	8
NPC	NPC	NPC	NPC
0641-0643	0801-0803	0961-0963	1121-1123
0645-0647	0805-0807	0965-0967	1125-1127
0649-0651	0809-0811	0969-0971	1129-1131
	.		
	.		
	.		
0797-0799	0957-0959	1117-1119	1277-1279
080A-080C	096A-096C	112A-112C	128A-128C
080E-080G	096E-096G	112E-112G	128E-128G
Unit	Unit	Unit	Unit
9	10	11	12
NPC	NPC	NPC	NPC
1281-1283	1441-1443	1601-1603	1761-1763
1285-1287	1445-1447	1605-1607	1765-1767
1289-1291	1449-1451	1609-1611	1769-1771
	.		
	.		
	.		
1437-1439	1597-1599	1757-1759	1917-1919
144A-144C	160A-160C	176A-176C	192A-192C
144E-144G	160E-160G	176E-176G	192E-192G
Unit	Unit	Unit	Unit
13	14	15	16
NPC	NPC	NPC	NPC
1921-1923	2081-2083	2241-2243	2401-2403
1925-1927	2085-2087	2245-2247	2405-2407
1929-1931	2089-2091	2249-2251	2409-2411
	.		
	.		
	.		
2077-2079	2237-2239	2397-2399	2557-2559
208A-208C	224A-224C	240A-240C	256A-256C
208E-208G	224E-224G	240E-240G	256E-256G

VI Type (Virtual) NPC Numbering

The following tables contain the nonhierarchical VI type NPC numbering range on Unit Type VI (Virtual).

DACS II Non-CEF frames support two virtual NPCs using the three digit NPC numbering scheme. The valid values for Non-CEF frames are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit
-
NPC
961-962

DACS II CEF frames support six virtual NPCs using either a three digit or four digit NPC numbering scheme. If NPC numbers are expressed in three digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit
-
NPC
961-966

If NPC numbers are expressed in four digits, the valid values are:

VI type NPC numbers listed by unit number, Unit Type VI (Virtual)

Unit
-
NPC
9961-9966

Hierarchical NPC Numbering

The **hierarchical method** uses a three-part number: the unit number (uv), the module or group number within the unit (m), and the NPC number within the module (np) for a total of five digits #if pds (uvmnp) #if mml (uv-m-np) with dashes separating the parts.

This section lists the hierarchical NPC numbering for various NPC types.

CB Type NPC Numbering on the DSPU

The following table contains the hierarchical C-Bit (CB) type NPC numbering (single or non-range) for Unit Type DP (DSPU).

```
CB type NPC numbers listed by unit, module, and NPC Number
Unit Type DP (DSPU)

    Unit      Module    NPC
    01-16     1-8       01
```

DE/IU/DS/DA and ST110 Type NPC Numbering on the IFTU2/IFTU/FTU

The following table contains the hierarchical NPC numbering for DE, DS, DA, and ST110 type NPCs on Unit Type FT (IFTU2/IFTU/FTU). Includes IU type only for pre-R6.0 releases.

```
DE, DS, and DA type NPC numbers listed by unit, module, and NPC Number
Unit Type FT (IFTU2/IFTU/FTU)

    Unit      Module    NPC
    01-16     1-4       01-40
```

MB Type NPC Numbering on the DSPU

The following table contains the hierarchical NPC numbering for MB type NPCs on Unit Type DP (DSPU).

```
MB type NPC numbers listed by unit, module, and NPC Number
Unit Type DP (DSPU)

    Unit      Module    NPC
    01-16     1-8       01-02
```

MB/SR/MJ/CB Type NPC Numbering on the DSPU

The following table contains the hierarchical NPC numbering (single or non-range) for MB, SR, MJ, and CB type NPCs on Unit Type DP (DSPU).

```
MB, SR, MJ, and CB type NPC numbers listed by unit, module,
and NPC Number
Unit Type DP (DSPU)

    Unit      Module    NPC
    01-16     1-8       01
```

PA/PB/PC and ST100 Type NPC Numbering on the IFTU2/IFTU/FTU

The following table contains the hierarchical NPC numbering for PA, PB, PC and ST100 type NPCs on Unit Type FT (IFTU2/IFTU/FTU).

```
PA, PB, PC, and ST100 type numbers
listed by unit, module, and NPC Number
Unit Type FT (IFTU2/IFTU/FTU)

    Unit      Module    NPC
    01-16     1-4       01-32
```

PB/PC Type NPC Numbering on the FTU

The following table contains the hierarchical NPC numbering (single or non-range) for PB and PC type NPCs on Unit Type FT (FTU).

```
PB and PC NPC numbers listed by unit, module, and NPC Number
Unit Type FT (FTU)

    Unit      Module    NPC
    01,02     1,2       30,32
```

SD Type NPC Numbering on the IFTU2/IFTU/FTU

The following tables contain the hierarchical NPC numbering for SD type NPCs on Unit Type FT (IFTU2/IFTU/FTU).

SD type NPC numbers listed by unit, module, and NPC Number for **North American modules** in Unit type FT (FTU/IFTU/IFTU2).
Only odd NPC numbers are valid for SD type NPCs.
The even numbered NPCs immediately following an odd SD type NPC are not available for any other NPC type.

Unit	Module	NPC
01-16	1-4	01-39

SD type NPC numbers listed by unit, module, and NPC Number for **International modules** in Unit type FT (FTU/IFTU/IFTU2).
Only odd NPC numbers are valid for SD type NPCs.
The even numbered NPCs immediately following an odd SD type NPC are not available for any other NPC type.

Unit	Module	NPC
01-16	1-4	01-31

SP Type NPC Numbering on the FTU

The following table contains the hierarchical NPC numbering for SP type NPCs on Unit Type FT (FTU).

Note: Only ODD NPC numbers are valid in the tables listed below. The even numbered NPC is not available for any other NPC type.

SP type NPC numbers listed by unit, module, and NPC Number
Unit Type FT (FTU)

Unit	Module	NPC
01-16	1-4	01-31

SR/MJ/CB Type NPC Numbering on the DSPU

The following table contains the hierarchical NPC numbering for SR, MJ, and CB type NPCs on Unit Type DP (DSPU).

```
SR, MJ, and CB NPC numbers listed by unit, module, and NPC Number
Unit Type DP (DSPU)

    Unit      Module    NPC
    01-16     1-8       01
```

ST Type NPC Numbering on the IFTU2/IFTU/FTU

The following table contains the hierarchical NPC numbering for ST type NPCs on Unit Type FT (IFTU2/IFTU/FTU).

ST type NPC numbers listed by unit, module, and NPC Number for **North American modules** in Unit type FT (FTU/IFTU/IFTU2).

Unit	Module	NPC
01-16	1-4	01-40

ST type NPC numbers listed by unit, module, and NPC Number for **International modules** in Unit type FT (FTU/IFTU/IFTU2).

Unit	Module	NPC
01-16	1-4	01-32

TA Type NPC Numbering on the DS3U

The following contains the hierarchical NPC numbering (range) for TA type NPCs on Unit Type DT (DS3U).

```
TA NPC numbers listed by unit, module, and NPC Number
Unit Type DT (DS3U)

    Unit      Module    NPC
    01-16     1-6       01-28
```

TE/TI Type NPC Numbering on the DS3U/HDS3U

The following table contains the hierarchical NPC numbering for TE and TI type NPCs on Unit Type DT (DS3U) or HT (HDS3U). Includes TI type only for pre-R6.0 releases.

```
TE NPC numbers listed by unit, module, and NPC Number
Unit Type DT (DS3U) or HT (HDS3U)

    Unit      Module    NPC
    01-16     1-6       01-28
```

TH Type NPC Numbering on the HDS3U

The following table contains the hierarchical NPC numbering range for E1 TH type NPCs on Unit Type HT (HDS3U).

```
TH NPC numbers listed by unit, module, and NPC Number
Unit Type HT (HDS3U)

    Unit      Module    NPC
    01-16     1-6       01-28

    Note that the valid TH NPC numbers
    are: 01-03, 05-07, 09-11, 13-15, 17-19, 21-23, 25-27.
```

VI Type (Virtual) NPC Numbering

The following table contains the hierarchical NPC numbering range for VI type (Virtual) NPCs.

```
VI NPC numbers listed by unit, module, and NPC Number
Unit Type VI (Virtual)

   Unit      Module    NPC
   99        1         01-02  (DACS II Non-CEF frames)
   99        1         01-06  (DACS II CEF frames)
```

NPC XYZ Parameters

NPC parameters indicate specific conditions relating to that circuit type. NPC parameters differ between NPC types. The various NPC types are:

- PA/PB/PC
  - — E1 NPCs, define 30 or 31 64 Kbit/s channels
  - — 2 NPCs on a DPC card
  - — PB/PC defined for a 120/75 ohm (twisted pair/coaxial) cable
  - — PA supports both cable types
  - — PA supports clear channel
- DE/DA
  - — DS1 NPCs (NAS), define 24 64 Kbit/s channels
  - — 2 NPCs on a DDC card
- DS
  - — Subscribe Loop Carrier for DS1
- TE/TA
  - — DS3U NPCs, 28 NPCs on a MUX pack
  - — Similar to DE/DA type NPCs -TE type NPCs are also availabe on Hybrid DS3s.
- TH
  - — E1 within a hybrid DS3
- MB
  - — DSPU type NPC
  - — Digital Multipoint Bridge (broadcast/symmetrical conference)
- MJ/SR
  - — DSPU type NPC
  - — Subrate circuits, subrate broadcast
- CB
  - — DSPU type NPC
  - — France Telecom C-bit Processing

- SD
  - DSP NPCs
  - Defined for DDS Subrate/MJU, X.50/X.57 Subrate, and DMB applications
- SP
  - Digital Signal Processing
- ST
  - Integrated Test Set
- MX
  - KCR1 Multiplexer Circuit Pack DS3
- EX
  - KCR5 Multiplexer Circuit Pack DS3
- HX
  - KCR8 Multiplexer Hybrid DS3
- TC
  - Composite Clock Timing Extractor
- TR
  - Basic System Reference Frequency (BSRF)
- TU
  - Unipolar Clock Timing Extractor
- TP
  - Primary Block Timing Extractpr
- VI
  - Virtual NPC, not physically equipped

This section lists the XYZ parameters for various NPC types.

CB Type NPC Parameters

The following contains the valid xyz parameters for CB type NPCs.

CB-type xyz fields

```
x     - Fixed at 1

y     - Fixed at 0

z     - Network timer value
```

z	*Value in milliseconds*
0	600 to 750
1	1500 to 1650
2	2400 to 2550
3	4650 to 4800

DA Type NPC Parameters

The following contains the valid xyz parameters for ANSI DA type NPCs, which are received in FTUs.

DA-type xyz fields

x - Multiframe format for the digroup

x	*Explanation*
0	Not assigned
1	D4
2	ESF - Voice
3	ESF - Data
4	DDST (T1DM - R bit connection via channel 24)
5-7	Not assigned
8	Ericsson Cellular format
9	Not assigned

y - Line and signaling format

y	*Explanation*
0	ZCS - Zero code suppression
1*	NZCS - No zero code suppression
2*	B8ZS - Bipolar with 8 zero substitution
3	Not assigned
4	ZCS/DMI - Zero code suppression/DMI signaling
5	NZCS/DMI - No zero code suppression/DMI signaling
6	B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling
7-9	Not assigned

* Only options 1 and 2 are applicable to DA-type clear-DS1 NPC.

Note: DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

z - Channel numbering format

z	*Explanation*
0	D4 channel bank channel numbering
1	D2 channel bank channel numbering
2	D1D channel bank channel numbering
3-8	Not assigned
9	Unchannelized Framed Clear DS1 Cross-connection

DA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a DA NPC with both a valid framing format (D4, ESF, T1DM) using the `x` field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the `z` field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the DA NPC type.
If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II FTU,
the NPC must be provisioned as NPC type `DE9y9`.

Zero Byte Time Slot Interchange (ZBTSI) encoding is not supported by the DA NPC type.
If ZBTSI is desired on an NPC in a DACS II FTU,
the NPC must be provisioned as a DE NPC type with its `y` option selecting ZBTSI (`DEx3z`).

DE Type NPC Parameters

The following contains the valid xyz parameters for DE type NPCs.

DE-type xyz fields

x - Multiframe format for the digroup

x	*Explanation*
0	Not assigned
1	D4
2	ESF - Voice
3	ESF - Data
4	DDST (T1DM - R bit connection via channel 24)
5-7	Not assigned
8*	Ericsson Cellular format
9	No framing format, transparent (TRSP), clear-DS1

* Ericsson Cellular format is not compatible with y=4, y=5, and y=6, DMI signalling.

y - Line and signaling format

y	*Explanation*
0	ZCS - Zero code suppression
1*	NZCS - No zero code suppression
2*	B8ZS - Bipolar with 8 zero substitution
3†	ZBTSI - Zero-bit time-slot interchanger
4	ZCS/DMI - Zero code suppression/DMI signaling
5	NZCS/DMI - No zero code suppression/DMI signaling
6	B8ZS/DMI - Bipolar with 8 zero substitution/DMI signaling
7-9	Not assigned

* Only options 1 and 2 are applicable to DE-type clear-DS1 NPC.
† Only valid with ESF (x = 2 or 3)

Note: DMI signaling cannot be specified in the y field
if the x field is 4 (DDS framing).

z - Channel numbering format

z	*Explanation*
0	D4 channel bank channel numbering
1	D2 channel bank channel numbering
2	D1D channel bank channel numbering
3-8	Not assigned
9	No channel numbering format, clear-DS1

DS Type NPC Parameters

The following contains the valid xyz parameters for DS type NPCs.

DS-type xyz fields

x - Multiframe format

x	*Explanation*
0	Not assigned
1	D4
2	ESF - Voice
3	Not assigned
4	Not assigned
5	Not assigned
6	SLC® 96 carrier Fs
7	SLC 5 carrier ESF with data link
8-9	Not assigned

y - Line and signaling format

y	*Explanation*
0	Zero code suppression (ZCS)
1	No zero code suppression (NZCS)
2	Bipolar with 8 zero substitution (B8ZS)
3-9	Not assigned

z - Counting sequence format

z	*Explanation*
0	SLC 96 carrier Mode III D4 counting sequence
1	SLC 96 carrier Mode III D1D counting sequence
2	SLC 96 carrier Mode I D1D counting sequence
3	SLC Series 5 carrier D4 counting sequence
4-9	Not assigned

TA Type NPC Parameters

The following lists contain the valid xyz parameters for ANSI TA type NPCs, which are DS1s received on DS3Us.

TA-type xyz fields

x - Multiframe format for the digroup

x	*Explanation*
0	Not assigned
1	D4
2	ESF - Voice
3	ESF - Data
4	DDST (T1DM - R bit connection via channel 24)
5-7	Not assigned
8	Ericsson Cellular format
9	Not assigned

y - Line and signaling format

y	*Explanation*
0	ZCS - Zero code suppression
1*	NZCS - No zero code suppression
2	Not assigned
3	Not assigned
4	ZCS/DMI - Zero code suppression/DMI signaling
5	NZCS/DMI - No zero code suppression/DMI signaling
6-9	Not assigned

* Only option 1 is applicable to TA-type clear-DS1 NPCs.

Note: DMI signaling cannot be specified in the y field if the x field is 4 (DDST framing).

z - Channel numbering format

z	*Explanation*
0	D4 channel bank channel numbering
1	D2 channel bank channel numbering
2	D1D channel bank channel numbering
3-8	Not assigned
9	Unchannelized Framed Clear DS1 Cross-connection

TA type NPCs provide Clear DS1 performance monitoring capability. This feature is enabled by provisioning a TA NPC with both a valid framing format (D4,ESF,T1DM) using the x field and at the same time, specifying an unchannelized Clear DS1 cross-connection using the z field.

The DACS II Release 4.0 unframed Clear DS1 cross-connection which provides no path performance monitoring is not supported by the TA NPC type. If an unframed Clear DS1 cross-connection is desired on an NPC in a DACS II DS3U, the NPC must be provisioned as NPC type TE919.

TE Type NPC Parameters

The following contains the valid xyz parameters for TE type NPCs.

TE-type xyz fields

x - Multiframe format

x	*Explanation*
0	Not assigned
1	D4
2	ESF - Voice
3	ESF - Data
4	DDST (T1DM - R bit connection via channel 24)
5-7	Not assigned
8*	Ericsson Cellular format
9	No framing format, transparent (TRSP), clear-DS1

* Ericsson Cellular format is not compatible with y=4 and y=5, DMI signalling.

y - Line and signaling format

y	*Explanation*
0	ZCS - Zero code suppression
1*	NZCS - No zero code suppression
2	Not assigned
3	Not assigned
4	ZCS/DMI - Zero code suppression/DMI signaling
5	NZCS/DMI - No zero code suppression/DMI signaling
6-9	Not assigned

* Only option 1 is applicable to TE-type clear-DS1 NPCs.

Note: DMI signaling cannot be specified in the y field if the x field is 4 (DDS framing).

z - Channel numbering format

z	*Explanation*
0	D4 channel bank channel numbering
1	D2 channel bank channel numbering
2	D1D channel bank channel numbering
3-8	Not assigned
9	No channel numbering format, clear-DS1

TH Type NPC Parameters

The following lists contain the valid xyz parameters for CEPT TH type NPCs which are received on HDS3Us.

TH-Type xyz field

The provisioning values of *x*, *y*, **and** *z* **for the TH type** are shown in the following tables (a 'Y' in a column of the Table indicates that the feature at the top of the column is enabled by the corresponding (x, y or z) provisioning value):

Table 2-1. Provisioning values for *x*

x value	CRC-4 Mode	Automatic CRC-4
0	Y	
8		Y
B		

Table Notes:

1. The "Automatic CRC-4" is also known as CRC-4 Interworking.
2. If the CRC-4 mode is enabled (*x* value 0) the NPC will compute checksums over the transmitted data and transmit the checksum as part of the CRC-4 multiframe pattern in TS0. The NPC will also monitor the incoming CRC-4 multiframe and verify the CRC-4 checksum. If the CRC-4 multiframe cannot be found using the CRC-4 reframe algorithm, then the NPC will declare an alarm.

   If the automatic CRC-4 option is selected (*x* value 8), the NPC will perform all the functions of the CRC-4 mode. However, if the CRC-4 multiframe is lost, the NPC will not declare an alarm or apply consequent actions.
3. x value B does not enable any of the features shown in the Table; this is a valid option.
4. Only x values 0, 8, and B are valid x values, all other x values will be denied.

Table 2-2. Provisioning values for *y*

y value	CAS Mode	NSA Mode	Telephone Numbering	Timeslot Numbering	Convert CTS 16	AIS in CTS 16	Framed Clear	Unframed Clear
0	Y		Y		Y	Y		
2	Y		Y		Y			
4	Y		Y			Y		
6	Y		Y					
8		Y	Y					
9		Y		Y				
C							Y	
D								Y

Table Notes:

1. *y* values 1, 3, 5, 7, A-B and E-F are unassigned (that is, invalid).
2. For *y* values 0, 2, 4 and 6 Channel Associated Signaling (CAS) is enabled. In this mode the Telephone Channel Numbering system is always used.

   If the "Convert TS16" option is selected (*y* values 0 and 2), the *abcd* bits of TS16 will be converted to ’1111’ if they are received as ’0000’. This is to prevent false framing in the TS16 multiframe. If this option is not selected (*y* values 4 and 6), a value of ’0000’ in the *abcd* bits will be transmitted transparently.

   If the "AIS in TS16" option is selected (*y* value 0 and 4), AIS will always be applied to received TS16 signaling channels on detection of RAI (Remote Alarm Indication, Bit 3 of TS0 NFW), RAIS (Remote AIS Indication, Bit 4 of TS0 NFW, if provisioned) or R16 (Remote Alarm Indication received in TS16). If this option is not selected (*y* values 2 and 6), AIS will not be applied on detection of RAI, RAIS, or R16.
3. For *y* values 8 and 9 the NPC will be Non Signaling Associated (NSA). In this mode, Telephone Channel Numbering (*y*=8) or Timeslot Channel Numbering (*y*=9) may be selected.
4. The NPC can be set up as a framed clear 2 Mbit/s interface (*y*=C) or as an unframed clear 2 Mbit/s interface (*y*=D). When provisioned as a clear 2 Mbit/s interface, an NPC does not modify the cross-connected data in any way. This means that the following functions are not performed in the clear 2 Mbit/s mode:
   - Outgoing CRC-4 checksum generation (applies to framed clear 2 Mbit/s interfaces with CRC-4 option enabled).
   - Remote alarm indications (line format errors are reported locally, but no alarm indicators are sent in TS0 to the remote end).

Table 2-3. Provisioning values for *z*

z	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER
value	HW	FW	2ms	166ms	500ms	RAIS	RBER	166ms	500ms	Enabled
0	Y		Y							
1		Y	Y							
2	Y			Y						
3		Y			Y					
4	Y		Y			Y		Y		
5		Y	Y			Y			Y	
6	Y		Y				Y			Y
7		Y	Y				Y			Y
A	Y		Y							Y
B		Y	Y							Y

Table Notes:

1. *z* values 8, 9, C, D, E and F are unassigned (that is, invalid).
2. For *z* values 1, 3, 5, 7 and B the consequent action timing is under firmware (FW) control. For *z* values 0, 2, 4, 6 and A the consequent action timing is under hardware (HW) control.

   The G.732 consequent action of inserting the AIS in data channels is applied within 2 ms whether the timing is under HW control or FW control, but when under FW control, the AIS in data channels is overridden by the Insertion Word sourced from the Alternate Message Store (AMS) after detection of the local alarm:

   in **500 ms**
   if *z* = 1, 3 or 5
   in **2496 ms**
   if *z* = 7 or B

   The Insertion Word pattern can be specified in the cross-connect command; on 2Mbit/s NPCs in **a** *gateway* **cross-connection** the Insertion Word always defaults to AIS.

   The selection of HW or FW control is also used to provision the consequent actions on signaling bits. On detection of loss of frame (LOF) or multiframe alignment (LMA, Loss of Multiframe Alarm) error, the hardware immediately applies a signaling freeze by using the last good frame's signaling information. The signaling freeze remains in effect until two multiframes without errors are received. When HW control is used, the AIS in signaling bits is applied within 2 ms, overriding the signaling freeze. When FW control is used, the trunk conditioning pattern from the AMS overrides the signaling freeze once the 2Mbit/s NPC goes into the alarm state.
3. The Consequent Action timing also selects the time after which the **local** alarms are declared and cleared:*

* Local alarms are those generated for the events: PWR, PBF, BER, AIS, LMA, and A16. Remote alarms are those generated for the events: RAI, RAIS, RBER, and R16.

HW Control: **Both** remote and local alarms are declared and cleared in 166 ms.

FW Control: Only remote alarms are declared and cleared in 166 ms. The **local** alarms are declared and cleared in 500 ms, **except when z = 7 or B.**

4. On the transmitting NPC, bit 3 in the NFW, the remote alarm indication (RAI), will be processed as specified in ITU-T Recommendation G.704 Section 2.3.2 (**that is, within 2 ms after detecting the failure**) when *z* = 0, 1, 4, 5, 6, 7, A or B. However, for *z* value 2 the set time is 166 ms and for *z* value 3 the set time is 500 ms. NFW bit 3 is always set to 0 for non-alarm condition and is set to 1 for alarm conditions.
5. On the transmitting NPC, if bit 4 of the NFW is used as RAIS (Remote AIS) indicator, NFW bit 4 will be set in 166 ms (for *z* = 4) or 500 ms (for *z* = 5) after AIS is detected in the received signal. The default idle state for Bit 4 is a '1'. The idle state can be changed to a '0' with the CHG::NPC,TS0 command. The bit is put into the active state by inverting the value of the idle state. Similarly, if NFW bit 4 is in the active state in the received signal, consequent actions are taken 166 ms after detecting this condition.
6. *z* values 6-7 and A-B enable the Minor Bit Error Rate and Signaling Freeze Delay Time Features.

Common Options (z = 6-7 or A-B)

[i] Enable BER calculations, and when in the BER state:

DACS takes the alarm state consequent actions: sending a message, and activating appropriate alarm relays and summary LEDs.

When out of the BER state, DACS II retires the alarm state consequent actions: sends a retirement message, and deactivates appropriate alarm relays and summary LEDs.

[ii] RAI set in 2 ms

[iii] Signaling Freeze Delay Timing, Consequent Action Clear Timing:

z=6 or A hardware timing

z=7 or B firmware timing (SFDT=2496 ms, CACT=624 ms)

[iv] BER alarm level = DMA

Specific Options for z= 6 or 7

[v] RBER alarm level = MI

[vi] NFW bit 4=RBER:

- DACS II sends a remote indicator in bit 4 (RBER) of the time slot 0 Non Frame Word (NFW) upstream to the far end 166 ms after detecting the Minor Bit Error Rate (BER) condition.

  DACS II sets the RBER bit to its idle state, on clearing of the BER condition.

- DACS II detects the remote setting of the received bit 4 as an RBER condition and generates an appropriate message. Consequent actions are taken 166 ms after detecting this condition.

  DACS II generates an appropriate retirement message when the received bit 4 returns to the idle state.

Specific Options for z= A or B

[vii] RBER unalarmed

[viii] NFW bit 4=disabled

NFW bit 4 is NOT used as RBER, although the local Minor Bit Error Rate (BER) condition is detected and cleared with the alarm state consequent actions.

Additionally:

- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.

The following tables provide a summary of invalid combinations of *xyz* for the TH type NPC.

Table 2-4. Combinations of *x* and *y* Values

Invalid xyz Combinations	Explanation
8Cz	Framed clear 2 Mbit/s (*y* value C) is valid for all valid *x* options except the one invoking automatic CRC-4 interworking. The interworking algorithm requires setting of outgoing E-bits, which is not permitted for a clear signal.
0Dz 8Dz	Unframed clear 2 Mbit/s (*y* value D) is only valid for *x* value B. This is the only *x* option which does not require decoding of TS0 content.

Table 2-5. Combinations of *y* and *z* Values

Invalid xyz Combinations	Explanation
xC1 xC3 xC5 xC7 xCB xD1 xD3 xD5 xD7 xDB	Clear 2 Mbit/s (*y* value C or D) cannot be used with Firmware controlled Consequent Action (*z* values 1, 3, 5, 7 or B).
xD4 xD6	Unframed clear 2 Mbit/s (*y* value D) cannot be used with *z* value 4 (NFW Bit 4 used for RAIS) or with *z* value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.

Table Notes:

1. If framed clear 2 Mbit/s (*y* value C) is selected with *z* value 4 (NFW Bit 4 used for RAIS) only the receive side of this function will be enabled. Outgoing RAIS indicators cannot be transmitted during clear signal operation.
2. If framed clear 2Mbit/s (*y* value C) is selected with *z*= value 6 (NFW Bit 4 used for RBER) only the receive side of this function will be enabled. Outgoing RBER indicators cannot be transmitted during clear signal operation.

There are no combinations between valid x and z values that are invalid.

PA Type NPC Parameters

The following tables contain the valid xyz parameters for PA type NPCs.

PA-Type xyz fields

The provisioning values of *x*, *y*, and *z* for the PA type are shown in the following tables (a 'Y' in a column of the Table indicates that the feature at the top of the column is enabled by the corresponding (x, y or z) provisioning value):

Table 2-6. Provisioning values for *x*

x value	CRC-4 Mode	Automatic CRC-4	Far-End PM	NPC used as Sync Source	TS0 Bit 5 used for SFI
0	Y				
1	Y		Y		Y
2	Y				Y
3	Y		Y		
4	Y			Y	
5	Y		Y	Y	Y
6	Y			Y	Y
7	Y		Y	Y	
8		Y	Y		
9		Y	Y		Y
A					Y
B					
C		Y	Y	Y	
D		Y	Y	Y	Y
E				Y	Y
F				Y	

Table Notes:

1. The columns "Automatic CRC-4*" and "Far-End PM" are new functions which were not available on the PB or PC types.
2. If the CRC-4 mode is enabled (*x* values 0-7) the NPC will compute checksums over the transmitted data and transmit the checksum as part of the CRC-4 multiframe pattern in TS0. The NPC will also monitor the incoming CRC-4 multiframe and verify the CRC checksum. If the CRC-4 multiframe can not be found as per the CRC-4 reframe algorithm, the NPC will declare an alarm.

* Automatic CRC-4 is also known as CRC-4 Interworking.

If the automatic CRC-4 option is selected (*x* values 8-9 and C-D), the NPC will perform all the functions of the CRC-4 mode. However, if the CRC-4 multiframe is lost, the NPC will not declare an alarm or apply consequent actions.

3. If the Far-End PM (Performance Monitoring) option is selected (*x* values 1, 3, 5, 7-9, and C-D), the E-bits contained within the CRC-4 multiframe are used to compute Far-End performance monitoring parameters.
4. If the NPC is to be used as a Sync Source (*x* values 4-7 and C-F), the clock from the NPC to the synchronizer will be enabled.
5. When the SFI (Synchronization Failure Indication) option is selected (*x* values 1-2, 5-6, 9-A and D-E), bit 5 of the TS0 Non Frame Word (NFW) is controlled by DACS II software. It will force the NPC to invert Bit 5 (or set to an alarm state) when the Synchronizer enters the holdover mode. The idle state of NFW bit 5 will default to a '1' when the NPC is grown. The idle state can be changed to a '0' with a subsequent CHG::NPC,TS0 command.

   If the NPC is also used as a synchronization source and NFW bit 5 is received in the alarm state, that NPC will squelch the clock it puts out. If the DACS II is using this clock as a sync source, the sync pack terminating this clock will recognize that it is receiving a faulty clock and it will take appropriate actions which are the same as when the external sync source is detected to be faulty.
6. *x* value B does not enable any of the features shown in the Table; this is a valid option.

Table 2-7. Provisioning values for *y*

y value	CAS Mode	NSA Mode	Telephone Numbering	Timeslot Numbering	Convert CTS 16	AIS in CTS 16	Framed Clear	Unframed Clear
0	Y		Y		Y	Y		
2	Y		Y		Y			
4	Y		Y			Y		
6	Y		Y					
8		Y	Y					
9		Y		Y				
C							Y	
D								Y

Table Notes:

1. The columns "Framed Clear" and "Unframed Clear" are new functions which were not available on the PB or PC types.
2. *y* values 1, 3, 5, 7, A-B and E-F are unassigned (that is, invalid).

3. For *y* values 0, 2, 4 and 6 Channel Associated Signaling (CAS) is enabled. In this mode the Telephone Channel Numbering system is always used.

   If the "Convert TS16" option is selected (*y* values 0 and 2), the *abcd* bits of TS16 will be converted to '1111' if they are received as '0000'. This is to prevent false framing in the TS16 multiframe. If this option is not selected (*y* values 4 and 6), a value of '0000' in the *abcd* bits will be transmitted transparently.

   If the "AIS in TS16" option is selected (*y* value 0 and 4), AIS will always be applied to received TS16 signaling channels on detection of RAI (Remote Alarm Indication, Bit 3 of TS0 NFW), RAIS (Remote AIS Indication, Bit 4 of TS0 NFW, if provisioned) or R16 (Remote Alarm Indication received in TS16). If this option is not selected (*y* values 2 and 6), AIS will not be applied on detection of RAI, RAIS, or R16.

4. For *y* values 8 and 9 the NPC will be Non Signaling Associated (NSA). In this mode, Telephone Channel Numbering (*y*=8) or Timeslot Channel Numbering (*y*=9) may be selected).

5. The NPC can be set up as a framed clear 2Mbit/s interface (*y*=C) or as an unframed clear 2Mbit/s interface (*y*=D). When provisioned as a clear 2 Mbit/s interface, an NPC does not modify the cross-connected data in any way. This means that the following functions are not performed in the clear 2 Mbit/s mode:

   - Outgoing CRC4 checksum generation (applies to framed clear 2 Mbit/s interfaces with CRC4 option enabled).
   - Remote alarm indications (line format errors are reported locally, but no alarm indicators are sent in TS0 to the remote end).

Table 2-8. Provisioning values for *z*

z	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
value	HW	FW	2ms	144ms	480ms	RAIS	RBER	144ms	480ms	Enabled	Enabled
0	Y		Y								
1		Y	Y								
2	Y			Y							
3		Y			Y						
4	Y		Y			Y		Y			
5		Y	Y			Y			Y		
6	Y		Y				Y		Y		
7		Y	Y				Y		Y		
8	Y			Y		Y		Y			
9		Y			Y	Y			Y		
A	Y		Y							Y	
B		Y	Y							Y	
C	Y										
D	Y		Y			Y		Y			Y

Table Notes:

1. z value F and E are unassigned (i.e., not valid).
2. z value C selects TRANSMIC 1G.
3. z values 8,9 select TRANSMIC 2G.
4. For z values 1, 3, 5, 7, 9,and B the Consequent Action (C. A.) timing is under Firmware control. For z values 0, 2, 4, 6, 8, A, C and D the Consequent Action timing is under Hardware control.

   The G.732 Consequent Action of inserting the AIS in data channels is applied within 2 ms whether the timing is under HW control or FW control, but when under FW control, the AIS in data channels is overridden by the Insertion Word sourced from the Alternate Message Store (AMS) after detection of the local alarm:

   in **480 ms**
   if z = 1, 3, 5, or 9
   in **2496 ms**
   if z = 7 or B

   The Insertion Word pattern can be specified in the cross-connect command; on 2Mbit/s NPCs in **a** *gateway* **cross-connection** the Insertion Word always defaults to AIS.

   The selection of HW or FW control is also used to provision the consequent actions on signaling bits. On detection of loss of frame alignment (LOFA) or multiframe alignment (MFA) error, the hardware immediately applies a signaling freeze by using the last good frame's signaling information. The signaling freeze remains in effect until two multiframes without errors are received. When HW control is used, the AIS in signaling bits is applied within 2 ms, overriding the signaling freeze. When FW control is used, the trunk conditioning pattern from the AMS overrides the signaling freeze once the 2Mbit/s NPC goes into the alarm state.
5. The Consequent Action timing also selects the time after which the **local** alarms are declared and cleared:*

   HW Control: **Both** remote and local alarms are declared and cleared in 144 ms.

   FW Control: Only remote alarms are declared and cleared in 144 ms. The **local** alarms are declared and cleared in 480 ms, **except when z = 7 or B.**
6. NFW bit 3, the remote alarm indication (RAI), will be processed as specified in CCITT Recommendation G.704 Section 2.3.2 (**that is, within 2 ms after detecting the failure**) when *z* = 0, 1, 4, 5, 6, 7, A or B. However, for *z* values 2 and 8 the set time is 144 ms and for *z* values 3 and 9 the set time is 480 ms. NFW bit 3 is always set to 0 for non-alarm condition and is set to 1 for alarm conditions.

* Local alarms are those generated for the events: PWR, PBF, BER, AIS, LMA, and A16. Remote alarms are those generated for the events: RAI, RAIS, RBER, and R16.

7. When NFW bit 4 is used as RAIS (Remote AIS) indicator, NFW bit 4 will be set in 144 ms (for *z* = 4 and 8) or 480 ms (for *z* = 5 and 9) after AIS is detected in the received signal. The default idle state for Bit 4 is a '1'. The idle state can be changed to a '0' with the CHG::NPC,TS0 command. The bit is put into the active state by inverting the value of the idle state. Similarly, if NFW bit 4 is in the active state in the received signal, consequent actions are taken 144 ms after detecting this condition.

8. *z* values 6-7 and A-B enable the Minor Bit Error Rate and Signaling Freeze Delay Time Features.

Common Options (z = 6-7 or A-B)

[i] Enable BER calculations, and when in the BER state:

DACS takes the alarm state consequent actions: sending a message, and activating appropriate alarm relays and summary LEDs.

When out of the BER state, DACS retires the alarm state consequent actions: sends a retirement message, and deactivates appropriate alarm relays and summary LEDs.

[ii] RAI set in 2 ms

[iii] Signaling Freeze Delay Timing, Consequent Action Clear Timing:

z=6 or A hardware timing

z=7 or B firmware timing (SFDT=2496 ms, CACT=624 ms)

[iv] BER alarm level = DMA

Specific Options for z= 6 or 7

[v] RBER alarm level = MI

[vi] NFW bit 4=RBER:

- DACS II sends a remote indicator in bit 4 (RBER) of the time slot 0 Not Frame Word (NFW) upstream to the far end 144 ms after detecting the Minor Bit Error Rate (BER) condition.

  DACS II sets the RBER bit to its idle state, on clearing of the BER condition.

- DACS II detects the remote setting of the received bit 4 as an RBER condition and generates an appropriate message. Consequent actions are taken 144 ms after detecting this condition.

  DACS II generates an appropriate retirement message when the received bit 4 returns to the idle state.

Specific Options for z= A or B

[vii] RBER unalarmed
[viii] NFW bit 4=disabled

NFW bit 4 is NOT used as RBER, although the local Minor Bit Error Rate (BER) condition is detected and cleared with the alarm state consequent actions.

9. To provision RPSFI, TS0 bit 5 used for SFI and CAS must be provisioned.

The following tables provide a summary of invalid combinations of *xyz* for the PA type NPC.

Table 2-9. Combinations of *x* and *y* Values

Invalid xyz Combinations	Explanation
8Cz 9Cz CCz DCz	Framed clear 2Mbit/s (*y* value C) is valid for all *x* options except those invoking automatic CRC-4 interworking. The interworking algorithm requires setting of outgoing E-bits, which is not permitted for a clear signal.
8Dz 9Dz CDz DDz	Unframed clear 2Mbit/s NPC is valid for all *x* options except those invoking automatic CRC-4 interworking.
0Dz 1Dz 2Dz 3Dz 4Dz 5Dz 6Dz 7Dz ADz EDz	Unframed clear 2Mbit/s (*y* value D) is only valid for *x* values B and F. These are the only *x* options which do not require decoding of TS0 content.

Table Notes:

1. If framed clear 2Mbit/s is selected with Far-End PM enabled (*z* values 1, 3, 5 and 7) only the receive side of the feature shall be turned on. No outgoing E-bits may be transmitted during clear signal operation.
2. If framed clear 2Mbit/s is selected with Synchronization Failure Indication (SFI) enabled (*x* values 1, 2, 5, 6, A and E) only the receive side of the feature shall be turned on. No outgoing SFI may be transmitted in Bit 5 during clear signal operation.

Table 2-10. Combinations of *y* and *z* Values

Invalid xyz Combinations	Explanation
xC1 xC3 xC5 xC7 xC8 xC9 xCB xCC XD1 xD3 xD5 xD7 xD8 xD9 xDB xDC	Clear 2Mbit/s (*y* value C or D) cannot be used with Firmware controlled Consequent Action (*z* values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (*z* value C) or TRANSMIC 2G (*z* value 8).
xD4 xD6	Unframed clear 2Mbit/s (*y* value D) cannot be used with *z* value 4 (NFW Bit 4 used for RAIS) or with *z* value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (*y* values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (*z* value C).

Table Notes:

1. If framed clear 2Mbit/s (*y* value C) is selected with *z* value 4 (NFW Bit 4 used for RAIS) only the receive side of this function will be enabled. Outgoing RAIS indicators cannot be transmitted during clear signal operation.
2. If framed clear 2Mbit/s (*y* value C) is selected with *z*= value 6 (NFW Bit 4 used for RBER) only the receive side of this function will be enabled. Outgoing RBER indicators cannot be transmitted during clear signal operation.

Table 2-11. Combinations of *x* and *z* Values

Invalid xyz Combinations	Explanation
4yC 5yC 6yC 7yC CyC DyC EyC FyC	Use of NPC as Sync Source (*x* 4, 5, 6, 7, C, D, E and F) is not valid for TRANSMIC 1G (*z* value C). This is because the TS0 Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.
0yD 3yD 4yD 7yD 8yD ByD CyD FyD	NPC provisioned for RPSFI must provision TS0 bit 5 used for SFI and CAS.

PB/PC Type NPC Parameters

The following tables contain the valid xyz parameters for PB and PC type NPCs.

PB- and PC-type xyz fields

Table 2-12. NPC Provisioning Options

Digit	*Bit*	*Value*	*Meaning*
x	a	0	CRC multiframe in TS0
		1	Non-CRC framing in TS0
	b	0	NPC is not used as a synchronization source
		1	NPC is used as a synchronization source
	c	0	CCITT G.732 (hardware controlled) Consequent Actions, AIS in signaling
		1	Firmware controlled Consequent $ Actions sup [c'] $
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

Digit	*Bit*	*Value*	*Meaning*
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the *abcd* bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the *abcd* bits transparently
	g	0	AIS applied to received TS16 on detection of RAI, RAIS, or R16
		1	AIS not applied to received TS16 on detection of RAI, RAIS, or R16
	h	0	NFW'bit 5=Synchronization Failure Indication (SFI) unaffected by Synchronizer Holdover (SH)
		1	NFW'bit 5=SFI inverted on SH on output and detected on input

Digit	*Bit*	*Value*	*Meaning*
z	jkl	000	NFW‘bit‘3=RAI set in < 2 ms,
		001	NFW‘bit‘3=RAI set in time $ T sup [c’’] $
		010	NFW‘bit‘4=RAIS in time $ T sup [c’’] $ and RAI in < 2 ms
		011	Enable BER calculations, BER alarm level = DMA, NFW‘bit‘4=RBER, RAI set in < 2 ms, for c=1 (SFDT=2496‘ms, CACT=624‘$ms sup [jkl’] $),
		100	NFW‘bit‘4=RAIS and RAI in time $ T sup [c’’] $ (TRANSMIC‘2G)
		101	Enable BER calculations, BER alarm level = DMA, NFW‘bit‘4=disabled, RAI set in < 2 ms, for c=1 (SFDT=2496‘ms, CACT=624‘$ms sup [jkl’] $),
		110	NFW‘bits‘3-8,in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0 1	Unassigned, only m=0 is valid

Table Notes:

[b] Clock from NPC to synchronizer shall be enabled if this option bit is set to 1, otherwise it is disabled.

[c] The G.732 Consequent Action of inserting the AIS in data channels is applied within 2‘ms whether mnxyz bit c=0 or c=1; but when c=1, the AIS in data channels is overridden by the Insertion Word sourced from the Alternate Message Store (AMS) after detection of the local alarm:

in **480 ms**
if *jkl≠011* and *jkl≠101*
in **2496‘ms**
if *jkl=011* or *jkl=101*. See note [jkl’].

The insertion word pattern can be specified in the cross-connect command; on CEPT NPCs in **a** *gateway* **cross-connection** the insertion word always defaults to AIS.

mnxyz‘bit c is also used to provision the consequent actions on signaling bits. On detection of any single framing error or multiframe error, the hardware immediately applies a signaling freeze by using the last good frame’s signaling information. The signaling freeze remains in effect until two multiframes without errors are received. When c=0, the AIS in signaling bits is applied within 2‘ms, overriding the signaling freeze. When c=1 if the primary goes into the alarm state then the trunk conditioning pattern from the AMS overrides the signaling freeze.

In basic CEPT only, option *c=0* is supported and both the AIS and RAI will be applied in less than *2‘ms*. NFW‘bit‘3 of TS0 in enhanced CEPT is controlled by selecting the **jkl** options. Also see note [jkl’].

[c'] Option c also selects the time after which the **local** alarms are declared and cleared:*

c=0 **Both** remote and local alarms are declared and cleared in 144 ms.

c=1 Only remote alarms are declared and cleared in 144 ms. The **local** alarms are declared and cleared in 480 ms **except when** *jkl=011* or *jkl=101*. **For that case, see note [jkl'].**

[c'') Time T will be 144'ms when option c=0 and 480 ms when option c=1.

[g] Option *g* has meaning only if the NPC is provisioned for CAS; that is, option *d=1*, otherwise it is ignored. If option *g=0* is selected, the AIS will always be applied to received TS16 on detection of RAI and will also be applied on detection of RAIS if the NPC is provisioned for RAIS.

If option *g=1* is selected, the AIS will not be applied on detection of RAI, RAIS, or R16.

[h] NFW'bit'5 when used as SFI, and *h=1*, is controlled by DACS II software that will force the NPC to invert (or set to an alarm state) when the synchronizer enters the holdover mode.
NFW'bit'5 will default to 1 when the NPC is grown, without regard of whether option *h* was selected as either 0 or 1, unless it is later set to 0 by setting parameter *e=0* in the TS0 field of the ED-PRMTR-EQPT::NPC (O.38321) command.
NFW'bit'5 will default to 1 when the NPC is grown, without regard of whether option *h* was selected as either 0 or 1, unless it is later set to 0 by setting parameter *e=0* in the TS0 field of the CHG::NPC (O.38321) command.

For Transmic'1G the information message REPT STATE EQPT (O.65201) is output. For all other combinations of *xyz* the alarm message REPT ALARM EQPT (O.65011) is output on detection of change of state of NFW spare bit'5 when option h=1.

If both *b=1* and *h=1* and the NPC (used as synchronization source) receives NFW bit'5 in the alarm state, that NPC will squelch the clock it outputs. If the DACS II is using this clock as a sync source the sync pack terminating this clock will recognize that it receives a faulty clock and it will take appropriate actions which are the same as when the external sync source is detected to be faulty.

[jkl]

[000] NFW bit'3, the remote alarm indication (RAI), will be processed as specified in CCITT Recommendation G.704 Section'2.3.2 and is the same as in Basic CEPT when option *c* is selected as 0; **that is, within 2'ms after detecting the failure.** If this option is not specified as 000, use of NFW bit'3 as RAI will remain unchanged except the time when NFW bit'3 is set can be changed to 144'ms as opposed to 2 ms after detecting the failure. NFW'bit'3 is always set to 0 for nonalarm

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* Local alarms are those generated for the table entries PWR, PBF, BER, AIS, LMA, and A16. Remote alarms are those generated for the table entries RAI, RAIS, RBER, and R16.

conditions and is set to 1 for alarm conditions.

[010 or 100]
NFW‘bit‘4 when used as RAIS, and AIS is detected in the received signal, can only be set 144‘ms after detecting this condition. Similarly, when the received NFW bit‘4 is in the active state, consequent actions are taken 144‘ms after detecting this condition.

NFW‘bit‘4 use as REER is not supported in G4.0.

[111] The jkl=111 option will be denied.

[jkl’] minor bit error rate and signaling freeze delay time features:

jkl=011 or **jkl=101**

[i] Enable BER calculations, and when in the BER state:

DACS takes the alarm state consequent actions: sending a message, and activating appropriate alarm relays and summary LEDs.

When out of the BER state, DACS retires the alarm state consequent actions: sends a retirement message, and deactivates appropriate alarm relays and summary LEDs.

[ii] RAI set in 2 ms

[iii] Signaling freeze Delay timing, consequent action clear timing:

c=0 hardware timing

c=1 firmware timing (SFDT=2496‘ms, CACT=624‘ms)

[iv] BER alarm level = DMA

jkl=011

[v] RBER alarm level = MI

[vi] NFW‘bit‘4=RBER:

- DACS‘II sends a remote indicator in bit‘4 (RBER) of the timeslot 0 not frame word (NFW) upstream to the far end 144‘ms after detecting the minor bit error rate (BER) condition.
- ‘‘ DACS‘II sets the RBER bit to its idle state, on clearing of the BER condition.
- DACS‘II detects the remote setting of the received bit‘4 as an RBER condition and generates an appropriate message. Consequent actions are taken 144‘ms after detecting this condition.
- ‘‘ DACS II generates an appropriate retirement message when the received bit‘4 returns to the idle state.

jkl=101

[vii] RBER unalarmed

[viii] NFW‘bit‘4=disabled

NFW‘bit‘4 is NOT used as RBER, although the local minor bit error rate (BER) condition is detected and cleared with the alarm state consequent actions.

For the MBER/SFDT features, the required xyz options are **ab1d‘efgh‘0110** or **ab1d‘efgh‘1010**. For MBER *with hardware consequent action timing*, the required xyz options are **ab0d‘efgh‘0110** or **ab0d‘efgh‘1010**.

NFW‘bit‘4 will default to 1 when the NPC is grown. It may later be set to 0 by setting parameter **d=0** in the TS0 field of the CHG::NPC (O.38321)command.

[m] The option bit "m" is unassigned. Its default value is "0". The equipage command must deny "m" specified as "1".

The default values for TS0 parameters are **abcdefgh=11011111** (as per CCITT recommendations when crossing the international borders), unless the **xyz** parameters set them differently, that is, for Transmic‘1G the abcdefgh=11000000.

The default values for TS0M parameters are **abcdefgh=00000000**, unless the **xyz** parameters set them differently, that is, for Transmic‘1G the abcdefgh=00111111.

SD Type NPC Parameters

The following contains the valid xyz parameters for SD type NPCs, used for Digital Signal Processing (DSP) Applications.

SD-type xyz fields (Digital Signal Processing Platform (DSPP) Applications)

SD111 X.50/X.57 International subrate application
SD311 Digital Multipoint Bridge application
SD411 North American DDS Subrate and MJU application
SDxyz Possible future applications with specific values for xyz

SP Type NPC Parameters

The following contains the valid xyz parameters for SP type NPCs.

SP-type xyz fields

x - Fixed at 1

y - Fixed at 0

z - Fixed at 0

ST Type NPC Parameters

The following contains the valid xyz parameters for ST type NPCs.

ST-type xyz fields

ST100 Integrated Test Set provisioned in an International module
ST110 Integrated Test Set provisioned in a North American module

SR/MJ Type NPC Parameters

The following contains the valid xyz parameters for SR and MJ type NPCs.

SR- and MJ-type xyz fields

x - Fixed at 1

y - Fixed at 0

z - Fixed at 0

MB/MI Type NPC Parameters

The following contains the valid xyz parameters for MB and MI type NPCs, which are received in FTUs.

MB-type xyz fields

x - Fixed at 1

y - Fixed at 0

z - Fixed at 0

MX/EX/HX Type NPC Parameters

The following contains the valid xyz parameters for MX, EX, and HX type NPCs.

MX/EX/HX-type xyz fields

x - DS3 framing format

x	*Explanation*
1	M13 format (default)
2	C-bit parity format, not supported by HMXR

y - not assigned (the only valid value is 0)

z - not assigned (the only valid value is 0)

VI Type NPC Parameters

The following contains the valid xyz parameters for VI type NPCs.

VI-type xyz fields

x - Fixed at 1

y - Fixed at 0

z - Fixed at 0

TC/TR/TU Type NPC Parameters

The following contains the valid xyz parameters for TC, TR, and TU type TLI NPCs.

TC, TR, and TU-type TLI xyz fields

x - Frame format

y - Line format

z - Channel format

Values for x, y, and z are unassigned.

TD Type NPC Parameters

The following contains the valid xyz parameters for TD type TLI NPCs.

TD-type TLI xyz fields

x - Timing distributor identification

x	*Explanation*
1	Composite Clock Timing Distribution
2	Sinusoidal 2.048 MHz Timing Distribution

y - Unassigned

z - Unassigned

TE Type NPC Parameters

The following contains the valid xyz parameters for TE type TLI NPCs.

TE-type TLI xyz fields

x - Frame format

x	*Explanation*
0	Invalid
1	D4 Format
2,3	ESF Format
4	DDS (T1DM) Format
5-9	Invalid

y - Line format

y	*Explanation*
0,1	Bipolar Line Coding
2	B8ZS Line Coding
3	Invalid
4,5	Bipolar Line Coding
6	B8ZS Line Coding
7-9	Invalid

z - Channel format

z	*Explanation*
0-9	Unassigned

TP Type NPC Parameters

The following contains the valid xyz parameters for TP type TLI NPCs.

TP-type TLI xyz fields

x - Frame format

x	*Explanation*
1,5	Common Channel Signaling
2,6	Channel Associated Signaling - Mode 0
3,7	Channel Associated Signaling - Mode 1
4,8	European Remote Switching Module
0,9	Invalid

y - Line format

0,2	Alternate Mark Inversion (Bipolar)
1,3	High Density Bipolar (HDB3)
4-9	Invalid

z - Channel format

z	*Explanation*
0-9	Unassigned

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01342	**ERR,ESR,SYNC,TLI,TN,EVENT,COND**
01351	**ERR,ESR,CCB,TN,EVENT,COND**
01352	**ERR,ESR,CCNI,TN,EVENT,COND**
01353	**ERR,ESR,TSI,TN,EVENT,COND**
01354	**ERR,ESR,CCI,TN,EVENT,COND**
01355	**ERR,ESR,ETSI,TN,EVENT,COND**
01361	**ERR,ESR,UNIT,UC,UBX,TN,EVENT,COND**
01362	**ERR,SOFTWARE,MC,ERROR,MID,TN,RC,ACTION**
01363	**ERR,ESR,UNIT,FTMI,TN,EVENT,COND**
01364	**ERR,ESR,UNIT,FC,TN,EVENT,COND**
01365	**ERR,ESR,UNIT,DSPI,TN,EVENT,COND**
01366	**ERR,SYNC,MODE,FAST,HOLDOVER,NORMAL**
01371	**ERR,ESR,NPC,SIDE,TN,EVENT,COND**
01372	**ERR,ESR,NPC,TN,EVENT,COND**
01381	**OVERLOAD,MP,CI,UNIT,UC,TN,PROCESSOR**
01391	**ERR,ESR,ANALYSIS,REPORT,EVENT**
01392	**ERR,HARDWARE,TN,COND,EVENT,ACTION**
01393	**RESET,DATE,TOD,FORMAT,MDY,DMY**
11001	**TCON,FROM,TO,NAM,CUS,INCL,RDC,PRIOUT**
11011	**TCON,FROM,TO,RDC,CUS,INCL,PRIOUT**
11021	**TCON,FROM,TO,MPM,NAM,NTR,RDC,CUS,INCL**
11041	**TCON,FROM,CB,CUS,RDC,INCL**
11051	**TCON,FROM,TO,PFW,NFW**
11101	**OCON,FROM,TO,NAM,RDC,CUS,INCL,PRIOUT**
11121	**OCON,FROM,TO,MPM,CUS,INCL,RDC,NAM**
11131	**OCON,FROM,TO,RDC,CUS,INCL,PRIOUT**
12001	**TCNT,FROM,TO,NAM,CUS,INCL,RDC,PRIOUT**
12021	**TCNT,FROM,TO,MPM,NAM,NTR,RDC,CUS,INCL**
12031	**TCNT,FROM,TO,RDC,CUS,INCL,PRIOUT**
12051	**TCNT,FROM,TO,PFW,NFW**
12101	**OCNT,FROM,TO,NAM,RDC,CUS,INCL,PRIOUT**
12121	**OCNT,FROM,TO,MPM,NAM,CUS,INCL,RDC**
12131	**OCNT,FROM,TO,RDC,CUS,INCL,PRIOUT**
13001	**BCON,FROM,TOX,NTR,LPD,CONV,NAM,CUS**
13002	**BCON,FROM,TO,NTR,LPD,CONV,NAM,CUS,INCL**
13011	**BCON,FROM,TOX,RDC,CUS,INCL,NTR,LPD**
13021	**BCON,FROM,TO,RDC,CUS,INCL,NTR,LPD,CONV**
13051	**BCON,FROM,TOX**
14021	**SW,BCAST,OLD,NEW,INCL**
14031	**SW,ROLL,OLD,NEW,INCL,FRC,OOS**
14041	**SW,DISC,OOS**
14061	**SW,BCAST,OLD,NEW,INCL**
14071	**SW,ROLL,OLD,NEW,INCL,FRC,OOS,TWAY**
14081	**SW,DISC,OOS**

14901	**DSPC**
15001	**TDIS,FROM,TO,INCL,OOS,DCC,DCP,PRIOUT**
15002	**TDIS,FROM,TO,INCL,OOS,DCC**
15004	**TDIS,FROM,CB,INCL,OOS**
15011	**TDIS,FROM,TO,OOS,INCL,PRIOUT**
15061	**DDIS,FROM,TO**
15101	**ODIS,FROM,TO,INCL,OOS,DCC,PRIOUT**
15102	**ODIS,FROM,TO,INCL,OOS,DCC**
15111	**ODIS,FROM,TO,OOS,INCL,PRIOUT**
15201	**BDIS,FROM,TO,CONV,OOS,DCC,INCL**
15211	**BDIS,FROM,TOX,CONV,OOS,DCC,INCL**
15221	**BDIS,FROM,TOX,OOS,INCL,CONV**
15231	**BDIS,FROM,TO,OOS,INCL,CONV**
17001	**CHG,FROM,TO,NOT,TLA,TLR,F,T,B,L,G,A**
17002	**CHG,FROM,TO,TLP,NG,ES,INCL**
17011	**CHG,FROM,TO,NOT,TLA,TLR,F,T,B,A,INCL**
18001	**CHG,SWCH,TOX,INCL**
18011	**CHG,SWCH,TOX,INCL**
19001	**ED,MACRO,MAP**
19031	**ED,CRET,MAP,PIC**
19041	**APPEND,END**
19051	**DELETE,END**
19061	**LIST,END**
19071	**LINE**
19081	**SAVE**
19091	**MOVE,FROM,END,TO**
20001	**CTST,FAD,FROM,TO,AIS,INCL**
20031	**CTST,HUB,FAD,TO,INCL**
20101	**CTST,FAD,AIS,INCL**
20111	**CTST,FAD,EMODE,FMODE,INCL**
20201	**CTST,TNR,FAD,OOS**
20202	**CTST,TNR,ALL,OOS**
20301	**CTST,LPBKT,FAD,INCL**
21001	**TTST,MON,TO,NAM,TP**
21021	**TTST,MON,TO,TG**
21031	**TTST,MON,TG**
22021	**TTST,TSG,ON,OFF,TG,EAST,WEST,SIG**
22221	**TTST,INS,TG**
22421	**TTST,TSM,ON,OFF,TG,EAST,WEST,TINT**
23001	**TTST,SPL,TP**
23021	**TTST,SPL,TG**
24001	**TTST,HUB,TO,TP,NAM**
24021	**TTST,HUB,TO,TG**
25101	**TTST,TLA,NOT,TP**
25121	**TTST,TLA,TG**
25501	**TTST,TLR,NOT,TP**
25521	**TTST,TLR,TG**

27001	**TTST,TPR,TP,OOS,FRC**
27002	**TTST,TPR,ALL,OOS**
27021	**TTST,TGR,TG,OOS**
29001	**TTST,LPD,TP**
29021	**TTST,LPD,TG**
30101	**GRTH,FRAME,CHAR,UID**
31101	**GRTH,SYNC,TB,TYPE**
31111	**GRTH,SYNC,TLI,TYPE**
31121	**GRTH,SYNC,TLI,TYPE,SSP,SRC,NPC**
31211	**GRTH,UNIT,TYPE**
31321	**GRTH,UNIT,FTMI,IMP**
31331	**GRTH,NPC,TYPE**
31351	**GRTH,NPC,TYPE,CBTIMER**
31362	**GRTH,NPC,TYPE,OPTS,IW,X,AIS,MI,PMA,PMC**
31363	**GRTH,NPC,TYPE,OPTS,IW,X,AIS,MI,PMA,DMA**
31381	**GRTH,NPC,NPCTP**
31401	**GRTH,NPC,NPCTG**
31411	**GRTH,TP**
31421	**GRTH,TG,NPCTG**
31521	**COPY,NPC,TO**
32101	**DGRTH,SYNC,TB**
32121	**DGRTH,SYNC,TLI,SSP**
32211	**DGRTH,UNIT**
32321	**DGRTH,UNIT,FTMI**
32341	**DGRTH,NPC**
32381	**DGRTH,NPC,NPCTP,TPR**
32401	**DGRTH,NPC,NPCTG,TGR**
32411	**DGRTH,TP**
32421	**DGRTH,TG**
33001	**RMV,MC**
33011	**RMV,LINK**
33101	**RMV,SYNC**
33111	**RMV,SYNC,TLI,CRO**
33121	**RMV,SYNC,TLI,SSP**
33201	**RMV,CCNI**
33202	**RMV,CCB**
33211	**RMV,SMEM,PMEM**
33221	**RMV,TSI**
33231	**RMV,TSIS,CCN,UNIT,CONN**
33241	**RMV,TSIS,CCN,ALL**
33251	**RMV,CCI**
33261	**RMV,ETSI**
33271	**RMV,ETSIS,ECCN,ALL**
33311	**RMV,UNIT,UC**
33321	**RMV,UNIT,FTMI,DSPI**
33331	**RMV,UNIT,FC**
33351	**RMV,NPC,SIDE,INCL**

33401	**RMV,UNIT,FLI**
33411	**RMV,UNIT,FMT**
33421	**RMV,UNIT,MMFG,FRC,INCL**
34001	**RST,MC,MCOND,NOJRNL,CLR,ALL**
34011	**RST,LINK**
34101	**RST,SYNC**
34111	**RST,SYNC,TLI,CRO**
34121	**RST,SYNC,TLI,SSP**
34201	**RST,CCNI**
34202	**RST,CCB**
34211	**RST,PMEM,SMEM,CLR,FRC,BKGRND**
34221	**RST,TSI**
34231	**RST,TSIS,CCN,UNIT,CONN**
34241	**RST,TSIS,CCN,ALL**
34251	**RST,CCI**
34261	**RST,ETSI**
34271	**RST,ETSIS,ECCN,ALL**
34311	**RST,UNIT,UC**
34321	**RST,UNIT,FTMI,DSPI**
34331	**RST,UNIT,FC**
34351	**RST,NPC,SIDE**
34361	**RST,NPC,MON**
34371	**RST,NPC,TS0M**
34401	**RST,UNIT,FLI**
34411	**RST,UNIT,FMT**
35001	**CFR,XC,INCL**
35011	**CFR,SYNC,FPLL**
35012	**CFR,SYNC,STRATUM,STR2,STR3,TOLL,LOCAL**
35013	**CFR,SYNC,MASTER,SLAVED**
35021	**CFR,FRAME**
35101	**SW,UNIT,FLI,TOPRTN**
35105	**SW,UNIT,FLI,TOSRVC**
35111	**SW,UNIT,MMFG,TOPRTN,FRC**
35121	**SW,UNIT,MMFG,TOSRVC**
35301	**ALWSW,UNIT,MMFG,TOPRTN,TOSRVC**
35311	**INHSW,UNIT,MMFG,TOPRTN,TOSRVC**
36001	**ADD,LINK,PTCOL,S,X,T,M,I,BAUD,ALM,BS**
36003	**ADD,LINK,K,T1,T3,N2,A,B**
36005	**ADD,LINK,W,P,T20,T22,T23,T25,T26,R20**
36021	**ADD,NPC**
36101	**ADD,USER,NEW,PASSWD**
36103	**ADD,USER,LINK,INCL,ALL,LANG,M,P,F**
37001	**DLT,NPC**
37101	**DLT,USER**
37201	**DLT,MACRO,MAP,USER**
37301	**DLT,FPKG**
38001	**CHG,NPC,CBTIMER**

38011 **CHG,SYNC,TLI,SSP,TYPE,NPC,SRC**
38101 **CHG,UNIT,CONN**
38201 **CHG,SETOP,TYPE,ALL,NPCOP**
38211 **CHG,NPC,TYPE,IW,X**
38221 **CHG,NPC,OPTS,THMODE**
38231 **CHG,TYPE,OPTS,THMODE**
38271 **CHG,NPC,TYPE,IW,X,INCL**
38281 **CHG,NPC,ALMOPT,AIS,MI,PMA,PMC,DMA**
38291 **CHG,TYPE,THMODE**
38301 **CHG,PASSWD,OLD,NEW**
38321 **CHG,NPC,TS0**
38323 **CHG,NPC,TS0M**
38324 **CHG,NPC,NFS**
38331 **CHG,DD,TO**
38333 **CHG,BC,X,TO**
38335 **CHG,BCOFF,TO**
38341 **CHG,NPC,LPBK**
38355 **CHG,ALMS,ON,OFF**
38365 **CHG,SALMS,PMACR,PMAMJ,DMAMN,MI,RESET**
38375 **CHG,FALMS,TYPE,PMACR,PMAMJ,DMAMN,MI**
38401 **CHG,USER,LINK,INCL,SCR,GR,MCON,MCOFF**
38451 **CHG,INTV,ON,OFF**
38461 **CHG,NPC,ALL,TLI,SYNC,CCN,LEV**
38471 **CHG,MSGLOG,ON,OFF**
38501 **CHG,MACRO,MAP,SPACE**
38631 **CHG,ERB,TYPE**
39001 **LOGIN,USER,PASSWD**
39101 **LOGOFF,USER,LINK,INCL**
39201 **ACT,MAP,CLR,INCL**
39301 **EXC,MACRO**
39311 **STOP,MACRO,LINK**
41001 **DGN,MC,CFT,X**
41004 **DGN,IN,PROGRESS**
41011 **DGN,LINK,CFT,X**
41021 **DGN,MP,CFT,X**
41031 **DGN,CI,CFT,X**
41051 **DGN,PMEM,SMEM,CFT,X,EXCT,DBASE,VERIFY**
41101 **DGN,SYNC**
41111 **DGN,SYNC,TLI,CRO**
41121 **DGN,SYNC,TLI,SSP**
41201 **DGN,CCNI,CFT,X**
41211 **DGN,CCB,CFT,X**
41221 **DGN,TSI,CFT,X**
41232 **DGN,TSIS,CCN,UNIT,CONN**
41241 **DGN,TSIS,CCN,ALL**
41251 **DGN,CCI,CFT,X**
41261 **DGN,ETSI,CFT,X**

41271	**DGN,ETSIS,ECCN,ALL**
41311	**DGN,UNIT,UC,CFT,X**
41321	**DGN,UNIT,FTMI,CFT,X**
41331	**DGN,UNIT,FC,CFT,X**
41341	**DGN,UNIT,DSPI,CFT,X**
41351	**DGN,NPC,SIDE,CFT,X**
41361	**DGN,NPC**
51001	**UTL,QRY,MEMSTAT**
51011	**UTL,TOD,CFA,PRIM,X,MONDAT**
51021	**UTL,DATE,FORMAT,INT**
51031	**UTL,QRY,DATE**
51041	**UTL,QRY,WHO**
51071	**UTL,QRY,TOD,CFA,MONDAT**
51081	**UTL,RCY,PASSWD**
51091	**UTL,QRY,CNFGR**
51101	**UTL,INIT,ALM**
51111	**UTL,ACO**
51121	**UTL,QRY,FPKG**
51131	**UTL,QRY,SQN**
51201	**UTL,QRY,APPL,NPC,ALL**
52011	**UTL,QRY,CMAP**
52031	**UTL,QRY,DMAP**
52041	**UTL,QRY,TO**
52051	**UTL,QRY,FROM**
52061	**UTL,QRY,TO**
52071	**UTL,QRY,FROM**
52081	**UTL,QRY,ROLL,DS0,NPC,ALL,UNIT**
52091	**UTL,QRY,ROLL,DS1,NPC,ALL,UNIT**
52101	**UTL,QRY,BCAST,ALL**
52111	**UTL,QRY,BCAST,FROM**
52121	**UTL,QRY,BCAST,FROM**
52201	**UTL,QRY,MARK**
52211	**UTL,QRY,MARK**
52601	**UTL,QRY,SIGST**
53001	**UTL,QRY,SYNC,TYPE**
53011	**UTL,QRY,EQD,UNITS**
53021	**UTL,QRY,EQD,TSIS**
53022	**UTL,QRY,EQD,ETSIS**
53031	**UTL,QRY,EQD,CONN**
53041	**UTL,QRY,EQD,NPCS,TOTAL,UNIT**
53051	**UTL,QRY,OPT,TYPE,ALL,NPCS**
53061	**UTL,QRY,TPS**
53071	**UTL,QRY,UNIT,FTMI,IMP**
53081	**UTL,QRY,TGS**
53091	**UTL,QRY,NPCTG**
53101	**UTL,QRY,ALL,UNIT**
53103	**UTL,QRY,PEST,FAIL,OOS,UNIT**

53104	**UTL,QRY,ALL,COMMON**
53105	**UTL,QRY,PEST,FAIL,OOS,COMMON**
53108	**UTL,QRY,EQD,UNIT**
53109	**UTL,QRY,EQD,COMMON**
53111	**UTL,QRY,ALMS**
53131	**UTL,QRY,LPBK,NPC**
53151	**UTL,QRY,ALMS,DBASE**
53171	**UTL,QRY,NPC,CBTIMER**
53211	**UTL,QRY,EQD,MXRS**
53221	**UTL,QRY,DS3,BERMT,UNIT**
53231	**UTL,QRY,DS3,LBO**
53301	**UTL,QRY,SALMS,ALL**
53311	**UTL,QRY,FALMS,TYPE,ALL**
53331	**UTL,QRY,INTV,NPC,ALL,TLI,CCN,SYNC**
53351	**UTL,QRY,ALM,INTV**
53401	**UTL,QRY,TSM,TG**
54001	**UTL,QRY,SCR,LINK,USER,LINKS,USERS**
54011	**UTL,QRY,LOG,ALL**
54101	**UTL,QRY,LIST,MAP,USER**
54111	**UTL,QRY,NPC,MAP,USER**
54121	**UTL,QRY,MACRO,USER**
54131	**UTL,QRY,LIST,MACRO,USER**
54201	**UTL,QRY,MAP,ATTR,ALL,USER,MAPNM**
54211	**UTL,QRY,MACRO,ATTR,USER,ALL**
54221	**UTL,QRY,MACRO,MAP,SPACE,USER,ALL**
54340	**UTL,QRY,STATE,ACO**
55011	**UTL,QRY,ERR,SWER,HWER,INT,DATE,TOD,TN**
55021	**UTL,RCY,COND,IN,PROGRESS**
55111	**UTL,QRY,ESR,MP**
55113	**UTL,QRY,STR,LINK**
55181	**UTL,QRY,XCSB,UNIT**
55191	**UTL,QRY,STR,XC**
55201	**UTL,QRY,STR,SYNC**
55311	**UTL,QRY,STR,SYNC,TLI**
55321	**UTL,QRY,STR,SYNC,TLI,SSP**
55401	**UTL,QRY,ESR,CCN**
55411	**UTL,QRY,ESR,ECCN**
55501	**UTL,QRY,ESR,UNIT**
55511	**UTL,QRY,ESR,UNIT,FTMI**
55521	**UTL,QRY,ESR,UNIT,FC**
55531	**UTL,QRY,ESR,UNIT,DSPI**
55601	**UTL,QRY,ESR,NPC,SIDE**
55701	**UTL,BMTR,FROM,TO,EXCT,INCL,UPGRD**
55703	**IN,PROGRESS**
55711	**ABT**
55721	**INSTALL**
55731	**UTL,UPGRD**

55801	**UTL,QRY,ESR,UNIT,FLI**
55821	**UTL,QRY,ESR,UNIT,MXR**
56001	**UTL,CLR,NPC**
56011	**UTL,CLR,ALL**
56021	**UTL,QRY,ALMOPT,NPC,AIS**
56031	**UTL,QRY,ALL**
56041	**UTL,QRY,NPC**
56051	**UTL,CLR,NPC,PARAMS**
56052	**UTL,CLR,PWR**
56061	**UTL,CLR,ERR,HWER,SWER**
56071	**UTL,CLR,NPC,ALL,AI,MONDAT,MONTIM**
56091	**UTL,QRY,NPC,ALL,AI,LV,MONDAT,MONTIM**
56301	**UTL,QRY,STATE,SYNC**
56311	**UTL,QRY,STATE,NPC**
56314	**UTL,QRY,STATE,NPC**
56321	**UTL,QRY,TS0,NPC**
56323	**UTL,QRY,TS0M,NPC**
56324	**UTL,QRY,NFS,NPC**
56326	**UTL,QRY,RPSFI**
56341	**UTL,QRY,DD**
56343	**UTL,QRY,DD,NPC,DDCT,ALL**
56351	**UTL,QRY,BC,NPC,ALL**
56353	**UTL,QRY,BC,TO**
56391	**UTL,QRY,NETADDR,DB,RAM**
56401	**UTL,LOC**
56411	**UTL,INIT,IP,GATEWAY,IPMASK**
58001	**UTL,BOOT,FRAME,CLR**
58011	**MC,MCOND**
62011	**APPL,RESET,IN,PROGRESS**
65011	**AR01,MISC,ALM,PBA**
65021	**AR01,MISC,ALM,IDLD,PBA**
65036	**ALM,NPC**
65046	**ALM,IDLD,AI,NPC**
65051	**ALM,RESET,DATE,TOD,FORMAT,MDY,DMY,PMC**
65053	**BOOT,FAILED,BAD,DEVICE**
65054	**ALM,PMC,PMA,DMA,MI,CCN,OOS**
65055	**ALM,PMC,PMA,DMA,MI,ECCN,OOS**
65056	**ALM,PMC,PMA,DMA,MI,MJ,MN,INFO,CR,SMEM**
65057	**ALM,PMA,DMA,IDLD,TCPIP,LINK7**
65061	**ALM,NPC,AI,COUNT,THLEV**
65071	**ACO,ACTIVE**
65091	**ALM,PMC,PMA,DMA,MI,NPC,RPSFI,IDLD**
65201	**TS0,R,NPC,OLD,NEW**
65211	**BC,R,TO,X,ZO,NA**
65221	**CBOFL,SIDE,EOM**
65231	**TS0MBOFL**
81001	**AUD,QRY,CFA,CGA,LOS**

81002	**AUD,QRY,CFA,CGA,LOS**
81003	**AUD,QRY,BER,ALL,NPCS,TOT,EOM**
81004	**AUD,QRY,CFA,CGA,LOS**
81005	**AUD,QRY,BER,ALL,NPCS,TOT**
81006	**AUD,PARAMS**
82001	**FRADTS,DGN**
82002	**FRADTS,FRCMP**
82003	**FRADTS,BMCMP**
82004	**FRADTS,MC,DGN**

Summary of Input Commands

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Summary of Input Commands

5

Summary of Input Commands

This section provides a summary of the DACS II Release 9.0 input commands. The commands are presented in an alphabetical and numerical order.

Alphabetic Command Summary

[I.55711]
ABT!

[I.39201]
ACT:FRM xy,SEQ ww:MAP <map name>[,CLR][,INCL]!

[I.36003]
ADD:FRM xy,SEQ ww:LINK j[,K b][,T1 ee][,T3 ggg][,N2 aa]
[,FRMAD {A|B}]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL {S|X|T|M|I}[,BAUD bb][,ALM k]
[,BS e][,ENQ q][,XON x][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL S[,BAUD bb][,ALM k]
[,BS e][,ENQ q][,XON x][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL X[,ALM k][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL T[,BAUD bb][,ALM k][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL M[,ALM k][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL I[,ALM k][,INIT]!

[I.36005]
ADD:FRM xy,SEQ ww:LINK j[,W c][,P ddd][,T20 iii]
[,T22 jjj][,T23 kkk][,T25 lll][,T26 mmm][,R20 nn]
[,R22 p][,R23 qq][,R25 r][,DBIT v][,VC(ppss,gghh)]!

[I.36021]
ADD:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[,[s]ghi]...
[,[t]def]}!

[I.36021]
ADD:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,edfgh]...
[,wxkqr]}!

[I.36103]
```
ADD:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]|ALL}\
[,LANG {M|P|F}][,NPCAD {E|X|H}][,LEV(a,b,c,d,e,f)]\
[,{RMON|RMOFF}][,RLK {A|I}][,{CONVON|CONVOFF}][,INIT]!
```

[I.36101]
```
ADD:FRM xy,SEQ ww:USER <user id>[,NEW][,PASSWD <user password>]!
```

[I.36101]
```
ADD:FRM xy,SEQ ww:USER <user id>[,NEW]!
```

[I.35301]
```
ALWSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!
```

[I.19041]
```
APPEND[:FRM xy,SEQ ww:{<line number>|END}]!
```

[I.81001]
```
AUD:FRM xy,SEQ ww:QRY,{CFA|CGA|LOS}!
```

[I.81001]
```
AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!
```

[I.81001]
```
AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!
```

[I.13002]
```
BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

[I.13002]
```
BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

[I.13021]
```
BCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]def[,RDC][,{CUS|INCL}]\
[,{NTR|LPD|CONV}]!
```

[I.13021]
```
BCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}]\
[,{NTR|LPD|CONV}]!
```

[I.13051]
```
BCON:FRM xy,SEQ ww:FROM [s]abc000,\
TOX ([t]ghijjj[,[t]klmnnn,...])!
```

[I.13051]
```
BCON:FRM xy,SEQ ww:FROM uvmnp000,\
TOX (wxkqrjjj [,edhfgnnn,...])!
```

[I.13001]
```
BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\
TOX ([t]ghijjj[,[t]klmnnn,...])[,<tc>][,<sc>]\
[,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

[I.13001]
```
BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\
TOX (wxkqrjjj [,edhfgnnn,...])[,<tc>][,<sc>]\
[,{NTR|LPD|CONV}] [,NAM][,{CUS|INCL}][,RDC]!
```

[I.13011]
```
BCON:FRM xy,SEQ ww:FROM [s]abc,TOX ([t]def[,[u]ghi]\
[,[v]jkl][...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```

[I.13011]
```
BCON:FRM xy,SEQ ww:FROM uvmnp,TOX (wxkqr[,edfhg]\
[,stmno][,...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```

[I.15201]
```
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,CONV][,OOS][,DCC][,INCL]!
```

[I.15201]
```
BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,CONV][,OOS][,DCC][,INCL]!
```

[I.15231]
```
BDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,CONV]!
```

[I.15231]
```
BDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,CONV]!
```

[I.15211]
```
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\
TOX ([t]ghijjj[,[u]klmnnn . . .])[,CONV][,OOS][,DCC][,INCL]!
```

[I.15211]
```
BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\
TOX (wxkqrjjj[,edhfgnnn, . . .])[,CONV][,OOS][,DCC][,INCL]!
```

[I.15221]
```
BDIS:FRM xy,SEQ ww:FROM [s]abc,\
TOX ([t]ghi[,[u]jkl][,[v]mno][...])[,OOS][,INCL][,CONV]!
```

[I.15221]
BDIS:FRM xy,SEQ ww:FROM uvmnp,
TOX (wxkqr[,edhfg][,opqrs][...])[,OOS][,INCL][,CONV]!

[I.35021]
CFR:FRM xy,SEQ ww:FRAME!

[I.35011]
CFR:FRM xy,SEQ ww:SYNC a,FPLL!

[I.35013]
CFR:FRM xy,SEQ ww:SYNC,{MASTER|SLAVED}!

[I.35012]
CFR:FRM xy,SEQ ww:SYNC,STRATUM {STR2|STR3|TOLL|LOCAL}!

[I.35001]
CFR:FRM xy,SEQ ww:XC s[,INCL]!

[I.38355]
CHG:[FRM xy,SEQ ww]:ALMS,{ON|OFF}!

[I.38333]
CHG:FRM xy,SEQ ww:BC X'abcd, TO [s]abcddd[-eee]!

[I.38333]
CHG:FRM xy,SEQ ww:BC X'abcd, TO uvmnpddd[-eee]!

[I.38335]
CHG:FRM xy,SEQ ww:BCOFF,TO [s]abcddd[-eee]!

[I.38335]
CHG:FRM xy,SEQ ww:BCOFF,TO uvmnpddd[-eee]!

[I.38331]
CHG:FRM xy,SEQ ww:DD(m,w),TO [s]abcddd[-eee]!

[I.38331]
CHG:FRM xy,SEQ ww:DD(m,w),TO uvmnpddd[-eee]!

[I.38631]
CHG:FRM xy,SEQ ww:ERB ee,TYPE mn!

[I.38375]
CHG:[FRM xy,SEQ ww]:FALMS,TYPE mn[xyz],falm,{PMACR|PMAMJ|DMAMN|MI|RESET}!

[I.17011]
```
CHG:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,NOT [u]rst],\
{TLA|TLR} {F|T|B|A}[,INCL]!
```

[I.17011]
```
CHG:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,NOT edhfg],\
{TLA|TLR} {F|T|B|A}[,INCL]!
```

[I.17001]
```
CHG:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,NOT [u]rstvvv],{TLA|TLR} {F|T|B|L|G|A}[,INCL]!
```

[I.17001]
```
CHG:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,NOT edhfgvvv],{TLA|TLR} {F|T|B|L|G|A}[,INCL]!
```

[I.17002]
```
CHG:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,TLP(snn,smm)]\
[,NG nn][,ES ee][,INCL]!
```

[I.17002]
```
CHG:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\
[,TLP(snn,smm)][,NG nn][,ES ee][,INCL]!
```

[I.38451]
```
CHG:[FRM xy,SEQ ww]:INTV,{ON|OFF}!
```

[I.38501]
```
CHG:FRM xy,SEQ ww:{MACRO|MAP},SPACE sss!
```

[I.38471]
```
CHG:FRM xy,SEQ ww:MSGLOG {ON|OFF}!
```

[I.38461]
```
CHG:[FRM xy,SEQ ww]:{NPC {[s]abc[-[t]def]|ALL}|TLI|SYNC|CCN|ALL},LEV r!
```

[I.38461]
```
CHG:[FRM xy,SEQ ww]:{NPC {uvmnp[-uvkqr]|ALL}|TLI|SYNC|CCN|ALL},LEV r!
```

[I.38281]
```
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]ghi],ALMOPT,\
AIS {MI|PMA|PMC|DMA}!
```

[I.38281]
```
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],ALMOPT,\
AIS {MI|PMA|PMC|DMA}!
```

[I.38001]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],CBTIMER [t]v!

[I.38001]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],CBTIMER [t]v!

[I.38341]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],LPBK [d]t!

[I.38341]
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],LPBK [d]t!

[I.38324]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],NFS abcdefghi!

[I.38324]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],NFS abcdefghi!

[I.38221]
CHG:FRM xy,SEQ ww:NPC [s]abc,{OPTS(rr/<m>[,rr/<m>][...])|
THMODE hhh}!

[I.38221]
CHG:FRM xy,SEQ ww:NPC uvmnp,{OPTS(rr/<m>[,rr/<m>][...])|
THMODE hhh}!

[I.38321]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TS0 abcdefgh!

[I.38321]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TS0 abcdefgh!

[I.38323]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TS0M abcdefgh!

[I.38323]
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],TS0M abcdefgh!

[I.38211]
CHG:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,IW X’pq[r]]!

[I.38211]
CHG:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,IW X’pq[r]]!

[I.38271]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,IW X’pq[,INCL]]!

[I.38271]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,IW X'pq[,INCL]]!

[I.38301]
**CHG:FRM xy,SEQ ww:PASSWD[,OLD <old password>, **
NEW <new password>]!
[I.38301]
CHG:FRM xy,SEQ ww:PASSWD!
OLD PASSWD: (user enters the old password)
NEW PASSWD: (user enters the new password)
PASSWD: (user re-enters the new password for verification)

[I.38365]
CHG:[FRM xy,SEQ ww]:SALMS,salm,{PMACR|PMAMJ|DMAMN|MI|RESET}!

[I.38201]
CHG:FRM xy,SEQ ww:SETOP rr,{TYPE mn|ALL},NPCOP(set1,set2,set3)!

[I.18001]
CHG:FRM xy,SEQ ww:SWCH,TOX([s]abcddd[,[t]ghijjj,
[u]klmnnn,...])[,INCL]!

[I.18001]
CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnpddd[,wxkqrjjj,edhfgnnn,...])
[,INCL]!

[I.18011]
CHG:FRM xy,SEQ ww:SWCH,TOX([s]ghi[,[t]jkl][,[v]mno][...])
[,INCL]!

[I.18011]
CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnp[,wxkqr][,edhfg][...])
[,INCL]!

[I.38011]
CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,{TYPE texyz|NPC [0]abc}!

[I.38011]
CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,{TYPE texyz|NPC uvmnp}!

[I.38011]
CHG:FRM xy,SEQ ww:SYNC,
TLI,SRC(i/(a,b)[,j/(c,d)[,k/(e,f)[,l/(g,h)]]]):!

[I.38231]
CHG:FRM xy,SEQ ww:TYPE mnxyz,{OPTS(rr/<m>[,rr/<m>][...])|THMODE hhh}!

[I.38291]
CHG:FRM xy,SEQ ww:TYPE mn,THMODE hhh!

[I.38101]
CHG:FRM xy,SEQ ww:UNIT q,CONN(a[,b[,c[,d[,e[,f]]]]]])!

[I.38401]
CHG:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}
[,SCR n[,GR(a,b,c,d,e,f)]][,{MCON|MCOFF}][,INIT]!

[I.31521]
COPY:FRM xy,SEQ ww:NPC [s]abc,TO [t]def[-[u]ghi]!

[I.31521]
COPY:FRM xy,SEQ ww:NPC uvmnp,TO wxkqr[-ghikl]!

[I.20101]
CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[,[t]def])[,AIS][,INCL]!

[I.20101]
CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr])[,AIS][,INCL]!

[I.20111]
CTST:FRM xy,SEQ ww:FAD ([s]abc[,[t]def])
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];

[I.20111]
CTST:FRM xy,SEQ ww:FAD (uvmnp[,wxkqr])
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];

[I.20001]
CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[,[t]def]),FROM [u]ghi
[,TO [v]jkl][,AIS][,INCL]!

[I.20001]
CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr]),FROM eghij
[,TO jklmn][,AIS][,INCL]!

[I.20031]
CTST:FRM xy,SEQ ww:HUB,FAD [s]abc,TO [t]jkl[,INCL]!

[I.20031]
CTST:FRM xy,SEQ ww:HUB,FAD uvmnp,TO wxkqr[,INCL]!

[I.20301]
CTST:FRM xy,SEQ ww:LPBKT,FAD [s]abc[,INCL]!

[I.20301]
CTST:FRM xy,SEQ ww:LPBKT,FAD uvmnp[,INCL]!

[I.20202]
CTST:FRM xy,SEQ ww:TNR,ALL[,OOS]!

[I.20201]

CTST:FRM xy,SEQ ww:TNR,FAD [s]abc[,OOS]!

CTST:FRM xy,SEQ ww:TNR,FAD ([s]abc[,[t]def])[,OOS]!

[I.20201]

CTST:FRM xy,SEQ ww:TNR,FAD uvmnp[,OOS]!

CTST:FRM xy,SEQ ww:TNR,FAD (uvmnp[,wxkqr])[,OOS]!

[I.15061]
DDIS:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [v]ghijjj[-kkk]!

[I.15061]
DDIS:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]!

[I.19051]
DELETE[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>
|END}]]!

[I.41211]
DGN:FRM xy,SEQ ww:CCB sf[,CFT X’vwxy]!

[I.41251]
DGN:FRM xy,SEQ ww:CCI s[,CFT X’vwxy]!

[I.41201]
DGN:FRM xy,SEQ ww:CCNI s[,CFT X’vwxy]!

[I.41031]
DGN:FRM xy,SEQ ww:CI[,CFT X’vwxy]!

[I.41261]
DGN:FRM xy,SEQ ww:ETSI sqq[,CFT X’vwxy]!

[I.41271]
DGN:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!

[I.41011]
DGN:FRM xy,SEQ ww:LINK a[,CFT X'vwxy]!

[I.41001]
DGN:FRM xy,SEQ ww:MC[,CFT X'vwxy]!

[I.41021]
DGN:FRM xy,SEQ ww:MP[,CFT X'vwxy]!

[I.41361]
DGN:[FRM xy,SEQ ww]:NPC [s]abc-[t]def!

[I.41361]
DGN:[FRM xy,SEQ ww]:NPC uvmnp-uvkqr!

[I.41351]
DGN:[FRM xy,SEQ ww]:NPC [s]abc[,SIDE s][,CFT X'vwxy]!

[I.41351]
DGN:[FRM xy,SEQ ww]:NPC uvmnp[,SIDE s][,CFT X'vwxy]!

[I.41051]
DGN:[FRM xy,SEQ ww]:{PMEM|SMEM}[,{CFT X'vwxy|EXCT|DBASE}][,VERIFY]!

[I.41101]
DGN:FRM xy,SEQ ww:SYNC a!

[I.41111]
DGN:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

[I.41121]
DGN:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!

[I.41221]
DGN:FRM xy,SEQ ww:TSI sft[,CFT X'vwxy]!

[I.41241]
DGN:FRM xy,SEQ ww:TSIS,CCN s,ALL!

[I.41232]
DGN:FRM xy,SEQ ww:TSIS,CCN s,UNIT q,
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!

[I.41341]
DGN:FRM xy,SEQ ww:UNIT [q]q,DSPI[,CFT X'vwxy]!

[I.41331]
DGN:FRM xy,SEQ ww:UNIT [q]q,FC sb[,CFT X'vwxy]!

[I.41321]
DGN:FRM xy,SEQ ww:UNIT [q]q,FTMI d[,CFT X'vwxy]!

[I.41311]
DGN:FRM xy,SEQ ww:UNIT [q]q,UC[,CFT X'vwxy]!

[I.32341]
DGRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]!

[I.32341]
DGRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]!

[I.32401]
DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr[,TGR]!

[I.32401]
DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr[,TGR]!

[I.32381]
DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n[,TPR]!

[I.32381]
DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n[,TPR]!

[I.32101]
DGRTH:FRM xy,SEQ ww:SYNC,TB!

[I.32121]
DGRTH:FRM xy,SEQ ww:SYNC,TLI m[,SSP a]!

[I.32421]
DGRTH:FRM xy,SEQ ww:TG mmm[-nnn]!

[I.32411]
DGRTH:FRM xy,SEQ ww:TP kk!

[I.32211]
DGRTH:FRM xy,SEQ ww:UNIT [q]q!

[I.32321]
DGRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d!

[I.37301]
DLT:FRM xy,SEQ ww:FPKG nnnnnnnn!

[I.37201]
DLT:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}
[,USER <user id>]!

[I.37001]
DLT:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[,[s]ghi]...
[,[t]def]}!

[I.37001]
DLT:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,abcde]...[,wxkqr]}!

[I.37101]
DLT:FRM xy,SEQ ww:USER <user id>!

[I.14901]
DSPC:[FRM xy,SEQ ww]:{[s]aaa|[s]aaa-[v]bbb|SDxyz}:<pds_application command>

[I.14901]
DSPC:[FRM xy,SEQ ww]:{uvnmp|uvnmp-wxkqr|SDxyz}:<pds_application command>

[I.19031]
ED:FRM xy,SEQ ww:CRET,MAP <new map name>
,PIC <reference map name>!

[I.19001]
ED:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}!

[I.39301]
EXC:FRM xy,SEQ ww:MACRO <macro name>[,(<p1>[,<p2>[,<p3>
[,...[,<p10>]]]])]!

[I.30101]
GRTH:FRM xy,SEQ ww:FRAME fg[,CHAR m][,UID <uid>]!

[I.31401]
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr!

[I.31401]
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr!

[I.31381]
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n!

[I.31381]
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n!

[I.31331]
GRTH:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def],TYPE mnxyz!

[I.31331]
GRTH:[FRM xy,SEQ ww]:NPC uvmnp[-wxkqr],TYPE mnxyz!

[I.31351]
GRTH:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,CBTIMER [t]v]!

[I.31351]
GRTH:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,CBTIMER [t]v]!

[I.31363]
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|DMA|PMC}][,LEV g]!

[I.31363]
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|DMA|PMC}][,LEV g]!

[I.31362]
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]
[,TYPE mnxyz][,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|PMC|DMA}][,LEV g]!

[I.31362]
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]
[,TYPE mnxyz][,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|PMC|DMA}][,LEV g]!

[I.31101]
GRTH:FRM xy,SEQ ww:SYNC,TB,TYPE TBpqr!

[I.31111]
GRTH:FRM xy,SEQ ww:SYNC,TLI 3,TYPE TBpqr!

[I.31121]
GRTH:FRM xy,SEQ ww:SYNC,TLI m,
{TYPE texyz,SSP a,SRC p[,NPC [0]abc]|TYPE TDxyz}!

[I.31121]
GRTH:FRM xy,SEQ ww:SYNC,TLI m,
{TYPE texyz,SSP a,SRC p[,NPC uvmnp]|TYPE TDxyz}!

[I.31421]
GRTH:FRM xy,SEQ ww:TG mmm,NPCTG (rrr,eee[-fff];sss,www[-xxx])
[,<tc>]!

[I.31411]
```
GRTH:FRM xy,SEQ ww:TP kk[,<tc>]!
```

[I.31321]
```
GRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d,IMP <imp>!
```

[I.31211]
```
GRTH:[FRM xy][,SEQ] ww:UNIT [q]q[,TYPE utxyz]!
```

[I.35311]
```
INHSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!
```

[I.55721]
```
INSTALL;
```

[I.19071]
```
LINE[:FRM xy,SEQ ww:]!
```

[I.19061]
```
LIST[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>|\
END}]]!
```

[I.39001]
```
LOGIN:FRM xy,SEQ ww:USER <user id>[,PASSWD <user password>]!
```

[I.39001]
```
LOGIN:FRM xy,SEQ ww:USER <user id>!
PASSWD: <user enters the user password>
```

[I.39101]
```
LOGOFF:FRM xy,SEQ ww:{USER <user id>|LINK j[{mm|,INCL}]}!
```

[I.19091]
```
MOVE:FRM xy,SEQ ww:FROM {<starting line>|END}\
[-{<ending line>|END}],TO {<destination line>|END}!
```

[I.12121]
```
OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{CUS|INCL}][,RDC]!
```

[I.12121]
```
OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{INCL|CUS}][,RDC]!
```

[I.12101]
```
OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.12101]
```
OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.12131]
```
OCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC]\
[,{CUS|INCL}][,PRIOUT]!
```

[I.12131]
```
OCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC]\
[,{CUS|INCL}][,PRIOUT]!
```

[I.11121]
```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd),<tc>[,{CUS|INCL}][,RDC]!
```

[I.11121]
```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{INCL|CUS}][,RDC]!
```

[I.11101]
```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][{,CUS|,INCL}][,PRIOUT]!
```

[I.11101]
```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][{,CUS|,INCL}][,PRIOUT]!
```

[I.11131]
```
OCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.11131]
```
OCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.15102]
```
ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,INCL][,OOS][,DCC]!
```

[I.15102]
```
ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,INCL][,OOS][,DCC]!
```

[I.15101]
```
ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,INCL][,OOS][,DCC][,PRIOUT]!
```

[I.15101]
**ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,INCL][,OOS][,DCC][,PRIOUT]!**

[I.15111]
ODIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!

[I.15111]
ODIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!

[I.33202]
RMV:FRM xy,SEQ ww:CCB sf!

[I.33251]
RMV:FRM xy,SEQ ww:CCI s!

[I.33201]
RMV:FRM xy,SEQ ww:CCNI s!

[I.33261]
RMV:FRM xy,SEQ ww:ETSI sqq!

[I.33271]
RMV:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!

[I.33011]
RMV:FRM xy,SEQ ww:LINK j!

[I.33001]
RMV:FRM xy,SEQ ww:MC!

[I.33351]
RMV:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s][,INCL]!

[I.33351]
RMV:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s][,INCL]!

[I.33211]
RMV:FRM xy,SEQ ww:{SMEM|PMEM}!

[I.33101]
RMV:FRM xy,SEQ ww:SYNC a!

[I.33111]
RMV:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

[I.33121]
RMV:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!

[I.33221]
RMV:FRM xy,SEQ ww:TSI sft!

[I.33241]
RMV:FRM xy,SEQ ww:TSIS,CCN s,ALL!

[I.33231]
RMV:FRM xy,SEQ ww:TSIS,CCN s,UNIT q
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!

[I.33331]
RMV:FRM xy,SEQ ww:UNIT [q]q,FC sb!

[I.33401]
RMV:FRM xy,SEQ ww:UNIT [q]q,FLI k!

[I.33411]
RMV:FRM xy,SEQ ww:UNIT [q]q,FMT s!

[I.33321]
RMV:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!

[I.33421]
RMV:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,FRC[,INCL]]!

[I.33311]
RMV:FRM xy,SEQ ww:UNIT [q]q,UC!

[I.34202]
RST:FRM xy,SEQ ww:CCB sf!

[I.34251]
RST:FRM xy,SEQ ww:CCI s!

[I.34201]
RST:FRM xy,SEQ ww:CCNI s!

[I.34261]
RST:FRM xy,SEQ ww:ETSI sqq!

[I.34271]
RST:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!

[I.34011]
RST:FRM xy,SEQ ww:LINK j!

[I.34001]
RST:FRM xy,SEQ ww:MC[,{MCOND|NOJRNL}]!

[I.34001]
RST:FRM xy,SEQ ww:MC,CLR[,ALL]!

[I.34361]
RST:FRM xy,SEQ ww:NPC [s]abc,MON!

[I.34361]
RST:FRM xy,SEQ ww:NPC uvmnp,MON!

[I.34351]
RST:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s]!

[I.34351]
RST:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s]!

[I.34371]
RST:FRM xy,SEQ ww:NPC [s]abc,TS0M!

[I.34371]
RST:FRM xy,SEQ ww:NPC uvmnp,TS0M!

[I.34211]
RST:FRM xy,SEQ ww:{PMEM|SMEM[{,CLR|[,FRC][,BKGRND]}]}!

[I.34101]
RST:FRM xy,SEQ ww:SYNC a!

[I.34111]
RST:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

[I.34121]
RST:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!

[I.34221]
RST:FRM xy,SEQ ww:TSI sft!

[I.34241]
RST:FRM xy,SEQ ww:TSIS,CCN s,ALL!

[I.34231]
**RST:FRM xy,SEQ ww:TSIS,CCN s,UNIT q **
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!

[I.34331]
RST:FRM xy,SEQ ww:UNIT [q]q,FC sb!

[I.34401]
RST:FRM xy,SEQ ww:UNIT [q]q,FLI k!

[I.34411]
RST:FRM xy,SEQ ww:UNIT [q]q,FMT s!

[I.34321]
RST:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!

[I.34311]
RST:FRM xy,SEQ ww:UNIT [q]q,UC!

[I.19081]
SAVE[:FRM xy,SEQ ww:]!

[I.39311]
STOP:FRM xy,SEQ ww:MACRO[,LINK j[mm]]!

[I.14021]
SW:FRM xy,SEQ ww:BCAST,OLD [s]abcddd[-eee],NEW [t]ghijjj
[-kkk][,INCL]

[I.14021]
SW:FRM xy,SEQ ww:BCAST,OLD uvmnpddd[-eee],NEW wxkqrjjj
[-kkk][,INCL]

[I.14061]
SW:FRM xy,SEQ ww:BCAST,OLD [s]abc,NEW [t]ghi[,INCL]

[I.14061]
SW:FRM xy,SEQ ww:BCAST,OLD uvmnp,NEW wxkqr[,INCL]

[I.14041]
SW:FRM xy,SEQ ww:DISC [s]abcddd[-eee][,OOS]

[I.14081]
SW:FRM xy,SEQ ww:DISC [s]abc[,OOS]

[I.14081]
SW:FRM xy,SEQ ww:DISC uvmnp[,OOS]

[I.14031]
SW:FRM xy,SEQ ww:ROLL,OLD [s]abcddd[-eee],NEW [t]ghijjj[-kkk]
[,INCL][,FRC][,OOS]

[I.14031]
SW:FRM xy,SEQ ww:ROLL,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]
[,INCL][,FRC][,OOS]

[I.14071]
SW:FRM xy,SEQ ww:ROLL,OLD [s]abc,NEW [t]ghi[,INCL][,FRC]
[,OOS][,TWAY]

[I.14071]
SW:FRM xy,SEQ ww:ROLL,OLD uvmnp,NEW wxkqr[,INCL][,FRC]
[,OOS][,TWAY]

[I.35101]
SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOPRTN!

[I.35105]
SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOSRVC!

[I.35111]
SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOPRTN[,FRC]!

[I.35121]
SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOSRVC!

[I.12021]
TCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!

[I.12021]
TCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!

[I.12001]
TCNT:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]
[,<tc>][,<sc>][NAM][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.12001]
TCNT:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]
[,<tc>][,<sc>][NAM][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.12051]
TCNT:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj
[,{PFW(abcdefg,ijklmno)|NFW}]!

[I.12051]
TCNT:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj
[,{PFW(abcdefg,ijklmno)|NFW}]!

[I.12031]
TCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.12031]
TCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11041]
TCON:FRM xy,SEQ ww:FROM [s]abc,CB[,CUS][,RDC][,INCL]!

[I.11041]
TCON:FRM xy,SEQ ww:FROM uvmnp,CB[,CUS][,RDC][,INCL]!

[I.11021]
TCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],
MPM(fmd,tmd)[,<tc>][,NAM],[NTR m][,RDC][,{CUS|INCL}]!

[I.11021]
TCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],
MPM(fmd,tmd)[,<tc>][,NAM],[NTR m][,RDC][,{CUS|INCL}]!

[I.11001]
TCON:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]
[,<tc>][,<sc>][,NAM][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.11001]
TCON:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]
[,<tc>][,<sc>][,NAM][,{CUS|INCL}][,RDC][,PRIOUT]!

[I.11051]
TCON:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj
[,{PFW(abcdefg,ijklmno)|NFW}]!

[I.11051]
TCON:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj
[,{PFW(abcdefg,ijklmno)|NFW}]!

[I.11011]
TCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.11011]
TCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!

[I.15004]
TDIS:FRM xy,SEQ ww:FROM [s]abc,CB[,INCL][,OOS]!

[I.15004]
TDIS:FRM xy,SEQ ww:FROM uvmnp,CB[,INCL][,OOS]!

[I.15002]
TDIS:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,INCL][,OOS]
[,DCC]!

[I.15002]
TDIS:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj[,INCL][,OOS]
[,DCC]!

[I.15001]
TDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]
[,INCL][,OOS][{,DCC|,DCP}][,PRIOUT]!

[I.15001]
TDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]
[,INCL][,OOS][{,DCC|,DCP}][,PRIOUT]!

[I.15011]
TDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!

[I.15011]
TDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!

[I.24021]
TTST:FRM xy,SEQ ww:HUB,TO ([s]abcddd,[t]ghijjj),TG mmm[,<tc>]!

[I.24021]
TTST:FRM xy,SEQ ww:HUB,TO (uvmnpddd,wxkqrjjj),TG mmm[,<tc>]!

[I.24001]
TTST:FRM xy,SEQ ww:HUB,TO [t]ghijjj,TP kk[,<tc>][,NAM]!

[I.24001]
TTST:FRM xy,SEQ ww:HUB,TO uvmnpjjj,TP kk[,<tc>][,NAM]!

[I.22221]
TTST:FRM xy,SEQ ww:INS,TG mmm!

[I.29021]
TTST:FRM xy,SEQ ww:LPD,TG mmm[,<tc>]!

[I.29001]
TTST:FRM xy,SEQ ww:LPD,TP kk,<tc>!

[I.21031]
TTST:FRM xy,SEQ ww:MON,TG mmm!

[I.21001]
TTST:FRM xy,SEQ ww:MON[,TO [t]ghijjj][,<tc>][,NAM],TP kk!

[I.21001]
TTST:FRM xy,SEQ ww:MON[,TO uvmnpjjj][,<tc>][,NAM],TP kk!

[I.21021]
TTST:FRM xy,SEQ ww:MON,TO [t]ghi(jjj[-kkk][,lll,...])[,<tc>],
TG mmm!

[I.21021]
TTST:FRM xy,SEQ ww:MON,TO wxkqr(jjj[-kkk][,lll,...])[,<tc>],
TG mmm!

[I.23021]
TTST:FRM xy,SEQ ww:SPL,TG mmm!

[I.23001]
TTST:FRM xy,SEQ ww:SPL,TP kk!

[I.27021]
TTST:FRM xy,SEQ ww:TGR,TG mmm[-nnn][,OOS]!

[I.25101]
TTST:FRM xy,SEQ ww:TLA m[,NOT [t]rstvvv],TP kk!

[I.25101]
TTST:FRM xy,SEQ ww:TLA m[,NOT uvmnpvvv],TP kk!

[I.25121]
TTST:FRM xy,SEQ ww:TLA m,TG mmm!

[I.25501]
TTST:FRM xy,SEQ ww:TLR m[,NOT [t]rstvvv],TP kk!

[I.25501]
TTST:FRM xy,SEQ ww:TLR m[,NOT uvmnpvvv],TP kk!

[I.25521]
TTST:FRM xy,SEQ ww:TLR m,TG mmm!

[I.27002]
TTST:FRM xy,SEQ ww:TPR,ALL[,OOS]!

[I.27001]
TTST:FRM xy,SEQ ww:TPR,TP kk[,OOS][,FRC]!

[I.22021]
TTST:FRM xy,SEQ ww:TSG {ON|OFF},TG mmm[,<pattern>,{EAST|WEST}[,SIG abcd]]!

[I.22421]
TTST:FRM xy,SEQ ww:TSM {ON|OFF},TG mmm[,{EAST|WEST}[,TINT nnn]]!

[I.51111]
UTL:FRM xy,SEQ ww:ACO!

[I.55701]
UTL:FRM xy,SEQ ww:BMTR,FROM <from>,TO <to>[,{EXCT|INCL|UPGRD}]!

[I.58001]
UTL:FRM xy,SEQ ww:BOOT,FRAME[,CLR]!

[I.56011]
UTL:FRM xy,SEQ ww:CLR,<parameter>,ALL!

[I.56061]
UTL:FRM xy,SEQ ww:CLR,ERR,{HWER|SWER}!

[I.56001]
UTL:FRM xy,SEQ ww:CLR,<parameter>,NPC [s]abc[-[t]def]!

[I.56001]
UTL:FRM xy,SEQ ww:CLR,<parameter>,NPC uvmnp[-wxkqr]!

[I.56071]
**UTL:FRM xy,SEQ ww:CLR,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa **
[,MONDAT dddd][,MONTIM tttt]!

[I.56071]
**UTL:FRM xy,SEQ ww:CLR,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa **
[,MONDAT dddd][,MONTIM tttt]!

[I.56051]
UTL:FRM xy,SEQ ww:CLR,NPC [s]abc,PARAMS!

[I.56051]
UTL:FRM xy,SEQ ww:CLR,NPC uvmnp,PARAMS!

[I.56052]
UTL:FRM xy,SEQ ww:CLR,PWR pp!

[I.51021]
UTL:FRM xy,SEQ ww:DATE <new-date>[,FORMAT ggg][,INT ii]!

[I.51101]
UTL:FRM xy,SEQ ww:INIT,ALM a!

[I.56411]
UTL:FRM xy,SEQ ww:INIT,{IP|GATEWAY|IPMASK} x.x.x.x!

[I.56401]
UTL:FRM xy,SEQ ww:LOC,<entity>!

[I.56031]
UTL:FRM xy,SEQ ww:QRY,<parameter>,ALL!

[I.53104]
UTL:FRM xy,SEQ ww:QRY,ALL,COMMON!

[I.53101]
UTL:FRM xy,SEQ ww:QRY,ALL[,UNIT [q]q]!

[I.53351]
UTL:[FRM xy,SEQ ww]:QRY,ALM,INTV!

[I.56021]
UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC [s]abc[-[v]ghi],AIS!

[I.56021]
UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC uvmnp[-wxkqr],AIS!

[I.53111]
UTL:FRM xy,SEQ ww:QRY,ALMS!

[I.53151]
UTL:FRM xy,SEQ ww:QRY,ALMS,DBASE!

[I.51201]
UTL:[FRM xy,SEQ ww]:QRY,APPL,{NPC [s]abc|ALL}!

[I.51201]
UTL:[FRM xy,SEQ ww]:QRY,APPL,{NPC uvmnp|ALL}!

[I.56351]
UTL:FRM xy,SEQ ww:QRY,BC s,{NPC [s]abc[-[t]def]|ALL}!

[I.56351]
UTL:FRM xy,SEQ ww:QRY,BC s,{NPC uvmnp[-wxkqr]|ALL}!

[I.56353]
UTL:FRM xy,SEQ ww:QRY,BC s,TO [s]abcddd!

[I.56353]
UTL:FRM xy,SEQ ww:QRY,BC s,TO uvmnpddd!

[I.52101]
UTL::QRY,BCAST,ALL!

[I.52111]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abcddd!

[I.52111]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnpddd!

[I.52121]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abc!

[I.52121]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnp!

[I.52011]
UTL:[FRM xy,SEQ ww]:QRY,CMAP [s]abc[-[t]def]!

[I.52011]
UTL:[FRM xy,SEQ ww]:QRY,CMAP uvmnp[-wxkqr]!

[I.51091]
UTL:FRM xy,SEQ ww:QRY,CNFGR!

[I.51031]
UTL:FRM xy,SEQ ww:QRY,DATE!

[I.56341]
UTL:FRM xy,SEQ ww:QRY,DD [s]abcddd[-fff]!

[I.56341]
UTL:FRM xy,SEQ ww:QRY,DD uvmnpddd[-fff]!

[I.56343]
UTL:FRM xy,SEQ ww:QRY,{DD,NPC [s]abc[-[t]def]|DDCT,ALL}!

[I.56343]
UTL:FRM xy,SEQ ww:QRY,{DD,NPC uvmnp[-wxkqr]|DDCT,ALL}!

[I.52031]
UTL:[FRM xy,SEQ ww]:QRY,DMAP!

[I.53221]
UTL:FRM xy,SEQ ww:QRY,DS3,BERMT[,UNIT [q]q]!

[I.53231]
UTL:FRM xy,SEQ ww:QRY,DS3,LBO!

[I.53109]
UTL:FRM xy,SEQ ww:QRY,EQD,COMMON!

[I.53031]
UTL:FRM xy,SEQ ww:QRY,EQD,CONN!

[I.53022]
UTL:FRM xy,SEQ ww:QRY,EQD,ETSIS!

[I.53211]
UTL:FRM xy,SEQ ww:QRY,EQD,MXRS!

[I.53041]
UTL:FRM xy,SEQ ww:QRY,EQD,NPCS[,{TOTAL|UNIT [q]q}]!

[I.53021]
UTL:FRM xy,SEQ ww:QRY,EQD,TSIS!

[I.53108]
UTL:FRM xy,SEQ ww:QRY,EQD[,UNIT [q]q]!

[I.53011]
UTL:FRM xy,SEQ ww:QRY,EQD,UNITS!

[I.55011]
UTL:FRM xy,SEQ ww:QRY,ERR,{{SWER|HWER}[,{INT mn|[DATE moda[ce]yr,] TOD hrmnsc}]
[,TN X'dddd][,EVENT X'eeee][,ERCL{HARD|TRANS|APPINT}][,ENTY <entity>]|ALL}!

[I.55401]
UTL:FRM xy,SEQ ww:QRY,ESR,CCN s!

[I.55411]
UTL:FRM xy,SEQ ww:QRY,ESR,ECCN s!

[I.55111]
UTL:FRM xy,SEQ ww:QRY,ESR,MP!

[I.55601]
UTL:FRM xy,SEQ ww:QRY,ESR,NPC [s]abc[,SIDE s]!

[I.55601]
UTL:FRM xy,SEQ ww:QRY,ESR,NPC uvmnp[,SIDE s]!

[I.55501]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q!

[I.55531]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,DSPI!

[I.55521]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FC sb!

[I.55801]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FLI k!

[I.55511]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FTMI d!

[I.55821]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MXR c!

[I.53311]
UTL:[FRM xy,SEQ ww]:QRY,FALMS,TYPE {mn[xyz]|ALL},{<falm>|ALL}!

[I.51121]
UTL:FRM xy,SEQ ww:QRY,FPKG!

[I.52051]
UTL:FRM xy,SEQ ww:QRY,FROM [s]abcddd[-eee]!

[I.52051]
UTL:FRM xy,SEQ ww:QRY,FROM uvmnpddd[-eee]!

[I.52071]
UTL:FRM xy,SEQ ww:QRY,FROM [s]abc!

[I.52071]
UTL:FRM xy,SEQ ww:QRY,FROM uvmnp!

[I.53331]
UTL:[FRM xy,SEQ ww]:QRY,INTV,{NPC {[s]abc[-[t]def]|ALL}|TLI m|CCN|SYNC|ALL}!

[I.53331]
UTL:[FRM xy,SEQ ww]:QRY,INTV,{NPC {uvmnp-uvkqr|ALL}|TLI m|CCN|SYNC|ALL}!

[I.54131]
UTL:FRM xy,SEQ ww:QRY,LIST,MACRO <macro name>
[,USER <user id>]!

[I.54101]
UTL:FRM xy,SEQ ww:QRY,LIST,MAP <name>[,USER <user id>]!

[I.54011]
UTL:[FRM xy][,SEQ ww]:QRY,LOG[,ALL]!

[I.53131]
UTL:FRM xy,SEQ ww:QRY,LPBK,NPC [s]abc[-[t]def]!

[I.53131]
UTL:FRM xy,SEQ ww:QRY,LPBK,NPC uvmnp[-wxkqr]!

[I.54211]
UTL:FRM xy,SEQ ww:QRY,MACRO,ATTR[,{USER <user id>|ALL}]!

[I.54221]
UTL:FRM xy,SEQ ww:QRY,{MACRO|MAP},SPACE[,{USER <user id>|ALL|
SYSTEM}]!

[I.54121]
UTL:FRM xy,SEQ ww:QRY,MACRO <name>[,USER <user id>]!

[I.54201]
UTL:FRM xy,SEQ ww:QRY,MAP,ATTR[,{ALL|USER <user id>|MAPNM <name>}]!

[I.52201]
UTL:FRM xy,SEQ ww:QRY,MARK [s]abc[-[t]def]!

[I.52201]
UTL:FRM xy,SEQ ww:QRY,MARK uvmnp[-wxkqr]!

[I.52211]
UTL:FRM xy,SEQ ww:QRY,MARK [s]abcjjj[-kkk]!

[I.52211]
UTL:FRM xy,SEQ ww:QRY,MARK uvmnpjjj[-kkk]!

[I.51001]
UTL:[FRM xy,SEQ ww]:QRY,MEMSTAT!

[I.56391]
UTL:FRM xy,SEQ ww:QRY,NETADDR[,{DB|RAM}]!

[I.56324]
UTL:FRM xy,SEQ ww:QRY,NFS,NPC [s]abc[-[t]def]!

[I.56324]
UTL:FRM xy,SEQ ww:QRY,NFS,NPC uvmnp[-wxkqr]!

[I.56041]
UTL:FRM xy,SEQ ww:QRY,<parameter>,NPC [s]abc[-[t]def]!

[I.56041]
UTL:FRM xy,SEQ ww:QRY,<parameter>,NPC uvmnp[-wxkqr]!

[I.56091]
**UTL:FRM xy,SEQ ww:QRY,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa **
[,LV lllllllll][,MONDAT dddd][,MONTIM tttt]!

[I.56091]
**UTL:FRM xy,SEQ ww:QRY,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa **
[,LV lllllllll][,MONDAT dddd][,MONTIM tttt]!

[I.53171]
UTL:FRM xy,SEQ ww:QRY,NPC [s]abc[-[t]def],CBTIMER!

[I.53171]
UTL:FRM xy,SEQ ww:QRY,NPC uvmnp[-uvkqr],CBTIMER!

[I.54111]
UTL:FRM xy,SEQ ww:QRY,NPC,MAP <name>[,USER <user id>]!

[I.53091]
UTL:FRM xy,SEQ ww:QRY,NPCTG rrr[-sss]!

[I.53051]
UTL:FRM xy,SEQ ww:QRY,OPT[,{TYPE mn|ALL}],NPCS!

[I.53105]
UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS},COMMON!

[I.53103]
UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS}[,UNIT [q]q]!

[I.52081]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52081]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.52091]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52091]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.56326]
UTL:[FRM xy,SEQ ww]:QRY,RPSFI!

[I.53301]
UTL:[FRM xy,SEQ ww]:QRY,SALMS,{salm|ALL}!

[I.54001]
UTL:FRM xy,SEQ ww:QRY,SCR,{LINK j[mm[-jnn]]|USER <user id>|LINKS|USERS}!

[I.52601]
UTL:[FRM xy,SEQ ww]:QRY,SIGST abcddd

[I.52601]
UTL:[FRM xy,SEQ ww]:QRY,SIGST uvmnpddd

[I.51131]
UTL:FRM xy,SEQ ww:QRY,SQN!

[I.54340]
UTL:FRM xy,SEQ ww:QRY,STATE,ACO!

[I.56311]
UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC [s]abc[-[t]def]!

[I.56311]
UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC uvmnp[-wxkqr]!

[I.56314]
UTL:FRM xy,SEQ ww:QRY,STATE,NPC [s]abc[-[t]def]!

[I.56314]
UTL:FRM xy,SEQ ww:QRY,STATE,NPC uvmnp[-wxkqr]!

[I.56301]
UTL:FRM xy,SEQ ww:QRY,STATE,SYNC!

[I.55113]
UTL:[FRM xy][,SEQ ww]:QRY,STR,LINK j[mm][-jnn]!

[I.55201]
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a!

[I.55311]
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m!

[I.55321]
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m,SSP b!

[I.55191]
UTL:FRM xy,SEQ ww:QRY,STR,XC a!

[I.53001]
UTL:FRM xy,SEQ ww:QRY,SYNC,TYPE!

[I.53081]
UTL:FRM xy,SEQ ww:QRY,TGS mmm[-nnn]!

[I.52041]
UTL:[FRM xy,SEQ ww]:QRY,TO [s]abcddd[-eee]!

[I.52041]
UTL:[FRM xy,SEQ ww]:QRY,TO uvmnpddd[-eee]!

[I.52061]
UTL:FRM xy,SEQ ww:QRY,TO [s]abc!

[I.52061]
UTL:FRM xy,SEQ ww:QRY,TO uvmnp!

[I.51071]
UTL:FRM xy,SEQ ww:QRY,TOD[,CFA][,MONDAT]!

[I.53061]
UTL:FRM xy,SEQ ww:QRY,TPS!

[I.56321]
UTL:FRM xy,SEQ ww:QRY,TS0 s,NPC [s]abc[-[t]def]!

[I.56321]
UTL:FRM xy,SEQ ww:QRY,TS0 s,NPC uvmnp[-wxkqr]!

[I.56323]
UTL:FRM xy,SEQ ww:QRY,TS0M,NPC [s]abc[-[t]def]!

[I.56323]
UTL:FRM xy,SEQ ww:QRY,TS0M,NPC uvmnp[-wxkqr]!

[I.53401]
UTL:FRM xy,SEQ ww:QRY,TSM,TG mmm!

[I.53071]
UTL:FRM xy,SEQ ww:QRY,UNIT [q]q,FTMI b[,IMP]!

[I.51041]
UTL:FRM xy,SEQ ww:QRY,WHO!

[I.55181]
UTL:FRM xy,SEQ ww:QRY,XCSB[,UNIT [q]q]!

[I.51081]
UTL:FRM xy,SEQ ww:RCY,PASSWD!

[I.51011]
UTL:FRM xy,SEQ ww:[TOD hrmnsc][,{CFA|PRIM X'ghij|MONDAT}]!

[I.55731]
UTL:[FRM xy,SEQ ww]:UPGRD!

Numeric Command Summary

[I.11001]
```
TCON:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

[I.11001]
```
TCON:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

[I.11011]
```
TCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.11011]
```
TCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.11021]
```
TCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM],[NTR m][,RDC][,{CUS|INCL}]!
```

[I.11021]
```
TCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM],[NTR m][,RDC][,{CUS|INCL}]!
```

[I.11041]
```
TCON:FRM xy,SEQ ww:FROM [s]abc,CB[,CUS][,RDC][,INCL]!
```

[I.11041]
```
TCON:FRM xy,SEQ ww:FROM uvmnp,CB[,CUS][,RDC][,INCL]!
```

[I.11051]
```
TCON:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

[I.11051]
```
TCON:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

[I.11101]
```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][{,CUS|,INCL}][,PRIOUT]!
```

[I.11101]
```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][{,CUS|,INCL}][,PRIOUT]!
```

[I.11121]
```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd),<tc>[,{CUS|INCL}][,RDC]!
```

[I.11121]
```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{INCL|CUS}][,RDC]!
```

[I.11131]
```
OCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.11131]
```
OCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.12001]
```
TCNT:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][ NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

[I.12001]
```
TCNT:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][ NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

[I.12021]
```
TCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!
```

[I.12021]
```
TCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!
```

[I.12031]
```
TCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.12031]
```
TCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.12051]
```
TCNT:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

[I.12051]
```
TCNT:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

[I.12101]
```
OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.12101]
```
OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][,{CUS|INCL}][,PRIOUT]!
```

[I.12121]
```
OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{CUS|INCL}][,RDC]!
```

[I.12121]
```
OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{INCL|CUS}][,RDC]!
```

[I.12131]
```
OCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC]\
[,{CUS|INCL}][,PRIOUT]!
```

[I.12131]
```
OCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC]\
[,{CUS|INCL}][,PRIOUT]!
```

[I.13001]
```
BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\
TOX ([t]ghijjj[,[t]klmnnn,...])[,<tc>][,<sc>]\
[,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

[I.13001]
```
BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\
TOX (wxkqrjjj [,edhfgnnn,...])[,<tc>][,<sc>]\
[,{NTR|LPD|CONV}] [,NAM][,{CUS|INCL}][,RDC]!
```

[I.13002]
```
BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

[I.13002]
```
BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

[I.13011]
```
BCON:FRM xy,SEQ ww:FROM [s]abc,TOX ([t]def[,[u]ghi]\
[,[v]jkl][...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```

[I.13011]
```
BCON:FRM xy,SEQ ww:FROM uvmnp,TOX (wxkqr[,edfhg]\
[,stmno][,...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```

[I.13021]
BCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]def[,RDC][,{CUS|INCL}]
[,{NTR|LPD|CONV}]!

[I.13021]
BCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}]
[,{NTR|LPD|CONV}]!

[I.13051]
BCON:FRM xy,SEQ ww:FROM [s]abc000,
TOX ([t]ghijjj[,[t]klmnnn,...])!

[I.13051]
BCON:FRM xy,SEQ ww:FROM uvmnp000,
TOX (wxkqrjjj [,edhfgnnn,...])!

[I.14021]
SW:FRM xy,SEQ ww:BCAST,OLD [s]abcddd[-eee],NEW [t]ghijjj
[-kkk][,INCL]

[I.14021]
SW:FRM xy,SEQ ww:BCAST,OLD uvmnpddd[-eee],NEW wxkqrjjj
[-kkk][,INCL]

[I.14031]
SW:FRM xy,SEQ ww:ROLL,OLD [s]abcddd[-eee],NEW [t]ghijjj[-kkk]
[,INCL][,FRC][,OOS]

[I.14031]
SW:FRM xy,SEQ ww:ROLL,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]
[,INCL][,FRC][,OOS]

[I.14041]
SW:FRM xy,SEQ ww:DISC [s]abcddd[-eee][,OOS]

[I.14061]
SW:FRM xy,SEQ ww:BCAST,OLD [s]abc,NEW [t]ghi[,INCL]

[I.14061]
SW:FRM xy,SEQ ww:BCAST,OLD uvmnp,NEW wxkqr[,INCL]

[I.14071]
SW:FRM xy,SEQ ww:ROLL,OLD [s]abc,NEW [t]ghi[,INCL][,FRC]
[,OOS][,TWAY]

[I.14071]
**SW:FRM xy,SEQ ww:ROLL,OLD uvmnp,NEW wxkqr[,INCL][,FRC]\
[,OOS][,TWAY]**

[I.14081]
SW:FRM xy,SEQ ww:DISC [s]abc[,OOS]

[I.14081]
SW:FRM xy,SEQ ww:DISC uvmnp[,OOS]

[I.14901]
DSPC:[FRM xy,SEQ ww]:{[s]aaa|[s]aaa-[v]bbb|SDxyz}:<pds_application command>

[I.14901]
DSPC:[FRM xy,SEQ ww]:{uvnmp|uvnmp-wxkqr|SDxyz}:<pds_application command>

[I.15001]
**TDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,INCL][,OOS][{,DCC|,DCP}][,PRIOUT]!**

[I.15001]
**TDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,INCL][,OOS][{,DCC|,DCP}][,PRIOUT]!**

[I.15002]
**TDIS:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,INCL][,OOS]\
[,DCC]!**

[I.15002]
**TDIS:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj[,INCL][,OOS]\
[,DCC]!**

[I.15004]
TDIS:FRM xy,SEQ ww:FROM [s]abc,CB[,INCL][,OOS]!

[I.15004]
TDIS:FRM xy,SEQ ww:FROM uvmnp,CB[,INCL][,OOS]!

[I.15011]
TDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!

[I.15011]
TDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!

[I.15061]
DDIS:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [v]ghijjj[-kkk]!

[I.15061]
DDIS:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]!

[I.15101]
ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]
[,INCL][,OOS][,DCC][,PRIOUT]!

[I.15101]
ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]
[,INCL][,OOS][,DCC][,PRIOUT]!

[I.15102]
ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]
[,INCL][,OOS][,DCC]!

[I.15102]
ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]
[,INCL][,OOS][,DCC]!

[I.15111]
ODIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!

[I.15111]
ODIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!

[I.15201]
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]
[,CONV][,OOS][,DCC][,INCL]!

[I.15201]
BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]
[,CONV][,OOS][,DCC][,INCL]!

[I.15211]
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],
TOX ([t]ghijjj[,[u]klmnnn . . .])[,CONV][,OOS][,DCC][,INCL]!

[I.15211]
BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],
TOX (wxkqrjjj[,edhfgnnn, . . .])[,CONV][,OOS][,DCC][,INCL]!

[I.15221]
BDIS:FRM xy,SEQ ww:FROM [s]abc,
TOX ([t]ghi[,[u]jkl][,[v]mno][...])[,OOS][,INCL][,CONV]!

[I.15221]
BDIS:FRM xy,SEQ ww:FROM uvmnp,
TOX (wxkqr[,edhfg][,opqrs][...])[,OOS][,INCL][,CONV]!

[I.15231]
BDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,CONV]!

[I.15231]
BDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,CONV]!

[I.17001]
CHG:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]
[,NOT [u]rstvvv],{TLA|TLR} {F|T|B|L|G|A}[,INCL]!

[I.17001]
CHG:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]
[,NOT edhfgvvv],{TLA|TLR} {F|T|B|L|G|A}[,INCL]!

[I.17002]
CHG:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,TLP(snn,smm)]
[,NG nn][,ES ee][,INCL]!

[I.17002]
CHG:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj
[,TLP(snn,smm)][,NG nn][,ES ee][,INCL]!

[I.17011]
CHG:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,NOT [u]rst],
{TLA|TLR} {F|T|B|A}[,INCL]!

[I.17011]
CHG:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,NOT edhfg],
{TLA|TLR} {F|T|B|A}[,INCL]!

[I.18001]
CHG:FRM xy,SEQ ww:SWCH,TOX([s]abcddd[,[t]ghijjj,
[u]klmnnn,...])[,INCL]!

[I.18001]
CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnpddd[,wxkqrjjj,edhfgnnn,...])
[,INCL]!

[I.18011]
CHG:FRM xy,SEQ ww:SWCH,TOX([s]ghi[,[t]jkl][,[v]mno][...])
[,INCL]!

[I.18011]
CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnp[,wxkqr][,edhfg][...])
[,INCL]!

[I.19001]
ED:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}!

[I.19031]
ED:FRM xy,SEQ ww:CRET,MAP <new map name>
,PIC <reference map name>!

[I.19041]
APPEND[:FRM xy,SEQ ww:{<line number>|END}]!

[I.19051]
DELETE[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>
|END}]]!

[I.19061]
LIST[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>|
END}]]!

[I.19071]
LINE[:FRM xy,SEQ ww:]!

[I.19081]
SAVE[:FRM xy,SEQ ww:]!

[I.19091]
MOVE:FRM xy,SEQ ww:FROM {<starting line>|END}
[-{<ending line>|END}],TO {<destination line>|END}!

[I.20001]
CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[,[t]def]),FROM [u]ghi
[,TO [v]jkl][,AIS][,INCL]!

[I.20001]
CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr]),FROM eghij
[,TO jklmn][,AIS][,INCL]!

[I.20031]
CTST:FRM xy,SEQ ww:HUB,FAD [s]abc,TO [t]jkl[,INCL]!

[I.20031]
CTST:FRM xy,SEQ ww:HUB,FAD uvmnp,TO wxkqr[,INCL]!

[I.20101]
CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[,[t]def])[,AIS][,INCL]!

[I.20101]
CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr])[,AIS][,INCL]!

[I.20111]
CTST:FRM xy,SEQ ww:FAD ([s]abc[,[t]def])
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];

[I.20111]
CTST:FRM xy,SEQ ww:FAD (uvmnp[,wxkqr])
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];

[I.20201]

CTST:FRM xy,SEQ ww:TNR,FAD [s]abc[,OOS]!

CTST:FRM xy,SEQ ww:TNR,FAD ([s]abc[,[t]def])[,OOS]!

[I.20201]

CTST:FRM xy,SEQ ww:TNR,FAD uvmnp[,OOS]!

CTST:FRM xy,SEQ ww:TNR,FAD (uvmnp[,wxkqr])[,OOS]!

[I.20202]
CTST:FRM xy,SEQ ww:TNR,ALL[,OOS]!

[I.20301]
CTST:FRM xy,SEQ ww:LPBKT,FAD [s]abc[,INCL]!

[I.20301]
CTST:FRM xy,SEQ ww:LPBKT,FAD uvmnp[,INCL]!

[I.21001]
TTST:FRM xy,SEQ ww:MON[,TO [t]ghijjj][,<tc>][,NAM],TP kk!

[I.21001]
TTST:FRM xy,SEQ ww:MON[,TO uvmnpjjj][,<tc>][,NAM],TP kk!

[I.21021]
TTST:FRM xy,SEQ ww:MON,TO [t]ghi(jjj[-kkk][,lll,...])[,<tc>],
TG mmm!

[I.21021]
TTST:FRM xy,SEQ ww:MON,TO wxkqr(jjj[-kkk][,lll,...])[,<tc>],
TG mmm!

[I.21031]
TTST:FRM xy,SEQ ww:MON,TG mmm!

[I.22021]
TTST:FRM xy,SEQ ww:TSG {ON|OFF},TG mmm[,<pattern>,{EAST|WEST}[,SIG abcd]]!

[I.22221]
TTST:FRM xy,SEQ ww:INS,TG mmm!

[I.22421]
TTST:FRM xy,SEQ ww:TSM {ON|OFF},TG mmm[,{EAST|WEST}[,TINT nnn]]!

[I.23001]
TTST:FRM xy,SEQ ww:SPL,TP kk!

[I.23021]
TTST:FRM xy,SEQ ww:SPL,TG mmm!

[I.24001]
TTST:FRM xy,SEQ ww:HUB,TO [t]ghijjj,TP kk[,<tc>][,NAM]!

[I.24001]
TTST:FRM xy,SEQ ww:HUB,TO uvmnpjjj,TP kk[,<tc>][,NAM]!

[I.24021]
TTST:FRM xy,SEQ ww:HUB,TO ([s]abcddd,[t]ghijjj),TG mmm[,<tc>]!

[I.24021]
TTST:FRM xy,SEQ ww:HUB,TO (uvmnpddd,wxkqrjjj),TG mmm[,<tc>]!

[I.25101]
TTST:FRM xy,SEQ ww:TLA m[,NOT [t]rstvvv],TP kk!

[I.25101]
TTST:FRM xy,SEQ ww:TLA m[,NOT uvmnpvvv],TP kk!

[I.25121]
TTST:FRM xy,SEQ ww:TLA m,TG mmm!

[I.25501]
TTST:FRM xy,SEQ ww:TLR m[,NOT [t]rstvvv],TP kk!

[I.25501]
TTST:FRM xy,SEQ ww:TLR m[,NOT uvmnpvvv],TP kk!

[I.25521]
TTST:FRM xy,SEQ ww:TLR m,TG mmm!

[I.27001]
TTST:FRM xy,SEQ ww:TPR,TP kk[,OOS][,FRC]!

[I.27002]
TTST:FRM xy,SEQ ww:TPR,ALL[,OOS]!

[I.27021]
TTST:FRM xy,SEQ ww:TGR,TG mmm[-nnn][,OOS]!

[I.29001]
TTST:FRM xy,SEQ ww:LPD,TP kk,<tc>!

[I.29021]
TTST:FRM xy,SEQ ww:LPD,TG mmm[,<tc>]!

[I.30101]
GRTH:FRM xy,SEQ ww:FRAME fg[,CHAR m][,UID <uid>]!

[I.31101]
GRTH:FRM xy,SEQ ww:SYNC,TB,TYPE TBpqr!

[I.31111]
GRTH:FRM xy,SEQ ww:SYNC,TLI 3,TYPE TBpqr!

[I.31121]
GRTH:FRM xy,SEQ ww:SYNC,TLI m,
{TYPE texyz,SSP a,SRC p[,NPC [0]abc]|TYPE TDxyz}!

[I.31121]
GRTH:FRM xy,SEQ ww:SYNC,TLI m,
{TYPE texyz,SSP a,SRC p[,NPC uvmnp]|TYPE TDxyz}!

[I.31211]
GRTH:[FRM xy][,SEQ] ww:UNIT [q]q[,TYPE utxyz]!

[I.31321]
GRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d,IMP <imp>!

[I.31331]
GRTH:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def],TYPE mnxyz!

[I.31331]
GRTH:[FRM xy,SEQ ww]:NPC uvmnp[-wxkqr],TYPE mnxyz!

[I.31351]
GRTH:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,CBTIMER [t]v]!

[I.31351]
GRTH:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,CBTIMER [t]v]!

[I.31362]
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]
[,TYPE mnxyz][,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|PMC|DMA}][,LEV g]!

[I.31362]
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]
[,TYPE mnxyz][,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|PMC|DMA}][,LEV g]!

[I.31363]
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|DMA|PMC}][,LEV g]!

[I.31363]
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,OPTS (rr/<m>[,rr/<m>...])]
[,IW X'pq[r]][,AIS {MI|PMA|DMA|PMC}][,LEV g]!

[I.31381]
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n!

[I.31381]
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n!

[I.31401]
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr!

[I.31401]
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr!

[I.31411]
GRTH:FRM xy,SEQ ww:TP kk[,<tc>]!

[I.31421]
GRTH:FRM xy,SEQ ww:TG mmm,NPCTG (rrr,eee[-fff];sss,www[-xxx])
[,<tc>]!

[I.31521]
COPY:FRM xy,SEQ ww:NPC [s]abc,TO [t]def[-[u]ghi]!

[I.31521]
COPY:FRM xy,SEQ ww:NPC uvmnp,TO wxkqr[-ghikl]!

[I.32101]
DGRTH:FRM xy,SEQ ww:SYNC,TB!

[I.32121]
DGRTH:FRM xy,SEQ ww:SYNC,TLI m[,SSP a]!

[I.32211]
DGRTH:FRM xy,SEQ ww:UNIT [q]q!

[I.32321]
DGRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d!

[I.32341]
DGRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]!

[I.32341]
DGRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]!

[I.32381]
DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n[,TPR]!

[I.32381]
DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n[,TPR]!

[I.32401]
DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr[,TGR]!

[I.32401]
DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr[,TGR]!

[I.32411]
DGRTH:FRM xy,SEQ ww:TP kk!

[I.32421]
DGRTH:FRM xy,SEQ ww:TG mmm[-nnn]!

[I.33001]
RMV:FRM xy,SEQ ww:MC!

[I.33011]
RMV:FRM xy,SEQ ww:LINK j!

[I.33101]
RMV:FRM xy,SEQ ww:SYNC a!

[I.33111]
RMV:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

[I.33121]
RMV:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!

[I.33201]
RMV:FRM xy,SEQ ww:CCNI s!

[I.33202]
RMV:FRM xy,SEQ ww:CCB sf!

[I.33211]
RMV:FRM xy,SEQ ww:{SMEM|PMEM}!

[I.33221]
RMV:FRM xy,SEQ ww:TSI sft!

[I.33231]
RMV:FRM xy,SEQ ww:TSIS,CCN s,UNIT q
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!

[I.33241]
RMV:FRM xy,SEQ ww:TSIS,CCN s,ALL!

[I.33251]
RMV:FRM xy,SEQ ww:CCI s!

[I.33261]
RMV:FRM xy,SEQ ww:ETSI sqq!

[I.33271]
RMV:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!

[I.33311]
RMV:FRM xy,SEQ ww:UNIT [q]q,UC!

[I.33321]
RMV:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!

[I.33331]
RMV:FRM xy,SEQ ww:UNIT [q]q,FC sb!

[I.33351]
RMV:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s][,INCL]!

[I.33351]
RMV:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s][,INCL]!

[I.33401]
RMV:FRM xy,SEQ ww:UNIT [q]q,FLI k!

[I.33411]
RMV:FRM xy,SEQ ww:UNIT [q]q,FMT s!

[I.33421]
RMV:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,FRC[,INCL]]!

[I.34001]
RST:FRM xy,SEQ ww:MC[,{MCOND|NOJRNL}]!

[I.34001]
RST:FRM xy,SEQ ww:MC,CLR[,ALL]!

[I.34011]
RST:FRM xy,SEQ ww:LINK j!

[I.34101]
RST:FRM xy,SEQ ww:SYNC a!

[I.34111]
RST:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

[I.34121]
RST:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!

[I.34201]
RST:FRM xy,SEQ ww:CCNI s!

[I.34202]
RST:FRM xy,SEQ ww:CCB sf!

[I.34211]
RST:FRM xy,SEQ ww:{PMEM|SMEM[{,CLR|[,FRC][,BKGRND]}]}!

[I.34221]
RST:FRM xy,SEQ ww:TSI sft!

[I.34231]
**RST:FRM xy,SEQ ww:TSIS,CCN s,UNIT q **
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!

[I.34241]
RST:FRM xy,SEQ ww:TSIS,CCN s,ALL!

[I.34251]
RST:FRM xy,SEQ ww:CCI s!

[I.34261]
RST:FRM xy,SEQ ww:ETSI sqq!

[I.34271]
RST:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!

[I.34311]
RST:FRM xy,SEQ ww:UNIT [q]q,UC!

[I.34321]
RST:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!

[I.34331]
RST:FRM xy,SEQ ww:UNIT [q]q,FC sb!

[I.34351]
RST:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s]!

[I.34351]
RST:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s]!

[I.34361]
RST:FRM xy,SEQ ww:NPC [s]abc,MON!

[I.34361]
RST:FRM xy,SEQ ww:NPC uvmnp,MON!

[I.34371]
RST:FRM xy,SEQ ww:NPC [s]abc,TS0M!

[I.34371]
RST:FRM xy,SEQ ww:NPC uvmnp,TS0M!

[I.34401]
RST:FRM xy,SEQ ww:UNIT [q]q,FLI k!

[I.34411]
RST:FRM xy,SEQ ww:UNIT [q]q,FMT s!

[I.35001]
CFR:FRM xy,SEQ ww:XC s[,INCL]!

[I.35011]
CFR:FRM xy,SEQ ww:SYNC a,FPLL!

[I.35012]
CFR:FRM xy,SEQ ww:SYNC,STRATUM {STR2|STR3|TOLL|LOCAL}!

[I.35013]
CFR:FRM xy,SEQ ww:SYNC,{MASTER|SLAVED}!

[I.35021]
CFR:FRM xy,SEQ ww:FRAME!

[I.35101]
SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOPRTN!

[I.35105]
SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOSRVC!

[I.35111]
SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOPRTN[,FRC]!

[I.35121]
SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOSRVC!

[I.35301]
ALWSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!

[I.35311]
INHSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL {S|X|T|M|I}[,BAUD bb][,ALM k]
[,BS e][,ENQ q][,XON x][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL S[,BAUD bb][,ALM k]
[,BS e][,ENQ q][,XON x][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL X[,ALM k][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL T[,BAUD bb][,ALM k][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL M[,ALM k][,INIT]!

[I.36001]
ADD:FRM xy,SEQ ww:LINK j,PTCOL I[,ALM k][,INIT]!

[I.36003]
ADD:FRM xy,SEQ ww:LINK j[,K b][,T1 ee][,T3 ggg][,N2 aa]
[,FRMAD {A|B}]!

[I.36005]
ADD:FRM xy,SEQ ww:LINK j[,W c][,P ddd][,T20 iii]
[,T22 jjj][,T23 kkk][,T25 lll][,T26 mmm][,R20 nn]
[,R22 p][,R23 qq][,R25 r][,DBIT v][,VC(ppss,gghh)]!

[I.36021]
ADD:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[,[s]ghi]...
[,[t]def]}!

[I.36021]
ADD:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,edfgh]...
[,wxkqr]}!

[I.36101]
ADD:FRM xy,SEQ ww:USER <user id>[,NEW][,PASSWD <user password>]!

[I.36101]
ADD:FRM xy,SEQ ww:USER <user id>[,NEW]!

[I.36103]
ADD:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]|ALL}
[,LANG {M|P|F}][,NPCAD {E|X|H}][,LEV(a,b,c,d,e,f)]
[,{RMON|RMOFF}][,RLK {A|I}][,{CONVON|CONVOFF}][,INIT]!

[I.37001]
DLT:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[,[s]ghi]...
[,[t]def]}!

[I.37001]
DLT:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,abcde]...[,wxkqr]}!

[I.37101]
DLT:FRM xy,SEQ ww:USER <user id>!

[I.37201]
DLT:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}
[,USER <user id>]!

[I.37301]
DLT:FRM xy,SEQ ww:FPKG nnnnnnnn!

[I.38001]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],CBTIMER [t]v!

[I.38001]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],CBTIMER [t]v!

[I.38011]
CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,{TYPE texyz|NPC [0]abc}!

[I.38011]
CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,{TYPE texyz|NPC uvmnp}!

[I.38011]
CHG:FRM xy,SEQ ww:SYNC,
TLI,SRC(i/(a,b)[,j/(c,d)[,k/(e,f)[,l/(g,h)]]]):!

[I.38101]
CHG:FRM xy,SEQ ww:UNIT q,CONN(a[,b[,c[,d[,e[,f]]]]]):!

[I.38201]
CHG:FRM xy,SEQ ww:SETOP rr,{TYPE mn|ALL},NPCOP(set1,set2,set3):!

[I.38211]
CHG:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,IW X’pq[r]]!

[I.38211]
CHG:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,IW X’pq[r]]!

[I.38221]
CHG:FRM xy,SEQ ww:NPC [s]abc,{OPTS(rr/<m>[,rr/<m>][...])|
THMODE hhh}!

[I.38221]
CHG:FRM xy,SEQ ww:NPC uvmnp,{OPTS(rr/<m>[,rr/<m>][...])|
THMODE hhh}!

[I.38231]
CHG:FRM xy,SEQ ww:TYPE mnxyz,{OPTS(rr/<m>[,rr/<m>][...])|THMODE hhh}!

[I.38271]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,IW X'pq[,INCL]]!

[I.38271]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,IW X'pq[,INCL]]!

[I.38281]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]ghi],ALMOPT,
AIS {MI|PMA|PMC|DMA}!

[I.38281]
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],ALMOPT,
AIS {MI|PMA|PMC|DMA}!

[I.38291]
CHG:FRM xy,SEQ ww:TYPE mn,THMODE hhh!

[I.38301]
**CHG:FRM xy,SEQ ww:PASSWD[,OLD <old password>, **
NEW <new password>]!
[I.38301]
CHG:FRM xy,SEQ ww:PASSWD!
OLD PASSWD: (user enters the old password)
NEW PASSWD: (user enters the new password)
PASSWD: (user re-enters the new password for verification)

[I.38321]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TS0 abcdefgh!

[I.38321]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TS0 abcdefgh!

[I.38323]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TS0M abcdefgh!

[I.38323]
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],TS0M abcdefgh!

[I.38324]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],NFS abcdefghi!

[I.38324]
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],NFS abcdefghi!

[I.38331]
CHG:FRM xy,SEQ ww:DD(m,w),TO [s]abcddd[-eee]!

[I.38331]
CHG:FRM xy,SEQ ww:DD(m,w),TO uvmnpddd[-eee]!

[I.38333]
CHG:FRM xy,SEQ ww:BC X'abcd, TO [s]abcddd[-eee]!

[I.38333]
CHG:FRM xy,SEQ ww:BC X'abcd, TO uvmnpddd[-eee]!

[I.38335]
CHG:FRM xy,SEQ ww:BCOFF,TO [s]abcddd[-eee]!

[I.38335]
CHG:FRM xy,SEQ ww:BCOFF,TO uvmnpddd[-eee]!

[I.38341]
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],LPBK [d]t!

[I.38341]
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],LPBK [d]t!

[I.38355]
CHG:[FRM xy,SEQ ww]:ALMS,{ON|OFF}!

[I.38365]
CHG:[FRM xy,SEQ ww]:SALMS,salm,{PMACR|PMAMJ|DMAMN|MI|RESET}!

[I.38375]
CHG:[FRM xy,SEQ ww]:FALMS,TYPE mn[xyz],falm,{PMACR|PMAMJ|DMAMN|MI|RESET}!

[I.38401]
CHG:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}
[,SCR n[,GR(a,b,c,d,e,f)]][,{MCON|MCOFF}][,INIT]!

[I.38451]
CHG:[FRM xy,SEQ ww]:INTV,{ON|OFF}!

[I.38461]
CHG:[FRM xy,SEQ ww]:{NPC {[s]abc[-[t]def]|ALL}|TLI|SYNC|CCN|ALL},LEV r!

[I.38461]
CHG:[FRM xy,SEQ ww]:{NPC {uvmnp[-uvkqr]|ALL}|TLI|SYNC|CCN|ALL},LEV r!

[I.38471]
CHG:FRM xy,SEQ ww:MSGLOG {ON|OFF}!

[I.38501]
CHG:FRM xy,SEQ ww:{MACRO|MAP},SPACE sss!

[I.38631]
CHG:FRM xy,SEQ ww:ERB ee,TYPE mn!

[I.39001]
LOGIN:FRM xy,SEQ ww:USER <user id>[,PASSWD <user password>]!

[I.39001]
LOGIN:FRM xy,SEQ ww:USER <user id>!
PASSWD: <user enters the user password>

[I.39101]
LOGOFF:FRM xy,SEQ ww:{USER <user id>|LINK j[{mm|,INCL}]}!

[I.39201]
ACT:FRM xy,SEQ ww:MAP <map name>[,CLR][,INCL]!

[I.39301]
EXC:FRM xy,SEQ ww:MACRO <macro name>[,(<p1>[,<p2>[,<p3>
[,...[,<p10>]]]])]!

[I.39311]
STOP:FRM xy,SEQ ww:MACRO[,LINK j[mm]]!

[I.41001]
DGN:FRM xy,SEQ ww:MC[,CFT X'vwxy]!

[I.41011]
DGN:FRM xy,SEQ ww:LINK a[,CFT X'vwxy]!

[I.41021]
DGN:FRM xy,SEQ ww:MP[,CFT X'vwxy]!

[I.41031]
DGN:FRM xy,SEQ ww:CI[,CFT X'vwxy]!

[I.41051]
DGN:[FRM xy,SEQ ww]:{PMEM|SMEM}[,{CFT X'vwxy|EXCT|DBASE}][,VERIFY]!

[I.41101]
DGN:FRM xy,SEQ ww:SYNC a!

[I.41111]
DGN:FRM xy,SEQ ww:SYNC,TLI 3,CRO!

[I.41121]
DGN:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!

[I.41201]
DGN:FRM xy,SEQ ww:CCNI s[,CFT X'vwxy]!

[I.41211]
DGN:FRM xy,SEQ ww:CCB sf[,CFT X'vwxy]!

[I.41221]
DGN:FRM xy,SEQ ww:TSI sft[,CFT X'vwxy]!

[I.41232]
DGN:FRM xy,SEQ ww:TSIS,CCN s,UNIT q,
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!

[I.41241]
DGN:FRM xy,SEQ ww:TSIS,CCN s,ALL!

[I.41251]
DGN:FRM xy,SEQ ww:CCI s[,CFT X'vwxy]!

[I.41261]
DGN:FRM xy,SEQ ww:ETSI sqq[,CFT X'vwxy]!

[I.41271]
DGN:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!

[I.41311]
DGN:FRM xy,SEQ ww:UNIT [q]q,UC[,CFT X'vwxy]!

[I.41321]
DGN:FRM xy,SEQ ww:UNIT [q]q,FTMI d[,CFT X'vwxy]!

[I.41331]
DGN:FRM xy,SEQ ww:UNIT [q]q,FC sb[,CFT X'vwxy]!

[I.41341]
DGN:FRM xy,SEQ ww:UNIT [q]q,DSPI[,CFT X'vwxy]!

[I.41351]
DGN:[FRM xy,SEQ ww]:NPC [s]abc[,SIDE s][,CFT X'vwxy]!

[I.41351]
DGN:[FRM xy,SEQ ww]:NPC uvmnp[,SIDE s][,CFT X'vwxy]!

[I.41361]
DGN:[FRM xy,SEQ ww]:NPC [s]abc-[t]def!

[I.41361]
DGN:[FRM xy,SEQ ww]:NPC uvmnp-uvkqr!

[I.51001]
UTL:[FRM xy,SEQ ww]:QRY,MEMSTAT!

[I.51011]
UTL:FRM xy,SEQ ww:[TOD hrmnsc][,{CFA|PRIM X'ghij|MONDAT}]!

[I.51021]
UTL:FRM xy,SEQ ww:DATE <new-date>[,FORMAT ggg][,INT ii]!

[I.51031]
UTL:FRM xy,SEQ ww:QRY,DATE!

[I.51041]
UTL:FRM xy,SEQ ww:QRY,WHO!

[I.51071]
UTL:FRM xy,SEQ ww:QRY,TOD[,CFA][,MONDAT]!

[I.51081]
UTL:FRM xy,SEQ ww:RCY,PASSWD!

[I.51091]
UTL:FRM xy,SEQ ww:QRY,CNFGR!

[I.51101]
UTL:FRM xy,SEQ ww:INIT,ALM a!

[I.51111]
UTL:FRM xy,SEQ ww:ACO!

[I.51121]
UTL:FRM xy,SEQ ww:QRY,FPKG!

[I.51131]
UTL:FRM xy,SEQ ww:QRY,SQN!

[I.51201]
UTL:[FRM xy,SEQ ww]:QRY,APPL,{NPC [s]abc|ALL}!

[I.51201]
UTL:[FRM xy,SEQ ww]:QRY,APPL,{NPC uvmnp|ALL}!

[I.52011]
UTL:[FRM xy,SEQ ww]:QRY,CMAP [s]abc[-[t]def]!

[I.52011]
UTL:[FRM xy,SEQ ww]:QRY,CMAP uvmnp[-wxkqr]!

[I.52031]
UTL:[FRM xy,SEQ ww]:QRY,DMAP!

[I.52041]
UTL:[FRM xy,SEQ ww]:QRY,TO [s]abcddd[-eee]!

[I.52041]
UTL:[FRM xy,SEQ ww]:QRY,TO uvmnpddd[-eee]!

[I.52051]
UTL:FRM xy,SEQ ww:QRY,FROM [s]abcddd[-eee]!

[I.52051]
UTL:FRM xy,SEQ ww:QRY,FROM uvmnpddd[-eee]!

[I.52061]
UTL:FRM xy,SEQ ww:QRY,TO [s]abc!

[I.52061]
UTL:FRM xy,SEQ ww:QRY,TO uvmnp!

[I.52071]
UTL:FRM xy,SEQ ww:QRY,FROM [s]abc!

[I.52071]
UTL:FRM xy,SEQ ww:QRY,FROM uvmnp!

[I.52081]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52081]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.52091]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

[I.52091]
UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

[I.52101]
UTL::QRY,BCAST,ALL!

[I.52111]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abcddd!

[I.52111]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnpddd!

[I.52121]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abc!

[I.52121]
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnp!

[I.52201]
UTL:FRM xy,SEQ ww:QRY,MARK [s]abc[-[t]def]!

[I.52201]
UTL:FRM xy,SEQ ww:QRY,MARK uvmnp[-wxkqr]!

[I.52211]
UTL:FRM xy,SEQ ww:QRY,MARK [s]abcjjj[-kkk]!

[I.52211]
UTL:FRM xy,SEQ ww:QRY,MARK uvmnpjjj[-kkk]!

[I.52601]
UTL:[FRM xy,SEQ ww]:QRY,SIGST abcddd

[I.52601]
UTL:[FRM xy,SEQ ww]:QRY,SIGST uvmnpddd

[I.53001]
UTL:FRM xy,SEQ ww:QRY,SYNC,TYPE!

[I.53011]
UTL:FRM xy,SEQ ww:QRY,EQD,UNITS!

[I.53021]
UTL:FRM xy,SEQ ww:QRY,EQD,TSIS!

[I.53022]
UTL:FRM xy,SEQ ww:QRY,EQD,ETSIS!

[I.53031]
UTL:FRM xy,SEQ ww:QRY,EQD,CONN!

[I.53041]
UTL:FRM xy,SEQ ww:QRY,EQD,NPCS[,{TOTAL|UNIT [q]q}]!

[I.53051]
UTL:FRM xy,SEQ ww:QRY,OPT[,{TYPE mn|ALL}],NPCS!

[I.53061]
UTL:FRM xy,SEQ ww:QRY,TPS!

[I.53071]
UTL:FRM xy,SEQ ww:QRY,UNIT [q]q,FTMI b[,IMP]!

[I.53081]
UTL:FRM xy,SEQ ww:QRY,TGS mmm[-nnn]!

[I.53091]
UTL:FRM xy,SEQ ww:QRY,NPCTG rrr[-sss]!

[I.53101]
UTL:FRM xy,SEQ ww:QRY,ALL[,UNIT [q]q]!

[I.53103]
UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS}[,UNIT [q]q]!

[I.53104]
UTL:FRM xy,SEQ ww:QRY,ALL,COMMON!

[I.53105]
UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS},COMMON!

[I.53108]
UTL:FRM xy,SEQ ww:QRY,EQD[,UNIT [q]q]!

[I.53109]
UTL:FRM xy,SEQ ww:QRY,EQD,COMMON!

[I.53111]
UTL:FRM xy,SEQ ww:QRY,ALMS!

[I.53131]
UTL:FRM xy,SEQ ww:QRY,LPBK,NPC [s]abc[-[t]def]!

[I.53131]
UTL:FRM xy,SEQ ww:QRY,LPBK,NPC uvmnp[-wxkqr]!

[I.53151]
UTL:FRM xy,SEQ ww:QRY,ALMS,DBASE!

[I.53171]
UTL:FRM xy,SEQ ww:QRY,NPC [s]abc[-[t]def],CBTIMER!

[I.53171]
UTL:FRM xy,SEQ ww:QRY,NPC uvmnp[-uvkqr],CBTIMER!

[I.53211]
UTL:FRM xy,SEQ ww:QRY,EQD,MXRS!

[I.53221]
UTL:FRM xy,SEQ ww:QRY,DS3,BERMT[,UNIT [q]q]!

[I.53231]
UTL:FRM xy,SEQ ww:QRY,DS3,LBO!

[I.53301]
UTL:[FRM xy,SEQ ww]:QRY,SALMS,{salm|ALL}!

[I.53311]
UTL:[FRM xy,SEQ ww]:QRY,FALMS,TYPE {mn[xyz]|ALL},{<falm>|ALL}!

[I.53331]
UTL:[FRM xy,SEQ ww]:QRY,INTV,{NPC {[s]abc[-[t]def]|ALL}|TLI m|CCN|SYNC|ALL}!

[I.53331]
UTL:[FRM xy,SEQ ww]:QRY,INTV,{NPC {uvmnp-uvkqr|ALL}|TLI m|CCN|SYNC|ALL}!

[I.53351]
UTL:[FRM xy,SEQ ww]:QRY,ALM,INTV!

[I.53401]
UTL:FRM xy,SEQ ww:QRY,TSM,TG mmm!

[I.54001]
UTL:FRM xy,SEQ ww:QRY,SCR,{LINK j[mm[-jnn]]|USER <user id>|LINKS|USERS}!

[I.54011]
UTL:[FRM xy][,SEQ ww]:QRY,LOG[,ALL]!

[I.54101]
UTL:FRM xy,SEQ ww:QRY,LIST,MAP <name>[,USER <user id>]!

[I.54111]
UTL:FRM xy,SEQ ww:QRY,NPC,MAP <name>[,USER <user id>]!

[I.54121]
UTL:FRM xy,SEQ ww:QRY,MACRO <name>[,USER <user id>]!

[I.54131]
**UTL:FRM xy,SEQ ww:QRY,LIST,MACRO <macro name>\
[,USER <user id>]!**

[I.54201]
UTL:FRM xy,SEQ ww:QRY,MAP,ATTR[,{ALL|USER <user id>|MAPNM <name>}]!

[I.54211]
UTL:FRM xy,SEQ ww:QRY,MACRO,ATTR[,{USER <user id>|ALL}]!

[I.54221]
**UTL:FRM xy,SEQ ww:QRY,{MACRO|MAP},SPACE[,{USER <user id>|ALL|\
SYSTEM}]!**

[I.54340]
UTL:FRM xy,SEQ ww:QRY,STATE,ACO!

[I.55011]
**UTL:FRM xy,SEQ ww:QRY,ERR,{{SWER|HWER}[,{INT mn|[DATE moda[ce]yr,] TOD hrmnsc}]\
[,TN X'dddd][,EVENT X'eeee][,ERCL{HARD|TRANS|APPINT}][,ENTY <entity>]|ALL}!**

[I.55111]
UTL:FRM xy,SEQ ww:QRY,ESR,MP!

[I.55113]
UTL:[FRM xy][,SEQ ww]:QRY,STR,LINK j[mm][-jnn]!

[I.55181]
UTL:FRM xy,SEQ ww:QRY,XCSB[,UNIT [q]q]!

[I.55191]
UTL:FRM xy,SEQ ww:QRY,STR,XC a!

[I.55201]
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a!

[I.55311]
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m!

[I.55321]
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m,SSP b!

[I.55401]
UTL:FRM xy,SEQ ww:QRY,ESR,CCN s!

[I.55411]
UTL:FRM xy,SEQ ww:QRY,ESR,ECCN s!

[I.55501]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q!

[I.55511]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FTMI d!

[I.55521]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FC sb!

[I.55531]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,DSPI!

[I.55601]
UTL:FRM xy,SEQ ww:QRY,ESR,NPC [s]abc[,SIDE s]!

[I.55601]
UTL:FRM xy,SEQ ww:QRY,ESR,NPC uvmnp[,SIDE s]!

[I.55701]
UTL:FRM xy,SEQ ww:BMTR,FROM <from>,TO <to>[,{EXCT|INCL|UPGRD}]!

[I.55711]
ABT!

[I.55721]
INSTALL;

[I.55731]
UTL:[FRM xy,SEQ ww]:UPGRD!

[I.55801]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FLI k!

[I.55821]
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MXR c!

[I.56001]
UTL:FRM xy,SEQ ww:CLR,<parameter>,NPC [s]abc[-[t]def]!

[I.56001]
UTL:FRM xy,SEQ ww:CLR,<parameter>,NPC uvmnp[-wxkqr]!

[I.56011]
UTL:FRM xy,SEQ ww:CLR,<parameter>,ALL!

[I.56021]
UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC [s]abc[-[v]ghi],AIS!

[I.56021]
UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC uvmnp[-wxkqr],AIS!

[I.56031]
UTL:FRM xy,SEQ ww:QRY,<parameter>,ALL!

[I.56041]
UTL:FRM xy,SEQ ww:QRY,<parameter>,NPC [s]abc[-[t]def]!

[I.56041]
UTL:FRM xy,SEQ ww:QRY,<parameter>,NPC uvmnp[-wxkqr]!

[I.56051]
UTL:FRM xy,SEQ ww:CLR,NPC [s]abc,PARAMS!

[I.56051]
UTL:FRM xy,SEQ ww:CLR,NPC uvmnp,PARAMS!

[I.56052]
UTL:FRM xy,SEQ ww:CLR,PWR pp!

[I.56061]
UTL:FRM xy,SEQ ww:CLR,ERR,{HWER|SWER}!

[I.56071]
**UTL:FRM xy,SEQ ww:CLR,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa **
[,MONDAT dddd][,MONTIM tttt]!

[I.56071]
**UTL:FRM xy,SEQ ww:CLR,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa **
[,MONDAT dddd][,MONTIM tttt]!

[I.56091]
**UTL:FRM xy,SEQ ww:QRY,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa **
[,LV lllllllll][,MONDAT dddd][,MONTIM tttt]!

[I.56091]
**UTL:FRM xy,SEQ ww:QRY,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa **
[,LV lllllllll][,MONDAT dddd][,MONTIM tttt]!

[I.56301]
UTL:FRM xy,SEQ ww:QRY,STATE,SYNC!

[I.56311]
UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC [s]abc[-[t]def]!

[I.56311]
UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC uvmnp[-wxkqr]!

[I.56314]
UTL:FRM xy,SEQ ww:QRY,STATE,NPC [s]abc[-[t]def]!

[I.56314]
UTL:FRM xy,SEQ ww:QRY,STATE,NPC uvmnp[-wxkqr]!

[I.56321]
UTL:FRM xy,SEQ ww:QRY,TS0 s,NPC [s]abc[-[t]def]!

[I.56321]
UTL:FRM xy,SEQ ww:QRY,TS0 s,NPC uvmnp[-wxkqr]!

[I.56323]
UTL:FRM xy,SEQ ww:QRY,TS0M,NPC [s]abc[-[t]def]!

[I.56323]
UTL:FRM xy,SEQ ww:QRY,TS0M,NPC uvmnp[-wxkqr]!

[I.56324]
UTL:FRM xy,SEQ ww:QRY,NFS,NPC [s]abc[-[t]def]!

[I.56324]
UTL:FRM xy,SEQ ww:QRY,NFS,NPC uvmnp[-wxkqr]!

[I.56326]
UTL:[FRM xy,SEQ ww]:QRY,RPSFI!

[I.56341]
UTL:FRM xy,SEQ ww:QRY,DD [s]abcddd[-fff]!

[I.56341]
UTL:FRM xy,SEQ ww:QRY,DD uvmnpddd[-fff]!

[I.56343]
UTL:FRM xy,SEQ ww:QRY,{DD,NPC [s]abc[-[t]def]|DDCT,ALL}!

[I.56343]
UTL:FRM xy,SEQ ww:QRY,{DD,NPC uvmnp[-wxkqr]|DDCT,ALL}!

[I.56351]
UTL:FRM xy,SEQ ww:QRY,BC s,{NPC [s]abc[-[t]def]|ALL}!

[I.56351]
UTL:FRM xy,SEQ ww:QRY,BC s,{NPC uvmnp[-wxkqr]|ALL}!

[I.56353]
UTL:FRM xy,SEQ ww:QRY,BC s,TO [s]abcddd!

[I.56353]
UTL:FRM xy,SEQ ww:QRY,BC s,TO uvmnpddd!

[I.56391]
UTL:FRM xy,SEQ ww:QRY,NETADDR[,{DB|RAM}]!

[I.56401]
UTL:FRM xy,SEQ ww:LOC,<entity>!

[I.56411]
UTL:FRM xy,SEQ ww:INIT,{IP|GATEWAY|IPMASK} x.x.x.x!

[I.58001]
UTL:FRM xy,SEQ ww:BOOT,FRAME[,CLR]!

[I.81001]
AUD:FRM xy,SEQ ww:QRY,{CFA|CGA|LOS}!

[I.81001]
AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!

[I.81001]
AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!

Autonomous Messages

6

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Autonomous Messages

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Autonomous Messages

This section provides a summary of the autonomous messages that can appear on the DACS II Release 9.0 output printer. The following are the catagories of autonomous messages:

- Alarms Messages
- Audits Messages
- Error Recovery Messages
- Event Reporting Messages
- Input Denial Messages
- Scheduled PM Reporting Messages
- Startup Messages

Alarms Messages

[O.65011]
pa <il> hh:mm:ss xy,ww AR01 MISC ALM <state> PBA [s]abc k COMPL

[O.65011]
pa <il> hh:mm:ss xy,ww AR01 MISC ALM <state> PBA uvmnp k COMPL

[O.65021]
I hh:mm:ss xy,ww AR01 MISC ALM IDLD PBA [s]abc k COMPL

[O.65021]
I hh:mm:ss xy,ww AR01 MISC ALM IDLD PBA uvmnp k COMPL

[O.65036]
pa <il> hh:mm:ss xy,ww ALM <state> <parameter> NPC [s]abc COMPL

[O.65036]
pa <il> hh:mm:ss xy,ww ALM <state> <parameter> NPC uvmnp COMPL

[O.65046]
I hh:mm:ss xy,ww ALM IDLD[<parameter>][AI aaaaa] NPC [s]abc COMPL

[O.65046]
I hh:mm:ss xy,ww ALM IDLD[<parameter>][AI aaaaa] NPC uvmnp COMPL

[O.65051]
**pa <il> hh:mm:ss xy,ww ALM RESET {DATE|TOD|TOD DATE} hr:mn:sc **
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} [PMC|PMA|DMA|MI] COMPL

[O.65053]
****hh:mm:ss xy,ww BOOT FAILED - BAD BOOT DEVICE**

[O.65054]
pa <il> hh:mm:ss xy,ww ALM [PMC|PMA|DMA|MI] CCN s OOS COMPL

[O.65055]
pa <il> hh:mm:ss xy,ww ALM {PMC|PMA|DMA|MI} ECCN s OOS COMPL

[O.65056]
pa <il> hh:mm:ss xy,ww ALM [PMC|PMA|DMA|MI|MJ|MN|INFO|CR] SMEM COMPL

[O.65057]
pa hh:mm:ss xy,ww ALM {PMA|DMA|IDLD} TCPIP LINK7 COMPL

[O.65071]
I hh:mm:ss xy,ww ACO ACTIVE COMPL

[O.65091]
pa <il> hh:mm:ss xy,ww ALM [PMC|PMA|DMA|MI] NPC [s]abc RPSFI COMPL

[O.65092]
I hh:mm:ss xy,ww ALM IDLD NPC [s]abc RPSFI COMPL

[O.65091]
pa <il> hh:mm:ss xy,ww ALM [PMC|PMA|DMA|MI] NPC uvmnp RPSFI COMPL

[O.65092]
I hh:mm:ss xy,ww ALM IDLD NPC uvmnp RPSFI COMPL

[O.65201]
**I hh:mm:ss xy,ww TS0 R NPC [s]abc OLD abcdefgh NEW **
abcdefgh COMPL

[O.65201]
**I hh:mm:ss xy,ww TS0 R NPC uvmnp OLD abcdefgh NEW **
abcdefgh COMPL

[O.65211]
I hh:mm:ss xy,ww BC R TO [s]abcddd {X'abcd|ZO|NA} COMPL

[O.65211]
I hh:mm:ss xy,ww BC R TO uvmnpddd {X'abcd|ZO|NA} COMPL

[O.65221]
```
I hh:mm:ss xy,ww   CBOFL abc [SIDE s]  5 LN MSG:
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno \
EOM

I hh:mm:ss xy,ww   CBOFL abc [SIDE s]  5 LN MSG:
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno \
EOM

I hh:mm:ss xy,ww   CBOFL abc [SIDE s]  3 LN MSG:
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno \
COMPL
```

[O.65221]
```
I hh:mm:ss xy,ww   CBOFL uvmnp [SIDE s]  5 LN MSG:
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno EOM

I hh:mm:ss xy,ww   CBOFL uvmnp [SIDE s]  5 LN MSG:
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno EOM

I hh:mm:ss xy,ww   CBOFL uvmnp [SIDE s]  3 LN MSG:
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno COMPL
```

[O.65231]
```
I hh:mm:ss xy,ww   TS0MBOFL [s]abc COMPL
```

[O.65231]
```
I hh:mm:ss xy,ww   TS0MBOFL uvmnp COMPL
```

Audits Messages

[O.81001]

```
I hh:mm:ss xy,ww   AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

I hh:mm:ss xy,ww   SC ALM <state> CGA [s]abc k COMPL
             .
             .
             .
I hh:mm:ss xy,ww   SC ALM <state> CGA [s]abc k COMPL

I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \
[k] COMPL
             .
             .
             .

I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \
[k] COMPL

I hh:mm:ss xy,ww   AUD {CGA|CFA|LOS} END COMPL

I hh:mm:ss xy,ww   AUD PARAMS COMPL
```

[O.81001]

```
I hh:mm:ss xy,ww   AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

I hh:mm:ss xy,ww   SC ALM <state> CGA uvmnp k COMPL
             .
             .
             .
I hh:mm:ss xy,ww   SC ALM <state> CGA uvmnp k COMPL

I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \
[k] COMPL
             .
             .
             .
I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \
[k] COMPL

I hh:mm:ss xy,ww   AUD {CGA|CFA|LOS} END COMPL

I hh:mm:ss xy,ww   AUD PARAMS COMPL
```

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx EOM

            .
            .
            .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx COMPL
```

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS [s]abc-[t]def TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

            .
            .
            .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS [s]abc-[t]def TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx COMPL
```

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
uvmnp-uvmqr TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx EOM

            .
            .
            .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
uvmnp-uvmqr TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx COMPL
```

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS uvmnp-uvmqr TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

            .
            .
            .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS uvmnp-uvmqr TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx COMPL
```

[O.81003]
```
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS [s]abc-[t]def \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS [s]abc-[t]def \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx COMPL
```

[O.81003]
```
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx COMPL
```

[O.81005]
```
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS TOT 0000 COMPL
```

[O.81006]
```
I hh:mm:ss xy,ww   AUD PARAMS COMPL
```

[O.82001]
```
I hh:mm:ss xy,ww   FRADTS DGN <ttt> <eee> d0 COMPL
```

[O.82002]
```
I hh:mm:ss xy,ww   FRADTS FRCMP ttt[ d9 d8 d7 d6] \
d5 d4 d3 d2 d1 d0 COMPL
```

[O.82003]
I hh:mm:ss xy,ww FRADTS BMCMP <ttt> d8 d7 d6 d5 d4 d3 d2 d1 COMPL

[O.82004]
I hh:mm:ss xy,ww FRADTS MC DGN <tt> COMPL

Error Recovery Messages

[O.01301]
```
pa <il> hh:mm:ss xy,ww   ERR PWR [PMC|PMA|DMA|MI|MN|MJ|INFO|CR]
aaaa bbbb cccc dddd TN dddd COMPL
```

[O.01311]
```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ MP] TN dddd EVENT eeee  \
2 LN MSG:
abab bbbb cccc dddd eeee ffff COND cc COMPL
```

[O.01311]
```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ CI] TN dddd EVENT eeee  \
2 LN MSG:
COND cc COMPL
```

[O.01311]
```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ {BX|EBX}] TN dddd EVENT eeee  \
2 LN MSG:
abab bbbb cccc dddd eeee ffff COND cc COMPL
```

[O.01311]
```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ {MTC|EMTC}] TN dddd \
EVENT eeee  2 LN MSG:
abab bbbb cccc dddd eeee ffff gggg hhhh iiii jjjj COND cc \
COMPL
```

[O.01312]
```
I hh:mm:ss xy,ww   ERR [ESR] MC [,{MP|ICI}] TN dddd COMPL
```

[O.01321]
```
I hh:mm:ss xy,ww   ERR LINK a TN dddd STATUS a0 a1 a2 COMPL
```

[O.01331]
```
I hh:mm:ss xy,ww   ERR [ESR] SYNC a \
TN dddd EVENT eeee 2 LN MSG:
<byte1> <byte2> <byte3> <byte4> <byte5> COND cccc COMPL
```

[O.01333]
```
pa <il> hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC abc] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] {PMC|PMA|DMA|MI} SET
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

[O.01333]
```
pa <il> hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC uvmnp] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] {PMC|PMA|DMA|MI} SET
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

[O.01335]
```
I hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC abc] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

[O.01335]
```
I hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC uvmnp] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

[O.01337]
```
I hh:mm:ss xy,ww   ERR MSGS TO LOG DISCARDED COMPL
```

[O.01341]
```
I hh:mm:ss xy,ww   ERR[ ESR] SYNC a TLI m SSP b \
TN dddd EVENT eeee  2 LN MSG:
<synchronizer status data bytes>[ NPC [s]abc][ COND cccc] COMPL
```

[O.01341]
```
I hh:mm:ss xy,ww   ERR[ ESR] SYNC a TLI m SSP b \
TN dddd EVENT eeee  2 LN MSG:
<synchronizer status data bytes>[ NPC uvmnp][ COND cccc] COMPL
```

[O.01342]
```
I hh:mm:ss xy,ww   ERR [ESR] SYNC a TLI m \
TN dddd EVENT eeee 2 LN MSG:
<synchronizer status data bytes> COND cccc COMPL
```

[O.01351]
```
I hh:mm:ss xy,ww   ERR [ESR] CCB sf TN dddd EVENT eeee  \
2 LN MSG:
<error analysis data bytes> COND cc COMPL
```

[O.01352]
```
I hh:mm:ss xy,ww   ERR [ESR] CCNI s \
TN dddd EVENT eeee  2 LN MSG:
<reg0> <reg1> <reg2> <reg3> <reg4> \
<emr0> <emr1> <emr2> <emr3> <emr4> COND cc COMPL
```

[O.01353]
```
I hh:mm:ss xy,ww   ERR [ESR] TSI sft \
TN dddd EVENT eeee 2 LN MSG:
<error analysis data> COND cc COMPL
```

[O.01354]
```
I hh:mm:ss xy,ww   ERR[ ESR] CCI s \
TN dddd EVENT eeee 2 LN MSG
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \
wd12 COND cc COMPL
```

[O.01355]
```
I hh:mm:ss xy,ww   ERR[ ESR] ETSI sqq \
TN dddd EVENT eeee 2 LN MSG:
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \
wd12 COND cc COMPL
```

[O.01361]
```
I hh:mm:ss xy,ww   ERR[ ESR] UNIT [q]q {UC|UBX} \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data> COND cc COMPL
```

[O.01362]
```
I hh:mm:ss xy,ww   ERR {SOFTWARE|MC} <error type> ERROR  4 LN MSG:
MID=<mid>  TN=dddd  RC=<rc> ACTION=<action>  ENTITY=<entity>
SOURCE=<source>  DP=<dp>  PROC=<proc>
TSARGS=<tsargs>  COMPL
```

[O.01363]
```
I hh:mm:ss xy,ww   ERR[ ESR] UNIT [q]q FTMI b \
TN dddd EVENT eeee 2 LN MSG:
<error analysis data> COND cc COMPL
```

[O.01364]
```
I hh:mm:ss xy,ww   ERR[ ESR] UNIT [q]q FC sb \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data> COND cc COMPL
```

[O.01366]
```
I hh:mm:ss xy,ww   ERR SYNC a MODE {FAST|HOLDOVER|NORMAL}\
{MATE|CRO|TLI m SSP c} TN dddd  2 LN MSG:
<synchronizer status data bytes> COND cccc COMPL
```

[O.01371]
```
I hh:mm:ss xy,ww   ERR[ ESR] NPC [s]abc-[[t]def] SIDE s \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data bytes>[ COND cc] COMPL
```

[O.01371]
```
I hh:mm:ss xy,ww   ERR[ ESR] NPC uvmnp[-uvmqr] SIDE s \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data bytes>[ COND cc] COMPL
```

[O.01372]
```
I hh:mm:ss xy,ww   ERR[ ESR] NPC [s]abc-[t]def TN dddd \
EVENT eeee  2 LN MSG:
<error analysis data bytes>[ COND cc] COMPL
```

[O.01372]
```
I hh:mm:ss xy,ww   ERR[ ESR] NPC uvmnp-wxkqr TN dddd  \
2 LN MSG:
EVENT eeee <error analysis data bytes>[ COND cc] COMPL
```

[O.01381]

```
pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROCESSOR DATA  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> < d06 > < d07 > < d08 >
<d09> <d10> <d11> <d12>    <d13> < d14 > < d15 > < d16 >
<d17> <d18> <d19> <d20>    <d21> < d22 > < d23 > < d24 >
<d25> <d26> <d27> <d28>    <d29> <d3031> < d3233> < d34353637> \
EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROGRAM TEXT  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
MEMORY DATA  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd READY \
QUEUE DATA  3 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd PAUSE \
QUEUE DATA  3 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
LOCAL STACK DATA  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd STACK \
TRACE  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> COMPL
```

[O.01391]

```
I hh:mm:ss xy,ww   ERR ESR ANALYSIS REPORT EVENT eeee  4 LN MSG:
<action> <circuit identifier>
<action> <circuit identifier>
<action> <circuit identifier> COMPL
```

[O.01392]

```
I hh:mm:ss xy,ww   ERR HARDWARE <entity> 4 LN MSG:
  TN=dddd COND=cc EVENT=xxxx ACTION=<action>
  SOURCE=<source> DP=<dp> PROC=<proc> <load>
  TSARGS=cn [<tsargs>]  COMPL
```

[O.01393]

```
I hh:mm:ss xy,ww   RESET {DATE|TOD|TOD DATE} hr:mn:sc \
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} COMPL
```

Event Reporting Messages

[O.65061]

```
pa <il> hh:mm:ss xy,ww   ALM [<state>] <parameter> NPC [s]abc  2 LN MSG:
AI aaaaa COUNT cccccccc THLEV lllllllll COMPL
```

[O.65061]

```
pa <il> hh:mm:ss xy,ww   ALM [<state>] <parameter> NPC uvmnp  2 LN MSG:
AI aaaaa COUNT cccccccc THLEV lllllllll COMPL
```

Input Denials Messages

[O.01101]

```
M hh:mm:ss xy,ww n[vv] {BADVERB|FRMERR|SEQERR} BAD SYNTAX  \
e LN MSG:
First 70 characters of input message.
Remaining text of input message STOPPED
```

[O.01111]

```
M hh:mm:ss xy,ww n[vv] CMD MC {OOS|MCOND|INSERVICE|MPDBASE}  \
e LN MSG:
<First 70 characters of input message.>
<Remaining text of input message> STOPPED
```

[O.01121]

```
A hh:mm:ss xy,ww   ERR CMD ABT [TN abcd]  e LN MSG:
First 70 characters of input message.
Remaining text of input message STOPPED
```

[O.01131.01]

```
M hh:mm:ss xy,ww n[vv] [<BADVERB|FRMERR|SEQERR|CMD>|<actverb>] \
[<INERR>] <reason>  e LN MSG:
<First 70 characters of input message.>
[<Text continued from input message>]
<Remaining text of input message> {STOPPED|DNY}
```

Startup Messages

[O.01201]
****ICI RESET**

[O.01211]
ICI STARTUP {STF|ATP}

[O.01221]
MP STARTUP {STF|ATP}

[O.01241]
BOOT FROM {PMEM|SMEM}

[O.01242]
BOOT FROM PMEM FAILED
ATTEMPTING TO BOOT FROM SMEM

[O.01251]
RESET STOPPED

[O.01261]
**I hh:mm:ss xy,ww n[vv] MC RESET RELEASE DACSIIgg.pp ISSUE r **
2 LN MSG:
FPKG kkttuuvv [COND cc] COMPL

[O.01271]
BX2 {STF|ATP}

[O.01272]
EBX STARTUP {STF|ATP}

[O.01281]
MTC {STF|ATP}

[O.01282]
EMTC STARTUP {STF|ATP}

ABT — AUD

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7

ABT — AUD

This section documents the commands **ABT** through **AUD**.

ABT

ABORT

Explanation Of Command

The abort command enables a user to stop a currently executing abortable task previously initiated by the same user from continuing execution. This command is helpful to use when a task is producing large amounts of output that the user does not wish to view, or to stop a task that is operating over a range of entities.

If no users are logged in, a command entered on one link CANNOT be aborted from another link. If the same user is logged in on two different links, commands entered from one link CAN be aborted from another link. Only USER DAX can abort commands entered on any link issued by any user.

When an abortable task is operating over a range of entities, DACS II will complete the task on the current entity, and then stop the task for the remaining entities in the specified range. Since the abort command will also delete all messages queued for output for the link or virtual circuit on which the ABT command was entered, the user should use appropriate query commands to determine which entities in the range have been operated upon before the task was stopped.

In the case where a task has already executed, or no task is executing when the abort command is entered, the abort command will not take effect. Any remaining output will not be generated, and DACS II will not generate a completion message or an ABT completion message.

The following commands may be aborted:

```
31341 GRTH::NPC
31352 GRTH::NPC
31362 GRTH::NPC
```

```
31363 GRTH::NPC
31371 GRTH::NPC
32341 DGR::NPC
33351 RMV::NPC
34351 RST::NPC
38271 CHG::NPC,TYPE (abortable only for DS3 NPCs.)
38281 CHG::NPC,TYPE,ALMOPT,AIS
38321 CHG::NPC,TS0
38323 CHG::NPC,TS0M
38324 CHG::NPC,NFS
38341 CHG::NPC,LPBK
51151 UTL::QRY,PMSCHED
51161 INH::PMREPT
51171 ALW::PMREPT
52011 UTL::QRY,CMAP
52031 UTL::QRY,DMAP
52041 UTL::QRY,TO
52051 UTL::QRY,FROM
52101 UTL::QRY,BCAST,ALL
52201 UTL::QRY,MARK
52211 UTL::QRY,MARK
52311 UTL::QRY,RTMAP|DLMAP
52321 UTL::QRY,SCDG,ALL,STATE
52501 UTL::QRY,SECH,TO
52511 UTL::QRY,SCON,CH
52581 UTL::QRY,LOAD
53041 UTL::QRY,EQD,NPCS
53101 UTL::QRY,ALL
53103 UTL::QRY,UNIT
53104 UTL::QRY,ALL,COMMON
53105 UTL::QRY,COMMON
53151 UTL::QRY,ALMS,DBASE
55011 UTL::QRY,SWER,ERR
55012 UTL::QRY,HWER,ERR
55181 UTL::QRY,XCSB
56021 UTL::QRY,ALMOPT,NPC
56311 UTL::QRY,STATE,NPC
56314 UTL::QRY,STATE,NPC
56321 UTL::QRY,TS0,NPC
56323 UTL::QRY,TS0M,NPC
56324 UTL::QRY,NFS,NPC
56341 UTL::QRY,DD
56343 UTL::QRY,DD
56351 UTL::QRY,NPC
56353 UTL::QRY,BC,NPC
56501 UTL::QRY,SROOF
```

Command

[I.55711]

ABT!

Completion Message

[O.55711]

```
M hh:mm:ss xy,ww n[vv] CMD ABT  e LN MSG:
<First 70 characters of aborted command>
<Remaining text of aborted command> ABT COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

ABT - Abort

e - Number of lines in the message

ACO,ACTIVE

ALARM CUTOFF ACTIVE

Explanation Of Command

This output message automatically reports the activation (depressing) of the alarm cutoff (ACO) switch. Activation of this switch silences the audible alarms. The ACO switch will be inactivated when all alarms are retired or when a new alarm appears on the frame. For example, if there is a minor alarm on the frame before the CGA major alarm is induced, when the CGA major alarm is retired by an ACO action, the minor alarm will remain. In this case, there will be a second ACO ACTIVE message.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.65071]

I hh:mm:ss xy,ww ACO ACTIVE COMPL

Explanation Of Parameters

ACO - Alarm cutoff

ACTIVE - Active

ACT,MAP,CLR,INCL

ACTIVATE ALTERNATE MAPS

Explanation Of Command

This command requests the activation of an alternate map.

DACS II will not generate individual completion messages for each successful cross-connection; however, it will generate individual denial messages. Moreover, the individual denial messages will only be output to the link/user where the alternate map command was entered, independent of the output screening level.

When only one end of a TCON is remapped via this command, the trunk conditioning specified for a particular cross-connection when that cross-connection was first established will be applied to a disconnected channel.

Command

[I.39201]

```
ACT:FRM xy,SEQ ww:MAP <map name>[,CLR][,INCL]!
```

Completion Message

Nonhierarchical

[O.39201]

```
M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL]\
[ NPC [s]abc] COND cc COMPL
```

Hierarchical

[O.39201]

```
M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL]\
[ NPC uvmnp] COND cc COMPL
```

Denial Message

Nonhierarchical

[O.39201.02]

```
M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL]  \
2 LN MSG:
TCON [s]jklddd[-eee],[t]ghijjj[-kkk][ <tc>][ <sc>]\
[ NAM][ CUS][ INCL][ RDC] COND cc DNY
```

Hierarchical

[O.39201.02]

```
M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL]  \
2 LN MSG:
TCON edhfgddd[-eee],wxkqrjjj[-kkk][ <tc>][ <sc>]\
[ NAM][ CUS|INCL][ RDC] COND cc DNY
```

Common

[O.39201.01]

```
M hh:mm:ss xy,ww n[vv] ACT MAP <map name>[ CLR][ INCL] \
COND cc DNY
```

[O.55703]

M hh:mm:ss xy,ww n[vv] ACT MAP IN PROGRESS

Note: As the alternate map is being executed, DACS II will generate the above IN PROGRESS message every 20 seconds.

Autonomous Message

Not applicable.

Explanation Of Parameters

MAP - Map

map name
- Map name (1 to 7 uppercase alphanumeric characters)

Name of an already existing alternate map.

CLR - Clear

Clear all cross-connections on all NPCs included in the map before activating the alternate map.

INCL - Inclusive

When an alternate map is activated, existing circuits that are marked CUS or RDC will be overwritten only if the INCL keyword has been specified. Otherwise, a denial will be issued as is currently done for channels under test, etc.

NPC - Network processing circuit

[s]abc - The first 3- or 4-digit nonhierarchical NPC number of NPC containing a non-two-way, two-point cross-connect.

[s]jkl,[t]ghi
- The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - First hierarchical NPC number of NPC containing a non-two-way, two-point cross-connection.

edhfg - Hierarchical NPC number

wxkqr - Hierarchical NPC number

uv,wx,ed
- Unit number

m,k,h - Module number

np,qr,fg
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd,jjj
- Channel number, the first channel of a range

eee,kkk
- Channel number, the last channel of a range

000-031 CEPT

tc - Trunk conditioning

sc - Signaling control

This variable represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(abcd,efgh)

abcd - Time slot 16 signalling bits, From direction
efgh - Time slot 16 signalling bits, To direction

All 8 bits can be controlled independently. Control is applied by replacing each character in variable **abcd** or **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International:	Inversion takes place on both the From and To-direction sides. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.
Gateway:	Inversion takes place only on the international side of the connection. The effect is an inversion.

NAM - No A to Mu (conversion)

A- to μ-law conversion is inhibited.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
62	File is being accessed
64	File doesn't exist/can't be accessed
70	Some circuits not activated, cleared or pictured
71	The reference map does not exist
72	The map is not valid

cc	*Explanation*
73	Both sides of CCN are OOS
74	At least one UC is OOS or At least one UC is failed
75	At least one UC is not the correct type
D5	No user is logged in on the link/vc
01	Invalid range for specified NPC type
02	Invalid NPC type for AIS insertion
06	Invalid range for specified FROM NPC type
07	Invalid range for specified TO NPC type
10	NPC out of service or failed
11	NPC not equipped
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
21	Trunk conditioning is invalid
30	Termination is already assigned
32	Termination is under test
35	Termination is protected (RDC)
36	Termination is not connected as indicated
40	CCN denied request
54	Conversion leg is terminated
A7	Deny non-channelized NPCs for Alternate Maps
E8	SC invalid for cross-connection specified
E9	MUX or TRB invalid for cross-connection specified
EA	AIS invalid for cross-connection specified
EB	NAM invalid for cross-connection specified
EC	Invalid channel 000 cross-connection specified
ED	Invalid channel 031 cross-connection specified
FF	Termination is in process of being rolled
B0	Unit 1 denied request
B1	Unit 2 denied request
B2	Unit 3 denied request
B3	Unit 4 denied request
B4	Unit 5 denied request
B5	Unit 6 denied request
2A	Deny Clear-2MB for Alternate Maps
4A	channel part of a TP or TG

ADD,LINK,K,T1,T3,N2,A,B

ADD LINK, X.25, PROTOCOL, DATA LINK, LAYER PARAMETERS

Explanation Of Command

This command allows the user to provision the protocol-specific parameters in the data link layer of an X.25 administrative link.

Command

[I.36003]

```
ADD:FRM xy,SEQ ww:LINK j[,K b][,T1 ee][,T3 ggg][,N2 aa]\
[,FRMAD {A|B}]!
```

Completion Message

[O.36003]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ K b][ T1 ee][ T3 ggg]\
[ N2 aa][ FRMAD {A|B}]  COMPL
```

Denial Message

[O.36003.01]

```
M hh:mm:ss  xy,ww n[vv] ADD LINK j[ K b][ T1 ee][ T3 ggg]\
[ N2 aa][ FRMAD {A|B}] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LINK - Link

j - Administrative link number (5 or 6)

FRMAD - Frame address used by each frame in the Data Link Layer of X.25 protocol.

A - Data link layer frame address A. Default is A
B - Data link layer frame address B

K - Maximum number of outstanding I frames

b - Number of frames (1 through 7). Default is 7.

T1 - Acknowledgment timer

ee - Timer setting in seconds (2 through 20). Default is 3 seconds

T3 - Disconnect (or Idle channel) timer

ggg - Timer setting in seconds (4 through 120). Default is 26 seconds

N2 - Maximum number of frame transmissions

aa - Number of frame transmissions (2 through 16) (including original transmission). Default is 7.

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
D0	Command is Frame administrator (DAX) only.

ADD,LINK,PTCOL,S,X,T,M,I,BAUD,ALM,BS

ADD LINK, PROTOCOL, BAUD

Explanation Of Command

This command is used to provision (add) a Snider, X.25, TABS, or TCP/IP administrative link.

This command can also be used to initialize or change the performance parameters of the link, including the protocol (PTCOL), link speed (BAUD), alarm class (ALM), backspace (BS), Xon/Xoff flow control (XON), and Enq/Ack flow control (ENQ) provisioning.

At least one parameter must be given.

On input, if a virtual circuit range is specified as zero (0), the corresponding group number specified is ignored by DACS II.

Command

[I.36001]

```
ADD:FRM xy,SEQ ww:LINK j,PTCOL {S|X|T|M|I}[,BAUD bb][,ALM k]\
[,BS e][,ENQ q][,XON x][,INIT]!
```

If the protocol is Snider:
[I.36001]

```
ADD:FRM xy,SEQ ww:LINK j,PTCOL S[,BAUD bb][,ALM k]\
[,BS e][,ENQ q][,XON x][,INIT]!
```

If the protocol is X.25:
[I.36001]

```
ADD:FRM xy,SEQ ww:LINK j,PTCOL X[,ALM k][,INIT]!
```

If the protocol is TABS:
[I.36001]

```
ADD:FRM xy,SEQ ww:LINK j,PTCOL T[,BAUD bb][,ALM k][,INIT]!
```

If the protocol is Modified Snider:
[I.36001]

```
ADD:FRM xy,SEQ ww:LINK j,PTCOL M[,ALM k][,INIT]!
```

If the protocol is TCP/IP:
[I.36001]

```
ADD:FRM xy,SEQ ww:LINK j,PTCOL I[,ALM k][,INIT]!
```

Completion Message

The output message received depends upon whether "ENQ" and "XON" are specified in the input command. If "ENQ" and "XON" are not specified in the input command, the output message is the following:
[O.36001]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M|I}]\
[ BAUD bb][ ALM k][ BS e][ INIT]  COMPL
```

If "ENQ" and "XON" are specified in the input command, the output message is the following:

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M|I}]\
[ BAUD bb][ ALM k][ BS e][ INIT]  2 LN MSG:
[ ENQ q][ XON x]  COMPL
```

Denial Message

The output message received depends upon whether "ENQ" and "XON" are specified in the input command. If "ENQ" and "XON" are not specified in the input command, the output message is the following:
[O.36001.01]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M|I}]\
[ BAUD bb][ ALM k][ BS e][ INIT] COND cc DNY
```

If "ENQ" and "XON" are specified in the input command, the output message is the following:

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ PTCOL {S|X|T|M|I}]\
[ BAUD bb][ ALM k][ BS e][ INIT]  2 LN MSG:
[ ENQ q][ XON x] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LINK - Link

j - Administrative link number (1 through 7)

PTCOL - Protocol

S - SCCSAI (Snider protocol)

X - X.25 Synchronous protocol

T - TABS (Telemetry Asynchronous Block Serial protocol)

M - Modified Snider Protocol (requires baud rate of 1200)

I - Internet Protocol

BAUD - Baud

bb - Baud rate

The baud rate is not provisioned for synchronous X.25 and TCP/IP links. Timing for X.25 links is received from the connected X.25 network or device. Provisioning the baud rate applies only to asynchronous Snider links.

bb	*Rate*
03	300
06	600
12	1200
24	2400
48	4800
96	9600

ALM - Alarm

k - Alarm class for link hardware failures

k	*Alarm Class*
1	Minor (default)
2	Major

BS - Backspace

e - Character echoed for backspace or control-h

e	*Character*
0	Backspace is echoed (default)
1	Underscore is echoed

ENQ - Enquire

q - ENQ/ACK Protocol Enable/Disable Control

q	*ENQ/ACK Protocol Provisioning*
0	Disabled
1	Enabled (default)

If the DACS II frame has been set to expect the ENQ/ACK Protocol Enable/Disable Control and the sending terminal is not set up properly to send the ACK in response to ENQ, then after several attempts to receive ACK the DACS II frame will autonomously declare a protocol OOS for ENQ/ACK, remove the link, perform diagnostics and then restore the link. At this point the ENQ/ACK protocol is set to disabled.

XON - XON

x - XON/XOFF Protocol Enable/Disable Control

x	*XON/XOFF Protocol Provisioning*
0	Disabled (default)
1	Enabled

The XON/XOFF Protocol Enable/Disable Control will only take effect when the DACS II frame is in output mode. The effect of XOFF lasts for 60 seconds or until an XON is received. If the frame has data to be output on the given link (that is, from a command executed on that link, or output data from another monitored link), and XOFF's are received in a manner such that at the end of an 60 second OFF interval a new 60 second OFF interval begins, thus preventing the frame from delivering output data, then the frame will declare a software error based on the assumption that a software communications error exists. The link will be autonomously removed, diagnosed, and restored. Following restoral, queued output data will be flushed. The XON protocol will still be in effect after the link is restored.

INIT - Initialize

Initialize the administrative link; all parameters are set to default except those specified in the command.

cc - Hexadecimal condition code

cc	*Explanation*
01	Subject entity is equipped
03	Subject entity is in service
D0	Command is Frame administrator (DAX) only.
DF	Command and protocol are inconsistent
2A	Incorrect pack type in slot
EA	XON/XOFF flow control is supported only on Snider link
EB	ENQ/ACK flow control is supported only on Snider link

ADD,LINK,W,P,T20,T22,T23,T25,T26,R20

ADD X.25 LINK PARAMETERS

Explanation Of Command

This command allows a user to provision an X.25 administrative link with packet layer parameters.

If a virtual circuit (VC) range is specified as zero (0), the corresponding group number specified in gghh is ignored by DACS II.

All parameters are per-link parameters and applicable to all VCs.

This command accepts only 1-digit link number (5 or 6) and any per-link parameters, and then applies values to all VCs in the link. To ensure proper interface between DACS II and the packet network, packet layer parameters at DACS II and network ends of the X.25 link must be identical.

Command

[I.36005]

```
ADD:FRM xy,SEQ ww:LINK j[,W c][,P ddd][,T20 iii]\
[,T22 jjj][,T23 kkk][,T25 lll][,T26 mmm][,R20 nn]\
[,R22 p][,R23 qq][,R25 r][,DBIT v][,VC(ppss,gghh)]!
```

Completion Message

[O.36005]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ W c][ P ddd]\
[ T20 iii][ T22 jjj][ T23 kkk][ T25 lll][ T26 mmm]\
[ R20 nn][ R22 p][ R23 qq][ R25 r][ DBIT v][ VC(ppss,gghh)]  COMPL
```

Note: If output message is longer than 80 characters, the following will be output.

[O.36005]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ W c][ P ddd]\
[ T20 iii][ T22 jjj]  2 LN MSG:
[ T23 kkk][ T25 lll][ T26 mmm][ R20 nn][ R22 p][ R23 qq]\
[ R25 r][ DBIT v][ VC(ppss,gghh)]  COMPL
```

Denial Message

[O.36005.01]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ W c][ P ddd]\
[ T20 iii][ T22 jjj][ T23 kkk] [ T25 lll][ T26 mmm]\
[ R20 nn][ R22 p][ R23 qq][ R25 r][ DBIT v][ VC(ppss,gghh)]\
COND cc  DNY
```

Note: If output message is longer than 80 characters, the following will be output:

[O.36005.01]

```
M hh:mm:ss xy,ww n[vv] ADD LINK j[ W c][ P ddd]\
[ T20 iii][ T22 jjj]  2 LN MSG:
[ T23 kkk][ T25 lll][ T26 mmm][ R20 nn][ R22 p][ R23 qq]\
[ R25 r][ DBIT v][ VC(ppss,gghh)] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LINK - Link

j - Administrative link number

j - Physical link number (either 5 or 6)

W - Window
c - Window size (1 through 7). Default window size is 2.

P - Packet
ddd - Packet size. Can be 128, 256, 512 octets. Default is 128 octets.

T20 - Restart request response timer
iii - Timer setting (10 through 180 seconds). Default is 180 seconds.

T22 - Reset request response timer
jjj - Timer setting (10 through 180 seconds). Default is 180 seconds.

T23 - Disconnect (or idle channel) timer
kkk - Timer setting (10 through 180 seconds). Default is 180 seconds.

T25 - Data packet acknowledgement timer
lll - Timer setting (10 through 200 seconds). Default is 200 seconds.

T26 - Interrupt response timer.
mmm - Timer setting (10 through 180 seconds). Default is 180 seconds.

R20 - Restart request retransmission counter
nn - Counter setting (1 through 10). Default is 1.

R22 - Reset request retransmission counter.
p - Counter setting (1 through 3). Default is 1.

R23 - Clear request retransmission counter.
qq - Counter setting (1 through 10). Default is 1.

R25 - Data packet retransmission counter.
r - Counter setting (0 through 3). Default is 0.

VC - Virtual circuit

ppss - Virtual circuit number

pp - Range of PVCs
ss - Range of SVCs

The sum of the number of PVCs and SVCs must be equal to 16.

Table 1 shows the default values for these fields.

Table 1 and Table 2 show the acceptable values for these fields, allowing for an LCN numbering scheme of 00-255.

TABLE 1

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
00	16	00	16	--	01
01	15	01	15	01	02
02	14	02	14	01	03
03	13	03	13	01	04
04	12	04	12	01	05
05	11	05	11	01	06
06	10	06	10	01	07
07	09	07	09	01	08
08	08	08	08	01	09
09	07	09	07	01	10
10	06	10	06	01	11
11	05	11	05	01	12
12	04	12	04	01	13
13	03	13	03	01	14
14	02	14	02	01	15
15	01	15	01	01	16
16	00	16	00	01	--

TABLE 2

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
			0 ≤ nn ≤ 48		
20	nn	00	16	--	nn
21	nn	01	15	nn	nn+1
22	nn	02	14	nn	nn+2
23	nn	03	13	nn	nn+3
24	nn	04	12	nn	nn+4
25	nn	05	11	nn	nn+5
26	nn	06	10	nn	nn+6
27	nn	07	09	nn	nn+7
28	nn	08	08	nn	nn+8
29	nn	09	07	nn	nn+9
30	nn	10	06	nn	nn+10
31	nn	11	05	nn	nn+11
32	nn	12	04	nn	nn+12
33	nn	13	03	nn	nn+13
34	nn	14	02	nn	nn+14
35	nn	15	01	nn	nn+15
36	nn	16	00	nn	--
40	nn	00	16	--	nn+64
41	nn	01	15	nn+64	nn+65
42	nn	02	14	nn+64	nn+66
43	nn	03	13	nn+64	nn+67
44	nn	04	12	nn+64	nn+68
45	nn	05	11	nn+64	nn+69
46	nn	06	10	nn+64	nn+70
47	nn	07	09	nn+64	nn+71
48	nn	08	08	nn+64	nn+72
49	nn	09	07	nn+64	nn+73
50	nn	10	06	nn+64	nn+74
51	nn	11	05	nn+64	nn+75
52	nn	12	04	nn+64	nn+76
53	nn	13	03	nn+64	nn+77
54	nn	14	02	nn+64	nn+78
55	nn	15	01	nn+64	nn+79
56	nn	16	00	nn+64	--

TABLE 2 (continued)

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
			0 ≤ nn ≤ 48		
60	nn	00	16	--	nn+128
61	nn	01	15	nn+128	nn+129
62	nn	02	14	nn+128	nn+130
63	nn	03	13	nn+128	nn+131
64	nn	04	12	nn+128	nn+132
65	nn	05	11	nn+128	nn+133
66	nn	06	10	nn+128	nn+134
67	nn	07	09	nn+128	nn+135
68	nn	08	08	nn+128	nn+136
69	nn	09	07	nn+128	nn+137
70	nn	10	06	nn+128	nn+138
71	nn	11	05	nn+128	nn+139
72	nn	12	04	nn+128	nn+140
73	nn	13	03	nn+128	nn+141
74	nn	14	02	nn+128	nn+142
75	nn	15	01	nn+128	nn+143
76	nn	16	00	nn+128	--
80	nn	00	16	--	nn+192
81	nn	01	15	nn+192	nn+193
82	nn	02	14	nn+192	nn+194
83	nn	03	13	nn+192	nn+195
84	nn	04	12	nn+192	nn+196
85	nn	05	11	nn+192	nn+197
86	nn	06	10	nn+192	nn+198
87	nn	07	09	nn+192	nn+199
88	nn	08	08	nn+192	nn+200
89	nn	09	07	nn+192	nn+201
90	nn	10	06	nn+192	nn+202
91	nn	11	05	nn+192	nn+203
92	nn	12	04	nn+192	nn+204
93	nn	13	03	nn+192	nn+205
94	nn	14	02	nn+192	nn+206
95	nn	15	01	nn+192	nn+207
96	nn	16	00	nn+192	--

gghh - Group number

gg - Group number for all PVCs (00 through 15).
hh - Group number for all SVCs (00 through 15).

DBIT - D-bit

v *- X.25 d-bit setting*

v	*Explanation*
0	Off (unset) (acknowledgement done from local DTE). Default
1	On (set) (acknowledgement done from remote DTE)

cc - Hexadecimal condition code

cc	**st**	*Explanation*
03		Subject entity is in service
DF		Command and protocol are inconsistent
E2		Invalid link number specified
E3	**IS**	Can't Use LCN 0/LGN 0 - designated as a supervisory channel only

ADD,NPC

ADD NETWORK PROCESSING CIRCUIT

Explanation Of Command

This message adds one or more network processing circuits (NPCs) of the facility terminating unit (FTU) into an alternate map while in a map session.

Command

Nonhierarchical

[I.36021]

```
ADD:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[,[s]ghi]...\
[,[t]def]}!
```

Hierarchical

[I.36021]

```
ADD:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,edfgh]...\
[,wxkqr]}!
```

Completion Message

If the command is accepted by DACS II, the following acknowledgement will be output.

OK

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc,[t]def,[s]ghi
- The 3- or 4-digit nonhierarchical NPC numbers

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number at beginning of range
wxkqr - Hierarchical NPC number at end of range
edfgh - Hierarchical NPC number

uv,wx,ed
- Unit number

m,k,f
- Module number

np,qr,gh
- NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ADD,USER,LINK,INCL,ALL,LANG,M,P,F

ADD USER/LINK LANGUAGE, NPC ADDRESSING AND PRIORITY

Explanation Of Command

This command *is used by the DACS II frame administrator* to assign to a user or link or all users and links any of the following attributes:

- The language with which users converse with the DACS II machine
- The type of addressing used to specify a network processing circuit
- The execution priority level assigned to a given message category
- The ability to remove a link

The command can also be used to initialize these attributes, except for the language and NPC addressing type attributes, to their default values.

To change the type of addressing the frame administrator must issue this command and then logout and login again.

Command

[I.36103]

```
ADD:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]|ALL}\
[,LANG {M|P|F}][,NPCAD {E|X|H}][,LEV(a,b,c,d,e,f)]\
[,{RMON|RMOFF}][,RLK {A|I}][,{CONVON|CONVOFF}][,INIT]!
```

Completion Message

[O.36103]

```
M hh:mm:ss xy,ww n[vv] ADD {USER <user id>|LINK j[mm][,INCL]|ALL}  \
2 LN MSG:
[LANG {M|P|F}][ NPCAD {E|X|H}][ LEV(a,b,c,d,e,f)]\
[ {RMON|RMOFF}][ RLK {A|I}][ {CONVON|CONVOFF}][ INIT]  COMPL
```

Denial Message

[O.36103.01]

```
M hh:mm:ss xy,ww n[vv] ADD {USER <user id>|LINK j[mm][,INCL]|ALL}  \
2 LN MSG:
[LANG {M|P|F}][ NPCAD {E|X|H}][ LEV(a,b,c,d,e,f)]\
[ {RMON|RMOFF}][ RLK {A|I}][ INIT][ {CONVON|CONVOFF}] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

USER - User

user id
- User identifier

The users login identifier (two to eight alphabetic characters). The command is denied if the user identifier does not exist.

LINK - Link

j[mm] - Administrative link number

j	Physical link number (1 through 7)
mm	Virtual circuit/Session number (01 through 16) for j = 5,6 or 7

INCL - Inclusive

Include virtual circuits of links 5 and 6 or sessions of link 7. The INCL keyword can only be entered with TCP/IP link 7 and X.25 links 5 and 6, and no virtual circuit/session number is allowed when this keyword is used. That is, "mm" and "INCL" are mutually exclusive. In addition, the INCL keyword is also mutually exclusive with the "user id" and the keyword "ALL". When INCL is entered, it means that all provisioning data specified in this command, for example, LANG, NPCAD, LEV(a,b,c,d,e,f), RMON/RMOFF and RLK, will be applied to all virtual circuits of the link (5 or 6) or all sessions of the link 7.

ALL - All

All users and links (including virtual circuits). The ALL keyword can only be used together with the NPCAD option. When used, it will change the NPC addressing scheme for ALL users and links including virtual circuits. There is a single exception: the ALL keyword does not affect the NPC addressing scheme for a virtual circuit that is provisioned with the facility data link communication protocol, "F".

LANG - Language

The LANG keyword specifies the language used by a link communicating with the DACS II system. All languages cannot be used on all links. The protocol determines what languages are permissible. Three languages are available and they are listed below. See the table below for permissible combinations of protocol and language.

protocol	*language*
Snider	PDS or MML
X.25	PDS, MML, or FDL
TABS	Not applicable
Modified Snider	Not applicable
TCP/IP	PDS or MML

To change the language on a TCP/IP link, the USER keyword must be used.

Otherwise, the language defaults to *MML* if LANG is not specified.

P - Program Documentation Standards (PDS)

M - HuMan-Machine Language (MML)

NPCAD - Network processing circuit addressing

E - Extended 3-digit nonhierarchical NPC addressing

If the 3-digit nonhierarchical NPC addressing scheme is allowed in the configuration file, it will be used as the default NPC addressing scheme.

X - Extended 4-digit nonhierarchical NPC addressing

If the 3-digit nonhierarchical NPC addressing scheme is not allowed in the configuration file, the 4-digit scheme is used as the default NPC addressing scheme.

H - Hierarchical NPC addressing

NOTE:
To place a new addressing scheme into effect the frame administrator must first request the new addressing scheme with this command and then logout and login again.

LEV - Level

a - Execution priority level for circuit provisioning commands
b - Execution priority level for equipment provisioning commands
c - Execution priority level for maintenance commands
d - Execution priority level for test access commands
e - Execution priority level for monitoring commands
f - Execution priority level for common commands

A table giving the command verbs associated with each of the above command sets is given below.

LEV is used in combination with the command set identifiers a through f to set the execution priority level for each command set. A priority level applies to a user or link as appropriate. Priority levels range from 0 through 3. A list of these levels and their meaning is given below for a. The list for b through f is similar to the a list.

a	*Explanation*
0	Commands in the command set assigned this execution priority level cannot be executed.
1	Highest execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 2 or 3.
2	Middle execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 3
3	Lowest execution priority level. Commands in the command set assigned this execution priority level will be executed after all priority level 1 and 2 commands have been executed. Level 3 is the default priority level.
-	The execution priority level of the command set assigned this execution priority level is not to be changed.

Note: The commands used to login, logoff, cross-connect, stop, and abort always have the highest priority.

A single queue is used for DACS II commands. When multiple commands arrive at the same time, they will be queued for execution according to the priority assigned to their command set. Commands with the same priority will be executed in the order of arrival, that is, first come first served. A timeout feature insures that no command will wait in the queue forever. When the timeout period has expired for a given command that command will be executed regardless of its priority level.

a Circuit Prov.	**b Equipment Prov.**	**c Maint.**	**d Test Access**	**e Monitoring**	**f Common**
BCON	COPY	CFR	CTST	AUD	ACT
BDIS	DGRTH	DGN		UTL	ADD
	DLT	RMV	TTST		ALW
OCNT	GRTH	RST			CHG
OCON					ED
ODIS					EXC
OPR					INH
RLS					
TCNT					
TCON					
TDIS					

RMON - Restricted maintenance privilege ON

The RMON keyword is used to assign to a user the privilege of issuing the commands normally restricted to the Frame Administrator.

The following commands are restricted to the Frame Administrator (or superuser).

RST::MC,FRC!	(I.34001)
RST::SMEM,CLR,FRC!	(I.34211)
DLT::FPKG!	(I.37301)
CHG::ALMS,{ON | OFF}!	(I.38555)
CHG::INTV,{ON | OFF}!	(I.38451)
CHG::MSGLOG:{ON | OFF}!	(I.38471)
UTL::BMTR,FROM SMEM,TO PMEM,EXCT!	(I.55701)
UTL::CLR,MSGLOG!	(I.57031)
UTL::UPGRD!	(I.57731)

RMOFF - Restricted maintenance privilege OFF

The RMOFF keyword is used to eliminate a user's privilege to issue the commands restricted to the Frame Administrator. RMOFF is the default value.

RLK - Remove Link

A - Allowed

A is the default value.

I - Inhibited

RLK is used to assign to a user or link the privilege of removing a link. There is a relationship between the link privilege and the execution priority level. If c (see previous Command Sets table) in the LEV field is set to zero then the command to remove a link cannot be executed hence the remove link privilege is inhibited even if the RLK option is set to A or I.

INIT - Initialize

INIT is used to assign the default values to the link/user parameters LEV, RMON/RMOFF and RLK. Parameters specified in the command will take on the specified values.

CONVON
- Mixed Addressing Conversion ON

CONVOFF
- Mixed Addressing Conversion OFF

This mixed addressing conversion feature is only applicable to PDS commands in an environment that uses 4-digit sequential NPC numbers. This conversion feature is useful when a DACS II frame is converted from 3-digit sequential NPC addressing to 4-digit sequential NPC addressing for growth reasons. In that case this conversion feature allows certain Operational Support Systems to use 3-digit NPC numbers, even though the frame has been changed to normally accept only 4-digit NPC numbers.

Assuming sequential NPC number usage, DACS II normally accepts only fixed length NPC numbers in its input commands. This conversion feature transfers the fixed length requirement from NPC number to channel number on a link basis. This allows the DACS II parser to accept 3- or 4-digit NPC numbers assuming that the channel number is interpreted to be of 2-digit fixed length. If a 3-digit NPC number is entered with CONVON in effect, then DACS II will internally expand 3-digit NPC numbers to 4-digit NPC numbers.

For some feature configurations this conversion feature is not available, and the CONVOFF keyword will not appear in the output of this command.

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.
D1	Cannot create any more users
D2	User has been created
D3	User does not exist
D6	Incorrect or missing password
D8	Cannot remove Frame administrator
DC	No zeros allowed for DAX privilege
DF	Command and protocol are inconsistent
25	Invalid FPI value
C0	NPC addressing scheme selected is not allowed in the config file
E1	Virtual circuit is not specified for X.25 link
E2	Invalid link number specified
E3	Invalid keyword(s) combination specified
E4	Invalid NPC addressing scheme specified
E5	No user/link needs to be changed
3B	Not valid for frame administrator
40	Only one channel allowed to have this language
41	Language "F" provisioned for this channel
83	Language is not allowed

ADD,USER,NEW,PASSWD

ADD USER

Explanation Of Command

This message is used by the frame administrator to create a new user login identification and password or to reassign a login identification and password to a previous user of DACS II.

The **NEW** keyword indicates that a new user is being created. The frame administrator uses this command without the **NEW** keyword to reassign a password to a user who is currently on DACS II.

A user is identified to DACS II by his or her **user id** associated with the login.
The administrator divulges a password to a new user for the initial log on to DACS II. Afterwards, the user can change this initial password through the **CHG PASSWD** command to a password known only to him or her.

Output from this command is sent only to the link on which the command was input.

Command

[I.36101]

```
ADD:FRM xy,SEQ ww:USER <user id>[,NEW][,PASSWD <user password>]!
```

If the message is entered on a Snider link:

[I.36101]

ADD:FRM xy,SEQ ww:USER <user id>[,NEW]!

DACS II then generates the message below and a dialog is started.

PASSWD: (The frame administrator enters user password.)

REENTER PASSWD: (The frame administrator again enters the user password.).

Note that the user password is not echoed by DACS II.

Completion Message

[O.36101]

M hh:mm:ss xy,ww n[vv] ADD USER <user id>[NEW] COMPL

Denial Message

[O.36101.01]

M hh:mm:ss xy,ww n[vv] ADD USER <user id>[NEW] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

USER - User

user id
- User identifier

User login identification (two to eight alphabetic characters).

NEW - New

Create a user identifier for a new user.

PASSWD - Password

user password
- User password

The password assigned to the user, where password is at least six alphanumeric characters.

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.
D1	Cannot create any more users
D2	User has been created
D3	User does not exist
D6	Incorrect or missing password

ALM,IDLD,AI,NPC

ALARM CEPT NPC

Explanation Of Command

This automonous output message reports the clearance of a 15-minute, 1-hour, or 24-hour threshold exception alarm on a particular network processing circuit (NPC).

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65046]

```
I hh:mm:ss xy,ww   ALM IDLD[ <parameter>][ AI aaaaa] NPC [s]abc COMPL
```

Hierarchical

[O.65046]

```
I hh:mm:ss xy,ww   ALM IDLD[ <parameter>][ AI aaaaa] NPC uvmnp COMPL
```

Explanation Of Parameters

parameter
- Facility Performance Parameter

For PB and PC type NPCs:

parameter	*explanation*
DM1H	Degraded Minutes 1 hour
DM24H	Degraded Minutes 24 hours
SERS15M	Severely Errored Seconds 15 minutes
SERS24H	Severely Errored Seconds 24 hours
ERS15M	Errored Seconds 15 minutes
ERS24H	Errored Seconds 24 hours
US15M	Unavailable Seconds 15 minutes
US24H	Unavailable Seconds 24 hours
SLIPS15M	Slip Events 15 minutes
SLIPS24H	Slip Events 24 hours

For PA type NPCs:

parameter	*Explanation*
CRC	CRC Block Errors
FRER	Framing Errors
OFS	Out of Frame Seconds
ES	Errored Seconds
SES	Severely Errored Seconds
CSS	Controlled Slip Seconds
CV	Coding Violations
UAS	Unavailable Seconds
UATC	Unavailable Time Count
MER	Multiframe Errors
FEBE	Far End Block Errors
FES	Far End Errored Seconds
FSES	Far End Severely Errored Seconds
FUAS	Far End Unavailable Seconds

AI - Accumulation Interval

aaaaa - The accumulation time period for the specified parameter. (Only for PA/TH type NPCs)

aaaaa	*Explanation*
15MIN	Parameter count from a 15-minute accumulator
DAILY	Parameter count from a daily accumulator

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ALM,NPC

REPORT PERFORMANCE MONITORING ALARMS FOR CEPT PB and PC NPCs

Explanation Of Command

This output message reports the performance monitoring alarm state on a 15-minute, 1-hour, or a 24-hour interval whenever the threshold exception has been equaled or exceeded for the designated facility performance parameter on a particular PB or PC network processing circuit (NPC).

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65036]

```
pa <il> hh:mm:ss xy,ww   ALM <state> <parameter> NPC [s]abc COMPL
```

Hierarchical

[O.65036]

```
pa <il> hh:mm:ss xy,ww   ALM <state> <parameter> NPC uvmnp COMPL
```

Explanation Of Parameters

pa - Priority of Action

pa	*Explanation*
I	Information (PDS)
A	Autonomous (MML)
*	Minor alarm
**	Major alarm, service affecting
*C	Critical alarm, service affecting

il - Intervention Level

il	*Explanation*
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

state - Alarm state

state	*Explanation*
MI	Maintenance Information
DMA	Deferred Maintenance Alarm Minor(MN)
PMA	Prompt Maintenance Alarm Major(MJ)
PMC	Promt Maintenance Alarm Critical(CR)

parameter
- Facility Performance Parameters

parameter	*Explanation*
DM1H	Degraded Minutes 1 hour
DM24H	Degraded Minutes 24 hours
SERS15M	Severely Errored Seconds 15 minutes
SERS24H	Severely Errored Seconds 24 hours
ERS15M	Errored Seconds 15 minutes
ERS24H	Errored Seconds 24 hours
US15M	Unavailable Seconds 15 minutes
US24H	Unavailable Seconds 24 hours
SLIPS15M	Slip Events 15 minutes
SLIPS24H	Slip Events 24 hours.

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ALM,NPC,AI,COUNT,THLEV

REPORT NPC THRESHOLD CROSSING ALARM FOR PA, TA, DA, AND TH TYPE NPCS

Explanation Of Command

This autonomous output message reports a facility performance monitoring parameter threshold crossing event for the specified PA type NPC. Threshold crossing alert messages can be generated for both 15-minute and daily parameter accumulation intervals.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65061]

```
pa <il> hh:mm:ss xy,ww   ALM [<state>] <parameter> NPC [s]abc  2 LN MSG:
AI aaaaa COUNT cccccccc THLEV lllllllll COMPL
```

Hierarchical

[O.65061]

```
pa <il> hh:mm:ss xy,ww   ALM [<state>] <parameter> NPC uvmnp  2 LN MSG:
AI aaaaa COUNT cccccccc THLEV lllllllll COMPL
```

Explanation Of Parameters

AI - Accumulation Interval

aaaaa - The accumulation time period for the specified parameter

aaaaa	*Explanation*
15MIN	Parameter count from a 15-minute accumulator
DAILY	Parameter count from a daily accumulator

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

COUNT - Count

cccccccc
- The count accumulated for the monitored parameter
(000000001 through 345600000)

THLEV - Threshold Level

lllllllll

- The programmed threshold level of the monitored parameter
  (000000001 through 345600000)

  Values of threshold levels within the ranges above may cause threshold crossing alert messages

pa - Priority of Action

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm, service affecting
***C**	Critical alarm, service affecting

il Intervention level.

il	*Explanation*
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

state - Alarm state

state	*Explanation*
MI	Maintenance Information
DMA	Deferred Maintenance Minor Alarm
PMA	Prompt Maintenance Major Alarm
PMC	Prompt Maintenance Critical Alarm

For PA type NPCs:

parameter	*Explanation*
CRC	CRC Block Errors
FRER	Framing Errors
OFS	Out of Frame Seconds
ES	Errored Seconds
SES	Severely Errored Seconds
CSS	Controlled Slip Seconds
CV	Coding Violations
UAS	Unavailable Seconds
UATC	Unavailable Time Count
MER	Multiframe Errors
FEBE	Far End Block Errors
FES	Far End Errored Seconds
FSES	Far End Severely Errored Seconds
FUAS	Far End Unavailable Seconds

ALM,PMC,PMA,DMA,MI,CCN,OOS

ALARM CROSS-CONNECT NETWORK

Explanation Of Command

This message reports an alarm on a cross-connect network (CCN) side if the CCN duplexed entities are in an unprotected state. A alarm will be generated when a CCN side is out-of-service (OOS) and pested for two or more consecutive minutes.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.65054]

```
pa <il> hh:mm:ss xy,ww   ALM [PMC|PMA|DMA|MI] CCN s OOS COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

ALM - Alarm

IDLD - Idled

This indicates an alarm has be Idled.

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

COND - Condition

CCN - Cross-connect network

s - Cross-connect Network side number (0 or 1)

OOS - Out-of-service

ALM,PMC,PMA,DMA,MI,ECCN,OOS

ALARM ECCN

Explanation Of Command

This message reports an alarm on side 0 or 1 of the expanded cross-connect network side. The reported alarm notifies the craft when the ECCN duplexed entities are in an unprotected state. An alarm is generated when an ECCN side is out-of-service and pested for two or more consecutive minutes.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.65055]

```
pa <il> hh:mm:ss xy,ww   ALM {PMC|PMA|DMA|MI} ECCN s OOS COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

ALM - Alarm

IDLD - Idled

This indicates the alarm has been idled.

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

ECCN - Expanded cross-connect network

s - Side number (0 or 1)

OOS - Out-of-service

ALM,PMC,PMA,DMA,MI,NPC,RPSFI,IDLD

Explanation Of Command

One alarm message will be output when a RPSFI condition has been detected on a NPC. The alarm idled message will be output when it is detected that the RPSFI condition no longer exists on the NPC.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65091]

pa <il> hh:mm:ss xy,ww ALM [PMC|PMA|DMA|MI] NPC [s]abc RPSFI COMPL

[O.65092]

I hh:mm:ss xy,ww ALM IDLD NPC [s]abc RPSFI COMPL

Hierarchical

[O.65091]

pa <il> hh:mm:ss xy,ww ALM [PMC|PMA|DMA|MI] NPC uvmnp RPSFI COMPL

[O.65092]

I hh:mm:ss xy,ww ALM IDLD NPC uvmnp RPSFI COMPL

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The values are listed below:

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ALM - Alarm

pa - priority of action

pa	*Explanation*
I	Informational
A	Autonomous
*****	minor
******	major
***C**	Critical

PMA - Prompt Maintenance Action Major Alarm
PMC - Prompt Maintenance Action Critical Alarm
DMA - Deferred Maintenance Action Minor Alarm
MI - Maintenance Information
CR - Critical Alarm
MJ - Major alarm
MN - Minor Alarm
INFO - Informational Alarm

il - Intervention level.

il	*Explanation*
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

RPSFI - Remote Power Supply Failure Indicator

IDLD - Idled

The alarm has been idled since the RPSFI condition no longer exists.

ALM,PMC,PMA,DMA,MI,MJ,MN,INFO,CR,SMEM

ALARM BACKUP MEMORY TRANSFER

Explanation Of Command

This message reports when Secondary Memory card (SMEM) is out-of-service (OOS). It is cleared when SMEM is restored to service.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.65056]

```
pa <il> hh:mm:ss xy,ww   ALM [PMC|PMA|DMA|MI|MJ|MN|INFO|CR] SMEM COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

PMC Prompt Maintenance Action Critical Alarm
PMA Prompt Maintenance Action Major Alarm
DMA Deferred Maintenance Action Minor Alarm
MI Maintenance Information Alarm

ALM - Alarm

MN - Minor alarm

IDLD - Alarm idled

SMEM - Secondary memory card.

ALM,PMA,DMA,IDLD,TCPIP,LINK7

ALARM TCP/IP LINK LOSE CARRIER

Explanation Of Command

This message reports when the TCP/IP link (link 7) gets lost of its carrier.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.65057]

pa hh:mm:ss xy,ww ALM {PMA|DMA|IDLD} TCPIP LINK7 COMPL

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm

ALM Alarm

PMA Prompt Maintenance Action Major Alarm

DMA Deferred Maintenance Action Minor Alarm

IDLD Alarm idled

TCPIP LINK7
- TCP/IP Link 7

ALM,RESET,DATE,TOD,FORMAT,MDY,DMY,PMC

ALARM RESET

Explanation Of Command

This autonomous output message reports that the date and/or time have been reset because of a DACS II frame reset or because Message I.34001 (RST MC) has been entered.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.65051]

```
pa <il> hh:mm:ss xy,ww   ALM RESET {DATE|TOD|TOD DATE} hr:mn:sc \
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} [PMC|PMA|DMA|MI] COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

DATE - Date

TOD - Time of day

FORMAT - Allows user to set date format to either USA or International format

MDY - USA format (Month, Day, Year)

DMY - International format (Day, Month, Year)

yr - Year number (four digits)
mo - Month number
da - Day of month number

hr - Hour of day
mn - Minute of hour
sc - Second of minute

ALWSW,UNIT,MMFG,TOPRTN,TOSRVC

ALLOW SWITCH OF MMFG

Explanation Of Command

This command requests removal of the inhibition of automatic protection switching from a range of service multiplexer-multiple interface unit functional group (MMFG) in a DS3 unit (DS3U) or a Hybrid DS3 unit (HDS3U) to the protection MMFG in that unit or the automatic switch back from the protection MMFG of a DS3U or a HDS3U to the service MMFG c[-d] of that unit. Only automatic protection switches due to failure will be affected by this message.

The command will always specify the number of the service MMFGs involved, even in the case of the command to allow switch back from the protection MMFG.

When the **TOSRVC** keyword is specified, a range of MMFGs is not acceptable. The command will be denied by the parser.

This command may cause an immediate protection switching/switch back if the original MMFG is out-of-service or is pested. In this case, an autonomous message that indicates the occurrence of the switch will be printed out.

Command

[I.35301]

ALWSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!

Completion Message

[O.35301]

```
M hh:mm:ss xy,ww n[vv] ALWSW UNIT [q]q MMFG a {TOPRTN|TOSRVC} \
COMPL
```

Denial Message

[O.35301.01]

```
M hh:mm:ss xy,ww n[vv] ALWSW UNIT [q]q MMFG a {TOPRTN|TOSRVC} \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

MMFG - Multiplexer-multiple interface unit functional group

c,d - The number of the MMFG within the unit (1 through 6)

When the TOSRVC keyword is specified, a range of MMFGs is not acceptable. The command will be denied by the parser.

TOPRTN - To protection pack

TOSRVC - To service pack

a - The number of the service MMFG within the range c and d

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
4D	The switch is allowed (not inhibited)

APPEND,END

APPEND COMPONENT COMMAND

Explanation Of Command

This message is used, during a macro session, to add one or more commands to an existing macro. Commands are added following the location specified by **line number** or **END**. If neither **line number** or **END** is specified then the command(s) being added will be added on the line following the current position of the line pointer. This position may be determined by use of the LINE command.

Command

[I.19041]

```
APPEND[:FRM xy,SEQ ww:{<line number>|END}]!
```

Completion Message

[O.19041]

```
M hh:mm:ss xy,ww n[vv] APPEND[ {<line number>|END}]  COMPL
```

Denial Message

[O.19041.01]

```
M hh:mm:ss xy,ww n[vv] APPEND[ {<line number>|END}] COND cc  \
DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

`line number`

- Line number at which to begin appending (0, 1, 2, 3, ...)

If a line number is specified, a command being added will be appended to this line. That is, the new command will be placed on the line following the line pointed to by the line number. The line pointer will then move down to point to the position of the new command. If more than one command has been entered the line pointer will move to the position of the last line entered.

`END` - End

End is a special line number that marks the position of the last line in the macro. If END is specified, the new command will be placed on the line following the line pointed to by END. The line pointer will then move down to point to the position of the new command. END will then be the line number of the new command. If more than one command has been entered, END will be the line number of the last line entered.

`COND` - Condition

`cc` - Hexadecimal condition code

`cc`	*Explanation*
`60`	User macro/map space is full
`6B`	Invalid line number
`6E`	No edit session active

APPL,RESET,IN,PROGRESS

UTILITY QUERY, APPLICATION RESET

Explanation Of Command

This message reports that a reset of all the DSP Application cards is complete. During the reset operation an APPL RESET IN-PROGRESS message will also be generated every 20 seconds until the reset operation is completed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.62011]

`I hh:mm:ss xy,ww  APPL RESET COMPL`

[O.62010]

`I hh:mm:ss xy,ww  APPL RESET IN PROGRESS`

Explanation Of Parameters

`APPL` - Digital Signaling Processing Application

The following applications are currently supported:

`SD111` - X.50/X.57 International Subrate application
`SD311` - Digital Multipoint Bridge (DMB) application
`SD411` - DDS Subrate and Multipoint Junction Unit application

AR01,MISC,ALM,IDLD,PBA

ALARM IDLD

Explanation Of Command

This autonomous message indicates that the primary block alarm (PBA) on a facility terminated on a particular network processing circuit has been cleared.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65021]

`I hh:mm:ss xy,ww  AR01 MISC ALM IDLD PBA [s]abc k COMPL`

Hierarchical

[O.65021]

`I hh:mm:ss xy,ww  AR01 MISC ALM IDLD PBA uvmnp k COMPL`

Explanation Of Parameters

PBA - Primary block alarm

MISC - Miscellaneous

ALM - Alarm

IDLD - Idled

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

k - Type of PBA alarm

k	*Explanation*
A	Primary AIS - AIS received in all 32 time slots.
B	BER - Bit error rate detected in received signal.

C LCMA - Loss of CRC4 multiframe alignment in TS0.
G FLCMA - Far-end Loss of CRC4 multiframe alignment in TS0.
E RBER - Remote bit error rate detected in TS0 bit 4.
I RAIS - Remote AIS detected in TS0 bit 4.
L LMA - Loss of multiframe alignment in CAS TS16.
M R16 - RAI received in TS16 bit 6 of frame 0.
P PFWOOF - TS0 Pseudo Frame Word Out-Of-Frame
R LOS PBF - Loss of Signal type Primary block failure.
F LOF PBF - Loss of Frame type Primary block failure.
S SFI - Synchronization failure indication in TS0 bit 5.
V A16 - AIS received in CAS TS16
X EER - EER - Excessive error rate
Y RAI - Remote alarm indication received in TS0 bit 3.

AR01,MISC,ALM,PBA

AR01 MISCELLANEOUS ALARM, CGA, PBA OR LOS

Explanation Of Command

This autonomous message reports a DACS II Primary Block Alarm (PBA) on a facility terminated on a particular Network Processing Circuit. Once a PBA has been detected, DACS II inserts downstream trunk conditioning and performs upstream consequent actions, if they are provisioned.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65011]

```
pa <il> hh:mm:ss xy,ww   AR01 MISC ALM <state> PBA [s]abc k COMPL
```

Hierarchical

[O.65011]

```
pa <il> hh:mm:ss xy,ww   AR01 MISC ALM <state> PBA uvmnp k COMPL
```

Explanation Of Parameters

pa - Priority of action

pa	*Explanation*
I	Information
*	Minor alarm
**	Major alarm
*C	Critical alarm

il - Intervention level.

il	*Explanation*
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

MISC - Miscellaneous

ALM - Alarm

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

state - Alarm status

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

state	*Explanation*
PMA	Prompt Maintenance Major Alarm (MJ)
PMC	Prompt Maintenance Critical Alarm (CR)
DMA	Deferred Maintenance Minor Alarm (MN)
MI	Maintenance Information

PBA - Primary block alarm

k - Type of PBA alarm

k	*Explanation*

For PA type NPCs:

A Primary AIS - AIS received in all 32 time slots.
B BER - Bit error rate detected in received signal.
C LCMA - Loss of CRC4 multiframe alignment in TS0.
E RBER - Remote bit error rate detected in TS0 bit 4.
F LOF - Loss of Frame type Primary block failure.
G FLCMA - Far-end Loss of CRC4 multiframe alignment in TS0.
I RAIS - Remote AIS detected in TS0 bit 4.
L LMA - Loss of multiframe alignment in CAS TS16.
M R16 - RAI received in TS16 bit 6 of frame 0.
P PFWOOF - TS0 Pseudo Frame Word Out-Of-Frame
R LOS - Loss of Signal type Primary block failure.
S SFI - Synchronization failure indication in TS0 bit 5.
V A16 - AIS received in CAS TS16
X EER - Excessive error rate
Y RAI - Remote alarm indication received in TS0 bit 3.
Z RPSFI- Remote Power Supply Failure Indicator

For PB and PC type NPCs:

A Primary AIS - AIS received in all 32 time slots.
B BER - Bit error rate detected in received signal.
E RBER - Remote bit error rate detected in TS0 bit 4.
I RAIS - Remote AIS detected in TS0 bit 4.
L LMA - Loss of multiframe alignment in CAS TS16.
M R16 - RAI received in TS16 bit 6 of frame 0.
R PBF - Primary block failure caused by LOS or LOF.
S SFI - Synchronization failure indication in TS0 bit 5.
V A16 - AIS received in CAS TS16
X EER - EER - Excessive error rate
Y RAI - Remote alarm indication received in TS0 bit 3.
Z RPSFI- Remote Power Supply Failure Indicator

AUD,PARAMS

ERROR RECOVERY

Explanation Of Command

This autonomous output message indicates the end-of-midnight report.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.81006]

`I hh:mm:ss xy,ww  AUD PARAMS COMPL`

Explanation Of Parameters

NPC - Network processing circuit.

AUD,QRY,BER,ALL,NPCS,TOT

AUDIT QUERY

Explanation Of Command

This message indicates all equipped facility terminating network processing circuits have zero values for the BER parameter since local midnight.

See message I.51011 for setting those performance parameters you would like to have measured and collected. Also see messages O.81001, O.81002, O.81003, and O.81004 for other output on performance parameters.

Command

Not applicable.

Completion Message

[O.81005]

```
M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL NPCS TOT 0000 COMPL
```

Denial Message

Not applicable.

Autonomous Message

[O.81005]

`I hh:mm:ss xy,ww  AUD QRY BER ALL NPCS TOT 0000 COMPL`

Explanation Of Parameters

`BER` - Bit error rate

`ALL NPCS TOT`
- Total of all NPCs

AUD,QRY,BER,ALL,NPCS,TOT,EOM

RETRIEVE EVENT EQUIPMENT

Explanation Of Command

This message lists all facility terminating unit network processing circuits associated with facilities exceeding bit error rate thresholds. See message I.51011 for setting those performance parameters you would like to have measured and collected. See message I.81001 for invoking output on performance parameters. Also see messages O.81001, O.81002, O.81004, and O.81005 for other output on performance parameters.

Command

See the input command in I.81001.

Completion Message

Nonhierarchical

[O.81003]

```
M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL NPCS [s]abc-[t]def \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL NPCS [s]abc-[t]def \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx COMPL
```

Hierarchical

[O.81003]

```
M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
M hh:mm:ss xy,ww n[vv] AUD QRY BER ALL NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx COMPL
```

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.81003]

```
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS [s]abc-[t]def \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS [s]abc-[t]def \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx COMPL
```

Hierarchical

[O.81003]

```
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
I hh:mm:ss xy,ww   AUD QRY BER ALL NPCS uvmnp-uvmqr \
TOT nnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx COMPL
```

Explanation Of Parameters

BER - Bit error rate
Minor Bit Error Rate for NPCs.

[s]abc - The 3- or 4-digit nonhierarchical NPC number
The first NPC in a module.

[t]def - The 3- or 4-digit nonhierarchical NPC number
The last NPC in a module.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number
The first NPC in a range.
uvmqr - Hierarchical NPC number
The last NPC in a range.

uv - Unit number
m - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

nnn - Number of NPCs with BER values greater than BER minor threshold or number of NPCs with the parameter threshold exceeded.

xx - BER Alarm State

This state represents a combination of the Excessive Bit Error Rate (EER), Bit Error Rate (BER), and Remote Bit Error Rate (RBER). It is interpreted as either a Prompt Maintenance Alarm -Major(PMA), Prompt Maintenace Alarm - Critical(PMC), Deferred Maintenance Alarm (DMA), or Clear.

xx	*EER/BER state*	*RBER state*
CR	PMC	
MJ	EER/PMA	Not applicable
MN	DMA	Inactive
RN	DMA	Active
CL	Clear*	Inactive
RL	Clear*	Active
--	NPC unequipped, out of service or with a unappropriate type	

* Clear refers to a Facility type NPC whose received error rate is less than the Minor BER threshold.

without CRC (10^{-5})
with CRC (10^{-6})

Note that EER has priority over the BER/RBER states. EER does not coexist with them; however, BER and RBER coexist with each other.

Unless CHG::NPC,TS0 command is used to redefine the active value of bit 4 of CTS 0, the RBER values are:

RBER	*Explanation*
1	inactive
0	Active

Note that if the autonomous output is the midnight report for non-PA NPCs only, the "xx" will be output as dashes ("-") for the PA NPCs within the same FTM. In this case, an FTM with PA NPCs only will be skipped. Similarly, if the autonomous output is the daily report for PA NPCs only, the "xx" for non-PA NPCs will be output as dashes ("-").

AUD,QRY,CFA,CGA,LOS

QUERY FACILITY ALARMS

Explanation Of Command

This message requests a listing of all Network Processing Circuits reporting a Primary Block Alarm. See message I.51011 for setting those performance parameters you would like to have measured and collected.

The alarm report is followed by reports of the form [O.81002], [O.81003] and [O.81004] — if their respective parameters have been enabled as specified in Message I.51011.

The end of the report is indicated by REPT EVT EQPT::NPC COMPLD.

For an autonomous message, the link field "n" is blank.

Command

[I.81001]

AUD:FRM xy,SEQ ww:QRY,{CFA|CGA|LOS}!

Completion Message

Nonhierarchical

USAGE: CGA report

[O.81001]

```
M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA [s]abc k \
COMPL
            .
            .
            .
M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA [s]abc k \
COMPL

M hh:mm:ss xy,ww n[vv] AUD {CGA|CFA} END COMPL

M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL
```

USAGE: CFA report

[O.81001]

```
M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA [s]abc k \
COMPL
            .
            .
            .
M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA [s]abc k \
COMPL

M hh:mm:ss xy,ww n[vv] AUD {CGA|CFA} END COMPL
```

Note: The above message can be followed by messages 0.81002, 0.81003 and 0.81004 if their respective parameters have been enabled by Message I.51011. Please refer to Message I.51011 for the list of presently implemented parameter audit reports.

```
M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL
```

Hierarchical

USAGE: CGA report

[O.81001]

```
M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA uvmnp k \
COMPL
            .
            .
            .
M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA uvmnp k \
COMPL

M hh:mm:ss xy,ww n[vv] AUD CGA END COMPL

M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL
```

USAGE: CFA report

[O.81001]

```
M hh:mm:ss xy,ww n[vv] AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA uvmnp k \
COMPL
            .
            .
            .
M hh:mm:ss xy,ww n[vv] AR01 MISC ALM <state> PBA uvmnp k \
COMPL


M hh:mm:ss xy,ww n[vv] AUD CFA END COMPL
```

Note: The above message can be followed by messages 0.81002, 0.81003 and 0.81004 if their respective parameters have been enabled by Message I.51011. Please refer to Message I.51011 for the list of presently implemented parameter audit reports.

```
M hh:mm:ss xy,ww n[vv] AUD PARAMS COMPL
```

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.81001]

```
I hh:mm:ss xy,ww   AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

I hh:mm:ss xy,ww   SC ALM <state> CGA [s]abc k COMPL
            .
            .
            .
I hh:mm:ss xy,ww   SC ALM <state> CGA [s]abc k COMPL

I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \
[k] COMPL
            .
            .
            .

I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} [s]abc \
[k] COMPL

I hh:mm:ss xy,ww   AUD {CGA|CFA|LOS} END COMPL

I hh:mm:ss xy,ww   AUD PARAMS COMPL
```

Hierarchical

[O.81001]

```
I hh:mm:ss xy,ww   AUD AR02 ALARM SUM nnnn REPORTS FOLLOW:

I hh:mm:ss xy,ww   SC ALM <state> CGA uvmnp k COMPL
                .
                .
                .
I hh:mm:ss xy,ww   SC ALM <state> CGA uvmnp k COMPL

I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \
[k] COMPL
                .
                .
                .
I hh:mm:ss xy,ww   AR01 MISC ALM <state> {CGA|CFA|LOS} uvmnp \
[k] COMPL

I hh:mm:ss xy,ww   AUD {CGA|CFA|LOS} END COMPL

I hh:mm:ss xy,ww   AUD PARAMS COMPL
```

Explanation Of Parameters

CFA - Carrier failure alarm

Use this keyword to list carrier group alarms and alarms enabled by command UTL::TOD (I.51011).

CGA - Carrier group alarm

Use this keyword to list only carrier group alarms.

PARAMS - Parameters

AR01 - Alarm report 1

AR02 - Alarm report 2

ALARM - Alarm

SUM - Summary

REPORTS
- Reports

FOLLOW - Follow

NPC - Network processing circuits

MISC - Miscellaneous

END - End

PBA - Primary Block Alarm

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The values are listed below:

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

nnnn - Total number of CGA/CFA reports

SC - Subscriber (loop) carrier

ALM - Alarm

state - Alarm status

state	*Explanation*
PMA	Prompt Maintenance Alarm (MJ)
PMC	Prompt Maintenance Critical Alarm (CR)
DMA	Deferred Maintenance Alarm (MN)
MI	Maintenance Information

k - Type of alarm

k	*Explanation*

For PA type NPCs:

A Primary AIS - AIS received in all 32 time slots.
B BER - Bit error rate detected in received signal.
C LCMA - Loss of CRC4 multiframe alignment in TS0.
E RBER - Remote bit error rate detected in TS0 bit 4.
F LOF - Loss of Frame type Primary block failure.
G FLCMA - Far-end Loss of CRC4 multiframe alignment in TS0.
I RAIS - Remote AIS detected in TS0 bit 4.
L LMA - Loss of multiframe alignment in CAS TS16.
M R16 - RAI received in TS16 bit 6 of frame 0.
P PFWOOF - TS0 Pseudo Frame Word Out-Of-Frame
R LOS - Loss of Signal type Primary block failure.
S SFI - Synchronization failure indication in TS0 bit 5.
V A16 - AIS received in CAS TS16
X EER - Excessive error rate
Y RAI - Remote alarm indication received in TS0 bit 3.
Z RPSFI- Remote Power Supply Failure Indicator

For PB and PC type NPCs:

A Primary AIS - AIS received in all 32 time slots.
B BER - Bit error rate detected in received signal.
E RBER - Remote bit error rate detected in TS0 bit 4.
I RAIS - Remote AIS detected in TS0 bit 4.
L LMA - Loss of multiframe alignment in CAS TS16.
M R16 - RAI received in TS16 bit 6 of frame 0.
R PBF - Primary block failure caused by LOS or LOF.
S SFI - Synchronization failure indication in TS0 bit 5.
V A16 - AIS received in CAS TS16
X EER - EER - Excessive error rate
Y RAI - Remote alarm indication received in TS0 bit 3.
Z RPSFI- Remote Power Supply Failure Indicator

AUD,QRY,CFA,CGA,LOS

AUDIT QUERY NPC PARAMETER

Explanation Of Command

This command is used to request the value of selected facility performance parameters of all FTU or DS3U NPCs that are associated with active Carrier Group Alarms (CGAs) or Carrier Failure Alarms (CFAs). Only those parameters that were enabled by the UTL::TOD,FAC (51011) command are reported. Also see messages O.81001, O.81003, O.81004, and O.81005 for other output on performance parameters.

The output messages may be the result of executing the AUD::QRY, {CFA|CGA|LFVR|FFER} command or they may be autonomously produced.

The output messages are part of the "midnight report" parameter count section. The parameter count section appears:

- Manually: Immediately when requested by the AUD::QRY,CFA command.
- Autonomously: Daily at the time scheduled with the UTL::TOD command (default is midnight).

Command

[I.81001]

`AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!`

Completion Message

Nonhierarchical

One command response output segment is generated for each FTM.

If the FTM does not have any PA type NPCs or if the parameter is not applicable to PA type NPCs, the following output format will be generated:

[O.81002]

```
M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx EOM

            .
            .
            .

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx COMPL
```

If the FTM has at least one PA type NPC and the parameter is applicable to a PA type NPC the following output format will be generated:

[O.81002]

```
M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS [s]abc-[t]def TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

              .
              .
              .

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS [s]abc-[t]def TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx COMPL
```

Hierarchical

One command response output segment is generated for each FTM.

If the FTM does not have any PA type NPC or if the parameter is not applicable to a PA type NPC, the following output format will be generated:

[O.81002]

```
M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \
uvmnp-uvmqr TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx EOM

              .
              .
              .

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS \
uvmnp-uvmqr TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx COMPL
```

If the FTM has at least one PA type NPC and the parameter is applicable to a PA type NPC, the following output format will be generated:

[O.81002]

```
M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS uvmnp-uvmqr TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL FTU NPCS uvmnp-uvmqr TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx COMPL
```

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

One output segment is generated for each FTM.

The output format shown below will be generated if one of the following condition exists:

1. The output is only for Non-PA type NPC midnight report. In this case dashes ("-") will be output for PA type NPCs.
2. All NPCs are scheduled with the same report time, but the parameter is not applicable to PA type NPCs. In this case dashes ("-") will be output for PA type NPCs.
3. All NPCs are scheduled with the same report time and the parameter is common to all NPC types, but the FTM does not have any PA type NPCs.

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx EOM

            .
            .
            .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
[s]abc-[t]def TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx COMPL
```

The output format shown below will be generated if one of the following condition exists:

1. The output is only for PA type NPC daily report. In this case dashes ("-") will be output for non-PA type NPCs.
2. All NPCs are scheduled with the same report time, and the parameter is for PA type NPCs only. In this case dashes ("-") will be output for non-PA type NPCs.
3. All NPCs are scheduled with the same report time; the parameter is common to all NPC types; there is at least one PA type NPC in the FTM. In this case, the "h" will be output as a dash ("-") for non-PA type NPCs.

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS [s]abc-[t]def TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

                .
                .
                .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS [s]abc-[t]def TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx COMPL
```

Hierarchical

One output segment is generated for each FTM.

The output format shown below will be generated if one of the following condition exists:

1. The output is only for Non-PA type NPC midnight report. In this case dashes ("-") will be output for PA type NPCs.
2. All NPCs are scheduled with the same report time, but the parameter is not applicable to PA type NPCs. In this case dashes ("-") will be output for PA type NPCs.
3. All NPCs are scheduled with the same report time and the parameter is common to all NPC types, but the FTM does not have any PA type NPCs.

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
uvmnp-uvmqr TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx EOM

             .
             .
             .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS \
uvmnp-uvmqr TOT nnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx COMPL
```

The output format shown below will be generated if one of the following condition exists:

1. The output is only for PA type NPC daily report. In this case dashes ("-") will be output for non-PA type NPCs.
2. All NPCs are scheduled with the same report time, and the parameter is for PA type NPCs only. In this case dashes ("-") will be output for non-PA type NPCs.
3. All NPCs are scheduled with the same report time; the parameter is common to all NPC types; there is at least one PA type NPC in the FTM. In this case, the "h" will be output as a dash ("-") for non-PA type NPCs.

[O.81002]

```
I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS uvmnp-uvmqr TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

                .
                .
                .

I hh:mm:ss xy,ww   AUD QRY <parameter> ALL FTU NPCS uvmnp-uvmqr TOT nnn  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx COMPL
```

Explanation Of Parameters

parameter

- Facility performance parameter

For PB or PC type NPCs:

parameter	*Explanation*
DM1H	Degraded Minutes 1 hour
DM24H	Degraded Minutes 24 hour
SERS15M	Severely Errored Seconds 15 minute
SERS24H	Severely Errored Seconds 24 hour
ERS15M	Errored Seconds 15 minute
ERS24H	Errored Seconds 24 hour
US15M	Unavailable Seconds 15 minute
US24H	Unavailable Seconds 24 hour
SLIP15M	Slip events 15 minute
SLIP24H	Slip events 24 hour
CRC	Cyclic Redundancy Code
FRER	Frame Error
LOFA	Loss of Frame Alignment
MER	Multiframe Alignment Error Events (time slot 16)

For PA type NPCs:

parameter	*Explanation*
CRC	CRC Block Errors
FRER	Framing Errors
OFS	Out of Frame Seconds
ES	Errored Seconds
SES	Severely Errored Seconds
CSS	Controlled Slip Seconds
CV	Coding Violations
UAS	Unavailable Seconds
UATC	Unavailable Time Count
MER	Multiframe Errors
FEBE	Far End Block Errors
FES	Far End Errored Seconds
FSES	Far End Severely Errored Seconds
FUAS	Far End Unavailable Seconds

Note: For PA type NPCs, only the daily parameters will be output by this message.

`[s]abc` - The 3- or 4-digit nonhierarchical NPC number, the first NPC in a module.

`[t]def` - The 3- or 4-digit nonhierarchical NPC number, the last NPC in a module.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

`uvmnp` - Hierarchical NPC number, the first NPC in a module.
`uvmqr` - Hierarchical NPC number, the last NPC in a module.

`uv` - Unit number
`m` - Module number
`np,qr` - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TOT - Total

nnn - Cumulative total number of NPCs in the module

A module is either an FTM or a Multiplexer on a DS3U with the specified facility performance parameter value greater than 0.

One DS3U output module contains the information about NPCs on one Multiplexer.

xxxxx - Facility performance parameter value (00000 through 65536)

This value is used when there is no PA type NPC provisioned.

h - Thresholding Mode for PA type NPCs.

h	*Explanation*
I	Inhibited
A	Allowed

If the count of a common parameter, that is, CRC, FRER or MER, is to be output, a dash ("-") will be output in this field for a non-PA type NPC within FTMs with mixed NPC types.

xxxxxxxxx
- Facility performance parameter value for PA type NPCs
(000000000 through 345600000)

AUD,QRY,CFA,CGA,LOS

AUDIT QUERY FACILITY PERFORMANCE PARAMETERS

Explanation Of Command

This message indicates all equipped facility terminating network processing circuits have zero values for a specified facility performance parameter since local midnight. See message I.51011 for setting those performance parameters you would like to have measured and collected. Also see messages O.81001, O.81002, O.81003, and O.81005 for other output on performance parameters.

Command

[I.81001]

```
AUD:[FRM xy,SEQ ww]:QRY,{CFA|CGA|LOS}!
```

Completion Message

[O.81004]

```
M hh:mm:ss xy,ww n[vv] AUD QRY <parameter> ALL NPCS TOT 000 \
COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

CFA - Carrier failure alarm
CGA - Carrier group alarm

ALL - All

NPCS - Network processing circuits

TOT - Total

Total of all NPCs

parameter
- Facility performance parameter

For PB and PC type NPCs:

parameter	*Explanation*
DM1H	Degraded Minutes (1 hour)
DM24H	Degraded Minutes (24 hour)
SERS15M	Severely Error Seconds (15 minutes)
SERS24H	Severely Error Seconds (24 hours)
ERS15M	Error Seconds (15 minutes)
ERS24H	Error Seconds (24 hours)
US15M	Unavailable Seconds (15 minutes)
US24H	Unavailable Seconds (24 hours)
SLIP15M	Slip events (15 minutes)
SLIP24H	Slip events (24 hours)
CRC	Cyclic Redundancy Code
FRER	Frame Error
LOFA	Loss of Frame Alignment
MER	Multiframe Alignment Error Events (time slot 16)

For PA type NPCs:

parameter	*Explanation*
CRC	CRC Block Errors
FRER	Framing Errors
OFS	Out of Frame Seconds
ES	Errored Seconds
SES	Severely Errored Seconds
CSS	Controlled Slip Seconds
CV	Coding Violations
UAS	Unavailable Seconds
UATC	Unavailable Time Count
MER	Multiframe Errors
FEBE	Far End Block Errors
FES	Far End Errored Seconds
FSES	Far End Severely Errored Seconds
FUAS	Far End Unavailable Seconds

BADVERB — BX2

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8

BADVERB — BX2

This section documents the commands **BADVERB** through **BX2**.

BADVERB,BAD,SYNTAX,STOPPED

INPUT DENIAL

Explanation Of Command

Processing of the input message is **STOPPED** because the action verb is unrecognized (**BADVERB**) or the frame or sequence number is incorrect (**FRMERR** or **SEQERR**).

Output from this command is sent only to the link on which the command was input.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01101]

```
M hh:mm:ss xy,ww n[vv] {BADVERB|FRMERR|SEQERR} BAD SYNTAX  \
e LN MSG:
First 70 characters of input message.
Remaining text of input message STOPPED
```

Explanation Of Parameters

BADVERB
- Bad verb

The action verb was not recognized.

FRMERR - Frame error

Incorrect frame number

SEQERR - Sequence error

Incorrect sequence number

BAD - Bad

STOPPED
- Stopped

SYNTAX - Syntax

e - Number of lines in the message

BADVERB,CMD,INERR,STOPPED

INPUT DENIAL

Explanation Of Command

If the message reports STOPPED it means that the input command has been stopped or has been denied processing.
If the message reports DNY it means that an attempt has been made to execute an unlicensed or inactive command.

Note that the error field, action verb, and category are optional; a reason will always be given.

Attempts to address entities (units and NPCs) dependent upon nonconfigured units will result in the following message:

`BAD ARG CONFIG ERR`.

Output from this command is sent only to the link on which the command was input.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01131.01]

```
M hh:mm:ss xy,ww n[vv] [<BADVERB|FRMERR|SEQERR|CMD>|<actverb>] \
[<INERR>] <reason>  e LN MSG:
<First 70 characters of input message.>
[<Text continued from input message>]
<Remaining text of input message> {STOPPED|DNY}
```

Explanation Of Parameters

BADVERB
- Bad verb

The action verb was not recognized

FRMERR - Frame error

Incorrect frame number

SEQERR - Sequence error

Incorrect sequence number

actverb
- Action verb

A valid action verb of the stopped or denied command

CMD - Command

Other command error

INERR - Input error

STOPPED
- Stopped

e - Number of lines in the message

reason - Reason for stop or denial

reason	*Explanation*
BAD ARG	Bad argument
BAD ARG CONFIG ERR	Bad argument and configuration error; attempted to address entities such as units and Network Processing Circuits (NPCs) dependent on non-configured units
BAD SYNTAX	Bad syntax
CMD NOT ALLOWED	Command is not allowed in a macro or alternative map
RESTRICTED	Command is restricted to frame administrator only
ERR CMD ABT	Command error and aborted
INACT	Command is for a feature package which currently is inactive
MC OOS,MCOND,INSERVICE	Main Controller is out-of-service, maintenance condition, or in-service
RANGE ERROR	Range error

BC,R,TO,X,ZO,NA

REPORT CHANGE OF C-BIT STATUS

Explanation Of Command

This message reports one of three states for the monitor time slot:

- idle,
- framed and c-bit, and
- network.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65211]

I hh:mm:ss xy,ww BC R TO [s]abcddd {X'abcd|ZO|NA} COMPL

Hierarchical

[O.65211]

I hh:mm:ss xy,ww BC R TO uvmnpddd {X'abcd|ZO|NA} COMPL

Explanation Of Parameters

[s]abc	- Non-Hierarchical NPC number
uvmnp	- Hierarchical NPC number
ddd	- C-bit channel number, valid values are 1-30.
abcd	- Received c-bit pattern
ZO	- All zero (or idle) pattern
NA	- Network Alarm

BCON,FROM,TO,NTR,LPD,CONV,NAM,CUS,INCL

BROADCAST CROSS-CONNECTION

Explanation Of Command

This command adds a single tributary leg to a broadcast cross-connection. It cross-connects the tributary to the indicated source.

It can be used to create a new one-way cross-connection from an existing broadcast source to the specified tributary channel. It can also be used to convert an existing two-way, two-point cross-connection to a broadcast cross-connection while adding a new tributary leg.

Data received on the broadcast tributary leg is discarded because a one-way cross-connection is created. Only data from the full tributary leg is returned to the broadcast source.

The FROM end field designates the conference backbone (source). The optional range fields indicate the conference width.

The allowable range is from 01 to 31 channels.

The FROM end will receive return data from the TO end, if and only if

- the TO end is the inital connection (first tributary), and
- the FROM end is not provisioned with the LPD or NTR keywords.

The field in the TO end designates the tributary. The width of the tributary is indicated by a range designation and must match the backbone width. If necessary, more tributaries can be added by subsequent broadcast cross-connect commands. Received data from broadcast-only TO terminations will be dead-ended as it enters DACS II.

Note: Broadcast cross-connections are not allowed from or to the 24th channel of a DS1 using the T1DM framing format.

For broadcast circuits (in contrast to two-point circuits) the A-law to μ-law conversion is turned on as a default. Therefore, all broadcast connections dealing with E1 circuits need to use the NAM keyword to turn the A-law to μ-law conversion off, if that is desired.

There is an exception. If the broadcast circuit is started as a two-way connection between E1 circuits that are later on converted to broadcast connections using the CONV keyword, then the default for E1 two-way connections governs, and there is no A-law to μ-law conversion. In fact a broadcast circuit that is started as a two-way circuit can never be operated with A-law to μ-law conversion on. If A-law to μ-law conversion is desired for the broadcast connections, then the user must provision the circuit immediately as a broadcast circuit.

Command

Nonhierarchical

[I.13002]

```
BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

Hierarchical

[I.13002]

```
BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

Completion Message

Nonhierarchical

[O.13002]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
[<tc>][ <sc>][ {NTR|LPD|CONV}][ NAM][ CUS][ RDC] COMPL
```

Hierarchical

[O.13002]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
[<tc>][ <sc>][ {NTR|LPD|CONV}][ NAM][ CUS][ RDC] COMPL
```

Denial Message

Nonhierarchical

[O.13002.01]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
[[t]wxyzzz] cc BCAST DNY
```

[O.13002.02]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
[[t]wxyzzz] COND cc DNY
```

Hierarchical

[O.13002.01]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
[opjstzzz] cc BCAST DNY
```

[O.13002.02]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
[opjstzzz] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

TO - To

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj - Channel numbers for beginning of channel range
eee, kkk - Channel numbers for end of channel range

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

For CEPT type NPCs, channel associated signaling (CAS) channel 031 (TS16) is not allowed in a range of channel numbers.

tc - Trunk conditioning

The desired cross-connected signaling and insertion word applied when a failure occurs. The signaling and the insertion word specification are entered separately, with a comma as the delimiter.

The following signaling options are allowed:

signaling	*Explanation*
TC(efghijkl,mnopqrst)	2-way, 16-state in binary.
TC(X'ab,X'cd)	2-way, 16-state in hexadecimal.
TRSP	Transparent, no signaling (that is, channel 000 in TS16).
Omitted	Defaults to TC(X'FF,X'FF) if both terminations are channel associated signaling (CAS) type. It will default to TRSP if one of the terminations is nonsignaling associated (NSA) type.

The following insertion word options are allowed:

insertion word	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
Omitted	Will default to IW X'FF.

Additional rules apply for CEPT cross-connections. See Table 1 for allowable signaling type and signaling consequence action and Table 2 for allowable cross-connected time slot consequence action.

Table 8-1. Allowable Signaling Type and Signaling Consequent Action

Primary Type in X-connect	Allowable <tc> sig. type/ type/ sig. consequent action keyword	Resulting Signaling consequent action TO	Resulting sig. Code (when used) TO	Resulting Disconnect
CAS→ CAS	TRSP	None (fixed at X´D)	Sig. fixed at X´D	X'D
	TC(--,X´tu)	CAS	X´F	X´u
	Omitted	CAS	X´F	X´F
NSA→ CAS or CAS→ NAS	TRSP/Omitted X´D in CAS direction)	None (fixed at X´D in CAS direction	Sig. fixed at direction	X´D in CAS
NSA→ NSA	TRSP/Omitted	None	Not appl.	Not appl.

Table 8-2. Allowable Cross-Connected Time slot Consequent Action

Allowable <tc> Time slot X-connect keyword	Resulting Cross-Connected Time slot Consequent Action TO	Resulting Disconnect Code (when used) TO
Omitted	X´FF	X´FF
IW X´pq*	X´FF	X´pq

* Only used as a means of providing per time slot DCC codes. If the DCC code is not used when issuing the disconnect command, then the insertion word at the time the NPC was grown is used. This growth insertion word defaults to hex "D5" if not explicitly specified at growth time.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

sc - Signaling control

This variable represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(abcd,efgh)

abcd - Time slot 16 signalling bits, From direction
efgh - Time slot 16 signalling bits, To direction

All 8 bits can be controlled independently. Control is applied by replacing each character in variable **abcd** or **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International: Inversion takes place on both the From and To-direction sides. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.

Gateway: Inversion takes place only on the international side of the connection. The effect is an inversion.

NTR - No Transmit

All tributaries are broadcast only. There is no return path to the source.

LPD - Looped.

The source loops its broadcast back to itself. All the tributaries are broadcast only. When the LPD keyword is used, the signaling conversion of the FROM side will override that of the TO side.

If neither NTR nor LPD is used, and the source (FROM abcddd[-eee]) is being established for the first time, ghijjj is a full tributary, capable of transmitting back to the source. If the source has been previously established, all tributaries are broadcast only.

CONV - Convert

CONV is given to convert a two-way, two-point circuit to a broadcast circuit.

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection.

If the range fields eee and kkk are used, the entire width of the conference tributaries must be indicated.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Multi-Point:

E1 to E1	Multi–point cross–connects have A–law to μ–law and μ–law to A–law set as a default. This conversion is performed on pure E1 multi–point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi–point cross-connect since such a connection has more quantization noise than a pure E1 two–point cross–connect. This is due to the back to back A–law to μ–law and μ–law to A–law conversions which are taking place.
E1 to DS1 or DS1 to E1	Same explanation as E1 to E1.
DS1 to DS1	Not applicable.

CUS - Customer

Indicates a customer controlled circuit

RDC - Red circuit

This keyword will cause the associated circuit to be flagged as a red circuit.

INCL - Inclusive

To connect a circuit or range of circuits including one or more circuits previously marked as Customer Controlled, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are customer controlled. INCL is not needed to connect a circuit or circuits previously marked as Red Circuits.

[t]wxy
- The 3- or 4-digit nonhierarchical NPC number involved in the denial, otherwise the same as [s]abc

opjst - Hierarchical NPC number involved in the denial, otherwise the same as uvmnp.

zzz - Channel number involved in the denial; otherwise, the same as ddd.

BCAST - Denial specific to broadcast conferences.

COND - Condition

cc - Hexadecimal condition code

cc	**st**	*Explanation*
01		Invalid range for specified NPC type
03		No RDC or CUS circuits and INCL keyword used
04		No NPC's out of service and OOS keyword used
05		Invalid use of CONV keyword
10		NPC out of service or failed
11		NPC not equipped
12		Active CCN side not IS or failed or pested or hardware OOS
13		UNIT not equipped, not in service, or failed
14		CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15		FTMI not equipped, not in service, or failed
16		FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17		TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20		Line format types are incompatible
21		Trunk conditioning is invalid
22		FMC cannot be cross-connected in this format
30		Termination is already assigned

cc	st	*Explanation*
32		Termination is under test
34		Termination is under customer control (CUS)
35		Termination is protected (RDC)
36		Termination is not connected as indicated
50		Trunk conditioning doesn't match that of conference
51		CUS flag doesn't match that of conference
52		RDC flag doesn't match that of conference
53		TO side of two-way to be converted is not an FTU NPC
54		Conversion leg is terminated
55		Width of existing two way does not match conference width
56		FROM is a two-way and no CONV specified
57		FROM is not a backbone leg
58		Specified width does not match existing conference width
59		NTR invalid since existing conference is not already NTR
5A		LPD invalid since existing conference is not already LPD
95		Range overlapping between FROM and TO or between two TOs
D3		Corresponding NPC for FROM virtual channel is not provisioned
D4		Corresponding NPC for TO virtual channel is not provisioned
D6		Invalid FROM channel number
D7		Invalid TO channel number
D9		Invalid FROM channel number range
DA		Invalid TO channel number range
DC		A loopback is active on the FROM termination
E3		Attempt to broadcast a locally switched channel
E8		SC invalid for cross-connection specified
E9		MUX or TRB invalid for cross-connection specified
EA		AIS invalid for cross-connection specified
EB		NAM invalid for cross-connection specified
EC		Invalid channel 000 cross-connection specified
ED		Invalid channel 031 cross-connection specified
70	**MCOND**	NPC invalid type
FF		Termination is in process of being rolled
E0		ETSI not equipped, not in service, or failed
4A		channel part of a TP or TG

BCON,FROM,TO,RDC,CUS,INCL,NTR,LPD,CONV

BROADCAST CONNECT

Explanation Of Command

This message connects a new broadcast circuit from a non-channelized source network processing circuit (NPC) to a single non-channelized tributary. It also adds a single non-channelized tributary to an existing conference.

This message also adds the indicated tributary and converts (CONV) a two-way, two-point circuit to a broadcast conference.

When a failure occurs or during an alarm state, the alarm-indication signal (AIS or all ones signal) is transmitted to the failed tributaries or to all tributaries if the source NPCs fail. If the failure occurs during the execution of this command, it is canceled and no broadcast circuit is set up.

Command

Nonhierarchical

[I.13021]

```
BCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]def[,RDC][,{CUS|INCL}]\
[,{NTR|LPD|CONV}]!
```

Hierarchical

[I.13021]

```
BCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}]\
[,{NTR|LPD|CONV}]!
```

Completion Message

Nonhierarchical

[O.13021]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abc,[t]def[ RDC][ {CUS|INCL]\
[ {NTR|LPD|CONV}] COMPL
```

Hierarchical

[O.13021]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnp,wxkqr[ RDC][ {CUS|INCL}]\
[ {NTR|LPD|CONV}] COMPL
```

Denial Message

Nonhierarchical

[O.13021.01]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abc,[t]def[ [t]ghi] cc <st> DNY
```

Hierarchical

[O.13021.01]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnp,wxkqr[ edfhg] cc <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From termination
TO - To termination

[s]abc - The 3- or 4-digit non-hierarchical non-channelized source (backbone) NPC number
[t]def - The 3- or 4-digit non-hierarchical non-channelized tributary NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of non-channelized source NPC
wxkqr - Hierarchical number of non-channelized tributary NPC

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Note: An NPC cannot be broadcast-connected to itself. The desired effect can be achieved by specifying the LPD option.

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

INCL - Inclusive

The INCL keyword will remove CUS marking

NTR - No transmit

No transmit or return path, the tributary is broadcast only

LPD - Looped

One signal is looped back to source

If neither the NTR nor LPD keyword is specified and the broadcast conference is being established for the first time, the tributary is a full tributary, capable of transmitting back to the source; if the source has been previously established then the tributary is broadcast only.

CONV - Convert

CONV is given to convert a two-way, two-point circuit to a broadcast circuit.

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection.

[t]ghi - The 3- or 4-digit backbone leg (bbl) or tributary NPC number causing denial

edfhg - Hierarchical number of the backbone leg or tributary NPC causing denial

st - Status

Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
01	**INERR**	Invalid range for specified NPC type
01	**RNGIE**	Invalid range for specified NPC type
03	**INERR**	No RDC or CUS circuits and INCL keyword used
05	**BCAST**	Invalid use of CONV keyword
10	**MCOND**	NPC out of service or failed
11	**MCOND**	NPC not equipped
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
30	**MCOND**	Termination is already assigned
32	**MCOND**	Termination is under test
33	**INERR**	Termination is a test port
33	**MCOND**	Termination is a test port

cc	st	*Explanation*
34	**MCOND**	Termination is under customer control (CUS)
35	**MCOND**	Termination is protected (RDC)
36		Termination is not connected as indicated
50	**INERR**	Trunk conditioning doesn't match that of conference
51	**INERR**	CUS flag doesn't match that of conference
52	**INERR**	RDC flag doesn't match that of conference
53	**INERR**	TO side of two-way to be converted is not an FTU NPC
54	**INERR**	Conversion leg is terminated
55	**INERR**	Width of existing two way does not match conference width
56	**INERR**	FROM is a two-way and no CONV specified
57	**BCAST**	FROM is not a backbone leg
58	**INERR**	Specified width does not match existing conference width
59	**INERR**	NTR invalid since existing conference is not already NTR
5A	**INERR**	LPD invalid since existing conference is not already LPD
62	**INERR**	NPC type mismatch
63	**INERR**	NPC is a channelized NPC
64	**INERR**	NPC is a non-channelized NPC
95	**MCOND**	Range overlapping between FROM and TO or between two TOs
DF	**INERR**	Unmatched channel range
70	**MCOND**	NPC invalid type
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

BCON,FROM,TOX

BROADCAST TS0 to non-TS0 CROSS-CONNECTIONS

Explanation Of Command

This command sets up a broadcast from a TS0 channel of a (FROM) NPC to up to eight non-TS0 tributary channels of (TO) receiving NPCs in the same broadcast. The FROM NPC must be grown as a PA or TH type. The broadcast connection defaults to NTR - no return leg. The broadcast connection defaults to NAM- no a-law to u-law conversion. The TS0 source defaults to NFW-non frame word mode. The broadcast connection defaults to TRSP-transparent signalling and uses a default insertion word of X'FF. This message is also used to add multiple TOs to an existing broadcast connection based on the specified FROM. Each of the TOs will be connected to the specified FROM. There will be at most eight TOs allowed in the argument list to the TO keyword.

The **FROM** field designates the source termination.

The fields following the SOURCE designation assign the tributaries to be connected to the backbone. Although a conference may have any number of tributaries (limited only by frame configuration), at most eight at a time may be added using this command.

More tributaries can be added by subsequent **BCON** commands.

If a command attempts to cross-connect a channel to the 24th channel of a DS1 provisioned with the T1DM format, the command will be denied.

Command

Nonhierarchical

[I.13051]

```
BCON:FRM xy,SEQ ww:FROM [s]abc000,\
TOX ([t]ghijjj[,[t]klmnnn,...])!
```

Hierarchical

[I.13051]

```
BCON:FRM xy,SEQ ww:FROM uvmnp000,\
TOX (wxkqrjjj [,edhfgnnn,...])!
```

Completion Message

Nonhierarchical

[O.13051]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abc000  3 LN MSG:
TOX [t]ghijjj[,[u]klmnnn,...]
NTR NAM NFW COMPL
```

Hierarchical

[O.13051]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnp000  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,...]
NTR NAM NFW COMPL
```

Denial Message

Nonhierarchical

[O.13051.01]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abc000  3 LN MSG:
TOX [t]ghijjj[,[t]klmnnn,...]
[[t]wxyzzz] cc BCAST DNY
```

[O.13051.02]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abc000  3 LN MSG:
TOX [t]ghijjj[,[t]klmnnn,...]
[[t]wxyzzz] COND cc DNY
```

Hierarchical

[O.13051.01]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnp000  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,...]
[opjstzzz] cc BCAST DNY
```

[O.13051.02]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnp000  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,...]
[opjstzzz] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

The FROM field is the source termination.

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number
[u]klm - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number
edhfg - Hierarchical TO NPC number within a range of NPC numbers

uv,wx,ed
- Unit number
m,k,h - Module number
np,qr,fg
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

000 - FROM channel number is 000
jjj - TO channel number

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Table 8-3. Allowable Cross-Connected Time slot Consequence Action

Allowable <tc> Time slot X-connect keyword	Resulting Cross-Connected Time slot Consequence Action TO	Resulting Disconnect Code (when used) TO
Omitted	X´FF	X´FF
IW X´pq*	X´FF	X´pq

* Only used as a means of providing per time slot DCC codes. If the DCC code is not used when issuing the disconnect command, then the insertion word at the time the NPC was grown is used. This growth insertion word defaults to hex "D5" if not explicitly specified at growth time.

[t]wxy - NPC number involved in the denial; otherwise, the same as [s]abc.

zzz - Channel number involved in the denial; otherwise, the same as ddd.

opjst - Hierarchical NPC number involved in the denial, otherwise the same as uvmnp

BCAST - Denial specific to broadcast conferences

cc - Hexadecimal condition code

cc	**st**	*Explanation*
01		Invalid range for specified NPC type
03		No RDC or CUS circuits and INCL keyword used
04		No NPC's out of service and OOS keyword used
05		Invalid use of CONV keyword
10		NPC out of service or failed
11		NPC not equipped
12		Active CCN side not IS or failed or pested or hardware OOS
13		UNIT not equipped, not in service, or failed
14		CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15		FTMI not equipped, not in service, or failed
16		FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17		TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20		Line format types are incompatible
21		Trunk conditioning is invalid
22		FMC cannot be cross-connected in this format

cc	st	*Explanation*
30		Termination is already assigned
32		Termination is under test
33		Termination is a test port
34		Termination is under customer control (CUS)
35		Termination is protected (RDC)
36		Termination is not connected as indicated
50		Trunk conditioning doesn't match that of conference
51		CUS flag doesn't match that of conference
52		RDC flag doesn't match that of conference
53		TO side of two-way to be converted is not an FTU NPC
54		Conversion leg is terminated
55		Width of existing two way does not match conference width
56		FROM is a two-way and no CONV specified
57		FROM is not a backbone leg
58		Specified width does not match existing conference width
59		NTR invalid since existing conference is not already NTR
5A		LPD invalid since existing conference is not already LPD
25		Invalid FPI value
95		Range overlapping between FROM and TO or between two TOs
D3		Corresponding NPC for FROM virtual channel is not provisioned
D4		Corresponding NPC for TO virtual channel is not provisioned
D6		Invalid FROM channel number
D7		Invalid TO channel number
D9		Invalid FROM channel number range
DA		Invalid TO channel number range
DC		A loopback is active on the FROM termination
E3		Attempt to broadcast a locally switched channel
E8		SC invalid for cross-connection specified
E9		MUX or TRB invalid for cross-connection specified
EA		AIS invalid for cross-connection specified
EB		NAM invalid for cross-connection specified
EC		Invalid channel 000 cross-connection specified
ED		Invalid channel 031 cross-connection specified
70	**MCOND**	NPC invalid type
FF		Termination is in process of being rolled
E0		ETSI not equipped, not in service, or failed
9D		NPC containing channel 000 is invalid type.

BCON,FROM,TOX,NTR,LPD,CONV,NAM,CUS

BROADCAST CROSS-CONNECTIONS

Explanation Of Command

This command sets up a broadcast from a source (FROM) NPC to up to eight tributary (TO) receiving NPCs in the same broadcast. This message is also used to add multiple TOs to an existing broadcast connection based on the specified FROM. Each of the TOs will be connected to the specified FROM. There will be at most eight TOs allowed in the argument list to the TO keyword. Note that no channel range can be specified on the TO arguments.

The channel range from 001 to 031 channels is determined by the range given for the FROM.

The **FROM** field designates the source termination. The optional range field **[-eee]** indicates the width of the conference backbone

The allowable width ranges from 001 to 031 channels and must be the same as the width of the existing conference backbone (if any).

The fields following the SOURCE designation assign the tributaries to be connected to the backbone. Although a conference may have any number of tributaries (limited only by frame configuration), at most eight at a time may be added using this command.

More tributaries can be added by subsequent **BCON** commands. Each specified tributary will have the same range width as the backbone.

If a command attempts to cross-connect a channel to the 24th channel of a DS1 provisioned with the T1DM format, the command will be denied.

For broadcast circuits (in contrast to two-point circuits) the A-law to μ-law conversion is turned on as a default. Therefore, all broadcast connections dealing with E1 circuits need to use the NAM keyword to turn the A-law to μ-law conversion off, if that is desired.

There is an exception. If the broadcast circuit is started as a two-way connection between E1 circuits that are later on converted to broadcast connections using the CONV keyword, then the default for E1 two-way connections governs, and there is no A-law to μ-law conversion. In fact a broadcast circuit that is started as a two-way circuit can never be operated with A-law to μ-law conversion on. If A-law to μ-law conversion is desired for the broadcast connections, then the user must provision the circuit immediately as a broadcast circuit.

Command

Nonhierarchical

[I.13001]

```
BCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\
TOX ([t]ghijjj[,[t]klmnnn,...])[,<tc>][,<sc>]\
[,{NTR|LPD|CONV}][,NAM][,{CUS|INCL}][,RDC]!
```

Hierarchical

[I.13001]

```
BCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\
TOX (wxkqrjjj [,edhfgnnn,...])[,<tc>][,<sc>]\
[,{NTR|LPD|CONV}] [,NAM][,{CUS|INCL}][,RDC]!
```

Completion Message

Nonhierarchical

[O.13001]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee]  3 LN MSG:
TOX [t]ghijjj[,[u]klmnnn,...]
[<tc>][<sc>][ {NTR|LPD|CONV}][ {CUS|INCL}][ RDC] COMPL
```

Hierarchical

[O.13001]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee]  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,...]
[<tc>][<sc>][ {NTR|LPD|CONV}][ {CUS|INCL}][ RDC] COMPL
```

Denial Message

Nonhierarchical

[O.13001.01]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee]  3 LN MSG:
TOX [t]ghijjj[,[t]klmnnn,...]
[[t]wxyzzz] cc BCAST DNY
```

[O.13001.02]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abcddd[-eee]  3 LN MSG:
TOX [t]ghijjj[,[t]klmnnn,...]
[[t]wxyzzz] COND cc DNY
```

Hierarchical

[O.13001.01]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee]  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,...]
[opjstzzz] cc BCAST DNY
```

[O.13001.02]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnpddd[-eee]  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,...]
[opjstzzz] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

The FROM field is the source termination.

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number
[u]klm - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number
edhfg - Hierarchical TO NPC number within a range of NPC numbers

uv,wx,ed
- Unit number
m,k,h - Module number
np,qr,fg
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel number
eee - FROM channel number denoting the end of the range
jjj - TO channel number
nnn - TO channel number denoting the end of the range

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

The optional range field eee indicates the width of the conference backbone. The range field must not be repeated on the tributary legs' specification. A termination cannot be broadcast connected to itself. The desired effect can be reached by specifying the LPD option. If this message is used to add tributary legs, the width must be the same as the width of the existing conference backbone. However, a conference can have an unlimited number of tributaries, limited only by the frame configuration. More tributaries can be added by subsequent commands.

For CEPT type NPCs, CAS channel 031 (TS16) is not allowed in a range of channel numbers.

tc - Trunk conditioning

tc represents the desired cross-connected signaling and insertion word applied when a failure occurs.
The signaling and the insertion word specification are entered separately, with a comma as the delimiter,
which have the following form:

<tc_sig>,<tc_iw>

The following signaling options are allowed:

tc_sig	*Explanation*
TC(ijkl,mnop)	2-way, 4-state signaling in binary. For ESF type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe.
TC(efghijkl,mnopqrst)	2-way, 16-state in binary. Only valid for ESF and CEPT framing formats.
TC(X'ab,X'cd)	2-way, 16-state in hexadecimal. Only valid for ESF and CEPT framing formats.
TRSP	Transparent, no signaling.

The following insertion word options are allowed:

tc_iw	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
TRB	Standard trouble code, equal to IW X'E4, not valid for CEPT.
MUX	MUX out of sync code, equal to IW X'1A, not valid for CEPT.
Omitted	Only valid for CEPT, will default to IW-X-FF.

Additional rules apply for CEPT cross-connections. See the following tables.

Table 8-4. Allowable Signaling Type and Signaling Consequent Action

Primary Type in Cross-connect	Allowable <tc> Signaling Specification	Resulting Signaling Code FROM, TO	Resulting Signaling Consequent Action (Hardware) FROM, TO	Resulting Signaling Consequent Action (Firmware) FROM, TO	Resulting Disconnect (When DCC used in disconnect command)
CAS ⟷ CAS	**TRSP**	Fixed at **X'D**	Fixed at **X'D**	Fixed at **X'D**	**X'D**
	TC-X'uv,X'yz*	CAS (Passed Through)	**X'F**	**X'uv,X'yz**	**X'v,X'z**
	Omitted	CAS (Passed Through)	**X'F**	**X'F**	**X'F**
NSA ⟷ CAS	**TRSP**/Omitted	None (Fixed at **X'D** in CAS direction)	Fixed at **X'D** in CAS direction	Fixed at **X'D** in CAS direction	**X'D** in CAS direction
NSA ⟷ NSA	**TRSP**/Omitted	Not appl.	Not appl.	Not appl.	Not appl.

* For TCON and TCNT TC is X'uv,X'yz.
For OCON, OCNT and BCON TC is --,X'yz.

Table 8-5. Allowable Cross-Connected Time slot Consequence Action

Allowable <tc> Time slot X-connect keyword	Resulting Cross-Connected Time slot Consequence Action TO	Resulting Disconnect Code (when used) TO
Omitted	X´FF	X´FF
IW X´pq*	X´FF	X´pq

* Only used as a means of providing per time slot DCC codes. If the DCC code is not used when issuing the disconnect command, then the insertion word at the time the NPC was grown is used. This growth insertion word defaults to hex "D5" if not explicitly specified at growth time.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

sc - Signaling control

This variable represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(abcd,efgh)

abcd - Time slot 16 signalling bits, From direction
efgh - Time slot 16 signalling bits, To direction

All 8 bits can be controlled independently. Control is applied by replacing each character in variable **abcd** or **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International: Inversion takes place on both the From and To-direction sides. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.

Gateway: Inversion takes place only on the international side of the connection. The effect is an inversion.

NTR - No transmit

All tributaries are broadcast only. There is no return path to the source.

LPD - Looped

The source loops its broadcast back to itself. All the tributaries are broadcast only.

When the LPD keyword is used, the signaling conversion of the FROM side will override that of the TO side.

If neither NTR nor LPD is used, and the source (FROM abcddd[-eee]) is being established for the first time, ghijjj is a full tributary, capable of transmitting back to the source. If the source has been previously established, all tributaries are broadcast only.

CONV - Convert

CONV is given to convert a two-way, two-point circuit to a broadcast circuit.

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection. Additional legs may be added simultaneously by specifying additional terminations.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Multi-Point:

E1 to E1	Multi–point cross–connects have A–law to μ–law and μ–law to A–law set as a default. This conversion is performed on pure E1 multi–point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi–point cross-connect since such a connection has more quantization noise than a pure E1 two–point cross–connect. This is due to the back to back A–law to μ–law and μ–law to A–law conversions which are taking place.
E1 to DS1 or DS1 to E1	Same explanation as E1 to E1.
DS1 to DS1	Not applicable.

CUS - Customer

Indicates a Customer-controlled Circuit

RDC - Red circuit

This keyword will cause the associated circuits to be flagged as red circuits.

INCL - Inclusive

To connect a circuit or range of circuits including one or more circuits previously marked as customer controlled, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are customer controlled. INCL is not needed to connect a circuit or circuits previously marked as red circuits.

[t]wxy - NPC number involved in the denial; otherwise, the same as [s]abc.

zzz - Channel number involved in the denial; otherwise, the same as ddd.

opjst - Hierarchical NPC number involved in the denial, otherwise the same as uvmnp

BCAST - Denial specific to broadcast conferences

cc - Hexadecimal condition code

cc	st	*Explanation*
01		Invalid range for specified NPC type
03		No RDC or CUS circuits and INCL keyword used
04		No NPC's out of service and OOS keyword used
05		Invalid use of CONV keyword
10		NPC out of service or failed
11		NPC not equipped
12		Active CCN side not IS or failed or pested or hardware OOS
13		UNIT not equipped, not in service, or failed
14		CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15		FTMI not equipped, not in service, or failed
16		FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17		TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20		Line format types are incompatible
21		Trunk conditioning is invalid
22		FMC cannot be cross-connected in this format
30		Termination is already assigned
32		Termination is under test
34		Termination is under customer control (CUS)
35		Termination is protected (RDC)
36		Termination is not connected as indicated
50		Trunk conditioning doesn't match that of conference
51		CUS flag doesn't match that of conference
52		RDC flag doesn't match that of conference
53		TO side of two-way to be converted is not an FTU NPC
54		Conversion leg is terminated

cc	st	*Explanation*
55		Width of existing two way does not match conference width
56		FROM is a two-way and no CONV specified
57		FROM is not a backbone leg
58		Specified width does not match existing conference width
59		NTR invalid since existing conference is not already NTR
5A		LPD invalid since existing conference is not already LPD
95		Range overlapping between FROM and TO or between two TOs
D3		Corresponding NPC for FROM virtual channel is not provisioned
D4		Corresponding NPC for TO virtual channel is not provisioned
D6		Invalid FROM channel number
D7		Invalid TO channel number
D9		Invalid FROM channel number range
DA		Invalid TO channel number range
DC		A loopback is active on the FROM termination
E3		Attempt to broadcast a locally switched channel
E8		SC invalid for cross-connection specified
E9		MUX or TRB invalid for cross-connection specified
EA		AIS invalid for cross-connection specified
EB		NAM invalid for cross-connection specified
EC		Invalid channel 000 cross-connection specified
ED		Invalid channel 031 cross-connection specified
70	**MCOND**	NPC invalid type
FF		Termination is in process of being rolled
E0		ETSI not equipped, not in service, or failed
4A		channel part of a TP or TG

BCON,FROM,TOX,RDC,CUS,INCL,NTR,LPD

BROADCAST CONNECT

Explanation Of Command

This message cross connects a new broadcast circuit from a non-channelized source network processing circuit (NPC) to up to eight non-channelied tributaries. The NPCs can belong to different units. This message can be used to add up to eight non-channelized tributaries to an existing conference.

This message is also used to add the indicated tributaries and convert (CONV) a two-way, two-point circuit to a broadcast circuit. When a failure occurs, or during an alarm state, the alarm-indication signal (AIS-all ones) is transmitted to the failed tributaries or all tributaries if the source NPCs fail. If the failure occurs during the execution of this command, the message is canceled and no broadcast circuit is set up.

Command

Nonhierarchical

[I.13011]

```
BCON:FRM xy,SEQ ww:FROM [s]abc,TOX ([t]def[,[u]ghi]\
[,[v]jkl][...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```

Hierarchical

[I.13011]

```
BCON:FRM xy,SEQ ww:FROM uvmnp,TOX (wxkqr[,edfhg]\
[,stmno][,...])[,RDC][,{CUS|INCL}][,{NTR|LPD|CONV}]!
```

Completion Message

Nonhierarchical

[O.13011]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abc  3 LN MSG:
TOX [t]def[,[u]ghi][,[v]jkl][...]
[RDC][ CUS][ {NTR|LPD|CONV}] COMPL
```

Hierarchical

[O.13011]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnp  3 LN MSG:
TOX wxkqr[,edfhg][,stmno][...]
[RDC][ CUS][ {NTR|LPD|CONV}] COMPL
```

Denial Message

Nonhierarchical

[O.13011.01]

```
M hh:mm:ss xy,ww n[vv] BCON [s]abc  3 LN MSG:
TOX [t]def[,[u]ghi][,[v]jkl][...]
[[t]qrs] cc <st> DNY
```

Hierarchical

[O.13011.01]

```
M hh:mm:ss xy,ww n[vv] BCON uvmnp  3 LN MSG:
TOX wxkqr[,edfhg][,stmno][...]
[opqrs] cc <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

Note: An NPC cannot be broadcast-connected to itself. The desired effect can be achieved by specifying the LPD option.

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]def - The 3- or 4-digit nonhierarchical TO NPC number
[u]ghi - Same definition as [t]def
[v]jkl - Same definition as [t]def
[t]mno - Same definition as [t]def

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of non-channelized source NPC
wxkqr - Hierarchical tributary NPC number.
edfhg - Same definition as wxkqr
stmno - Same definition as wxkqr

uv,wx,ed,st - Unit number
m,k,f - Module number
np,qr,hg,no - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

INCL - Inclusive

Option will remove CUS marking

NTR - No transmit

No transmit or return path, all tributaries are broadcast only

LPD - Looped

One signal is looped back to source

If neither the NTR nor the LPD keyword is specified and the broadcast conference is being established for the first time, the first tributary is a full tributary, capable of transmitting back to the source; if the source has been previously established then all tributaries are broadcast only.

CONV - Convert

Convert a two-way, two-point circuit to a broadcast circuit by adding the indicated tributaries

The first termination (NPC and channel) listed in the input message is the FROM (or source) termination in the current two-point connection. The termination next following in the command is the full tributary leg to be added in the conversion to a broadcast connection. Additional legs may be added simultaneously by specifying additional terminations.

[t]qrs - The 3- or 4-digit backbone leg (bbl) or tributary NPC involved in denial

opqrs - Hierarchical number of the backbone leg or tributary NPC involved in denial.

st - Status

Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
01	**INERR**	Invalid range for specified NPC type
03	**INERR**	No RDC or CUS circuits and INCL keyword used
05	**BCAST**	Invalid use of CONV keyword
10	**MCOND**	NPC out of service or failed
11	**MCOND**	NPC not equipped
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
30	**MCOND**	Termination is already assigned
32	**MCOND**	Termination is under test

cc	st	*Explanation*
33	**INERR**	Termination is a test port
34	**MCOND**	Termination is under customer control (CUS)
35	**MCOND**	Termination is protected (RDC)
36		Termination is not connected as indicated
50	**INERR**	Trunk conditioning doesn't match that of conference
51	**INERR**	CUS flag doesn't match that of conference
52	**INERR**	RDC flag doesn't match that of conference
53	**INERR**	TO side of two-way to be converted is not an FTU NPC
54	**INERR**	Conversion leg is terminated
55	**INERR**	Width of existing two way does not match conference width
56	**INERR**	FROM is a two-way and no CONV specified
57	**BCAST**	FROM is not a backbone leg
58	**INERR**	Specified width does not match existing conference width
59	**INERR**	NTR invalid since existing conference is not already NTR
5A	**INERR**	LPD invalid since existing conference is not already LPD
62	**INERR**	NPC type mismatch
63	**INERR**	NPC is a channelized NPC
64	**INERR**	NPC is a non-channelized NPC
95	**MCOND**	Range overlapping between FROM and TO or between two TOs
DF	**INERR**	Unmatched channel range
70	**MCOND**	NPC invalid type
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

BDIS,FROM,TO,CONV,OOS,DCC,INCL

BROADCAST DISCONNECTIONS

Explanation Of Command

This command requests the disconnection of a broadcast circuit cross-connection. It can be used to disconnect any one-way tributary from a broadcast circuit, or the full tributary once all of the one-way tributaries have been disconnected.

Command

Nonhierarchical

[I.15201]

```
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,CONV][,OOS][,DCC][,INCL]!
```

Hierarchical

[I.15201]

```
BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,CONV][,OOS][,DCC][,INCL]!
```

Completion Message

Nonhierarchical

[O.15201]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL
```

Hierarchical

[O.15201]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL
```

Denial Message

Nonhierarchical

[O.15201.01]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ [t]wxyzzz] cc BCAST DNY
```

[O.15201.02]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ [t]wxyzzz] COND cc DNY
```

Hierarchical

[O.15201.01]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ edhfgzzz] cc BCAST DNY
```

[O.15201.02]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ edhfgzzz] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx- Unit number
m,k- Module number
np,qr- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd,jjj
- Channel number for beginning of channel range

eee,kkk
- Channel number for end of channel range.

Without the optional CONV keyword, ddd and jjj must be the lowest numbered channels in the range of channels that make up the broadcast circuit. If the range fields [-eee] and [-kkk] are used, the entire width of the conference tributaries must be indicated.

000-030CEPT type NPCs grown as CAS
000-031CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

CONV - Convert

The CONV keyword is given to disconnect the specified one-way tributary from the broadcast circuit and convert the circuit to a two-way, two-point circuit. For a command with this option to succeed, only the broadcast source and the full tributary leg must remain on the circuit following the disconnection of the specified one-way tributary. That is, this option will be denied if the user attempts to disconnect the full tributary rather than a one-way tributary, or if any other one-way tributaries remain on the broadcast circuit following the disconnection of the one-way tributary specified in the command.

OOS - Out-of-service

An OOS disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied.

INCL - Inclusive

Use the optional INCL keyword to disconnect a circuit or range of circuits including one or more circuits marked as a red circuit or under customer control.
If this option is not used, the message will be denied if any circuits in the range are red circuits or customer controlled.

DCC - Disconnect code

If the DCC keyword is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field used to connect the circuit. If the DCC option is not used, the disconnect code specified in the GRTH::NPC command is used.

[t]wxy - The 3- or 4-digit nonhierarchical NPC number that caused the denial, with the same valid values as [s]abc.

edhfg - Hierarchical NPC number that caused the denial

zzz - Channel number that caused the denial, with the same valid value as ddd.

BRDIS - Broadcast disconnect

The BRDIS keyword indicates that the conference is entirely disconnected (no tributaries remain).

CUS - Customer

Customer-controlled circuit

CUS indicates a customer controlled circuit.

RDC - Red circuit

Indicates that the disconnection was performed on a red circuit. This implies that the INCL keyword was given in the input message. If the disconnection was given on more than one circuit, at least one of them was a red circuit or under customer control.

BCAST - Broadcast

cc - Hexadecimal condition code

cc	*Explanation*
01	Invalid range for specified NPC type
03	No RDC or CUS circuits and INCL keyword used
04	No NPC's out of service and OOS keyword used
05	Invalid use of CONV keyword
10	NPC out of service or failed
11	NPC not equipped
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
32	Termination is under test
34	Termination is under customer control (CUS)
35	Termination is protected (RDC)
53	TO side of two-way to be converted is not an FTU NPC
55	Width of existing two way does not match conference width
57	FROM is not a backbone leg
58	Specified width does not match existing conference width
59	NTR invalid since existing conference is not already NTR
5A	LPD invalid since existing conference is not already LPD
5B	TO is not a leg of this/any conference
5C	Can't disconnect return leg unless entire conference disconnected
95	Range overlapping between FROM and TO or between two TOs
D3	Corresponding NPC for FROM virtual channel is not provisioned
D4	Corresponding NPC for TO virtual channel is not provisioned
D9	Invalid FROM channel number range
DA	Invalid TO channel number range
DC	A loopback is active on the FROM termination

cc	*Explanation*
FF	Termination is in process of being rolled
E0	ETSI not equipped, not in service, or failed

BDIS,FROM,TO,OOS,INCL,CONV

BROADCAST DISCONNECTION

Explanation Of Command

This message disconnects a single non-channelized tributary network processing circuit from a non-channelized digital signal broadcast circuit. It also disconnects a single tributary and converts a broadcast conference to a two-way, two-point circuit.

When the circuit is disconnected, the idle code (AIS) is transmitted.

Command

Nonhierarchical

[I.15231]

```
BDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,CONV]!
```

Hierarchical

[I.15231]

```
BDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,CONV]!
```

Completion Message

Nonhierarchical

[O.15231]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abc,[t]ghi[ OOS][ CUS]\
[ RDC][ BRDIS][ CONV] COMPL
```

Hierarchical

[O.15231]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnp,wxkqr[ OOS][ CUS][ RDC]\
[ BRDIS][ CONV] COMPL
```

Denial Message

Nonhierarchical

[O.15231.01]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abc,[t]ghi[ [t]qrs] cc <st> \
DNY
```

Hierarchical

[O.15231.01]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnp,wxkqr[ uvqrs] cc <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit non-hierarchical non-channelized source(backbone) NPC number

[t]ghi - The 3- or 4-digit non-hierarchical non-channelized tributary NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical non-channelized source (backbone) NPC number

wxkqr - Hierarchical non-channelized tributary NPC number

uv,wx- Unit number
m,k- Module number
np,qr- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

OOS - Out-of-service keyword may be specified if one or more of the backbone or tributary NPCs is out of service

INCL - Inclusive keyword required for Customer-controlled (CUS) or Red circuits

CONV - Convert circuit to a two-way, two-point circuit by disconnecting the indicated tributary; as long as more than two tributaries remain, or no return path exists, the option is denied.

If the indicated tributary is a full tributary, it can be disconnected only when there are no other tributaries.

[t]qrs - The 3- or 4-digit nonhierarchical NPC number causing denial

uvqrs - Hierarchical NPC number causing denial

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

BRDIS - Broadcast conference completely disconnected

st - Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
01	INERR	Invalid range for specified NPC type
01	RNGIE	Invalid range for specified NPC type
03	INERR	No RDC or CUS circuits and INCL keyword used
04	INERR	No NPC's out of service and OOS keyword used
05	BCAST	Invalid use of CONV keyword
10	MCOND	NPC out of service or failed
11	MCOND	NPC not equipped
12	MCOND	Active CCN side not IS or failed or pested or hardware OOS
13	MCOND	UNIT not equipped, not in service, or failed
15	MCOND	FTMI not equipped, not in service, or failed
16	MCOND	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
32	MCOND	Termination is under test
33	INERR	Termination is a test port
33	MCOND	Termination is a test port
34	MCOND	Termination is under customer control (CUS)
35	MCOND	Termination is protected (RDC)
51	BCAST	CUS flag doesn't match that of conference
52	BCAST	RDC flag doesn't match that of conference
57	BCAST	FROM is not a backbone leg
58	INERR	Specified width does not match existing conference width
5B	BCAST	TO is not a leg of this/any conference
5C	BCAST	Can't disconnect return leg unless entire conference disconnected
62	INERR	NPC type mismatch
63	INERR	NPC is a channelized NPC
64	INERR	NPC is a non-channelized NPC
95	MCOND	Range overlapping between FROM and TO or between two TOs
DF	INERR	Unmatched channel range
70	MCOND	NPC invalid type
FF	ROLL	Termination is in process of being rolled
E0	MCOND	ETSI not equipped, not in service, or failed

BDIS,FROM,TOX,CONV,OOS,DCC,INCL

BROADCAST DISCONNECTION

Explanation Of Command

This command requests the disconnection of up to eight tributary legs from the source of a broadcast cross-connection circuit.

The **FROM** field designates the source termination. The optional range field **[-eee]** indicates the width of the conference backbone. When disconnecting a TS0 to non-TS0 broadcast the width of the conference is one. The allowable width ranges from 001 to 031 channels and must be the same as the width of the existing conference backbone (if any).

The fields in the TO end designate the tributaries to be connected to the backbone. Although a conference may have any number of tributaries (limited only by the frame configuration), at most eight at a time may be disconnected using this command. More tributaries can be disconnected by subsequent broadcast disconnect commands.

Command

Nonhierarchical

[I.15211]

```
BDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],\
TOX ([t]ghijjj[,[u]klmnnn . . .])[,CONV][,OOS][,DCC][,INCL]!
```

Hierarchical

[I.15211]

```
BDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],\
TOX (wxkqrjjj[,edhfgnnn, . . .])[,CONV][,OOS][,DCC][,INCL]!
```

Completion Message

Nonhierarchical

[O.15211]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee]  3 LN MSG:
TOX [t]ghijjj[,[u]klmnnn,. . .]
[BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL
```

Hierarchical

[O.15211]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee]  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,. . .]
[BRDIS][ CONV][ OOS][ CUS][ RDC][ DCC] COMPL
```

Denial Message

Nonhierarchical

[O.15211.01]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee]  3 LN MSG:
TOX [t]ghijjj[,[u]klmnnn,. . .]
[[t]wxyzzz] COND cc BCAST DNY
```

[O.15211.02]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abcddd[-eee]  3 LN MSG:
TOX [t]ghijjj[,[u]klmnnn,. . .]
[[t]wxyzzz] COND cc DNY
```

Hierarchical

[O.15211.01]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee]  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,. . .]
[opjstzzz] COND cc BCAST DNY
```

[O.15211.02]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnpddd[-eee]  3 LN MSG:
TOX wxkqrjjj[,edhfgnnn,. . .]
[opjstzzz] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number designating the source termination

[t]ghi,[u]klm
- The 3- or 4-digit nonhierarchical tributary NPC numbers

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number designating the source termination
wxkqr - Hierarchical FROM NPC number designating the source termination

edhfg - Hierarchical tributary NPC numbers

uv,wx,ed
- Unit number
m,k,h- Module number
np,qr,fg
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel number
eee - FROM channel number denoting end of width

The optional range field [-eee] or [&&-eee] indicates the width of the conference backbone. Note that a range may be specified for the source only.

jjj - Channel number of tributary legs
nnn - Channel number of the last tributary leg of the range

Without the optional CONV keyword, ddd and jjj must be the lowest numbered channels in the range of channels that make up the broadcast circuit. If the range field [-eee] is used, the entire width of the conference tributaries must be indicated.

000-030CEPT type NPCs grown as CAS
000-031CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

NOTE: Channel 000 of a CEPT NPC(TS0) can be BCONed to a non-TS0 of a CEPT NPC.

FROM - From

The FROM field designates the source termination.

The fields following the TOX keyword (or the subsequent channel numbers in MML) designate the tributaries that are connected to the backbone.

Although a conference may have any number of tributaries (limited only by frame configuration), at most eight at a time may be disconnected using this command. More tributaries can be disconnected by subsequent commands.

CONV - Convert

The CONV keyword is given to disconnect the specified one-way tributaries from the broadcast circuit and convert the circuit to a two-way, two-point circuit. For a command with this option to succeed, only the broadcast source and the full tributary leg must remain on the circuit following the disconnection of the specified one-way tributaries. That is, this option will be denied if the user attempts to disconnect the full tributary rather than a one-way tributary, or if any other one-way tributaries remain on the broadcast circuit following the disconnection of the one-way tributaries specified in the command.

OOS - Out-of-service

An OOS disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied.

DCC - Disconnect code

If the DCC keyword is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field used to connect the circuit. If the DCC option is not used, the disconnect code specified in the GRTH::NPC command is used.

INCL - Inclusive

To disconnect a circuit or range of circuits including one or more circuits marked as a red circuit or under customer control, use the INCL option. If this option is not used, the message will be denied if any circuits in the range are red circuits or customer controlled.

[t]wxy - The 3- or 4-digit nonhierarchical NPC number involved in the denial. (with the same valid value as [s]abc.)

opjst - Hierarchical NPC number involved in the denial

zzz - Channel number involved in the denial. Otherwise the same as ddd.

BCAST - Broadcast

cc - Hexadecimal condition code

cc	*Explanation*
01	Invalid range for specified NPC type
03	No RDC or CUS circuits and INCL keyword used
04	No NPC's out of service and OOS keyword used
05	Invalid use of CONV keyword
10	NPC out of service or failed
11	NPC not equipped
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
32	Termination is under test
34	Termination is under customer control (CUS)
35	Termination is protected (RDC)
53	TO side of two-way to be converted is not an FTU NPC
55	Width of existing two way does not match conference width
57	FROM is not a backbone leg
58	Specified width does not match existing conference width
59	NTR invalid since existing conference is not already NTR
5A	LPD invalid since existing conference is not already LPD
5B	TO is not a leg of this/any conference
5C	Can't disconnect return leg unless entire conference disconnected
95	Range overlapping between FROM and TO or between two TOs
D3	Corresponding NPC for FROM virtual channel is not provisioned
D4	Corresponding NPC for TO virtual channel is not provisioned
D6	Invalid FROM channel number
D7	Invalid TO channel number
D9	Invalid FROM channel number range
DA	Invalid TO channel number range
DC	A loopback is active on the FROM termination
EC	Invalid channel 000 cross-connection specified
ED	Invalid channel 031 cross-connection specified
FF	Termination is in process of being rolled
E0	ETSI not equipped, not in service, or failed

BDIS,FROM,TOX,OOS,INCL,CONV

BROADCAST DISCONNECT

Explanation Of Command

This message disconnects upto eight non-channelized tributaries from a non-channelized source network processing circuit (NPC). The NPCs can be in different units. This message also disconnects tributaries and can convert a broadcast conference to a two-way, two-point circuit. When the circuit is disconnected, the idle code (AIS) is transmitted.

Command

Nonhierarchical

[I.15221]

```
BDIS:FRM xy,SEQ ww:FROM [s]abc,\
TOX ([t]ghi[,[u]jkl][,[v]mno][...])[,OOS][,INCL][,CONV]!
```

Hierarchical

[I.15221]

```
BDIS:FRM xy,SEQ ww:FROM uvmnp,\
TOX (wxkqr[,edhfg][,opqrs][...])[,OOS][,INCL][,CONV]!
```

Completion Message

Nonhierarchical

[O.15221]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abc  3 LN MSG:
TOX [t]ghi[,[u]jkl][,[v]mno][...]
[OOS ][CUS ][RDC ][BRDIS ][CONV ]COMPL
```

Hierarchical

[O.15221]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnp  3 LN MSG:
TOX wxkqr[,edhfg][,opqrs][...]
[OOS ][CUS ][RDC ][BRDIS ][CONV ]COMPL
```

Denial Message

Nonhierarchical

[O.15221.01]

```
M hh:mm:ss xy,ww n[vv] BDIS [s]abc  3 LN MSG:
TOX [t]ghi[,[u]jkl][,[v]mno][...]
[[t]qrs] cc <st> DNY
```

Hierarchical

[O.15221.01]

```
M hh:mm:ss xy,ww n[vv] BDIS uvmnp  3 LN MSG:
TOX wxkqr[,edhfg][,opqrs][...]
[uvjkl] cc <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit non-hierarchical non-channelized Source(backbone) NPC number

[t]ghi - The 3- or 4-digit non-hierarchical non-channelized tributary NPC number

[u]jkl - Explained for [t]ghi

[v]mno - Explained for [t]ghi

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of non-channelized source NPC

wxkqr - Hierarchical NPC number of non-channelized tributary

edhfg - Hierarchical number of NPC

opqrs - Hierarchical number of tributary

uv,wx,ed,op
- Unit number

m,x,h,q
- Module number

np,qr,fg,rs
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

OOS - Out-of-service keyword may be specified if one or more of the backbone or tributary NPCs is out of service

INCL - Inclusive keyword required for customer-controlled or Red circuits

CONV - Convert circuit to a two-way, two-point circuit by disconnecting the indicated tributaries; as long as more than two tributaries remain, or if no return path exists, the option is denied.

If the broadcast circuit has one full tributary, it can be disconnected only when there are no other tributaries.

[t]qrs - The 3- or 4-digit nonhierarchical NPC number causing denial

uvjkl - Hierarchical NPC number causing denial

BRDIS - Broadcast conference completely disconnected

st - Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
01	**RNGIE**	Invalid range for specified NPC type
03	**INERR**	No RDC or CUS circuits and INCL keyword used
04	**INERR**	No NPC's out of service and OOS keyword used
05	**BCAST**	Invalid use of CONV keyword
10	**MCOND**	NPC out of service or failed
11	**MCOND**	NPC not equipped
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
32	**MCOND**	Termination is under test
33	**MCOND**	Termination is a test port
34	**MCOND**	Termination is under customer control (CUS)
35	**MCOND**	Termination is protected (RDC)
51	**BCAST**	CUS flag doesn't match that of conference
52	**BCAST**	RDC flag doesn't match that of conference
57	**BCAST**	FROM is not a backbone leg
58	**INERR**	Specified width does not match existing conference width
5B	**BCAST**	TO is not a leg of this/any conference
5C	**BCAST**	Can't disconnect return leg unless entire conference disconnected
62	**INERR**	NPC type mismatch
63	**INERR**	NPC is a channelized NPC
64	**INERR**	NPC is a non-channelized NPC
95	**MCOND**	Range overlapping between FROM and TO or between two TOs
DF	**INERR**	Unmatched channel range
70	**MCOND**	NPC invalid type
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

BOOT,FAILED,BAD,DEVICE

BOOT FAILED

Explanation Of Command

This automonous output message reports that a system boot has failed while entering the RST::MC command (Message 34001).

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.65053]

```
**hh:mm:ss xy,ww   BOOT FAILED - BAD BOOT DEVICE
```

Explanation Of Parameters

BOOT,FROM,PMEM,FAILED,ATTEMPTING,TO

STARTUP

Explanation Of Command

If the Primary memory Card (PMEM) had a corrupted generic load or the generic is absent from the PMEM, the bootstrap loader will display this message.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01242]

```
BOOT FROM PMEM FAILED
ATTEMPTING TO BOOT FROM SMEM
```

Explanation Of Parameters

BOOT - Boot.

PMEM - Primary memory card.

SMEM - Secondary memory card.

BOOT,FROM,PMEM,SMEM

STARTUP

Explanation Of Command

The main processor has successfully loaded the boot program from either the Primary Memory (PMEM) or the Secondary Memory (SMEM).

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01241]

BOOT FROM {PMEM|SMEM}

Explanation Of Parameters

BOOT - Boot

PMEM - Primary memory.

FROM - From

SMEM - Secondary memory.

BX2,STF,ATP

BUS EXTENDER STARTUP

Explanation Of Command

This message indicates that the communications interface bus extender has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or all tests passed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01271]

BX2 {STF|ATP}

Explanation Of Parameters

BX2 - Bus extender

STF - Some tests failed

ATP - All tests passed

For ATP no action is required.

CBOFL — CTST

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9

CBOFL — CTST

This section documents the commands **CBOFL** through **CTST**.

CBOFL,SIDE,EOM

C-BIT BUFFER OVERFLOW

Explanation Of Command

This message is an autonomous report of a buffer overflow condition on a c-bit processing circuit pack. Only network processing circuits reporting buffer overflow are printed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65221]

```
I hh:mm:ss xy,ww   CBOFL abc [SIDE s]  5 LN MSG:
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno \
EOM

I hh:mm:ss xy,ww   CBOFL abc [SIDE s]  5 LN MSG:
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno \
EOM

I hh:mm:ss xy,ww   CBOFL abc [SIDE s]  3 LN MSG:
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno
ghi abcdefghijklmno ghi abcdefghijklmno ghi abcdefghijklmno \
COMPL
```

Hierarchical

[O.65221]

```
I hh:mm:ss xy,ww   CBOFL uvmnp [SIDE s]  5 LN MSG:
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno EOM

I hh:mm:ss xy,ww   CBOFL uvmnp [SIDE s]  5 LN MSG:
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno EOM

I hh:mm:ss xy,ww   CBOFL uvmnp [SIDE s]  3 LN MSG:
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno
fghij abcdefghijklmno fghij abcdefghijklmno fghij \
abcdefghijklmno COMPL
```

Explanation Of Parameters

abc - Nonhierarchical NPC number

NPC number of the CB type NPC on the Digital Signal Processing Unit

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SIDE - Side

s - Network processing circuit side (0 through 1)

ghi - Nonhierarchical NPC number

NPC number of the Facility Terminating Unit type NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

NPC number of the CB type NPC on the Digital Signal Processing Unit

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

fghij - Hierarchical NPC number

NPC number of the Facility Terminating Unit type NPC

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

abcdefghijklmno
- C-bit channel activity word (hexadecimal)

This word contains 15 digits each representing two adjacent c-bit channels for a total of 30 consecutive channels. Channel numbering is 0 to 30 beginning at the left with "a". Each digit contains four bits which represent two adjacent channels at two bits per channel. The two bits have four discrete values. The meaning of each bit pair is given below:

Bit	*Meaning*
00	No activity on a c-bit channel
01	One change of state on a c-bit channel
10	Two to five changes of state on a c-bit channel
11	More than five changes of state on a c-bit channel

Example:

X’9 = 1001 indicates two to five changes of state on the channel represented by the leftmost two bits and one change of state on a c-bit channel represented by the rightmost two bits.

CFR,FRAME

CONFIGURE FRAME

Explanation Of Command

This command is used to initialize or change the frame configuration. After this command is successfully completed, DACS II will autonomously update the location information for the packs in the frame.

WARNING: A manual backup from RAM to MEM must be invoked prior to entering Maintenance Condition, else the command may not complete.

Entering this message will cause DACS II to present the user with self-explanatory menus. These menus allow the user to select the total number of bays and units to be equipped and to specify the bay and unit type for each of them. With the user specified information, DACS II will then determine the physical location of each circuit pack in the frame. The completion message will be output when the user exits from the menu mode.

This command can only be entered under the following conditions:

- It is entered from link 1
- The frame is in the maintenance condition
- The user is a superuser

Command

[I.35021]

`CFR:FRM xy,SEQ ww:FRAME!`

Completion Message

[O.35021]

M hh:mm:ss xy,ww n[vv] CFR FRAME[COND ćć] COMPL

Denial Message

[O.35021.01]

M hh:mm:ss xy,ww n[vv] CFR FRAME COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

FRAME - Frame

COND - Condition

cc - Completion condition code (hexadecimal)

cc - Hexadecimal condition code

cc	*Explanation*
8D	DB PMEM error OP-CL-RD-WR-SK
8F	Can't lock or unlock ram database
96	Unit(s) OOS, and additional backup required
98	Unable to verify Configuration file since MP DB not loaded
92	Can't mount or unmount PMEM
97	User quit the menu
01	Backup required before executing this command

CFR,SYNC,FPLL

CONFIGURE SYNCHRONIZER

Explanation Of Command

This command requests the fast start of the phase-locked loop in a synchronizer.

Command

[I.35011]

```
CFR:FRM xy,SEQ ww:SYNC a,FPLL!
```

Completion Message

[O.35011]

```
M hh:mm:ss xy,ww n[vv] CFR SYNC a FPLL COMPL
```

Denial Message

[O.35011.01]

```
M hh:mm:ss xy,ww n[vv] CFR SYNC a FPLL COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

a - Synchronizer number (0 or 1)

FPLL - Fast start phase-locked loop

cc - Hexadecimal condition code

cc	*Explanation*
16	SYNC TB is not equipped
17	SYNC is out of service
BF	Sync mode is same
C8	Sync pack denied command

CFR,SYNC,MASTER,SLAVED

CONFIGURE SYNCHRONIZER

Explanation Of Command

This command requests configuration of the synchronizer to extract timing from itself (stand-alone or **MASTER** mode) or from external sources (**SLAVED** mode).

The **CFR::SYNC** command modifies the Main Controller (MC) data base for the synchronizers, thus allowing appropriate combinations of time bases, timing extractors, and timing distributors to be equipped. This command is also used by the MC to instruct the Digital Phase Locked Loops (DPLLs) to implement the specified architecture. Condition codes for completion indicate architecture states, dependent on the current equipage. Condition codes for denial indicate that the requested architecture is not consistent with the current equipage.

Command

[I.35013]

```
CFR:FRM xy,SEQ ww:SYNC,{MASTER|SLAVED}!
```

Completion Message

[O.35013]

```
M hh:mm:ss xy,ww n[vv] CFR SYNC {MASTER|SLAVED} COND 00 \
COMPL
```

Denial Message

[O.35013.01]

`M hh:mm:ss xy,ww n[vv] CFR SYNC {MASTER|SLAVED} COND cc DNY`

Autonomous Message

Not applicable.

Explanation Of Parameters

`SYNC` - Synchronizer

`MASTER` - Master

The frame will use its own sources for timing.

`SLAVED` - Slaved

Timing will be extracted from external sources.

`COND` - Condition

`cc` - Hexadecimal condition code

cc	*Explanation*
16	SYNC TB is not equipped
B6	Sync architecture is same
B7	Some TLIs are still equipped
B8	CRO is still equipped
B9	Timing Extractor type TLIs are present
BA	TLI 3 or 4 still equipped
BC	SSP with 0 priority present
BD	SSP with non 0 priority present
C8	Sync pack denied command

CFR,SYNC,STRATUM,STR2,STR3,TOLL,LOCAL

CONFIGURE SYNCHRONIZER STRATUM

Explanation Of Command

This command requests the configuration of the synchronizer at a particular stratum level.

The command can be entered to configure the synchronizer at a lower stratum than the capability of the equipped time bases. The message can also be used to change the operating stratum level of the synchronizer to a higher level if the synchronizer is so equipped.

Command

[I.35012]

```
CFR:FRM xy,SEQ ww:SYNC,STRATUM {STR2|STR3|TOLL|LOCAL}!
```

Completion Message

[O.35012]

```
M hh:mm:ss xy,ww n[vv] CFR SYNC STRATUM \
{STR2|STR3|TOLL|LOCAL} COMPL
```

Denial Message

[O.35012.01]

```
M hh:mm:ss xy,ww n[vv] CFR SYNC STRATUM \
{STR2|STR3|TOLL|LOCAL} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

STRATUM
- Stratum

STR2 - Stratum 2 Time Base

STR3 - Stratum 3 Time Base

TOLL - CEPT Toll Time Base

LOCAL - CEPT Local Time Base

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
16	SYNC TB is not equipped
C0	Sync stratum is same
C1	Stratum not allowed
C8	Sync pack denied command

CFR,XC,INCL

CONFIGURE DIGROUP CIRCUITS

Explanation Of Command

This command requests that all Network Processing Circuits (NPCs) select data and clocks from the specified cross-connect network side.

Starting with Release 8.2 this command not only applies to the cross-connect network, it also applies to the Digital Phase Locked Loop (DPLL) that provides timing to the cross-connect network. The situation where the active synch is not on the same side as the active cross-connect network will now be considered a transient state.

This change was made in Release 8.2 to avoid a single hardware problem in the active DPLL affecting both sides of the cross-connect network, which can lead to service problems.

If the frame is in the maintenance condition state then the user must be logged in as the system administrator (DAX) on link 1. In addition the INCL keyword must be specified in order for the command to be accepted. It these conditions are not met the command will be denied.

Command

[I.35001]

`CFR:FRM xy,SEQ ww:XC s[,INCL]!`

Completion Message

[O.35001]

M hh:mm:ss xy,ww n[vv] CFR XC s[INCL] COMPL

Denial Message

[O.35001.01]

M hh:mm:ss xy,ww n[vv] CFR XC s[INCL] COND cc DNY

Autonomous Message

[O.35001]

I hh:mm:ss xy,ww n[vv] CFR XC s[TN abcd] COMPL

Explanation Of Parameters

XC - Cross-connect

s - Cross-connect side (0 or 1)

INCL - Inclusive

a,b - The CCN side representations used for the autonomous report, with the same definition as s.

a and b each represents a CCN side. If a is 1, b must be 0, and vice versa.

TN - Transaction

abcd - transaction number (hexadecimal)

The transaction number is shown only in the autonomous output message.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
1C	CCN side s is out of service
98	Unable to verify Configuration file since MP DB not loaded
F5	INCL keyword needed to perform this command
64	Frame is not in MCOND
65	Link being used is not Link 1
66	User login-id is not DAX

CHG,ALMS,ON,OFF

Turn ON or OFF the Alarm Severity Feature

Explanation Of Command

This command is used to turn ON or OFF the Alarm Severity Feature which is used to change the alarm severity of the system alarms. When this feature is ON, messages I.38365 and I.38375 can be used to change the alarm severity of shelf and facility alarms. This command is restricted to those with super user priviledges.

This command can only be used if the alarm severity feature has been purchased as part of the DACS II software generic.

Command

[I.38355]

```
CHG:[FRM xy,SEQ ww]:ALMS,{ON|OFF}!
```

Completion Message

[O.38355]

```
M hh:mm:ss xy,ww n[vv] CHG ALMS {ON|OFF} COMPL
```

Denial Message

[O.38355.01]

M hh:mm:ss xy,ww n[vv] CHG ALMS {ON|OFF} COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ALMS - Alarms

ON - Turn feature ON

OFF - Turn feature OFF

cc - Hexadecimal condition code

cc	*Explanation*
F7	Alarm Severity Feature (already) OFF
F9	Alarm Severity Feature Already ON

CHG,BC,X,TO

CHANGE BIT-C TO

Explanation Of Command

This message allows you to send any 15-bit pattern of 0's and 1's on the addressed c-bit circuit. The addressed c-bit circuit must be provisioned as a Director DACS (DD) for the overwrite function (Message I.38331). The pattern can be changed on a single channel or a range of channels without disconnecting and reconnecting the circuits.

abcd is the hexadecimal value of the 15-bit pattern to be sent on the address c-bit circuit(s). Bit 1 is a framing bit generated on the CPR circuit pack. The other 14 bits are specified as follows:

HEX DIGIT	BIT POSITION
a	Bits 2 and 3*
b	Bits 4 through 7
c	Bits 8 through 11
d	Bits 12 through 15

*Bits 2 and 3 are the two least significant values of Hex digit a. The two most significant values of Hex digit a will always be input as 00. Hex digit a will always be a number between 0 and 3 (0000 - 0011).

Command

Nonhierarchical

[I.38333]

CHG:FRM xy,SEQ ww:BC X'abcd, TO [s]abcddd[-eee]!

Hierarchical

[I.38333]

CHG:FRM xy,SEQ ww:BC X'abcd, TO uvmnpddd[-eee]!

Completion Message

Nonhierarchical

[O.38333]

M hh:mm:ss: xy, ww n[vv] CHG BC X'abcd TO [s]abcddd[-eee] COMPL

Hierarchical

[O.38333]

M hh:mm:ss: xy, ww n[vv] CHG BC X'abcd TO uvmnpddd[-eee] COMPL

Denial Message

Nonhierarchical

[O.38333.01]

M hh:mm:ss xy,ww n[vv] CHG BC X'abcd TO [s]abcddd[-eee] COND cc DNY

Hierarchical

[O.38333.01]

M hh:mm:ss xy,ww n[vv] CHG BC X'abcd TO uvmnpddd[-eee] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

BC - BIT-C

abcd - Hexadecimal representation of bits 2 through 15 of the c-bit transmission pattern (X'0000 through X'3FFF)

TO - NPC identifier

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Channel number at the beginning of a range
eee - Ending channel number

Valid values are listed below:

001-030 CEPT type NPCs grown as CAS

Note: Channel 000 of CEPT NPCs (TS0) can be connected to another channel 000 of CEPT NPCs (TS0). Also, the channel 000 of CEPT NPCs can be connected to a channel other than the channel 000 of CEPT NPCs (non-TS0).
Channel 031 of CAS NPCs (TS16) can only be cross-connected to another channel 031 of CAS (TS16) or one-way cross-connected to another channel. Also these two channels can not be part of any conference.

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
1E	Customer control or red circuit exists
1F	FTMI is in service but failed
24	Unit type error
36	DSPI not equipped
37	DSPI out-of-service
3E	DSPI failed
2C	Write to CPR failed
51	C-bit modify function is disabled
53	CPR is out of service
54	Cross-connect to CPR is required
58	DSPU is not equipped
59	DSPU unit controller is out of service
5A	DSPU unit controller is failed
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FF	Termination is in process of being rolled

CHG,BCOFF,TO

CHANGE BIT-C-OFF TO

Explanation Of Command

This command requests that the system stop sending the 15-bit pattern on the addressed c-bit circuit(s). You can request the "stop" on a single channel or a range of channels on the specified newtwork processing circuit (NPC).

Command

Nonhierarchical

[I.38335]

```
CHG:FRM xy,SEQ ww:BCOFF,TO [s]abcddd[-eee]!
```

Hierarchical

[I.38335]

```
CHG:FRM xy,SEQ ww:BCOFF,TO uvmnpddd[-eee]!
```

Completion Message

Nonhierarchical

[O.38335]

```
M hh:mm:ss xy,ww n[vv] CHG BCOFF TO [s]abcddd[-eee] COMPL
```

Hierarchical

[O.38335]

```
M hh:mm:ss xy,ww n[vv] CHG BCOFF TO uvmnpddd[-eee] COMPL
```

Denial Message

Nonhierarchical

[O.38335.01]

```
M hh:mm:ss xy,ww n[vv] CHG BCOFF TO [s]abcddd[-eee]\
COND cc DNY
```

Hierarchical

[O.38335.01]

```
M hh:mm:ss xy,ww n[vv] CHG BCOFF TO uvmnpddd[-eee]\
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TO - To

TO NPC identifier

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Starting channel number
eee - Ending channel number

Valid values are listed below:

001-030 CEPT type NPCs grown as CAS

Note: Channel 000 of CEPT NPCs (TS0) can be connected to another channel 000 of CEPT NPCs (TS0). Also, the channel 000 of CEPT NPCs can be connected to a channel other than the channel 000 of CEPT NPCs (non-TS0).

Channel 031 of CAS NPCs (TS16) can only be cross-connected to another channel 031 of CAS (TS16) or one-way cross-connected to another channel. Also these two channels can not be part of any conference.

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
1E	Customer control or red circuit exists
1F	FTMI is in service but failed
24	Unit type error
36	DSPI not equipped
37	DSPI out-of-service
3E	DSPI failed
2C	Write to CPR failed
51	C-bit modify function is disabled
52	CPR is not equipped
53	CPR is out of service
54	Cross-connect to CPR is required
58	DSPU is not equipped
59	DSPU unit controller is out of service
5A	DSPU unit controller is failed
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FF	Termination is in process of being rolled

CHG,DD,TO

CHANGE DIRECTOR DACS TO

Explanation Of Command

This command allows the designation or change of the c-bit signaling bit(s) for the Director DACS (DD) function of monitoring, overwriting, or both; or to stop monitoring, overwriting, or both. This change can be made on a single channel or a range of channels without disconnecting and reconnecting the circuit.

Command

Nonhierarchical

[I.38331]

```
CHG:FRM xy,SEQ ww:DD(m,w),TO [s]abcddd[-eee]!
```

Hierarchical

[I.38331]

```
CHG:FRM xy,SEQ ww:DD(m,w),TO uvmnpddd[-eee]!
```

Completion Message

Nonhierarchical

[O.38331]

```
M hh:mm:ss xy,ww n[vv] CHG DD(m,w) TO [s]abcddd[-eee] COMPL
```

Hierarchical

[O.38331]

```
M hh:mm:ss xy,ww n[vv] CHG DD(m,w) TO uvmnpddd[-eee] COMPL
```

Denial Message

Nonhierarchical

[O.38331.01]

```
M hh:mm:ss xy,ww n[vv] CHG DD(m,w) TO [s]abcddd[-eee] \
COND cc DNY
```

Hierarchical

[O.38331.01]

```
M hh:mm:ss xy,ww n[vv] CHG DD(m,w) TO uvmnpddd[-eee] \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

DD - Director DACS

m - Monitor function parameter for c-bits entering the C-bit Processing Circuit Pack

Valid values are listed below:

m	*Explanation*
0	Disable the monitor function
1	Enable the monitor function
-	Do not change current setting

w - Write function parameter for c-bits leaving the C-bit Processing Pack

Valid values are listed below:

w	*Explanation*
0	Disable the write function
1	Enable the write function
-	Do not change current setting

TO - NPC identifier keyword

[s]abc - The 3- or 4-digit non-hierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Starting channel number

Valid values are listed below:

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

eee - Ending channel number

Valid values are identical to those for ddd.

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
13	FTMI is not equipped
15	NPC is unequipped
24	Unit type error
36	DSPI not equipped
37	DSPI out-of-service
3E	DSPI failed
2C	Write to CPR failed
50	CPR in buffer overflow condition
52	CPR is not equipped
53	CPR is out of service
54	Cross-connect to CPR is required
58	DSPU is not equipped
59	DSPU unit controller is out of service
5A	DSPU unit controller is failed
5B	C-bit modify function is active
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FF	Termination is in process of being rolled
8A	Modify disable denied on channel connected to NPC in RPSFI condition

CHG,ERB,TYPE

SET ERRORED BLOCK THRESHOLD RATIO

Explanation Of Command

This command allows users to set an error threshold for PA type NPCs that will be used to determine that a severely errored second or a far-end severely errored second has occurred. The threshold is set in terms of a percentage of blocks in error (errored blocks). At system start up, this percentage is set to 81 percent. Execution of this command will change the threshold to the percentage of errored blocks requested in the command for all provisioned PA NPCs. Once the percentage is set by this command it will be applied to all PA NPCs subsequently provisioned.

Command

[I.38631]

```
CHG:FRM xy,SEQ ww:ERB ee,TYPE mn!
```

Completion Message

[O.38631]

```
M hh:mm:ss xy,ww n[vv] CHG ERB ee TYPE mn COMPL
```

Denial Message

[O.38631.01]

M hh:mm:ss xy,ww n[vv] CHG ERB ee TYPE mn COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ERB - Errored Block

ee - Percentage of errored blocks (1% through 91%, default is 81%)

The number of errored blocks, expressed as a percentage, used to declare a severely errored second (SES) or far-end SES (FSES).

NPC - Network processing circuit

TYPE - Type

mn - NPC type identifier

mn	Explanation
PA	CEPT NPC (75-ohm or 120-ohm)

Note: PA is the only value that can be entered in this field.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
26	NPC type error

CHG,FALMS,TYPE,PMACR,PMAMJ,DMAMN,MI

CHANGE Facility Alarms Severity

Explanation Of Command

This command is used to change the Alarm Severity of the system facility alarms. The Alarm Severity must be turned ON via I.38355 to use this command. If a specific type is specified the command does not verify whether the facility alarm being changed is supported by that type.

Command

[I.38375]

```
CHG:[FRM xy,SEQ ww]:FALMS,TYPE mn[xyz],falm,{PMACR|PMAMJ|DMAMN|MI|RESET}!
```

Completion Message

[O.38375]

```
M hh:mm:ss xy,ww n[vv] CHG FALMS TYPE mn[xyz] falm\
{PMACR|PMAMJ|DMAMN|MI|RESET} COMP
```

Denial Message

[O.38375.01]

```
M hh:mm:ss xy,ww n[vv] CHG FALMS TYPE mn[xyz] falm \
{PMACR|PMAMJ|DMAMN|MI|RESET} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

mn - NPC Type

PA	E1 NPC (75 ohm and 120 ohm)
PB	E1 NPC (75 ohm)
PC	E1 NPC (120 ohm)

[xyz] -if the xyz is not specified all NPCs of the PA,PB, or PC will be changed This implies that the default value for the specified type are changed and that any changes for specific xyz of that type done prior are lost.

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

falm - Facility Alarms

falm *Explanation*

For PA type NPCs, valid values are:

RPSFI Remote Power Supply Failure Indicator
LOS Loss of Signal
LOF Loss of Frame
AIS Alarm Indication Signal
EER Excessive Error Rate
BER Bit Error Rate
LCMA Loss of CRC-4 Multiframe Alignment
FLC Far End Loss of CRC-4 Multiframe Alignment
RAI Remote Alarm Indication
RBER Remote Bit Error Rate
SFI Sync failure Indication
POF Psuedo Frame Word Out of Frame
TAI TS-16All Ones Alarm
RAIS Remote AIS
LMA Loss of Multiframe
RABS Remote Alarm bit 6,TS16
PBF Primary Block Failure
ALL ALL above identified facility alarms

For PB and PC type NPCs, valid values are:

RPSFI Remote Power Supply Failure Indicator
AIS Alarm Indication Signal
EER Excessive Error Rate
BER Bit Error Rate
RAI Remote Alarm Indication
RBER Remote Bit Error Rate
SFI Sync failure Indication
TAI TS-16All Ones Alarm
RAIS Remote AIS
LMA Loss of Multiframe
RABS Remote Alarm bit 6,TS16
PBF Primary Block Failure
ALL ALL above identified facility alarms

NOTE: The command does not check for valid facility alarm - NPC type combinations.

PMACR - Prompt Maintenance Action CRITICAL alarm severity

PMAMJ - Prompt Maintenance Action MAJOR alarm severity

DMAMN - Deferred Maintenance Action MINOR alarm severity

MI - MESSAGE INFORMATION alarm severity

RESET - Reset Alarm Severity to default value

cc - Hexadecimal condition code

cc	*Explanation*
26	NPC type error
34	NPC type option xyz is unassigned, or invalid for feature package
30	NPC not provisioned for CAS
31	NPC not provisioned for NSA
BB	Timeslot channel numbering not allowed with CAS
A3	Transmic 1G NPC designated as SYNC source invalid
A4	Firmware timing invalid for Transmic 1G NPC
7E	Framed/Unframed clear 2Mbit/s NPC invalid for Automatic CRC-4
7F	Unframed clear 2Mbit/s NPC invalid for TS0 processing
80	Framed/Unframed clear 2Mbit/s NPC invalid for Transmic 1G, 2G
81	Framed/Unframed clear 2Mbit/s NPC invalid for Firmware Timing
82	Unframed clear 2Mbit/s NPC invalid for Bit 4 used as RA IS/RBER
F6	Alarm Severity DB full, reset to defaults
F7	Alarm Severity Feature (already) OFF
F8	Alarm Severity of facility Alarm not changed

CHG,FROM,TO,NOT,TLA,TLR,F,T,B,A,INCL

CHANGE CIRCUIT PARAMETERS

Explanation Of Command

This message changes the termination state of a cross-connected non-channelized network processing circuit. This command can affect either a two-way, a one-way or a broadcast non-channelized digital signal cross-connection. This command has the ability to change the termination states of all of the legs of a broadcast circuit. However, an option is provided to exclude one of the legs from being changed. The idle code for non-channelized digital signal cross-connections is the alarm indication signal which is transmitted over a terminated connection.

Command

Nonhierarchical

[I.17011]

```
CHG:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,NOT [u]rst],\
{TLA|TLR} {F|T|B|A}[,INCL]!
```

Hierarchical

[I.17011]

```
CHG:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,NOT edhfg],\
{TLA|TLR} {F|T|B|A}[,INCL]!
```

Completion Message

Nonhierarchical

[O.17011]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abc,[t]ghi[ RDC]\
[ CUS][ NOT [u]rst] {TLA|TLR} {F|T|B|A} COMPL
```

Hierarchical

[O.17011]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnp,wxkqr[ RDC]\
[ CUS][ NOT edhfg] {TLA|TLR} {F|T|B|A} COMPL
```

Denial Message

Nonhierarchical

[O.17011.01]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abc,[t]ghi cc <st> DNY
```

[O.17011.02]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abc,[t]ghi <d> <st> DNY
```

Hierarchical

[O.17011.01]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnp,wxkqr cc <st> DNY
```

[O.17011.02]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnp,wxkqr <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From termination
TO - To termination

[s]abc - The 3- or 4-digit nonhierarchical non-channelized FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical non-channelized TO NPC number
[u]rst - The 3- or 4-digit nonhierarchical non-channelized NPC number that is not affected by this command.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of non-channelized FROM NPC
wxkqr - Hierarchical number of non-channelized TO NPC
edhfg - Hierarchical number of a leg of a non-channelized digital signal broadcast circuit that is not affected by this command.

uv,wk,ed
- Unit number

m,x,h
- Module number

np,qr,fg
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

INCL - Inclusive
Inclusive keyword, required if one or more circuits are marked Customer-controlled (CUS) or Red (RDC)

TLA - Terminate and leave activate
TLR - Terminate and leave release

The direction in which TLA or TLR is to be applied is specified by the use of F, T, B, A, and NOT as defined below:

F - Towards the FROM NPC
T - Towards the TO NPC
B - In both directions
A - All directions of a broadcast circuit
NOT - In conjunction with the A options, all directions of a broadcast circuit except the one specified

RDC - Red circuit

NPC is a red circuit

CUS - Customer

NPC is a Customer-controlled Circuit

d - direction

d	Explanation
F	From
T	To
B	Both
A	All

st - Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
15	**MCOND**	NPC is unequipped
01	**INERR**	Invalid range for specified NPC type
03	**MCOND**	No RDC or CUS circuits and INCL keyword used
10	**MCOND**	NPC out of service or failed
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
32	**MCOND**	Termination is under test
34	**MCOND**	Termination is under customer control (CUS)
35	**MCOND**	Termination is protected (RDC)
57	**BCAST**	FROM is not a backbone leg
5B	**BCAST**	TO is not a leg of this/any conference
5D	**BCAST**	TO is the backbone leg of a conference
5F	**BCAST**	Conference is NTR: has no switchable return leg
90	**CHGIE**	Invalid change parameter combinations
C5	**BCAST**	Option NOT leg can not appear with F, T, or B

cc	st	*Explanation*
C7	**BCAST**	Option NOT leg is not in conference
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
CUS	**{F|T|B|A}**	Customer-controlled Circuit
FAIL	**{F|T|B|A}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NOMTH	**{F|T|B|A}**	No match of NPCs
OOS	**{F|T|B|A}**	Out-of-service
RDC	**{F|T|B|A}**	Red Circuit
UNPASGN	**{F|T|B|A}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B|A}**	Unequipped
UTST	**{F|T|B|A}**	Under Test

CHG,FROM,TO,NOT,TLA,TLR,F,T,B,L,G,A

CHANGE CROSS-CONNECT TERMINATION STATUS

Explanation Of Command

This command is used to request a change in the termination status of the specified cross-connected circuit or range of circuits which were established by a two-point or multipoint cross-connect command.

If successful, the requested change is echoed ([NOT [u]rst-vvv]{TLA|TLR} {F|T|B|L|G|A}), followed by the new termination state (**NEW STATE**) of the circuit. If the range option was given, the new states of the circuits in the range may differ, noted by the **RNG** keyword.

Command

Nonhierarchical

[I.17001]

```
CHG:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,NOT [u]rstvvv],{TLA|TLR} {F|T|B|L|G|A}[,INCL]!
```

Hierarchical

[I.17001]

```
CHG:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,NOT edhfgvvv],{TLA|TLR} {F|T|B|L|G|A}[,INCL]!
```

Completion Message

Nonhierarchical

[O.17001]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk]  2 LN MSG:
[NOT [u]rstvvv ]{TLA|TLR} {F|T|B|L|G|A}\
[ NEW STATE {TLA s|RNG}][ RDC][ CUS] COMPL
```

Hierarchical

[O.17001]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnpddd[-eee],wxkqrjjj[-kkk]  2 LN MSG:
[NOT edhfgvvv ]{TLA|TLR} {F|T|B|L|G|A}\
[ NEW STATE {TLA s|RNG}][ RDC][ CUS] COMPL
```

Denial Message

Nonhierarchical

[O.17001.01]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.17001.02]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

[O.17001.03]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abcddd[-eee],[t]ghijjj[-kkk]  2 LN MSG:
{TLA|TLR} {F|T|B} COND cc DNY
```

Hierarchical

[O.17001.01]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.17001.02]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

[O.17001.03]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnpddd[-eee],wxkqrjjj[-kkk]  2 LN MSG:
{TLA|TLR} {F|T|B} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From
TO - To

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number
[u]rst - The 3- or 4-digit nonhierarchical NPC number not affected by this message

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number
edfhg - Hierarchical NPC number not affected by this message

uv,wx,ed
- Unit number

m,k,f
- Module number

np,qr,hg
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel number
jjj - TO channel number
eee - FROM channel number denoting the end of the range
kkk - TO channel number denoting the end of range
vvv - Channel number not affected by this command.

The valid channel numbers are:

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers

001-085	(MB NPC)
001-500	(Virtual NPC)

TLA - Terminate and leave activate

s - Direction of transmission to be terminated

If the cross-connection is between a facility terminating unit (FTU) and a virtual NPC (VI type NPC), once terminated, the FTU NPC will send out its provisioning insertion word (PIW) as the idle code.

TLR - Terminate and leave release

s	*Explanation*
A	Towards the facilities and the bridge (multipoint only)
B	Towards both terminations
F	Towards the FROM termination
G	Towards the bridge (multipoint connection only)
L	Towards the facilities (multipoint connection only)
T	Towards the TO termination

INCL - Inclusive

Use this keyword, to change the termination status on a channel or range of channels including one or more channels marked as a red. The command will otherwise be denied if one or more of the cross-connected circuits in the range are marked as red.

NOT - Not

The LEG is not affected by this command

mmm,nnn
- Channel number involved in the denial.

Otherwise, the same as **ddd**.

RNG - Range

RDC - Red circuit

The change in termination status was performed on a red circuit. If the command specified a range of circuits, then at least one of the circuits involved was a red circuit. This keyword will appear only if the **INCL** keyword was specified in the command.

CUS - Customer

The change in termination status was performed on a customer controlled circuit. If the command specified a range of circuits, then at least one of the circuits involved was a customer controlled circuit.

d - Direction

d	*Direction*
F	From
T	To
B	BotH

st - Status

cc - Hexadecimal condition code

cc	**st**	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
72	**CONFERR**	The NPC of VC BBL leg doesn't match that in the input command
73	**CONFERR**	The first channel of VC BBL leg doesn't match that in the input cmd
75	**CONFERR**	The input BRD leg is not in VC

cc	st	*Explanation*
76	**CONFERR**	The first channel of VC BRD leg doesn't match that in the input cmd
90	**CHGIE**	Invalid change parameter combinations
A1	**INERR**	Illegal BBL BBL combination
A2	**INERR**	Illegal BRD BRD combination
A3	**INERR**	Illegal SYM BRD combination
A4	**INERR**	Illegal BRD SYM combination
A5	**INERR**	Illegal BBL SYM combination
A6	**INERR**	Illegal SYM BBL combination
B7	**INERR**	Cannot perform DMB CHG on input direction F
B8	**INERR**	Cannot perform DMB CHG on input direction T
B9	**INERR**	Cannot perform DMB CHG on input direction B
C0	**INERR**	Cannot perform DMB CHG on input direction L
C1	**INERR**	Cannot perform DMB CHG on input direction G
C2	**INERR**	Cannot perform DMB CHG on input direction A
C3	**CHGIE**	Can't perform DMB CHG because NTR flag set on FROM side
C4	**CHGIE**	Can't perform DMB CHG because NTR flag set on TO side
C5	**INERR**	Option NOT leg can not appear with F, T, or B
C6	**INERR**	Option NOT leg is not a FTU leg
C7	**INERR**	Option NOT leg is not in conference
D3	**SCERR**	Corresponding NPC for FROM virtual channel is not provisioned
D4	**SCERR**	Corresponding NPC for TO virtual channel is not provisioned
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
70	**MCOND**	NPC invalid type
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

st	d	*Explanation*
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
NOMTH	**{F|T|B}**	No Match
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TP	**{F|T|B}**	NPC is used for test access
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

st	d	*Explanation*

CHG,FROM,TO,TLP,NG,ES,INCL

CHANGE CIRCUIT PARAMETERS

Explanation Of Command

This message requests DACS II to change the parameters of a multipoint circuit leg. Termination [s]abcddd must be either a termination on an FTU (facility terminating unit), IFTU (integrated Facility Terminating Unit), DS3U (DS3 Unit), HDS3U (Hybrid DS3 Unit) or DSPU (Digital Signal Processing Unit) NPC. Termination [t]ghijjj must be a termination on a DSPU NPC.

Command

Nonhierarchical

[I.17002]

```
CHG:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,TLP(snn,smm)]\
[,NG nn][,ES ee][,INCL]!
```

Hierarchical

[I.17002]

```
CHG:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\
[,TLP(snn,smm)][,NG nn][,ES ee][,INCL]!
```

Completion Message

Nonhierarchical

[O.17002]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abcddd,[t]ghijjj  2 LN MSG:
[TLP(snn,smm)][ NG nn][ ES ee]\
NEW STATE spp,sqq NG ff ES hh[ RDC][ CUS] COMPL
```

Hierarchical

[O.17002]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnpddd,wxkqrjjj  2 LN MSG:
[TLP(snn,smm)][ NG nn][ ES ee]\
NEW STATE spp,sqq NG ff ES hh[ RDC][ CUS] COMPL
```

Denial Message

Nonhierarchical

[O.17002.01]

```
M hh:mm:ss xy,ww n[vv] CHG [s]abcddd,[t]ghijjj  2 LN MSG:
[TLP(snn,smm)][ NG nn][ ES ee] COND cc DNY
```

Hierarchical

[O.17002.01]

```
M hh:mm:ss xy,ww n[vv] CHG uvmnpddd,wxkqrjjj  2 LN MSG:
[TLP(snn,smm)][ NG nn][ ES ee] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From
TO - To

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel number

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

jjj - TO channel number

001-085 (MB NPC)

TLP - Transmission level point

Specify the incoming and outgoing gain adjustments relative to the TO multipoint circuit by using the TLP (snn,smm) field. Gain adjustment snn is applied as the signal enters the bridge, while smm is applied as the signal leaves.

snn - Incoming gain adjust parameter
smm - Outgoing gain adjust parameter

s - Sign (+ or -)
nn - Incoming gain adjust value (-90 through +88)
mm - Outgoing gain adjust value (-90 through +88)

These are the parameters requested for the TO termination. Values are given in steps of two and the units are tenths of a db.

Certain situations require replacement of the gain adjust parameter values with "---". In general "---" is used for either snn or smm (but not both) when no change is to be made to that parameter. This feature allows changing only one of the two parameters if desired. Also, if the cross-connection was provisioned with the NTR (no transmit) option, the gain adjustment in the direction for which transmission is shut off MUST be ---. See the table below to see what situations require "---".

FROM	*TO*	*snn*	*smm*
BRD	BBL	---	smm
BBL	BRD	snn	---
LEG	BBL	---	smm
LEG	BRD	snn	---
LEG	SYM	snn	smm
BBL	LEG	Invalid combination	
BBL	SYM	Invalid combination	
BRD	LEG	Invalid combination	
BRD	SYM	Invalid combination	

NG - Noise guard

nn - Requested NG level setting (00, 06, 12, or 18) db

To specify the noise guard level setting, use NG nn. The following default values apply:

For Symmetrical bridges Default: NG = -18 db
For Polling circuits Default: NG = 0 db

ES - Echo suppression

ee - Requested ES level setting (00, 06, 12, or 18) db

To specify the echo suppression level setting, use ES ee. The following default values apply:

For Symmetrical bridges Default: ES = -18 db
For Polling circuits Default: ES = 0 db

At least one of the three parameters (TLP, NG, ES) must be specified.

Since a BBL (backbone leg) has no input to the bridge and the bridge has no output to a BRD (broadcast) leg, transmission values in these directions cannot be changed.

INCL - Inclusive

INCL is used to change the parameters on a circuit marked either as a red or a customer controlled circuit. If this option is not used, the command will be denied such a circuit.

spp,sqq
- New gain setting. Otherwise, the same as snn and smm.

ff - New noise guard setting. Otherwise, the same as nn.

hh - New echo suppression setting. Otherwise, the same as ee.

RDC - Red circuit

These keywords indicate the connection is marked as a red circuit.

CUS - Customer

The connection is a Customer-controlled Circuit.

cc - Hexadecimal condition code

cc	*Explanation*
03	No RDC or CUS circuits and INCL keyword used
13	UNIT not equipped, not in service, or failed
18	DSPI not in service, or failed
A0	Illegal LEG LEG combination
A1	Illegal BBL BBL combination
A2	Illegal BRD BRD combination
A3	Illegal SYM BRD combination
A4	Illegal BRD SYM combination
A5	Illegal BBL SYM combination
A6	Illegal SYM BBL combination
AF	Delete or change a leg from a conference that has no leg
B2	Transmission parameters in command will not change existing settings
B3	Trying to change level out on BRD leg
B4	Trying to change level in on BBL leg
B6	TO side is not a DMB type NPC
AE	A subrate circuit pack is specified in the command line
B5	CPR circuit pack specified in the command
D0	FROM NPC is not provisioned as DGA

cc *Explanation*

D3 Corresponding NPC for FROM virtual channel is not provisioned
D6 Invalid FROM channel number
43 Trying to change in NTR direction

CHG,INTV,ON,OFF

Turn ON or OFF the Intervention Level Setting Feature

Explanation Of Command

This command is used to turn ON or OFF the Intervention Level Setting Feature, which is used to change the intervention level of the alarm severities for various system resources. When this feature is ON, message I.31363 can be used to change the intervention level of NPCs. This command is restricted to users with superuser privileges.

This command can only be used if the intervention level feature has been purchased as part of the DACS II software generic.

Command

[I.38451]

```
CHG:[FRM xy,SEQ ww]:INTV,{ON|OFF}!
```

Completion Message

[O.38451]

```
M hh:mm:ss xy,ww n[vv] CHG INTV {ON|OFF} COMPL
```

Denial Message

[O.38451.01]

M hh:mm:ss xy,ww n[vv] CHG INTV COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ON - Turn feature ON

OFF - Turn feature OFF

cc - Hexadecimal condition code

cc	*Explanation*
FC	Intervention Level Feature Already ON
FD	Intervention Level Feature (already) OFF
FF	NPC escalated alarm condition exists

CHG,MACRO,MAP,SPACE

CHANGE MACRO SPACE

Explanation Of Command

This command is used by the frame administrator to request a change in the amount of memory space allocated to macros or maps for all users of the system.

Command

[I.38501]

```
CHG:FRM xy,SEQ ww:{MACRO|MAP},SPACE sss!
```

Completion Message

[O.38501]

```
M hh:mm:ss xy,ww n[vv] CHG {MACRO|MAP} SPACE NEW sss \
OLD ttt  COMPL
```

Denial Message

[O.38501.01]

```
M hh:mm:ss xy,ww n[vv] CHG {MACRO|MAP} SPACE sss COND cc  \
DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SPACE - Space

sss - User macro or map space allocation (000 through 100 percent)

Variable sss represents the space allocated to user macros or maps for entire DACS II system as a percentage of the system macro space.

ttt - Old user macro space allocation (000 through 100 percent)

Variable ttt represents the space previously allocated to user macros for the entire DACS II system as a percentage of the system macro space.

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.

CHG,MSGLOG,ON,OFF

Turn ON or OFF the Message Logging feature

Explanation Of Command

This command is used to turn ON or OFF the Message Logging feature, which is used to log the MML messages, so they can be retrieved at a later time. Turning ON the Message Logging feature resets the Message Log Number to 1. This command is restricted to those with superuser permissions.

This command can only be used if the message logging feature has been purchased as part of the DACS II software generic.

Command

[I.38471]

```
CHG:FRM xy,SEQ ww:MSGLOG {ON|OFF}!
```

Completion Message

[O.38471]

```
M  hh:mm:ss xy,ww n[vv] CHG MSGLOG {ON|OFF} COMPL
```

Denial Message

```
M  hh:mm:ss xy,ww n[vv] CHG MSGLOG {ON|OFF} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

MSGLOG - Message Log

ON - Turn feature ON

OFF - Turn feature OFF

cc - Hexadecimal condition code

cc	*Explanation*
01	Subject entity is equipped
02	Subject entity is not equipped
06	Feature is (already) off

CHG,NPC,ALL,TLI,SYNC,CCN,LEV

CHANGE INTERVENTION LEVEL

Explanation Of Command

This command is used to change the Intervention Level Setting for the following resources:
NPC
SYNC
TLI

For an NPC the Intervention Level setting will affect the alarm severity level reported for all NPC alarms including the facility and performance monitoring alarms. The escalation for greater than 5 NPC alarms will not happen when Intevention Level is ON. For an SYNC and TLI, all alarms associated with these resources will be affected by Intervention Level and the escalation mechanism associated with these resources will occur. This command can be executed while the resource is in service.

Command

Nonhierarchical

[I.38461]

```
CHG:[FRM xy,SEQ ww]:{NPC {[s]abc[-[t]def]|ALL}|TLI|SYNC|CCN|ALL},LEV r!
```

Hierarchical

[I.38461]

```
CHG:[FRM xy,SEQ ww]:{NPC {uvmnp[-uvkqr]|ALL}|TLI|SYNC|CCN|ALL},LEV r!
```

Completion Message

Nonhierarchical

[O.38461]

```
M hh:mm:ss xy,ww n[vv] CHG INTV {NPC-{[s]abc[&&-[t]def]|ALL}|TLI|\
SYNC|CCN|ALL} LEV r  COMPL
```

Hierarchical

[O.38461]

```
M hh:mm:ss xy,ww n[vv] CHG INTV {NPC {uvmnp[-uvkqr]|ALL}|TLI|\
SYNC|CCN|ALL} LEV r  COMPL
```

Denial Message

Nonhierarchical

[O.38461.01]

```
M hh:mm:ss xy,ww n[vv] CHG INTV {NPC-{[s]abc[&&-[t]def]|ALL}|TLI|\
SYNC|CCN|ALL} LEV r COND cc DNY
```

Hierarchical

[O.38461.01]

```
M hh:mm:ss xy,ww n[vv] CHG INTV {NPC {uvmnp[-uvkqr]|ALL}|TLI|\
SYNC|CCN|ALL} LEV r COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network Processing Number

abc,def - NPC number

ALL - ALL NPCs

TLI - Timing Link Interfaces(TLI 1,TLI 2,TLI 3,TLI 4)

SYNC - Synchronizer

CCN - Cross Connect Network(CCN or ECCN)

ALL - All equipment
(All NPcs, TLI 1, TLI 2,TLI 3,TLI 4 SYNCs 0,1 and CCN 0,1)

#begifill
NOTE:When the intervention level setting of the TLI is changed the SSPs on that TLI if it is an extractor will inherit the same setting.

LEV - Intervention Level Setting

r - Intervention Level Setting (1-6)

Listed below is the Intervention actions for the different Intervention levels and alarm serities.

	Alarm Severity			
Intv. Level Setting	PMA-Critical	PMA-Major	DMA-Minor	Info.
1	IMA	IMA	IMA	DMA
2	IMA	IMA	DMA	DMA
3	IMA	DMA	DMA	NI
4	DMA	DMA	NI	NI
5	DMA	NI	NI	NI
6	NI	NI	NI	NI

where:

IMA = Immediate Maintenance Action
PMA Critical Alarm LED
Critical Relay

DMA = Deferred Maintenance Action
PMA Major Alarm LED
Major Relay

NI = No Action
No Alarm LED
No relay

The Intervention Level setting for other resources other than the TLI,NPC,CCN,and SYNC will be set to 2 and can not be changed. These other resource are:
Power Failure (feeder or fuse)
SMEM
MC
CCI/CCNI
TSI/ETSI
FC
FTMI
DSPI
FTU UC
CCB
DSPU UC
System Date and Time

cc - Hexadecimal condition code

cc	*Explanation*
FE	Intervention Level setting not changed

CHG,NPC,ALMOPT,AIS,MI,PMA,PMC,DMA

CHANGE NPC AIS ALARM OPTION

Explanation Of Command

This command requests a change of the NPC alarm option to Maintenance Information (MI), Prompt Maintenance Alarm (PMA), Deferred Maintenance Alarm (DMA), or Prompt Maintenance Action Critical (PMC) for all CEPT NPC types.

Command

Nonhierarchical

[I.38281]

```
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]ghi],ALMOPT,\
AIS {MI|PMA|PMC|DMA}!
```

Hierarchical

[I.38281]

```
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],ALMOPT,\
AIS {MI|PMA|PMC|DMA}!
```

Completion Message

Nonhierarchical

Usage: FOR FT UNIT

[O.38281]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[s]def] \
ALMOPT AIS {MI|DMA|PMA|PMC} e LN MSG:
TOT nnn
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt EOM
       :                    :               :
       :                    :               :

M hh:mm:ss xy,ww n[vv] CHG NPC [t]jkl[-[t]ghi] \
ALMOPT AIS {MI|DMA|PMA|PMC} e LN MSG:
TOT nnn
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt EOM


M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]ghi] \
ALMOPT AIS {MI|DMA|PMA|PMC} COMPL
```

Hierarchical

Usage: FOR FT UNIT

[O.38281]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-defgh] \
ALMOPT AIS {MI|DMA|PMA|PMC}
e LN MSG:
TOT nnn
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt
sttt sttt sttt sttt sttt sttt sttt sttt EOM
       :                    :               :
       :                    :               :
```

```
M hh:mm:ss xy,ww n[vv] CHG NPC ijklm[-wxkqr] \
ALMOPT AIS {MI|DMA|PMA|PMC}
e LN MSG:
TOT nnn
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt
stttt stttt stttt stttt stttt stttt stttt stttt EOM

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-wxkqr] \
ALMOPT AIS {MI|DMA|PMA|PMC} COMPL
```

Denial Message

Nonhierarchical

[O.38281.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]ghi] \
ALMOPT AIS {MI|PMA|PMC|DMA} COND cc DNY
```

[O.38281.02]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]ghi] \
ALMOPT AIS {MI|PMA|PMC|DMA} UEQD DNY
```

Hierarchical

[O.38281.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-wxkqr] \
ALMOPT AIS {MI|PMA|PMC|DMA} COND cc DNY
```

[O.38281.02]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-wxkqr] \
ALMOPT AIS {MI|PMA|PMC|DMA} UEQD DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical NPC number at beginning of a range

[t]ghi - The 3- or-4 digit nonhierarchical NPC number at end of a range

[s]def - The 3- or 4-digit nonhierarchical NPC number between [s]abc and [t]jkl

[t]jkl - The 3- or 4-digit nonhierarchical NPC number between [s]def and [t]ghi

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number at beginning of range
wxkqr - Hierarchical NPC number at beginning of range
defgh - Hierarchical NPC number between uvmnp and ijklm
ijklm - Hierarchical NPC number between defgh and wxkqr

uv,wx - Unit number
m,k - Module number in unit uv
np,qr - NPC number in module m

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ALMOPT - Alarm option

AIS - Alarm indication signal

Type of alarm. AIS is not detected by unframed clear (unchannelized) 2Mbit/s PAxDz or THxDz type NPCs. Therefore, specifying AIS with one of the alarm level types MI, DMA, PMA, or PMC is unnecessary. However, the command will not be denied if AIS is specified with an alarm level for unframed clear PAxDz or THxDz NPCs. AIS with its alarm level will simply never be reported for unframed clear PAxDz or THxDz NPCs.

MI - Maintenance information

Maintenance information message (not an alarm). Default.

PMC - Prompt Maintenance Action Critical Alarm

PMA - Prompt Maintenance Action Major Alarm.

DMA - Deferred Maintenance Action Minor alarm.

TOT nnn
- Total number of NPCs in the output segment.

PLOPT - Payload loopback option

The NPC(s) must be out of service to use this option.

tttt - The old AIS alarm option/payload loopback setting for the NPC.

tttt	*Explanation*
MI	AIS programmed for Information message
PMA	AIS programmed for Prompt maintenance major alarm
PMC	AIS programmed for Prompt Maintenance critical alarm
DMA	AIS programmed for Deferred maintenance minor alarm
----	Not applicable (for unequipped NPCs or not valid NPC type within the specified NPC range)

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
C9	In-service NPC change not allowed
FD	NPC range crosses unit boundary
70	NPC invalid type
60	Selectable AIS not valid for specified NPC(s) type
61	All NPC(s) are either not valid or not grown
62	IU type NPC(s) cannot be provisioned for Minor Alarm
67	NPC(s) actual type incompatible with TYPE keyword and/or alarm type
A5	AIS keyword incompatible with NPC type

CHG,NPC,CBTIMER

Explanation Of Command

This command is used to change the C-bit Message Filter Timer value for an NPC or range of NPCs. Only cept NPCs cross-connected to NPCs with the type CB10z can be specified.

Command

Nonhierarchical

[I.38001]

```
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],CBTIMER [t]v!
```

Hierarchical

[I.38001]

```
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],CBTIMER [t]v!
```

Completion Message

Nonhierarchical

[O.38001]

```
M hh:mm:ss xy,ww CHG NPC [s]abc CBTIMER [t]v COMPL
                    .
                    .
                    .
M hh:mm:ss xy,ww CHG NPC [s]abc CBTIMER [t]v COMPL
```

Hierarchical

[O.38001]

```
M hh:mm:ss xy,ww CHG NPC uvmnp CBTIMER [t]v COMPL
                    .
                    .
                    .
M hh:mm:ss xy,ww CHG NPC uvmnp CBTIMER [t]v COMPL
```

Denial Message

Nonhierarchical

[O.38001.01]

```
M hh:mm:ss xy,ww CHG NPC [s]abc[-[t]def] CBTIMER [t]v COND cc DNY
```

Hierarchical

[O.38001.01]

```
M hh:mm:ss xy,ww CHG NPC uvmnp[-uvkqr] CBTIMER [t]v COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network Processing Number

[s]abc - NPC number Non-Hierarchical

[t]def - NPC number Non-Hierarchical

uvkqr - NPC number Hierarchical
uvmnp - NPC number Hierarchical

CBTIMER
- C-Bit Message Filter Timer

[t]v - Values (0-10)

cc - Hexadecimal condition code

cc	*Explanation*
04	Subj entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
15	NPC is unequipped
36	DSPI not equipped
37	DSPI out-of-service
3E	DSPI failed
52	CPR is not equipped
54	Cross-connect to CPR is required
58	DSPU is not equipped
59	DSPU unit controller is out of service
5A	DSPU unit controller is failed
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified

CHG,NPC,LPBK

CHANGE NPC LOOPBACK

Explanation Of Command

This command requests a loopback, or the changing of the provisioning of the loopback, for a 2048-kb/s signal received on the addressed NPC(s). It allows changing provisioning for either a single NPC or a range of NPCs.

LPBK controls loopback and provisioning. For PB/PC type NPCs, variable d is not allowed and the variable t may be set as follows:

LPBK-t	
t	**FUNCTION**
A	Starts looping the signal towards the facility and sends AIS downstream. Turns off facility performance monitoring and freezes alarm states and parameter counts.
T	Transparently passes through the received signal.
N	Stops looping the signal.

For PA type NPCs, variable d and t may be set as follows:

LPBK-dt		
d	t	**FUNCTION**
F	A	Starts looping the incoming signal back towards the facility and sends AIS downstream. Turns off facility performance monitoring and freezes alarm states and parameter counts.
F	B	Starts looping the incoming signal back towards the facility and sends AIS downstream. Performance Monitoring activity and alarm processing is maintained.
F	C	Starts looping the incoming signal back towards the facility and transparently passes through the received signal. Turns off facility performance monitoring and freezes alarm states and parameter counts.
F	T	Starts looping the incoming signal back towards the facility and transparently passes through the received signal. Performance Monitoring activity and alarm processing is maintained.
E	A	Starts looping the outgoing signal back towards the DACS II equipment and sends AIS upstream. Turns off facility performance monitoring and freezes alarm states and parameter counts.
E	B	Starts looping the outgoing signal back towards the DACS II equipment and sends AIS upstream. Performance Monitoring activity and alarm processing is maintained.
E	C	Starts looping the outgoing signal back towards the DACS II equipment and transparently passes through the outgoing signal in the upstream direction. Turns off facility performance monitoring and freezes alarm states and parameter counts.
E	T	Starts looping the outgoing signal back towards the DACS II equipment and transparently passes through the outgoing signal in the upstream direction. Performance Monitoring activity and alarm processing is maintained.
N	N	Stop loopback.

When the NPC loopback is activated towards the facility, DACS II will no longer output its own clock on the line. Equipment connected to this NPC should not rely on timing from

DACS II in that case.

Command

Nonhierarchical

[I.38341]

```
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],LPBK [d]t!
```

Hierarchical

[I.38341]

```
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],LPBK [d]t!
```

Completion Message

Nonhierarchical

[O.38341]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [v]ghi LPBK [d]t COMPL
```

Hierarchical

[O.38341]

```
M hh:mm:ss xy,ww n[vv] CHG NPC edhfg LPBK [d]t COMPL
```

Denial Message

Nonhierarchical

[O.38341.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [v]ghi LPBK [d]t COND cc DNY
```

Hierarchical

[O.38341.01]

M hh:mm:ss xy,ww n[vv] CHG NPC edhfg LPBK [d]t COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

If an NPC range is specified in the input command, the following floating window rules apply:

1. Unequipped NPCs within the requested range will be skipped.
2. If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.
3. If an endpoint of the requested range is in a CEPT gap, then the NPCs in the portion of the range which is in the gap will be denied.

[s]abc- The 3- or 4-digit beginning nonhierarchical NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]def- The 3- or 4-digit ending nonhierarchical NPC number
Valid values are identical to those for [s]abc.

uvmnp - Beginning hierarchical NPC number
wxkqr - Ending hierarchical NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

LPBK - Loopback

d - Loopback direction specifier; required for PA NPCs, but not allowed for PB/PC NPCs. See previous table for PA type NPCs.

t - Loopback signal transmission and performance monitoring specifier. See tables above for PB/PC type NPCs and for PA type NPCs.

For PB/PC type NPCs, only the "t" flag is allowed. If the optional "d" flag is also entered the command will be denied.

The "t" flag is allowed to be changed while a loopback is active. That is, this command can be entered to change the signal transmission and/or the PM options while a loopback is being performed.

The change of the loopback direction for PA NPCs, that is, change the "d" flag between "F" and "E", while a loopback is active is not allowed.

For PB/PC NPCs, a loopback will be stopped when this command is entered with "LPBK N". For PA NPCs, a loopback will be stopped only if this command is entered with "LPBK NN".

For PB/PC NPCs if LPBK T or LPBK N is entered from the LPBK A state, Facility Performance Monitoring is enabled and alarm and parameter counts are reset. For PA NPCs when the "t" flag is changed from "A" or "C" to another state, Facility Performance Monitoring is enabled and alarm and parameter counts are reset.

For a range command, if the "d" field is specified, the command will only be applied to PA NPCs; PB/PC NPCs will be skipped. Similarly, if the "d" field is not entered, the command will only be applied to PB/PC NPCs and will skip PA NPCs. In either cases, if no NPCs with the appropriate NPC type is in the specified range, the command will be denied.

[v]ghi- The 3- or 4-digit nonhierarchical NPC number
([s]abc ≤ [v]ghi ≤ [t]def)

edhfg - Hierarchical NPC number (uvmnp ≤ edhfg ≤ wxkqr)

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
24	Unit type error
46	NPC Failed or Out of Service
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FD	NPC range crosses unit boundary

cc	*Explanation*
A1	The parameter specified does not match with the NPC type
17	Command did not execute for any entity specified in the command
AE	NPC used as a timing reference

CHG,NPC,NFS

CHANGE NPC NON FRAME-WORD SETTING

Explanation Of Command

This command allows control of the spare national and international bits in time slot zero (TS0).

Control is exercised through variable "abcdefghi". Each letter in this variable represents one of the spare national or international bits in TS0. The bit represented by a given letter is controlled by assigning an appropriate value to the letter. Each letter may be set to one of the following: **0**, **1**, **p** or **-**. **p** indicates that the incoming bit will be passed through unchanged if cross-connected. A **0** and **1** set for any of the bits (except **c**) will override the cross-connected bits. This applies also to NPCs assigned as test NPCs. A hyphen (**-**) means that the bit is not affected by this command.

When a command covering a range of NPCs is denied for successive NPCs in the range for the same reason, a summary denial message shall be output, giving the range of NPCs denied and the reason. The execution of the normal completions, or of denials for a reason other than diagnostic failures, then resumes at the next NPC and continues to the end of the range.

Command

Nonhierarchical

[I.38324]

CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],NFS abcdefghi!

Hierarchical

[I.38324]

CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],NFS abcdefghi!

Completion Message

Nonhierarchical

[O.38324]

**M hh:mm:ss xy,ww n[vv] CHG NPC [s]jkl OLD abcdefghi \
NEW abcdefghi NFS COMPL**

Hierarchical

[O.38324]

**M hh:mm:ss xy,ww n[vv] CHG NPC uvjkl OLD abcdefghi \
NEW abcdefghi NFS COMPL**

Denial Message

Nonhierarchical

[O.38324.01]

**M hh:mm:ss [<xy>],ww n[vv] CHG NPC [s]jkl[-[t]mno] ab\
cdefghi NFS COND cc DNY**

Hierarchical

[O.38324.01]

**M hh:mm:ss xy,ww n[vv] CHG NPC uvjkl[-uvmno] ab\
cdefghi NFS COND cc DNY**

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc- The 3- or 4-digit nonhierarchical NPC number, start of range

[t]def- The 3- or 4-digit nonhierarchical NPC number, end of range, must be in the same unit as [s]abc

[s]jkl- The 3- or 4-digit nonhierarchical NPC number within the range of [s]abc and [t]def.

[t]mno- The 3- or 4-digit nonhierarchical NPC number within the range of [s]abc and [t]def.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, start of range
uvkqr - Hierarchical NPC number, end of range

uvjkl - Hierarchical NPC number (uvmnp through uvkqr)
uvmno - Hierarchical NPC number (uvmnp through uvkqr)

uv
- Unit number

m,k,j
- Module number

np,qr,kl,no
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NFS - Nonframe-word Setting

abcdefghi
- Input variables corresponding to spare bits in TS0

abcdefghi
- Variables of old spare bits in TS0.

a: Bit 1 of Frame Word (FW) - International spare bit for TS0 to non-TS0 cross-connect in Mode 2, this variable can only be "-" or "b"
b: Bit 1 of Non Frame Word (NFW) - International spare bit
c: Bit 2 of NFW
d: Bit 3 of NFW - Remote Alarm Indicator
e-f: Bits 4-5 of Not Frame Word, National spare bits
g: Bit 6 of Not Frame Word, RPSFI bit if provisioned for RPSFI otherwise a national spare bit.
h-i: Bits 7-8 of Not Frame Word, National spare bits

Variable Input Value	Action on corresponding TS0 bit:
"0" or "1"	Set TS0 bit to this value
"V"	Received bit is inverted and passed through
"P"	Received bit is passed through unchanged
"-"	Neither the variable nor the TS0 bit is changed by this command.

The output parameters take on values dependent on the message language (PDS or MML) and position (OLD or NEW) as shown in the following table:

Input	Output Primary Line (MML)	OLD	NEW
"0"	"0"	previous	"0"
"1"	"1"	previous	"1"
"V"	"V"	previous	"V"
"P"	"P"	previous	"P"
"-"	"-"	previous	previous

previous value may be one of "0", "1", "V" or "P"

For example:

11V---00P 11V---00P 0011PPPPV 11V1PP00P

If this command is not entered for a NPC, the default value for all the bits is "P".

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
24	Unit type error
26	NPC type error
46	NPC Failed or Out of Service
F2	Invalid NPC number specified
FF	Termination is in process of being rolled
2C	not allowed for clear 2MB
2D	TS0 is crossconnected to TS0
2F	TS0 connected to nonTS0 in Mode 2 - "a" should be "-" or "b"
3A	Invalid FPI value

CHG,NPC,OPTS,THMODE

CHANGE NPC OPTIONS

Explanation Of Command

This message changes the facility performance parameter threshold values on a specified Network Processing Circuit (NPC) without disconnecting and reconnecting provisioned circuits.

One or more alarm or information threshold values for the designated NPC may be changed to a value previously stored in the DACS II threshold data base. These previously stored values are selected through use of the indices **rr/m**.
Each facility parameter of an NPC has a default threshold and up to three user-programmable threshold values stored in the DACS II threshold data base. The **CHG SETOP NPCOP** command sets these values.

Note: This command will not reboot the NPC hardware. Therefore, if any NPCs are in service, use the **UTL::BOOT,FRAME** command (Message I.58001) to avoid any possible inconsistency.

Command

Nonhierarchical

[I.38221]

```
CHG:FRM xy,SEQ ww:NPC [s]abc,{OPTS(rr/<m>[,rr/<m>][...])|\
THMODE hhh}!
```

Hierarchical

[I.38221]

**CHG:FRM xy,SEQ ww:NPC uvmnp,{OPTS(rr/<m>[,rr/<m>][...])|\
THMODE hhh}!**

Completion Message

Nonhierarchical

For PA type NPCs:

[O.38222]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
OPTIONS     a        b         c     d     e     f     g
OLD OPTIONS á        ƀ         ć     đ     é     f     ǵ         EOM

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n
OLD OPTIONS ħ     í    ǰ     k        ł     ḿ     ń     EOM

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pqr]  5 LN MSG:
15MIN       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a        b         c     d     e     f     g
OLD OPTIONS á        ƀ         ć     đ     é     f     ǵ        EOM

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pqr]  5 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k        l     m     n
OLD OPTIONS ħ     í    ǰ     ƙ        ł     ḿ     ń     COMPL
```

[O.38223]

**M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[IW pqr] THMODE \
hhh COMPL**

For PB and PC type NPCs:

[O.38221]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pqr]  5 LN MSG:
24 HOURS     DM      SERS     ERS      US      SLIP
THRESHOLDS   nnnnn   ppppp    qqqqq    rrrrr   sssss
OPTIONS          e       f        g        h       i
OLD OPTIONS      s       t        u        v       w  EOM

M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pqr]  5 LN MSG:
SHORT INTERVAL    DM        SERS      ERS       US        SLIP
THRESHOLDS        nnnnn     ppppp     qqqqq     rrrrr     sssss
OPTIONS               e         f         g         h         i
OLD OPTIONS           s         t         u         v         w  COMPL
```

Hierarchical

For PA type NPCs:

[O.38222]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
OPTIONS     a        b         c     d     e     f     g
OLD OPTIONS á        ƀ         ć     đ     é     f     ǵ         EOM

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n
OLD OPTIONS ħ     í    ǰ     ƙ        ł     ḿ     ń     EOM

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pqr]  5 LN MSG:
15MIN       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a        b         c     d     e     f     g
OLD OPTIONS á        ƀ         ć     đ     é     f     ǵ        EOM

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pqr]  5 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k        l     m     n
OLD OPTIONS ħ     í    ǰ     ƙ        ł     ḿ     ń    COMPL
```

[O.38223]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pqr] THMODE \
hhh COMPL
```

For PB and PC type NPCs:

[O.38221]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pqr]  5 LN MSG:
24 HOURS     DM      SERS     ERS      US      SLIP
THRESHOLDS   nnnnn   ppppp    qqqqq    rrrrr   sssss
OPTIONS          e       f        g        h       i
OLD OPTIONS      s       t        u        v       w  EOM

M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pqr]  5 LN MSG:
SHORT INTERVAL    DM        SERS      ERS       US        SLIP
THRESHOLDS        nnnnn     ppppp     qqqqq     rrrrr     sssss
OPTIONS               e         f         g         h         i
OLD OPTIONS           s         t         u         v         w  COMPL
```

Denial Message

Nonhierarchical

[O.38221.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ {ss/n|\
THMODE hhh}] COND cc DNY
```

Hierarchical

[O.38221.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ {ss/n|\
THMODE hhh}] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

- **uv** - Unit number
- **m** - Module number
- **np** - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

rr - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected.

<m> - Facility performance parameter threshold index (0 through X’10’)

Variable <m> is used to select threshold values and threshold crossing alarm levels previously programmed for rr. The default threshold value for each parameter is shown below under the column heading "Default Threshold Value". Default threshold values are selected by setting m = 0, 1, 2 or d. Each of these m values corresponds to the default threshold but a different alarm level. The default threshold value and alarm level is given by m = 0. Threshold values selected from Set1 (m=3,4,5,e), Set2 (m=6,7,8,f), and Set3 (m=9,a,b,X'10') must exist, that is, they must have been programmed, prior to being selected.

These other thresholds can be set by using the CHG::SETOP command.

For PB and PC type NPCs:

rr	Parameter	Threshold Value Range	Default Threshold Value
31	Degraded Minutes, 1 hour	1-60	60
32	Degraded Minutes, 24 hours	1-1440	1440
33	Severely Errored Seconds, 15 mins	1-900	900
34	Severely Errored Seconds, 24 hours	1-65535	65535
35	Errored Seconds, 15 minutes	1-900	900
36	Errored Seconds, 24 hours	1-65535	65535
37	Unavailable Seconds, 15 minutes	1-900	900
38	Unavailable Seconds, 24 hours	1-65535	65535
39	Slips, 15 minutes	1-900	900
40	Slips, 24 hours	1-65535	65535

Note 1: 24-hour thresholds must be greater than their respective 15-minute or 1-hour threshold.

For PA type NPCs:

Table 9-1. Parameter Register Threshold Range and Default Values

rr	Parameter	Interval	Threshold Value Range	Default Threshold Value
11	CRC Block Errors	DAILY	1 - 79056000	176947
12	Framing Errors	DAILY	1 - 345600000	176947
13	Out of Frame Seconds	DAILY	1 - 86400	4
14	Errored Seconds	DAILY	1 - 86400	4320
15	Severely Errored Seconds	DAILY	1 - 86400	90
16	Controlled Slip Seconds	DAILY	1 - 86400	4
17	Coding Violations	DAILY	1 - 176947200	176947
18	Unavailable Seconds	DAILY	1 - 86400	90
19	Unavailable Time Count	DAILY	1 - 4320	9
20	Multiframe Errors	DAILY	1 - 86400	4095
21	Far End Block Errors	DAILY	1 - 79056000	176947
22	Far End Errored Seconds	DAILY	1 - 86400	4320
23	Far End Severely Errored Seconds	DAILY	1 - 86400	90
24	Far End Unavailable Seconds	DAILY	1 - 86400	90
81	CRC Block Errors	15MIN	1 - 823500	18432
82	Framing Errors	15MIN	1 - 3600000	18432
83	Out of Frame Seconds	15MIN	1 - 900	4
84	Errored Seconds	15MIN	1 - 900	300
85	Severely Errored Seconds	15MIN	1 - 900	30
86	Controlled Slip Seconds	15MIN	1 - 900	1
87	Coding Violations	15MIN	1 - 1843200	18432
88	Unavailable Seconds	15MIN	1 - 900	30
89	Unavailable Time Count	15MIN	1 - 45	3
90	Multiframe Errors	15MIN	1 - 900	255
91	Far End Block Errors	15MIN	1 - 823500	18432
92	Far End Errored Seconds	15MIN	1 - 900	300
93	Far End Severely Errored Seconds	15MIN	1 - 900	30
94	Far End Unavailable Seconds	15MIN	1 - 900	30

For PA, PB, and PC type NPCs:

In the following table these definitions apply:

MI	Maintenance Information
DMA	Deferred Maintenance Action Minor Alarm
PMA Major	Prompt Maintenance Action Major Alarm
PMA Critical	Prompt Maintenance Action Critical Alarm

<m>	Threshold Value	Alarm Type
0	Default	MI (Maintenance Information)
1	Default	DMA (Deferred Maintenance Minor Alarm)
2	Default	PMA (Prompt Maintenance Major Alarm)
3	Set 1	MI
4	Set 1	DMA
5	Set 1	PMA Major
6	Set 2	MI
7	Set 2	DMA
8	Set 2	PMA Major
9	Set 3	MI
a	Set 3	DMA
b	Set 3	PMA Major
c	Threshold disabled	no alarm
d	Default	PMA Critical
e	Set 1	PMA Critical
f	Set 2	PMA Critical
10	Set 3	PMA Critical

Note 1: m = 0 is the default.

Note 2: Threshold values for Set 1, Set 2, and Set 3 must be set (programmed) by using the command mentioned in the explanation of m above before variable **m** can be used to select threshold levels and alarm types other than the defaults.

TYPE - Type

mnxyz - NPC type

PAxyz - CEPT NPC (120-ohm twisted pair or 75-ohm coaxial)
PBxyz - CEPT NPC (120-ohm twisted pair)
PCxyz - CEPT NPC (75-ohm coaxial)

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

PB- and PC-type xyz field

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

IW - Insertion word

pqr - Insertion word value (hexadecimal)

pq - Disconnect code (DCC) or idle code
r - Signaling option

The value entered for pq is used as the disconnect code (DCC) or idle code. This value is inserted in the transmit direction on unassigned channels. An insertion word is not allowed for clear-2Mbit NPCs; the all ones signal is transmitted for an idle clear-2Mbit NPC. Thus, information about the disconnect code will not appear for any message involving a clear-2Mbit type NPC.

Variable r is used for circuits provisioned for channel associated signaling (CAS). A value may be entered for r for nonsignaling associated (NSA) NPCs but it has no significance.

pq	*Explanation*
D5	Default idle code

r	*Explanation*
D	Default signaling This sets signaling bits abcd to the binary value 1101

For PB and PC type NPCs:

DM - Degraded Minutes
SERS - Severely Errored Seconds
ERS - Errored Seconds
US - Unavailable Seconds
SLIP - Slip Events

For SHORT INTERVAL, DM is calculated hourly and SERS, ERS, US and SLIP are calculated at 15-minute intervals.

nnnnn - 24-hour Degraded Minutes (DM) threshold
ppppp - 24-hour Severely Errored Seconds (SERS) threshold
qqqqq - 24-hour Errored Seconds (ERS) threshold
rrrrr - 24-hour Unavailable Seconds (US) threshold
sssss - 24-hour Slip Events (SLIP) threshold

e - 24-hour DM threshold/alarm selection
f - 24-hour SERS threshold/alarm selection
g - 24-hour ERS threshold/alarm selection
h - 24-hour US threshold/alarm selection
i - 24-hour SLIP threshold/alarm selection

s - Old 24-hour DM threshold/alarm selection
t - Old 24-hour SERS threshold/alarm selection
u - Old 24-hour ERS threshold/alarm selection
v - Old 24-hour US threshold/alarm selection
w - Old 24-hour SLIP threshold/alarm selection

nnnnn - 1-hour DM threshold
ppppp - 15-minute SERS threshold
qqqqq - 15-minute ERS threshold
rrrrr - 15-minute US threshold
sssss - 15-minute SLIP threshold

e - 1-hour DM threshold/alarm selection
f - 15-minute SERS threshold/alarm selection
g - 15-minute ES threshold/alarm selection
h - 15-minute US threshold/alarm selection
i - 15-minute SLIP threshold/alarm selection

s - 1-hour DM threshold/alarm selection
t - 15-minute SERS threshold/alarm selection
u - 15-minute ES threshold/alarm selection
v - 15-minute US threshold/alarm selection
w - 15-minute SLIP threshold/alarm selection

For PA type NPCs:

CRC - CRC Block Errors
FRER - Framing Errors
OFS - Out of Frame Seconds
ES - Errored Seconds
SES - Severely Errored Seconds
CSS - Controlled Slip Seconds
CV - Coding Violations
UAS - Unavailable Seconds
UATC - Unavailable Time Count
MER - Multiframe Errors
FEBE - Far End Block Errors
FES - Far End Errored Seconds
FSES - Far End Severely Errored Seconds
FUAS - Far End Unavailable Seconds

aaaaaaaa
- Daily CRC block error threshold value.

bbbbbbbbb
- Daily framing error threshold value.

ccccc - Daily out of frame seconds threshold value.
ddddd - Daily errored second threshold value.
eeeee - Daily severely errored second threshold value.
fffff - Daily controlled slip second threshold value.

ggggggggg
- Daily coding violation threshold value.

hhhhh - Daily unavailable second threshold value.
iiii - Daily unavailable time count threshold value.
jjjjj - Daily multiframe alignment error threshold value.

kkkkkkkk
- Daily far-end block error threshold value.

lllll - Daily far-end errored second threshold value.
mmmmm - Daily far-end severely errored second threshold value.
nnnnn - Daily far-end unavailable second threshold value.

a - Daily CRC block error threshold selection,
b - Daily framing error threshold selection,
c - Daily out of frame seconds threshold selection,
d - Daily errored second threshold selection,
e - Daily severely errored second threshold selection,
f - Daily controlled slip second threshold selection,
g - Daily coding violation threshold selection,
h - Daily unavailable second threshold selection,
i - Daily unavailable time count threshold selection,
j - Daily multiframe alignment error threshold selection,
k - Daily far-end path block error selection,
l - Daily far-end path second threshold selection,
m - Daily far-end severely errored second threshold selection,
n - Daily far-end unavailable second threshold selection,

a - Old Daily CRC block error threshold selection,
b - Old Daily framing error threshold selection,
c - Old Daily out of frame seconds threshold selection,
d - Old Daily errored second threshold selection,
e - Old Daily severely errored second threshold selection,
f - Old Daily controlled slip second threshold selection,
g - Old Daily coding violation threshold selection,
h - Old Daily unavailable second threshold selection,
i - Old Daily unavailable time count threshold selection,
j - Old Daily multiframe alignment error threshold selection,
k - Old Daily far-end path block error selection,
l - Old Daily far-end path second threshold selection,
m - Old Daily far-end severely errored second threshold selection,
n - Old Daily far-end unavailable second threshold selection,

The options can be a value from "0" to "c" as specified for the "m" of the "rr/m" field.

aaaaaa - 15-minute CRC block error threshold value.
bbbbbbb
- 15-minute framing error threshold value.
_c_c_c - 15-minute out of frame seconds threshold value.
_d_d_d - 15-minute errored second threshold value.
_e_e_e - 15-minute severely errored second threshold value.
_f f f - 15-minute controlled slip second threshold value.
ggggggg
- 15-minute coding violation threshold value.
_h_h_h - 15-minute unavailable second threshold value.
_i i - 15-minute unavailable time count threshold value.
_j j j - 15-minute multiframe alignment error threshold value.
kkkkkk - 15-minute far-end block error threshold value.
_l l l - 15-minute far-end errored second threshold value.
_m_m_m - 15-minute far-end severely errored second threshold value.
_n_n_n - 15-minute far-end unavailable second threshold value.

a - 15-minute CRC block error threshold selection,
b - 15-minute framing error threshold selection,
c - 15-minute out of frame seconds threshold selection,
d - 15-minute errored second threshold selection,
e - 15-minute severely errored second threshold selection,
f - 15-minute controlled slip second threshold selection,
g - 15-minute coding violation threshold selection,
h - 15-minute unavailable second threshold selection,
i - 15-minute unavailable time count threshold selection,
j - 15-minute multiframe alignment error threshold selection,
k - 15-minute far-end path block error selection,
l - 15-minute far-end path second threshold selection,
m - 15-minute far-end severely errored second threshold selection,
n - 15-minute far-end unavailable second threshold selection,

a - Old 15-minute CRC block error threshold selection,
b - Old 15-minute framing error threshold selection,
c - Old 15-minute out of frame seconds threshold selection,
d - Old 15-minute errored second threshold selection,
e - Old 15-minute severely errored second threshold selection,
f - Old 15-minute controlled slip second threshold selection,
g - Old 15-minute coding violation threshold selection,
h - Old 15-minute unavailable second threshold selection,
i - Old 15-minute unavailable time count threshold selection,
j - Old 15-minute multiframe alignment error threshold selection,
k - Old 15-minute far-end path block error selection,
l - Old 15-minute far-end path second threshold selection,
m - Old 15-minute far-end severely errored second threshold selection,
n - Old 15-minute far-end unavailable second threshold selection,

The options can be a value from "0" to "c" as specified for the "m" of the "rr/m" field.

For PA type NPCs:

Depending on which interface functions are enabled by the provisioning values of xyz, some parameters may not be applicable. In this case the threshold value, the parameter count (if present in the message) and the selection value will appear as dashes ("-"). In the table below "N/A" indicates that a parameter is not applicable for the given value of x or y.

Also, if the selection value m=c has been chosen for a parameter, the threshold value and the parameter count (if present in the message) will appear as dashes.

For PA Type NPCs				
Parameter	CRC-4 Mode Disabled (x=A,B,E,F)	Far-End PM Disabled (x=0,2,4,6,A,B,E,F)	CAS Disabled (y=8,9,C,D)	Unframed Clear 2Mbit/s (y=D)
CRC	N/A			N/A
FRER				N/A
OFS				N/A
ES				N/A
SES				N/A
CSS				
CV				
UAS				N/A
UATC				N/A
MER			N/A	N/A
FEBE		N/A		N/A
FES		N/A		N/A
FSES		N/A		N/A
FUAS		N/A		N/A

For PA type NPCs only:

THMODE - Thresholding mode

hhh - Thresholding mode option

hhh	*Explanation*
INH	Inhibit thresholding
ALW	Allow thresholding

The INH option is used to temporarily inhibit thresholding for all parameters of a PA NPC. The ALW option is used to turn-off the INH option. The default thresholding mode is ALW.

When the INH mode is entered, all thresholds for the NPC are suspended; therefore, no threshold crossing messages will be output after the inhibition. However, the previously programmed threshold values are still stored in the database and will continue to be output for each parameter. Threshold value option changes are permitted while the NPC thresholding is inhibited.

When the ALW mode is entered, the previously programmed threshold values will be re-applied unless they were changed while in the INH mode.

ss/n - First improper values of "rr/m" for which message is denied.

cc - Hexadecimal condition code

cc	**st**	*Explanation*
02		Subject entity is not equipped
10		Unit is not equipped
11		UC is out of service
12		UC is in service but failed
13		FTMI is not equipped
20		Option rr/m has not been set up on 2nd database
21		Minor >= major for SLIP opt
22		Minor <= major for BER opt
23		Minor >= major for COFA opt
26		NPC type error
29		IW is UMUX (18) but NPC not type DE4yz
2A		DMI combined with T1DM
2B		Maj|Min BER threshold is 7, but not in T1DM or Fe mode
4F		BER must not be less than 4 for Clear DS1
83		Option not programmable for this NPC type
B5		NPC is a test port
FF	**ROLL**	Termination is in process of being rolled
93		PA NPC threshold already in inhibit mode
94		PA NPC threshold already in allow mode

CHG,NPC,TS0

CHANGE NPC TIME SLOT ZERO

Explanation Of Command

This message allows the changing of the spare national and international bits in TS0.

TS0-abcdefgh is the international and national bit in timeslot 0. Each variable may be set to one of the following: 0, 1, p or -. p indicates that the incoming bit will be passed through unchanged if cross-connected. A 0 and 1 set for any of the bits (except c) will override the cross-connected bits. This also applies to NPCs assigned as test NPCs. A hyphen (-) means that the bit is not affected by this command.

When a range NPC is denied for successive NPCs in the range for the same reason, a summary denial message shall be output, giving the range of NPCs denied and the reason. The execution of the normal completions, or of denials for a reason other than diagnostic failures, then resumes at the next NPC, up to the end of the range.

Command

Nonhierarchical

[I.38321]

CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TS0 abcdefgh!

Hierarchical

[I.38321]

```
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TS0 abcdefgh!
```

Completion Message

Nonhierarchical

[O.38321]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]jkl OLD abcdefgh \
NEW abcdefgh TS0 COMPL
```

Hierarchical

[O.38321]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvjkl OLD abcdefgh \
NEW abcdefgh TS0 COMPL
```

Denial Message

Nonhierarchical

[O.38321.01]

```
M hh:mm:ss [<xy>],ww n[vv]G NPC [s]jkl[-[t]mno] ab\
cdefgh TS0 COND cc DNY
```

Hierarchical

[O.38321.01]

```
M hh:mm:ss xy,ww n[vv]G NPC uvjkl[-uvmno] abc\
defgh TS0 COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc,[t]def

- The 3- or 4-digit nonhierarchical NPC number, must be in the same unit

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number
uvkqr - Hierarchical NPC number

uv	- Unit number
m,k	- Module number
np,qr	- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TS0 - Time slot zero (0)
abcdefgh
- Spare bits in TS0

ab	- Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c	- Remote Alarm Indication must be "-" (hyphen).
de	- Two spare national bits S_4 through S_5 in the NFW.
f	- RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.
gh	- Two spare national bits S_7 through S_8 in the NFW

Variable Input Value	Action on corresponding TS0 bit:
"0" or "1"	Set TS0 bit to this value
"P"	Received bit is passed through (cross-connected) unchanged.
"-"	Neither the variable nor the TS0 bit is changed by this command.

[s]jkl - The 3- or 4-digit nonhierarchical NPC number within the range of [s]abc and [t]def.

[t]mno - The 3- or 4-digit nonhierarchical NPC number within the range of [s]abc and [t]def.

uvjkl - Hierarchical NPC number (uvmnp through wxkqr)

uvmno - Hierarchical NPC number (uvmnp through wxkqr)

abcdefgh

- Variables to corresponding TS0 bits.
The output parameters take on values dependent on the message language (PDS or MML) and position (OLD or NEW) as shown in the following table:

Input	Output Primary Line (MML)	OLD	NEW
"0"	"0"	previous	"0"
"1"	"1"	previous	"1"
"P"	"P"	previous	"P"
"V" (PA only)	"V"	previous	"V"
"-"	"-"	previous	previous

previous value may be one of "0", "1", "P", or "V" (for PA NPCs)

For example:

11----00	11----00	0011PPPP	1111PP00

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
24	Unit type error
26	NPC type error
2B	Bit c not settable
38	Bit 6 provisioned for use as RPSFI
3C	Bits 3 through 8 are provisioned for Transmic 1G
3D	Alarm bits cannot be passed through or inverted
46	NPC Failed or Out of Service
B0	Combination of bit g (b7) and h (b8) is invalid
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FF	Termination is in process of being rolled
8E	For RPSFI, TS0 bit 6 must be provisioned as 1
2C	not allowed for clear 2MB
2E	bit value not allowed for NPC type

CHG,NPC,TS0M

CHANGE TIME SLOT ZERO MONITOR

Explanation Of Command

This command is used to change the Network Processing Circuit provisioning either to monitor or to stop monitoring the National and International bits in CTS 0 without removing the NPC from service. The provisioning may be specified for one NPC or for a range of NPCs. Note that the NPC numbers which are divisible by four with remainder zero, are not a valid Hybrid DS3 Unit THxyz type NPCs. However, the range of THxyz type NPC numbers is still supported with the understanding that there may be gaps in the NPC number range.

Command

Nonhierarchical

[I.38323]

```
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TS0M abcdefgh!
```

Hierarchical

[I.38323]

```
CHG:FRM xy,SEQ ww:NPC uvmnp[-wxkqr],TS0M abcdefgh!
```

Completion Message

Nonhierarchical

[O.38323]

```
M hh:mm:ss xy, ww n[vv] CHG NPC [s]abc OLDM abcdefgh\
NEWM abcdefgh TS0MBOFL v COMPL
```

Hierarchical

[O.38323]

```
M hh:mm:ss xy, ww n[vv] CHG NPC uvmnp OLDM abcdefgh\
NEWM abcdefgh TS0MBOFL v COMPL
```

Denial Message

Nonhierarchical

[O.38323.01]

```
M hh:mm:ss xy, ww n[vv] CHG NPC [v]ghi[-[u]jkl]\
TS0M abcdefgh COND cc DNY
```

Hierarchical

[O.38323.01]

```
M hh:mm:ss xy, ww n[vv] CHG NPC edhfg[-opjst]\
TS0M abcdefgh COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit beginning NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]def - The 3- or 4-digit ending NPC number
The valid values are identical to those for [s]abc

uvmnp - Beginning NPC number
wxkqr - Ending NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

abcdefgh
- Time slot 0 monitor bits

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

Valid values for bits **a** through **h** are described below:

Bit value	*Explanation*
0	Do not monitor and therefore do not send a message if this bit changes state
1	Monitor and therefore send a message if this bit changes state

-	Leave the setting of the monitor mask for that bit unchanged

[v]ghi - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [u]jkl)

[u]jkl - The 3- or 4-digit nonhierarchical NPC number ([s]ghi through [t]def)

edhfg - Hierarchical NPC number (uvmnp through opjst)
opjst - Hierarchical NPC number (edhfg through wxkqr)

OLDM - Old value of TS0M bits

NEWM - New value of TS0M bits

TS0MBOFL
- TS0M buffer overflow keyword

v - TS0M buffer overflow condition indicator

0	NPC is not in TS0M buffer overflow condition
1	NPC is in TS0M buffer overflow condition

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
24	Unit type error
32	Bit 3 provisioned for use as RAI3
33	Bit 4 provisioned for use as RAIS
38	Bit 6 provisioned for use as RPSFI
3A	Bit 4 provisioned for use as RBER
3B	Bit 5 provisioned for use as SFI
3C	Bits 3 through 8 are provisioned for Transmic 1G
EF	Software does not contain Enhanced CEPT feature
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FF	Termination is in process of being rolled

CHG,NPC,TYPE,IW,X

CHANGE NPC TYPE

Explanation Of Command

This command is used to change the type and, optionally, the insertion word of a specified network processing Circuit (NPC) equipped in a facility terminating unit (IFTU2/IFTU/FTU). The insertion word field is used to change the NPC's disconnect code (DCC). These changes may be made without disconnecting and reconnecting the provisioned circuits, but the NPC must be out of service when this command is executed.

For PA, PB, and PC type NPCs the y value of the type field may not be changed, because a change in the y value may change the channel numbering for cross-connections that are already provisioned.

The NPC must be out of service to change the facility provisioning. It can be taken out of service using the **RMV** command. Changes to the parameters will take effect when the NPC is restored (**RST**) to service. When the NPC facility provisioning is changed, all programmable alarm thresholds revert to their default values. These default thresholds are defined in the **GRTH::NPC,TYPE** message. If values other than the defaults are desired, a separate **CHG::NPC,OPTS** command must be given for each value.

Command

Nonhierarchical

[I.38211]

```
CHG:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,IW X'pq[r]]!
```

Hierarchical

[I.38211]

```
CHG:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,IW X'pq[r]]!
```

Completion Message

Nonhierarchical

[O.38211]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz\
[ IW pq[r]]  2 LN MSG:
OLD TYPE ttuvw[ OLD IW rs[t]] COMPL
```

Hierarchical

[O.38211]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz\
[ IW pq[r]]  2 LN MSG:
OLD TYPE ttuvw[ OLD IW rs[t]] COMPL
```

Denial Message

Nonhierarchical

[O.38211.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq[r]] \
COND cc DNY
```

Hierarchical

[O.38211.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq[r]] \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv	- Unit number
m	- Module number in unit uv
np	- NPC number in module m

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

OLD - Old

TYPE - Type

mnxyz - NPC type

mnxyz	*Type*
PAxyz	CEPT NPC (120-ohm twisted pair or 75-ohm coaxial)
PBxyz	CEPT NPC (120-ohm twisted pair)
PCxyz	CEPT NPC (75-ohm coaxial)

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ttuvw - Previous value of mnxyz

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

IW - Insertion word

pq - Insertion word value (hexadecimal)

Hexadecimal value of the growth insertion word (GIW). Specifies the insertion word sent in the transmit direction on unassigned channels. If this value is not specified, it remains unchanged from its previous value.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned 64kb/s channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with DDC specified is used.

D5	Unassigned Channel Code (UAC). Default value.

rs - Previous value of pq

r - Transmitted signaling information

r is the portion of TS16 used for signaling when provisioned for CAS (four signaling bits in the associated CAS time slot 16 signaling). If **r** is not specified, it will remain unchanged.

r	*Explanation*
D	Unassigned channel code (UAC). Default value.

t - Previous value of r

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
1F	FTMI is in service but failed

cc	*Explanation*
20	Option rr/m has not been set up on 2nd database
21	Minor >= major for SLIP opt
26	NPC type error
29	IW is UMUX (18) but NPC not type DE4yz
2A	DMI combined with T1DM
2B	Maj|Min BER threshold is 7, but not in T1DM or Fe mode
34	NPC type option xyz is unassigned, or invalid for feature package
35	NPC has active circuit
86	NPC is NPCTG and chan 24 is used in a TG;Can't change to T1DM or DMI
19	Test ports must be on CAS
3D	Alarm bits cannot be passed through or inverted
42	Change not valid
4E	IW option is not allowed for new type of Clear-DS1 NPC
4F	BER must not be less than 4 for Clear DS1
5C	NPC providing timing to inservice SSP
83	Option not programmable for this NPC type
8A	x & z parameters on DSxyz are inconsistent
8F	NPC not deleted
BB	Timeslot channel numbering not allowed with CAS
C9	In-service NPC change not allowed
CD	NPC not designated as sync timing source
F2	Invalid NPC number specified
FE	Change to non-ESF digroup with 16-state cross-connect
FF	Change to T1DM digroup with cross-connect that is not TRSP
05	This NPC type does not allow unframed Clear-DS1
87	NPC as 12th test port can not change to DMI nor T1DM
8D	RPSFI condition is active
8E	For RPSFI, TS0 bit 6 must be provisioned as 1
8F	For RPSFI, TS0 bit 6 cannot be monitored
AA	NPC is NPCTG, changing to CAS/NSA is not allowed
36	INCL keyword needed when restricted Insertion Word specified
7E	Framed/Unframed clear 2Mbit/s NPC invalid for Automatic CRC-4
7F	Unframed clear 2Mbit/s NPC invalid for TS0 processing
80	Framed/Unframed clear 2Mbit/s NPC invalid for Transmic 1G, 2G
81	Framed/Unframed clear 2Mbit/s NPC invalid for Firmware Timing
82	Unframed clear 2Mbit/s NPC invalid for Bit 4 used as RA IS/RBER
85	IW not allowed to be specified in Clear 2Mbit/s

CHG,NPC,TYPE,IW,X,INCL

CHANGE DS3U NPC TYPE

Explanation Of Command

For DACS II DS3 Units (DS3U) or Hybrid DS3 Units (HDS3U), this command changes a single or range of TE or TA type (DS3U Only) Network Processing Circuits (NPCs) to the newly specified type without disconnecting and reconnecting provisioned circuits. The NPCs must be out of service.

The "mn" field, as well as the "xyz" field, of the NPC type parameter ("mnxyz") can be changed by this command. This feature is used to change between the different types (TE and TA) of NPCs supported by the DS3 or Hybrid DS3 Unit line termination circuit packs.

A range is allowed for the NPCs within one DS3 or Hybrid DS3 Unit. The optional insertion word field is used to change the disconnect code (DCC).

The new parameters will take effect when the NPC is restored to service. When the NPC **TYPE** parameters are changed, all programmable alarm thresholds revert to the default values. If values other than defaults are desired, a separate **CHG** command must be given for each value. There will be one output completion message for each NPC in the range.

Command

Nonhierarchical

[I.38271]

```
CHG:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,IW X'pq[,INCL]]!
```

Hierarchical

[I.38271]

```
CHG:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,IW X'pq[,INCL]]!
```

Completion Message

Nonhierarchical

[O.38271]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc TYPE mnxyz[ IW pq[ INCL]]  \
2 LN MSG:
OLD TYPE ttuvw[ OLD IW rs] COMPL
```

Hierarchical

[O.38271]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp TYPE mnxyz[ IW pq[ INCL]]  \
2 LN MSG:
OLD TYPE ttuvw[ OLD IW rs] COMPL
```

Denial Message

Nonhierarchical

[O.38271.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC [s]abc[-[t]def] TYPE mnxyz\
[ IW pq[ INCL]] COND cc DNY
```

Hierarchical

[O.38271.01]

```
M hh:mm:ss xy,ww n[vv] CHG NPC uvmnp[-uvkqr] TYPE mnxyz\
[ IW pq[ INCL]] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

Use the optional insertion word (IW X'pq) field to change the unassigned channel code.

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC Number

[t]def - The 3- or 4-digit nonhierarchical NPC number denoting the end of a range specification.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number
uvkqr - Hierarchical NPC number denoting the end of a range specification
uvghi - Hierarchical NPC number within the range of uvmnp and uvkqr
uvjyl - Hierarchical NPC number of the first NPC of the denied range
uvmno - Hierarchical NPC number of the last NPC of the denied range

uv - Unit number
m,k,j,m,g - Module number
np,qr,yl,no,hi - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TYPE - Type

mnxyz *Explanation*

TExyz	DS3U or HDS3U Enhanced NPC
TAxyz	DS3U ANSI NPC

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

IW - Insertion Word

pq - Hexadecimal value of the growth insertion word (GIW). Specifies the insertion word in the transmit direction on unassigned channels.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned DS0 channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with the DDC specified is used.

Although any 2-digit hexadecimal code may be used (see INCL below), the default GIWs are:

pq	*Explanation*
7F	Unassigned Channel Code (UAC), the default value for TE/TA type NPCs provisioned with D4 or ESF framing.
18	Unassigned Multiplex Code (UMC), the default value for TE/TA type NPCs provisioned with T1DM framing. This value should only be provisioned with T1DM framing (DA4yz or TA4yz). The change command does not enforce this restriction.

INCL - Inclusive

As a protection to users, this keyword must be added to provision an NPC with D4 framing and an Insertion Word with bit 2 equal to zero. NPCs grown in the D4 format (TE1yz/TA1yz) transmit a DS1 yellow alarm by setting bit 2 to zero in all 24 DS0 channels. If the Insertion Word "pq" is unknowingly provisioned in this manner, the NPC will transmit a D4 yellow alarm signal when it is restored. The D4 yellow alarm is generated by any Insertion Word with the binary value a0cdefgh, where the letters a-h define the eight bits of the binary word. The D4 yellow alarm is not generated by an Insertion Word with a binary value a1cdefgh.

For Clear-DS1 NPCs, the insertion word option is **NOT** available and the message will be denied if this option is entered. The alarm indication signal (AIS) is transmitted in the disconnect or idle state.

[s]ghi,
- The 3- or 4-digit nonhierarchical NPC number within the range of [s]abc and [t]def

[s]jkl - The 3- or 4-digit nonhierarchical NPC number of the first NPC of a range that is being denied (abc ≤ jkl ≤ mno)

[t]mno - The 3- or 4-digit nonhierarchical NPC number of the last NPC of a range that is being denied (jkl ≤ mno ≤ def)

ttuvw - Previous value of mnxyz

rs - Previous value of pq

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
24	Unit type error
26	NPC type error
29	IW is UMUX (18) but NPC not type DE4yz
2A	DMI combined with T1DM
34	NPC type option xyz is unassigned, or invalid for feature package
35	NPC has active circuit
01	Invalid range for specified NPC type
11	NPC not equipped
4E	IW option is not allowed for new type of Clear-DS1 NPC
F6	T1DM or DMI mode and channel 24 is connected
FD	NPC range crosses unit boundary
05	This NPC type does not allow unframed Clear-DS1
87	NPC as 12th test port can not change to DMI nor T1DM
07	Mismatch between MXR and NPC types
36	INCL keyword needed when restricted Insertion Word specified

CHG,PASSWD,OLD,NEW

CHANGE USER PASSWORD

Explanation Of Command

This command requests a change of a previously created password by any user of DACS II.

For an X.25 link, the <old pswd>:<new pswd> option must be used. DACS II will not prompt the user for the old and new password.

For a TCP/IP link, DACS II will prompt the user for the old and new password. For a Snider link, DACS II will prompt the user for the old and new password. Neither new nor old password characters will be echoed by DACS II.

Output from this command is sent only to the link on which the command was input.

Command

[I.38301]

```
CHG:FRM xy,SEQ ww:PASSWD[,OLD <old password>, \
NEW <new password>]!
```

If the user is on a Snider protocol administrative link, or if the user is on a TCP/IP link, the message is entered as follows:

[I.38301]

```
CHG:FRM xy,SEQ ww:PASSWD!
```

Then DACS II will prompt the user for the old and new password:

```
OLD PASSWD: (user enters the old password)
NEW PASSWD: (user enters the new password)
PASSWD: (user re-enters the new password for verification)
```

Completion Message

[O.38301]

```
M hh:mm:ss xy,ww n[vv] CHG PASSWD  COMPL
```

Denial Message

[O.38301.01]

```
M hh:mm:ss xy,ww n[vv] CHG PASSWD COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

PASSWD - Password

OLD - Old

old password
- Old password, where password is at least six alphanumeric characters.

NEW - New

new password
- New password where password is at least six alphanumeric characters.

cc - Hexadecimal condition code

cc	*Explanation*
D6	Incorrect or missing password
DA	User is not logged in

CHG,SALMS,PMACR,PMAMJ,DMAMN,MI,RESET

CHANGE SHELF ALARMS SEVERITY

Explanation Of Command

This command is used to change the Alarm Severity of the system shelf alarms. The Alarm Severity must be turned ON via I.38355 to use this command.

Command

[I.38365]

```
CHG:[FRM xy,SEQ ww]:SALMS,salm,{PMACR|PMAMJ|DMAMN|MI|RESET}!
```

Completion Message

[O.38365]

```
M hh:mm:ss xy,ww n[vv] CHG SALMS salm \
{PMACR|PMAMJ|DMAMN|MI|RESET} COMPL
```

Denial Message

[O.38365.01]

```
M hh:mm:ss xy,ww n[vv] CHG SALMS salm \
{PMACR|PMAMJ|DMAMN|MI|RESET} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

salm - Shelf Alarms

salm	*Explanation*
PFF	Power Failure
SYNC	Failure of one SYNC
CCN	CCN autonomously removed
LTF	NPC Harware Failure
TREF	Failure of one SSP
STREF	Failure of last SSP
TLI	TLI removed from service
CRO	Failure of Clock Reference Oscillator
SMEM	Failure of SMEM memory card
MCE	MC removed from service
CCNI	CCI/CCNI autonomously removed
TSI	TSI/ETSI autonomously removed
FC	FC autonomously removed
FTMI	FTMI autonomously removed
DSPI	DSPI autonomously removed
FTUC	FTU UC autonomously removed
CCB	CCB autonomously removed
DSPUC	DSP UC autonomously removed
SDT	System date and time not set
DSPC	DSP NPC autonomously removed
ALL	All Shelf Alarms

PMACR - CRITICAL alarm severity

PMAMJ - MAJOR alarm severity

DMAMN - MINOR alarm severity

MI - MESSAGE INFORMATION alarm severity

RESET - Reset Alarm Severity to default value

cc - Hexadecimal condition code

cc	*Explanation*
F7	Alarm Severity Feature (already) OFF
FA	Alarm Severity of Shelf Alarm not changed
FB	Shelf escalation less than source severity

CHG,SETOP,TYPE,ALL,NPCOP

CHANGE/SET OPTIONS

Explanation Of Command

This message initializes or changes the DACS II threshold data base, which contains the programmable set of selectable alarm thresholds for facility performance parameters accumulated by DACS II NPCs.

This command will be denied if an attempt is made to set the minor threshold greater than or equal to the major threshold of any parameter specified on *any* NPC currently in the frame. Threshold values are entered in free format (1 to 9 digits) separated by commas. Enter a hyphen (-) for values that are *not* to be changed.

Following DACS II installation, the user-programmable (non-default) values are empty until this **`CHG::SETOP`** command initializes them. A user-programmable threshold value must first be initialized by this message before it can be used as an argument to the **`OPTS`** keyword of the **`GRTH::NPC`** (Message I.31352), **`CHG::NPC,OPTS`** (Message I.38221), and **`CHG::NPC`** message.

`SETOP rr` designates the parameter to be changed.

`NPCOP(set1,set2,set3)` are the user-programmable threshold values for the designated parameter.

If **`ALL`** is specified, the given thresholds will be written to the threshold data base for all types of NPCs for which the associated parameter is valid.

Command

[I.38201]

```
CHG:FRM xy,SEQ ww:SETOP rr,{TYPE mn|ALL},NPCOP(set1,set2,set3)!
```

Completion Message

[O.38201]

```
M hh:mm:ss xy,ww n[vv] CHG SETOP rr  e LN MSG:
{TYPE mn|ALL} NPCOP(set1,set2,set3)
OPT rr OLD ttttt[tttt] aaaaa[aaaa] bbbbb[bbbb] ccccc[cccc]\
[ <talm>] <pname>[ TYPE mn]
[OPT rr OLD ttttt[tttt] aaaaa[aaaa] bbbbb[bbbb] ccccc[cccc]\
[ <talm>] <pname> TYPE mn]
[OPT rr OLD ttttt[tttt] aaaaa[aaaa] bbbbb[bbbb] ccccc[cccc]\
[ <talm>] <pname> TYPE mn]
OPT rr NEW ttttt[tttt] xxxxx[xxxx] yyyyy[yyyy] zzzzz[zzzz]\
[ <talm>] <pname> COMPL
```

Denial Message

Nonhierarchical

[O.38201.01]

```
M hh:mm:ss xy,ww n[vv] CHG SETOP rr  2 LN MSG:
{TYPE mn|ALL} NPCOP(set1,set2,set3)[ NPC [s]abc] COND cc DNY
```

Hierarchical

[O.38201.01]

```
M hh:mm:ss xy,ww n[vv] CHG SETOP rr  2 LN MSG:
{TYPE mn|ALL} NPCOP(set1,set2,set3)[ NPC uvmnp] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SETOP - Set option

OPT - Option

rr - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being set or changed. The parameters and their corresponding rr values are given in the table below.

The Major and Minor *Slip* threshold crossing alarms can be disabled by programming a value of zero for the Slip Major and Slip Minor thresholds, respectively.

To use this feature, the Slip Major threshold must be disabled before the Slip Minor threshold. This command will be denied if an attempt is made to disable the Minor Slip threshold (by setting its value to zero) before disabling the Major Slip threshold on *any* in-service NPC on the frame.

For PB and PC type NPCs:

rr	Parameter	Threshold Value Range	Default Threshold Value
31	Degraded Minutes, 1 hour	1-60	60
32	Degraded Minutes, 24 hours	1-1440	1440
33	Severely Errored Seconds, 15 mins	1-900	900
34	Severely Errored Seconds, 24 hours	1-65535	65535
35	Errored Seconds, 15 minutes	1-900	900
36	Errored Seconds, 24 hours	1-65535	65535
37	Unavailable Seconds, 15 minutes	1-900	900
38	Unavailable Seconds, 24 hours	1-65535	65535
39	Slips, 15 minutes	1-900	900
40	Slips, 24 hours	1-65535	65535

Note 1: 24-hour thresholds must be greater than their respective 15-minute or 1-hour threshold.

For PA type NPCs:

Table 9-2. Parameter Register Threshold Range and Default Values

rr	Parameter	Interval	Threshold Value Range	Default Threshold Value
11	CRC Block Errors	DAILY	1 - 79056000	176947
12	Framing Errors	DAILY	1 - 345600000	176947
13	Out of Frame Seconds	DAILY	1 - 86400	4
14	Errored Seconds	DAILY	1 - 86400	4320
15	Severely Errored Seconds	DAILY	1 - 86400	90
16	Controlled Slip Seconds	DAILY	1 - 86400	4
17	Coding Violations	DAILY	1 - 176947200	176947
18	Unavailable Seconds	DAILY	1 - 86400	90
19	Unavailable Time Count	DAILY	1 - 4320	9
20	Multiframe Errors	DAILY	1 - 86400	4095
21	Far End Block Errors	DAILY	1 - 79056000	176947
22	Far End Errored Seconds	DAILY	1 - 86400	4320
23	Far End Severely Errored Seconds	DAILY	1 - 86400	90
24	Far End Unavailable Seconds	DAILY	1 - 86400	90
81	CRC Block Errors	15MIN	1 - 823500	18432
82	Framing Errors	15MIN	1 - 3600000	18432
83	Out of Frame Seconds	15MIN	1 - 900	4
84	Errored Seconds	15MIN	1 - 900	300
85	Severely Errored Seconds	15MIN	1 - 900	30
86	Controlled Slip Seconds	15MIN	1 - 900	1
87	Coding Violations	15MIN	1 - 1843200	18432
88	Unavailable Seconds	15MIN	1 - 900	30
89	Unavailable Time Count	15MIN	1 - 45	3
90	Multiframe Errors	15MIN	1 - 900	255
91	Far End Block Errors	15MIN	1 - 823500	18432
92	Far End Errored Seconds	15MIN	1 - 900	300
93	Far End Severely Errored Seconds	15MIN	1 - 900	30
94	Far End Unavailable Seconds	15MIN	1 - 900	30

TYPE - Type

Type of NPC for which the options are being set. Note that not all parameter threshold options apply to all NPC types.

mn - NPC Type prefix

mn	*Explanation*
PA	CEPT NPC type (120-ohm twisted pair or 75-ohm coaxial)
PB	CEPT NPC type (120-ohm twisted pair)
PC	CEPT NPC type (75-ohm coaxial)
TH	HDS3U CEPT NPC type

ALL - All

All NPC types. If specified, the given thresholds will be written into the secondary data base for all types of NPCs for which the associated parameter is valid.

set1 - Threshold setting 1 (m=1) for given parameter rr
set2 - Threshold setting 2 (m=2) for given parameter rr
set3 - Threshold setting 3 (m=3) for given parameter rr

Thresholds are entered in free format (1 to 9 digits) separated by commas. Enter a "-" (hyphen) for values that are not to be changed.

DACS II provides a set of default threshold values and alarm levels (<m>=0,1,2,d) for each NPC type. Only the default threshold value for each parameter exists in the DACS II database prior to user programming using the **CHG::SETOP** command. Before any non-default threshold value (m=3 to b) can be provisioned to be used by an NPC for performance monitoring, it must be entered in the DACS II database using this command. Otherwise, an error message will occur. When this command is executed, all threshold values in the DACS II frame are changed, including the ones previously set or in use. Performance monitoring thresholds are provisioned for NPCs using the **rr/<m>** argument of the **GRTH::NPC** or **CHG::NPC** command.

The default values are accessed using threshold setting 0 (<m>=0,1,2,d). Threshold settings 1 (<m>=3,4,5,e), 2 (<m>=6,7,8,f), and 3 (<m>=9,a,b,10) are user-programmable. That is, set1, set2, and set3 do not have default values; they must be programmed by the user before they can be used.

ttttt[tttt]
- Default threshold value for option **rr**

aaaaa[aaaa]
- Old set1 threshold value

bbbbb[bbbb]
- Old set2 threshold value

ccccc[cccc]
- Old set3 threshold value

pname - Parameter name

pname	*Explanation*
BER	Bit error rate
COFA	Change of frame alignment
DM, 1 hr.	Degraded minutes, 1 hour interval
DM, 24 hr.	Degraded minutes, 24 hour interval
ERS	Errored seconds
ERS, 15 min.	Errored seconds, 15 minute interval
ERS, 24 hr.	Errored seconds, 24 hour interval
SERS	Severely errored seconds
SERS, 15 min.	Severely errored seconds, 15 minute interval
SERS, 24 hr.	Severely errored seconds, 24 hour interval
SLIP	Slip
SLIP, 15 min.	Slip, 15 minute interval
SLIP, 24 hr.	Slip, 24 hour interval
US, 15 min.	Unavailable seconds, 15 minute interval
US, 24 hr.	Unavailable seconds, 24 hour interval

CRC, 15MIN	CRC Block Errors, 15 minute interval
CRC, DAILY	CRC Block Errors, daily interval
CSS, 15MIN	Controlled Slip Seconds, 15 minute interval
CSS, DAILY	Controlled Slip Seconds, daily interval
CV, 15MIN	Coding Violations, 15 minute interval
CV, DAILY	Coding Violations, daily interval
ES, 15MIN	Errored Seconds, 15 minute interval
ES, DAILY	Errored Seconds, daily interval
FEBE, 15MIN	Far End Block Errors, 15 minute interval
FEBE, DAILY	Far End Block Errors, daily interval
FES, 15MIN	Far End Errored Seconds, 15 minute interval
FES, DAILY	Far End Errored Seconds, daily interval
FRER, 15MIN	Framing Errors, 15 minute interval
FRER, DAILY	Framing Errors, daily interval
FSES, 15MIN	Far End Severely Errored Seconds, 15 minute interval
FSES, DAILY	Far End Severely Errored Seconds, daily interval
FUAS, 15MIN	Far End Unavailable Seconds, 15 minute interval
FUAS, DAILY	Far End Unavailable Seconds, daily interval
MER, 15MIN	Multiframe Errors, 15 minute interval
MER, DAILY	Multiframe Errors, daily interval
OFS, 15MIN	Out of Frame Seconds, 15 minute interval
OFS, DAILY	Out of Frame Seconds, daily interval
SES, 15MIN	Severely Errored Seconds, 15 minute interval
SES, DAILY	Severely Errored Seconds, daily interval
UAS, 15MIN	Unavailable Seconds, 15 minute interval
UAS, DAILY	Unavailable Seconds, daily interval
UATC, 15MIN	Unavailable Time Count, 15 minute interval
UATC, DAILY	Unavailable Time Count, daily interval

`xxxxx[xxxx]`
- New set1 threshold value

`yyyyy[yyyy]`
- New set2 threshold value

`zzzzz[zzzz]`
- New set3 threshold value

Note: If the **`TYPE mn`** option is used in the input command to change the thresholds for a single NPC type and a hyphen is entered for at least one of the thresholds to preserve its value, the output response will show that the respective new threshold values are unchanged by outputting the same value for the new threshold that is output for the old threshold.

If the **`ALL`** types option is used in the input command to change the thresholds for all NPC types and a hyphen is entered for at least one set of thresholds to preserve their values, the output response will show that the respective threshold values are unchanged by outputting "-----[----]" (a dash) for the new threshold value and the respective unchanged values in the old threshold fields for each NPC type.

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number of problematic NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of problematic NPC

The valid NPC numbers are:

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
21	Minor >= major for SLIP opt
22	Minor <= major for BER opt
23	Minor >= major for COFA opt
2B	Maj|Min BER threshold is 7, but not in T1DM or Fe mode
14	1 hr >= 24 hr for DM opt
15	15 min >= 24 hr for SERS opt
16	15 min >= 24 hr for ERS opt
17	15 min >= 24 hr for US opt
18	15 min >= 24 hr for SLIP opt
4F	BER must not be less than 4 for Clear DS1
83	Option not programmable for this NPC type
FE	Change to non-ESF digroup with 16-state cross-connect
FF	Change to T1DM digroup with cross-connect that is not TRSP
0A	Minor Slip threshold disabled before Major Slip threshold
32	Threshold value is out of range

CHG,SWCH,TOX,INCL

CHANGE CIRCUIT PARAMETERS

Explanation Of Command

This message switches return paths to the digroups and ranges beginning with the initial channels given in the TO end argument list.

This message requests a change in a broadcast multipoint circuit, switching the full tributary circuit leg (one that can both receive and transmit to the multipoint source) to another leg. Up to eight multipoint circuits can be changed with this command. Arguments [s]abc-ddd, [t]ghi-jjj, and [u]klm-nnn etc., represent TO terminations Arguments [s]abcddd, [t]ghijjj, and [u]klmnnn etc., represent TO terminations from different broadcast circuits (allowing multiple switches to be performed with a single message). That is, these arguments specify the new full tributaries in up to eight different broadcast circuits.

Command

Nonhierarchical

[I.18001]

```
CHG:FRM xy,SEQ ww:SWCH,TOX([s]abcddd[,[t]ghijjj,\
[u]klmnnn,...])[,INCL]!
```

Hierarchical

[I.18001]

```
CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnpddd[,wxkqrjjj,edhfgnnn,...])\
[,INCL]!
```

Completion Message

Nonhierarchical

[O.18001]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX [s]abcddd[,[t]ghijjj,[u]klmnnn, . . .]
[CUS][ RDC] COMPL
```

Hierarchical

[O.18001]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX uvmnpddd[,wxkqrjjj,edhfgnnn, . . .])
[CUS][ RDC] COMPL
```

Denial Message

Nonhierarchical

[O.18001.01]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX [s]abcddd[,[t]ghijjj,[u]klmnnn, . . .]
[[t]wxyzzz] cc BCAST DNY
```

[O.18001.02]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX [s]abcddd[,[t]ghijjj,[u]klmnnn, . . .]
[[t]wxyzzz] COND cc DNY
```

Hierarchical

[O.18001.01]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX uvmnpddd[,wxkqrjjj,edhfgnnn, . . .])
[opjstzzz] cc BCAST DNY
```

[O.18001.02]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX uvmnpddd[,wxkqrjjj,edhfgnnn, . . .])
[opjstzzz] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number
[u]klm - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number
edhfg - Hierarchical TO NPC number

uv,wx,ed - Unit number
m,k,h - Module number
np,qr,fg - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel number
jjj - TO channel number
nnn - TO channel number

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

INCL - Inclusive

To change a circuit or range of circuits including one or more circuits previously marked as a Red Circuit or under Customer Control, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are red circuits or customer controlled.

SWCH - Switch

TOX - TO Tributaries

[t]wxyzzz
- Nonhierarchical number of circuit leg on which problem occurred.

opjstzzz
- Hierarchical number of circuit leg on which problem occurred.

BCAST - Broadcast

Denial specific to a broadcast conference.

CUS - Customer

NPC is a customer-controlled circuit

RDC - Red circuit

NPC is a Red circuit

cc - Hexadecimal condition code

cc	*Explanation*
01	Invalid range for specified NPC type
03	No RDC or CUS circuits and INCL keyword used
04	No NPC's out of service and OOS keyword used
10	NPC out of service or failed
11	NPC not equipped

cc	*Explanation*
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
32	Termination is under test
33	Termination is a test port
34	Termination is under customer control (CUS)
35	Termination is protected (RDC)
53	TO side of two-way to be converted is not an FTU NPC
5B	TO is not a leg of this/any conference
5D	TO is the backbone leg of a conference
5F	Conference is NTR: has no switchable return leg
60	Conference is LPD: has no switchable return leg
61	TO is already the return leg
D3	Corresponding NPC for FROM virtual channel is not provisioned
D4	Corresponding NPC for TO virtual channel is not provisioned
D6	Invalid FROM channel number
D7	Invalid TO channel number
D9	Invalid FROM channel number range
DA	Invalid TO channel number range
EC	Invalid channel 000 cross-connection specified
ED	Invalid channel 031 cross-connection specified

CHG,SWCH,TOX,INCL

CHANGE SWITCH, TOX

Explanation Of Command

This message changes a non-channelized digital signal broadcast circuit by switching a specified tributary network processing circuit (NPC) to be the full tributary NPC. Up to eight broadcast circuits can be changed by specifying the respective full tributary NPCs, all of which are non-channelized NPCs currently part of different broadcast circuits and may belong to different Units.

Command

Nonhierarchical

[I.18011]

```
CHG:FRM xy,SEQ ww:SWCH,TOX([s]ghi[,[t]jkl][,[v]mno][...])\
[,INCL]!
```

Hierarchical

[I.18011]

```
CHG:FRM xy,SEQ ww:SWCH,TOX(uvmnp[,wxkqr][,edhfg][...])\
[,INCL]!
```

Completion Message

Nonhierarchical

[O.18011]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX [s]ghi[,[t]jkl][,[v]mno][...]
[CUS ][RDC ]COMPL
```

Hierarchical

[O.18011]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX uvmnp[,wxkqr][,edhfg][...]
[CUS ][RDC ]COMPL
```

Denial Message

Nonhierarchical

[O.18011.01]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX [s]ghi[,[t]jkl][,[v]mno][...]
[[t]qrs] cc <st> DNY
```

Hierarchical

[O.18011.01]

```
M hh:mm:ss xy,ww n[vv] CHG SWCH  3 LN MSG:
TOX uvmnp[,wxkqr][,edhfg][...]
[opqrs] cc <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]ghi - The 3- or 4-digit nonhierarchical NPC number of new full tributary
[t]jkl - The 3- or 4-digit nonhierarchical NPC number of new full tributary
[v]mno - The 3- or 4-digit nonhierarchical NPC number of new full tributary

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of new full tributary
wxkqr - Hierarchical NPC number of new full tributary
edhfg - Hierarchical NPC number of new full tributary

uv,wx,ed
- Unit number

m,k,h
- Module number

np,qr,fg
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

INCL - Inclusive keyword, required for Red (RDC) or Customer-controlled circuit (CUS)

[t]qrs - The 3- or 4-digit nonhierarchical number of the NPC that caused the denial

opqrs - Hierarchical number of problematic NPC, same range as uvmnp

st - Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
01	INERR	Invalid range for specified NPC type
03	INERR	No RDC or CUS circuits and INCL keyword used
10	MCOND	NPC out of service or failed
11	MCOND	NPC not equipped
12	MCOND	Active CCN side not IS or failed or pested or hardware OOS
13	MCOND	UNIT not equipped, not in service, or failed
14	MCOND	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	MCOND	FTMI not equipped, not in service, or failed

cc	st	*Explanation*
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
32	**MCOND**	Termination is under test
34	**MCOND**	Termination is under customer control (CUS)
35	**MCOND**	Termination is protected (RDC)
5B	**BCAST**	TO is not a leg of this/any conference
5D	**BCAST**	TO is the backbone leg of a conference
5E	**BCAST**	TO is a part of the same conference as a previous TO
5F	**BCAST**	Conference is NTR: has no switchable return leg
60	**BCAST**	Conference is LPD: has no switchable return leg
61	**BCAST**	TO is already the return leg
63	**INERR**	NPC is a channelized NPC
64	**INERR**	NPC is a non-channelized NPC
4A	**INERR**	Red circuit, INCL not entered
4B	**INERR**	Customer controlled circuit, INCL not entered
70	**MCOND**	NPC invalid type
E0	**MCOND**	ETSI not equipped, not in service, or failed

CHG,SYNC,TLI,SSP,TYPE,NPC,SRC

CHANGE PRIORITIES AND/OR TYPE, SYNCHRONIZER OR NPC

Explanation Of Command

This command changes priorities and network processing circuit (NPC) or type parameters of timing extractor type TLIs/SSPs that have been equipped. One of the following three fields must be given: type/synchronizer sync port, the NPC/SSP, or the source for priority (SRC). Only one type may be changed at a time; the output message will show both types after the change command is completed, if both are equipped, or it will show a "-" for unequipped SSPs.

Only the type and priority data bases are affected by this command. The SSP must be out of service for the command to complete. The RST::SYNC,TLI,[SSP]! command must be given to implement the changes for both side 0 and 1.

If the SSP-type is given, you must specify the timing link Interface (TLI-n), SSP-b, and the type.

The NPC parameter (valid only with a TU-type sync) indicates that the specified TLI is receiving its synchronizing signal from the given NPC location. The system allows only one of eight NPC locations per TLI SSP.

Command

Nonhierarchical

[I.38011]

```
CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,{TYPE texyz|NPC [0]abc}!
```

Hierarchical

[I.38011]

```
CHG:FRM xy,SEQ ww:SYNC,TLI m,SSP b,{TYPE texyz|NPC uvmnp}!
```

Common

[I.38011]

```
CHG:FRM xy,SEQ ww:SYNC,\
TLI,SRC(i/(a,b)[,j/(c,d)[,k/(e,f)[,l/(g,h)]]])!
```

Completion Message

Nonhierarchical

[O.38011]

```
M hh:mm:ss xy,ww n[vv] CHG SYNC \
TLI m SSP b {TYPE texyz,testu|NPC [0]abc} COMPL
```

Hierarchical

[O.38011]

```
M hh:mm:ss xy,ww n[vv] CHG SYNC \
TLI m SSP b {TYPE texyz,testu|NPC uvmnp} COMPL
```

Common

[O.38011]

```
M hh:mm:ss xy,ww n[vv] CHG SYNC \
TLI SRC i,a,b j,c,d k,e,f l,g,h COMPL
```

Denial Message

Nonhierarchical

[O.38011.01]

```
M hh:mm:ss xy,ww n[vv] CHG SYNC \
TLI m SSP b {TYPE tepqr,testu|NPC [0]abc} COND cc DNY
```

Hierarchical

[O.38011.01]

```
M hh:mm:ss xy,ww n[vv] CHG SYNC \
TLI m SSP b {TYPE tepqr,testu|NPC uvmnp} COND cc DNY
```

Common

[O.38011.01]

```
M hh:mm:ss xy,ww n[vv] CHG SYNC \
TLI SRC i,a,b j,c,d k,e,f l,g,h COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TLI - Timing link interface

m - Timing link interface number (1 through 4)

SSP - Synchronizer sync port

b - SSP side (0 or 1)

TYPE - Type

texyz - Timing Extractor or Timing Distributor type

The output message shows the type of SSP for both SSPs on the TLI card If one SSP is not equipped, a "-" will appear for the unequipped SSP.

testu - The TLI type of the other SSP on the same TLI. If not equipped, this parameter will be output as "-----".

te	*Explanation*
TC	Composite Clock Timing Extractor
TE	DS1 Timing Extractor
TP	Primary Block Timing Extractor
TR	Basic System Reference Frequency (BSRF)
TU	Unipolar Clock Timing Extractor
TD	Timing Distributor

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SRC - Source

i - TLI slot number (1 through 4)
a - TLI i SSP 0 priority (1 through 8)
b - TLI i SSP 1 priority (1 through 8)

j - TLI slot number (1 through 4)
c - TLI j SSP 0 priority (1 through 8)
d - TLI j SSP 1 priority (1 through 8)

k - TLI slot number (1 through 4)
e - TLI k SSP 0 priority (1 through 8)
f - TLI k SSP 1 priority (1 through 8)

l - TLI slot number (1 through 4)
g - TLI l SSP 0 priority (1 through 8)
h - TLI l SSP 1 priority (1 through 8)

COND - Condition

NPC - Network processing circuit

[0]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

The NPC keyword and its associated parameter are only specified in conjunction with the TLI and SSP keywords for TLI type TUxyz.

The NPC option allows the DACS II system to correlate a synchronizing source failure to either an NPC failure or an NPC input signal failure.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
16	SYNC TB is not equipped
B3	X option is illegal
B4	Y option is illegal
C2	SSP type(options) same
C3	Wrong SSP type(Timing Extractor type)
C4	Sync architecture different
C5	Some priority values required
C6	Some priority values not required
C7	Priority values are same
C8	Sync pack denied command
CA	New NPC same as existing one
CB	NPC parameter only valid with TU type TLI
CC	NPC is still provisioned to provide sync timing
CD	NPC not designated as sync timing source
CE	NPC already allocated as sync timing source
CF	NPC already grown as non-synchronization source
F1	Parameter only valid with PA, PB, or PC type NPCs
01	Assignment of single priority to multiple SSPs
E4	NPC already has Equipment Loopback

CHG,TYPE,OPTS,THMODE

CHANGE TYPE, OPTIONS

Explanation Of Command

This command changes the threshold values for facility performance parameters on all NPCs of a particular type. The threshold values may be changed without disconnecting and reconnecting provisioned circuits.

One or more alarm or information threshold values may be set for all NPCs to a value previously stored in the DACS II threshold data base.

The values stored in the DACS II threshold data base are selected with the indices (**rr/n**).

Command

[I.38231]

```
CHG:FRM xy,SEQ ww:TYPE mnxyz,{OPTS(rr/<m>[,rr/<m>][...])|THMODE hhh}!
```

Completion Message

For PB and PC type NPCs:

[O.38231]

```
M  hh:mm:ss xy,ww n CHG TYPE mnxyz  4 LN MSG:
   24 HOURS              DM       SERS     ERS      US       SLIP
   THRESHOLDS            nnnnn    ppppp    qqqqq    rrrrr    sssss
   OPTIONS               e        f        g        h        i        EOM

M  hh:mm:ss xy,ww n CHG TYPE mnxyz  4 LN MSG:
   SHORT INTERVAL        DM       SERS     ERS      US       SLIP
   THRESHOLDS            nnnnn    ppppp    qqqqq    rrrrr    sssss
   OPTIONS               e        f        g        h        i        COMPL
```

For PA type NPCs:

[O.38232]

```
M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff ggggggggg
OPTIONS     a        b         c     d     e     f     g          EOM

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n      EOM

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:
15MIN       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a        b         c     d     e     f     g        EOM

M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz 4 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k        l     m     n       COMPL
```

[O.38233]

```
M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz THMODE hhh COMPL
```

Denial Message

[O.38231.01]

`M hh:mm:ss xy,ww n[vv] CHG TYPE mnxyz[ {vv/k|THMODE hhh}] COND cc DNY`

Autonomous Message

Not applicable.

Explanation Of Parameters

`mnxyz` - NPC type

`mnxyz`	*Explanation*
PAxyz	CEPT NPC (120-ohm twisted pair or 75-ohm coaxial)
PBxyz	CEPT NPC (120-ohm twisted pair)
PCxyz	CEPT NPC (75-ohm coaxial)

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

`OPTS` - Options

Clear DS1 DE type FTU NPCs have a limited number of parameters for performance monitoring, 01 through 04 only. Clear DS1 TE type DS3U or HDS3U NPCs have only parameters 01 and 02.

`rr` - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected

<m> - Facility performance parameter threshold index (0 through 10 hex)

Variable <m> is used to select threshold values previously programmed for rr. The default threshold value, the value selected by m=0, for each parameter is shown below for each NPC type under the column heading "Default Threshold Value". Threshold values selected by values of m other than 0 must exist, that is, must have been programmed, prior to being selected. These other thresholds can be set by using the CHG::SETOP (38201) command.

For PB and PC type NPCs:

rr	Parameter	Threshold Value Range	Default Threshold Value
31	Degraded Minutes, 1 hour	1-60	60
32	Degraded Minutes, 24 hours	1-1440	1440
33	Severely Errored Seconds, 15 mins	1-900	900
34	Severely Errored Seconds, 24 hours	1-65535	65535
35	Errored Seconds, 15 minutes	1-900	900
36	Errored Seconds, 24 hours	1-65535	65535
37	Unavailable Seconds, 15 minutes	1-900	900
38	Unavailable Seconds, 24 hours	1-65535	65535
39	Slips, 15 minutes	1-900	900
40	Slips, 24 hours	1-65535	65535

Note 1: 24-hour thresholds must be greater than their respective 15-minute or 1-hour threshold.

For PA type NPCs:

Table 9-3. Parameter Register Threshold Range and Default Values

rr	Parameter	Interval	Threshold Value Range	Default Threshold Value
11	CRC Block Errors	DAILY	1 - 79056000	176947
12	Framing Errors	DAILY	1 - 345600000	176947
13	Out of Frame Seconds	DAILY	1 - 86400	4
14	Errored Seconds	DAILY	1 - 86400	4320
15	Severely Errored Seconds	DAILY	1 - 86400	90
16	Controlled Slip Seconds	DAILY	1 - 86400	4
17	Coding Violations	DAILY	1 - 176947200	176947
18	Unavailable Seconds	DAILY	1 - 86400	90
19	Unavailable Time Count	DAILY	1 - 4320	9
20	Multiframe Errors	DAILY	1 - 86400	4095
21	Far End Block Errors	DAILY	1 - 79056000	176947
22	Far End Errored Seconds	DAILY	1 - 86400	4320
23	Far End Severely Errored Seconds	DAILY	1 - 86400	90
24	Far End Unavailable Seconds	DAILY	1 - 86400	90
81	CRC Block Errors	15MIN	1 - 823500	18432
82	Framing Errors	15MIN	1 - 3600000	18432
83	Out of Frame Seconds	15MIN	1 - 900	4
84	Errored Seconds	15MIN	1 - 900	300
85	Severely Errored Seconds	15MIN	1 - 900	30
86	Controlled Slip Seconds	15MIN	1 - 900	1
87	Coding Violations	15MIN	1 - 1843200	18432
88	Unavailable Seconds	15MIN	1 - 900	30
89	Unavailable Time Count	15MIN	1 - 45	3
90	Multiframe Errors	15MIN	1 - 900	255
91	Far End Block Errors	15MIN	1 - 823500	18432
92	Far End Errored Seconds	15MIN	1 - 900	300
93	Far End Severely Errored Seconds	15MIN	1 - 900	30
94	Far End Unavailable Seconds	15MIN	1 - 900	30

For PA, PB, and PC type NPCs:

In the following table these definitions apply:

MI	Maintenance Information
DMA	Deferred Maintenance Action Minor Alarm
PMA Major	Prompt Maintenance Action Major Alarm
PMA Critical	Prompt Maintenance Action Critical Alarm

<m>	Threshold Value	Alarm Type
0	Default	MI (Maintenance Information)
1	Default	DMA (Deferred Maintenance Minor Alarm)
2	Default	PMA (Prompt Maintenance Major Alarm)
3	Set 1	MI
4	Set 1	DMA
5	Set 1	PMA Major
6	Set 2	MI
7	Set 2	DMA
8	Set 2	PMA Major
9	Set 3	MI
a	Set 3	DMA
b	Set 3	PMA Major
c	Threshold disabled	no alarm
d	Default	PMA Critical
e	Set 1	PMA Critical
f	Set 2	PMA Critical
10	Set 3	PMA Critical

Note 1: m = 0 is the default.

Note 2: Threshold values for Set 1, Set 2, and Set 3 must be set (programmed) by using the command mentioned in the explanation of m above before variable **m** can be used to select threshold levels and alarm types other than the defaults.

SLIP - Timing slip
BER - Bit error rate
ERS - Errored seconds
SERS - Severely errored seconds
COFA - Change of frame alignment
SANE - Shelf Alarm Near End
SAFE - Shelf Alarm Far End

SLIP

mmm - Slip major alarm threshold (0 through 255)
nnn - Slip minor alarm threshold (0 through 255)
e - Slip major alarm option selection (0 through 3)
f - Slip minor alarm option selection (0 through 3)

BER (Bit Error Rate)

p - BER major alarm threshold, (1E-p, 3* through 6†)
q - BER minor alarm threshold, (1E-q, 3* through 6†)
* 4 for clear-DS1 FTU NPC or DS type NPC
† 7 on T1DM and Fe framing

g - BER major alarm option selection (0 through 3)
h - BER minor alarm option selection (0 through 3)

ERS (Errored Seconds)

rrrrr - ERS threshold (1 through 65535)
i - ERS option selection (0 through 3)

SERS (Severely Errored Seconds)

sss - SERS threshold (1 through 255)
j - SERS option selection (0 through 3)

COFA (Change of Frame Alignment)

ttt - COFA major alarm threshold (1 through 511)
uuu - COFA minor alarm threshold (1 through 255)
k - COFA major alarm option selection (0 through 3)
l - COFA minor alarm option selection (0 through 3)

SANE (Shelf Alarm Near End)

xxxxx - SANE alarm threshold (00000 through 65535)
m - SANE alarm option selection (0 through 3)

SAFE (Shelf Alarm Far End)

zzzzz - SAFE alarm threshold (00000 through 65535)
n - SAFE alarm option selection (0 through 3)

For PB and PC type NPCs:

DM - Degraded Minutes
SERS - Severely Errored Seconds
ERS - Errored Seconds
US - Unavailable Seconds
SLIP - Slip Events

For SHORT INTERVAL, DM is calculated hourly and SERS, ERS, US and SLIP are calculated at 15-minute intervals.

nnnnn - 24-hour Degraded Minutes (DM) threshold
ppppp - 24-hour Severely Errored Seconds (SERS) threshold
qqqqq - 24-hour Errored Seconds (ERS) threshold
rrrrr - 24-hour Unavailable Seconds (US) threshold
sssss - 24-hour Slip Events (SLIP) threshold

e - 24-hour DM threshold/alarm selection
f - 24-hour SERS threshold/alarm selection
g - 24-hour ERS threshold/alarm selection
h - 24-hour US threshold/alarm selection
i - 24-hour SLIP threshold/alarm selection

nnnnn - 1-hour DM threshold
ppppp - 15-minute SERS threshold
qqqqq - 15-minute ERS threshold
rrrrr - 15-minute US threshold
sssss - 15-minute SLIP threshold

e - 1-hour DM threshold/alarm selection
f - 15-minute SERS threshold/alarm selection
g - 15-minute ES threshold/alarm selection
h - 15-minute US threshold/alarm selection
i - 15-minute SLIP threshold/alarm selection

For PA type NPCs:

CRC - CRC Block Errors
FRER - Framing Errors
OFS - Out of Frame Seconds
ES - Errored Seconds
SES - Severely Errored Seconds
CSS - Controlled Slip Seconds
CV - Coding Violations
UAS - Unavailable Seconds
UATC - Unavailable Time Count
MER - Multiframe Errors
FEBE - Far End Block Errors
FES - Far End Errored Seconds
FSES - Far End Severely Errored Seconds
FUAS - Far End Unavailable Seconds

aaaaaaaa
- Daily CRC block error threshold value.

bbbbbbbbb
- Daily framing error threshold value.

ccccc - Daily out of frame seconds threshold value.
ddddd - Daily errored second threshold value.
eeeee - Daily severely errored second threshold value.
fffff - Daily controlled slip second threshold value.

ggggggggg
- Daily coding violation threshold value.

hhhhh - Daily unavailable second threshold value.
iiii - Daily unavailable time count threshold value.
jjjjj - Daily multiframe alignment error threshold value.

kkkkkkkk
- Daily far-end block error threshold value.

lllll - Daily far-end errored second threshold value.
mmmmm - Daily far-end severely errored second threshold value.
nnnnn - Daily far-end unavailable second threshold value.

a - Daily CRC block error threshold selection,
b - Daily framing error threshold selection,
c - Daily out of frame seconds threshold selection,
d - Daily errored second threshold selection,
e - Daily severely errored second threshold selection,
f - Daily controlled slip second threshold selection,
g - Daily coding violation threshold selection,
h - Daily unavailable second threshold selection,
i - Daily unavailable time count threshold selection,
j - Daily multiframe alignment error threshold selection,
k - Daily far-end path block error selection,
l - Daily far-end path second threshold selection,
m - Daily far-end severely errored second threshold selection,
n - Daily far-end unavailable second threshold selection,

The options can be from "0" to "c" as specified for the "m" of the "rr/<m>" field.

aaaaaa - 15-minute CRC block error threshold value.
bbbbbbb
- 15-minute framing error threshold value.
ccc - 15-minute out of frame seconds threshold value.
ddd - 15-minute errored second threshold value.
eee - 15-minute severely errored second threshold value.
fff - 15-minute controlled slip second threshold value.
ggggggg
- 15-minute coding violation threshold value.
hhh - 15-minute unavailable second threshold value.
ii - 15-minute unavailable time count threshold value.
jjj - 15-minute multiframe alignment error threshold value.
kkkkkk - 15-minute far-end block error threshold value.
lll - 15-minute far-end errored second threshold value.
mmm - 15-minute far-end severely errored second threshold value.
nnn - 15-minute far-end unavailable second threshold value.

a - 15-minute CRC block error threshold selection,
b - 15-minute framing error threshold selection,
c - 15-minute out of frame seconds threshold selection,
d - 15-minute errored second threshold selection,
e - 15-minute severely errored second threshold selection,
f - 15-minute controlled slip second threshold selection,
g - 15-minute coding violation threshold selection,
h - 15-minute unavailable second threshold selection,
i - 15-minute unavailable time count threshold selection,
j - 15-minute multiframe alignment error threshold selection,
k - 15-minute far-end path block error selection,
l - 15-minute far-end path second threshold selection,
m - 15-minute far-end severely errored second threshold selection,
n - 15-minute far-end unavailable second threshold selection,

The options can be from "0" to "c" as specified for the "m" of the "rr/<m>" field.

For PA type NPCs:

Depending on which interface functions are enabled by the provisioning values of xyz, some parameters may not be applicable. In this case the threshold value, the parameter count (if present in the message) and the selection value will appear as dashes ("-"). In the table below "N/A" indicates that a parameter is not applicable for the given value of x or y.

Also, if the selection value m=c has been chosen for a parameter, the threshold value and the parameter count (if present in the message) will appear as dashes.

For PA Type NPCs				
Parameter	CRC-4 Mode Disabled (x=A,B,E,F)	Far-End PM Disabled (x=0,2,4,6,A,B,E,F)	CAS Disabled (y=8,9,C,D)	Unframed Clear 2Mbit/s (y=D)
CRC	N/A			N/A
FRER				N/A
OFS				N/A
ES				N/A
SES				N/A
CSS				
CV				
UAS				N/A
UATC				N/A
MER			N/A	N/A
FEBE		N/A		N/A
FES		N/A		N/A
FSES		N/A		N/A
FUAS		N/A		N/A

THMODE - Thresholding mode (for PA NPCs only)

hhh - Thresholding mode option

hhh	*Explanation*
INH	Inhibit thresholding
ALW	Allow thresholding

The INH option is used to temporarily inhibit thresholding for all parameters of all NPCs provisioned with TYPE mnxyz whether the thresholding for a specific NPC is already inhibited or not. When it is entered, all thresholds for those NPCs are suspended; therefore, no new threshold crossing messages will be output after the inhibition.

The ALW option is the default option and can be used to turn-off the thresholding inhibition. Note that, this command with the "ALW" option can be used for TYPE mnxyz NPCs whose thresholding capability is inhibited due to the entry of command I.38221

When the "ALW" is entered, the thresholds applied before the inhibition will be re-applied unless the thresholds were changed during the inhibition. Option change requests are permitted while the NPC thresholding is inhibited.

vv/k - Parameter/option involved in denial

cc - Hexadecimal condition code

cc	**st**	*Explanation*
02		Subject entity is not equipped
10		Unit is not equipped
11		UC is out of service
12		UC is in service but failed
13		FTMI is not equipped
20		Option rr/m has not been set up on 2nd database
21		Minor >= major for SLIP opt
22		Minor <= major for BER opt
23		Minor >= major for COFA opt
2A		DMI combined with T1DM
2B		Maj|Min BER threshold is 7, but not in T1DM or Fe mode
4F		BER must not be less than 4 for Clear DS1
83		Option not programmable for this NPC type
FF	**ROLL**	Termination is in process of being rolled

CHG,TYPE,THMODE

CHANGE TYPE AND THRESHOLD MODE

Explanation Of Command

This command inhibits or allows the threshold-crossing messages for all unequipped NPCs that will be provisioned as the specified NPC type. After the execution of this command, any NPCs that are subsequently provisioned as the specified NPC type will have their threshold-crossing messages inhibited or allowed.

The only NPC type that can be specified in this command is the PA type and no xyz options shall be specified in this command.

When this command is entered for inhibiting threshold-crossing messages, it shall not be denied even if the threshold-crossing messages are already inhibited; when this command is entered for allowing threshold-crossing messages, it shall not be denied even if the threshold-crossing messages are already allowed. In addition, if this command is never entered for a given NPC type, the threshold-crossing messages will be allowed for all NPCs that will be provisioned as that NPC type.

The execution of this command does not require any Unit or CCN/ECCN hardware entities to be in service, except for the Main Controller.
In contrast, the CHG,TYPE,OPTS,THMODE command (I.38231) can be used to inhibit or allow the threshold-crossing messages for all equipped NPCs that have been provisioned as PA type with the specified xyz option; the CHG,NPC,OPTS,THMODE command (I.38221) can be used to inhibit or allow the threshold-crossing messages for the specified NPC that has been provisioned as PA type.

Command

[I.38291]

CHG:FRM xy,SEQ ww:TYPE mn,THMODE hhh!

Completion Message

[O.38291]

M hh:mm:ss xy,ww n[vv] CHG TYPE mn THMODE hhh COMPL

Denial Message

[O.38291.01]

M hh:mm:ss xy,ww n[vv] CHG TYPE mn THMODE hhh COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TYPE - Type

mn - NPC type

mn	*Explanation*
PA	CEPT NPC (120-ohm twisted pair or 75-ohm coaxial)

THMODE - Thresholding mode

hhh - Threshold-crossing message mode

hhh	*Explanation*
INH	Inhibit threshold-crossing messages
ALW	Allow threshold-crossing messages

The INH option is used to inhibit (turn off) the threshold-crossing messages for all NPCs that will be provisioned as the specified NPC type. After this option is selected, no threshold-crossing messages will be output for all NPCs that will be provisioned as the specified NPC type.

The ALW option can be used to allow (turn on) the threshold-crossing messages for all NPCs that will be provisioned as the specified NPC type. After this option is selected, threshold-crossing messages will be output for all NPCs that will be provisioned as the specified NPC type.

cc - Hexadecimal condition code

cc	*Explanation*
26	NPC type error

CHG,UNIT,CONN

CHANGE CONNECTIVITY

Explanation Of Command

This command requests a change of a unit's connectivity. Timeslot interchange (TSI) circuit packs will be automatically grown and/ or degrown (deprovisioned) as needed.

New or degrown TSIs are listed at the end of the output message. They are listed pairwise with up to six pairs listed per message line. At most there will be 10 of these pairs when the connectivity of a unit is changed.

Command

[I.38101]

```
CHG:FRM xy,SEQ ww:UNIT q,CONN(a[,b[,c[,d[,e[,f]]]]]):
```

Completion Message

[O.38101]

```
M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f  \
5 LN MSG:

TOTAL TSIS tt NEW TSIS nn DEGROWN TSIS dd
sft sft  sft sft  sft sft  sft sft  sft sft  sft sft
sft sft  sft sft  sft sft  sft sft  sft sft  sft sft
sft sft  sft sft  sft sft  sft sft  sft sft  sft sft EOP

M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f  \
5 LN MSG:

TOTAL TSIS tt NEW TSIS nn DEGROWN TSIS dd
sft sft  sft sft  sft sft  sft sft  sft sft  sft sft
sft sft  sft sft  sft sft  sft sft  sft sft  sft sft
sft sft  sft sft  sft sft  sft sft  sft sft  sft sft EOP

M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f  \
5 LN MSG:

TOTAL TSIS tt NEW TSIS nn DEGROWN TSIS dd
CHANGED TSIS sft sft  ...   sft sft
                      .
                      .
                      .
CHANGED TSIS sft sft  ...   sft sft COMPL
```

Denial Message

[O.38101.01]

```
M hh:mm:ss xy,ww n[vv] CHG UNIT q CONN a b c d e f COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

TSI - Time slot interchange

CONN - Connectivity

a b c d e f
- The new complement of the subject unit's TSIs is changed to (1 through 6)

tt - Total number of grown TSIs in frame (02 through 72)

nn - Number of TSIs grown by command (00 through 10)

dd - Number of TSIs degrown by command (00 through 10)

sft - TSI equipped status

s	- Service side (0 or 1)
f	- FROM unit number 1 through 6 if equipped - if not equipped
t	- TO unit number 1 through 6 if equipped - if not equipped

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
27	Illegal connectivity specified
28	Connectivity contains unequipped units
80	Some TSIs to degrow are in service
3E	Mapped slots exist on a tsi

CHG,USER,LINK,INCL,SCR,GR,MCON,MCOFF

CHANGE USER/LINK SCREENING

Explanation Of Command

This command assigns the output message screening for a user or administrative link, including all virtual circuits in a X.25 link, on the DACS II system.

The command can also assign default values to the link options.

The function is denied if the user identification does not exist.

For TCP/IP links, the SCR and MCON/MCOFF options can only be set for a USER, not a LINK.

Output from this command is sent only to the link on which the command was input.

With the Message Logging feature, a request to retrieve logged messages will be sent to the link on which the retrieval command was input and the links with screening option 5 that are running MML.

Command

[I.38401]

```
CHG:FRM xy,SEQ ww:{USER <user id>|LINK j[mm][,INCL]}\
[,SCR n[,GR(a,b,c,d,e,f)]][,{MCON|MCOFF}][,INIT]!
```

Completion Message

[O.38401]

```
M hh:mm:ss xy,ww n[vv] CHG {USER <user id>|LINK j[mm][,INCL]}\
[ SCR n[ GR(a,b,c,d,e,f)]][ {MCON|MCOFF}][ INIT]  COMPL
```

Denial Message

[O.38401.01]

```
M hh:mm:ss xy,ww n[vv] CHG {USER <user id>|LINK j[mm][,INCL]} \
[ SCR n[ GR(a,b,c,d,e,f)]][ {MCON|MCOFF}][ INIT] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

USER - User

user id
- User identifier (two to eight alphabetic characters)

User login identification

The USER option must be used to set screening with TCP/IP links.

LINK - Link

j[mm] - Administrative link number

j - Physical link number (1 through 6)
mm - Virtual link number (01 through 16, for j = 5 or 6)

INCL - Include

Include all virtual links of link 5 or 6.
The INCL keyword can only be entered with X.25 links 5 and 6, and no virtual link number is allowed when this keyword is used. That is, "mm" and "INCL" are mutually exclusive. In addition, the INCL keyword is also mutually exclusive with the "<user id>". When the INCL keyword is entered, it means that all provisioning data specified in this command, for example, SCR n, GR(a,b,c,d,e,f), and MCON/MCOFF, will be applied to all virtual links of the link 5 or 6.

SCR - Screening

n - Screening option number (1 through 5)

The screening option is used to limit responses on a given administrative link to one of the sets given in the table below. The set to be received is selected by the use of variable "n".

n	*Explanation*
1	Responses to input at the same link.
2	Responses to input at the same link and autonomous messages. This is the default value.
3	Responses to messages input at the same link and some specified sets of action verbs.
4	Responses to messages input at the same link and some specified sets of action verbs including autonomous messages.
5	Responses to input messages on all links and autonomous messages

If screening is set to 5 and user DAX logs in, DAX will not see the responses to input messages on all links and autonomous messages.

GR - Group

a,b,c,d,e,f
- Screening groups a through f (0 or 1)

The entry of the screening group option is allowed only if n = 3 or 4 was entered for the screening option number. The screening group option will not apply for n = 2; the default screening option. The restricted commands are not categorized by group and are always assigned the screening group value "1".

*a**	*Explanation*
0	Messages in the message group represented by variable a will not be sent to the link or user specified in this command.
1	Messages in the message group represented by variable a will also be sent to the link or user specified in this command.
-	Do not change the screening group option for variable a.

* This table applies also to variables b through f.

DACS II has six groups of action verbs represented in this message by variables a, b, c, d, e, and f. The following table defines the variables assigned to each action verb.

a Circuit Prov.	b Equipment Prov.	c Maintenance	d Test Access	e Monitoring	f Common
TCON	GRTH	RMV	TTST	AUD	CHG
TDIS	DGRTH	RST	STST	UTL	ED
TCNT	ADD	DGN			EXC
BCON	DLT	CFR			ACT
BDIS					ADD
OCON					DELETE
ODIS					LIST
OCNT					TOTAL
SW					
CONF					
SECH					
SDCH					
SCON					
SCNT					
SDIS					

MCON - Macro on

Macro completion message screening ON. MCON is the default value.

MCOFF - Macro off

Macro completion message screening OFF

The MCON/MCOFF options are used to turn on or off the completion messages of the component commands inside a macro during its execution.

INIT - Initialize

Initialize the link or user options; all parameters are set to their default values except those specified in the command.

cc - Hexadecimal condition code

cc	*Explanation*
D3	User does not exist
D7	Cannot execute privileged command
DF	Command and protocol are inconsistent
E1	Virtual circuit is not specified for X.25 link
E2	Invalid link number specified
E3	Invalid keyword(s) combination specified
41	Language "F" provisioned for this channel
83	Language is not allowed

CMD,MC,OOS,MCOND,INSERVICE,MPDBASE

INPUT DENIAL

Explanation Of Command

This autonomous message indicates that processing of the input message is **STOPPED** because the main controller is either out of service, in maintenance condition, in service, or the main processor data base is not loaded.

Output from this command is sent only to the link on which the command was input.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01111]

```
M hh:mm:ss xy,ww n[vv] CMD MC {OOS|MCOND|INSERVICE|MPDBASE}  \
e LN MSG:
<First 70 characters of input message.>
<Remaining text of input message> STOPPED
```

Explanation Of Parameters

e - Number of lines in message

OOS - Out-of-service

MCOND - Maintenance condition

INSERVICE
- In-service

MPDBASE
- MP data base

The main processor data base is not loaded

STOPPED
- Stopped

COPY,NPC,TO

Copy NPC Information

Explanation Of Command

This command is used to copy provisioning information from a previously provisioned network processing circuit (NPC) to an NPC to be provisioned (the destination NPC). It is used for international NPC types PA, PB, PC and TH. Intervention Level data for the NPC is also copied. Copying is limited to the combinations given below:

- PA to PA
- PB to PB
- PC to PC
- PB to PC
- PC to PB
- TH to TH

One output message is printed for each NPC successfully copied and provisioned.

When a range address crosses a Unit boundary, the command will be denied. The NPC numbers which are divisible by four with a remainder of zero are not a valid Hybrid DS3 Unit THxyz type NPC. However, the range of THxyz type NPC numbers is still supported with the understanding that there may be gaps in the NPC number range.

When an NPC range specified within a Unit crosses a Facility Terminating Module (FTM) boundary and the FTM type differs from that specified in this command then that FTM will be skipped and a summary denial message will be output. This message will give the range of NPCs for which the denial is effective and the reason for the denial. The NPC

range covers successive NPCs in the range that are denied for the same reason.

Execution of the command then resumes at the NPC following the last one in the summary denial message and continues to the end of the specified range.

This command is very similar to the GRTH command. The input parameters that can be specified on the GRTH command will be copied from the source NPC to the destination NPC. The performance monitoring threshold parameters are also copied. Others that are defaulted by the GRTH command will be defaulted.

Command

Nonhierarchical

[I.31521]

COPY:FRM xy,SEQ ww:NPC [s]abc,TO [t]def[-[u]ghi]!

Hierarchical

[I.31521]

COPY:FRM xy,SEQ ww:NPC uvmnp,TO wxkqr[-ghikl]!

Completion Message

Nonhierarchical

If the destination NPC is PB or PC type, the output format is:

[O.31521]

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pqr] \
AIS {MI|PMA|DMA|PMC}  4 LN MSG:
24 HOUR               DM        SERS      ERS       US     \
   SLIP
THRESHOLDS            nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS               e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pqr] \
AIS {MI|PMA|DMA|PMC}  4 LN MSG:
SHORT INTERVAL        DM        SERS      ERS       US     \
   SLIP
THRESHOLDS            nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS               e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

If the destination NPC is PA or TH type, the output format is:

[O.31521]

```
M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff ggggggggg
OPTIONS     a        b         c     d     e     f     g           EOM

M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n    EOM

M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
15MIN       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a            b             c     d     e     f     g    EOM

M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k            l          m          n    EOM

M hh:mm:ss xy,ww n[vv] COPY [s]jkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

Note that FEBE, FES, FSES and FUAS are not applicable for TH type NPCs.

Hierarchical

If the destination NPC is PB or PC type, the output format is:

[O.31521]

```
M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pqr] \
AIS {MI|PMA|DMA|PMC}  4 LN MSG:
24 HOUR               DM        SERS      ERS       US     \
   SLIP
THRESHOLDS            nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS               e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pq] \
AIS {MI|PMA|DMA|PMC}  4 LN MSG:
SHORT INTERVAL        DM        SERS      ERS       US     \
   SLIP
THRESHOLDS            nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS               e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

If the destination NPC is PA or TH type, the output format is:

[O.31521]

```
M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff ggggggggg
OPTIONS     a        b         c     d     e     f     g           EOM

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n    EOM

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
15MIN       CRC      FRER     OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a            b             c     d     e     f     g    EOM

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz [IW pqr] \
AIS {MI|DMA|PMA|PMC}  4 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k            l          m          n    EOM

M hh:mm:ss xy,ww n[vv] COPY uvjkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

Note that FEBE, FES, FSES and FUAS are not applicable for TH types NPCs.

Denial Message

Nonhierarchical

[O.31521.01]

```
M hh:mm:ss xy,ww n[vv] COPY NPC [s]abc TO [t]mno[-[u]vwx] COND cc DNY
```

Hierarchical

[O.31521.01]

```
M hh:mm:ss xy,ww n[vv] COPY NPC uvmnp TO bcdfe[-efhed] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

TO - to

TYPE - type

mnxyz - NPC type identifier

mn	*Explanation*
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)

[s]abc - The 3- or 4-digit nonhierarchical NPC number, denoting the source of the provisioning information.

[t]def - The 3- or 4-digit nonhierarchical NPC number, denoting the start of a range.

[u]ghi - The 3- or 4-digit nonhierarchical NPC number, denoting the end of a range.

[s]jkl - The 3- or 4-digit nonhierarchical NPC number of the NPC that was successfully equipped.

[t]mno - The 3- or 4-digit nonhierarchical NPC number of the first NPC in a range to be denied.

[u]vwx - The 3- or 4-digit nonhierarchical NPC number of the last NPC in a range to be denied.

bcdfe - Hierarchical NPC number of the first NPC in a range to be denied.

efhed - Hierarchical NPC number of the last NPC in a range to be denied.

ghikl - Hierarchical NPC number of the last NPC in a range to be equipped.

uvjkl - Hierarchical NPC number of the NPC that was successfully equipped.

uvmnp - Hierarchical NPC number denoting the source of the provisioning information to be copied.

wxkqr - Hierarchical NPC number of the NPC to be equipped or the first NPC in a range to be equipped.

bc,ef,gh,uv,wx
- Unit number

d,h,i,j,k,m
- Module number

fe,ed,kl,np,qr
- NPC number within the module

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

IW - Insertion word

pq - Hexadecimal value of the insertion word.

An eight-bit code, called the growth insertion word, is transmitted by this NPC on unassigned DS0 channels. This code is specified by the optional keyword IW and its argument pq. This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the cross-connect insertion word, which is transmitted when the disconnect message with the DDC specified is used.

Although any 2-digit hexadecimal code may be used, the default values are:

pq	*Explanation*
7F	Unassigned Channel Code (UAC), the default value for DE/TE type, DA/TA type, and DS type NPCs provisioned with D4 or ESF framing.
18	Unassigned Multiplex Code (UMC), the default value for DA/TA type NPCs provisioned with T1DM framing. This value should only be provisioned with T1DM framing (DE4yz/TE4yz, DA4yz/TA4yz), so the growth command enforces this restriction.
FF	This is recommended for unconnected channels in the SLC® interface and CPI applications.

For Clear-DS1 NPCs, the insertion word option is **NOT** available and the message will be denied if this option is entered. The alarm indication signal (AIS) is transmitted in the disconnect or idle state.

AIS - Alarm indication signal

INFO - Information

Information message (not an alarm).

MJ - Major (alarm)

MN - Minor (alarm)

BER - Bit Error Rate

ERS - Errored seconds

SERS - Severe errored seconds

COFA - Change of frame alignment

mmm - SLIP major alarm threshold (0 through 255)
nnn - SLIP minor alarm threshold (0 through 255)
e - SLIP major option selection (0 through 3)
f - SLIP minor option selection (0 through 3)

p - BER major alarm threshold (4 through 6)
q - BER minor alarm threshold (4 through 6)
g - BER major option selection (0 through 3)
h - BER minor option selection (0 through 3)

rrrrr - ERS threshold (1 through 65535)
i - ERS option selection (0 through 3)

sss - SERS threshold (1 through 255)
j - SERS option selection (0 through 3)

ttt - COFA major alarm threshold (1 through 511)
uuu - COFA minor alarm threshold (1 through 255)
k - COFA major option selection (0 through 3)
l - COFA minor option selection (0 through 3)

xxxxx - SANE threshold (0 through 65535)
v - SANE option selection (0 through 3)

zzzzz - SAFE threshold (0 through 65535)
w - SAFE option selection (0 through 3)

Note: For clear-DS1 FTU NPC only SLIP and BER parameters are listed. For clear-DS1 DS3U NPC only SLIP parameters are listed.

The SANE and SAFE parameters are not applicable to DS1yz and DS7yz type NPCs.

Except for BER, major thresholds may not be equal to or less than the minor thresholds. The BER major threshold can be equal to the BER minor threshold.

PL - Payload loopback

ENA - Enabled

Payload loopback commands received from far-end equipment on the ESF data link are recognized and performed by the ANSI NPC. This is the default option.

DSA - Disabled

Payload loopback commands received from far-end equipment on the ESF data link are ignored by the ANSI NPC. This prevents customer equipment from controlling network configurations.

CVP - Path Coding Violations
ESP - Path Errored Seconds
SESP - Path Severely Errored Seconds
SEFS - Severely Errored Framing Seconds
CSSP - Path Controlled Slip Seconds
UASP - Path Unavailable Seconds
CVL - Line Coding Violations
ESL - Line Errored Seconds
SESL - Line Severely Errored Seconds

aaaaaaaaa
- Daily near-end path coding violation threshold, (000000000 through 134217727)

a - Daily near-end path coding violation threshold selection, (0 through 3)

bbbbb - Daily near-end path errored second threshold, (00000 through 86400)

b - Daily near-end path errored second threshold selection, (0 through 3)

ccccc - Daily near-end path severely errored second threshold, (00000 through 86400)

c - Daily near-end path severely errored second threshold selection, (0 through 3)

ddddd - Daily near-end severely errored framing second threshold, (00000 through 86400)

d - Daily near-end severely errored framing second threshold selection, (0 through 3)

eeeee - Daily near-end controlled slip second threshold, (00000 through 86400)

e - Daily near-end controlled slip second threshold selection, (0 through 3)

fffff - Daily near-end unavailable second threshold, (00000 through 86400)

f - Daily near-end unavailable second threshold selection, (0 through 3)

ggggggggg
- Daily near-end line coding violation threshold, (000000000 through 134217727, or --------- if not applicable)

g - Daily near-end line coding violation threshold selection, (0 through 3)

hhhhh - Daily near-end line errored second threshold, (00000 through 86400, or ----- if not applicable)

h - Daily near-end line errored second threshold selection, (0 through 3)

iiiii - Daily near-end line severely errored second threshold, (00000 through 86400, or ----- if not applicable)

i - Daily near-end line severely errored second threshold selection, (0 through 3)

jjjjjjjjj
- Daily far-end path coding violation threshold, (000000000 through 134217727, or --------- if not applicable)

j - Daily far-end path coding violation threshold selection, (0 through 3)

kkkkk - Daily far-end path errored second threshold, (00000 through 86400, or ----- if not applicable)

k - Daily far-end path errored second threshold selection, (0 through 3)

lllll - Daily far-end path severely errored second threshold, (00000 through 86400, or ----- if not applicable)

l - Daily far-end path severely errored second threshold selection, (0 through 3)

mmmmm - Daily far-end severely errored framing second threshold, (00000 through 86400, or ----- if not applicable)

m - Daily far-end severely errored framing second threshold selection, (0 through 3)

nnnnn - Daily far-end controlled slip second threshold, (00000 through 86400, or ----- if not applicable)

n - Daily far-end controlled slip second threshold selection, (0 through 3)

ooooo - Daily far-end unavailable second threshold, (00000 through 86400)

o - Daily far-end unavailable second threshold selection, (0 through 3)

ppppp - Daily far-end line errored second threshold, (00000 through 86400, or ----- if not applicable)

p - Daily far-end line errored second threshold selection, (0 through 3)

aaaaaaa
- 15-Minute near-end path coding violation threshold, (0000000 through 2097151)

a - 15-Minute near-end path coding violation threshold selection, (0 through 3)

bbb - 15-Minute near-end path errored second threshold, (000 through 900)

b - 15-Minute near-end path errored second threshold selection, (0 through 3)

ccc - 15-Minute near-end path severely errored second threshold, (000 through 900)

c - 15-Minute near-end path severely errored second threshold selection, (0 through 3)

ddd - 15-Minute near-end severely errored framing second threshold, (000 through 900)

d - 15-Minute near-end severely errored framing second threshold selection, (0 through 3)

eee - 15-Minute near-end controlled slip second threshold,
(000 through 900)

e - 15-Minute near-end controlled slip second threshold selection,
(0 through 3)

fff - 15-Minute near-end unavailable second threshold,
(000 through 900)

f - 15-Minute near-end unavailable second threshold selection,
(0 through 3)

g g g g g g g
- 15-Minute near-end line coding violation threshold,
(0000000 through 2097151, or ------- if not applicable)

g - 15-Minute near-end line coding violation threshold selection,
(0 through 3)

hhh - 15-Minute near-end line errored second threshold,
(000 through 900, or --- if not applicable)

h - 15-Minute near-end line errored second threshold selection,
(0 through 3)

iii - 15-Minute near-end line severely errored second threshold,
(000 through 900, or --- if not applicable)

i - 15-Minute near-end line severely errored second threshold selection,
(0 through 3)

j j j j j j j
- 15-Minute far-end path coding violation threshold,
(0000000 through 2097151, or ------- if not applicable)

j - 15-Minute far-end path coding violation threshold selection,
(0 through 3)

kkk - 15-Minute far-end path errored second threshold,
(000 through 900, or --- if not applicable)

k - 15-Minute far-end path errored second threshold selection,
(0 through 3)

lll - 15-Minute far-end path severely errored second threshold,
(000 through 900, or --- if not applicable)

l - 15-Minute far-end path severely errored second threshold selection,
(0 through 3)

mmm - 15-Minute far-end severely errored framing second threshold, (000 through 900, or --- if not applicable)

m - 15-Minute far-end severely errored framing second threshold selection, (0 through 3)

nnn - 15-Minute far-end controlled slip second threshold, (000 through 900, or --- if not applicable)

n - 15-Minute far-end controlled slip second threshold selection, (0 through 3)

ooo - 15-Minute far-end unavailable second threshold, (000 through 900)

o - 15-Minute far-end unavailable second threshold selection, (0 through 3)

ppp - 15-Minute far-end line errored second threshold, (000 through 900, or --- if not applicable)

p - 15-Minute far-end line errored second threshold selection, (0 through 3)

Note: A threshold of zero for any parameter inhibits threshold crossing monitoring for that parameter.

For PB/PC type:

Note that:

- If the NPC is not located in a sync NPC location, bit "b" set to "1" will be denied.
- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.
- For NSA NPCs (bit d = 0), bits "f" and "g" are don’t cares: any values are accepted.
- If bit "d" is set to "1" (that is, a CAS NPC) and "jkl" is "110" (that is, Transmic 1G), the command will be denied.
- If bit "d" is set to "1" (that is, a CAS NPC) and bit "e" is "1" for time slot channel numbering, the command will be denied.

m - Facility performance parameter threshold index (0 through 10 hexadecimal)

Variable m is used to select threshold values previously programmed for rr. The default threshold value for each parameter is shown in the table below under the column heading "Default Threshold Value". This is the value selected by m = 0, 1, or 2 in the table of m values following the parameter table. A given value of m selects both the performance monitoring threshold level and the alarm type associated with it as shown in that table. Threshold values selected by values of m greater than 2 must exist, that is, must have been programmed, prior to being selected. These other thresholds can be set by using the CHG,SETOP, TYPE,ALL,NPCOP command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. Although the NPC type field is optional for PB and PC types, the options field must not be given without the NPC type field.

For PB and PC type NPCs:

rr	Parameter	Threshold Value Range	Default Threshold Value
31	Degraded Minutes, 1 hour	1-60	60
32	Degraded Minutes, 24 hours	1-1440	1440
33	Severely Errored Seconds, 15 mins	1-900	900
34	Severely Errored Seconds, 24 hours	1-65535	65535
35	Errored Seconds, 15 minutes	1-900	900
36	Errored Seconds, 24 hours	1-65535	65535
37	Unavailable Seconds, 15 minutes	1-900	900
38	Unavailable Seconds, 24 hours	1-65535	65535
39	Slips, 15 minutes	1-900	900
40	Slips, 24 hours	1-65535	65535

Note 1: 24-hour thresholds must be greater than their respective 15-minute or 1-hour threshold.

For PA, PB, and PC type NPCs:

In the following table these definitions apply:

MI	Maintenance Information
DMA	Deferred Maintenance Action Minor Alarm
PMA Major	Prompt Maintenance Action Major Alarm
PMA Critical	Prompt Maintenance Action Critical Alarm

<m>	Threshold Value	Alarm Type
0	Default	MI (Maintenance Information)
1	Default	DMA (Deferred Maintenance Minor Alarm)
2	Default	PMA (Prompt Maintenance Major Alarm)
3	Set 1	MI
4	Set 1	DMA
5	Set 1	PMA Major
6	Set 2	MI
7	Set 2	DMA
8	Set 2	PMA Major
9	Set 3	MI
a	Set 3	DMA
b	Set 3	PMA Major
c	Threshold disabled	no alarm
d	Default	PMA Critical
e	Set 1	PMA Critical
f	Set 2	PMA Critical
10	Set 3	PMA Critical

Note 1: m = 0 is the default.

Note 2: Threshold values for Set 1, Set 2, and Set 3 must be set (programmed) by using the command mentioned in the explanation of m above before variable **m** can be used to select threshold levels and alarm types other than the defaults.

Note: If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options will still be correctly output.

In addition, certain parameters do not apply. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

IW - Insertion Word

pq[r] - Hexadecimal value of the Growth Insertion Word (GIW)

Used in the transmit direction on unassigned channels for CEPT NPCs.

pq transmitted data information
r transmitted signaling information

A special code, called the Growth Insertion Word (GIW), is transmitted by this NPC on unassigned channels. This code is specified by the optional keyword **IW** and its argument **pq**.

This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the TCON Insertion Word, which is transmitted when the **"TDIS::FROM,TO,...,DCC"** *command is used.*

IW - Insertion word

pqr - Hexadecimal value of the insertion word.

For PB and PC type NPCs, the IW argument is X'pq[r], and the default GIW code is X'D5D (Binary: 11010101 1101). Hexadecimal digits "pq" represent the CEPT insertion word for cross-connected time slots and hexadecimal digit "r" represents the CEPT signaling option. The "r" digit is needed to accommodate the cross-connected CEPT time slot and its associated portion of TS16 used for signaling when provisioned for channel associated signaling (CAS).

Although the "r" digit is accepted on input, for NSA NPCs, it has no significance.

AIS - Alarm indication signal

AIS is not detected by unframed clear (unchannelized) 2Mbit/s PAxDz type NPCs. Therefore, specifying AIS with one of the alarm level types MI, DMA, or PMA, is unnecessary. However, the command will not be denied if AIS is specified with an alarm level for unframed clear PAxDz NPCs. AIS with its alarm level will simply never be reported for unframed clear PAxDz NPCs.

MI - Maintenance information

This is the default option.

PMA - Prompt Maintenance Action Major Alarm

PMC - Prompt Maintenance Action Critical Alarm

DMA - Deferred Maintenance Action Minor Alarm

For each NPC listed, this message prints out values of the states, counts, thresholds and options of the following facility performance parameters and the spare international and national bits in time slot 0 for CEPT NPCs.

For PB and PC type NPCs:

DM - Degraded Minutes

nnnnn - 24-hour Degraded Minutes threshold
nnnnn - 1-hour DM threshold

e - 24-hour Degraded Minutes threshold/alarm selection
e - 1-hour DM threshold/alarm selection

SERS - Severely Errored Seconds

ppppp - 24-hour Severely Errored Seconds threshold
ppppp - 15-minute SERS threshold

f - 24-hour Severely Errored Seconds threshold/alarm selection
f - 15-minute SERS threshold/alarm selection

ERS - Errored Seconds

qqqqq - 24-hour Errored Seconds threshold
qqqqq - 15-minute ERS threshold

g - 24-hour Errored Seconds threshold/alarm selection
g - 15-minute ES threshold/alarm selection

US - Unavailable Seconds

rrrrr - 24-hour Unavailable Seconds threshold
rrrrr - 15-minute US threshold

h - 24-hour Unavailable Seconds threshold/alarm selection
h - 15-minute US threshold/alarm selection

SLIP - Slip Events

sssss - 24-hour Slip Events threshold
sssss - 15-minute SLIP threshold

i - 24-hour Slip threshold/alarm selection
i - 15-minute SLIP threshold/alarm selection

For SHORT INTERVAL, DM is calculated hourly and SERS, ERS, US, and SLIP are calculated at 15 minute intervals.

The **TS0 abcdefgh** variables represent international and national bits in time slot‘0, as defined by:

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

These variables are set to their default values "11011111" by this command, except for the Transmic‘1G option, where the default is "11000000."

The variables may later be changed by setting the abcdefgh parameters in the TS0 field of the CHG::NPC command.

Each of the variables may then be set to "0", "1", or "P." "P" indicates that the incoming bit will be cross-connected unchanged.

When TS0 is cross-connected, the TS0 bits will be either passed, or set to "0" or "1" as indicated by the "abcdefgh" variable values. Note that bits which are used for alarms (bit 3 always; bits 4 and 5 if provisioned by the **mnxyz** values) may not be set to "P."

This is also true for NPCs assigned as test port NPCs.

The **TS0M abcdefgh** field allows monitoring of state changes in the received spare international bits, where the "abcdefgh" variables refer to the same TS0 bits as defined above for the TS0 "abcdefgh" variables.

The TS0M variables are specified for monitoring in the command as:

The default values for TS0M variables are **abcdefgh=00000000**, unless the **xyz** parameters set them differently, that is, for Transmic‘1G the abcdefgh=00111111. The TS0M variables may later be provisioned by the CHG::TS0M‘abcdefgh or the ED-PRMTR-EQPT TS0M-abcdefgh (38323) command.

For PA type:

Note that:

- If the NPC is not located in a sync NPC location, the value of "x" must be in the range 0 - 3 or 8 - B. Otherwise the command will be denied.
- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.
- If the value of "y" is 0, 2, 4 or 6 (i.e., a CAS NPC) and the value of "z" is C (i.e. Transmic 1G), the command will be denied.

For TH type:

Note that:

- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.

<m> - Facility performance parameter threshold index (0 through 10 hexadecimal)

Variable <m> is used to select the threshold value and alarm type previously programmed for parameter rr. There are four possible alarm thresholds and 4 different alarm levels. A given value of <m> selects one combination of threshold value and alarm level. The combinations of these two result in 16 possible values of m. There is a 17th <m> value which is used to disable the alarm threshold and the alarm. The values of <m> that produce the default values of the thresholds and alarms are shown in the table below under the column heading "Threshold Value". Threshold and alarm combinations selected by m = 3 through b and d-10 must exist, that is, must have been programmed, prior to being selected. The thresholds are programmed by using the ED-OPT-T1 command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. Setting <m> = c disables thresholding for a given parameter.

For PA type NPCs:

Table 9-4. Parameter Register Threshold Range and Default Values

rr	Parameter	Interval	Threshold Value Range	Default Threshold Value
11	CRC Block Errors	DAILY	1 - 79056000	176947
12	Framing Errors	DAILY	1 - 345600000	176947
13	Out of Frame Seconds	DAILY	1 - 86400	4
14	Errored Seconds	DAILY	1 - 86400	4320
15	Severely Errored Seconds	DAILY	1 - 86400	90
16	Controlled Slip Seconds	DAILY	1 - 86400	4
17	Coding Violations	DAILY	1 - 176947200	176947
18	Unavailable Seconds	DAILY	1 - 86400	90
19	Unavailable Time Count	DAILY	1 - 4320	9
20	Multiframe Errors	DAILY	1 - 86400	4095
21	Far End Block Errors	DAILY	1 - 79056000	176947
22	Far End Errored Seconds	DAILY	1 - 86400	4320
23	Far End Severely Errored Seconds	DAILY	1 - 86400	90
24	Far End Unavailable Seconds	DAILY	1 - 86400	90
81	CRC Block Errors	15MIN	1 - 823500	18432
82	Framing Errors	15MIN	1 - 3600000	18432
83	Out of Frame Seconds	15MIN	1 - 900	4
84	Errored Seconds	15MIN	1 - 900	300
85	Severely Errored Seconds	15MIN	1 - 900	30
86	Controlled Slip Seconds	15MIN	1 - 900	1
87	Coding Violations	15MIN	1 - 1843200	18432
88	Unavailable Seconds	15MIN	1 - 900	30
89	Unavailable Time Count	15MIN	1 - 45	3
90	Multiframe Errors	15MIN	1 - 900	255
91	Far End Block Errors	15MIN	1 - 823500	18432
92	Far End Errored Seconds	15MIN	1 - 900	300
93	Far End Severely Errored Seconds	15MIN	1 - 900	30
94	Far End Unavailable Seconds	15MIN	1 - 900	30

For PA, PB, and PC type NPCs:

In the following table these definitions apply:

MI	Maintenance Information
DMA	Deferred Maintenance Action Minor Alarm
PMA Major	Prompt Maintenance Action Major Alarm
PMA Critical	Prompt Maintenance Action Critical Alarm

<m>	Threshold Value	Alarm Type
0	Default	MI (Maintenance Information)
1	Default	DMA (Deferred Maintenance Minor Alarm)
2	Default	PMA (Prompt Maintenance Major Alarm)
3	Set 1	MI
4	Set 1	DMA
5	Set 1	PMA Major
6	Set 2	MI
7	Set 2	DMA
8	Set 2	PMA Major
9	Set 3	MI
a	Set 3	DMA
b	Set 3	PMA Major
c	Threshold disabled	no alarm
d	Default	PMA Critical
e	Set 1	PMA Critical
f	Set 2	PMA Critical
10	Set 3	PMA Critical

Note 1: m = 0 is the default.

Note 2: Threshold values for Set 1, Set 2, and Set 3 must be set (programmed) by using the command mentioned in the explanation of m above before variable **m** can be used to select threshold levels and alarm types other than the defaults.

IW - Insertion Word

pq[r] - Hexadecimal value of the Growth Insertion Word (GIW)

Used in the transmit direction on unassigned channels for CEPT NPCs.

pq	transmitted data information
r	transmitted signaling information

A special code, called the Growth Insertion Word (GIW), is transmitted by this NPC on unassigned channels. This code is specified by the optional keyword **IW** and its argument **pq**.

This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the TCON Insertion Word, which is transmitted when the **"TDIS::FROM,TO,...,DCC"** *command is used.*

IW - Insertion word

pqr - Hexadecimal value of the insertion word.

For PA type NPCs, the IW argument is X'pq[r], and the default GIW code is X'D5D (Binary: 11010101 1101). The "pq" hex digits represent the CEPT insertion word for cross-connected time slots and the "r" hex digit represents the CEPT signaling options. The "r" digit is needed to accommodate the cross-connected CEPT time slot and its associated portion of TS16 used for signaling when provisioned for CAS.

Although the "r" digit is accepted on input, for NSA NPCs, it has no significance.

For each NPC listed, this message prints out values of the states, counts, thresholds and options of the following facility performance parameters and the spare international and national bits in time slot 0 for CEPT DPCs.

parameter	explanation
CRC	CRC Block Errors
FRER	Framing Errors
OFS	Out of Frame Seconds
ES	Errored Seconds
SES	Severely Errored Seconds
CSS	Controlled Slip Seconds
CV	Coding Violations
UAS	Unavailable Seconds
UATC	Unavailable Time Count
MER	Multiframe Errors
FEBE	Far End Block Errors
FES	Far End Errored Seconds
FSES	Far End Severely Errored Seconds
FUAS	Far End Unavailable Seconds

Two sets of thresholds are kept for each parameter: One for DAILY intervals and one for 15 MINUTE intervals.

For PA type NPCs:

Depending on which interface functions are enabled by the provisioning values of xyz, some parameters may not be applicable. In this case the threshold value, the parameter count (if present in the message) and the selection value will appear as dashes ("-"). In the table below "N/A" indicates that a parameter is not applicable for the given value of x or y.

Also, if the selection value m=c has been chosen for a parameter, the threshold value and the parameter count (if present in the message) will appear as dashes.

For PA Type NPCs				
Parameter	CRC-4 Mode Disabled (x=A,B,E,F)	Far-End PM Disabled (x=0,2,4,6,A,B,E,F)	CAS Disabled (y=8,9,C,D)	Unframed Clear 2Mbit/s (y=D)
CRC	N/A			N/A
FRER				N/A
OFS				N/A
ES				N/A
SES				N/A
CSS				
CV				
UAS				N/A
UATC				N/A
MER			N/A	N/A
FEBE		N/A		N/A
FES		N/A		N/A
FSES		N/A		N/A
FUAS		N/A		N/A

aaaaaaaa
- Daily CRC block error threshold value.

a - Daily CRC block error threshold selection, (0 through 3)

bbbbbbbbb
- Daily framing error threshold value.

b - Daily framing error threshold selection, (0 through 3)

ccccc - Daily out of frame seconds threshold value.

c - Daily out of frame seconds threshold selection, (0 through 3)

ddddd - Daily errored second threshold value.

d - Daily errored second threshold selection, (0 through 3)

eeeee - Daily severely errored second threshold value.

e - Daily severely errored second threshold selection, (0 through 3)

fffff - Daily controlled slip second threshold value.

f - Daily controlled slip second threshold selection, (0 through 3)

ggggggggg
- Daily coding violation threshold value.

g - Daily coding violation threshold selection, (0 through 3)

hhhhh - Daily unavailable second threshold value.

h - Daily unavailable second threshold selection, (0 through 3)

iiii - Daily unavailable time count threshold value.

i - Daily unavailable time count threshold selection, (0 through 3)

jjjjj
- Daily multiframe alignment error threshold value.

j - Daily multiframe alignment error threshold selection, (0 through 3)

kkkkkkkk
- Daily far-end block error threshold value.

k - Daily far-end path block error selection, (0 through 3)

lllll - Daily far-end errored second threshold value.

l - Daily far-end path second threshold selection, (0 through 3)

mmmmm - Daily far-end severely errored second threshold value.

m - Daily far-end severely errored second threshold selection, (0 through 3)

nnnnn - Daily far-end unavailable second threshold value.

n - Daily far-end unavailable second threshold selection, (0 through 3)

_a_a_a_a_a
- 15-Minute CRC block error threshold value.

a - 15-Minute CRC block error threshold selection, (0 through 3)

bbbbbbb
- 15-Minute framing error threshold value.

b - 15-Minute framing error threshold selection, (0 through 3)

ccc - 15-Minute out of frame seconds threshold value.

c - 15-Minute out of frame seconds threshold selection, (0 through 3)

ddd - 15-Minute errored second threshold value.

d - 15-Minute errored second threshold selection, (0 through 3)

eee - 15-Minute severely errored second threshold value.

e - 15-Minute severely errored second threshold selection, (0 through 3)

fff - 15-Minute controlled slip second threshold value.

f - 15-Minute controlled slip second threshold selection, (0 through 3)

ggggggg
- 15-Minute coding violation threshold value.

g - 15-Minute coding violation threshold selection, (0 through 3)

hhh - 15-Minute unavailable second threshold value.

h - 15-Minute unavailable second threshold selection, (0 through 3)

ii - 15-Minute unavailable time count threshold value.

i - 15-Minute unavailable time count threshold selection, (0 through 3)

jjj
- 15-Minute multiframe alignment error threshold value.

j - 15-Minute multiframe alignment error threshold selection, (0 through 3)

kkkkkk
- 15-Minute far-end block error threshold value.

k - 15-Minute far-end path block error selection, (0 through 3)

lll - 15-Minute far-end errored second threshold value.

l - 15-Minute far-end path second threshold selection, (0 through 3)

mmm - 15-Minute far-end severely errored second threshold value.

m - 15-Minute far-end severely errored second threshold selection, (0 through 3)

nnn - 15-Minute far-end unavailable second threshold value.

n - 15-Minute far-end unavailable second threshold selection, (0 through 3)

The options {a,b,c,d,e,f,g,h,i,j,k,l,m,n} and { a, b, c, d, e, f, g, h, i, j, k, l, m, n} are **m values** as previously shown and specify the threshold sets of the performance parameters listed.

The **TS0 abcdefgh** variables represent international and national bits in time slot‘0, as defined by:

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

These variables are set to their default values "11011111" by this command, except for the Transmic‘1G option, where the default is "11000000."

The variables may later be changed by setting the abcdefgh parameters in the TS0 field of the ED-PRMTR-EQPT::NPC or CHG::NPC (38321) command. Each of the variables may then be set to "0", "1", "P" or "V." "P" indicates that the incoming bit will be cross-connected unchanged; "V" indicates that the bit received will be inverted.

When TS0 is cross-connected, the TS0 bits will be either passed, inverted or set to "0" or "1" as indicated by the "abcdefgh" variable values. Note that bits which are used for alarms (bit 3 always; bits 4 and 5 if provisioned by the **mnxyz** values) may not be set to "P."

This is also true for NPCs assigned as test port NPCs.

The **TS0M abcdefgh** field allows monitoring of state changes in the received spare international bits, where the "abcdefgh" variables refer to the same TS0 bits as defined above for the TS0 "abcdefgh" variables.

The TS0M variables are specified for monitoring in the command as:

The default values for TS0M variables are **abcdefgh=00000000**, unless the **xyz** parameters set them differently, i.e., for Transmic‘1G the abcdefgh=00111111. The TS0M variables may later be provisioned by the CHG::TS0M‘abcdefgh or the ED-PRMTR-EQPT TS0M-

abcdefgh (38323) command.

CTST,FAD,AIS,INCL

NON-CHANNELIZED TEST, MONITOR,SPLIT,LOOP

Explanation Of Command

This command is used to change the mode of a previously assigned FAD.

For a one-way circuit under test, the test mode can only be MONE or SPLTA. The FROM and TO NPCs must be entered as the E- and F-end NPCs, respectively.

The AIS keyword is required for test modes SPLTE, SPLTF, SPLTEF, LOOPE and LOOPF, to indicate the idle signal for any idle output port that resulted from the interruption.

The INCL keyword is required if one or more of the NPC(s) under test is marked Red or Customer-controlled, except when changing to a monitor mode.

Once a test connection is set up, this command can be entered with either one or both FADs, in any order. The original order of FAD assignment will be used until test access is released.

The E- and F-end NPCs for non-channelized test access correspond to the FROM and TO NPCs of a cross-connection, respectively. The test session is the circuit connection under test.

During a test session, if a hard-reset or link failure occurs, the test session is released automatically. However, if the failure is such that it prevents release at the time of logoff or if the FAD fails, the test session is NOT automatically released and can be released by

manual disconnection.

Command

Nonhierarchical

[I.20101]

```
CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[,[t]def])[,AIS][,INCL]!
```

Hierarchical

[I.20101]

```
CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr])[,AIS][,INCL]!
```

Completion Message

Nonhierarchical

[O.20101]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[,[t]def]) \
[u]ghi[,[v]jkl]  2 LN MSG:
[AIS ][RDC ][CUS ][ONEWAY ]{UMPD|[EMODE <emode>] FMODE <fmode>} \
CGA (ftp) COMPL
```

Hierarchical

[O.20101]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr]) \
eghij[,jklmn]  2 LN MSG:
[AIS ][RDC ][CUS ][ONEWAY ]{UMPD|[EMODE <emode>] FMODE <fmode>} \
CGA (ftp) COMPL
```

Denial Message

Nonhierarchical

[O.20101.01]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[,[t]def])  \
2 LN MSG:
[[t]klm][COND ]cc[ <st>] DNY
```

Hierarchical

[O.20101.01]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr])  \
2 LN MSG:
[ghklm ][COND ]cc[ <st>] DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FAD - Facility access digroup

The test NPC

tmode - Test mode

tmode	*Explanation*
MONE	Monitor signal from equipment end (E-end) NPC to facility end (F-end) NPC of unmapped or one-/two-way mapped test session
MONF	Monitor signal from F-end NPC to E-end NPC of a two-way mapped test session
MONEF	Monitor a two-way mapped connection in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs

SPLTA Split the A signal from the equipment E-end NPC to the facility F-end NPC of one-/two-way mapped test session

SPLTB Split the B signal from the F-end NPC to the E-end NPC of a mapped two-way test session

SPLTAB Split both A and B signals of a two-way test session; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs

SPLTE Split the input and output ports of E-end NPC of an unmapped or two-way mapped test session

SPLTF Split the input and output ports of F-end NPC of a two-way mapped test session

SPLTEF Split a two-way mapped test session in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs

LOOPE Loop the E-end input port to the output port, and connect the looped signal to the FAD; the test session may include an unmapped or two-way mapped connection

LOOPF Loop the F-end input port to the output port, and connect the looped signal to the FAD; only for a two-way mapped test session; not allowed for one-way broadcast tributaries

[s]abc - The 3- or 4-digit nonhierarchical number of test NPC or FAD
For MONEF, SPLTAB and SPLTEF modes this is one of two test NPCs; the message is denied if this NPC is currently not a FAD

[t]def - Nonhierarchical number of second test NPC or FAD
For MONEF, SPLTAB and SPLTEF modes this number can be entered or omitted; either and/or both of [s]abc and [t]def can be entered, in any order, the original order of FAD assignment will be used; the message is denied if this NPC is currently not a FAD

[u]ghi - Nonhierarchical number of E-end NPC, this is the reference NPC for the test session; it is a mapped or unmapped NPC, or the backbone of a broadcast circuit, depending on the test session specified

[v]jkl - Nonhierarchical number of current F-end NPC of the test session. It is defined only if it is mapped to the E-end NPC; if it is omitted, the NPC mapped to the E-end NPC becomes the F-end NPC, or if the test session involves a broadcast circuit, the full tributary becomes the F-end NPC, if one does not exist, the parameter must be given to specify the tributary being tested; it must be omitted if the E-end NPC is unmapped.

[t]klm - Nonhierarchical number of problematic NPC.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number for FAD
wxkqr - Hierarchical NPC number of second FAD
eghij - Hierarchical E-end NPC number of test session
jklmn - Hierarchical F-end NPC number of a mapped test session
ghklm - Hierarchical number of problematic NPC

uv,wx,eg,jk,gh
- Unit number
m,k,h,l - Module number
np,qr,ij,mn,lm
- NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

AIS - Alarm indication signal.

AIS must be entered for all test modes resulting in idle output port(s): SPLTE, SPLTF, SPLTEF, LOOPE, and LOOPF. AIS input shall be denied for test access of an unmapped NPC, and all other test modes.

INCL - Inclusive

Required for test session with red or customer-controlled NPC(s), except for MONE, MONF and MONEF modes.

RDC - Red circuit

Test session has red NPC(s)

CUS - Customer

Customer-controlled circuit
Test session has Customer-controlled NPC(s)

ONEWAY - One way cross-connection

Test session has one-way cross-connection

UMPD - Unmapped

Test session has unmapped NPC

EMODE - E-end termination status
FMODE - F-end termination status

emode
fmode Explanation

NORM - The circuit under test is not terminated in this direction
TERM - The circuit under test terminated in this direction

The emode output is omitted for one-way circuits
Both emode and fmode are omitted for unmapped circuits

CGA - Carrier group alarm

ftp - CGA state /* dom */
ftp - PBA state /* int */

f - FROM CGA state /* dom */
f - FROM PBA state /* int */

f Explanation

F FROM NPC is in CGA /* dom */
F FROM NPC is in PBA /* int */
0 FROM NPC is not in CGA /* dom */
0 FROM NPC is not in PBA /* int */

t - TO CGA state /* dom */
t - TO PBA state /* int */

t Explanation

T TO NPC is in CGA /* dom */
T TO NPC is in PBA /* int */
0 TO NPC is not in CGA /* dom */
0 TO NPC is not in PBA /* int */

p - Primary Test Access NPCs PBA state

p Explanation

E Equipment-side test NPC is in CGA /* dom */
E Equipment-side test NPC is in PBA
F Facility-side test NPC is in CGA /* dom */
F Facility-side test NPC is in PBA
B Test NPC supporting both sides are in PBA
0 Test NPC is not in CGA /* dom */
0 Test NPC is not in PBA /* int */

COND - Condition

cc - Condition code

st - Status of denial

cc - Hexadecimal condition code

cc *Explanation*

02 Subject entity is not equipped
04 Subject entity is out of service
1E Customer control or red circuit exists
10 NPC out of service or failed
12 Active CCN side not IS or failed or pested or hardware OOS
13 UNIT not equipped, not in service, or failed
14 CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15 FTMI not equipped, not in service, or failed
16 FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17 TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
34 Termination is under customer control (CUS)
35 Termination is protected (RDC)
46 NPC Failed or Out of Service
70 NPC invalid type
72 Invalid test mode for an unmapped test session
73 Invalid test mode for a one-way test session
75 Test session already exists
76 AIS not entered for SPLTE/SPLTF/SPLTEF/LOOPE/LOOPF
79 NPC is not a Facility Access Digroup
7A NPC is not an E-end
7B Invalid change from previous mode
7C NPC is not a F-end

cc *Explanation*

FF Termination is in process of being rolled
FE AIS entered for MONE/MONF/MONEF/SPLTA/SPLTB/SPLTAB
8C The two FADS entered are not associated with one another.

CTST,FAD,EMODE,FMODE,INCL

NON-CHANNELIZED TEST FAD, EMODE, FMODE

Explanation Of Command

This message changes the output mode (also known as termination status) of a non-channelized circuit under test. The status can be normal data transmission (NORM), or terminate (TERM) and send idle signal(s) to output port(s). The change can be selectively specified for the circuit's E-end and/or F-end NPCs. At least one of the two <e/fmode> fields must be entered, or the message is denied.

If the cross-connected circuit is terminated before a test session is set up, this command can be used to change the state from TERM to NORM. When the test session is released, the most recent state remains until a change (CHG) termination command is entered.

During a test session, if a hard-reset or link failure occurs, the test session is released automatically. However, if the failure is such that it prevents release at the time of logout or if the FAD fails, the test session is NOT automatically released and can be released by manual disconnection.

The E- and F-end NPCs for non-channelized test access correspond to the FROM and TO NPCs of a cross connection, respectively. A test session is the circuit connection under test.

Command

Nonhierarchical

[I.20111]

```
CTST:FRM xy,SEQ ww:FAD ([s]abc[,[t]def])\
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];
```

Hierarchical

[I.20111]

```
CTST:FRM xy,SEQ ww:FAD (uvmnp[,wxkqr])\
{[,EMODE <emode>][,FMODE <fmode>]}[,INCL];
```

Completion Message

Nonhierarchical

[O.20111]

```
M hh:mm:ss xy,ww n[vv] CTST FAD ([s]abc[,[t]def) \
[u]ghi,[v]jkl  2 LN MSG:
[RDC ][CUS ][ONEWAY ][EMODE <emode> ]FMODE <fmode> COMPL
```

Hierarchical

[O.20111]

```
M hh:mm:ss xy,ww n[vv] CTST FAD (uvmnp[,wxkqr]) \
eghij,jklmn  2 LN MSG:
[RDC ][CUS ][ONEWAY ][EMODE <emode> ]FMODE <fmode> COMPL
```

Denial Message

Nonhierarchical

[O.20111.01]

```
M hh:mm:ss xy,ww n[vv] CTST FAD ([s]abc[,[t]def)  2 LN MSG:
[[t]klm ][COND ]cc[ <st>] DNY
```

Hierarchical

[O.20111.01]

```
M hh:mm:ss xy,ww n[vv] CTST FAD (uvmnp[,wxkqr])  2 LN MSG:
[ghklm ][COND ]cc[ <st>] DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FAD - Facility access digroup

[s]abc - The 3- or 4-digit nonhierarchical number of test NPC or FAD
For MONEF, SPLTAB and SPLTEF modes this is one of two test NPCs; the message is denied if this NPC is currently not a FAD

[t]def - Nonhierarchical number of second test NPC or FAD
For MONEF, SPLTAB and SPLTEF modes this number can be entered or omitted; either and/or both of [s]abc and [t]def can be entered, in any order, the original order of FAD assignment will be used; the message is denied if this NPC is currently not a FAD

[u]ghi - Nonhierarchical number of E-end NPC of circuit under test

[v]jkl - Nonhierarchical number of current F-end NPC

[t]klm - Nonhierarchical number of problematic NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number for FAD
wxkqr - Hierarchical NPC number of second FAD
eghij - Hierarchical E-end NPC number of test session
jklmn - Hierarchical F-end NPC number of a mapped test session
ghklm - Hierarchical number of problematic NPC

uv,wx,eg,jk,gh
- Unit number

m,k,h,l - Module number

np,qr,ij,mn,lm
- NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

EMODE - Equipment-end mode

emode - Equipment-end termination status

FMODE - Facility-end mode

fmode - Facility-end termination status

emode *fmode*	*Explanation*
NORM	The circuit under test is not terminated in this direction
TERM	The circuit under test terminated in this direction

The emode cannot be changed and is omitted for one-way circuits
The fmode cannot be changed for modes SPLTE, SPLTEF and LOOPE
For an unmapped circuit neither the EMODE or FMODE can be changed.

If emode or fmode is omitted, the parameter retains its current value.
If either the E- or F-end NPC is out of service or failed, then is subsequently restored to service, the output modes remain as they were before the failure.

RDC - Red circuit

Test session has NPC(s) designated as red circuits

CUS - Customer

Test session has Customer-controlled NPC(s)

INCL - Inclusive

Required for circuits with customer-controlled or red NPC(s)

ONEWAY - One-way

Test session has a one-way cross-connection

COND - Condition

st - Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
02		Subject entity is not equipped
04		Subject entity is out of service
1E		Customer control or red circuit exists
10		NPC out of service or failed
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
30	**MCOND**	Termination is already assigned
34		Termination is under customer control (CUS)
35		Termination is protected (RDC)
46		NPC Failed or Out of Service
70	**MCOND**	NPC invalid type
71		NPC is a Facility Access Digroup
72		Invalid test mode for an unmapped test session
73		Invalid test mode for a one-way test session
75		Test session already exists
79		NPC is not a Facility Access Digroup
7A		NPC is not an E-end
7B		Invalid change from previous mode
7C		NPC is not a F-end
FF		Termination is in process of being rolled
8C		The two FADS entered are not associated with one another.
8E		No mapped circuit under test; emode/fmode can’t be changed.
8F		One-way circuit under test; emode can’t be changed.
90		emode/fmode can’t be changed under current test mode.

CTST,FAD,FROM,TO,AIS,INCL

NON-CHANNELIZED TEST ACCESS (MONITOR, SPLIT, OR LOOP)

Explanation Of Command

This message sets up non-channelized test access in the monitor modes MONE, MONF, MONEF; the split modes SPLTA, SPLTB, SPLTAB, SPLTE, SPLTF, SPLTEF; and the loop modes LOOPE or LOOPF. The circuit under test can be one unmapped Network Processing Circuit (NPC), or a pair of mapped NPCs. The mapped circuit may be a one-way, two-way or broadcast circuit. A one-way circuit can only be tested in modes MONE and SPLTA. Only one test connection can exist at a time for any circuit.

For test modes MONEF, SPLTAB and SPLTEF two Facility Access Digroups (FADs), or test NPCs, are connected. The first FAD number is required; the second FAD can be user specified, or assigned by default to be NPC numbered n+1, where n is the NPC number of the first FAD. If n is the highest NPC number on the DACS II frame, the first NPC on the frame will be used as default for the second FAD. Whether a FAD is user specified or assigned by DACS II, the command will be denied if the FAD is assigned or has invalid type. One FAD is connected for all other modes.

During a test session, if a hard-reset or link failure occurs, the test session is released automatically. However, if the failure is such that it prevents release at the time of logoff, or if the FAD fails, the test session is NOT automatically released and can be released by manual disconnection.

The E- and F-end NPCs for non-channelized test access correspond to the FROM and TO NPCs of a cross-connection, respectively. For a broadcast circuit the full tributary is considered to be a two-way connection, and all other tributaries are one-way connections. Only one test session can exist for a circuit at a time. The FAD or test NPC corresponds to test ports for DS0 test access.

For modes SPLTE and LOOPE, the idle output port of the F-end NPC, and any other output ports the E-end is transmitting to, must be set to AIS.

For modes SPLTF and LOOPF, the idle output port of the E-end NPC, and any other output ports the F-end is transmitting to, must be set to AIS.

The output signal on all idle output ports related to a test session are restored to their previous values when the test modes are changed or test access is released. The OUTPUT modes can be overwritten when the NPC is test accessed.

Command

Nonhierarchical

[I.20001]

```
CTST:FRM xy,SEQ ww:<tmode>,FAD ([s]abc[,[t]def]),FROM [u]ghi\
[,TO [v]jkl][,AIS][,INCL]!
```

Hierarchical

[I.20001]

```
CTST:FRM xy,SEQ ww:<tmode>,FAD (uvmnp[,wxkqr]),FROM eghij\
[,TO jklmn][,AIS][,INCL]!
```

Completion Message

Nonhierarchical

[O.20001]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[,[t]def]) \
[u]ghi[,[v]jkl]  2 LN MSG:
[AIS ][RDC ][CUS ][ONEWAY ]{UMPD|[EMODE <emode>] FMODE <fmode>} \
CGA (ftp) COMPL
```

Hierarchical

[O.20001]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr])\
eghij[,jklmn]  2 LN MSG:
[AIS ][RDC ][CUS ][ONEWAY ]{UMPD|[EMODE <emode>] FMODE <fmode>} \
CGA (ftp) COMPL
```

Denial Message

Nonhierarchical

[O.20001.01]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD ([s]abc[,[t]def]) \
[u]ghi[,[v]jkl]  2 LN MSG:
[[t]klm ][COND ]cc[ <st>] DNY
```

Hierarchical

[O.20001.01]

```
M hh:mm:ss xy,ww n[vv] CTST <tmode> FAD (uvmnp[,wxkqr])
eghij[,jklmn]  2 LN MSG:
[ghklm ][COND ]cc[ <st>] DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FAD - Facility access digroup

FROM - FROM termination

TO - TO termination

tmode - Test mode

tmode	*Explanation*
MONE	Monitor signal from equipment E-end NPC to facility F-end NPC of unmapped or one-/two-way mapped test session
MONF	Monitor signal from F-end NPC to E-end NPC of a two-way mapped test session
MONEF	Monitor a two-way mapped connection in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs
SPLTA	Split the A signal from the equipment E-end NPC to the facility F-end NPC of one-/two-way mapped test session
SPLTB	Split the B signal from the F-end NPC to the E-end NPC of a mapped two-way test session
SPLTAB	Split both A and B signals of a two-way test session; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs
SPLTE	Split the input and output ports of E-end NPC of an unmapped or two-way mapped test session
SPLTF	Split the input and output ports of F-end NPC of a two-way mapped test session
SPLTEF	Split a two-way mapped test session in both directions; two FADs are connected for the test session, and test mode can only be changed to another mode using two FADs

LOOPE Loop the E-end input port to the output port, and connect the looped signal to the FAD; the test session may include an unmapped or two-way mapped connection

LOOPF Loop the F-end input port to the output port, and connect the looped signal to the FAD; only for a two-way mapped test session; not allowed for one-way broadcast tributaries

[s]abc - The 3- or 4-digit nonhierarchical number of test NPC or FAD

For MONEF, SPLTAB and SPLTEF modes this is the first of two test NPCs; the message is denied if this NPC is assigned

[t]def - The 3- or 4-digit nonhierarchical number of second test NPC or FAD

For MONEF, SPLTAB and SPLTEF modes this number can be user specified, if none is entered the next higher NPC number to [s]abc is used; the message is denied if it is assigned

[u]ghi - Nonhierarchical number of E-end NPC.

This is the reference NPC for the test session; it is a mapped or unmapped NPC, or the backbone of a clear-DS1 broadcast circuit, depending on the test session specified

[v]jkl - Nonhierarchical number of current F-end NPC of the test session.

This NPC is defined only if it is mapped to the E-end NPC. If this NPC is omitted from the input command, the NPC mapped to the E-end NPC becomes the F-end NPC or if the test session involves a broadcast circuit, the full tributary becomes the F-end NPC. If a full tributary does not exist, the NPC must be given to specify the tributary being tested. Omit this NPC if the E-end NPC is unmapped.

[t]klm - The 3- or 4-digit nonhierarchical number of problematic NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of test NPC or FAD
wxkqr - Hierarchical number of second FAD
eghij - Hierarchical number of E-end NPC
jklmn - Hierarchical number of F-end NPC of the test session
ghklm - Hierarchical number of problematic NPC

uv,wx,eg,jk,gh
- Unit number

m,k,h,l - Module number

np,qr,ij,mn,lm
- NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

AIS - Alarm indication signal.

May be specified to be idle signal. AIS must be entered for all test modes resulting in idle output port(s): SPLTE, SPLTF, SPLTEF, LOOPE, and LOOPF. AIS input will be denied for test access of an unmapped NPC, and all other test modes.

INCL - Inclusive

Required for test session with red or customer-controlled NPC(s), except for MONE, MONF and MONEF modes. INCL will be ignored if the circuit is NOT RDC or CUS.

RDC - Red circuit

Test session has red NPC(s)

CUS - Customer

Customer-controlled circuit. Test session has Customer-controlled NPC(s)

ONEWAY - One way cross-connection

Test session has one-way cross-connection

UMPD - Unmapped

Test session has unmapped NPC

EMODE - E-end termination status
FMODE - F-end termination status

emode
fmode Explanation

NORM - The circuit under test is not terminated in this direction
TERM - The circuit under test is terminated in this direction

The emode output is omitted for one-way circuits
Both emode and fmode are omitted for unmapped circuits

CGA - Carrier group alarm

ftp - CGA state /* dom */
ftp - PBA state /* int */

f - FROM CGA state /* dom */
f - FROM PBA state /* int */

f Explanation

F FROM NPC is in CGA /* dom */
F FROM NPC is in PBA /* int */
0 FROM NPC is not in CGA /* dom */
0 FROM NPC is not in PBA /* int */

t - TO CGA state /* dom */
t - TO PBA state /* int */

t Explanation

T TO NPC is in CGA /* dom */
T TO NPC is in PBA /* int */
0 TO NPC is not in CGA /* dom */
0 TO NPC is not in PBA /* int */

p - Primary Test Access NPCs PBA state

p Explanation

E Equipment-side test NPC is in PBA
F Facility-side test NPC is in PBA
B Test NPCs supporting both sides are in PBA
0 Test NPC is not in PBA

COND - Condition

cc - Condition code

st - Status of denial

cc - Hexadecimal condition code

cc	**st**	*Explanation*
02	**MCOND**	Subject entity is not equipped
04		Subject entity is out of service
1E		Customer control or red circuit exists
10		NPC out of service or failed
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed

cc	st	*Explanation*
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
30		Termination is already assigned
34		Termination is under customer control (CUS)
35		Termination is protected (RDC)
36		Termination is not connected as indicated
46		NPC Failed or Out of Service
70		NPC invalid type
71		NPC is a Facility Access Digroup
72		Invalid test mode for an unmapped test session
73		Invalid test mode for a one-way test session
75		Test session already exists
76		AIS not entered for SPLTE/SPLTF/SPLTEF/LOOPE/LOOPF
7A		NPC is not an E-end
7C		NPC is not a F-end
FF		Termination is in process of being rolled
FE		AIS entered for MONE/MONF/MONEF/SPLTA/SPLTB/SPLTAB
8D		Clear gateway test access disallowed.

CTST,HUB,FAD,TO,INCL

NON-CHANNELIZED TEST HUB

Explanation Of Command

This message sets up a non-channelized hub connection between a facility access digroup (FAD), or test network processing circuit (NPC) and a remote FAD. The FAD is connected to an NPC which is connected to a remote test NPC. The NPCs cannot be part of an existing mapped circuit or test connection.

During a hub test session if a hard-reset or link failure occurs the hub test session is released automatically. However, if the failure is such that it prevents release at the time of logout, or if the FAD fails, the hub test session is NOT automatically released and can be released by manual disconnection.

Command

Nonhierarchical

[I.20031]

```
CTST:FRM xy,SEQ ww:HUB,FAD [s]abc,TO [t]jkl[,INCL]!
```

Hierarchical

[I.20031]

```
CTST:FRM xy,SEQ ww:HUB,FAD uvmnp,TO wxkqr[,INCL]!
```

Completion Message

Nonhierarchical

[O.20031]

```
M hh:mm:ss xy,ww n[vv] CTST HUB FAD [s]abc,TO [t]jkl[ CUS] CGA (ftp) COMPL
```

Hierarchical

[O.20031]

```
M hh:mm:ss xy,ww n[vv] CTST HUB FAD uvmnp,TO wxkqr[ CUS] CGA (ftp) COMPL
```

Denial Message

Nonhierarchical

[O.20031.01]

```
M hh:mm:ss xy,ww n[vv] CTST HUB FAD [s]abc,TO [t]jkl [[t]klm] \
COND cc DNY
```

Hierarchical

[O.20031.01]

```
M hh:mm:ss xy,ww n[vv] CTST HUB FAD uvmnp,TO wxkqr [ghklm] \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

HUB - HUB connection

FAD - Facility access digroup

[s]abc - The 3- or 4-digit nonhierarchical number of test NPC or Facility Access Digroup (FAD).
[t]jkl - The 3- or 4-digit nonhierarchical number of TO NPC connected to the remote FAD

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of test NPC or FAD
wxkqr - Hierarchical NPC number of TO NPC connected to the remote FAD
ghklm - Hierarchical number of problematic NPC

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]klm - The hierarchical number of the NPC that caused the denial

INCL - Inclusive

Inclusive keyword may be entered for customer-controlled TO NPC

CUS - Customer

Customer-controlled Circuit

CGA - Carrier group alarm

ftp - PBA state

f - FROM CGA state /* dom */
f - FROM PBA state /* int */

f Explanation

F FROM NPC is in CGA /* dom */
F FROM NPC is in PBA /* int */
0 FROM NPC is not in CGA /* dom */
0 FROM NPC is not in PBA /* int */

t - TO CGA state /* dom */
t - TO PBA state /* int */

t Explanation

T TO NPC is in CGA /* dom */
T TO NPC is in PBA /* int */
0 TO NPC is not in CGA /* dom */
0 TO NPC is not in PBA /* int */

p - Primary Test Access NPCs CGA state /* dom */
p - Primary Test Access NPCs PBA state /* int */

p Explanation

E Equipment-side test NPC is in CGA /* dom */
E Equipment-side test NPC is in PBA /* int */
F Facility-side test NPC is in CGA /* dom */
F Facility-side test NPC is in PBA /* int */
B Test NPCs supporting both sides are in CGA /* dom */
B Test NPCs supporting both sides are in PBA /* int */
0 Test NPC is not in CGA /* dom */
0 Test NPC is not in PBA /* int */

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
1E	Customer control or red circuit exists
10	NPC out of service or failed
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
30	Termination is already assigned
32	Termination is under test
34	Termination is under customer control (CUS)
35	Termination is protected (RDC)
46	NPC Failed or Out of Service

cc	*Explanation*
70	NPC invalid type
71	NPC is a Facility Access Digroup
73	Invalid test mode for a one-way test session
75	Test session already exists
FF	Termination is in process of being rolled
8D	Clear gateway test access disallowed.

CTST,LPBKT,FAD,INCL

NON-CHANNELIZED LOOP TEST ACCESS FACILITY

Explanation Of Command

This message terminally loops back a non-channelized Facility Access Digroup (FAD) or test network processing circuit (NPC).

Terminal looping is defined as looping of a terminated signal; it is done in the cross-connect network.

Command

Nonhierarchical

[I.20301]

CTST:FRM xy,SEQ ww:LPBKT,FAD [s]abc[,INCL]!

Hierarchical

[I.20301]

CTST:FRM xy,SEQ ww:LPBKT,FAD uvmnp[,INCL]!

Completion Message

Nonhierarchical

[O.20301]

```
M hh:ss:mm xy,ww n[vv] CTST LPBKT FAD [s]abc[ CUS] COMPL
```

Hierarchical

[O.20301]

```
M hh:ss:mm xy,ww n[vv] CTST LPBKT FAD uvmnp[ CUS] COMPL
```

Denial Message

Nonhierarchical

[O.20301.01]

```
M hh:ss:mm xy,ww n[vv] CTST LPBKT FAD [s]abc COND cc DNY
```

Hierarchical

[O.20301.01]

```
M hh:ss:mm xy,ww n[vv] CTST LPBKT FAD uvmnp COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FAD - Facility access digroup

[s]abc - The 3- or 4-digit nonhierarchical FAD NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of FAD

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

LPBKT - Looped back

Test NPC terminal loopback

INCL - Inclusive

May be entered for customer-controlled NPC, is not required

CUS - Customer

NPC is marked as Customer-controlled

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
30	Termination is already assigned
32	Termination is under test
70	NPC invalid type
71	NPC is a Facility Access Digroup
73	Invalid test mode for a one-way test session
75	Test session already exists
FF	Termination is in process of being rolled

cc *Explanation*

CTST,TNR,ALL,OOS

NON-CHANNELIZED TEST NPC RELEASE

Explanation Of Command

This message releases ALL non-channelized facility access digroups (FADs), or test network processing circuits (NPCs) activated by the user, and restores the test session to its original mapped or unmapped state.
It is preceded by individual CTST,TNR,FAD,OOS messages printed for each test session which is in progress.

If the circuit under test was a mapped circuit before the test session started, upon release of the FAD, the original cross-connection is restored. If the circuit was unmapped, it is restored to the unmapped or idle state that existed prior to testing.

Command

[I.20202]

CTST:FRM xy,SEQ ww:TNR,ALL[,OOS]!

Completion Message

[O.20202]

M hh:mm:ss xy,ww n[vv] CTST TNR ALL COND cc COMPL

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

TNR - Test NPC release

ALL - All

Release all test NPCs

OOS - Out-of-service

The OOS keyword must be entered to release one or more NPC(s) that are OOS. Mapped NPC(s) that are OOS will not be restored to original cross-connection until NPC(s) are returned to service.

COND - Condition code

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
01	No FADs were activated by link n
02	One or more FADs could not be released

CTST,TNR,FAD,OOS

NON-CHANNELIZED TEST NPC RELEASE

Explanation Of Command

This message releases a non-channelized facility access digroup (FAD) or test Network Processing Circuit (NPC) and restores the test session to its original mapped or unmapped state and releases ALL test NPCs activated by the user from the current link.

For test modes using two FADs, if one of the two FADs is entered, both FADs will be released from testing. If both FADs are entered, they must be associated with one another in the same test connection. Both FADs can be entered in any order and will still be released.

If the circuit under test was a mapped circuit before the test session start, upon release of FAD(s), the circuit is restored to cross-connection. If the circuit was unmapped, it is restored to the unmapped or idle state that existed prior to testing.

If the OOS keyword is input, NPC(s) that are out-of-service (OOS) should not be a reason for denial; 'NPC unequipped, failed, or not a test NPC' is a denial condition only for the case

of one NPC.

Command

Nonhierarchical

[I.20201]

There are two alternate formats depending upon the number of FADs specified.

```
CTST:FRM xy,SEQ ww:TNR,FAD [s]abc[,OOS]!

CTST:FRM xy,SEQ ww:TNR,FAD ([s]abc[,[t]def])[,OOS]!
```

Hierarchical

[I.20201]

There are two alternate formats depending upon the number of FADs specified.

```
CTST:FRM xy,SEQ ww:TNR,FAD uvmnp[,OOS]!

CTST:FRM xy,SEQ ww:TNR,FAD (uvmnp[,wxkqr])[,OOS]!
```

Completion Message

Nonhierarchical

[O.20201]

```
M hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[ OOS]\
[ [u]ghi[,[v]jkl]] 2 LN MSG:
[RDC ][CUS ][{UMPD|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL

M hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[,[t]def][ OOS]\
[ [u]ghi[,[v]jkl]] 2 LN MSG:
[RDC ][CUS ][{UMPD|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL
```

Hierarchical

[O.20201]

```
M hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ OOS]\
[ eghij[,jklmn]]  2 LN MSG:
[RDC ][CUS ][{UMPD|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL
```

Denial Message

Nonhierarchical

[O.20201.01]

```
M hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[,[t]def][ OOS]\
[ COND] cc[ <st>] DNY
```

Hierarchical

[O.20201.01]

```
M hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ OOS]\
[ COND] cc[ <st>] DNY
```

Autonomous Message

Nonhierarchical

[O.20201]

```
I hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[,[t]def]\
[ [u]ghi[,[v]jkl]][ OOS]  2 LN MSG:
[RDC ][CUS ][{UMPD|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL
```

[O.20201.01]

```
I hh:mm:ss xy,ww n[vv] CTST TNR FAD [s]abc[,[t]def][ OOS]
[ COND] cc[ <st>] DNY
```

Hierarchical

[O.20201]

```
I hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ eghij[,jklmn]]\
[ OOS]  2 LN MSG:
[RDC ][CUS ][{UNMAP|[EMODE <emode> ]FMODE <fmode>} ][OOS ]COMPL
```

[O.20201.01]

```
I hh:mm:ss xy,ww n[vv] CTST TNR FAD uvmnp[,wxkqr][ OOS]\
[ COND] cc[ <st>] DNY
```

Explanation Of Parameters

TNR - Test NPC release

FAD - Facility access digroup

[s]abc - The 3- or 4-digit nonhierarchical test NPC or Facility Access Digroup (FAD) number

[t]def - The second 3- or 4-digit nonhierarchical FAD number, if applicable

[u]ghi - The 3- or 4-digit nonhierarchical E-end NPC number of test session. Not applicable to loopback FAD

[v]jkl - The 3- or 4-digit nonhierarchical F-end NPC number of a mapped test session. Not applicable to loopback FAD

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number for FAD
wxkqr - Hierarchical NPC number of second FAD, if applicable
eghij - Hierarchical E-end NPC number of test session. Not applicable to loopback FAD
jklmn - Hierarchical F-end NPC number of a mapped test session. Not applicable to loopback FAD

uv,wx,eg,jk
- Unit number

m,k,h,l - Module number

np,qr,ij,mn
- NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

UMPD - Unmapped

Test session has unmapped NPC

EMODE - E-end termination status
FMODE - F-end termination status

emode
fmode Explanation

NORM - The circuit under test is not terminated in this direction
TERM - The circuit under test terminated in this direction

The emode output is omitted for one-way circuits
Both emode and fmode are omitted for unmapped circuits

OOS - Out-of-service

The OOS keyword must be entered to release one or more NPC(s) that are OOS. Mapped NPC(s) that are OOS will not be restored to original cross-connection until NPC(s) are returned to service.

If the OOS keyword is entered in the input command it will appear in the first line of the output message. A second OOS keyword will appear in the last line of the output message if at least one NPC is out-of-service at the time the command is issued.

RDC - Red circuit

Test session has red circuit

CUS - Customer

Test session has customer-controlled Circuit

COND - Condition

cc - Condition code

st - Status of denial

cc - Hexadecimal condition code

cc	**st**	*Explanation*
00		No conditions
02		Subject entity is not equipped
04		Subject entity is out of service
10		NPC out of service or failed
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
46		NPC Failed or Out of Service
70	**MCOND**	NPC invalid type
79		NPC is not a Facility Access Digroup
8C		The two FADS entered are not associated with one another.

DDIS — DGN

10

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10

DDIS — DGN

This section documents the commands **DDIS** through **DGN**.

DDIS,FROM,TO

DISCONNECTION OF CIRCUITS FROM/TO DSP APPLICATION CARD

Explanation Of Command

This command is used to disconnect a circuit (or a range of circuits) between an NPC that is not a DSP application and an NPC that **is** a DSP application NPC. The circuit may be a two-way or a one-way circuit. This command is also used to disconnect a circuit between two application cards.

This command should only be used for clean-up purposes if the cross-connect cannot be disconnected by commands to the application itself. Before issuing the command the user should perhaps try to remove and restore the application and try to issue the disconnect command through the application; keeping in mind, however, that a remove and subsequent restore will result in a momentary service loss.

This command is restricted to only the users who have the RMON (Restricted Maintenance privilege ON) privilege. Also, this command is not available via the on-line help feature.

This command will work if the facility terminating NPC and/or the application NPC are/is out-of-service. This command will also work for Red circuits.

This command should also be used if a test port connection to an application has been released using the FRC keyword in the TTST::TPR,TP,FRC command (I.27001), but the cross-connection that was used for the test port connection, which is a cross-connection between two of the application channels, still needs to be disconnected. The user should use the command UTL::QRY,CMAP (I.52011) to find the channel pair used by the application for the test port before executing this command.

Command

Nonhierarchical

[I.15061]

```
DDIS:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [v]ghijjj[-kkk]!
```

Hierarchical

[I.15061]

```
DDIS:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]!
```

Completion Message

Nonhierarchical

[O.15061]

```
M hh:mm:ss xy,ww n[vv] DDIS [s]abcddd[-eee],[v]ghijjj[-kkk][ OOS][ RDC] COMPL
```

Hierarchical

[O.15061]

```
M hh:mm:ss xy,ww n[vv] DDIS uvmnpddd[-eee],wxkqrjjj[-kkk][ OOS][ RDC] COMPL
```

Denial Message

Nonhierarchical

[O.15061.01]

```
M hh:mm:ss xy,ww n[vv] DDIS [s]abcddd[-eee],[v]ghijjj[-kkk][ mmm,nnn] cc <st> DNY
```

[O.15061.02]

```
M hh:mm:ss xy,ww n[vv] DDIS [s]abcddd[-eee],[v]ghijjj[-kkk][ mmm,nnn] <d> <st> DNY
```

Hierarchical

[O.15061.01]

```
M hh:mm:ss xy,ww n[vv] DDIS uvmnpddd[-eee],wxkqrjjj[-kkk][ mmm,nnn] cc <st> DNY
```

[O.15061.02]

```
M hh:mm:ss xy,ww n[vv] DDIS uvmnpddd[-eee],wxkqrjjj[-kkk][ mmm,nnn] <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The From termination NPC number (3- or 4-digit)

uvmnp - The From termination NPC number (hierarchical)

[v]ghi - The To termination NPC number (3- or 4-digit)

wxkqr - The To termination NPC number (hierarchical)

ddd,jjj
- Channel numbers

eee,kkk
- Channel numbers, denoting the end of a range.

Range	*Type*
001-024	DE, DA, TE and TA type NPCs
000-031	PA, PB, PC and TH type NPCs
001-064	SDxyz type application, see your application manual for details

OOS - At least one of the NPCs was out-of-service.

RDC - The disconnected circuit was a Red circuit

mmm,nnn
- Channel number involved in the denial. Otherwise the same as ddd.

d - Direction

d	*Explanation*
F	From
T	To
B	Both

st - Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
42	**MCOND**	DSPP not in service, or failed
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

st	d	*Explanation*
FAIL	**{F|T|B}**	Failed
NOMTH	**{F|T|B}**	No Match
TP	**{F|T|B}**	NPC is used for test access
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

DELETE,END

DELETE LINES FROM MACRO

Explanation Of Command

This command is used to delete one or more commands from an existing macro while in a macro session. If neither a range of line numbers nor END is specified then the line pointed to by the line pointer (the current line) is deleted.

Command

[I.19051]

```
DELETE[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>\
|END}]]!
```

Completion Message

[O.19051]

```
M hh:mm:ss xy,ww n[vv] DELETE[ {<starting line>\
|END}[-{<ending line>|END}]]  COMPL
```

Denial Message

[O.19051.01]

```
M hh:mm:ss xy,ww n[vv] DELETE[ {<starting line>|\
END}[-{<ending line>|END}]] COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

{<starting line>|END}[-{<ending line>\\ {<starting line>|END}[-{<ending line>|END}]:\\

`starting line`

- Beginning line number of a line range (1, 2, ..., n)

Starting line indicates the line number of the first line of a range of lines to be deleted from a macro.

`ending line`

- Ending line number of a line range (2, 3, ..., n+1)

Ending line indicates the line number of the last line of a range of lines to be deleted from a macro.

`END` - End

Line number of the line at the end of the macro.

`COND` - Condition

`cc` - Hexadecimal condition code

`cc`	*Explanation*
`6B`	Invalid line number
`6E`	No edit session active

DGN,CCB,CFT,X

DIAGNOSE CROSS-CONNECT BUFFER

Explanation Of Command

This message requests diagnostics to be run on the cross-connect buffer.

Command

[I.41211]

```
DGN:FRM xy,SEQ ww:CCB sf[,CFT X'vwxy]!
```

Completion Message

[O.41211]

```
M hh:mm:ss xy,ww n[vv] DGN CCB sf ATP COMPL
```

[O.41212]

```
M hh:mm:ss xy,ww n[vv] DGN CCB sf CATP cc COMPL
```

[O.41213]

```
M hh:mm:ss xy,ww n[vv] DGN CCB sf STF ppqq 2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41211.01]

```
M hh:mm:ss xy,ww n[vv] DGN CCB sf COND cc DNY
```

Autonomous Message

[O.41211]

```
I hh:mm:ss xy,ww   DGN CCB sf ATP COMPL
```

[O.41212]

```
I hh:mm:ss xy,ww   DGN CCB sf CATP cc COMPL
```

[O.41213]

```
I hh:mm:ss xy,ww   DGN CCB sf STF ppqq 2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41211.01]

```
I hh:mm:ss xy,ww   DGN CCB sf COND cc DNY
```

Explanation Of Parameters

CCB - Cross-connect buffer

s - Cross-Connect Buffer side number (0 or 1)

f - Cross-Connect Buffer number (1 through 6)

CFT - Craft

The optional craft diagnostic test code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

All tests can be run while out of service. Test 0004 will not run if any TSI on this Cross-connect Buffer (that is, TSI1 through TSI6) is in service.

vwxy - Diagnostic test number

Test	*vwxy*
Sync energy detector test	0001
Port alarm test	0002
Port alarm test	0004
Clock energy detector test.	0008

ATP - All tests passed

CATP - Conditional all tests passed

cc - Condition code for CATP

cc	*Explanation*
03	CCB in service
39	Not all buses have mapped time slot, or some TSI is in service
3A	No unmapped time slots on one of the buses
44	DMB type NPCs on unit f on side s is in service.

STF - Some tests failed

ppqq - Trouble number for the craft

pp - Failing diagnostic number in hexadecimal form
qq - Test number in hexadecimal form.

ppqq	*Explanation*
0480	Clock energy detector test. Circuit pack identification wrong.
0410	Clock energy detector test. Error bit not set.
0440	Clock energy detector test. Overall error summary not set.
	Note: Involves CCNI register; could be a CCNI problem.
04a0	Clock energy detector test. Error bit not cleared.
0420	Clock energy detector test. Error returns after clear.
04b0	Clock energy detector test. Summary returns after clear.
	Note: Involves CCNI register; could be a CCNI problem.
04f0	Clock energy detector test. Software error.
0180	Port alarm register test. Circuit pack identification wrong.
0110	Port alarm register test. Error bit not set.
0140	Port alarm register test. Overall error summary not set.
	Note: Involves CCNI register; could be a CCNI problem.
01a0	Port alarm register test. Error bit not cleared.
0120	Port alarm register test. Error returns after clear.
01b0	Port alarm register test. Summary returns after clear.
	Note: Involves CCNI register; could be a CCNI problem.

01f0	Port alarm register test. Software error.
0280	SYNC energy detector test. Circuit pack identification wrong.
0210	SYNC energy detector test. Error bit not set.
0240	SYNC energy detector test. Overall error summary not set.

Note: Involves CCNI register; could be a CCNI problem.

02a0	SYNC energy detector test. Error bit not cleared.
0220	SYNC energy detector test. Error returns after clear.
02b0	SYNC energy detector test. Summary returns after clear.
02f0	SYNC energy detector test. Software error.
031N	Port alarm in-service test. Port alarm set in ESR N. N=0-2.
038N	Port Alarm in-service test. Circuit pack identification wrong in ESR N.
034N	Port alarm in-service test. Overall error bit not set when test bus B. B=0-3.

Note: Involves CCNI register; could be a CCNI problem.

03aN	Port alarm in-service test. Error bit not cleared in ESR N.
032N	Port alarm in-service test. Error returns after clear in ESR N.
03b0	Port alarm in-service test. Summary returns after clear.

Note: Involves CCNI register; could be a CCNI problem.

03f0	Port alarm in-service test. Software error.
0b00	Could not initialize pack.

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

d5 - CCNI Error Source Register 5

Each data field contains sixteen bits. The significance of each data field and its individual bits is as follows:

Bit	*Explanation*
15-8	Don't care
7	Error on autonomous switch enable circuit
6	Error on BSR parity
5	Parity error on high byte of data
4	Parity error on low byte of data
3	Address bus parity error
2	Synchronizer error
1	Error on CCB 6
0	Error on CCB 5

d4 - CCNI Error Source Register 4.

Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on CCB 4
14	Error on CCB 3
13	Error on CCB 2
12	Error on CCB 1
11	Error on FTM 4, Unit 6
10	Error on FTM 3, Unit 6
09	Error on FTM 2, Unit 6
08	Error on FTM 1, Unit 6
07	Error on FTM 4, Unit 5
06	Error on FTM 3, Unit 5
05	Error on FTM 2, Unit 5
04	Error on FTM 1, Unit 5
03	Error on FTM 4, Unit 4
02	Error on FTM 3, Unit 4
01	Error on FTM 2, Unit 4
00	Error on FTM 1, Unit 4

d3 - CCNI Error Source Register 3.

Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on FTM 4, Unit 3
14	Error on FTM 3, Unit 3
13	Error on FTM 2, Unit 3
12	Error on FTM 1, Unit 3
11	Error on FTM 4, Unit 2
10	Error on FTM 3, Unit 2
09	Error on FTM 2, Unit 2
08	Error on FTM 1, Unit 2
07	Error on FTM 4, Unit 1
06	Error on FTM 3, Unit 1
05	Error on FTM 2, Unit 1
04	Error on FTM 1, Unit 1
03	Error on TSI 66
02	Error on TSI 56
01	Error on TSI 46
00	Error on TSI 36

d2 - CCNI Error Source Register 2.

Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on TSI 26
14	Error on TSI 16
13	Error on TSI 65
12	Error on TSI 55
11	Error on TSI 45
10	Error on TSI 35
09	Error on TSI 25
08	Error on TSI 15
07	Error on TSI 64
06	Error on TSI 54
05	Error on TSI 44
04	Error on TSI 34
03	Error on TSI 24
02	Error on TSI 14
01	Error on TSI 63
00	Error on TSI 53

d1 - CCNI Error Source Register 1.

Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on TSI 43
14	Error on TSI 33
13	Error on TSI 23
12	Error on TSI 13
11	Error on TSI 62
10	Error on TSI 52
09	Error on TSI 42
08	Error on TSI 32
07	Error on TSI 22
06	Error on TSI 12
05	Error on TSI 61
04	Error on TSI 51
03	Error on TSI 41
02	Error on TSI 31
01	Error on TSI 21
00	Error on TSI 11

d0 - Contents of Bus Status Register on CCNI

Bit	*Explanation*
15-04	Not used.
03	Indicates what side of the network is active. This bit is read by the unit controllers.
02	Indicates what side of the network is active. This bit is written by the MP.
01	ASE (Autonomous Switch Enable) bit 1 = ASE circuit controls the value of Bit 02 0 = MP controls the value of Bit 02 This bit is read by the units.
00	Odd parity over bits 02-00 of this register.

cc - Hexadecimal condition code

cc	**Explanation**
02	**Subject entity is not equipped**
03	**Subject entity is in service**
39	**Not enough TSIs for CCB test**
3A	**No unmapped slots on a bus**

DGN,CCI,CFT,X

DIAGNOSTICS, CCI AND BT PACKS

Explanation Of Command

This command requests diagnostics to be run on the clock and control interface (CCI) and the bus terminator (BT) packs.

Command

[I.41251]

```
DGN:FRM xy,SEQ ww:CCI s[,CFT X'vwxy]!
```

Completion Message

[O.41251]

```
M hh:mm:ss xy,ww n[vv] DGN CCI s ATP COMPL
```

[O.41252]

```
M hh:mm:ss xy,ww n[vv] DGN CCI s CATP ćć COMPL
```

[O.41253]

```
M hh:mm:ss xy,ww n[vv] DGN CCI s[ BT sf] STF ppqq  3 LN MSG:
wd21 wd20 wd19 wd18 wd17 wd16 wd15 wd14 wd13 wd12 wd11
wd10 wd09 wd08 wd07 wd06 wd05 wd04 wd03 wd02 wd01 wd00 COMPL
```

Denial Message

[O.41251.01]

M hh:mm:ss xy,ww n[vv] DGN CCI s[BT sf] COND cc DNY

Autonomous Message

[O.41251]

I hh:mm:ss xy,ww n[vv] DGN CCI s ATP COMPL

[O.41251.01]

I hh:mm:ss xy,ww n[vv] DGN CCI s[BT sf] COND cc DNY

Explanation Of Parameters

CCI - Clock and control interface

s - Cross-connect side number (0 or 1)

CFT - Craft code

vwxy - Diagnostic test number (hexadecimal)

Test	*vwxy*
Address and Data Parity Exercise	0001
CCI Sync and Clock Exercise	0002
ETSI alarm exercise	0004
Sync summary alarm exercise	0008
Unit Summary Alarm Exercise	0010
CCI Power Alarm Exercise	0020*
Bus Status Register Parity Test	0040
Logic Cell Array (LCA) readback Test	0080
Bus Termination (BT) Pack Alarm Exercise	0100
Out-of-service Bus Status Register Diagnostics	0200*
CCI reset register check	0400*
ETSI reset register check	0800*

* Can be run only when the Expanded Cross-Connect Network (ECCN) side is out-of-service

The optional craft diagnostic code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

BT - Bus termination

sf - BT identifier

s - Cross-connect side number (0 or 1)

f - Failed BT indicator

f	*Explanation*
1	BT 1
2	BT 2
B	Both BTs

ATP - All tests passed

CATP - Conditional all tests passed

cc - Completion condition code (hexadecimal) (see cc for explanation)

STF - Some tests failed

ppqq - Trouble number for the craft (hexadecimal)

pp - Failing diagnostic number
qq - Test number

ppqq	*Explanation*
0001	Address and Data Parity Exercise failed
0002	CCI Sync and Clock Exercise failed
0004	ETSI alarm exercise failed
0008	Sync summary alarm exercise failed
0010	Unit Summary Alarm Exercise failed
0020*	CCI Power Alarm Exercise failed
0040	Bus Status Register Parity Test failed
0080	Logic Cell Arrays (LCA) readback Test failed
0100	Bus Terminator (BT) Pack Alarm Exercise failed
0200*	Out-of-service Bus Status Register Diagnostics failed
0400*	CCI reset register check failed
0800*	ETSI reset register check failed
8000	CCI failed hardware initialization

* ECCN out-of-service test

wd21, ..., wd00
- Raw data words

These words are related to the diagnostic failure. Each word contains two bytes, and each byte is shown as a 2-digit hexadecimal number.

cc - Hexadecimal condition code

cc	Explanation
02	Subject entity is not equipped
03	Subject entity is in service
55	Invalid CFT code
56	Unrunnable CFT code

DGN,CCNI,CFT,X

DIAGNOSE CCNI

Explanation Of Command

This message requests diagnostics to be run on the cross-connect network interface (CCNI).

Command

[I.41201]

```
DGN:FRM xy,SEQ ww:CCNI s[,CFT X'vwxy]!
```

Completion Message

[O.41201]

```
M hh:mm:ss xy,ww n[vv] DGN CCNI s ATP COMPL
```

[O.41202]

```
M hh:mm:ss xy,ww n[vv] DGN CCNI s CATP cc COMPL
```

[O.41203]

```
M hh:mm:ss xy,ww n[vv] DGN CCNI s STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41201.01]

```
M hh:mm:ss xy,ww n[vv] DGN CCNI COND cc DNY
```

Autonomous Message

[O.41201]

```
I hh:mm:ss xy,ww   DGN CCNI s ATP COMPL
```

[O.41202]

```
I hh:mm:ss xy,ww   DGN CCNI s CATP cc COMPL
```

[O.41203]

```
I hh:mm:ss xy,ww   DGN CCNI s STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41201.01]

```
I hh:mm:ss xy,ww   DGN CCNI COND cc DNY
```

Explanation Of Parameters

CCNI - Cross-connect network interface

s - Cross-connect side number (0 or 1)

CFT - Craft

The optional craft diagnostic code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run. All diagnostic tests can be run in or out of service.

vwxy - Diagnostic test number

Test	*vwxy*
Unmask test	0001
Lowbyte/highbyte parity test	0002
ESR/EMR test	0004
Bus status register test	0008
Autonomous switch test	0010
Address bus parity test	0020

ATP - All tests passed

STF - Some tests failed

ppqq - Trouble number for the craft

pp - Failing diagnostic number in hexadecimal form
qq - Test number in hexadecimal form

ppqq	*Explanation*
0110	Autonomous switch enable test: error bit not set
0120	Error bit returns after clear
01f0	Software error
0210	Bus status register test: error bit not set
0220	Error bit returns after clear
02f0	Software error
0311	Low/high byte parity test: low byte parity error not set
0312	High byte parity error not set
0313	Low and high byte errors not set
0320	Errors return after clear
03f0	Software error
0520	Unmask test: unmask failed
05f0	Software error
0620	Mask test: error bits set on entry
06c0	Mask bits failed to set
06f0	Software error
071R	Error bit not set
074R	Overall error summary bit does not set (this may involve a problem with the BX board, so if replacing this pack doesn't solve the problem, replace the BX)
07bR	Overall summary bit returns after clear (this may involve a problem with the BX board, so if replacing this pack doesn't solve the problem, replace the BX)
07cR	ESR/EMR tests: mask bit does not set: R is EMR or ESR number--[1,5] B is bit number--[0,f]
07dR	Mask bit does not clear
07f0	Software error
0810	Address bus parity test: error bit not set
0820	Error bit returns after clear
08a0	Error bit not cleared
08f0	Software error
0b00	Could not initialize pack

CATP - Conditional all tests passed

cc - Hexadecimal condition code

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

d5 - CCNI Error Source Register 5

Each data field contains sixteen bits. The significance of each data field and its individual bits is as follows:

Bit	*Explanation*
15-8	Don't care
7	Error on autonomous switch enable circuit
6	Error on BSR parity
5	Parity error on high byte of data
4	Parity error on low byte of data
3	Address bus parity error
2	Synchronizer error
1	Error on CCB 6
0	Error on CCB 5

d4 - CCNI Error Source Register 4. Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on CCB 4
14	Error on CCB 3
13	Error on CCB 2
12	Error on CCB 1
11	Error on FTM 4, Unit 6
10	Error on FTM 3, Unit 6
09	Error on FTM 2, Unit 6
08	Error on FTM 1, Unit 6
07	Error on FTM 4, Unit 5
06	Error on FTM 3, Unit 5
05	Error on FTM 2, Unit 5
04	Error on FTM 1, Unit 5
03	Error on FTM 4, Unit 4
02	Error on FTM 3, Unit 4
01	Error on FTM 2, Unit 4
00	Error on FTM 1, Unit 4

d3 - CCNI Error Source Register 3. Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on FTM 4, Unit 3
14	Error on FTM 3, Unit 3
13	Error on FTM 2, Unit 3
12	Error on FTM 1, Unit 3
11	Error on FTM 4, Unit 2
10	Error on FTM 3, Unit 2
09	Error on FTM 2, Unit 2
08	Error on FTM 1, Unit 2
07	Error on FTM 4, Unit 1
06	Error on FTM 3, Unit 1
05	Error on FTM 2, Unit 1
04	Error on FTM 1, Unit 1
03	Error on TSI 66
02	Error on TSI 56
01	Error on TSI 46
00	Error on TSI 36

d2 - CCNI Error Source Register 2. Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on TSI 26
14	Error on TSI 16
13	Error on TSI 65
12	Error on TSI 55
11	Error on TSI 45
10	Error on TSI 35
09	Error on TSI 25
08	Error on TSI 15
07	Error on TSI 64
06	Error on TSI 54
05	Error on TSI 44
04	Error on TSI 34
03	Error on TSI 24
02	Error on TSI 14
01	Error on TSI 63
00	Error on TSI 53

d1 - CCNI Error Source Register 1. Each bit indicates an error on a pack connected to this CCNI.

Bit	*Explanation*
15	Error on TSI 43
14	Error on TSI 33
13	Error on TSI 23
12	Error on TSI 13
11	Error on TSI 62
10	Error on TSI 52
09	Error on TSI 42
08	Error on TSI 32
07	Error on TSI 22
06	Error on TSI 12
05	Error on TSI 61
04	Error on TSI 51
03	Error on TSI 41
02	Error on TSI 31
01	Error on TSI 21
00	Error on TSI 11

d0 - Contents of Bus Status Register on CCNI

Bit	*Explanation*
15-04	Not used.
03	Indicates what side of the network is active. This bit is read by the unit controllers.
02	Indicates what side of the network is active. This bit is written by the MP.
01	ASE (Autonomous Switch Enable) bit 1 = ASE circuit controls the value of Bit 02 0 = MP controls the value of Bit 02 This bit is read by the units.
00	Odd parity over bits 02-00 of this register.

cc - Hexadecimal condition code

cc	**Explanation**
55	**Invalid CFT code**
56	**Unrunnable CFT code**

DGN,CI,CFT,X

DIAGNOSE COMMUNICATIONS INTERFACE

Explanation Of Command

This message requests diagnostics to be run on the communications interface (CI). The optional craft (CFT) field specifies which test(s) vwxy is to be run on the ICI. The remainder of the CI diagnostics will then not be run.

An in progress message (O.41004) is output every 20 seconds while CI is being diagnosed until the command response or the autonomous report is output.

Command

[I.41031]

```
DGN:FRM xy,SEQ ww:CI[,CFT X'vwxy]!
```

Completion Message

[O.41031]

```
M hh:mm:ss xy,ww n[vv] DGN CI ATP COMPL
```

[O.41032]

```
M hh:mm:ss xy,ww n[vv] DGN CI CATP ćć COMPL
```

[O.41033]

```
M hh:mm:ss xy,ww n[vv] DGN CI STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41031.01]

```
M hh:mm:ss xy,ww n[vv] DGN CI COND cc DNY
```

Autonomous Message

[O.41031]

```
I hh:mm:ss xy,ww   DGN CI ATP COMPL
```

[O.41032]

```
I hh:mm:ss xy,ww   DGN CI CATP cc COMPL
```

[O.41033]

```
I hh:mm:ss xy,ww   DGN CI STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41031.01]

```
I hh:mm:ss xy,ww   DGN CI COND cc DNY
```

Explanation Of Parameters

CI - Communications Interface

CFT - Craft

vwxy - Diagnostic test number (hexadecimal)

Test	*vwxy*
ICI RAM Test	0001*
ICI ROM Test	0002
ICI One Meg LAN Test	0004*
ICI Type and Version Test	0008
ICI Acknowledge Test	0010
ICI Timer Test.	0020
ICI HDLC Test	0040*

*Out-of-service test.

ATP - All Tests Passed

CATP - Conditional All Tests Passed

cc - Hexadecimal completion condition code

To interpret values of cc see the cc table below.

STF - Some Tests Failed

ppqq - Trouble number for the craft (hexadecimal)

pp - Failing diagnostic number
qq - Test number

ppqq	*Explanation*
0101	RAM Data Fail
0102	RAM Address Fail
0103	RAM Access Fault
0104	RAM Refresh Fail
0105	RAM Parity Fail
0200	ROM Fail
0400	Timer Fail
0500	Type and Version Test Fail
0600	HDLC Fail
0700	One Meg LAN Fail
0900	Acknowledge Fail

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

Data Byte	*Value*
d5	Unused
d4	Unused
d3	Unused
d2	Unused
d1	Unused
d0	Unused

cc - Hexadecimal condition code

cc	*Explanation*
55	Invalid CFT code
56	Unrunnable CFT code

DGN,ETSI,CFT,X

DIAGNOSE ETSI

Explanation Of Command

This message requests diagnostics to be run on an expanded time slot interchanger (ETSI).

Command

[I.41261]

```
DGN:FRM xy,SEQ ww:ETSI sqq[,CFT X'vwxy]!
```

Completion Message

[O.41261]

```
M hh:mm:ss xy,ww n[vv] DGN ETSI sqq ATP COMPL
```

[O.41262]

```
M hh:mm:ss xy,ww n[vv] DGN ETSI sqq CATP kk COMPL
```

[O.41263]

```
M hh:mm:ss xy,ww n[vv] DGN ETSI sqq[ ETSI snn] STF ppqq  \
3 LN MSG:
wd15 wd14 wd13 wd12 wd11 wd10 wd09 wd08
wd07 wd06 wd05 wd04 wd03 wd02 wd01 wd00  COMPL
```

Denial Message

[O.41261.01]

M hh:mm:ss xy,ww n[vv] DGN ETSI sqq COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ETSI - Expanded Time slot Interchanger

s - Side number (0 or 1)

qq - Unit number (01 through 16)

CFT - Craft code

vwxy - Diagnostic test number (hexadecimal)

Test	*vwxy*
Clock and Sync exercise	0001
Control RAM and data RAM memory test	0002*
Address and data parity exercise	0004
Power monitor exercise	0008
Data source time slot exercise	0010
In-service port alarm exercise	0020
Out-of-service port alarm exercise	0040*
Data source and access test	0080
Receive multiplexer port alarm	0100
Control RAM parity exercise	0400
Unmapped code test	0800*
Data RAM unmapped test	1000*

* Can only be tested if the ETSI is out of service

The optional craft diagnostic test code field indicates which test(s) of the diagnostic is to be run under craft control. If this field is not entered, all tests of this diagnostic will be run.

nn - Unit number of the questionable in-service ETSI pack, (01 through 16)

ATP - All tests passed

This applies to the diagnostic of the ETSI pack, its connection with other in-service ETSIs and its cable.

STF - Some tests failed

This applies to the diagnostic of the ETSI pack, its connection with other in-service ETSIs and its cable.

ppqq - Trouble number for the craft (hexadecimal)

pp - Failing diagnostic number
qq - Test number

ppqq	*Explanation*
0001	Clock and sync exercise failed
0002	Control RAM and data RAM memory test failed
0004	Address and data parity exercise failed
0008	Power monitor exercise failed
0010	Data source time slot exercise failed
0020	In-service port alarm exercise failed
0040	Out-of-service port alarm test failed
0080	Data source and access test failed
0100	Receive multiplexer port alarm test failed
0200	Transmit demultiplexer port alarm test failed
0400	Control RAM parity exercise failed
0800	Unmapped code test failed
1000	Data RAM unmapped test failed
8000	ETSI Hardware initialization failed

wd15, ..., wd00
- Raw data

Sixteen raw data words relating to the failed diagnostic detected. Each data word contains two bytes, and each byte is presented as a two-digit hexadecimal number. The interpretation of raw data values cannot be done by a craftsperson.

wd15 - Low-level Diagnostic Actual Data
wd14 - Low-level Diagnostic Expected Data
wd13 - Low-level Diagnostic Return Code
wd12 - CCI ETSI Mask Register
wd11 - CCI ETSI ESR4
wd10 - CCI ETSI ESR3
wd09 - CCI ETSI ESR2
wd08 - CCI ETSI ESR1
wd07 - ETSI Receive Demultiplexer Mask Register
wd06 - ETSI Receive Multiplexer Mask Register
wd05 - ETSI Data Ram Alarm Register
wd04 - ETSI Control Ram Port Alarm Register
wd03 - ETSI Control Ram Exercise-Status Register
wd02 - ETSI Transmit Demultiplexer Status
wd01 - ETSI Receive Multiplexer Status
wd00 - ETSI Circuit Pack Summary Register

CATP - Conditional all tests passed

kk - Hexadecimal completion condition code

To interpret the values of kk see cc below.

cc - Hexadecimal condition code

cc	Explanation
00	No conditions
02	Subject entity is not equipped
03	Subject entity is in service
10	Unit is not equipped
55	Invalid CFT code
56	Unrunnable CFT code
A9	No unmapped time slot
CE	CCI is out of service

DGN,ETSIS,ECCN,ALL

DIAGNOSTICS

Explanation Of Command

This message requests diagnostic tests to be run on ALL expanded time slot interchangers (ETSIs) on an expanded cross-connect network (ECCN) side.

Command

[I.41271]

```
DGN:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!
```

Completion Message

[O.41271]

```
M hh:mm:ss xy,ww n[vv] DGN ETSIS ECCN s ALL  5 LN MSG:
TOTAL ETSIS tt
s01 r nn   s02 r nn   s03 r nn   s04 r nn   s05 r nn   \
s06 r nn
s07 r nn   s08 r nn   s09 r nn   s10 r nn   s11 r nn   \
s12 r nn
s13 r nn   s14 r nn   s15 r nn   s16 r nn              \
COND kk COMPL
```

Denial Message

[O.41271.01]

M hh:mm:ss xy,ww n[vv] DGN ETSIS ECCN s ALL COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ETSIS - Expanded time slot interchangers

ECCN - Expanded cross-connect network

s - Side number (0 or 1)

pa - Priority of action

pa	*Explanation*
M^	Manual response
I^	Information from an autonomous activity

r - Diagnostic status for an individual ETSI

r	*Explanation*
A	All tests passed (ATP)
C	Conditional all tests passed (CATP)
S	Some tests failed (STF)
-	unequipped ETSI

nn - Condition code (hexadecimal) for an individual ETSI

nn	*Explanation*
--	Unequipped ETSI

To interpret other values of nn see cc below.

tt - Total number of ETSIs equipped in the ECCN side (01 through 16)

kk - Completion condition code (hexadecimal) for the whole message

To interpret values of kk see cc below.

cc - Condition code (hexadecimal)

cc - Hexadecimal condition code

cc	Explanation
02	Subject entity is not equipped
03	Subject entity is in service
16	SYNC TB is not equipped
17	SYNC is out of service
55	Invalid CFT code
56	Unrunnable CFT code
A9	No unmapped time slot
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D4	CCI is inservice but failed

DGN,IN,PROGRESS

DIAGNOSTIC IN PROGRESS

Explanation Of Command

This message indicates that the diagnosis of the specified entity is in progress. This message will be output every 20 seconds while waiting for the response to the diagnostic command or the autonomous diagnostic report to be output.

Command

Not applicable.

Completion Message

[O.41004]

```
M hh:mm:ss xy,ww n[vv] DGN <entity> IN PROGRESS
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

`entity` - The name of the entity being diagnosed

`entity`	*Explanation*
CCB	Cross-connect buffer
CCI	Clock and control interface
CCNI	Cross-connect network interface (NonCEF)
CI	Communications interface
DSPI	Digital signal processing interface
FC	Format converter
FLI	Facility line interface
FMT	Formatter
FTMI	Facility terminating module interface
LINK	Link
MC	Main controller
MIU	Multiplexer interface unit
MP	Main processor
MXR	Multiplexer
NPC	Network processing circuit
PMEM	Primary memory flashcard
SMEM	Secondary memory flashcard
SSC	Secondary storage controller
SYNC	Synchronizer
TLI	Timing link interface
TSI	Time slot interchange
ETSI	Expanded time slot interchanger
XC	Cross-connect
UC	Unit controller

DGN,LINK,CFT,X

DIAGNOSE LINK

Explanation Of Command

This message requests that diagnostic tests be run on an administrative link.

Command

[I.41011]

```
DGN:FRM xy,SEQ ww:LINK a[,CFT X'vwxy]!
```

Completion Message

[O.41011]

```
M hh:mm:ss xy,ww n[vv] DGN LINK a ATP COMPL
```

[O.41011]

```
M hh:mm:ss xy,ww n[vv] DGN LINK a STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41011.01]

```
M hh:mm:ss xy,ww n[vv] DGN LINK a COND cc DNY
```

Autonomous Message

[O.41011]

```
I hh:mm:ss xy,ww   DGN LINK a ATP COMPL
```

[O.41011]

```
I hh:mm:ss xy,ww   DGN LINK a STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41011.01]

```
I hh:mm:ss xy,ww   DGN LINK a COND cc DNY
```

Explanation Of Parameters

CFT - Craft

vwxy - Diagnostic test number

test	*vwxy*
Link Loopback Test	0001

LINK - Link

a - Administrative link number (1 through 7)

ATP - All tests passed

STF - Some tests failed

ppqq - Diagnostic trouble number

ppqq	*Explanation*
0100	Link fail

pp - Failing diagnostic number (hexadecimal)

qq - Test number (hexadecimal)

d5,
d4,
…,
d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected

These data bytes can only be interpreted by a Lucent Technologies design engineer.

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
BE	Hardware mismatch or not present
F0	Clock absent for XPC to loop back

DGN,MC,CFT,X

DIAGNOSE MAIN CONTROLLER

Explanation Of Command

This message requests diagnostics to be run on the main controller (MC). The optional CFT field specifies which test(s) is to be run on the MC.

The DGN <entity> IN PROGRESS message (O.41004) is output every 20 seconds while the MC is being diagnosed until the command response or the autonomous report is output.

Command

[I.41001]

DGN:FRM xy,SEQ ww:MC[,CFT X'vwxy]!

Completion Message

[O.41001]

M hh:mm:ss xy,ww n[vv] DGN MC ATP COMPL

[O.41002]

M hh:mm:ss xy,ww n[vv] DGN MC CATP ćć COMPL

[O.41003]

```
M hh:mm:ss xy,ww n[vv] DGN MC STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41001.01]

```
M hh:mm:ss xy,ww n[vv] DGN MC COND cc DNY
```

Autonomous Message

[O.41001]

```
I hh:mm:ss xy,ww   DGN MC ATP COMPL
```

[O.41002]

```
I hh:mm:ss xy,ww   DGN MC CATP cc COMPL
```

[O.41003]

```
I hh:mm:ss xy,ww   DGN MC STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41001.01]

```
I hh:mm:ss xy,ww   DGN MC COND cc DNY
```

Explanation Of Parameters

MC - Main controller

CFT - Craft

vwxy - Diagnostic test number (hexadecimal)

TEST	*vwxy*
MP Test	0001
PMEM Test	0004†
SMEM Test	0008†
CI Test	0010
EMTC/MTC Acknowledge Test	0020
EMTC/MTC Interrupt Test	0040*
EMTC/MTC Sanity Reg. Test	0080*
EMTC/MTC LAN Disable Test	0100*
EMTC/MTC Autonomous Alarm Test	0200*
EBX/BX Interrupt Test	0400*
EBX/BX Acknowledge Test	0800
EBX/BX Data/Address Parity Test	1000*

*Out-of-service test (not performed if MC is in-service)
†In-service test (not performed if MC is out-of-service or in maintenance condition (MCOND))

ATP - All tests passed

CATP - Conditional all tests passed

cc - Hexadecimal completion condition code

To interpret values of 'cc' see the table of cc values below.

STF - Some tests failed

ppqq - Trouble number for the craft (hexadecimal)

pp - Failing diagnostic number
qq - Test number

ppqq	*Explanation*
0100	MP Fail
0200	CI Fail
0400	PMEM Fail
0500	SMEM Fail
0600	EMTC/MTC Interrupt Fail
0700	EMTC/MTC Acknowledge Fail
0800	EMTC/MTC Sanity Reg. Fail
0900	EMTC/MTC LAN Disable Fail
0E00	EMTC/MTC Autonomous Alarm Failed

0A01	EBX/BX RAM Data Fail
0A02	EBX/BX RAM Address Fail
0A03	EBX/BX RAM Access Fail
0A04	EBX/BX RAM Refresh Fail
0A05	EBX/BX RAM Parity Fail
0Bxx	EBX/BX Interrupt Fail
0C00	EBX/BX Acknowledge Fail
0D00	EBX/BX Data/Address Parity Fail
0D01	EBX/BX Data Parity Write Failed
0D02	EBX/BX Data Parity Read Failed
0D03	EBX/BX Address Parity Failed

xx indicates a low level test failure point which can only be interpreted by a Lucent Technologies design engineer.

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by a Lucent Technologies design engineer.

An in-progress message (O.41004) is output every 20 seconds while the MP is being diagnosed until the command response or the autonomous report is output.

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
04	Subject entity is out of service
BE	Hardware mismatch or not present
55	Invalid CFT code
56	Unrunnable CFT code
84	Problem occurred while accessing SMEM or unformatted SMEM
85	Problem occurred while accessing PMEM
93	SMEM is not present
94	SMEM unit is not restored

DGN,MP,CFT,X

DIAGNOSE MAIN PROCESSOR

Explanation Of Command

This message requests diagnostics to be run on the main processor (MP). If the craft (CFT) option is used, the value supplied for *vwxy* will determine the diagnostic run. The remainder of the diagnostics will then not be run. If the CFT option is not used, all the diagnostics listed under *vwxy* will be run.

An in-progress message (O.41004) is output every 20 seconds while the MP is being diagnosed until the command response or the autonomous report is output.

Command

[I.41021]

DGN:FRM xy,SEQ ww:MP[,CFT X'vwxy]!

Completion Message

[O.41021]

M hh:mm:ss xy,ww n[vv] DGN MP ATP COMPL

[O.41022]

M hh:mm:ss xy,ww n[vv] DGN MP CATP ćć COMPL

[O.41023]

```
M hh:mm:ss xy,ww n[vv] DGN MP STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41021.01]

```
M hh:mm:ss xy,ww n[vv] DGN MP COND cc DNY
```

Autonomous Message

[O.41021]

```
I hh:mm:ss xy,ww   DGN MP ATP COMPL
```

[O.41022]

```
I hh:mm:ss xy,ww   DGN MP CATP ćć COMPL
```

[O.41023]

```
I hh:mm:ss xy,ww   DGN MP STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41021.01]

```
I hh:mm:ss xy,ww   DGN MP COND cc DNY
```

Explanation Of Parameters

MP - Main Processor

CFT - Craft

vwxy - Diagnostic test number

Test	*vwxy*
MP RAM Test	0001*
MP ROM Test	0002
MP DMA Controller Test	0010*
MP LAN Controller Test	0020*
MP Acknowledge Test	0080

*Out-of-service test.

ATP - All tests passed

CATP - Conditional all tests passed

cc - Completion condition code (hexadecimal)

To interpret these codes see cc.

STF - Some tests failed

ppqq - Trouble number

pp - Failing diagnostic number (hexadecimal)

qq - Test number (hexadecimal)

ppqq	*Explanation*
01xx	RAM Tests Fail
0101	RAM Data Fail
0102	RAM Address Fail
0103	RAM Access Fail
0104	RAM Refresh Fail
02xx	ROM Fail
0500	Input Port Fail
06xx	DMA Controller Fail
07xx	LAN Controller Fail
0900	Acknowledge Fail

xx indicates a low level test failure point which can only be interpreted by a Lucent Technologies design engineer.

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by a Lucent Technologies design engineer.

An in-progress message (O.41004) is output every 20 seconds while the MP is being diagnosed until the command response or the autonomous report is output.

cc - Hexadecimal condition code

cc	**Explanation**
03	**Subject entity is in service**
55	**Invalid CFT code**
56	**Unrunnable CFT code**

DGN,NPC

DIAGNOSE NETWORK PROCESSING CIRCUITS

Explanation Of Command

This command requests the diagnosis of a range of network processing circuits (NPCs) in a Facility Terminating Unit (FTU). It cannot be used to request the diagnosis of NPCs in a digital signal processing unit.

This command will be denied if the requested NPC range crosses a unit boundary. This command cannot be used to request the diagnosis of NPCs in a DS3 unit (DS3U) or a Hybrid DS3 unit (HDS3U). If this command is specified for a range of NPCs and the first or last NPC in the range request in is a CEPT GAP the entire command will be denied. If the CEPT GAP is contained within the range requested the gap NPCs are ignored and all equipped NPCs are diagnosed.

Command

Nonhierarchical

[I.41361]

```
DGN:[FRM xy,SEQ ww]:NPC [s]abc-[t]def!
```

Hierarchical

[I.41361]

```
DGN:[FRM xy,SEQ ww]:NPC uvmnp-uvkqr!
```

Completion Message

Nonhierarchical

[O.41361]

```
M hh:mm:ss xy,ww n[vv] DGN NPC [s]ghi-[t]jkl TOT ttt  \
5 LN MSG:
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk  {EOM|COMPL}
```

Hierarchical

[O.41361]

```
M hh:mm:ss xy,ww n[vv] DGN NPC abcde-abcfg TOT ttt  5 LN MSG:
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk  {EOM|COMPL}
```

Denial Message

Nonhierarchical

[O.41361.01]

```
M hh:mm:ss xy,ww n[vv] DGN NPC [s]abc-[t]def COND cc DNY
```

Hierarchical

[O.41361.01]

```
M hh:mm:ss xy,ww n[vv] DGN NPC uvmnp-uvkqr COND cc DNY
```

Autonomous Message

Nonhierarchical

[O.41361]

```
I hh:mm:ss xy,ww n[vv] DGN NPC [s]ghi-[t]jkl TOT ttt  \
5 LN MSG:
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk  {EOM|COMPL}
```

Hierarchical

[O.41361]

```
I hh:mm:ss xy,ww n[vv] DGN NPC abcde-abcfg TOT ttt  5 LN MSG:
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk
r kk r kk r kk r kk  r kk r kk r kk r kk  {EOM|COMPL}
```

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, denoting the beginning of a range.

[t]def - The 3- or 4-digit nonhierarchical NPC number, denoting the end of a range.

[s]abc and [t]def must be in the same unit.

[s]ghi - Lowest NPC number in the FTM being reported (**[s]abc** through **[s]def**)

[t]jkl - Highest NPC number in the FTM being reported (**[s]abc** through **[s]def**)

The command may specify an NPC range that spans more than one facility terminating module (FTM) in the facility terminating unit or it may specify all or a subset of the NPCs in a given FTM. Hence the NPC numbers reported in a message segment for a given FTM will, in general, be numbers within the range given in the input command and may include the end points of the specified range.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, denoting the beginning of a range.
uvkqr - Hierarchical NPC number, denoting the end of a range.

abcde - Lowest NPC number in the FTM being reported (**uvmnp** through **uvkqr**)
abcfg - Highest NPC number in the FTM being reported (**uvmnp** through **uvkqr**)

uv,ab
- Unit number

m,k,c
- Module number

np,qr,de,fg
- NPC number within the module

The command may specify an NPC range that spans more than one facility terminating module (FTM) in the facility terminating unit or it may specify all or a subset of the NPCs in a given FTM. Hence the NPC numbers reported in a message segment for a given FTM will, in general, be numbers within the range given in the input command and may include the end points of the specified range.

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TOT - Total

ttt - Total number of equipped NPCs in a CEPT FTM (**001** through **032**).

pa - Priority of action

pa	*Explanation*
******	Major
M	Manual

r - Result of diagnostics

r	*Explanation*
A	All tests passed
C	Conditional all tests passed
S	Some tests failed
D	Diagnostics denied
N	NPC is not in the range
-	NPC is not equipped

If the diagnostic result is Some Test Failed, one output message will be generated for each NPC.

kk - Completion condition code for each NPC diagnostic (hexadecimal)

To interpret values of kk see cc in the condition code table. One special value is given below.

kk	*Explanation*
--	Not applicable

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
02	Subject entity is not equipped
03	Subject entity is in service
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
36	DSPI not equipped
37	DSPI out-of-service
40	FC out of service
43	(NPC) Hardware mismatch
0B	Invalid CEPT NPC
FD	NPC range crosses unit boundary

DGN,NPC,SIDE,CFT,X

DIAGNOSE NPC

Explanation Of Command

This command requests diagnostics to be run on a single network processing circuit (NPC) in a facility terminating unit (FTU) or a digital signal processing unit (DSPU).
For a Capacity Expansion Frame (CEF), if the NPC is in a DSPU (that is, NPC types MB, SR, or MJ), this message also initiates the continuity test for the cable between the NPC and its corresponding expanded time slot interchanger (ETSI). However, the continuity test will not be run if the optional craft code is entered.

This command is not valid for NPCs in a DS3 unit (DS3U) or Hybrid DS3 unit (HDS3U).

Command

Nonhierarchical

[I.41351]

```
DGN:[FRM xy,SEQ ww]:NPC [s]abc[,SIDE s][,CFT X'vwxy]!
```

Hierarchical

[I.41351]

```
DGN:[FRM xy,SEQ ww]:NPC uvmnp[,SIDE s][,CFT X'vwxy]!
```

Completion Message

Nonhierarchical

[O.41351]

```
M hh:mm:ss xy,ww n[vv] DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz \
ATP COMPL
```

[O.41352]

```
M hh:mm:ss xy,ww n[vv] DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz \
CATP cc COMPL
```

[O.41353]

```
M hh:mm:ss xy,ww n[vv] DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz  \
e LN MSG:
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]\
STF ppqq  <d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Hierarchical

[O.41351]

```
M hh:mm:ss xy,ww n[vv] DGN NPC uvmnp[-uvmqr][ SIDE s] TYPE mnxyz \
ATP COMPL
```

[O.41352]

```
M hh:mm:ss xy,ww n[vv] DGN NPC uvmnp[-uvmqr][ SIDE s] TYPE mnxyz \
CATP cc COMPL
```

[O.41353]

```
M hh:mm:ss xy,ww n[vv] DGN NPC uvmnp[-uvmqr][ SIDE s] TYPE mnxyz  \
e LN MSG:
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]
STF ppqq <d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

Nonhierarchical

[O.41351.01]

```
M hh:mm:ss xy,ww n[vv] DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz \
COND cc DNY
```

Hierarchical

[O.41351.01]

```
M hh:mm:ss xy,ww n[vv] DGN NPC uvmnp[-uvmqr][ SIDE s] TYPE mnxyz \
COND cc DNY
```

Autonomous Message

Nonhierarchical

[O.41351]

```
I hh:mm:ss xy,ww   DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz \
ATP COMPL
```

[O.41352]

```
I hh:mm:ss xy,ww   DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz \
CATP cc COMPL
```

[O.41353]

```
I hh:mm:ss xy,ww   DGN NPC [s]abc[-[t]def][ SIDE s] TYPE mnxyz  \
e LN MSG:
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]\
STF ppqq  <d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Hierarchical

[O.41351]

```
I hh:mm:ss xy,ww   DGN NPC uvmnp[-uvmqr][ SIDE s] TYPE mnxyz \
ATP COMPL
```

[O.41352]

```
I hh:mm:ss xy,ww   DGN NPC uvmnp[-uvmqr][ SIDE s] \
TYPE mnxyz CATP cc COMPL
```

[O.41353]

```
I hh:mm:ss xy,ww   DGN NPC uvmnp[-uvmqr][ SIDE s] TYPE mnxyz  \
e LN MSG:
[UNIT qq UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]
STF ppqq <d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

- **uv** - Unit number
- **m** - Module number
- **np** - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SIDE - Side

s - Side number (s = 0 or 1)

Side of the duplicated NPC circuit pack in a DSPU that is to be diagnosed.

CFT - Craft

vwxy - Diagnostic test number

The optional craft code field indicates the diagnostic test(s) to be run. If this field is omitted, all tests of this diagnostic will be run. If the NPC is in-service, only in-service diagnostics are run.

Craft codes for the CB type NPC are listed below:

Test	*vwxy*
Out of service LCA device initialization	0001*
Interrupt and mask register test	0002*
Out of service RAM test	0004*
Status and mask register test	0008
Parity checker test	0010
State machine exercise	0020
Receive CCN exercise	0040
Loss of clock exercise	0080
C-bit interface test	0100
In-service RAM test	0200

* Out-of-service only test

Craft codes for the MB type NPC are listed below:

Test	*vwxy*
RAM test	0001*
Interrupt and mask register test	0002
Data processing error test	0004
Clock error test	0008
Serial interface error test	0010
Control memory 0 test	0020
Control memory 1 test	0040
Conference 0 test	0080
Conference 1 test	0100

* Out-of-service only test

Craft codes for the PA type NPC are listed below:

Test	*vwxy*
CI stuck bit test	0001
CI sanity test	0002
CI serial link test	0004
TG192 RAM test	0008
Channel controller tests	0010*
Transceiver tests	0020
Miscellaneous register tests	0040
Real-time clock test	0080
CC to format converter continuity test	0100

* In-service test

Craft codes for the PB and PC type NPCs are listed below:

Test	*vwxy*
CI stuck bit and device alarm tests	0001
CI sanity timer test	0002
CI serial link test	0004
CC stuck bit test on read and write registers	0008
CC Instruction RAM stuck bit test	0010
CC receive data parity alarm test	0020
Memory test	0040
DSI LFV exercise and transceiver LFV counter test	0080*
Data path, CC monitor, and DSI loopback tests AND CC PCM conversion and signaling mode test AND CC conditional substitution and transceiver EFG source test	0100

SLIP/SKIP tests	0200*
Line coding format test	0400*
Diframe framing, NSA signaling mode tests AND CRC framing mode tests AND CAS signaling mode tests	0800*
CC device alarm exercises	1000
Transceiver r/w reg. stuck bit test and device alarm exercises	2000*
Miscellaneous register stuck bit test	4000
Time slot 0/16 source test	8000*

Notes:

1. Only tests 0001 and 1000 can be run when the NPC is in service.
2. If the requested NPC is Out-of-Service and its mate is In Service, only the tests marked with "*" can be run:
3. If both the requested NPC and its mate are Out-of-Service, any test may be run.

Craft codes for the SD and ST type NPCs are listed below:

Test	*vwxy*
CI stuck bit test	0001
CI sanity test	0002
CI serial link test	0004
TG193 CC Config. Reg. test	0008
TG193 CC IRAM etc. tests	0010
TG193 clock & synch error tests	0020*
TG193 RAM tests	0040
Miscellaneous register test	0080

Note: * denotes that the test can be run while the NPC is In Service

`[t]def` - The 3- or 4-digit nonhierarchical MB type NPC number ([t]def= [s]abc + 1)

`uvmnp` - Hierarchical MB type NPC number
`uvmqr` - Hierarchical MB type NPC number

`qr` - MB type NPC number within module "m" (qr = np +1).

TYPE - Type

mnxyz - NPC type identifier

mnxyz	*NPC type*
CB10z	C-bit processor
MB100	Digital Multipoint Bridge
PAxyz	CEPT Type NPC (120-ohm twisted pair or 75-ohm coaxial)
PBxyz	CEPT Type NPC
PCxyz	CEPT Type NPC
SDxyz	DSP Platform Applications
ST1yz	Integrated Test Set

e - Number of lines in the message (2 or 3)

qq - Unit number (01 through 16)

UPN - Unit plug number

upn - The value of the UPN.

XPN - ECCN plug number

xpn - The value of the XPN

BIT - Bit number of the data bus

TD - Transmit data

RD - Receive data

bb - Bit number (00 through 15)

The optional line which contains the unit, port, and pin information will only be output if the NPC is in a DSPU and if the continuity check between the NPC and the ECCN is failed. In addition, the completion condition must always be STF. The valid values and the associated information of the UPN and XPN are shown below. Note that the numbers shown in the output are exactly the same as the numbers on the backplane.

Unit Plug No.	ECCN Plug No.	Side	Direction	Associated DSP Packs
P1	PqqA*	0	Receive	1st and 2nd DSP Packs
P2	PqqE	0	Transmit	1st and 2nd DSP Packs
P3	PqqB	0	Receive	3rd and 4th DSP Packs
P4	PqqF	0	Transmit	3rd and 4th DSP Packs
P5	PqqC	0	Receive	5th and 6th DSP Packs
P6	PqqG	0	Transmit	5th and 6th DSP Packs
P7	PqqD	0	Receive	7th and 8th DSP Packs
P8	PqqH	0	Transmit	7th and 8th DSP Packs
P10	PqqA	1	Receive	1st and 2nd DSP Packs
P11	PqqE	1	Transmit	1st and 2nd DSP Packs
P12	PqqB	1	Receive	3rd and 4th DSP Packs
P13	PqqF	1	Transmit	3rd and 4th DSP Packs
P14	PqqC	1	Receive	5th and 6th DSP Packs
P15	PqqG	1	Transmit	5th and 6th DSP Packs
P16	PqqD	1	Receive	7th and 2nd DSP Packs
P17	PqqH	1	Transmit	7th and 8th DSP Packs

* qq is the unit number

The bit number (that is, BIT = TD RD bb) will be shown if the software identifies the bit of the data bus as the failed one.

ATP - All tests passed

All tests passed on the diagnostic of NPC

CATP - Conditional all tests passed

The reason for the conditional completion is indicated by cc.

STF - Some tests failed

Some tests failed on the diagnostic of NPC.

ppqq - Trouble number for the craft

pp Failing diagnostic number (hexadecimal)

qq Test number (hexadecimal)

Trouble numbers for the PA type NPC are listed below:

The TG192 circuit pack can be grown as either a PA or PB/PC type. As a consequence the trouble numbers for the PB type apply in addition to those shown below.

ppqq	*Cause of failure*
0001	TG192 Initialization - Phase 1
0002	TG192 Initialization - Phase 2
0003	digroup physical type verification
0004	devices/registers on the FC could not be accessed
0005	devices/registers on the FTMI could not be accessed
01--	CI stuck bit test
02--	CI sanity timer test
03--	CI serial link test
04--	TG192 ram test
05--	channel controller driver
06--	transceiver driver
07--	miscellaneous register tests
08--	read-time clock test
09--	CC alarm test
OA--	CC stuck bit test
OB--	CC conditional substitution and SCVR EFG SRC test
OC--	CC device initialization test
OD--	CC IRAM stuck bit test
OE--	CC PCM conversion and signaling mode test
OF--	CC receive data parity alarm test
10--	CI initialization test
11--	miscellaneous register R/W test
12--	CC and XCVR initialization test
13--	XCVR initialization test
14--	CC read channel data ABCDEFG bits verification
15--	CC read channel data verification
16--	XCVR write verification
17--	CC IRAM R/W verification
18--	XCVR BIST
19--	CC to SCVR to DSI data transmission test
1A--	LOS and LFV tests
1B--	XCVR R/W register test
1C--	CC to XCVR to DSI signaling test
1D--	CC to FC continuity test

Note: "--" indicates a two-digit hexadecimal value indicating a decision point within the source program. This value can only be interpreted by a programmer with access to the source program.

Trouble numbers for PB and PC type NPCs are listed below:

The TG192 circuit pack can be grown as either a PA or PB/PC type. As a consequence the trouble numbers for the PA type apply in addition to those shown below.

ppqq	*Cause of failure*
0B01	DPC NSA Signaling Mode failure
0B02	DPC CRC Signaling Mode failure
0B03	DPC CAS Signaling Mode failure
1100	DPC Channel Controller/PCM Conversion failure
1200	DPC CC Conditional Substitution failure
1300	DPC Channel Controller Alarm failure
1700	DPC Line Format Violation failure
1A00	DPC Line Coding Format(AMI/HDB3) failure
1C00	DPC Misc. Register Stuck Bit failure
1D00	DPC Timeslot 0/16 Spare Bit failure
1E00	DPC CI Device Alarm failure
1F00	DPC Channel Controller Data Path failure

Trouble numbers for MB and CB type NPCs are listed below:

ppqq	*Cause of failure*
0F00	Error Summary Failure
0F01	Hardware Fail on ECCI pack
0F02	Hardware Fail on ETSI pack
0F03	RCV Network Data Bus Failure badbit, baddirection & badport
0F04	RCV Network Data Bus Failure baddirection & badport
0F05	XMIT Network Data Bus Failure badbit, baddirection & badport
0F06	XMIT Network Data Bus Failure baddirection & badport
0F07	Pack hardware failure
0F0A	Parent pack failed, for DSP packs
0F0C	Network Parity or Frame Sync. or Network Data Bus error

Trouble numbers for only the MB type NPCs are listed below:

ppqq	*Cause of failure*
0F08	Pack Failed to Initialize for CT
0F0B	DMB clock problem during initialization

Trouble numbers for the SD and ST type NPCs are listed below:

ppqq	*Cause of failure*
0001	TG193 Initialization - Phase 1
0002	TG193 Initializaiton - Phase 2
0003	circuit pack physical type verification
0004	devices/registers on the SXC could not be accessed
0005	devices/registers on the MC could not be accessed
01--	happened during initialization of TG193 circuit pack
02--	CI stuck bit test
03--	CI sanity timer test
04--	CI serial link test
05--	CC configuration register test
06--	CC instruction RAM test
07--	loss of clock detector test
08--	synch error detector test
O9--	synch & loss of clock error detector test
OA--	configuration register parity checker test
OB--	instruction RAM parity checker test
OC--	transmit data parity error detector test
OD--	receive data parity error detector test
OE--	shared RAM test
10--	miscellaneous and page register tests
11--	happened during download
12--	no file to download
13--	happened during identification of circuit pack

Note: "--" indicates a two-digit hexadecimal value indicating a decision point within the source program. This value can only be interpreted by a Lucent Technologies design engineer.

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.
These fields can only be interpreted by an Lucent Technologies design engineer.

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

For CPR and DMB circuit packs, the values of d5-d0 are the same.

Data Byte	*Value*
d5	Unused
d4	Unused
d3	Unused
d2	Unused
d1	Unused
d0	Unused

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
10	Unit is not equipped
11	UC is out of service
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
17	SYNC is out of service
36	DSPI not equipped
37	DSPI out-of-service
38	FC not equipped
40	FC out of service
43	(NPC) Hardware mismatch
0B	Invalid CEPT NPC
55	Invalid CFT code
56	Unrunnable CFT code
FD	NPC range crosses unit boundary
C2	ETSI cannot be initialized when ECCN side is OOS or IS but pested
C3	XMIT continuity test won't be run: CFT code specified
C4	XMIT continuity test won't be run: no XMIT timeslots available
C7	RCV continuity test won't be run: no DMB timeslots available
C8	RCV continuity test won't be run: at least one timeslot in use
CB	Skip error summary since adjacent pack not in service or pested
CE	CCI is out of service
E0	ETSI not equipped, not in service, or failed

DGN,PMEM,SMEM,CFT,X,EXCT,DBASE,VERIFY

Explanation Of Command

This command requests diagnostics to be run on the specified non-volatile memory card; either the primary memory card (PMEM) or the secondary memory card (SMEM). The diagnostics test the operation of the underlying hardware of the specified memory card. By default, the entire set of in-service or out-of-service diagnostics are run except for the database and executable tests. If the craft option is used, the value supplied for *vwxy* will determine the diagnostics run and can include database and executable tests.

Using the optional keywords EXCT or DBASE, allows the user to test the system's ability to correctly read either the executable program or the database stored on a memory card. When a single or multiple diagnostic test is specified via the CFT parameter, only those tests specified by the CFT parameter are run, all other possible tests are not run.
The **DGN IN PROGRESS** message is output every 20 seconds while the diagnostics are being executed until the command response or the autonomous report is output.

Command

[I.41051]

DGN:[FRM xy,SEQ ww]:{PMEM|SMEM}[,{CFT X'vwxy|EXCT|DBASE}][,VERIFY]!

Completion Message

[O.41051]

```
M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}] [VERIFY] ATP COMPL
```

[O.41052]

```
M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}][VERIFY] \
STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41053]

```
M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}] [VERIFY] CATP COMPL
```

Denial Message

[O.41051.01]

```
M hh:mm:ss xy,ww n[vv] DGN {PMEM|SMEM}[ {EXCT|DBASE}][VERIFY] COND cc DNY
```

Autonomous Message

[O.41051]

```
I hh:mm:ss xy,ww   DGN {PMEM|SMEM}[ {EXCT|DBASE}] ATP COMPL
```

[O.41052]

```
I hh:mm:ss xy,ww   DGN {PMEM|SMEM}[ {EXCT|DBASE}] STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41053]

```
I hh:mm:ss xy,ww   DGN {PMEM|SMEM}[ {EXCT|DBASE}] CATP COMPL
```

[O.41051.01]

```
I hh:mm:ss xy,ww   DGN {PMEM|SMEM}[ EXCT|DBASE}] COND cc DNY
```

Explanation Of Parameters

PMEM - Primary memory card.

SMEM - Secondary memory card.

CFT - Craft

X - Hexidecimal

vwxy - Diagnostic test number

The optional craft code field specifies which test is to be run on the PMEM/SMEM. The card status test is always performed. The remainder of the PMEM/SMEM diagnostics will not be run.

vwyx	*Test*
0001	Card Status Test
0002	Wear Level Test
0004*	Card Diagnostic Test
0010*+	Validate Data Base Test
0020*%	Validate Boot Block Test
0022	Get Card Test and Wear Level Test and Validate Boot Block
0040*%	Validate Executable Header Test
0080*%	Validate Executable Test
0100*	Read/Write DGN Volume Test
0200*	Mount/Unmount All Volumes Test

* out-of-service tests (not performed if PMEM/SMEM card is in the in-service state and the main controller is also in the in-service state).

+ Database tests (performed when DBASE keyword is specified).

% Executable tests (performed when EXCT keyword is specified).

DBASE - Database

This keyword is used to test the ability to correctly read the data base files stored on the PMEM/SMEM. This diagnostic will be run only if the DBASE keyword is entered or if the specific test CFT field is specified.

PMEM/SMEM must be out-of-service (OOS) or the main controller must be in maintenance condition (MCOND) when using this keyword.

EXCT - Executables

This keyword is used to test the ability to correctly read the executables stored on the PMEM/SMEM. This diagnostic will be run only if the EXCT keyword is entered or if the specific test CFT field is specified.

PMEM/SMEM must be out-of-service (OOS) or the main controller must be in maintenance condition (MCOND) when using this keyword.

ATP - All tests passed

CATP - Conditional all tests passed

STF - Some tests failed

ppqq - Trouble number for the craft

pp - Failing Diagnostic Number (hexadecimal)

qq - Test number (hexadecimal)

ppqq	*Explanation*
01xx	PMEM/SMEM Tests Failed
0103	Wear Level Failed
0104	Card Diagnostic Failed
0108	Validate Database Failed (both database volumes marked bad)
0109	Validata Database Failed (cannot mount database volume)
0110	Validate Database Failed (MP & CI database not present)
0111	Validate Database Failed (database present but failed)
0114	Validate Boot Block Failed
0116	Validate Executable Header Failed
0118	Validate Executable Failed (cannot mount executable volume)
0119	Validate Executable Failed (validate executables failed)
0121	Read/Write DGN Volume Failed (read/write dgn volume failed)
0121	Read/Write DGN Volume Failed (cannot mount dgn volume)
0121	Read/Write DGN Volume Failed (failed to close or remove file or failed to unmount dgn volume)
0123	Mount/Unmount All Volumes Failed
0124,0126	Keyword=VERIFY Test Failed

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by a Lucent engineer.

An in-progress message (O.41004) is output every 20 seconds while the device is being diagnosed until the command response or autonomous report is output.

VERIFY - Verify

This option causes block checking to be performed.

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
04	Subject entity is out of service
55	Invalid CFT code
56	Unrunnable CFT code
83	DGN this type of memory card not supported.
84	Problem occurred while accessing SMEM or unformatted SMEM
85	Problem occurred while accessing PMEM

DGN,SYNC

DIAGNOSE SYNCHRONIZER

Explanation Of Command

This message runs diagnostics on the digital phase-locked loop (DPLL) and the time base (TB) of the specified synchronizer side.

Command

[I.41101]

```
DGN:FRM xy,SEQ ww:SYNC a!
```

Completion Message

[O.41101]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC a ATP COMPL
```

[O.41101]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC a CATP cc COMPL
```

[O.41102]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC a STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41101.01]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC a COND cc DNY
```

Autonomous Message

[O.41101]

```
I hh:mm:ss xy,ww   DGN SYNC a ATP COMPL
```

[O.41101]

```
I hh:mm:ss xy,ww   DGN SYNC a CATP cc COMPL
```

[O.41102]

```
I hh:mm:ss xy,ww   DGN SYNC a STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41101.01]

```
I hh:mm:ss xy,ww   DGN SYNC a COND cc DNY
```

Explanation Of Parameters

SYNC - Synchronizer

a - Synchronizer side (0 or 1)

ATP - All tests passed

CATP - Conditional all tests passed

cc - Hexadecimal completion code

STF - Some tests failed

ppqq - Trouble number for the craft

ppqq	*Explanation*
0100	Sync diagnostic command returned error
0200	Hardware status query showed error

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by a Lucent Technologies design engineer.

cc - Hexadecimal condition code

cc	Explanation
02	Subject entity is not equipped
8F	Can’t lock or unlock ram database
AB	Bad sync mode

DGN,SYNC,TLI,CRO

DIAGNOSE SYNCHRONIZER

Explanation Of Command

This message requests diagnostics to be run on the synchronizer's timing link interface 3 when provisioned as a clock reference oscillator. The command will be denied if a clock reference oscillator is not provisioned.

Command

[I.41111]

```
DGN:FRM xy,SEQ ww:SYNC,TLI 3,CRO!
```

Completion Message

[O.41111]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO ATP COMPL
```

[O.41111]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO CATP cc COMPL
```

[O.41112]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO STF \
ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

```
[O.41111.01]
M hh:mm:ss xy,ww n[vv] DGN SYNC TLI 3 CRO COND cc DNY
```

Autonomous Message

[O.41111]

```
I hh:mm:ss xy,ww   DGN SYNC TLI 3 CRO ATP \
COMPL
```

[O.41111]

```
I hh:mm:ss xy,ww   DGN SYNC TLI 3 CRO CATP cc \
COMPL
```

[O.41112]

```
I hh:mm:ss xy,ww   DGN SYNC TLI 3 CRO STF ppqq  \
2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
[O.41111.01]
I hh:mm:ss xy,ww   DGN SYNC TLI 3 CRO \
COND cc DNY
```

Explanation Of Parameters

SYNC - Synchronizer

TLI - Timing link interface

3 - TLI number 3

CRO - Clock reference oscillator

ATP - All tests pass

CATP - Conditional All Tests Pass

STF - Some tests failed

ppqq - Trouble number for the craft

ppqq	*Explanation*
0300	TLI status query showed error
0400	TLI status query showed error
0500	CRO status query showed error
0600	CRO frequency offset flag

d5,
d4,
...,
d0 - Hexadecimal data bytes.

Data Byte	Value
d5	Unused
d4	Unused
d3	Unused
d2	Unused
d1	Unused
d0	Unused

cc - Hexadecimal condition code

cc	**Explanation**
02	**Subject entity is not equipped**
8F	**Can’t lock or unlock ram database**

DGN,SYNC,TLI,SSP

DIAGNOSE SYNCHRONIZER TIMING LINK INTERFACE

Explanation Of Command

This command requests the diagnosis of a timing link interface on the synchronizer side. If the optional synchronizer sync port parameter is specified, only that single SSP is diagnosed. For autonomous diagnostics of a TD-type TLI circuit pack, the SSP field does not appear in the output message. Both arguments appear for autonomous removal of a timing extractor type TLI.

Command

[I.41121]

```
DGN:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!
```

Completion Message

[O.41121]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC a TLI m[ SSP b[ 1]] ATP \
COMPL
```

[O.41122]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC a TLI m[ SSP b[ 1]] STF ppqq  \
2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41121.01]

```
M hh:mm:ss xy,ww n[vv] DGN SYNC a TLI m[ SSP b[ 1]] \
COND cc  DNY
```

Autonomous Message

[O.41121]

```
I hh:mm:ss xy,ww   DGN SYNC a TLI m[ SSP b[ 1]] ATP COMPL
```

[O.41122]

```
I hh:mm:ss xy,ww   DGN SYNC a TLI m[ SSP b[ 1]] STF ppqq  \
2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41121.01]

```
I hh:mm:ss xy,ww   DGN SYNC a TLI m[ SSP b[ 1]] COND cc DNY
```

Explanation Of Parameters

SYNC - Synchronizer

a - Synchronizer side number (0 or 1)

TLI - Timing link interface

m - Timing link interface number (1 through 4)

SSP - Synchronizer synchronization port

b - Synchronizer Synchronization Port number (0 or 1)

Note 1: SSP must be specified if the TLI is a timing extractor type NPC.
Note 2: If the SSP parameter is supplied, only that SSP is diagnosed. Otherwise both SSPs are diagnosed.

ATP - All tests passed

STF - Some tests failed

ppqq - Trouble number for the craft

Valid values are listed below:

ppqq	*Explanation*
0300	TLI status query showed error
0400	TLI status query showed error

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

These data bytes can only be interpreted by a Lucent Technologies design engineer.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
33	Wrong TLI type
8F	Can't lock or unlock ram database
AB	Bad sync mode

DGN,TSI,CFT,X

DIAGNOSE TIME SLOT INTERCHANGE

Explanation Of Command

This command requests diagnostics to be run on a specific time slot interchange.

The optional **CFT** field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

If there are no mapped TSI slots, DACS II will respond with some tests failed (STF).

Command

[I.41221]

```
DGN:FRM xy,SEQ ww:TSI sft[,CFT X'vwxy]!
```

Completion Message

[O.41221]

```
M hh:mm:ss xy,ww n[vv] DGN TSI sft ATP COMPL
```

[O.41222]

```
M hh:mm:ss xy,ww n[vv] DGN TSI sft CATP cc COMPL
```

[O.41223]

```
M hh:mm:ss xy,ww n[vv] DGN TSI sft STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41221.01]

```
M hh:mm:ss xy,ww n[vv] DGN TSI sft COND cc DNY
```

Autonomous Message

[O.41221]

```
I hh:mm:ss xy,ww   DGN TSI sft ATP COMPL
```

[O.41222]

```
I hh:mm:ss xy,ww   DGN TSI sft CATP cc COMPL
```

[O.41223]

```
M hh:mm:ss xy,ww   DGN TSI sft STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41221.01]

```
I hh:mm:ss xy,ww   DGN TSI sft COND cc DNY
```

Explanation Of Parameters

TSI - Time slot interchange

s - Cross-connect network side number (0 or 1)

f - FROM unit number (1 through 6)

t - TO unit number (1 through 6)

CFT - Craft

vwxy - Diagnostic test number

Test	**vwxy**
Output data checker exercise	0001
Memory test	0002
Memory diagnostic	0004
Address bus parity test	0008
Loss of clock exercise 2	0010
Loss of clock exercise 1	0020
Memory diagnostic exercise	0040
Control RAM checker exercise	0080
Communication test	0100
Memory and Alarms diagnostic(s)	0200

Note: 1. If the CFT field is omitted, all tests of this diagnostic will be run. 2. Tests 0200,

0040, 0020, 0010, 0004, and 0002 can only be run when the TSI is out-of-service. All other tests can be run when the TSI is in service.

ATP - All tests passed

CATP - Conditional all tests passed

STF - Some tests failed

ppqq - Trouble number for the craft

pp - Failing diagnostic number in hexadecimal form
qq - Test number in hexadecimal form.

ppqq	*Explanation*
011N	Address Bus Parity test: error bit not set. N is the circuit number where failure occurred: [0,f]
012N	Address Bus Parity test: error returns after clear. N is the circuit number where the failure occurred: [0,f]
013N	Status bit BUSERR not set
014N	Ccni error summary bit not set (involves ccni register, could be a ccni problem)
01B0	Ccni error summary not clear (involves ccni register, could be a ccni problem)
01F0	Software error
021N	LOTDEX2 test: error bit not set
0220	Error returns after clear
023N	Status bit not set
02F0	Software error
031N	LOTDEX1 test: error bit not set
0320	Error returns after clear
032N	LOTDEX1 test: error returns after clear. N is the circuit number where the failure occurred: [0,f]
033N	Status bit not set
03F0	Software error
041N	Error bit not set
0420	Software error
043N	Status bit not set
047N	ODEX test: exercise bit not set
051N	CREX test: error bit not set
0520	Error returns after clear
053N	Status bit not set
0540	Summary register on CCNI not set (NOTE this could be a CCNI problem)
05B0	Summary register on CCNI not cleared (NOTE this could be a CCNI problem)
05F0	Software error
064N	Memory test: overall error summary not set
066N	Value stored incorrectly in memory
06F0	Software error
072N	MEMDGN test: memory diagnostic failed
07F0	Software error
081N	Error bit not set
0820	Error returns after clear
084N	Overall summary bit not set
0850	MEMDGN/DGNEX test: Busy bit not set
08F0	Software error
0980	Communication test: Circuit pack id is wrong

099N	Circuit id is wrong
09F0	Software error
0A2N	RAM test: status register bit was set on ram test
0A6N	Value stored incorrectly in memory
0ABN	Error summary bit set during test
0AFN	Software error
0B00	Could not initialize pack

d5-d0 - Raw data relating to the failed diagnostic detected.

Four hex digits each. Each data field contains sixteen bits. The significance of each data field and its individual bits is as follows:

d5 - CCNI Error Source Register 5

Bit	Explanation
15-8	Don't care
7	Error on autonomous switch enable circuit
6	Error on BSR parity
5	Parity error on high byte of data
4	Parity error on low byte of data
3	Address bus parity error
2	Synchronizer error
1	Error on CCB 6
0	Error on CCB 5

d4 - CCNI Error Source Register 4.

Each bit indicates an error on a pack connected to this CCNI

Bit	Explanation
15	Error on CCB 4
14	Error on CCB 3
13	Error on CCB 2
12	Error on CCB 1
11	Error on FTM 4, Unit 6
10	Error on FTM 3, Unit 6
09	Error on FTM 2, Unit 6
08	Error on FTM 1, Unit 6
07	Error on FTM 4, Unit 5
06	Error on FTM 3, Unit 5
05	Error on FTM 2, Unit 5
04	Error on FTM 1, Unit 5
03	Error on FTM 4, Unit 4
02	Error on FTM 3, Unit 4
01	Error on FTM 2, Unit 4
00	Error on FTM 1, Unit 4

d3 - CCNI Error Source Register 3.

Each bit indicates an error on a pack connected to this CCNI.

Bit	Explanation
15	Error on FTM 4, Unit 3
14	Error on FTM 3, Unit 3
13	Error on FTM 2, Unit 3
12	Error on FTM 1, Unit 3
11	Error on FTM 4, Unit 2
10	Error on FTM 3, Unit 2
09	Error on FTM 2, Unit 2
08	Error on FTM 1, Unit 2
07	Error on FTM 4, Unit 1
06	Error on FTM 3, Unit 1
05	Error on FTM 2, Unit 1
04	Error on FTM 1, Unit 1
03	Error on TSI 66
02	Error on TSI 56
01	Error on TSI 46
00	Error on TSI 36

d2 - CCNI Error Source Register 2.

Each bit indicates an error on a pack connected to this CCNI:

Bit	Explanation
15	Error on TSI 26
14	Error on TSI 16
13	Error on TSI 65
12	Error on TSI 55
11	Error on TSI 45
10	Error on TSI 35
09	Error on TSI 25
08	Error on TSI 15
07	Error on TSI 64
06	Error on TSI 54
05	Error on TSI 44
04	Error on TSI 34
03	Error on TSI 24
02	Error on TSI 14
01	Error on TSI 63
00	Error on TSI 53

d1 - CCNI Error Source Register 1.

Each bit indicates an error on a pack connected to this CCNI:

Bit	Explanation
15	Error on TSI 43
14	Error on TSI 33
13	Error on TSI 23
12	Error on TSI 13
11	Error on TSI 62
10	Error on TSI 52
09	Error on TSI 42
08	Error on TSI 32
07	Error on TSI 22
06	Error on TSI 12
05	Error on TSI 61
04	Error on TSI 51
03	Error on TSI 41
02	Error on TSI 31
01	Error on TSI 21
00	Error on TSI 11

d0 - Contents of Bus Status Register on CCNI

Bit	Explanation
15-04	Not used.
03	Indicates what side of the network is active. This bit is read by the unit controllers.
02	Indicates what side of the network is active. This bit is written by the MP.
01	ASE (Autonomous Switch Enable) bit 1 = ASE circuit controls the value of Bit 02 0 = MP controls the value of Bit 02 This bit is read by the units.
00	Odd parity over bits 02-00 of this register.

cc - Hexadecimal condition code

cc	**Explanation**
02	**Subject entity is not equipped**
03	**Subject entity is in service**
1B	**CCN side s is in service**
3D	**No mapped slots on a tsi**
45	**A DMB on the UNIT is OOS**
50	**Can’t run test on active side**
55	**Invalid CFT code**
56	**Unrunnable CFT code**

cc Explanation

DGN,TSIS,CCN,ALL

DIAGNOSE TIME SLOT INTERCHANGES

Explanation Of Command

This command requests diagnostics to be run on all time slot interchangers (TSIs) on cross-connect side **s**.

Command

[I.41241]

DGN:FRM xy,SEQ ww:TSIS,CCN s,ALL!

Completion Message

[O.41241]

```
pahh:mm:ss xy,ww n[vv] DGN TSI ALL  5 LN MSG:
TOTAL TSIS tt
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn  EOP

pahh:mm:ss xy,ww n[vv] DGN TSI ALL  5 LN MSG:
TOTAL TSIS tt
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn  COND cc COMPL
```

Denial Message

[O.41241.01]

```
pahh:mm:ss xy,ww n[vv] DGN TSI ALL  COND cc DNY
```

For any TSI that fails, the following message is also output:

[O.41223]

```
pahh:mm:ss xy,ww n[vv] DGN TSI sft STF ppqq   d5 d4 d3 d2 \
d1 d0 COMPL
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TSIS - Time slot interchangers

CCN - Cross-connect network

s - CCN side number

ALL - All

pa - Priority of action.

pa	*Explanation*
M^	Manual response
I^	Information from an autonomous activity

(A "^" represents a blank space)

s - See s under CCN above

f - FROM Unit (1 through 6)

t - TO Unit (1 through 6)

r - Diagnostic status for individual TSI:

r	*Explanation*
A	ATP COMPL (All Tests Passed)
C	CATP COMPL (Conditional All Tests Passed)
S	STF COMPL (Some Tests Failed)
D	DNY (Deny)
-	unequipped TSIs

nn - Condition code for each TSI addressed (-- for unequipped TSIs)

To interpret values of nn use the cc table below.

TOT - Total

tt - Total number of TSIs diagnosed

cc - Hexadecimal condition code

cc	Explanation
02	Subject entity is not equipped
03	Subject entity is in service
1B	CCN side s is in service
3D	No mapped slots on a tsi
45	A DMB on the UNIT is OOS
50	Can’t run test on active side
55	Invalid CFT code
56	Unrunnable CFT code

DGN,TSIS,CCN,UNIT,CONN

DIAGNOSE TIME SLOT INTERCHANGES

Explanation Of Command

This command requests diagnostics to be run on all time slot interchangers (TSIs) between **UNIT-q** and the specified units. If the optional connectivity field is omitted, then all TSIs connected to **UNIT-q** will be diagnosed.

Command

[I.41232]

```
DGN:FRM xy,SEQ ww:TSIS,CCN s,UNIT q,\
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!
```

Completion Message

[O.41232]

```
M hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q[ CONN \
[ a[ b[ c[ d[ e[ f]]]]]]]  e LN MSG:
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn
            .
            .
            .
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn  COND cc COMPL
```

Note: There are up to six sets of data on each line and up to six data lines.

Denial Message

[O.41232.01]

```
M hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q\
[ CONN [ a[ b[ c[ d[ e[ f]]]]]]]  COND cc DNY
```

Autonomous Message

[O.41232]

```
I hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q[ CONN \
[ a[ b[ c[ d[ e[ f]]]]]]]  e LN MSG:
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn
            .
            .
            .
sft r nn   sft r nn   sft r nn   sft r nn   sft r nn   \
sft r nn  COND cc COMPL
```

Note: There are up to six sets of data on each line and up to six data lines.

[O.41232.01]

```
M hh:mm:ss xy,ww n[vv] DGN TSIS CCN s UNIT q[ CONN \
[ a[ b[ c[ d[ e[ f]]]]]]]  COND cc DNY
```

Explanation Of Parameters

TSIS - Time slot interchangers

CCN - Cross-connect network

s - Cross-Connect Network side number (0 or 1)

UNIT - Unit

[q]q - Unit number (1 through 16)

CONN - Unit connection

a,b,c,d,e,f
- Connected unit number

If the connected unit field is omitted, then all TSIs connected to the specified unit will be diagnosed.

sft - TSI identifier

- **s** - See s under CCN above
- **f** - FROM Unit
- **t** - TO Unit

e - Number of lines in the message

r - Diagnostic status for an individual TSI

r	*Explanation*
A	ATP COMPL (All Tests Passed)
C	CATP COMPL (Conditional All Tests Passed)
S	STF COMPL (Some Tests Failed)
D	DNY (Deny)
-	unequipped TSIs

nn - Condition code for each TSI addressed (-- for unequipped TSIs)

See cc below to interpret values of nn.

cc - Hexadecimal condition code

cc	Explanation
02	Subject entity is not equipped
45	A DMB on the UNIT is OOS

DGN,UNIT,DSPI,CFT,X

DIAGNOSE DSPU

Explanation Of Command

This message requests diagnostics to be run on the specified unit's digital signal processing interface.

Command

[I.41341]

```
DGN:FRM xy,SEQ ww:UNIT [q]q,DSPI[,CFT X'vwxy]!
```

Completion Message

[O.41341]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI ATP COMPL
```

[O.41342]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI CATP cc COMPL
```

[O.41343]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41341.01]

M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q DSPI COND cc DNY

Autonomous Message

[O.41341]

I hh:mm:ss xy,ww DGN UNIT [q]q DSPI ATP COMPL

[O.41342]

I hh:mm:ss xy,ww DGN UNIT [q]q DSPI CATP cc COMPL

[O.41343]

I hh:mm:ss xy,ww DGN UNIT [q]q DSPI STF ppqq 2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL

[O.41341.01]

I hh:mm:ss xy,ww DGN UNIT [q]q DSPI COND cc DNY

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

DSPI - Digital signal processing interface

CFT - Craft

vwxy - Diagnostic test number

Test	*vwxy*
Processor bus parity checker test	0001
Interrupt and mask register test	0002
Serial interface	0004-
Serial interface	0008*

Notes:
-In service test
*Out-of-service only test

The optional CFT field is used to indicate which diagnostic test(s) is to be run. If this field is omitted, all DSPI diagnostic tests will be run.

ATP - All tests passed

CATP - Conditional all tests passed

cc - Hexadecimal completion condition code for CATP

cc	*Explanation*
03	Subject entity is in-service
37	DSPI out-of-service
44	DSPI is out-of-service; Digital Signaling Processing Circuit (DSPC) is in-service.

STF - Some tests failed

ppqq - Trouble number for the craft

pp	Failing diagnostic number in hexadecimal form
qq	Test number in hexadecimal form.

ppqq	*Explanation*
0100	MP Fail
0600	EMTC/MTC Interrupt Fail
0A01	EBX/BX RAM Data Fail
0B00	EBX/BX Interrupt Fail
0C00	EBX/BX Acknowledge Fail

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

Data Byte	*Description*
d5	Upper byte of interrupt register 0
d4	Lower byte of interrupt register 0
d3	Interrupt register 1
d2	Upper byte of side 0 service register 0
d1	Lower byte of side 0- service register 0
d0	Unused

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
36	DSPI not equipped
4D	DSPI is in service
55	Invalid CFT code
56	Unrunnable CFT code

DGN,UNIT,FC,CFT,X

DIAGNOSE FORMAT CONVERTER

Explanation Of Command

This command requests diagnostics to be run on the specified format converter **UNIT-q**.

Command

[I.41331]

```
DGN:FRM xy,SEQ ww:UNIT [q]q,FC sb[,CFT X'vwxy]!
```

Completion Message

[O.41331]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FC sb ATP COMPL
```

[O.41332]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT qq FC sb  e LN MSG:
[UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]
STF ppqq   d5 d4 d3 d2 d1 d0 COMPL
```

[O.41333]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT qq FC sb CATP COND kk COMPL
```

Denial Message

[O.41331.01]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FC sb COND cc DNY
```

Autonomous Message

[O.41331]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q FC sb ATP COMPL
```

[O.41332]

```
I hh:mm:ss xy,ww   DGN UNIT qq FC sb  e LN MSG:
[UPN=<upn> XPN=<xpn>[ BIT={TD|RD}bb]]
STF ppqq   d5 d4 d3 d2 d1 d0 COMPL
```

[O.41333]

```
I hh:mm:ss xy,ww   DGN UNIT qq FC sb CATP COND kk COMPL
```

[O.41331.01]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q FC sb COND cc DNY
```

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FC - Format converter

s - Side number (0 or 1)

b - FC number (1 through 4)

CFT - Craft

vwxy - Diagnostic test number

Test	*vwxy*
CI device test	0001
Receiver test	0002
Transmitter test	0004

The optional craft diagnostic test number indicates which test(s) of the diagnostic is to be run under craft control. If this number is omitted, all tests including the continuity check will be run.

ATP - All tests passed

STF - Some tests failed

e - Number of lines in the segment (2 or 3)

UPN - Unit plug number

upn - The value of UPN.

XPN - ECCN plug number

xpn - The value of XPN

BIT - Bit number of the data bus

TD - Transmit data

RD - Receive data

bb - Bit number (00 through 15)

The optional line which contains the unit, plug, and bit information will only be output if continuity checks between the NPC and the ECCN failed. The bit number (i.e., BIT={TD|RD}bb) will be shown if software identifies the bit of the data bus as the failed one. The optional line will always be output with the STF keyword. Valid values of the UPN and XPN are shown below. Note that the numbers shown in the output are exactly the same as the numbers on the backplane.

Unit Plug Number(FIB†)	Unit Plug Number(OIB‡)	ECCN Plug Number	Direction	Corresponding FC
P01	P02	PqqA*	Receive	FC 01
P02	P01	PqqE	Transmit	FC 01
P03	P07	PqqB	Receive	FC 02
P04	P06	PqqF	Transmit	FC 02
P05	P12	PqqC	Receive	FC 03
P06	P11	PqqG	Transmit	FC 03
P07	P17	PqqD	Receive	FC 04
P08	P16	PqqH	Transmit	FC 04
P10	P05	PqqA	Receive	FC 11
P11	P04	PqqE	Transmit	FC 11
P12	P10	PqqB	Receive	FC 12
P13	P09	PqqF	Transmit	FC 12
P14	P15	PqqC	Receive	FC 13
P15	P14	PqqG	Transmit	FC 13
P16	P20	PqqD	Receive	FC 14
P17	P19	PqqH	Transmit	FC 14

* qq is the unit number
† FIB - Flexible Interface Bay
‡ OIB - Original Interface Bay

ppqq - Trouble number for the craft (STF code)

pp	Failing diagnostic number in hexadecimal form
qq	Test number in hexadecimal form.

ppqq	*Explanation*
0100	CI device test fail
0200	Receiver test fail
0300	Transmitter test fail
0F00	Error Summary Failure
0F01	Hardware Fail on ECCI pack
0F02	Hardware Fail on ETSI pack
0F03	RCV Network Data Bus Failure badbit, baddirection & badport
0F04	RCV Network Data Bus Failure baddirection & badport
0F05	XMIT Network Data Bus Failure badbit, baddirection & badport
0F06	XMIT Network Data Bus Failure baddirection & badport
0F07	Pack hardware failure
0F08	Pack Failed to Initialize for CT
0F09	NPC failed when sourcing
0F0A	Parent pack failed. For DSP packs DSPI. For FC, FTMI. For FMT, UA.
0F0D	FC RCV Port alarms before RCV continuity Test
0F0E	FC RCV Port alarms after sourcing from MXR/DDC pack

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

Byte	*Explanation*
d5	Communication interface error source register 0 (ESR0)
d4	Receive formatter (RF) ESR0
d3	RF ESR1
d2	RF ESR2
d1	RF STATUS
d0	Transmit formatter (TF) STATUS

CATP - Conditional all test passed on the diagnostic of FC

kk - Hexadecimal completion condition code

To interpret values of kk see cc below.

cc - Hexadecimal condition code

cc	Explanation
10	Unit is not equipped
11	UC is out of service
13	FTMI is not equipped
14	FTMI is out of service
55	Invalid CFT code
56	Unrunnable CFT code
C3	XMIT continuity test won’t be run: CFT code specified
C4	XMIT continuity test won’t be run: no XMIT timeslots available
C5	RCV continuity test won’t be run: no available inservice NPCS for FC/FMT
C6	No available timeslots on any of the inservice NPCS associated with FC/FMT
C7	RCV continuity test won’t be run: no DMB timeslots available
CC	RCV continuity test won’t be run: SYNC OOS or pested

DGN,UNIT,FTMI,CFT,X

DIAGNOSE FACILITY TERMINATING MODULE INTERFACE

Explanation Of Command

This message requests diagnostics to be run on the unit's facility terminating module interface.

Command

[I.41321]

```
DGN:FRM xy,SEQ ww:UNIT [q]q,FTMI d[,CFT X'vwxy]!
```

Completion Message

[O.41321]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FTMI d ATP COMPL
```

[O.41322]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FTMI d STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41321.01]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q FTMI d COND cc DNY
```

Autonomous Message

[O.41321]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q FTMI d ATP COMPL
```

[O.41322]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q FTMI d STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41321.01]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q FTMI d COND cc DNY
```

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FTMI - Facility Terminating Module Interface

d - FTMI number (1 through 4)

CFT - Craft

vwxy - Diagnostic test number

Test	*vwxy*
Register test	0001
Address parity test	0002
High data parity test	0004
Low data parity test	0008
CI A data strobe test	0010
CI A pack id test	0020
CI B data strobe test	0040
CI B pack id test	0080
CI C data strobe test	0100
CI C pack id test.	0200

All tests listed above can be run in-service.

Note: The optional **CFT** field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

ATP - All tests passed

STF - Some tests failed

ppqq - Trouble number for the craft

pp	Failing diagnostic number in hexadecimal form
qq	Test number in hexadecimal form.

ppqq	*Explanation*
0100	Register Test Fail
0200	Address Parity Test Fail
0300	High Data Parity Test Fail
0400	Low Data Parity Test Fail
0500	Data Strobe A Test Fail
0600	Pack ID A Test Fail
0700	Data Strobe B Test Fail
0800	Pack ID B Test Fail
0900	Data Strobe C Test Fail
0A00	Pack ID C Test Fail

d5-d0 - Raw data

Hexadecimal raw data bytes relating to the failed diagnostic detected. These data bytes are only used for system development.

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
13	FTMI is not equipped
55	Invalid CFT code
56	Unrunnable CFT code

DGN,UNIT,UC,CFT,X

DIAGNOSE UNIT CONTROLLER

Explanation Of Command

This command requests diagnostics to be run on the specified unit controller.

Command

[I.41311]

```
DGN:FRM xy,SEQ ww:UNIT [q]q,UC[,CFT X'vwxy]!
```

Completion Message

[O.41311]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC ATP COMPL
```

[O.41312]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC CATP cc COMPL
```

[O.41313]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

Denial Message

[O.41311.01]

```
M hh:mm:ss xy,ww n[vv] DGN UNIT [q]q UC COND cc DNY
```

Autonomous Message

[O.41311]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q UC ATP COMPL
```

[O.41312]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q UC CATP cc COMPL
```

[O.41313]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q UC STF ppqq  2 LN MSG:
<d5> <d4> <d3> <d2> <d1> <d0> COMPL
```

[O.41311.01]

```
I hh:mm:ss xy,ww   DGN UNIT [q]q UC COND cc DNY
```

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

UC - Unit controller

CFT - Craft diagnostic test code

vwxy - Diagnostic test number (hexadecimal)

Test	*vwxy*
UC RAM test (out-of-service test)	0001
UC ROM test (in-service test)	0002
UC timer test (in-service test)	0004
UC DMA test (out-of-service test)	0008
UC LAN test (out-of-service test)	0010
UC bus error test (in-service test)	0020
UBX register test (out-of-service test)	0040
UBX sanity test (out-of-service test)	0080

Notes:

1. The optional **CFT** field indicates which test(s) of the diagnostic is to be run under craft control. If this field is omitted, all tests of this diagnostic will be run.

2. Out-of-service diagnostics on the UC will run successfully only if the UC circuit pack is present in the frame and the diagnostic program can communicate with the unit. Otherwise, this message will be denied.
3. The UC DMA test cannot be run on the KER6 Unit Controller which is used on Hybrid DS3Us and DS3Us that are shipped with Release 8.0 and later Releases.
4. The UBX tests are only valid on FTUs and IFTUs.

ATP - All tests passed

CATP - Conditional all tests passed

The reason for the conditional completion is indicated by cc.

STF - Some tests failed

ppqq - Trouble number for the craft (hexadecimal)

pp	Failing diagnostic number
qq	Test number

ppqq	*Explanation*
0101	RAM Test Failed - Data Error
0102	RAM Test Failed - Address Error
0103	RAM Test Failed - Access Error
0104	RAM Test Failed - Refresh Error
0105	RAM Test Failed - Parity Error
0200	ROM Test Failed
0400	Timer Test Failed - Timer Error
0500	Timer Test Failed - Input Port Error
0600	DMA Test Failed
0700	LAN Test Failed
0900	Bus Error Test Failed
0A00	UBX Register Test Failed
0B00	UBX Sanity Test Failed

d5-d0 - Hexadecimal raw data bytes relating to the failed diagnostic detected.

Data Byte	*Value*
d5	Unused
d4	Unused
d3	Unused
d2	Unused
d1	Unused
d0	Unused

For in-service UC:

- In-service tests will return ATP (All Tests Passed)
- Out-of-service tests will return CATP (Conditional All Tests Passed)

For out-of-service UC:

- In-service tests will return ATP
- Out-of-service tests will return ATP

cc - Hexadecimal condition code

cc	Explanation
03	Subject entity is in service
03	Subject entity is in service
04	Subject entity is out of service
10	Unit is not equipped
42	RST failed to boot program
55	Invalid CFT code
56	Unrunnable CFT code

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Lucent Technologies
Bell Labs Innovations

DACS II
Release 9.0, PDS
2.048-Mb/s Interface
Command and Message Manual

Volume II

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December 1999

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About This Document

Purpose

The *DACS II Release 9.0 Command and Message Manual* describes the input commands and output messages of Release 9.0 of the Digital Access and Cross-Connect System II (DACS II). In addition, it provides full support for previous product releases.

NOTE:
Those customers using this manual with Releases 3 through 7.0.3 software should be aware that all features of a particular message shown for Release 9.0 may or may not apply to previous releases.

This manual consists of three volumes as follows:

- **Volume I** - This volume contains general information about the document, a detailed introduction that defines DACS II messages, relates how to communicate with DACS II, introduces the administrative links, and discusses in detail NPC addressing, on-line help feature, system configuration and features a listing of related documentation. Message listings in this volume include alphabetical and numerical, summary list of input commands and a list of autonomous messages. A comprehensive presentation of input commands and output messages (ABT through DGN) concludes this volume.
- **Volume II and III** - These two volumes contain input commands and output messages in the following order:
  - **Volume II** - DGRTH through RST
  - **Volume III** - SAVE through UTL and the Glossary

Reason for Issue

The *DACS II Release 9.0 Command and Message Manual* has been issued to include updated and new commands applicable to Release 9.0.

Intended Audiences

This manual is a catalog of messages intended for reference by a technician or craftperson who needs additional details about a message. It provides the user with supplemental information for the Digital Access and Cross-Connect System II (DACS II) that is programmed in the Program Documentation Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

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DGRTH — DSPC

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11

DGRTH — DSPC

This section documents the commands **DGRTH** through **DSPC**.

DGRTH,NPC

DEGROWTH NPC

Explanation Of Command

This command unequips network processing circuits (NPCs) in DACS II Facility Terminating Units (FTU/IFTU/IFTU2), DS3 Units (DS3U), Hybrid DS3 Units (HDS3U) and Digital Signal Processing Units (DSPU).

It may be used to unequip a single NPC or a range of NPCs in an FTU (IFTU or IFTU2), a DS3U or an HDS3U. The HDS3U supports type TExyz and THxyz NPCs. The NPC numbers which are divisible by four with remainder zero, are not valid THxyz NPCs. However, the range of THxyz type NPC numbers is still supported with the understanding that there may be gaps in the NPC number range.

C-bit processing DSPU circuit packs (**CB**-type NPCs) as well as other DSPU circuit packs must be individually unequipped.

When ranges of NPCs are addressed, the **DGRTH** command will show a completion indication after the last NPC in the range that has been unequipped or the highest numbered NPC that has been successfully unequipped. **Before** the completion indication is output, individual denial messages will be output for each **NPC that is denied unequipage.**

One output message is printed for each NPC that is successfully unequipped.

Degrowth commands where the range address crosses a unit boundary will be completely denied.

Within an NPC range the degrowth command will be denied for specific NPCs or sets of NPCs for any one of the following reasons:

1. A Facility Terminating Module (FTM) within the range is unequipped.
2. The NPC is unequipped.
3. The NPC is in-service.
4. The NPC is a testport or testgroup NPC.
5. The NPC has active terminations or circuits under test.

The denial for two or more successive NPCs that need to be denied for the same reason will be formatted in a summary message using the **Floating Window Denial Message** format. In that format a summary denial message will be output, giving the range of NPCs denied, and the reason. The execution of normal completions or of denials for other reasons then resumes at the next NPC, up to the end of the range.

Command

Nonhierarchical

[I.32341]

```
DGRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]!
```

Hierarchical

[I.32341]

```
DGRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]!
```

Completion Message

Nonhierarchical

[O.32341]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]ghi TYPE mnxyz COMPL
```

Hierarchical

[O.32341]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvghi TYPE mnxyz COMPL
```

Denial Message

Nonhierarchical

[O.32341.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]| TYPE -----} UEQD DNY
```

[O.32341.02]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]| TYPE mnxyz} IS DNY
```

[O.32341.03]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]| TYPE mnxyz} {NPCTP|NPCTG} DNY
```

[O.32341.04]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]| TYPE mnxyz} TERM ASGN \
DNY
```

[O.32341.05]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc{[-[t]def]| TYPE mnxyz} COND cc DNY
```

Hierarchical

[O.32341.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]| TYPE -----} UEQD DNY
```

[O.32341.02]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]| TYPE mnxyz} IS DNY
```

[O.32341.03]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]| TYPE mnxyz} {NPCTP|NPCTG} DNY
```

[O.32341.04]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]| TYPE mnxyz} TERM ASGN DNY
```

[O.32341.05]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp{[-uvkqr]| TYPE mnxyz} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, denoting the beginning of the range.

[t]def - The 3- or 4-digit nonhierarchical NPC number, denoting the end of the range.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp, uvkqr
- Hierarchical NPC numbers

uv - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Note: Range is not allowed for DSPU NPC degrowth.

With exceptions, an NPC must first be removed from service with the RMV,NPC,SIDE,INCL command before it can be degrown.

The exceptions are DSPU NPCs. However, if a cross-connected channel or a channel under test is present on the NPC, the command will be denied.

Degrowth of DMB NPCs results in degrowth of both duplicated NPCs in the DMB circuit packs in the DSPU. For other DSPU NPCs, there is only one NPC per circuit pack. One of the duplicated NPCs may first be removed from service with the RMV,NPC,SIDE,INCL message.

If both NPCs are in service, both will be automatically removed during the degrowth of NPC operation. If a cross-connected channel is present on the NPC, the message will be denied.

SLC carrier terminated digroups must be deleted from the SLC carrier bank by executing the DLT,RT,DL,DGA,DGB,DGC,DGD,DGP command.

[s]ghi - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]def)
[s]jkl - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]mno)
[t]mno - The 3- or 4-digit nonhierarchical NPC number ([s]ghi through [t]def)

uvghi - Hierarchical NPC number within the range of uvmnp and uvkqr
uvjkl - Hierarchical NPC number within the range of uvmnp and uvmno
uvmno - Hierarchical NPC number within the range of uvjkl and uvkqr

TYPE - Type

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mn	Explanation
CB	C-bit processor (CPR) NPC
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
SD	Digital Signal Processing Application Circuit Pack
ST	Digital Signal Processing Circuit Pack (2 NPCs per card)

UEQD - Unequipped

The specified NPC is already unequipped

IS - In-service

The specified NPC is in service

NPCTP - NPC (for) test port

The specified NPC is designated for DS0 test ports

NPCTG - NPC (for) test group

The specified NPC is designated for Nx64Kbit/s test groups

TERM - Termination

ASGN - Assigned

The specified NPC has active or under-test assigned termination

COND - Condition

The specified NPC is denied due to condition given by cc

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
15	NPC is unequipped
24	Unit type error
35	NPC has active circuit
3F	Conference exists in a DMB
8F	NPC not deleted
9C	SRDC timeslots are allocated on this NPC
F2	Invalid NPC number specified
FD	NPC range crosses unit boundary
6A	Pseudochannels exist which reference this NPC

DGRTH,NPC,NPCTG,TGR

DEGROWTH TEST-ACCESS GROUP NPC

Explanation Of Command

This command is used to request the removal of the test-access group (TG) designation from a network processing circuit for test-access groups. All TGs associated with this NPCTG must be released before the NPCTG can be deprovisioned. If "TGR" is specified in the command all active TGs will be released and deprovisioned before the NPCTG is deprovisioned. Any out-of-servive (OOS) condition will be bypassed.

A TG may be supported by one or two NPCTGs. Deprovisioning of an NPCTG that supports half (one bundle) of an active TG, will result in the release and deprovisioning of the entire TG; provided "TGR" was specified.

Command

Nonhierarchical

[I.32401]

```
DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr[,TGR]!
```

Hierarchical

[I.32401]

```
DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr[,TGR]!
```

Completion Message

Nonhierarchical

[O.32401]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTG rrr COMPL
```

or

[O.32402]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTG rrr[ TGR]  p LN MSG:
TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]]
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]]
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]] COMPL
```

Hierarchical

[O.32401]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTG rrr COMPL
```

or

[O.32402]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTG rrr[ TGR]  p LN MSG:
TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]]
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]]
[TGS mmm[,mmm][,mmm][,mmm][,mmm][,mmm][,mmm]] COMPL
```

Denial Message

Nonhierarchical

[O.32401.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTG rrr[ TGR][ TG mmm] COND cc DNY
```

Hierarchical

[O.32401.01]

M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTG rrr[TGR][TG mmm] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NPCTG - NPC (for) test group

rrr - NPCTG number (1 through 400)

TGR - TG release

This keyword causes any active TGs supported by this NPCTG to be released from testing and degrown before the NPCTG is degrown. It is required if the NPCTG has active TGs.

TGS - TGs supported by the NPCTG

mmm - TG number (1 through 400)

Lowest TG number supported by the NPCTG. This number will be ’000’ if all TGs have been degrown.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
89	NPC is not designated for this NPCTP/NPCTG
A4	NPC is not a NPCTG
A5	Test group is not idle or frame is not In Service
A6	Test group release failed
A8	NPCTG not grown
AA	Integrated Test Set is currently active on TG

DGRTH,NPC,NPCTP,TPR

DEGROWTH TEST PORT NPC

Explanation Of Command

This message requests removal of the specified test port designation from the network processing circuit. It deprovisions all test ports in all four test access digroups.

Command

Nonhierarchical

[I.32381]

```
DGRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n[,TPR]!
```

Hierarchical

[I.32381]

```
DGRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n[,TPR]!
```

Completion Message

Nonhierarchical

[O.32381]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTP n TPS kk-nn\
[ TPR] COMPL
```

Hierarchical

[O.32381]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTP n TPS kk-nn\
[ TPR] COMPL
```

Denial Message

Nonhierarchical

[O.32381.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC [s]abc NPCTP n[ TPR] \
COND cc DNY
```

Hierarchical

[O.32381.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH NPC uvmnp NPCTP n[ TPR] \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NPCTP - NPC test port
n - NPCTP number (1 throught 8)

TPR - Test port release

This keyword causes any active test ports to be released from service before the test port NPC is degrown. Without the TPR keyword, the test ports must all be idle or the command is denied.

TPS - Test ports

kk - Beginning test port number

nn - Ending test port number

kk and nn indicate the range of test port numbers which the named NPC included

n	*kk*	*nn*
1	01	12
2	13	24
3	25	36
4	37	48
5	49	60
6	61	72
7	73	84
8	85	96

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
88	NPC is not a NPCTP
89	NPC is not designated for this NPCTP/NPCTG
8A	NPCTP is not grown
8B	Test port is not idle or frame is not inservice
98	Test Port release failed

DGRTH,SYNC,TB

DEGROWTH SYNCHRONIZER TIME BASE

Explanation Of Command

This command requests the deprovisioning of the synchronizer time base.

Command

[I.32101]

`DGRTH:FRM xy,SEQ ww:SYNC,TB!`

Completion Message

[O.32101]

`M hh:mm:ss xy,ww n[vv] DGRTH SYNC TB TYPE TBpqr COMPL`

Denial Message

[O.32101.01]

`M hh:mm:ss xy,ww n[vv] DGRTH SYNC TB TYPE TBpqr COND cc DNY`

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TYPE - Type

TB - Time base

p - Time base identifier

qr - Unassigned

q and r can take any value from 0 through 9

p	*Time base*
0	Stratum 3
1	CEPT Local
2	CEPT Toll
3	Stratum 2

Note: pqr will be shown as "---" if the synchronizer is not equipped.

cc - Hexadecimal condition code

cc	*Explanation*
16	SYNC TB is not equipped
A4	Both syncs are in-service

DGRTH,SYNC,TLI,SSP

DEPROVISION SYNCHRONIZER TIMING LINK INTERFACE

Explanation Of Command

This message requests the deprovisioning of the synchronizer's timing link interface.

If the timing link interface was configured as a timing extractor (**`TYPE-texyz`**), the synchronizer sync port must be specified as well.

On output, note that the NPC option can be a source of synchronization for a timing link interface. When a TU type TLI receiving its input from an NPC is degrown, the NPC must be marked as no longer being a synchronizer source.

Command

[I.32121]

`DGRTH:FRM xy,SEQ ww:SYNC,TLI m[,SSP a]!`

Completion Message

Nonhierarchical

[O.32121]

```
M hh:mm:ss xy,ww n[vv] DGRTH SYNC TLI m  2 LN MSG:
{SSP a SRC p TYPE texyz[ NPC [s]abc]|TYPE TDpqr|TYPE TBpqr} \
COMPL
```

Hierarchical

[O.32121]

```
M hh:mm:ss xy,ww n[vv] DGRTH SYNC TLI m  2 LN MSG:
{SSP a SRC p TYPE texyz[ NPC uvmnp]|TYPE TDpqr|TBpqr} COMPL
```

Denial Message

Nonhierarchical

[O.32121.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH SYNC TLI m  2 LN MSG:
{SSP a SRC p TYPE texyz[ NPC [s]abc]|TYPE TDpqr|TYPE TBpqr} \
COND cc DNY
```

Hierarchical

[O.32121.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH SYNC TLI m  2 LN MSG:
{SSP a SRC p TYPE tepgr[ NPC uvmnp]|TYPE TDpqr|TBpqr} \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TLI - Timing link interface

m - TLI number (1 through 4)

SSP - Synchronizer synchronization port

a - SSP number (0 or 1)

SRC - Source

p - Synchronization port priority (1 through 8)

p	*Explanation*
1	HIGHEST priority
8	LOWEST priority

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, PB/PC type

The valid values are:

NPC type	NPC number
PB,PC	[0]030, [0]032, [0]070, [0]072, [0]190, [0]192, [0]230, [0]232

uvmnp - Hierarchical NPC number, PB/PC type

NPC type	Unit No.	Module No.	NPC No.
PB,PC	01	1,2	30,32
	02	1,2	30,32

Option NPC ([s]abc or uvmnp) is only used with the SSP variable and TLI type TUxyz.

TYPE - Type

texyz - Timing extractor type

texyz	*Explanation*
TCxyz	Composite Clock Timing Extractor
TExyz	DS1 Timing extractor
TPxyz	Primary Block Timing Extractor (xyz values are listed below)
TRxyz	Basic System Reference Frequency
TUxyz	Unipolar Clock Timing Extractor
-----	Not Equipped

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TD - Timing distributor

p - Timing distributor identification

Variable TDpqr equals "-----" if the timing distributor is not equipped.

p	*Explanation*
1	Composite clock timing distribution
2	Sinusoidal 2.048 MHz timing distribution

qr Unassigned

TB - Time base

p - Time base identifier

qr - Unassigned

q and r can take any value from 0 through 9

p	*Time base*
0	Stratum 3
1	CEPT Local
2	CEPT Toll
3	Stratum 2

Note: pqr will be shown as "---" if the synchronizer is not equipped.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
A1	CRO type TLI (SSP portion not required)
A2	SSP number is illegal
A3	SSP number required
B8	CRO is still equipped
BE	Hardware mismatch or not present
CC	NPC is still provisioned to provide sync timing

DGRTH,TG

DEGROWTH TEST-ACCESS GROUP

Explanation Of Command

This command is used to request the deprovisioning of one or more idle test-access groups.

Command

[I.32421]

```
DGRTH:FRM xy,SEQ ww:TG mmm[-nnn]!
```

Completion Message

[O.32421]

```
M hh:mm:ss xy,ww n[vv] DGRTH TG mmm[-nnn]  p LN MSG:
TG mmm,rrr,sss[ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss]
[TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss]
[TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss]
[TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss][ TG mmm,rrr,sss] {EOM|COMPL}
```

or

```
M hh:mm:ss xy,ww n[vv] DGRTH TG ppp[-qqq] UEQD {EOM|COMPL}
```

Denial Message

[O.32421.01]

M hh:mm:ss xy,ww n[vv] DGRTH TG mmm[-nnn] [TGS ttt[-uuu]] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test-access Group

mmm - TG number (1 through 400)

nnn - End of TG range number (1 through 400)

rrr - East-bundle NPCTG number (1 through 400)

sss - West-bundle NPCTG number (1 through 400)

UEQD - Unequipped

ppp,qqq
- Unequipped TGs in specified range

ttt,uuu
- Active TGs in specified range

cc - Hexadecimal condition code

cc	*Explanation*
63	None of the designated TG(s) are equipped
A5	Test group is not idle or frame is not In Service

DGRTH,TP

DEGROWTH

Explanation Of Command

This message requests the unequipage of a specified test port. Any subsequent test access requests for this test port will be denied. Also, if the specified test port is in use, the command will be denied.

When degrowth of the specified test port is completed, the channel units associated with this test port are no longer assumed in place, and no test ports with numbers greater than the one specified remain equipped.

Command

[I.32411]

```
DGRTH:FRM xy,SEQ ww:TP kk!
```

Completion Message

[O.32411]

```
M hh:mm:ss xy,ww n[vv] DGRTH TP kk COMPL
```

Denial Message

[O.32411.01]

M hh:mm:ss xy,ww n[vv] DGRTH TP kk NPCTP UEQD DNY

[O.32411.02]

M hh:mm:ss xy,ww n[vv] DGRTH TP kk NOT IDLE DNY

[O.32411.03]

M hh:mm:ss xy,ww n[vv] DGRTH TP kk TPMAX nn TP NSO DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TP - Test port

kk - Test port number (01 through 96)

NPCTP - NPC for test ports

UEQD - Unequipped

TPMAX - Test port maximum

nn - Test port number (01 through 96)

NSO - Not in sequence order

Degrowth of test port kk can be denied under the following conditions:

- The NPCTP (network processing circuit for test ports) has not been designated or UEQD.
- The requested test port is not idle. The test port is currently assigned to a cross-connected channel for test access (NOT-IDLE).
- The requested test port is NSO (not in sequence order) (TPMAX=nn, TP, NSO). That is, kk is not equal to the highest existing test port number nn in the NPCTP.

DGRTH,UNIT

DEGROW UNIT

Explanation Of Command

This message requests the degrowth of a DACS II unit.

When this request is completed, the two ETSI circuit packs required by the subject unit to cross-connect to other grown units are degrown.

Command

[I.32211]

```
DGRTH:FRM xy,SEQ ww:UNIT [q]q!
```

Completion Message

[O.32212]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT qq  4 LN MSG:
ETSIS kk DEGROWN ETSI 0qq 1qq
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr \
0rr 1rr
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr \
0rr 1rr {EOM|COMPL}
```

Denial Message

[O.32211.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q UEQD DNY
```

[O.32211.02]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q {FTMI m|NPC l} EQD \
DNY
```

[O.32211.03]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

e - Number of lines in the output message segment (2 through 4)

DEGROWN
- Degrown

Degrowth of UNIT q (1 through 6) can be denied because:

kk - Total number of equipped ETSIs in the frame after the unit is degrown (00 through 30)

ETSIS - Expanded time slot interchangers

ETSI - Expanded time slot interchanger

0qq - ETSI number side 0

1qq - ETSI number side 1

0qq and 1qq identify the ETSI packs deprovisioned by this command. qq is the unit number (see UNIT above).

Three dashes "---" are shown if an ETSI pack is not provisioned.

Degrowth of unit qq may be denied because

- The unit is already degrown (UEQD), or
- The FTU is still equipped with m FTMIs (facility terminating module interfaces), or
- The DSPU is supporting l NPCs, or
- The unit controller (UC) is in service (IS)
- The DS3U is still equipped with k multiplexers (MXRs) or Hybrid multiplexers (HMXR) and/or the protection multiple interface unit (MIU P), or
- The DS3U or Hybrid DS3U is supporting at least one in-service facility line interface (FLI),

0rr - ETSI number side 0

1rr - ETSI number side 1

0rr and 1rr give the ETSIs equipage status. rr is the unit number (see UNIT above)

Three dashes "---" are shown if an ETSI pack is not provisioned.

Note that Hybrid DS3U does not support MIU.

FLI - Facility line interface

S - Service

P - Protection

FMT - Formatter or Hybrid Formatter

0 - Side number 0

1 - Side number 1

MIU - Multiple interface unit

MXR - Multiplexer or Hybrid Multiplexer

P - Protection

FTMI - Facility terminating module interface

m - Number of FTMIs (1 through 4). Will appear if the unit is equipped as an FTU.

NPC - Network processing circuit

l - Number of NPCs in DSP unit (1 through 8). Will appear if the unit is equipped as a DSPU.

k - Number of MXRs or HMXRs (1 through 6). Will appear if the unit is equipped as a DS3U or a HDS3U.

c - Number of FLIs that are in service (1 or 2). Will appear if the unit is equipped as a DS3U or a HDS3U.

EQD - Equipped

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
03	Subject entity is in service
4D	DSPI is in service

DGRTH,UNIT,FTMI

DEPROVISION FACILITY TERMINATING MODULE INTERFACE

Explanation Of Command

This command requests unequipage of a DACS II facility terminating module and its associated facility terminating module interface.

Command

[I.32321]

```
DGRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d!
```

Completion Message

[O.32321]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q FTMI d FC 0d 1d COMPL
```

Denial Message

[O.32321.01]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q FTMI d\
[ FC sd][ NPC n] {UEQD|EQD|IS} DNY
```

[O.32321.02]

```
M hh:mm:ss xy,ww n[vv] DGRTH UNIT [q]q FTMI d FC 0d 1d \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FTMI - Facility terminating module interface

d - FTMI number in the DACS II unit (1 through 4)

FC - Format converter

s - Side of in-service FC

s	*Explanation*
0	Side 0 FC in-service
1	Side 1 FC in-service
2	Both sides in-service

NPC - Network processing circuit

n - Number of the NPC in the FTM that are still equipped (1 through 40)

UEQD - The FTMI is unequipped

EQD - Equipped

IS - In service

Format converter side (FC sd) is still in-service

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
03	Subject entity is in service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
30	Unit is not FTU type

DLT,FPKG

DELETE FEATURE PACKAGE IDENTIFICATION

Explanation Of Command

The frame administrator enters this command to change the feature package identification code. This command is used to reduce the feature package set by a single feature at a time.

Note: The execution of this command requires DACS II superuser privileges. The frame must be in the **MCOND** (maintenance condition) state at execution.

WARNING: A manual backup from RAM to MEM (PMEM & SMEM together) must be invoked prior to entering Maintenance Condition, else the command may not complete.

Because of the impact of this command on the available features, the following dialogue will be displayed by DACS II.

ARE YOU SURE?

The user must respond with an affirmative Y for the command to be executed.

Command

[I.37301]

DLT:FRM xy,SEQ ww:FPKG nnnnnnnn!

Completion Message

[O.37301]

```
M hh:mm:ss xy,ww n[vv] DLT FPKG nnnnnnnn NEW aabbccdd \
OLD kkttuuvv COMPL
```

Denial Message

[O.37301.01]

```
M hh:mm:ss xy,ww n[vv] DLT FPKG nnnnnnnn COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FPKG - Feature package

nnnnnnnn
- Feature Package number (hexadecimal)

nnnnnnnn Explanation

00000001	DS1	
00000002	CEPT	
00000004	Subrate	
00000008	Direct SLC® 96 and Series 5 Carrier Interface	
00000010	DS3 Terminations	
00000020	Enhanced CEPT	
		C-bit
		C-bit filtering
		RPSFI
00000040	Switched Teleconferencing	
00000080	CEF	
00000100	Enhanced DS1 Performance Monitoring	
00000200	DS0/DS1 Roll	
00000400	AT&T Security Warning Message	
00000800	Nx64kbit Test Access	
00001000	Clear 2MB/s Interface	
00002000	TS0 to Non-TS0 Cross-connection	
00004000	2MB/S Roll	
00008000	SPARE	
00010000	TRT/FT Features	
		Intervention Level
00020000	DS3 Hybrid	

NEW - New

aabbccdd
- New feature package identification code (hexadecimal)

OLD - Old

kkttuuvv
- Old feature package identification code (hexadecimal)

aabbccdd	
kkttuuvv	*Explanation*

00000001	DS1	
00000002	CEPT	
00000004	Subrate	
00000008	Direct SLC® 96 and Series 5 Carrier Interface	
00000010	DS3 Terminations	
00000020	Enhanced CEPT	
		C-bit
		C-bit filtering
		RPSFI
00000040	Switched Teleconferencing	
00000080	CEF	
00000100	Enhanced DS1 Performance Monitoring	
00000200	DS0/DS1 Roll	
00000400	AT&T Security Warning Message	
00000800	Nx64kbit Test Access	
00001000	Clear 2MB/s Interface	
00002000	TS0 to Non-TS0 Cross-connection	
00004000	2MB/S Roll	
00008000	SPARE	
00010000	TRT/FT Features	
		Intervention Level
00020000	DS3 Hybrid	

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

	binary	hex	Feature
	0001	1	DS1
	0010	2	CEPT
	0100	4	Subrate
	1000	8	Direct SLC
Total	1111	F	(DS1 + CEPT + Subrate + SLC)

cc - Hexadecimal condition code

cc	*Explanation*
96	Unit(s) OOS, and additional backup required
25	Invalid FPI value
26	Feature deactivation would leave system with core software
27	Disable not allowed - supports another feature
28	Feature is active
29	Feature not enabled
2A	Database not loaded
2B	Reading Feature Package Id from PMEM failed
2C	Writing Feature Package Id to PMEM failed
01	Backup required before executing this command

DLT,MACRO,MAP,USER

DELETE MACRO

Explanation Of Command

This command requests the deletion of a macro or alternate map from the DACS II system.

Note: Only the DACS II frame administrator can remove a public macro or another user's macros and maps. The names of public macros begin with the letter P.

Command

[I.37201]

```
DLT:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}\
[,USER <user id>]!
```

Completion Message

[O.37201]

```
M hh:mm:ss xy,ww n[vv] DLT {MACRO <macro name>|MAP <map name>}\
[ USER <user id>] COMPL
```

Denial Message

[O.37201.01]

```
M hh:mm:ss xy,ww n[vv] DLT {MACRO <macro name>|MAP <map name>}\
[ USER <user id>] COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

macro name

- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

map name

- Map name (seven characters maximum length)

The name of a collection of DACS II cross-connect commands that can be activated as a group to produce a new set of cross-connections (a new cross-connect map).

A map name is a string of capitalized alphanumeric characters.

user id

- User identifier (two to eight alphabetic characters)

The user field is the user's login identifier. It is used only by the frame administrator to delete a private macro or map owned by the user specified. A user does not need to specify this information in order to delete a personally owned (private) macro or map.

cc - Hexadecimal condition code

cc	*Explanation*
62	File is being accessed
64	File doesn't exist/can't be accessed
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

DLT,NPC

EDIT DELETE MAP

Explanation Of Command

This command is only used in the open and create session of the alternate map feature. It is not intended to be used as a regular command under any circumstances.

This message is used to *delete* a single NPC, a range of NPCs, or a list of NPCs, from an alternate map.

To delete circuits from an alternate map, enter the **`TCON::FRM,TO`** command (I.11001) with the DLT keyword at the end.

The only system response to this command is:

OK

Denials in response to this command are sent only to the link on which the command was input.

Command

Nonhierarchical

[I.37001]

```
DLT:FRM xy,SEQ ww:NPC {[s]abc-[t]def|[s]abc[,[s]ghi]...\
[,[t]def]}!
```

Hierarchical

[I.37001]

DLT:FRM xy,SEQ ww:NPC {uvmnp-wxkqr|uvmnp[,abcde]...[,wxkqr]}!

Completion Message

If the command is accepted by DACS II, the following input acknowledgement is output.

OK

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc,[t]def,[s]ghi
- The 3- or 4-digit non-hierarchical NPC numbers

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp,wkxqr,abcde
- Hierarchical NPC number

uv,wk,ab
- Unit number

m,x,c
- Module number

np,qr,de
- NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

cc - Hexadecimal condition code

cc	*Explanation*
7A	The NPC to delete has not been previously added to map

DLT,USER

DELETE USER

Explanation Of Command

This command requests the deletion of **`<user id>`** from the DACS II system.

Output from this command is sent only to the link on which the command was input.

NOTE:
Note: This command may be used only by the DACS II frame administrator. It may be executed on any administrative link.

Command

[I.37101]

```
DLT:FRM xy,SEQ ww:USER <user id>!
```

Completion Message

[O.37101]

```
M hh:mm:ss xy,ww n[vv] DLT USER <user id>  COMPL
```

Denial Message

[O.37101.01]

M hh:mm:ss xy,ww n[vv] DLT USER <user id> COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

USER - User

user id
- User identifier

User login identification (two to eight alphabetic characters)

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D8	Cannot remove Frame administrator
D9	User has logged in somewhere
DB	User still owns files

DSPC

DIGITAL SIGNAL PROCESSING PLATFORM
APPLICATION COMMANDS

Explanation Of Command

This command explains the command syntax from the DACS II point of view for all applications that run on the Digital Signal Processing Platform (DSPP) circuit pack (TG193). All applications use a prefix system for both input commands and output messages of all types for communication between the user and the application. This prefix system is defined in the subsequent commands and messages. The prefix system permits DACS II to send a command to an application without parsing and/or examining that command. Any return message from the application uses a prefix also, which is simply prepended to the return message from the application by DACS II. Similarly, an autonomous message from an application is prepended with a prefix that identifies the NPC number of the particular DSPP circuit pack on which the message was issued.

The commands for a particular application are given in detailed form in the documentation package for that application. In that documentation the prefix notation that is explained here is also given, so that the user sees a complete command structure. Depending on the individual command that command may be sent to an individual DSPP circuit pack running that application, a range of circuit packs running that application, or all circuit packs running that application restored in the frame.

Command

Nonhierarchical

[I.14901]

```
DSPC:[FRM xy,SEQ ww]:{[s]aaa|[s]aaa-[v]bbb|SDxyz}:<pds_application command>
```

Hierarchical

[I.14901]

```
DSPC:[FRM xy,SEQ ww]:{uvnmp|uvnmp-wxkqr|SDxyz}:<pds_application command>
```

Completion Message

Nonhierarchical

Command using single NPC
[O.14901]

```
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa <pds_application_response for NPC [s]aaa>
```

Command using range of NPCs
[O.14901]

```
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa <pds_application_response for NPC [s]aaa>
         .
         .
         .
M hh:mm:ss xy,ww n[vv] DSPC [v]bbb <pds_application_response for NPC [v]bbb>
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa-[v]bbb <pds_input_command - truncated>....COMPL
```

Command using NPC type
[O.14901]

```
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa <pds_application_response for NPC [s]aaa>
         .
         .
         .
M hh:mm:ss xy,ww n[vv] DSPC [v]bbb <pds_application_response for NPC [v]bbb>
M hh:mm:ss xy,ww n[vv] DSPC SDxyz <pds_input_command - truncated>....COMPL
```

Hierarchical

Command using single NPC
[O.14901]

```
M hh:mm:ss xy,ww n[vv] DSPC uvnmp <pds_application_response for NPC uvnmp>
```

Command using range of NPCs
[O.14901]

```
M hh:mm:ss xy,ww n[vv] DSPC uvnmp <pds_application_response for NPC uvnmp>
         .
         .
         .
M hh:mm:ss xy,ww n[vv] DSPC wxkqr <pds_application_response for NPC wxkqr>
M hh:mm:ss xy,ww n[vv] DSPC uvnmp-wxkqr <pds_input_command - truncated>....COMPL
```

Command using NPC type
[O.14901]

```
M hh:mm:ss xy,ww n[vv] DSPC uvnmp <pds_application_response for NPC uvnmp>
         .
         .
         .
M hh:mm:ss xy,ww n[vv] DSPC wxkqr <pds_application_response for NPC wxkqr>
M hh:mm:ss xy,ww n[vv] DSPC SDxyz <pds_input_command - truncated>....COMPL
```

Denial Message

Nonhierarchical

Command using single NPC
[O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa <pds_application_error_response for NPC [s]aaa>
```

Command using range of NPCs
[O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa <pds_application_error_response for NPC [s]aaa>
         .
         .
         .
M hh:mm:ss xy,ww n[vv] DSPC [v]bbb <pds_application_error_response for NPC [v]bbb>
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa-[v]bbb \
<pds_input_command - truncated>....COND cc DNY
```

Command using NPC type
[O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC [s]aaa <pds_application_error_response for NPC [s]aaa>
          .
          .
          .
M hh:mm:ss xy,ww n[vv] DSPC [v]bbb <pds_application_error_response for NPC [v]bbb>
M hh:mm:ss xy,ww n[vv] DSPC SDxyz <pds_input command - truncated>....COND cc DNY
```

Command of any type when no DSPP circuit pack with application is responding
[O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC {[s]aaa|[s]aaa-[v]bbb|SDxyz} \
<pds_input_command - truncated>.... COND cc DNY
```

Hierarchical

Command using single NPC
[O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC uvnmp <pds_application_error_response for NPC uvnmp>
```

Command using range of NPCs
[O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC uvnmp <pds_application_error_response for NPC uvnmp>
          .
          .
          .
M hh:mm:ss xy,ww n[vv] DSPC wxkqr <pds_application_error_response for NPC wxkqr>
M hh:mm:ss xy,ww n[vv] DSPC uvnmp-wxkqr \
<pds_input_command - truncated>....COND cc DNY
```

Command using NPC type
[O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC uvnmp <pds_application_error_response for NPC uvnmp>
          .
          .
          .
M hh:mm:ss xy,ww n[vv] DSPC wxkqr <pds_application_error_response for NPC wxkqr>
M hh:mm:ss xy,ww n[vv] DSPC SDxyz \
<pds_input command - truncated>....COND cc DNY
```

Command of any type when no DSPP circuit pack with application is responding [O.14901.01]

```
M hh:mm:ss xy,ww n[vv] DSPC {uvnmp|uvnmp-wxkqr|SDxyz} \
<pds_input_command - truncated>.... COND cc DNY
```

Autonomous Message

Nonhierarchical

[O.14901]

```
I hh:mm:ss xy,ww  ALM DSPC [s]aaa <pds_application_autonomous_message>
```

Hierarchical

[O.14901]

```
I hh:mm:ss xy,ww  ALM DSPC uvnmp <pds_application_autonomous_message>
```

Explanation Of Parameters

DSPC - Execute <pds_application_command> on Digital Signal Processing Platform (DSPP)

[s]aaa - NPC number of DSPP Platform running application that will receive command or NPC number at beginning of range (3- or 4-digit)

uvnmp - NPC number of DSPP Platform running application that will receive command or NPC number at beginning of range (hierarchical)

[v]bbb - NPC number for end of range specified or last NPC number in frame of type SDxyz (3- or 4-digit)

wxkqr - NPC number for end of range specified or last NPC number in frame of type SDxyz (hierarchical)

SDxyz - Type designation for DSPP Platform running application "x".

This addresses all DSPP circuit packs that run application "x". Where "x" is a hexadecimal number that identifies the application. Values "y" and "z" are ignored, because they are possibly used internally by the application at the time the application is restored. Please note that "SDxyz" is also used at the time a DSPP circuit pack is grown to run a particular application.

<pds_application_command> - This is a PDS command string that is sent to the application.

<pds_application_response for NPC hhh> - This is an application command response in PDS for the particular NPC designated by the number hhh

<pds_application_error_response for NPC hhh> - This is a PDS error message generated when the application running on NPC hhh found an error in a command

<pds_application_autonomous_message> - This is an application autonomous message in PDS

Beyond the prefix notation that is explained here no specific conventions for an application are documented here. Instead, the exact command structure for commands that are handled by an application is given by the documention for that application. This includes such items as terminating "!" for PDS strings and terminating ";" for MML strings. All error messages and condition codes generated by the application are given in the application documentation.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
26	NPC type error
07	Application circuit pack is out of service
F2	Invalid NPC number specified
E9	Platform Communication Error
EA	The (last) destination NPC denies the DSPC command
EB	The (last) destination NPC failed, and was rebooted
B3	Initialization of application in progress, retry command later

EBX — EXC

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12

EBX — EXC

This section documents the commands **EBX** through **EXC**.

EBX,STARTUP,STF,ATP

EXPANDED BUS EXTENDER STARTUP

Explanation Of Command

This message reports that the expanded bus extender has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported. For all tests passed, no action is required.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01272]

EBX STARTUP {STF|ATP}

Explanation Of Parameters

EBX - Expanded bus extender

STARTUP
- Startup

Indicates initialization

STF - Some tests failed

ATP - All tests passed

ED,CRET,MAP,PIC

CREATE PICTURE ALTERNATE MAP

Explanation Of Command

This command takes a **PIC** (picture) of currently-implemented cross-connections and stores them in the **new map name**. **reference map name** is the name of the map that contains the desired list of cross-connections.

Output from this command is sent only to the link on which the command was input.

Command

[I.19031]

```
ED:FRM xy,SEQ ww:CRET,MAP <new map name>\
,PIC <reference map name>!
```

Completion Message

Nonhierarchical

[O.19031]

```
M hh:mm:ss xy,ww n[vv] ED CRET MAP <new map name> \
PIC <reference map name>
[ NPC [s]abc] COND kk COMPL
```

Hierarchical

[O.19031]

```
M hh:mm:ss xy,ww n[vv] ED CRET MAP <new map name> \
PIC <reference map name> [ NPC uvmnp] COND kk COMPL
```

Denial Message

[O.19031.01]

```
M hh:mm:ss xy,ww n[vv] ED CRET MAP <new map name> \
PIC <reference map name> COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

CRET - Create

MAP - Map

new map name

- The new alternate map to be created by this message

"new map name" is a string of capitalized alphanumeric characters. The first character must be an alphabetic character. The maximum length of a map name is seven characters.

PIC - Picture

reference map name

- The existing alternate map

"reference map name" is a string of capitalized alphanumeric characters. The first character must be an alphabetic character. The maximum length of a map name is seven characters.

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

This number identifies the first NPC that contains either a non-two-way, two-point cross-connection, or a cross-connection with a termination on an NPC not found in the reference alternate map.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

This number identifies the first NPC that contains either a non-two-way, two-point cross-connection, or a cross-connection with a termination on an NPC not found in reference alternate map.

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
60	User macro/map space is full
61	System macro/map space is full
62	File is being accessed
63	File already exists
70	Some circuits not activated, cleared or pictured
71	The reference map does not exist
D5	No user is logged in on the link/vc

ED,MACRO,MAP

CREATE OR EDIT A MACRO OR MAP

Explanation Of Command

This command is dual purpose. It can be used to create a new macro or alternate map or to edit an existing macro or map. A macro is a collection of DACS II commands that can be executed as a group by a single command. A map is a collection of DACS II cross-connect commands that can be activated as a group by a single command to create a new cross-connect map.

Once a macro has been created, and is free of errors, it can be executed repeatedly. For commonly used command sequences this saves a lot of typing, speeds execution, and assures the user of repeatability. Similarly a map, once created, can be repeatedly activated. However, prior to each activation of a map the information specified in the map must be edited to create a new map. On the other hand the information in a macro can be changed, without editing, when the command is executed. The new information is inserted into the command line and replaces information within the macro at execution time.

The commands used in the macro, the macro commands, will always be executed in the order they are listed in the macro. However, because the commands can use variables as well as constants, the information within the macro can vary with each execution. A command within the macro that addresses a given NPC can be made to address a different NPC the next time the macro is executed. This is done by replacing the constant, representing the NPC number, listed in the macro command with a variable. Many other command parameters can be changed from execution to execution by the use of variables in the macro commands.

Consider the private macro named "DEMO" below. Some elements of these macro commands have been omitted in order to focus on the use of variables.

```
TDIS::FROM 00101,TO 00301,STOP!OK
TCON::FROM 00101,TO 00501!0K
TCON::FROM 00102,TO 00502!0K
TCON::FROM 00103,TO 00503!0K
UTL::QRY,CMAP 001!OK
```

This macro will always disconnect, connect, and query the same NPCs. If DEMO were written as follows, using variables, the NPCs affected could be specified each time the macro was executed without having to reenter the macro. A macro written in this manner is referred to as a universal macro. This particular macro would be even more universal if the channel numbers were represented by variables.

```
TDIS::FROM #0101,TO 00301,STOP!OK
TCON::FROM #0101,TO #0201!0K
TCON::FROM #0102,TO #0202!0K
TCON::FROM #0103,TO #0203!0K
UTL::QRY,CMAP #01!OK
```

Variables have replaced some of the constants in macro DEMO. NPC number 001 has been replaced with variable #01 and NPC number 005 has been replaced with variable #02. The numbers in these variable names refer to the position of the replacement in the command used to execute the macro. To execute this macro replacing #01 with 020 and #02 with 040 we would enter the following command.

```
EXC::MACRO DEMO,(020,040)!
```

The variables used in the macro commands of macro DEMO are replaced, upon execution of this command, by parameters included in the command. The first parameter replaces variable #01 and the second parameter replaces #02. After variable replacement macro DEMO would look as follows.

```
TDIS::FROM 02001,TO 00301,STOP!OK
TCON::FROM 02001,TO 04001!0K
TCON::FROM 02002,TO 04002!0K
TCON::FROM 02003,TO 04003!0K
UTL::QRY,CMAP 020!OK
```

Variables may be used for any macro command parameter except action verbs and punctuation. The number of variables used in a macro is limited to 10. A variable may be used wherever its value is needed, that is, it is not restricted to an NPC number just because it was used for that purpose at some other point in the macro. If the user wished to address NPC number 003 and channel 003 the variable #01 with value 003 could be used for both the NPC number and the channel number. The macro command would look as follows.

```
TCON::FROM #01#01,...!
```

At execution time this would translate to the following.

```
TCON::FROM 003003,...!
```

NOTE:
To represent hierarchical NPC numbers a variable must be used for each part (unit, module, NPC) of the NPC number. A macro expecting a hierarchical format parameter should not be executed with a nonhierarchical format parameter.

NPC 01101 would be represented in a macro command with variables #01, #02, and #03 as follows.

UTL::QRY,CMAP #01#02#03!

WARNING:
Any command prompting "Are You Sure?" which is accepted as a macro command will always have the "No" answer to the question.

The system responds with "OK" when the ED::MAP command is entered.

The system responds with LINE and SAVE messages, as shown below, when the ED-MACRO command is entered.

[O.19071]
... LINE <line pointer> TOTAL <line total> COMPL

[O.19081]
... SAVE <macro name> SPACE sss USED uuu COMPL

A macro session is the period between entering the command to create a macro and entering the command to exit the macro. A line pointer is maintained by the system during the session to mark the position of the current line within the macro. As a line is added to the macro the line pointer moves down a line; tracking the position of the current line. The LINE command is used to determine the current line pointer value and the total number of lines currently in the macro.

The SAVE command is used during a macro session to save the current set of macro commands in the macro represented in the message by "macro name." The macro name is chosen by the user.

The completion messages correspond to the frame response when END or QTEND is entered after completion of editing or creating a macro. The END command saves all the changes before ending (exiting) a macro session. The QTEND command ends the macro session without saving the changes.

Output from this command is sent only to the link on which the command was input.

Command

[I.19001]

```
ED:FRM xy,SEQ ww:{MACRO <macro name>|MAP <map name>}!
```

Completion Message

[O.19001]

```
M hh:mm:ss xy,ww n[vv] ED {MACRO <macro name>|MAP <map name>}\
[ COND cc] COMPL
```

[O.19002]

```
M hh:mm:ss xy,ww n[vv] ED {MACRO <macro name>|MAP <map name>} \
QTEND[ COND cc] COMPL
```

Denial Message

[O.19001.01]

```
M hh:mm:ss xy,ww n[vv] ED {MACRO <macro name>|MAP <map name>} \
COND cc DNY
```

Autonomous Message

[O.19002]

```
I hh:mm:ss xy,ww n[vv] ED {MACRO <macro name>|MAP <map name>} \
QTEND[ COND cc] COMPL
```

Explanation Of Parameters

MACRO - Macro

macro name
- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

MAP - Map

map name
- Map name (seven characters maximum length)

The name of a collection of DACS II cross-connect commands that can be activated as a group to produce a new set of cross-connections (a new cross-connect map).

A map name is a string of capitalized alphanumeric characters.

QTEND - Quit end

Quit to end a macro or map session without saving any changes to the macro or map.

COND - Condition

cc - Hexadecimal condition code

cc	Explanation
00	No conditions
00	No conditions
60	User macro/map space is full
60	User macro/map space is full
61	System macro/map space is full
62	File is being accessed
65	Command invalid while backup in progress
65	Command invalid while backup in progress
66	Map/macro file write deferred until backup is completed
67	User logged off during session

cc	Explanation
68	Incorrect language/addressing mode
6F	The session is terminated due to maintenance operation
6F	The session is terminated due to maintenance operation
7C	Logical conflicts found in the map
7D	Can’t start new session - previous session still verifying
D0	Command is Frame administrator (DAX) only.
D5	No user is logged in on the link/vc
6E	No edit session active
6C	File is empty
6C	File is empty

EMTC,STARTUP,STF,ATP

EXPANDED MAINTENANCE STARTUP

Explanation Of Command

This message reports that the expanded maintenance circuit has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported. For all tests passed, no action is required.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01282]

EMTC STARTUP {STF|ATP}

Explanation Of Parameters

EMTC - Expanded maintenance circuit

STF - Some tests failed

ATP - All tests passed

ERR,CMD,ABT,TN,STOPPED

INPUT DENIAL

Explanation Of Command

This message is output by DACS II when a task indicated by the transaction number has been autonomously aborted.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01121]

```
A hh:mm:ss xy,ww   ERR CMD ABT [TN abcd]  e LN MSG:
First 70 characters of input message.
Remaining text of input message STOPPED
```

Explanation Of Parameters

ERR - Error recovery

CMD - Command

ABT - Abort

TN - Transaction

abcd - Transaction number

e - Number of lines in the message

ERR,ESR,ANALYSIS,REPORT,EVENT

ERROR RECOVERY ESR ANALYSIS REPORT

Explanation Of Command

This message outputs a list of circuit packs associated with a series of alarm messages identified by the EVENT number. One of the circuit packs listed may be at fault. The most likely faulty pack is at the top of the list. Only the first circuit pack on the list will be removed. This message will not be output if a single circuit pack is implicated.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01391]

```
I hh:mm:ss xy,ww   ERR ESR ANALYSIS REPORT EVENT eeee  4 LN MSG:
<action> <circuit identifier>
<action> <circuit identifier>
<action> <circuit identifier> COMPL
```

Explanation Of Parameters

ERR - Error recovery

ESR - Error source register

ANALYSIS
- Analysis

REPORT - Report

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

action - Identifies autonomous action attempted on the circuit pack. Available actions are

action	*Explanation*
RMV	Request was made to remove circuit pack from service and run a diagnostic
---	Pack is listed for information only

circuit identifier

- Circuit pack type and identification.

The available circuit identifiers are listed below:

circuit identifier

SYNC s
SYNC s TLI m
CCNI s
CCB sf
TSI sft
CCI s
ETSI sqq
BTS s
UC [q]q
UNIT [q]q UBX
UNIT [q]q FC sb
UNIT [q]q FTMI b
UNIT [q]q DSPI
UNIT [q]q MXR n DEV devc
UNIT [q]q MIU l
UNIT [q]q FLI d
UNIT [q]q FMT k
UNIT [q]q MMFG y
NPC [s]abc[-[t]def][SIDE s]
NPC uvmnp[-wxkqr][SIDE s]

ERR,ESR,CCB,TN,EVENT,COND

ERROR RECOVERY

Explanation Of Command

This message indicates that error recovery was called to handle an error occurring in the cross-connect buffer.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01351]

```
I hh:mm:ss xy,ww   ERR [ESR] CCB sf TN dddd EVENT eeee  \
2 LN MSG:
<error analysis data bytes> COND cc COMPL
```

Explanation Of Parameters

ERR - Error recovery

ESR - Error Source Register

The ESR keyword is not output if the register contents cannot be read.

CCB - Cross-connect Buffer

s - Cross-connect side (0 or 1)

f - Unit (1 through 6)

TN - Transaction

dddd - Transaction number

EVENT - Event

eeee - Event number

error analysis data bytes
- Data used to analyze the cause of an error.
Eight bytes are output. These bytes are labeled "byte 0", "byte 1", etc, below.

byte 0 - ESR0 (Error Source Register 0) in the CCB
byte 1 - ESR1 (Error Source Register 1) in the CCB
byte 2 - ESR2 (Error Source Register 2) in the CCB
byte 3 - CCNI ESR0
byte 4 - CCNI ESR1
byte 5 - CCNI ESR2
byte 6 - CCNI ESR3
byte 7 - CCNI ESR4

cc - Hexadecimal condition code

cc	*Explanation*
A0	CCB packid error, wrong pack, can’t read pack
A1	CCB sync pulse error
A2	CCB clock error
A3	CCB input port alarm error
A4	CCB zero bit is stuck at 1
A5	Corresponding CCNI bit is stuck

ERR,ESR,CCI,TN,EVENT,COND

ERROR RECOVERY CCI

Explanation Of Command

This message indicates that DACS II detected an alarm occurring in the clock and control interface.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01354]

```
I hh:mm:ss xy,ww   ERR[ ESR] CCI s \
TN dddd EVENT eeee 2 LN MSG
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \
wd12 COND cc COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register contents cannot be read.

CCI - Clock control interface

s - Cross-connect side number (0 or 1)

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the content of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the content of the DACS II error recovery log file which contains the data of this error recovery event.

wd01,
wd02,
...,
wd12 - Word 1 through 12

0 to 12 words of hexadecimal raw error data for internal use. Each word is four hexadecimal digits.

wdxx	*Explanation*
wd01	System Status Register
wd02	Clock Control Interface (CCI) Status Register
wd03	CCI Extended Time Slot Interchange (ETSI) ESR0 Register
wd04	CCI ETSI ESR1 Register
wd05	CCI ETSI ESR2 Register
wd06	CCI ETSI ESR3 Register
wd07	CCI Status Bus Register
wd08	CCI Exercise Register
wd09	CCI System Mask Register
wd10	CCI Mask Register
wd11	CCI ETSI Mask Register
wd12	Not used (= 0000)

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
01	CCI pack is not present
02	Can't communicate to CCI pack(incorrect version number)
03	CCI pack's summary is set but has no errors
04	CCIERR bit is stuck in system status reg
05	TSIERR bit is stuck in system status reg
06	PUERR bit is stuck in system status reg
07	Bus Terminator pack is not present
08	The 32 MHz clock is out of lock
09	CCI 240 sync is misaligned with frame sync
0A	CCI loss of 240 Frame Sync
0B	CCI loss of 8 KHz Frame Sync
0C	CCI detected Address Parity error
0D	CCI detected low byte data parity error
0E	CCI detected high byte data parity error
0F	CCI -5.2 power supply has failed
10	CCI detected Bus Status Parity error
11	CCI Peripheral Unit Alarm
12	SYNC summary is set on CCI circuit pack

ERR,ESR,CCNI,TN,EVENT,COND

ERROR RECOVERY

Explanation Of Command

This message indicates that DACS II detected an alarm occurring in the cross-connect network interface).

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01352]

```
I hh:mm:ss xy,ww   ERR [ESR] CCNI s \
TN dddd EVENT eeee  2 LN MSG:
<reg0> <reg1> <reg2> <reg3> <reg4> \
<emr0> <emr1> <emr2> <emr3> <emr4> COND cc COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error Status Register.

The ESR keyword is not output if the register contents cannot be read.

CCNI - Cross-connect network interface

s - Cross-connect side (0 or 1)

TN - Transaction

dddd - Transaction number

EVENT - Event

eeee - Event number

regn - Device register n (n = 0 through 4)

A bit set to "1" in these registers indicates the alarming circuit pack or a parity error.

CCNI s Error Source Register Bit Definitions

reg0 - Error Source Register 0

Bit	Condition
15	Time Slot Interchange (TSI) 43 is alarming
14	TSI 33 is alarming
13	TSI 23 is alarming
12	TSI 13 is alarming
11	TSI 62 is alarming
10	TSI 52 is alarming
09	TSI 42 is alarming
08	TSI 32 is alarming
07	TSI 22 is alarming
06	TSI 12 is alarming
05	TSI 61 is alarming
04	TSI 51 is alarming
03	TSI 41 is alarming
02	TSI 31 is alarming
01	TSI 21 is alarming
00	TSI 11 is alarming

reg1 - Error Source Register 1

Bit	Condition
15	TSI 26 is alarming
14	TSI 16 is alarming
13	TSI 65 is alarming
12	TSI 55 is alarming
11	TSI 45 is alarming
10	TSI 35 is alarming
09	TSI 25 is alarming
08	TSI 15 is alarming
07	TSI 64 is alarming
06	TSI 54 is alarming
05	TSI 44 is alarming
04	TSI 34 is alarming
03	TSI 24 is alarming
02	TSI 14 is alarming
01	TSI 63 is alarming
00	TSI 53 is alarming

reg2 - Error Source Register 2

Bit	Condition
15	Facility Terminating Module (FTM) 4 of Unit 3 is alarming
14	FTM 3 of Unit 3 is alarming
13	FTM 2 of Unit 3 is alarming
12	FTM 1 of Unit 3 is alarming
11	FTM 4 of Unit 2 is alarming
10	FTM 3 of Unit 2 is alarming
09	FTM 2 of Unit 2 is alarming
08	FTM 1 of Unit 2 is alarming
07	FTM 4 of Unit 1 is alarming
06	FTM 3 of Unit 1 is alarming
05	FTM 2 of Unit 1 is alarming
04	FTM 1 of Unit 1 is alarming
03	TSI 66 is alarming
02	TSI 56 is alarming
01	TSI 46 is alarming
00	TSI 36 is alarming

reg3 - Error Source Register 3

Bit	Condition
15	Cross-Connect Buffer (CCB) 4 is alarming
14	CCB 3 is alarming
13	CCB 2 is alarming
12	CCB 1 is alarming
11	FTM 4 of Unit 6 is alarming
10	FTM 3 of Unit 6 is alarming
09	FTM 2 of Unit 6 is alarming
08	FTM 1 of Unit 6 is alarming
07	FTM 4 of Unit 5 is alarming
06	FTM 3 of Unit 5 is alarming
05	FTM 2 of Unit 5 is alarming
04	FTM 1 of Unit 5 is alarming
03	FTM 4 of Unit 4 is alarming
02	FTM 3 of Unit 4 is alarming
01	FTM 2 of Unit 4 is alarming
00	FTM 1 of Unit 4 is alarming

reg4 - Error Source Register 4

Bit	Condition
15-08	Not used
07	Cross-Connect Network Interface (CCNI) autonomous switch enable error
06	CCNI high byte data parity error
05	CCNI low byte data parity error
04	CCNI address bus parity error
03	Synchronizer (SYNC) is alarming
02	Cross-Connect Buffer (CCB) 6 is alarming
01	CCB 5 is alarming

emrn - Error Mask Register n

A bit set to "1" in these registers indicates the alarming circuit pack or a parity error.

CCNI s Error Mask Register Bit Definitions

emr0 - Error Mask Register 0

Bit	Condition
15	Errors from Time Slot Interchange (TSI) 43 are masked
14	Errors from TSI 33 are masked
13	Errors from TSI 23 are masked
12	Errors from TSI 13 are masked
11	Errors from TSI 62 are masked
10	Errors from TSI 52 are masked
09	Errors from TSI 42 are masked
08	Errors from TSI 32 are masked
07	Errors from TSI 22 are masked
06	Errors from TSI 12 are masked
05	Errors from TSI 61 are masked
04	Errors from TSI 51 are masked
03	Errors from TSI 41 are masked
02	Errors from TSI 31 are masked
01	Errors from TSI 21 are masked
00	Errors from TSI 11 are masked

emr1 - Error Mask Register 1

Bit	Condition
15	Errors from TSI 26 are masked
14	Errors from TSI 16 are masked
13	Errors from TSI 65 are masked
12	Errors from TSI 55 are masked
11	Errors from TSI 45 are masked
10	Errors from TSI 35 are masked
09	Errors from TSI 25 are masked
08	Errors from TSI 15 are masked
07	Errors from TSI 64 are masked
06	Errors from TSI 54 are masked
05	Errors from TSI 44 are masked
04	Errors from TSI 34 are masked
03	Errors from TSI 24 are masked
02	Errors from TSI 14 are masked
01	Errors from TSI 63 are masked
00	Errors from TSI 53 are masked

emr2 - Error Mask Register 2

Bit	Condition
15	Errors from Facility Terminating Module (FTM) 4 of Unit 3 are masked
14	Errors from FTM 3 of Unit 3 are masked
13	Errors from FTM 2 of Unit 3 are masked
12	Errors from FTM 1 of Unit 3 are masked
11	Errors from FTM 4 of Unit 2 are masked
10	Errors from FTM 3 of Unit 2 are masked
09	Errors from FTM 2 of Unit 2 are masked
08	Errors from FTM 1 of Unit 2 are masked
07	Errors from FTM 4 of Unit 1 are masked
06	Errors from FTM 3 of Unit 1 are masked
05	Errors from FTM 2 of Unit 1 are masked
04	Errors from FTM 1 of Unit 1 are masked
03	Errors from TSI 66 are masked
02	Errors from TSI 56 are masked
01	Errors from TSI 46 are masked
00	Errors from TSI 36 are masked

emr3 - Error Mask Register 3

Bit	Condition
15	Errors from Cross-Connect Buffer (CCB) 04 are masked
14	Errors from CCB 03 are masked
13	Errors from CCB 02 are masked
12	Errors from CCB 01 are masked
11	Errors from FTM 4 of Unit 6 are masked
10	Errors from FTM 3 of Unit 6 are masked
09	Errors from FTM 2 of Unit 6 are masked
08	Errors from FTM 1 of Unit 6 are masked
07	Errors from FTM 4 of Unit 5 are masked
06	Errors from FTM 3 of Unit 5 are masked
05	Errors from FTM 2 of Unit 5 are masked
04	Errors from FTM 1 of Unit 5 are masked
03	Errors from FTM 4 of Unit 4 are masked
02	Errors from FTM 3 of Unit 4 are masked
01	Errors from FTM 2 of Unit 4 are masked
00	Errors from FTM 1 of Unit 4 are masked

emr4 - Error Mask Register 4

Bit	Condition
15-08	Not used
07	Address parity errors are masked (ASEM)
06	Parity error in the BSR register is masked
05	High data byte parity error is masked
04	Low data byte parity error is masked
03	Address parity error (ADEM) is masked
02	Synchronizer error summary bit is masked
01	Errors from Cross-Connect Buffer (CCB) 6 are masked
00	Errors from CCB 5 are masked

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
90	CCNI access error (cannot access pack)
91	High data byte bus parity error
92	Low data byte bus parity error
93	Address bus parity error
94	Autonomous switch enable error
95	Bus status register parity error
96	CCNI stuck register bit, summary set, no other alarms

ERR,ESR,ETSI,TN,EVENT,COND

ERROR RECOVERY ETSI

Explanation Of Command

This message reports an alarm on a extended time slot interchanger.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01355]

```
I hh:mm:ss xy,ww   ERR[ ESR] ETSI sqq \
TN dddd EVENT eeee 2 LN MSG:
wd01 wd02 wd03 wd04 wd05 wd06 wd07 wd08 wd09 wd10 wd11 \
wd12 COND cc COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register contents cannot be read.

ETSI - Expanded time slot interchanger (ETSI)

sqq - ETSI identification

s - Cross-connect side (0 or 1)
qq - Unit number (01 through 16)

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

wd01,
wd02,
...,
wd12 - Word 1 through 12

0 to 12 words of four-digit hexadecimal raw error data for internal use.

wd01 - Circuit Pack Summary Register
wd02 - Receive MDX Status Register
wd03 - Transmit MDX Status Register
wd04 - Control RAM Status Register
wd05 - Control RAM Port Alarm Register
wd06 - Control RAM Data RAM Alarm Register
wd07 - Receive MDX Mask Register
wd08 - Transmit MDX Mask Register
wd09 - CCI ETSI Error Source Register 0
wd10 - CCI ETSI Error Source Register 1
wd11 - CCI ETSI Error Source Register 2
wd12 - CCI ETSI Error Source Register 3

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
20	ETSI pack is not present
21	Can't communicate to ETSI pack (incorrect version number)
22	ETSI pack's summary is set on CCI but has no errors
23	ETSI loss of 32.768 MHz clock
24	ETSI loss of 240 frame sync
25	ETSI Rcv MDX summary stuck bit
26	ETSI control RAM summary stuck bit
27	ETSI TX MDX summary stuck bit
28	ETSI loss of Vdd (3.3v) power
29	Peripheral unit port alarm (RCV MDX)
2A	Receive MDX data source time slot parity error
2B	Receive MDX sync error
2C	Receive MDX address parity error
2D	Receive MDX write data parity error
2F	Receive MDX can't be accessed (incorrect chip Id
30	Transmit MDX data parity error
31	Transmit MDX data source time slot parity error
32	Transmit MDX sync error
33	Transmit MDX address parity error
34	Transmit MDX write data parity error
35	Transmit MDX can't be accessed (incorrect chip Id
37	Control RAM parity error
38	Control RAM sync alarm
39	Control RAM port alarm
3A	Control RAM BIST flag is set
3B	Data RAM BIST flag is set
3C	Control RAM address parity error
3D	Control RAM write data parity error
3E	Control RAM device can't be accessed (incorrect chip Id)
3F	Control RAM circuit pack parity
40	Control RAM device is in reset state
41	Control RAM port alarm summary is stuck
42	ETSI TRD3ST exercise bit is set
43	ETSI ready high error on CCI
44	ETSI ready time-out error on CCI(ETSI can't be accessed)
45	Control RAM stuck bit error

ERR,ESR,MC,MP,ICI,TN

ERROR RECOVERY ERROR SOURCE REGISTER
MAIN CONTROLLER

Explanation Of Command

This message is a main controller error recovery output message. In addition to providing information for main controller error recovery, this message may also provide information for the following:

Main Processor
Intelligent Communications Interface

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01312]

`I hh:mm:ss xy,ww  ERR [ESR] MC [,{MP|ICI}] TN dddd COMPL`

Explanation Of Parameters

MC - Main controller

MP - Main processor

ICI - Intelliget Communications interface

ESR - Error source register

The ESR is not output if the register content cannot be read.

ERR - Error recovery

TN - Transaction

dddd - Transaction number

ERR,ESR,MC,MP,TN,EVENT,COND,CI,BX,EBX

ERROR RECOVERY MC

Explanation Of Command

This message is a main controller error recovery output message reporting circuit pack alarms. It also provides information for the:

Main Processor
Communications Interface
Extended Communications Interface
Secondary Storage Controller
Bus Extender or Expanded Bus Extender Pack for MP
Maintenance Pack or Expanded Maintenance Pack

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01311]

```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ MP] TN dddd EVENT eeee  \
2 LN MSG:
abab bbbb cccc dddd eeee ffff COND cc COMPL
```

[O.01311]

```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ CI] TN dddd EVENT eeee  \
2 LN MSG:
COND cc COMPL
```

[O.01311]

```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ {BX|EBX}] TN dddd EVENT eeee  \
2 LN MSG:
abab bbbb cccc dddd eeee ffff COND cc COMPL
```

[O.01311]

```
I hh:mm:ss xy,ww   ERR[ ESR] MC[ {MTC|EMTC}] TN dddd \
EVENT eeee  2 LN MSG:
abab bbbb cccc dddd eeee ffff gggg hhhh iiii jjjj COND cc \
COMPL
```

Explanation Of Parameters

MC - Main controller

MP - Main processor

CI - Communications interface

BX - Bus extender pack for MP

MTC - Maintenance pack

EBX - Expanded bus extender pack for MP

EMTC - Expanded maintenance pack

ESR - Error source register

This keyword is not output if the register content cannot be read.

ERR - Error recovery

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

abab, bbbb, ..., jjjj
- Raw data

0 to 10 words of hexadecimal raw error data for internal use. The number of words output is dependent upon the error event. Each word consists of four hexadecimal digits.

ERR ESR MC MP data words:

abab bbbb cccc dddd eeee ffff

abab - CPU Interrupt Holding Register contents
bbbb - CPU Interrupt Mask Register contents
cccc - Version
dddd - Type
eeee - CPU RAM checksum word 1
ffff - CPU RAM checksum word 2

ERR ESR MC {BX|EBX} data words:

abab bbbb cccc dddd eeee ffff

abab - CPU Interrupt Holding Register contents
bbbb - CPU Interrupt Mask Register contents
cccc - BX/EBX Interrupt Holding Register contents
dddd - BX/EBX Interrupt Mask Register contents
eeee - BX/EBX type
ffff - BX/EBX version

ERR ESR MC {MTC|EMTC} data words:

abab bbbb cccc dddd eeee ffff gggg hhhh iiii jjjj

abab - CPU Interrupt Holding Register contents
bbbb - MTC/EMTC Error Source Register 0 contents
cccc - MTC/EMTC Error Source Register 1 contents
dddd - MTC/EMTC Error Source Register 2 contents
eeee - MTC/EMTC Error Source Register 3 contents
ffff - MTC/EMTC Error Mask Register 0 contents
gggg - MTC/EMTC Error Mask Register 1 contents
hhhh - MTC/EMTC Error Mask Register 2 contents
iiii - MTC/EMTC Error Mask Register 3 contents
jjjj - MTC/EMTC Interrupt Control/Sanity Register contents

cc - Hexadecimal condition code

cc	*Explanation*
20	BX Access Error
21	BX Ram Parity Over Low Byte
22	BX Ram Parity Over High Byte
23	Fan Bank Zero Error Flag
24	D5 Spare Bit Error
25	Fan Bank One Error Flag
26	D7 Spare Bit Error
27	BX stuck summary bit
28	Unknown interrupt from BX
29	Error from side 0 bus extension
2A	Error from side 1 bus extension
2B	Unknown interrupt from MTC
2C	MTC stuck summary bit
2D	Unused bits on MTC pack
2E	Error due to unused bit
2F	Error due unknown reasons
30	Power Failure
31	Sanity Time-out
32	BX stuck CCNI summary bit
D0	CPU RAM Parity error

ERR,ESR,NPC,SIDE,TN,EVENT,COND

ERROR RECOVERY DSPU NPC

Explanation Of Command

This message indicates an alarm was detected in a digital signal processing circuit; for example, the digital multipoint bridge.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.01371]

```
I hh:mm:ss xy,ww   ERR[ ESR] NPC [s]abc-[[t]def] SIDE s \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data bytes>[ COND cc] COMPL
```

Hierarchical

[O.01371]

```
I hh:mm:ss xy,ww   ERR[ ESR] NPC uvmnp[-uvmqr] SIDE s \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data bytes>[ COND cc] COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register content can not be read.

NPC - Network Processing Circuit

[s]abc - The 3- or 4-digit nonhierarchical odd DSPU NPC number

[t]def - The 3- or 4-digit nonhierarchical even DMB NPC number ([t]def = [s]abc + 1)

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical odd DSPU NPC numbers
uvmqr - Hierarchical even DMB NPC numbers

uv - Unit number
m - Module number
np,qr - NPC number within the module
(qr = np + 1)

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SIDE - Side

s - Side number (0 or 1)

TN - Transaction

dddd - Transaction number

The transaction number can be specified in the UTL::QRY,ERR message (I.55011) to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

error analysis data bytes
- Troubleshooting data (four-digit hexadecimal)

There can be from 0 through 10 data bytes output depending upon the circuit pack and error condition. The fields are labeled aaaa, bbbb, cccc, dddd, eeee, ffff, gggg, hhhh, iiii, and jjjj below for explanation purposes.

For the Digital Multipoint Bridge (DMB),
C-Bit Processor (CPR),
Multipoint Junction Unit (MJU), and
Subrate Multiplexer (SRM)

aaaa	DMB Interrupt Register content
bbbb	DMB Interrupt Mask Register content

For the DMB only

cccc	cme 0 reply - word 2
dddd	cme 0 reply - word 1
eeee	cme 1 reply - word 2
ffff	cme 1 reply - word 1
gggg	conf 0 reply - word 2
hhhh	conf 0 reply - word 1
iiii	conf 1 reply - word 2
jjjj	conf 1 reply - word 1

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
70	DMB access error (e.g. pack not there)
71	DMB serial access error (pack not there)
72	DMB parallel access error
73	DMB bits stuck in exercise register
74	DMB data processing error
75	Multiple data parity error, CCB problem
76	DMB clock error
77	Multiple clock errors, CCB/SYNC problem
78	DMB FIFO error
79	Possible power failure on side
7A	DMB control memory error 0 (used for trans)
7B	DMB control memory error 1 (used for trans)
7C	Control Memory 0 control ram parity error
7D	Control Memory 1 control ram parity error
7E	Control Memory 0 control interface error
7F	Control Memory 1 control interface error
80	Control Memory 0 loss of sync error

cc	*Explanation*
81	Control Memory 1 loss of sync error
82	Control Memory 0 DMB input data parity error
83	Control Memory 1 DMB input data parity error
84	DMB conference error 0 (used for trans)
85	DMB conference error 1 (used for trans)
86	Conference 0 control interface error
87	Conference 1 control interface error
88	Conference 0 control ram parity error
89	Conference 1 control ram parity error
8A	Conference 0 DMB input data parity error
8B	Conference 1 DMB input data parity error
8C	Conference 0 DMB device (chip) error
8D	Conference 1 DMB device (chip) error
8E	Bad Ram Data in DMB device (bits alarms)
8F	Bad Ram Data in DMB device (bits alarms)
98	CPR serial access error
99	CPR clock error
9A	CPR processor interface failure
9B	CPR input data interface error
9C	CPR D-Bit interface parity error
9D	CPR control memory failure
9E	CPR control memory or state machine failure
9F	CPR FIFO FRDY/FFULL stuck bit
D5	Illegal/unknown condition code
6D	Invalid FPA state

ERR,ESR,NPC,TN,EVENT,COND

ERROR RECOVERY FTU NPC

Explanation Of Command

This message indicates that an alarm was detected in a facility terminating unit Network Processing Circuit. The specific alarm type is identified by the error condition code.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.01372]

```
I hh:mm:ss xy,ww   ERR[ ESR] NPC [s]abc-[t]def TN dddd \
EVENT eeee  2 LN MSG:
<error analysis data bytes>[ COND cc] COMPL
```

Hierarchical

[O.01372]

```
I hh:mm:ss xy,ww   ERR[ ESR] NPC uvmnp-wxkqr TN dddd  \
2 LN MSG:
EVENT eeee <error analysis data bytes>[ COND cc] COMPL
```

Explanation Of Parameters

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register content cannot be read.

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number denoting beginning of range specification

[t]def - The 3- or 4-digit nonhierarchical NPC number denoting end of range specification

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number for beginning of range
wxkqr - Hierarchical NPC number for end of range

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TN - Transaction

dddd - Transaction number

The TN number can be specified in message I.55011 (in PDS, UTL::QRY,ERR or in MML, RTRV-LOG:::ERR) to retrieve the content of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The EVENT number can be specified in message I.55011 (in PDS, UTL::QRY, ERR or in MML, RTRV-LOG:::ERR) to retrieve the content of the DACS II error recovery log file which contains the data of this error recovery event.

error analysis data bytes
- Troubleshooting data

Six bytes of 4-digit hexadecimal troubleshooting data, labeled for explanatory purposes below, as aaaa, bbbb, cccc, dddd, eeee, and ffff.

aaaa - Dual digroup card (DDC) ESR0 and ESR1

The first two digits (left to right) report ESR0 and the second two digits report ESR1

bbbb - Unused
cccc - DDC hardware and channel controller
dddd - DDC transceiver A Tferr & Rserr register
eeee - DDC transceiver B Tferr & Rserr register
ffff - DDC Transceiver transmit slip

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
3D	DPC ROM error
3E	DPC loss of timing
3F	OOS RAM test ran while IS
53	NPC bus error
54	NPC can not be accessed
55	NPC is alarming on FC
56	Facility Processor Sanity Error
57	SYNC Error
58	Channel controller loss of clock
59	Channel controller frame sync error
5A	CC configuration register error
5B	CC instruction ram error

cc	*Explanation*
5C	CC parity error
5D	CC transmit data error
5E	CC receiver data error
5F	CC exercise error
60	CC summary bit error
61	Hard RAM error
62	Hard ROM check error
63	Hard Error stuck bit
64	Transceiver A stuck bit
65	Transceiver A transmit slip
66	Transceiver A Error
67	Transceiver B stuck bit
68	Transceiver B transmit slip
69	Transceiver B Error
6A	Circuit ID Error
6B	Facility errors
6C	NPC address parity error
D5	Illegal/unknown condition code

ERR,ESR,SYNC,TLI,SSP,TN,EVENT,NPC,COND

ERROR RECOVERY SYNC TLI SSP

Explanation Of Command

This message indicates that error recovery was called to handle an error that occurred in the synchronizer timing link interface sync port. The message also indicates the nature of the error.

If the port on which the error has occurred receives clock information from a dual primary card, then a network processing circuit has been added.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.01341]

```
I hh:mm:ss xy,ww   ERR[ ESR] SYNC a TLI m SSP b \
TN dddd EVENT eeee  2 LN MSG:
<synchronizer status data bytes>[ NPC [s]abc][ COND cccc] COMPL
```

Hierarchical

[O.01341]

```
I hh:mm:ss xy,ww   ERR[ ESR] SYNC a TLI m SSP b \
TN dddd EVENT eeee  2 LN MSG:
<synchronizer status data bytes>[ NPC uvmnp][ COND cccc] COMPL
```

Explanation Of Parameters

	I	Information
ERR	- Error recovery	
ESR	- Error source register	
	The ESR keyword is not output if the register contents cannot be read.	
SYNC	- Synchronizer	
a	- SYNC number (0 or 1)	
TLI	- Timing link interface	
m	- TLI number (1 through 4)	
SSP	- Synchronizer sync port	
b	- SSP number (0 or 1)	
NPC	- Network processing circuit	
[s]abc	- The 3- or 4-digit nonhierarchical NPC number	

If NPC numbers are expressed in three digits, the valid values are:

```
  PB and PC type NPC numbers listed by unit number
  Unit Type FT (FTU)

Units
  1         2

  NPC       NPC
  030     190
  032     192
  070     230
  072     232
```

If NPC numbers are expressed in four digits, the valid values are:

```
Units
  1         2
  0030      0190
  0032      0192
  0070      0230
  0072      0232
```

uvmnp - Hierarchical NPC number

```
  PB and PC type numbers listed by unit, module,
  and NPC No.
Unit Type FT (FTU)

Unit        Module    NPC No.(np)
01-02       1-2       30, 32
```

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The EVENT number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data of this error recovery event.

synchronizer status data bytes

- Synchronizer status data in binary form

From 0 to 5 bytes may be output, depending upon the synchronizer error condition. In the explanations below the bytes are named "byte 1", "byte 2, and so on. The eight bits of each byte are labeled abcdefgh and are explained below. These bytes appear in the message in numeric order from left to right with "byte 1" first.

Note that if communications between the MP and the SYNC have failed, Error Recovery may not get the correct status data from the SYNC. All bits in "synchronizer status data bytes" will then be set to 1 by default.

byte 1 - Timing link status

bit	*Explanation*
a	Timing link equipped by MC
b	Timing link declared out-of-service
c	Timing link out-of-service due to error
d	Associated Timing Extractor TLI error
efgh	Not used

byte 2 - Priority weighting of link, a number from 1 to 8

byte 3 - Framing format, line format, and frequency

bits	*Explanation*
abc	Framing format (valid only for TXB1 or TXB2 TLIs)
TXB1	
000	D4
001	ESF
010	DDS
TXB2	
000	CCS
001	ERSM
010	CAS0
011	CAS1

de	Line format (valid only for TXB1 or TXB2 TLIs)
TXB1	
00	Bipolar
01	B8ZS
TXB2	
10	AMI
11	HDB3

fgh	Frequency (TXUC TLI)
000	512 kHz
001	1.000 MHz
010	1.544 MHz
011	2.048 MHz
100	5.000 MHz

byte 4 - Mixed status

bit	*Explanation*
a	Carrier failure alarm/loss of signal (TXB1, TXB2, and TXCC)
b	Timing signal loss of energy
c	Autobaud failure
d	Frequency offset flag
e	Excessive jitter
f	Phase step
gh	Not used

byte 5 - Framing status

bit	*Explanation*
a	Out of frame
b	Major framing error rate
c	Minor framing error rate
defgh	Not used

COND - Condition

cccc - Error recovery condition code

cccc - Hexadecimal condition code

cccc	*Explanation*
E600	TL error reported, unknown
E602	Timing Extractor type TLI has hardware problem
E603	Timing Extractor type TLI has autobaud failure
E806	TLI error cleared

ERR,ESR,SYNC,TLI,TN,EVENT,COND

ERROR RECOVERY

Explanation Of Command

This message indicates that error recovery was called to handle an error that occurred in a synchronizer timing link interface, and also the nature of the error.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01342]

```
I hh:mm:ss xy,ww   ERR [ESR] SYNC a TLI m \
TN dddd EVENT eeee 2 LN MSG:
<synchronizer status data bytes> COND cccc COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register contents cannot be read.

SYNC - Synchronizer

a - Synchronizer number (0 or 1)

TLI - Timing link interface

m - TLI number (1 through 4)

TN - Transaction

dddd - Transaction number

EVENT - Event

eeee - Event number

synchronizer status data bytes
- Synchronizer status data in binary form

Three bytes of synchronizer status data are output. These bytes are named "byte1", "byte2", and "byte3" in the explanations below. They would appear on output as "byte1 byte2 byte3" in place of "synchronizer status data bytes". The eight bits in each byte are labeled abcdefgh in left to right order. These bits are set to "1" for the listed conditions:

byte1 - Overall status and configuration

bit	Condition
abcd	TLI type
0000	TXB1, 1.544 Mb/s DS1 **Extractor**
0001	TXB2, 2.048 Mb/s Primary Block **(120 OHM) Extractor**
0010	TXCC, Composite Clock **Extractor**
0011	TXUC, High Level Unipolar Clock **Extractor**
0100	TXRF, Basic System Reference Frequency
0101	TDCC, 64 kb/s Composite Clock Distributor
0110	TDS2, 2.048 MHz Sine Distributor
0111	**TXCP, CEPT 2.048 MHz Sine (120 Ohm) Extractor**
e	TLI is grown
f	TLI out-of-service
g	TLI hardware error
h	Unused bit

byte2 - Hardware status and diagnostic results

bit	Condition
a	Hardware energy detector on the time base strobe signal has failed
b	Loss of time base strobe signal coming from the DPLL
c	Hardware energy detector on the CRO signal has failed
d	Loss of reference clock signal coming from the CRO
	Note: These bits have meaning only for TDCC and TDS2 TLIs and when the SYNC is a master timing source.
e	Side 0
f	Side 1
	Note: These bits have meaning only for TE TLIs.
	For TXB1 or TXB2 TLIs: Framer chip on side 0 (e) and/or side 1 (f) has failed.
	For TXCC TLIs: Out-of-lock detector on side 0 (e) and/or side 1 (f) has failed.
g, h	Unused bits

byte3 - Hardware status and diagnostic results for timing distributor type TLI only

bit	*Condition*
a	Clock alignment detector failed diagnostic
b	Clock generator energy detector failed diagnostic
c	30 ms sync pulse energy detector failed diagnostic
d	Signal generating prom parity error detector failed diagnostic
e	Output clock alignment error
f	Loss of energy on the output clock generator ripple carry, indicating the distributed clock signals have died
g	Loss of energy on the 30 ms sync pulse coming from the DPLL board
h	Signal generating prom parity error detected

COND - Condition

cccc - Hexadecimal condition code

cccc	*Explanation*
E500	TLI error, link went down before status read
E501	TLI hardware error
E700	CRO error, unknown due to link, SYNC error
E701	CRO loss of energy detected SYNC error
E702	CRO loss of energy CRO error
E703	CRO frequency offset
E704	CRO declared OOS

ERR,ESR,SYNC,TN,EVENT,COND

ERROR RECOVERY

Explanation Of Command

This message indicates that error recovery was called to handle an error that occurred in the specified synchronizer. The message also indicates the nature of the error.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01331]

```
I hh:mm:ss xy,ww   ERR [ESR] SYNC a \
TN dddd EVENT eeee 2 LN MSG:
<byte1> <byte2> <byte3> <byte4> <byte5> COND cccc COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register contents cannot be read.

SYNC - Synchronizer

a - Synchronizer number (0 or 1)

TN - Transaction

dddd - Transaction number

EVENT - Event

eeee - Event number

byte1,
byte2,
...,
byte5 - Synchronizer status data bytes

Synchronizer status data in binary form. The number of data bytes ranges from 1 to 5, depending upon the synchronizer error type. Each byte has eight bits labeled abcdefgh in left to right order.

If main processor to synchronizer communication has failed, Error Recovery may not get the correct status data from the Synchronizer. All bits in "synchronizer status data bytes" will then be set to 1 by default.

byte1 - Synchronizer status data

bit	*Explanation*
a	MC is down flag
b	SYNC is down flag
c	Mate SYNC is OOS
d	Time Base is down
efgh	Timing link inservice status

byte2 - Timing link (SSP) inservice status

byte3 - Synchronizer status data

bit	Explanation
a	SYNC restart flag
b	Hardware summary, error on DPLL
c	PLL summary, any major cross-couple error
d	Cross-couple summary, any major cross-couple error
e	Clock Reference Oscillator summary error, any major CRO error
fgh	unused

byte4 - Synchronizer status data

bit	Explanation
ab	Synchronizer architecture

ab	Explanation
00	Slave in master-slave configuration
01	Master in master-slave configuration

cde	Operational stratum field

cde	Explanation
000	Domestic stratum 3
001	CEPT local
010	CEPT toll
011	Domestic stratum 2

fg	PLL locking mode field

fg	Explanation
00	Normal
01	Fast
10	Holdover

h	Hit timing holdover field

byte5 - Synchronizer status data

bit	Explanation
ab	Active timing link source field

ab	Explanation
00	Holdover
01	Timing link
10	Cross-couple
11	CRO

cde	Active link field

cde	Explanation
000	TLI(Timing link interface) 1, SSP0(Synchronizer sync port 0)
001	TLI 1, SSP1
010	TLI 2, SSP0
011	TLI 2, SSP1
100	TLI 3, SSP0
101	TLI 3, SSP1
110	TLI 4, SSP0
111	TLI 4, SSP1

fgh	unused

cccc - Error recovery condition code

cccc - Hexadecimal condition code

cccc	*Explanation*
E000	CCNI summary bit set; no more info
E001	Sync says its down
E002	Sync says its time base is down
E003	SYNC autonomously restarted itself
E004	MP-SYNC communications failure
E100	Unknown DPLL error
E101	ROM checksum error
E102	RAM data error, RAM address line stuck
E103	Phase/frequency output latch error
E104	Loss of energy on output of frequency synth.
E105	Loss of energy on output of phase shifter
E106	Loss of energy on generated SYNC pulse
E107	Loss of energy on time base strobe signal
E108	Interrupt controller error
E109	Interrupt holding register error
E10A	Uart error
E10B	Control data readable output latch error

cccc	*Explanation*
E200	Unknown time base error
E201	Time base loss of energy detector
E202	TB i/o err. cant read TB packid or oven monitor
E203	Time base frequency drift
E204	Both syncs time base oven is cold
E205	Time base oven is cold
E300	Unknown PLL error,link went down before reading status
E301	PLL end of range
E302	PLL excessive phase error (125 uSec out of phase)
E303	PLL real time violations
E304	PLL fast start time out
E305	PLL end of range implicating TL
E400	Unknown mate error, link went down before read status
E401	Mate out of service
E402	Mate sync hardware error
E403	Cross couple loss of energy
E404	Cross couple loss of energy
E405	Mate link down
E406	Cross couple real time violation
E407	Cross couple fast lock range
E408	Cross couple frequency offset error
E409	Cross couple out of lock

ERR,ESR,TSI,TN,EVENT,COND

ERROR RECOVERY TIME SLOT INTERCHANGE

Explanation Of Command

This error recovery message indicates that an error is occurring in the time slot interchange. This message reports an alarm on a timeme slot interchange circuit pack. The error type is contained in the error condition code.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01353]

```
I hh:mm:ss xy,ww   ERR [ESR] TSI sft \
TN dddd EVENT eeee 2 LN MSG:
<error analysis data> COND cc COMPL
```

Explanation Of Parameters

	I	Information
ERR	- Error recovery	
ESR	- Error source register	
	The ESR keyword is not output if the register contents can not be read.	
TSI	- Time slot interchanger	
sft	- TSI identifier	
	s	- Cross-connect side (0 or 1)
	f	- FROM unit (1 through 6)
	t	- TO unit (1 through 6)
TN	- Transaction	
dddd	- Transaction number	
EVENT	- Event	
eeee	- Event number	

error analysis data

- The error analysis data consists of from 2 to 10 four-digit hexadecimal fields labeled regn below. The number of fields reported depends upon the error condition. The data is used for internal troubleshooting purposes only.

For pack id errors and TSI stuck bit errors the data include the pack id and the TSI number.

regn - Device register n (n ranges from 2 through 10)

For the TSI identified by sft:

There are 16 TSI devices in a TSI circuit pack.

Each bit set in the summary status register indicates an alarming device on TSI sft.

For each alarming TSI device, the device status register is dumped in device fields <reg1> through <reg2>, one device per register. Up to four devices can dump their status register, per message. If less than four devices are alarming, the fields will have a 0000 value.

Register Bit Definitions

reg1 - TSI summary status register

bit	Definition
15	Error on TSI sft device 15
14	Error on TSI sft device 14
13	Error on TSI sft device 13
12	Error on TSI sft device 12
11	Error on TSI sft device 11
10	Error on TSI sft device 10
09	Error on TSI sft device 09
08	Error on TSI sft device 08
07	Error on TSI sft device 07
06	Error on TSI sft device 06
05	Error on TSI sft device 05
04	Error on TSI sft device 04
03	Error on TSI sft device 03
02	Error on TSI sft device 02
01	Error on TSI sft device 01
00	Error on TSI sft device 00

reg2,
reg3,
reg4,
reg5 - TSI device summary status registers 2 through 5

For up to four TSI devices indicated by reg2 through reg5, each device will be represented by a summary status register indicating the following information:

bit(s)	Definition
15	Not used
14	Not used
13	Odd parity over data bits 12 through 00
12	TSI memory diagnostic in progress
11-08	4-bit TSI ID
07	Exercise in progress
06	Not used
05	Memory error overflow
04	Failure of memory diagnostic
03	Loss of 8 MHz clock
02	Output data error
01	Control RAM parity error
00	Microprocessor bus error

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
B0	Pack id error, can't read pack
B1	TSI stuck bit, summary bit set, no devices alarming
B2	TSI device error
B3	TSI device id error, cannot read device
B4	Illegal exercise bits set
B5	Bus address error
B6	Device clock error
B7	Device control ram parity error
B8	Output data parity error (from an FTM)
B9	Corresponding CCNI bit is stuck

ERR,ESR,UNIT,DSPI,TN,EVENT,COND

ERROR RECOVERY UNIT DSPI

Explanation Of Command

This autonomous message reports that DACS II detected an alarm on the specified unit's digital signal processing interface.

Command

Not applicable.

Completion Message

[O.01365]

```
I hh:mm:ss xy,ww   ERR[ ESR] UNIT [q]q DSPI TN dddd \
EVENT eeee  2 LN MSG:
<error analysis data> COND cc COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register content cannot be read.

UNIT - Unit

[q]q - Unit number (1 through 16)

DSPI - Digital signal processing interface

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

error analysis data
- Troubleshooting data (four-digit hexadecimal)

Six words of troubleshooting data. For purposes of explanation they are here labeled and appear in the the following manner:

aaaa bbbb cccc dddd eeee ffff

Name	Explanation
aaaa	CPU Interrupt Holding Register contents
bbbb	CPU Interrupt Mask Register contents
cccc	DSPI Interrupt Capturing Register 0 contents
dddd	DSPI Interrupt Capturing Register 0 contents
eeee	DSPI Interrupt Capturing Register 1 contents
ffff	DSPI Interrupt Capturing Register 1 contents

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
6D	DSPI access error (e.g. pack not there)
6E	DSPI bus data parity error
6F	DSPI bus address parity error
D1	Source of error is unknown
D2	Source of error was not found
D3	Stuck bit in register
D5	Illegal/unknown condition code

ERR,ESR,UNIT,FC,TN,EVENT,COND

ERROR RECOVERY UNIT FC

Explanation Of Command

This autonomous message reports that DACS II has detected an alarm on a given facility terminating unit's format converter.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01364]

```
I hh:mm:ss xy,ww   ERR[ ESR] UNIT [q]q FC sb \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data> COND cc COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register contents cannot be read.

UNIT - Unit

[q]q - Unit number (1 through 16)

FC - Format converter

sb - FC identifier

s - FC side (0 or 1)

b - FC No. (1 through 4)

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

error analysis data

- troubleshooting data (four-digit hexadecimal)

Six words of troubleshooting data. For purposes of explanation they are here labeled and appear in the the following manner:

aaaa bbbb cccc dddd eeee ffff

Name	*Explanation*
aaaa	Board Level ESR0 & ESR1 content
bbbb	Board Level EMR0 & EMR1 content
cccc	RF Device ESR0 & EMR0 content
dddd	RF Device ESR1 & EMR1 content
eeee	RF Device ESR2 & EMR2 content
ffff	RF Device & TF Device Status Register content

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
4C	FC can't be accessed
4D	Timer Error
4E	Circuit ID Error
4F	Transmit Formatter Error
50	Receiver Formatter Error
51	Sanity Timer Interrupt
52	RF bus error
D5	Illegal/unknown condition code

ERR,ESR,UNIT,FTMI,TN,EVENT,COND

ERROR RECOVERY UNIT FTMI

Explanation Of Command

This autonomous message indicates that DACS II has detected an alarm on the unit's facility terminating module interface. The error type is indicated by the error condition code.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01363]

```
I hh:mm:ss xy,ww   ERR[ ESR] UNIT [q]q FTMI b \
TN dddd EVENT eeee 2 LN MSG:
<error analysis data> COND cc COMPL
```

Explanation Of Parameters

	I	Information

UNIT - Unit

[q]q - Unit number (1 through 16)

FTMI - Facility Terminating Module Interface

b - FTMI No. (1 through 4)

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

ESR - Error source register

The ESR keyword is not output if the register contents cannot be read.

ERR - Error recovery

error analysis data
- Seven words of 4-digit hexadecimal data.

The words are labeled as follows:

aaaa bbbb cccc dddd eeee ffff gggg

aaaa - Board level register contents
bbbb - CIA device ESR contents
cccc - CIB device ESR contents
dddd - CIC device ESR contents
eeee - CIA device EMR contents
ffff - CIB device EMR contents
gggg - CIC device EMR contents

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
40	Bus Error Alarm
41	CIA Device Error
42	CIB Device Error
43	CIC Device Error
44	Pack can't be accessed
45	Loss of timing alarm
46	Chip ID Comparison
47	Data Strobe Signal
48	Address Parity Error
49	FC Stuck Bit on FTMI
4A	DDC Stuck Bit on FTMI
4B	FTMI lost clock
D5	Illegal/unknown condition code

ERR,ESR,UNIT,UC,UBX,TN,EVENT,COND

ERROR RECOVERY UNIT

Explanation Of Command

This message reports that DACS II detected an alarm on a given units' unit controller or unit bus extender.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01361]

```
I hh:mm:ss xy,ww   ERR[ ESR] UNIT [q]q {UC|UBX} \
TN dddd EVENT eeee  2 LN MSG:
<error analysis data> COND cc COMPL
```

Explanation Of Parameters

I Information

ERR - Error recovery

ESR - Error source register

The ESR keyword is not output if the register contents cannot be read.

UNIT - Unit

[q]q - Unit number (1 through 16)

UC - Unit controller

UBX - Unit bus extender

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

EVENT - Event

eeee - Event number

The event number can be specified in UTL::QRY, ERR to retrieve the contents of the DACS II error recovery log file which contains the data for this error recovery event.

error analysis data
- 2 to 8 words, depending on the unit type, of four hexadecimal digits each containing troubleshooting data.

For a DS3U the words are labeled as follows:

ire0, ire1, ire2, cies, irm0, irm1, irm2, cima

ire0 - Error source register 0
ire1 - Error source register 1
ire2 - Error source register 2
cies - Communications interface error source register
irm0 - MASK register 0
irm1 - MASK register 1
irm2 - MASK register 2
cima - Communications interface MASK register

For an FTU the words are labeled as follows:

aabb eeff

aa - CPU interrupt mask register contents
bb - CPU interrupt holding register contents
ee - UBX interrupt mask register contents
ff - UBX interrupt holding register contents

For a DSPU the words are labeled as follows:

aaaa bbbb cccc dddd eeee ffff

aaaa - CPU interrupt holding register contents
bbbb - CPU interrupt mask register contents
cccc - DSPI interrupt capturing register 0 contents
dddd - DSPI interrupt mask register 0 contents
eeee - DSPI interrupt capturing register 1 contents
ffff - DSPI interrupt mask register 1 contents

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
0F	CPU internal bus error
10	CPU parallel bus parity error
11	CPU serial bus parity error
31	Sanity Time-out
D0	CPU RAM Parity error
D1	Source of error is unknown
D2	Source of error was not found
D3	Stuck bit in register
D4	Bad UBX pack
D5	Illegal/unknown condition code

ERR,HARDWARE,TN,COND,EVENT,ACTION

ERROR RECOVERY HARDWARE

Explanation Of Command

This message is printed out when applications software attempted some operation on a circuit, but that operation failed. The type of failure is indicated in the condition code. The applications software may have requested some autonomous action on the circuit and that action will be reflected with an autonomous request for removal and/or diagnostics. Additional information can be gathered by querying the error recovery log file, but this will require technical assistance for interpretation.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01392]

```
I hh:mm:ss xy,ww   ERR HARDWARE <entity> 4 LN MSG:
  TN=dddd COND=cc EVENT=xxxx ACTION=<action>
  SOURCE=<source> DP=<dp> PROC=<proc> <load>
  TSARGS=cn [<tsargs>]  COMPL
```

Explanation Of Parameters

ERR - Error recovery

HARDWARE
- Hardware

TN - Transaction

dddd - Transaction number (hexadecimal)

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

COND - Condition

EVENT - Event

xxxx - Event number

SOURCE - Source

source - Source filename

DACS II internal software filename (up to 12 characters)

DP - Decision point

dp - Decision point value

Number associated with a particular location in the software file specified in the "source" field. Value is 0- to 8-digit positive decimal number.

ACTION - Action

action - Action to be taken

(CBaction	*Explanation*
REPORT	Report only, no action
REMOVE	Remove processor from service

PROC - Process

proc - Process value

TSARGS - Trouble shooting arguments

cn - The number of trouble shooting arguments that follow (00 through 10)

tsargs - List of "count" trouble shooting arguments

load - Load number

The load number is a ten digit number of the following form:

abcdefghij

ab	software generic number
cd	software point issue number
ef	software release number
gh	year
ij	load number

entity - DACS II entity involved

entity

BTS s
CCB sf
CCI s
CCNI s s
ETSI sqq
LINK n
NPC [s]abc[-[t]def][SIDE s]
NPC uvmnp[-wxkqr][SIDE s]
SYNC s
SYNC s TLI m
TSI sft
UC [q]q
UNIT [q]q DSPI
UNIT [q]q FC sb
UNIT [q]q FTMI b
UNIT [q]q MXR n DEV devc
UNIT [q]q UBX
UNIT [q]q MIU l
UNIT [q]q FLI d
UNIT [q]q FMT k
UNIT [q]q MMFG y

cc - Hexadecimal condition code

cc	*Explanation*
E0	Hardware database mismatch
E1	Hardware Failure
E2	Hardware Boot Failed
E3	Can't access link
E4	Transmit Time-out
E5	Receiver Time-out
E6	softerr failure which forces link removal
E7	Unit could not be reset
E8	Unit failed sanity check
E9	failure to insert TCC
EA	failure to remove TCC
EB	failed to switch CCN sides
EC	NPC's facility queue overflow condition
ED	Duplex entity failed diagnostics
EE	Lost Clear-To-Send signal on X.25 links
EF	Frame Audit reboot DDC failure
F5	Packet layer parameters are mismatched between DACS II and the network
F6	Failed to write XPC register
F7	Transmit time-out because Clear To Send lost
F8	R20 counter reaches limit
F9	T3 timer expires
FA	Too many interrupts or illegal interrupt from XPC

ERR,LINK,TN,STATUS

ERROR RECOVERY

Explanation Of Command

This message reports that error recovery was called to handle an error occurring in an administrative link.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01321]

```
I hh:mm:ss xy,ww   ERR LINK a TN dddd STATUS a0 a1 a2 COMPL
```

Explanation Of Parameters

ERR - Error recovery

LINK - Link

a - Link number (1 through 7)

TN - Transaction

dddd - Transaction number

STATUS - Status

a0,
a1,
a2 - Status data

The following status data is for asynchronous links.

a0 - Message code

a0	*Explanation*
00	Link has gone protocol in-service
01	Link has gone protocol out-of-service

a1 - Link mode status

a1	*Explanation*
00	Idle
01	Input message in progress
02	Output message in progress

a2 - Link interrupt register (hexadecimal)

Bit numbering 76543210

Bit	*Explanation*
7	Received break
6	Parity error
5	Framing error
4	Overrun error
3	Transmitter empty
2	Transmitter ready
1	Receiver full
0	Receiver Ready

If bits 4, 5, and 6 are all set (equal to 1) simultaneously it indicates a transmission error.

The following status data is for synchronous links.

a0	*Explanation*
00	Session established on virtual circuit
01	Session closed on virtual circuit

a1	*Explanation*
00	always set to 00

a2 - Virtual circuit number (hexadecimal)

a2	*Virtual circuit number*
01	1
02	2
03	3
04	4
05	5
06	6
07	7
08	8
09	9
0A	10
0B	11
0C	12
0D	13
0E	14
0F	15
10	16

The following status data is for TCP/IP link.

a0	*Explanation*
00	Session established
01	Session closed

a1	*Explanation*
00	Always set to 00

a2 - Session number (hexadecimal)

a2	*Session number*
01	1
02	2
03	3
04	4
05	5
06	6
07	7
08	8
09	9
0A	10
0B	11
0C	12
0D	13
0E	14
0F	15
10	16

ERR,MSGS,TO,LOG,DISCARDED

ERROR RECOVERY

Explanation Of Command

This autonomous message reports that due to large numbers of error reports being passed through the system, not all transient error events were transferred to the disk. Logging will resume automatically when activity decreases to a manageable level.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01337]

```
I hh:mm:ss xy,ww   ERR MSGS TO LOG DISCARDED COMPL
```

Explanation Of Parameters

ERR - Error recovery

MSGS - Messages

TO - To

LOG - Log

DISCARDED
- Discarded

ERR,PMEM,SMEM,TN,EVENT,COND

REPORT MEMORY CARD ERROR

Explanation Of Command

This autonomous message reports that a hardware error has been detected on the Primary Memory Card (PMEM) or the Secondary Memory Card (SMEM). The message identifies the source of the error by displaying error and status registers. Each bit in a register corresponds to a particular type of error. A specific error exists when its corresponding bit is set to one.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01315]

I hh:mm:ss xy,ww ERR {PMEM|SMEM} TN dddd EVENT eeee COND cc COMPL

Explanation Of Parameters

ERR - Error

PMEM - Primary memory card.

SMEM - Secondary memory card.

TN - Transaction Number

dddd - Four digit (hexadecimal) transaction number

The transaction number is a unique tag used to identify a specific event that is recorded in the error recovery log. Specific events may be retrieved from the error log using message I.55011 if the user knows their transaction numbers.

EVENT - Event

eeee - Four digit (hexadecimal) event number

The event number is a unique tag used to identify a specific event that is recorded in the error recovery log. Specific events may be retrieved from the error log using message I.55011 if the user knows their event numbers.

cc - Hexadecimal condition code

cc	*Explanation*
80	Memory card cannot be accessed

ERR,PWR,PMC,PMA,DMA,MI,MN,MJ,INFO,CR

ERROR RECOVERY POWER

Explanation Of Command

This message indicates that error recovery was called by DACS II because of a power failure on the frame.

This message also indicates which power supply failed. The 4-digit hexadecimal "fields" of the error status register indicate the failed power source(s). These hexadecimal values must be decoded into their individual bits. A bit set to indicates an errored power source.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01301]

```
pa <il> hh:mm:ss xy,ww   ERR PWR [PMC|PMA|DMA|MI|MN|MJ|INFO|CR]
aaaa bbbb cccc dddd TN dddd COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC	Prompt Maintenance Action Critical
PMA	Prompt Maintenance Action Major
DMA	Deferred Maintenance Action Minor
MI	Maintenance Information

PWR - Power

ERR - Error recovery

aaaa - EMTC ESR0

aaaa is a four-digit hexadecimal number representing the sixteen bits of ESR0. Each bit of this register contains the status of an individual power source. A power source has failed if the bit corresponding to it is set to 1.

bit #	*Explanation*
15-12	Unused
11	CCN/ECCN 1 PWR failure
10	CCN/ECCN 0 PWR failure
9	SYNC 1 PWR failure
8	SYNC 0 PWR failure
7	Unit 7 PWR failure Unused if non-Capacity Expansion Frame (CEF)
6	Unused
5	Unit 6 PWR failure
4	Unit 5 PWR failure
3	Unit 4 PWR failure
2	Unit 3 PWR failure
1	Unit 2 PWR failure
0	Unit 1 PWR failure

bbbb - EMTC ESR1

bbbb is similar to aaaa above but represents the sixteen bits of ESR1.

bit #	Explanation
15-14	Unused
13	The +12 V disk and tape power unit has failed (484GA, 484GB, or 484GC)
12	The +5 V main controller power unit has failed (411AA, 411AB, or 411AC) OR the +/-12 V main controller power unit for communication links has failed (SM565, SM624, or SM565B)
11-00	Unused

cccc - EMTC ESR2 (Reserved for future use)

dddd - EMTC ESR3 (Unused if non-CEF)

dddd is similar to aaaa above but represents the sixteen bits of ESR3.

bit #	*Explanation*
15-9	Unused
8	Unit 16 PWR failure
7	Unit 15 PWR failure
6	Unit 14 PWR failure
5	Unit 13 PWR failure
4	Unit 12 PWR failure
3	Unit 11 PWR failure
2	Unit 10 PWR failure
1	Unit 9 PWR failure
0	Unit 8 PWR failure

TN - Transaction

dddd - Transaction number

The TN number can be specified by the UTL::QRY,ERR message to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

ERR,SOFTWARE,MC,ERROR,MID,TN,RC,ACTION

ERROR RECOVERY SOFTWARE

Explanation Of Command

This output message reports that an error was detected by the software in the indicated processor. The report also gives the error type, the source of the error, and the action taken.

The action taken should be sufficient to recover from the problem, in which case no craft action is necessary. Or the action taken was to isolate the problem and prevent system inconsistencies. In this case, manual action will be required to restore the appropriate entities.

NOTE:
All new or unknown occurrences of this error should be reported to the development organizations immediately.

The word "SOFTWARE", in the message text, is replaced by "MC" when the error type is "DISK" or "TAPE".

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01362]

```
I hh:mm:ss xy,ww   ERR {SOFTWARE|MC} <error type> ERROR  4 LN MSG:
MID=<mid>  TN=dddd  RC=<rc> ACTION=<action>  ENTITY=<entity>
SOURCE=<source>  DP=<dp>  PROC=<proc>
TSARGS=<tsargs>  COMPL
```

Explanation Of Parameters

ERR - Error recovery

SOFTWARE
- Software

MC - Main controller

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the content of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

error type
- Type of error

error type	*Explanation*
CHECKSUM	Text or data checksum error
COMMUNICATION	Difficulty talking to remove processes of processors
CPUDGN	CPU diagnostic failed
DATA BASE	Error in data base access
DBCHECKSUM	Data base checksum error
DISK	Trouble accessing disk
EXCESSIVE INT	Too many error recovery calls
HARDWARE	External hardware failure
JOURNAL	Trouble sending journal to disk
PROGRAM	Program error, bad internal data passed
RAMTEST	Internal RAM test failed
RECOVERY	Internal recovery error
REMOTE PROGRAM	Program error encountered on other processor local process report
TAPE	Trouble accessing tape
VMACHINE	Operating system or interface problem

ERROR - Error

SOURCE - Source

source - Internal DACS II software filename (12 characters)

DP - Decision point

dp - Decision point value (0- to 8-digit positive decimal number)

Number associated with a specific point in the file specified in the source field.

RC - Return code

rc - Return code value (0- to 8-digit positive or negative number)

Number returned by an internal function.

ACTION - Action

action - Action to be taken

action	*Explanation*
RSCOLDBT	Super Cold Boot
REPORT	Report only, no action
HWBOOT	Hardware boot (boot of processor with existing data base)
WMBOOT	Warm boot (boot of processor with disk data base)
CDBOOT	Cold boot (boot of processor programs and data base)
REMOVE	Remove processor from service
MCOND	Put frame into MCOND
PARK	Stop processor immediately

ENTITY - Entity

entity - Entity identifier

entity	*Explanation*
MP	Action on Main Processor
CI	Action on Communication Interface
MC	Action on MC
UNIT [q]q	Action on specific unit (1 through 16)
FRAME	Frame wide action

MID - Mailbox identifier

mid - Identifier

PROC - Process

proc - Process value

TSARGS - Trouble shooting arguments

tsargs - Trouble shooting arguments value

ERR,SYNC,MODE,FAST,HOLDOVER,NORMAL

ERROR RECOVERY

Explanation Of Command

This message reports that the active sync has switched to a new operating mode. Additional autonomous actions may be reported (that is, side switch) based on the state of the mate synchronizer.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01366]

```
I hh:mm:ss xy,ww   ERR SYNC a MODE {FAST|HOLDOVER|NORMAL}\
{MATE|CRO|TLI m SSP c} TN dddd  2 LN MSG:
<synchronizer status data bytes> COND cccc COMPL
```

Explanation Of Parameters

I	Information
ERR	- Error recovery
SYNC	- Synchronizer
a	- Synchronizer number (0 or 1)
MODE	- Mode New synchronizer operating mode
FAST	- Fast Synchronizer is in fast phase locked loop mode
HOLDOVER	- Holdover Synchronizer is in holdover mode, or has a timing source but has not locked to it
NORMAL	- Normal Synchronizer is normal (locked to indicated reference)
MATE	- Mate Synchronizer is receiving timing from the mate synchronizer (that is, the synchronizer is locked to cross couple)
CRO	- Clock reference oscillator CRO synchronizer is receiving timing from a CRO
TLI	- Timing link interface
m	- TLI number (1 through 4)

SSP - Sychronizer sync port

c - SSP on TLI (0 or 1)

TN - Transaction

dddd - Transaction number

cccc - Error recovery condition code

synchronizer status data bytes
- Synchronizer status information (hexadecimal)

Up to five bytes of synchronizer status data. The actual number of bytes output depends upon cccc. The bits of each byte are labeled abcdefgh in that order. The output will appear in the following order:

byte 1, byte 2, byte 3, byte 4, and byte 5.

byte 1

bit	*Explanation*
a	MC is down flag
b	SYNC is down flag
c	Mate SYNC is out-of-service
d	Time Base is down

Timing link service status. A bit set to 1 indicates in-service.

bit	*Explanation*
e	TLI1
f	TLI2
g	TLI3
h	TLI4

byte 2 - Timing link (SSP) in-service status

A bit set to 1 indicates the indicated entity is in-service

bit	*Explanation*
a	SSP 0 on TLI 1
b	SSP 1 on TLI 1
c	SSP 0 on TLI 2
d	SSP 1 on TLI 2
e	SSP 0 on TLI 3
f	SSP 1 on TLI 3
g	SSP 0 on TLI 4
h	SSP 1 on TLI 4

byte 3

bit	*Explanation*
a	SYNC restart flag
b	Hardware summary, error on DPLL
c	PLL summary, any major cross-couple error
d	Cross-couple summary, any major cross-couple error
e	CRO summary error, any major CRO error
fgh	Not used

byte 4

bit	*Explanation*
ab	Synchronizer architecture
00	Slave in master slave configuration
01	Master in master slave configuration
10	Mutual synchronization system
cde	Operational stratum field
000	Domestic stratum 3
011	Domestic stratum 2
001	CEPT Local Exchange
010	CEPT Toll Exchange
fg	PLL locking mode field
00	Normal
01	Fast
10	Holdover
h	Hit timing holdover field

byte 5

bit	*Explanation*
ab	Active timing link source field
00	Holdover
01	Timing Link
10	Cross couple
11	CRO
cde	Active link field
000	TLI 1, SSP 0
001	TLI 1, SSP 1
010	TLI 2, SSP 0
011	TLI 2, SSP 1
100	TLI 3, SSP 0
101	TLI 3, SSP 1
110	TLI 4, SSP 0
111	TLI 4, SSP 1
fgh	Not used

COND - Condition

cccc - Hexadecimal condition code

cccc	*Explanation*
EF00	Unknown what sync switched to
EF01	SYNC switched to NORMAL mode
EF02	SYNC switched to HOLDOVER
EF03	SYNC switched to FAST mode
EF04	SYNC switched TLIs/SSPs
EF05	SYNC switched to cross couple

ERR,SYNC,TLI,SSP,NPC,TN,ALM,LOS,LEN

ERROR RECOVERY

Explanation Of Command

This message reports the results of the error recovery process on the synchronizer with the alarms set.

The errors can be of the following types:

Loss of signal

Loss of energy

Excessive jitter

Phase step

Out of frame

Major framing error rate

Minor framing error rate

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.01333]

```
pa <il> hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC abc] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] {PMC|PMA|DMA|MI} SET
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

Hierarchical

[O.01333]

```
pa <il> hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC uvmnp] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] {PMC|PMA|DMA|MI} SET
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	Explanation
I	Information
*	Minor alarm
**	Major alarm
*C	Critical alarm

il Intervention Level

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

ERR - Error recovery

SYNC - Synchronizer

a - SYNC number (0 or 1)

TLI - Timing link interface

m - TLI number (1 through 4)

SSP - Synchronizer sync port

b - SSP number (0 or 1)

NPC - Network processing circuit

abc - Nonhierarchical NPC number

uvmnp - Hierarchical NPC number

- **uv** - Unit number
- **m** - Module number
- **np** - NPC number within the module

TN - Transaction

dddd - Transaction number

ALM - Alarm

LOS - Loss of signal

LEN - Loss of energy

EXJ - Excessive jitter

PHS - Phase step

OOF - Out of frame

MAJ - Major

Major framing error rate

MIN - Minor

Minor framing error rate

SET - Set

COND - Condition

cccc - Error recovery condition code

byte 1,
byte 2,
...,
byte 5 - Synchronizer status data bytes

The letters a through h used below are the names given to the individual bits in a synchronizer status data byte. The eight bits in each byte are labeled abcdefgh in left to right order.

byte 1

bit	Explanation
a	Timing link equipped by MC
b	Timing link declared out-of-service
c	Timing link out-of-service due to error
d	Associated Timing Extractor TLI error
efgh	Not used

byte 2 - Priority weighting of link, a number from 1 through 8

byte 3 - Framing format, line format, and frequency

bit	Explanation
abc	Framing format (valid only for TXB1 or TXB2 TLIs)
000	D4 (TXB1)
001	ESF (TXB1)
010	DDS (TXB1)
000	CCS (TXB2)
001	ERSM (TXB2)
010	CAS0 (TXB2)
011	CAS1 (TXB2)
de	Line format (valid only for TXB1 or TXB2 TLIs)
00	Bipolar (TXB1)
01	B8ZS (TXB1)
10	AMI (TXB2)
AA	HDB3 (TXB2)
fgh	Frequency (TXUC TLI)
000	512 kHz
001	1.000 MHz
010	1.544 MHz
011	2.048 MHz
100	5.000 MHz

byte 4 - Mixed status

bit	Explanation
a	Carrier failure alarm/loss of signal (TXB1, TXB2, and TXCC)
b	Timing signal loss of energy
c	Autobaud failure
d	Frequency offset flag
e	Excessive jitter
f	Phase step
gh	Not used

byte 5 - Framing status

bit	Explanation
a	Out of frame
b	Major framing error rate
c	Major framing error rate
defgh	Not used

cccc - Hexadecimal condition code

cccc	*Explanation*
E601	TL out of service or loss of signal
E602	Timing Extractor type TLI has hardware problem

ERR,SYNC,TLI,SSP,NPC,TN,ALM,LOS,LEN

ERROR RECOVERY, SYNCHRONIZER

Explanation Of Command

This message reports the results of the error recovery process on the synchronizer with the alarms cleared.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.01335]

```
I hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC abc] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

Hierarchical

[O.01335]

```
I hh:mm:ss xy,ww   ERR SYNC a TLI m SSP b [NPC uvmnp] \
TN dddd  3 LN MSG:
ALM[ LOS][ LEN][ EXJ][ PHS][ OOF][ MAJ][ MIN] CLR
<byte 1> <byte 2> <byte 3> <byte 4> <byte 5> COND cccc COMPL
```

Explanation Of Parameters

ERR - Error recovery

SYNC - Synchronizer

a - SYNC number (0 or 1)

TLI - Timing link interface

m - TLI number (1 through 4)

SSP - Synchronizer sync port

b - SSP number (0 or 1)

NPC - Network processing circuit

abc - Nonhierarchical NPC number

uvmnp - Hierarchical NPC number

- **uv** - Unit number
- **m** - Module number
- **np** - NPC number within the module

TN - Transaction

dddd - Transaction number

ALM - Alarm

LOS - Loss of signal

LEN - Loss of energy

EXJ - Excessive jitter

PHS - Phase step

OOF - Out of frame

MAJ - Major framing error rate

MIN - Minor framing error rate

CLR - Clear

byte 1,
byte 2,
...,
byte 5 - Synchronizer status bytes

Synchronizer status data in binary form. The number of data bytes ranges from 1 to 5, depending upon the synchronizer error type. These bytes are a coded form of the information shown in "explanation of error condition code". Each byte has eight bits labeled abcdefgh.

If Main Processor to Synchronizer communication has failed, Error Recovery may not get the correct status data from the Synchronizer. All bits in "synchronizer status data bytes" will then be set to 1 by default.

byte 1

bit	Explanation
a	Timing link equipped by MC
b	Timing link declared out-of-service
c	Timing link out-of-service due to error
d	Associated Timing Extractor TLI error
efgh	Not used

byte 2 - Priority weighting of link, a number from 1 through 8

byte 3 - Framing format, line format, and frequency

bit	Explanation
abc	Framing format (valid only for TXB1 or TXB2 TLIs)
	TXB1
000	D4
001	ESF
010	DDS
	TXB2
000	CCS
001	ERSM
010	CAS0
011	CAS1
de	Line format (valid only for TXB1 or TXB2 TLIs)
	TXB1
00	Bipolar
01	B8ZS
	TXB2
10	AMI
AA	HDB3
fgh	Frequency (TXUC TLI)
000	512 kHz
001	1.000 MHz
010	1.544 MHz
011	2.048 MHz
100	5.000 MHz

byte 4 - Mixed status

bit	Explanation
a	Carrier failure alarm/loss of signal (TXB1, TXB2, and TXCC)
b	Timing signal loss of energy
c	Autobaud failure
d	Frequency offset flag
e	Excessive jitter
f	Phase step
gh	Not used

byte 5 - Framing status

bit	Explanation
a	Out of frame
b	Major framing error rate
c	Major framing error rate
defgh	Not used

COND - Condition

cccc - Error recovery condition code

cccc - Hexadecimal condition code

cccc	*Explanation*
E805	TL error cleared

EXC,MACRO

EXECUTE MACRO

Explanation Of Command

This message requests the execution of macro **<name>**. The optional fields **p1**, **p2**, etc., specify parameters used in the macro.

To list the contents of a macro, use the **UTL QRY,LIST,MACRO** command, Message I.54131.

The **NULL** keyword may be used as a parameter.

Command

[I.39301]

```
EXC:FRM xy,SEQ ww:MACRO <macro name>[,(<p1>[,<p2>[,<p3>\
[,...[,<p10>]]]])]!
```

Completion Message

[O.39301]

```
M hh:mm:ss xy,ww n[vv] EXC MACRO <macro name>\
[ (<p1>[,<p2>[,<p3>[,...[,<p10>]]]])] COMPL
```

[O.39302]

```
M hh:mm:ss xy,ww n[vv] EXC MACRO <macro name> STOP  \
COMPL
```

[O.39303]

```
M hh:mm:ss xy,ww n[vv] EXC MACRO IN PROGRESS
```

Denial Message

[O.39301.01]

```
M hh:mm:ss xy,ww n[vv] EXC MACRO <macro name> COND cc  \
DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

p1,
p2,
p3,
...,
p10 - Macro parameter values (1 to 7 uppercase alphanumeric characters)

Within a macro a parameter is referred to by #nn. The # sign indicates a parameter reference follows and the nn indicates the position in the command line from which the parameter value will be taken. That is, if the parameter reference #03 is contained in a line within a macro then the third parameter on the EXC::MACRO command line will be substituted for each appearance of the parameter reference #03.

A maximum of 10 parameters can be specified.

MACRO - Macro

macro name
- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

STOP - Indicates that macro execution is stopped

cc - Hexadecimal condition code

cc	*Explanation*
62	File is being accessed
64	File doesn't exist/can't be accessed
68	Incorrect language/addressing mode
69	Incorrect number of parameters
D5	No user is logged in on the link/vc

FRADTS — LOGOFF

13

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13

FRADTS — LOGOFF

This section documents the commands **FRADTS** through **LOGOFF**.

FRADTS,BMCMP

FRAME AUDITS

Explanation Of Command

This completed, autonomously-generated action message from frame audits indicates that the data in Main Controller (MC) Random Access Memory (RAM) did not match the data on the PMEM PCMCIA card. A similar message may be used for mismatches between the Main Controller and individual Unit Controllers (UC) or between Main Controller and the Communications Interface (CI).

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.82003]

`I hh:mm:ss xy,ww  FRADTS BMCMP <ttt> d8 d7 d6 d5 d4 d3 d2 d1 COMPL`

Explanation Of Parameters

`ttt` - Entity name

ttt	*Explanation*
MP	Main processor
CI	Communications interface
U1-U16	Unit controller (1 through 16)

d8 - Data base file number on PMEM card

d7 - Invalid page number divided by 100 (d7 / 100)

d6 - Invalid page number modulo by 100 (d6 % 100)

If RAM page checksum is invalid, d5 = d4 = d3 = d2 = d1 = FF.

If DACS II cannot get the data base file on the PMEM card, d7 = d5 = FF.

FRADTS,DGN

FRAME AUDITS DIAGNOSTICS

Explanation Of Command

This autonomously-generated action message from frame audits indicates that an in-service diagnostic was run on the entity **ttt** for the element **eee** and the diagnostic test is complete.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.82001]

```
I hh:mm:ss xy,ww   FRADTS DGN <ttt> <eee> d0 COMPL
```

Explanation Of Parameters

ttt - Diagnosed entity name

eee - Element of diagnosed entity

ttt	*eee*	*Explanation*
CRO		Clock reference oscillator
	0smc	s - Side number (0 or 1) m - TLI number (1 through 4) c - TLR number (1 or 2)
DSPI		Digital signal processor interface
	0qqr	qq - Unit number (01 through 16) r - DSPI number (3 through 6)
FTMI		Facility terminating module interface
	0qqb	qq - Unit number (01 throuth 16) b - FTMI in the FTU (1 through 4)
NPC		Network processing circuit
	nnnn	NPC number (0001 through 2560) (Does not include NPCs equipped in DS3 or HDS3 Units)
SYNC		Synchronizer
	000s	s - Side number (0 or 1)
TLI		Timing link interface
	00sm	s - Side number (0 or 1) m - TLI number (1 through 4)
TSI		Time slot interchanger
	0sft	s - Side number (0 or 1) f - CCB number (1 through 6). FROM Unit t - TSI number (1 through 6). TO Unit

ETSI		Expanded time slot interchanger
	0sqq	s - Side number (0 or 1) qq - Unit number (01 through 16)
UFC		Format Converter
	0qqb	qq - Unit number (01 through 16) b - Format Converter number (1 through 4)
UNIT		Unit
	00qq	qq - Unit number (01 through 16)
FMT		Formatter or Hybrid Formatter
	0qqs	qq - Unit number (01 through 16) s - Side number (0 or 1)
FLI		Facility line interface
	0qqk	qq - Unit number (01 through 16) k - Identifier (k = S or P)
CCI		Clock and control interface
	000s	s - Side number (0 or 1)

d0 - Return code from the diagnostic:

d0	*Explanation*
FC	Failed diagnostic

FRADTS,FRCMP

FRAME AUDITS

Explanation Of Command

This autonomously-generated message indicates that test number **`ttt`** was run and that this frame audit found data in the incorrect state. The message also indicates that this frame audit has completed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.82002]

```
I hh:mm:ss xy,ww   FRADTS FRCMP ttt[ d9 d8 d7 d6] \
d5 d4 d3 d2 d1 d0 COMPL
```

Explanation Of Parameters

ttt - Test Number

d9-d0 - Hexadecimal values of errored data bytes
Data bytes d9 through d6 are used by some but not all tests.

ttt	*Explanation*
002	FTU FTMI status flags are inconsistent

The FTMI equipage flag in the MP data base does not match the equipage flag in the UC data base.

d0	FTMI flag from MP data base
d1	FTMI flag from UC data base
d2	Not used
d3	Not used
d4	FTMI number
d5	UNIT number

003	FTU FC status flags are inconsistent

The FC equipage flag in the MP data base does not match the equipage flag in the UC data base.

d0	FC flag from MP data base
d1	FC flag from UC data base
d2	Not used
d3	FC side
d4	FTMI number
d5	UNIT number

004	FTU FTMI left side equalization values are inconsistent

The FTMI left side equalization values in the MP data base do not match those in the UC data base.

d0	Second byte of the equalization value from MP data base
d1	First byte of the equalization value from MP data base
d2	Second byte of the equalization value from UC data base
d3	First byte of the equalization value from UC data base
d4	FTMI number
d5	UNIT number

005 FTU FTMI right side equalization values are inconsistent

The FTMI right side equalization values in the MP data base do not match those in the UC data base.

d0 Second byte of the equalization value from MP data base
d1 First byte of the equalization value from MP data base
d2 Second byte of the equalization value from UC data base
d3 First byte of the equalization value from UC data base
d4 FTMI number
d5 UNIT number

006 FTU FTMI mode flags are inconsistent

The mode of the FTMI in the MP data base does not match the mode of the FTMI in the UC data base.

d0 FTMI mode from MP data base
d1 FTMI mode from UC data base
d2 Not used
d3 Not used
d4 FTMI number
d5 UNIT number

007 Unit flags are inconsistent

The UNIT equipage flag in the MP data base does not match the UNIT equipage flag in the unit data base.

d0 UNIT flag from MP data base
d1 UNIT flag from UC data base
d2 Not used
d3 Not used
d4 Not used
d5 UNIT number

008 Unit Cross-Connect side status flag is inconsistent

The Cross-Connect side status flag in the MP data base does not match the CCN/ECCN side status flag in the unit data base.

d0 Cross-Connect side flag from MP data base
d1 Cross-Connect side flag from UNIT data base
d2 Not used
d3 Not used
d4 Cross-Connect side
d5 UNIT number

009 DS3 FMT/HFMT equipage inconsistent

FMT/HFMT equipage in the MP data base is not consistent with that of the unit data base

d0 MP equipage flag
d1 UA equipage flag
d2 Not used
d3 Not used
d4 FMT/HFMT Number
d5 Unit Number

00A DS3 MXR/HMXR equipage inconsistent

MXR/HMXR equipage in the MP data base is not consistent with that of the unit data base

d0 MP data base equipage flag
d1 UA data base equipage flag
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

00B DS3 MIU equipage inconsistent

MIU equipage in the MP data base is not consistent with that of the Unit data base

d0 MP data base equipage flag
d1 UA data base equipage flag
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

00C DS3 FLI equipage inconsistent

FLI equipage in the MP data base is not consistent with that of the Unit data base

d0 MP equipage flag
d1 UA equipage flag
d2 Not used
d3 Not used
d4 FLI Number
d5 Unit Number

00D NPC Transmit Pseudo Framing Word is out of range

The Transmit Pseudo Framing Word is out of range in the MP data base

d0 The Transmit Pseudo Framing Word of NPC from MP data base
d1 Not used
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

00E NPC Receive Pseudo Framing Word is out of range

The Receive Pseudo Framing Word is out of range in the MP data base

d0 The Receive Pseudo Framing Word of NPC from MP data base
d1 Not used
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

00F NPC AIS Alarm data are inconsistent

The AIS Alarm data of the NPC in the MP data base does not match that in the unit data base

d0 The AIS Alarm data of NPC from MP data base
d1 The AIS Alarm data of NPC from unit data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

011 FTU NPC flags are inconsistent

The FTU (or DSPU) NPC equipage flag in the MP data base does not match the FTU (or DSPU) NPC equipage flag in the Unit data base.

d0 NPC flag from MP data base
d1 NPC flag from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

012 FTU NPC insertion words are inconsistent

The FTU NPC insertion word in the MP data base does not match the FTU NPC insertion word in the UC data base.

d0 NPC insertion word from MP data base
d1 NPC insertion word from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

013 FTU NPC types are inconsistent

The type of the FTU NPC in the MP data base does not match the type of the FTU NPC in the UC data base.

d0 NPC type from MP data base
d1 NPC type from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

014 FTU NPC X option values are inconsistent

The X option of the FTU NPC in the MP data base does not match that in the UC data base.

d0 Second byte of the X option of NPC from MP data base
d1 First byte of the X option of NPC from MP data base
d2 Second byte of the X option of NPC from UC data base
d3 First byte of the X option of NPC from UC data base
d4 NPC number
d5 UNIT number

015 FTU NPC Y option values are inconsistent

The Y option of the FTU NPC in the MP data base does not match that in the UC data base.

d0 Second byte of the Y option of NPC from MP data base
d1 First byte of the Y option of NPC from MP data base
d2 Second byte of the Y option of NPC from UC data base
d3 First byte of the Y option of NPC from UC data base
d4 NPC number
d5 UNIT number

016 FTU NPC Z option values are inconsistent

The Z option of the FTU NPC in the MP data base does not match that in the UC data base.

d0 Second byte of the Z option of NPC from MP data base
d1 First byte of the Z option of NPC from MP data base
d2 Second byte of the Z option of NPC from UC data base
d3 First byte of the Z option of NPC from UC data base
d4 NPC number
d5 UNIT number

017 FTU NPC threshold values are inconsistent

The threshold value of the FTU NPC in the MP data base does not match that in the UC data base.

d0 Second byte of the threshold value of NPC from MP data base
d1 First byte of the threshold value of NPC from MP data base
d2 Second byte of the threshold value of NPC from UC data base
d3 First byte of the threshold value of NPC from UC data base
d4 NPC number
d5 UNIT number

018 FTU NPC Signaling field is inconsistent

The FTU NPC SIG field in the MP data base does not match the FTU NPC SIG field in the UC data base.

d0 NPC SIG field from MP data base
d1 NPC SIG field from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

019 FTU NPC TS0 bit value is inconsistent

The FTU NPC TS0 bits in the MP data base do not match the FTU NPC TS0 bits in the UC data base.

d0 NPC TS0 bits from MP data base
d1 NPC TS0 bits from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

01A FTU NPC loopback field is inconsistent

The FTU NPC LPBK field in the MP data base does not match the FTU NPC LPBK field in the UC data base.

d0 NPC LPBK field from MP data base
d1 NPC LPBK field from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

01B FTU NPC TS0M bit value is inconsistent

The FTU NPC TS0M bits in the MP data base do not match the FTU NPC TS0M bits in the UC data base.

d0 NPC TS0M bits from MP data base
d1 NPC TS0M bits from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

01C FTU syncmode value is inconsistent

The FTU syncmode in the MP data base does not match the FTU syncmode in the UC data base.

d0 syncmode from MP data base
d1 syncmode from UC data base
d2 Not used
d3 Not used
d4 Not used
d5 UNIT number

01D CPR channel modify activated information is inconsistent

The CPR channel modify activated information stored in UC data base does not match that stored in the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 FTU NPC number
d5 UNIT number

01E NPC Insertion AIS values are inconsistent

The Insertion AIS of the NPC in the MP data base does not match that in the unit data base

d0 The AIS Insertion of NPC from MP data base
d1 The AIS Insertion of NPC from MP data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

01F NPC alarm disable flag values are inconsistent

The alarm disable flag of the NPC in the MP data base does not match that in the unit data base

d0 Second byte of the alarm disable flag of NPC from MP data base
d1 First byte of the alarm disable flag of NPC from MP data base
d2 Second byte of the alarm disable flag of NPC from unit data base
d3 First byte of the alarm disable flag of NPC from unit data base
d4 NPC number
d5 UNIT number

021 CCN side entity flags are inconsistent

The equipage flag of the CCN side entity in the MP data base does not match that in the CCN data base.

d0 CCN side flag from MP data base
d1 CCN side flag from CCN data base
d2 Not used
d3 Not used
d4 Not used
d5 CCN side

022 CCN CCNI entity flags are inconsistent

The equipage flag of the CCN CCNI entity in the MP data base does not match that in the CCN data base.

d0 CCNI flag from MP data base
d1 CCNI flag from CCN data base
d2 Not used
d3 Not used
d4 Not used
d5 CCN side

023 CCN CCB entity flags are inconsistent

The equipage flag of the CCN CCB entity in the MP data base does not match that in the CCN data base.

d0 CCB flag from MP data base
d1 CCB flag from CCN data base
d2 Not used
d3 Not used
d4 CCB number
d5 CCN side

024 CCN TSI entity flags are inconsistent

The equipage flag of the CCN TSI entity in the MP data base does not match that in the CCN data base.

d0 CCN TSI flag from MP data base
d1 CCN TSI flag from CCN data base
d2 Not used
d3 CCB number - TO side
d4 CCB number - FROM side
d5 CCN side

025 CCN active side flags are inconsistent

The CCN active side reported by the MP data base does not match the CCN active side reported by the CCN data base.

d0 CCN active side flag MP data base
d1 CCN active side from CCN data base
d2 Not used
d3 Not used
d4 Not used
d5 Not used

026 ECCN side entity flags are inconsistent

The equipage flag of the ECCN side entity in the MP data base does not match that in the ECCN data base.

d0 ECCN side flag from MP data base
d1 ECCN side flag from ECCN data base
d2 Not used
d3 Not used
d4 Not used
d5 ECCN side

027 ECCN CCI entity flags are inconsistent

The equipage flag of the ECCN CCI entity in the MP data base does not match that in the ECCN data base.

d0 CCI flag from MP data base
d1 CCI flag from ECCN data base
d2 Not used
d3 Not used
d4 Not used
d5 ECCN side

028 ECCN ETSI entity flags are inconsistent

The equipage flag of the ECCN ETSI entity in the MP data base does not match that in the ECCN data base.

d0 ECCN ETSI flag from MP data base
d1 ECCN ETSI flag from ECCN data base
d2 Not used
d3 Not used
d4 ETSI number
d5 ECCN side

029 ECCN active side flags are inconsistent

The ECCN active side reported by the MP data base does not match the ECCN active side reported by the ECCN data base.

d0 ECCN active side flag MP data base
d1 ECCN active side from ECCN data base
d2 Not used
d3 Not used
d4 Not used
d5 Not used

02A NPC Transmit Pseudo Framing Words are inconsistent

The Transmit Pseudo Framing Word of the NPC in the MP data base does not match that in the unit data base

d0 The Transmit Pseudo Framing word of NPC from MP data base
d1 The Transmit Pseudo Framing word of NPC from unit data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

02B NPC Receive Pseudo Framing Word values are inconsistent

The Receive Pseudo Framing Word of the NPC in the MP data base does not match that in the unit data base

d0 The Receive Pseudo Framing Word of NPC from MP data base
d1 The Receive Pseudo Framing Word of NPC from unit data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

02C NPC Non Frame Word Setting values are inconsistent

The Non Frame Word Setting of the NPC in the MP data base does not match that in the unit data base

d0 Fourth byte of the Non Frame Word Setting of NPC from MP data base
d1 Third byte of the Non Frame Word Setting of NPC from MP data base
d2 Fourth byte of the Non Frame Word Setting of NPC from unit data base
d3 Third byte of the Non Frame Word Setting of NPC from unit data base
d4 NPC number
d5 UNIT number

02D NPC Transmit and Receive Pseudo Framing word values are inconsistent

The Transmit Pseudo Framing Word of a NPC does not match the Receive Pseudo Framing Word in the MP data base when one of them is set to the Non-Framing Word

d0 The Transmit Pseudo Framing Word of NPC from MP data base
d1 The Receive Pseudo Framing Word of NPC from MP data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

02E CCN and Sync are running on opposite sides

The CCN active side reported by the MP data base does not match the Sync active side reported by the frame data base.

d0 CCN active side from MP data base
d1 Sync active side from frame data base
d2 Not used
d3 Not used
d4 Not used
d5 Not used

02F ECCN and Sync are running on opposite sides

The ECCN active side reported by the MP data base does not match the Sync active side reported by the frame data base.

d0 ECCN active side from MP data base
d1 Sync active side from frame data base
d2 Not used
d3 Not used
d4 Not used
d5 Not used

032 DSPI entity flags are inconsistent

The equipage flag of the DSPI entity in the MP data base does not match that in the DSPU data base.

d0 DSPI flag from MP data base
d1 DSPI flag from UD data base
d2 Not used
d3 Not used
d4 Not used
d5 Unit number

033 HUB-ID value in data bases is inconsistent

The HUB-ID is inconsistent between the MP data base and the UD data base.

d0 HUB-ID value from MP data base
d1 HUB-ID value from UD data base
d2 Not used
d3 Not used
d4 Not used
d5 Unit number

034 NPC connected to a time slot is inconsistent

The NPC connected to a time slot in the MP data base does not match with the UD data base.

d0 The connected NPC number from MP data base
d1 The connected NPC number from UD data base
d2 Not used
d3 The time slot number
d4 The NPC number
d5 Unit number

035 Function block for a time slot is inconsistent

The function block connected to a time slot in the MP data base does not match with the UD data base.

d0 The connected function block number from MP data base
d1 The connected function block number from UD data base
d2 Not used
d3 The time slot number
d4 The NPC number
d5 Unit number

036 SRM customer number or MJU branch number is inconsistent

The SRM customer number or MJU branch number in the MP data base does not match with the UD data base.

d0 The SRM customer number or MJU branch number from MP data base
d1 The SRM customer number or MJU branch number from UD data base
d2 Not used
d3 The SRM number or the MJU number
d4 The NPC number
d5 Unit number

037 Time slot rate is inconsistent

The time slot rate in the MP data base does not match with that of the UD data base.

d0 The time slot rate from MP data base
d1 The time slot rate from UD data base
d2 Not used
d3 The time slot number
d4 The NPC number
d5 Unit number

038 Time slot functional usage is inconsistent

The functional usage in the MP data base does not match with that of the UD data base.

d0 the functional usage from MP data base
d1 the functional usage from UD data base
d2 Not used
d3 The time slot number
d4 The NPC number
d5 Unit number

039 SRDC unexpected errors

An unexpected error was encountered during Subrate Circuit audits.

d0 The Unit where the error is found
d1 Not used
d2 Not used
d3 Not used
d4 Not used
d5 Not used

03B DS3 FLI LBO data base inconsistent

FLI/Line Build Out in the MP data base is not consistent with that of the Unit data base

d0 MP lbo
d1 UA lbo
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

03C DS3 MXR/HMXR data base flag inconsistent

MXR/HMXR data base flag in the MP data base is not consistent with that of the Unit data base

d0 MP data base flag
d1 UA data base flag
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

03D DS3 MXR/HMXR data base type inconsistent

MXR/HMXR type in the MP data base is not consistent with that of the Unit data base

d0 MP data base type
d1 UA data base type
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

03E DS3 MXR/HMXR data base xoption inconsistent

MXR/HMXR 'x' option in the MP data base is not consistent with that of the Unit data base

d0 MP data base xoption
d1 UA data base xoption
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

03F DS3 MXR/HMXR data base yoption inconsistent

MXR/HMXR 'y' option in the MP data base is not consistent with that of the Unit data base

d0 MP data base yoption
d1 UA data base yoption
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

040 DS3 MXR/HMXR data base zoption inconsistent

MXR/HMXR 'z' option in the MP data base is not consistent with that of the Unit data base

d0 MP data base zoption
d1 UA data base zoption
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

041 DS3 MXR/HMXR data base BER threshold inconsistent

MXR/HMXR 'BER' threshold in the MP data base is not consistent with that of the Unit data base

d0 MP data base ber threshold
d1 UA data base ber threshold
d2 Not used
d3 Not used
d4 Unit Number
d5 MXR/HMXR Number

042 DS3 MXR/HMXR data base BER type inconsistent

MXR/HMXR 'BER' type in the MP data base is not consistent with that of the Unit data base

d0 MP data base ber type
d1 UA data base ber type
d2 Not used
d3 Not used
d4 Unit Number
d5 MXR/HMXR Number

043 DS3 MIU data base flag inconsistent

MIU data base flag in the MP data base is not consistent with that of the Unit data base

d0 MP data base flag
d1 UA data base flag
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

044 DS3 MIU data base type inconsistent

MIU data base type in the MP data base is not consistent with that of the Unit data base

d0 MP data base type
d1 UA data base type
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

045 DS3 MIU data base xoption inconsistent

MIU 'x' option in the MP data base is not consistent with that of the Unit data base

d0 MP data base xoption
d1 UA data base xoption
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

046 DS3 MIU data base yoption inconsistent

MIU 'y' option in the MP data base is not consistent with that of the Unit data base

d0 MP data base yoption
d1 UA data base yoption
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

047 DS3 MIU data base zoption inconsistent

MIU 'z' option in the MP data base is not consistent with that of the Unit data base

d0 MP data base zoption
d1 UA data base zoption
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

048 MMFG data base inhibit flag inconsistent

MMFG inhibit status in the MP data base is not consistent with that of the Unit data base

d0 Protection switch data base flag
d1 UA data base flag
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

049 MMFG data base protection status inconsistent

MMFG protected status in the MP data base is not consistent with that of the Unit data base

d0 Protection switch data base status
d1 UA data base status
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

04A MMFG data base protection index inconsistent

MMFG protected index in the MP data base is not consistent with that of the Unit data base

d0 Protection switch data base index
d1 UA data base index
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

04B MMFG data base protection mode inconsistent

MMFG protected mode in the MP data base is not consistent with that of the Unit data base

d0 Protection switch data base mode
d1 UA data base mode
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

04C MMFG data base service status of MXR P/HMXR P inconsistent

MXR-P/HMXR-P service status in the MP data base is not consistent with that of the Unit data base

d0 Protection switch data base status
d1 UA data base status
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

04D MMFG data base service status of MIU P inconsistent

MIU-P service status in the MP data base is not consistent with that of the Unit data base

d0 Protection switch data base status
d1 UA data base status
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

050 Time slot partner is inconsistent

The time slot's partner time slot in the MP data base does not match with that of the UC data base.

d0 The partner time slot from MP data base
d1 The partner time slot from UC data base
d2 Not used
d3 The time slot number
d4 The NPC number
d5 Unit number

052 Time slot TLA state is inconsistent

The time slot's TLA state in the MP data base does not match with that of the UC data base.

d0 The TLA state from MP data base
d1 The TLA state from UC data base
d2 Not used
d3 The time slot number
d4 The NPC number
d5 Unit number

055 RTs external number is inconsistent

An RTs external number in the MP data base does not match with that of the UC data base.

d0 Left byte of the RT external number in MP data base
d1 Right byte of the RT external number in MP data base
d2 Left byte of the RT external number in UC data base
d3 Right byte of the RT external number in UC data base
d4 Not used
d5 The Unit of the RT

056 RTs digroup NPC number is inconsistent

An RTs digroup NPC number in the MP data base does not match with that of the UC data base (d3=2); An RTs digroup NPC number does not match with the associated DCLUs both in the MP data base (d3=1)

d0 The RT digroup NPC number in MP data base
d1 The RT digroup NPC number in UC data base
d2 Index of the digroup (1,2,3,4,5 for DGA,DGB,DGC,DGD,DGP respectively)
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

057 RTs index of protected digroup is inconsistent

An RTs index of protected digroup in the MP data base does not match with that of the UC data base

d0 The RT index of protected digroup in MP data base
d1 The RT index of protected digroup in UC data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

058 RTs Zoption is inconsistent

An RTs Zoption in the MP data base does not match with that of the UC data base

d0 The RT Zoption in MP data base
d1 The RT Zoption in UC data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

059 RTs inhibit state is inconsistent

An RTs inhibit state in the MP data base does not match with that of the UC data base

d0 The RT inhibit state in MP data base
d1 The RT inhibit state in UC data base
d2 Index of the digroup
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

05A SLC® carrier unexpected errors

An unexpected error is encountered during SLC carrier RT audits.

d0 The Unit where the error is found
d1 Not used
d2 Not used
d3 Not used
d4 Not used
d5 Not used

05B This entity is expected to be inservice and equipped

This entity (indicated in d0) is expected to be inservice and equipped.

d0 1-frame; 2-Unit; 3-channel; 4-time slot;
d1 The time slot number if applicable
d2 the channel number if applicable
d3 The NPC number if applicable
d4 Unit number if applicable
d5 Not used

05C Data base is inconsistent with the configuration file

Data in the MP data base do not agree with those in the configuration file.

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 Not used
d5 Not used

060 RTs loopback state is inconsistent

An RTs loopback state in the MP data base does not match with that of the UC data base

d0 The RT loopback state in MP data base
d1 The RT loopback state in UC data base
d2 Index of the digroup
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

061 RTs protection status is inconsistent

An RTs protection status in the MP data base does not match with that of the UC data base

d0 The RT protection status in MP data base
d1 The RT protection status in UC data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

062 RTs data link status is inconsistent

An RTs data link status in the MP data base does not match with that of the UC data base

d0 The RT data link in MP data base
d1 The RT data link in UC data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

063 RTs alarm class is inconsistent

An RTs alarm class in the MP data base does not match with that of the UC data base

d0 The RT alarm class in MP data base
d1 The RT alarm class in UC data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

064 RTs SLC carrier mode is inconsistent

An RTs SLC carrier mode in the MP data base does not match with that of the UC data base

d0 The RT SLC carrier mode in MP data base
d1 The RT SLC carrier mode in UC data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

065 Can not find an RT internal number for the associate DCLU of an RT.

Given an RT with SLC 96 carrier mode I or SLC series 5 carrier feature package B, it may have a DCLU with the external number being 10000 greater. But that external number cannot be retrieved from the MP data base.

d0 Right byte of the DCLUs external number in MP data base
d1 Left byte of the DCLUs external number in MP data base
d2 Right byte of the RTs external number in MP data base
d3 Left byte of the RTs external number in MP data base
d4 The RT internal number
d5 The Unit of the RT

066 Cannot find the associate DCLU of an RT.

Given an RT with SLC 96 carrier mode I or SLC series 5 carrier feature package B, it may have a DCLU with the external number being 10000 greater. But such DCLU is not found from the RT list in the MP data base.

d0 Right byte of the DCLUs external number
d1 Left byte of the DCLUs external number
d2 Not used
d3 Not used
d4 The DCLU internal number
d5 The Unit of the RT

069 Invalid internal MJU number or internal NPC number

An NPC indicates there is an MJU allocated to it, after the MJU query returns a different internal MJU number or that MJU is marked to allocate to another NPC.

d0 the MJU number
d1 The NPC number
d2 the UNIT number
d3 the MJU internal number from the query
d4 the internal NPC number from the query
d5 Not used

070 Inconsistent mapping between a facility channel and a time slot.

A channel is connected to a time slot but the time slot does not connect the channel in the MP data base.

d0 the channel number
d1 The NPC number
d2 the UNIT number
d3 The time slot
d4 The time slot NPC
d5 The time slot Unit

071 Inconsistent time slot mapping between a facility channel and a MVEC.

An MVEC is expected to connect to a facility channel but the MP data base shows the channel does not connect to the MVEC.

d0 the channel number
d1 The NPC number
d2 the UNIT number
d3 the MVEC time slot
d4 the MVEC NPC
d5 MVEC Unit

072 Inconsistent time slot mapping a channel to a PCHEC.

A PCHEC is expected to connect to a facility channel but the MP data base shows the channel does not connect to the PCHEC.

d0 the channel number
d1 The NPC number
d2 the UNIT number
d3 the PCHEC time slot
d4 the PCHEC NPC
d5 the PCHEC Unit

073 Inconsistent time slot mapping a channel to a PCHECs parity leg.

A PCHEC parity leg is expected to connect to a facility channel but the MP data base shows the channel does not connect to the leg.

d0 the channel number
d1 The NPC number
d2 the UNIT number
d3 the PCHEC time slot
d4 the PCHEC NPC
d5 the PCHEC Unit

074 Inconsistent time slot mapping a channel to a PCHECs data leg

A PCHEC data leg is expected to connect to a facility channel but the MP data base shows the channel does not connect to the leg.

d0 the channel number
d1 The NPC number
d2 the UNIT number
d3 the PCHEC time slot
d4 the PCHEC NPC
d5 the PCHEC Unit

076 Invalid time slot assignment to an MJU's master leg.

An MJU's master leg is expected to connect a time slot but the MP data base shows that the time slot does not connect to the master leg.

d0 the MJU number
d1 The NPC number
d2 the UNIT number
d3 the MJU master leg index
d4 Not used
d5 Not used

077 Invalid time slot assignment to an MJU's branch leg.

An MJU's branch leg is expected to connect a time slot but the MP data base shows that the time slot does not connect to the branch leg.

d0 the MJU number
d1 The NPC number
d2 the UNIT number
d3 the MJU branch leg
d4 Not used
d5 Not used

078 Inconsistent time slot mapping a channel to a PCHECs customer leg.

A PCHEC customer leg is expected to connect to a facility channel but the MP data base shows the channel does not connect to the leg.

d0 the channel number
d1 The NPC number
d2 the UNIT number
d3 the PCHEC time slot
d4 the PCHEC NPC
d5 the PCHEC Unit

079 Cascaded MJUs do not have same rate.

An MJU is cascaded with MJU b, their rate must be the same.

d0 the MJU b number
d1 The NPC number of MJU b
d2 the UNIT number of MJU b
d3 the MJU a number
d4 The NPC number of MJU a
d5 the UNIT number of MJU a

080 SRM rate is invalid

An SRM rate is invalid.

d0 The SRM number
d1 The NPC number of SRM
d2 the UNIT number of SRM
d3 Not used
d4 Not used
d5 Not used

081 Invalid time slot assignment to an SRMs leg.

An SRMs branch leg is expected to connect a time slot but the MP data base shows that the time slot does not connect to the branch leg.

d0 The SRM number
d1 The NPC number
d2 the UNIT number
d3 Index of SRM leg
d4 Not used
d5 Not used

084 A DS0A channel does not connect to an EC.

A DS0A channel is expected to connect to an error corrector through a time slot but the MP data base shows that the time slot does not connect to an error corrector.

d0 the DS0A channel number
d1 The NPC number of the channel
d2 the UNIT number of the channel
d3 The ECs time slot
d4 The ECs NPC number
d5 The ECs Unit number

086 RTs external number is inconsistent with DCLU

An RTs external number in the MP data base does not match with that of the DCLU in the MP data base.

d0 Left byte of the RT external number in MP data base
d1 Right byte of the RT external number in MP data base
d2 Left byte of the DCLU external number in MP data base
d3 Right byte of the DCLU external number in MP data base
d4 Not used
d5 The Unit of the RT

089 RTs Zoption is inconsistent with DCLU Zoption

An RTs Zoption in the MP data base does not match with that of the DCLU in the MP data base

d0 The RT Zoption in MP data base
d1 The DCLU Zoption in MP data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

090 RTs inhibit state is inconsistent with DCLU

An RTs inhibit state in the MP data base does not match with that of the DCLU in the MP data base

d0 The RT inhibit state in MP data base
d1 The DCLU inhibit state in MP data base
d2 Index of the digroup
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

091 RTs loopback state is inconsistent with DCLU

An RTs loopback state in the MP data base does not match with that of the DCLU in the MP data base

d0 The RT loopback state in MP data base
d1 The DCLU loopback state in MP data base
d2 Index of the digroup
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

093 RTs data link status is inconsistent with DCLU

An RTs data link status in the MP data base does not match with that of the DCLU in the MP data base

d0 The RT data link in MP data base
d1 The DCLU data link in MP data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

095 RTs SLC carrier mode is inconsistent with DCLU

An RTs SLC carrier mode in the MP data base does not match with that of the DCLU in the MP data base

d0 The RT SLC carrier mode in MP data base
d1 The DCLU SLC carrier mode in MP data base
d2 Not used
d3 Not used
d4 The RT internal number
d5 The Unit of the RT

102 MP two-way two-point connection types are inconsistent

The two-way two-point connection types in the MP data base do not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

103 MP two-way two-point connection data are inconsistent

The two-way two-point connection data in the MP data base do not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

104 UC two-way two-point connection data are inconsistent

The two-way two-point connection channel data in the UC data base do not match that from MP data base.

d0 TCC audit result - equal 1 if inconsistency detected
d1 Flag audit result - equal 1 if inconsistency detected
d2 Connected NPC audit result - equal 1 if inconsistency detected
d3 Channel number
d4 NPC number
d5 UNIT number

105 CCN two-way two-point connection map error detected

The two-way two-point connection TSI map in the CCN does not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

106 ECCN two-way two-point connection map error detected

The two-way two-point connection ETSI map in the ECCN does not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

112 MP one-way two-point connection types are inconsistent

The one-way two-point connection types in the MP data base do not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

113 MP one-way two-point connection data are inconsistent

The one-way two-point connection data in the MP data base does not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

114 UC one-way two-point connection data are inconsistent

The one-way two-point connection channel data in the UC data base do not match that MP data base.

d0 TCC audit result - equal 1 if inconsistency detected
d1 Flag audit result - equal 1 if inconsistency detected
d2 Connected NPC audit result - equal 1 if inconsistency detected
d3 Channel number
d4 NPC number
d5 UNIT number

115 CCN one-way two-point connection map error detected

The one-way two-point connection TSI map in the CCN does not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

116 CCN unmapped connection error detected

The TSI map shows that there is a connection map to an NPC and channel in CCN data base while the NPC and channel are marked as unmapped in MP data base.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 Unit number of the TO side
d3 Not used
d4 Not used
d5 Not used

121 UC virtual conference leg channel alternate message store (AMS) value is inconsistent

The virtual conference leg channel AMS data in the UC data base does not match the TCC value in the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 NPC number
d5 UNIT number

122 UC virtual conference leg channel connected NPC is inconsistent

The connected NPC of the virtual conference leg channel in the UC data base does not match the BBL NPC number from the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 NPC number
d5 UNIT number

123 UC virtual conference leg channel flag is inconsistent

The virtual conference leg channel flag in the UC data base does not match the flag from the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 NPC number
d5 UNIT number

125 CCN virtual conference leg channel connection map error detected

The two-point connection TSI map in the CCN does not match between the BBL channel and the leg channel.

d0 Channel number of the BRD leg
d1 NPC number of the BRD leg
d2 UNIT number of the BRD leg
d3 Channel number of the BBL leg
d4 NPC number of the BBL leg
d5 UNIT number of the BBL leg

126 ECCN virtual conference leg channel connection map error detected

The two-point connection ETSI map in the ECCN does not match between the BBL channel and the leg channel.

d0 Channel number of the BRD leg
d1 NPC number of the BRD leg
d2 UNIT number of the BRD leg
d3 Channel number of the BBL leg
d4 NPC number of the BBL leg
d5 UNIT number of the BBL leg

127 ECCN one-way two-point connection map error detected

The one-way two-point connection ETSI map in the ECCN does not match between two sides.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

128 ECCN unmapped connection error detected

The ETSI map shows that there is a connection map to an NPC and channel in ECCN data base while they are marked as unmapped in MP data base.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 Unit number of the TO side
d3 Not used
d4 Not used
d5 Not used

131 UC BCON leg channel alternate message store (AMS) value is inconsistent

The BCON leg channel AMS data in the UC data base does not match the TCC value from the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 NPC number
d5 UNIT number

132 UC BCON leg channel connected NPC is inconsistent

The connected NPC of the BCON leg channel in the UC data base does not match the BBL NPC number from the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 NPC number
d5 UNIT number

133 UC BCON leg channel flag is inconsistent

The BCON leg channel flag in the UC data base does not match the flag from the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 NPC number
d5 UNIT number

135 CCN BCON leg channel connection map error detected

The two-point connection TSI map in the CCN does not match between the BBL channel and the leg channel.

d0 Channel number of the BRD leg
d1 NPC number of the BRD leg
d2 UNIT number of the BRD leg
d3 Channel number of the BBL leg
d4 NPC number of the BBL leg
d5 UNIT number of the BBL leg

136 ECCN BCON leg channel connection map error detected

The two-point connection ETSI map in the ECCN does not match between the BBL channel and the leg channel.

d0 Channel number of the BRD leg
d1 NPC number of the BRD leg
d2 UNIT number of the BRD leg
d3 Channel number of the BBL leg
d4 NPC number of the BBL leg
d5 UNIT number of the BBL leg

150 UC DMB conference leg channel connected NPC is inconsistent

The connected NPC of the DMB conference leg channel in the UC data base does not match that from MP data base.

d0 Channel flag in the UC data base
d1 Connected NPC number
d2 Connected Unit number
d3 Channel number
d4 NPC number
d5 UNIT number

151 UC DMB conference leg channel alternate message store (AMS) value is inconsistent

The DMB conference leg channel AMS data in the UC data base does not match the TCC value from the MP data base.

d0 Channel flag in the UC data base
d1 Connected NPC number
d2 Connected Unit number
d3 Channel number
d4 NPC number
d5 UNIT number

152 UC DMB conference leg channel flag is inconsistent

The DMB conference leg channel flag in the UC data base does not match the flag from the MP data base.

d0 Channel flag in the UC data base
d1 Connected NPC number
d2 Connected Unit number
d3 Channel number
d4 NPC number
d5 UNIT number

154 CCN one-way DMB conference connection map error detected

The one-way DMB conference connection TSI map in the CCN does not match between two legs.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

155 CCN two-way DMB conference connection map error detected

The two-way DMB conference connection TSI map in the CCN does not match between two legs.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

156 ECCN one-way DMB conference connection map error detected

The one-way DMB conference connection ETSI map in the ECCN does not match between two legs.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

157 ECCN two-way DMB conference connection map error detected

The two-way DMB conference connection ETSI map in the ECCN does not match between two legs.

d0 Channel number of the TO side
d1 NPC number of the TO side
d2 UNIT number of the TO side
d3 Channel number of the FROM side
d4 NPC number of the FROM side
d5 UNIT number of the FROM side

160 UD DMB conference leg is inconsistent

The DMB conference number of the leg channel in the UD data base does not match the number from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg stored in the UD data base
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

161 UD DMB conference leg channel connected NPC is inconsistent

The connected NPC of the DMB conference leg channel in the UD data base does not match the NPC number from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

162 UD DMB conference leg connected conference is inconsistent

The connected conference number of the DMB conference leg channel in the UD data base does not match the number from the MP data base.

d0 Connected NPC number of the leg from UD data base
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

163 UD DMB conference leg type is inconsistent

The type of the DMB conference leg channel in the UD data base does not match the type from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

164 UD DMB channel tlpin value is inconsistent

The value of transmit level into bridge of the DMB conference leg channel from UD data base does not match that from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

165 UD DMB channel tlpout value is inconsistent

The value of transmit level out of bridge of the DMB conference leg channel from UD data base does not match that from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

166 UD DMB channel noise guard value is inconsistent

The value of noise guard of the DMB conference leg channel from UD data base does not match that from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

167 UD DMB channel echo suppression value is inconsistent

The value of echo suppression of the DMB conference leg channel from UD data base does not match that from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

168 UD DMB channel NTR state is inconsistent

The current NTR state of the DMB conference leg from UD data base does not match that from the MP data base.

d0 Connected NPC number of the leg
d1 Connected UC Unit number of the leg
d2 Conference number of the leg
d3 Channel number of the leg
d4 DMB NPC number of the leg
d5 UNIT number

171 DSPU CPR channel modify activated/monitor enabled information is inconsistent

The CPR channel modify activated/monitor enabled information stored in UD data base does not match that stored in the MP data base.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 CPR NPC number
d5 UNIT number

172 DSPU CPR channel modify activated/monitor enabled information is inconsistent

The CPR channel modify activated/monitor enabled information stored in UD data base does not match that stored in the CPR hardware.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 CPR NPC number
d5 UNIT number

173 DSPU CPR liaison C-Bit modify pattern information is inconsistent

The CPR liaison C-Bit modify pattern information stored in UD data base does not match that stored in the CPR hardware.

d0 Not used
d1 Not used
d2 Not used
d3 Channel number
d4 CPR NPC number
d5 UNIT number

174 DSPU CPR pack type is inconsistent

The CPR pack type stored in UD data base does not match with the CPR pack.

d0 Type on UDDB
d1 CPR pack type
d2 Not used
d3 Channel number
d4 CPR NPC number
d5 UNIT number

205 FTU FTMI hardware not in service

The FTU FTMI hardware status is not in service but the equipage flag in the UC data base is in service.

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 FTMI number
d5 UNIT number

207 FTU FC hardware not in service

The FTU FC hardware status is not in service but the equipage flag in the UC data base is in service.

d0 Not used
d1 Not used
d2 Not used
d3 FC side
d4 FTMI number
d5 UNIT number

208 NPC hardware not in service

The Unit NPC hardware status is not in service but the equipage flag in the UC data base is in service.

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

209 UC NPC type not match with hardware

The Unit NPC type in the UC data base does not match with that indicated in the hardware.

d0 NPC type in hardware
d1 NPC type in data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

210 FTU FC hardware mode is inconsistent

The FTU FC hardware mode status does not match the FC mode stored in the UC data base.

d0 Not used
d1 FC hardware mode
d2 FC mode in the UC data base
d3 FC side
d4 FTMI number
d5 UNIT number

211 FTU or DS3U/HDS3U NPC channel alternate message store (AMS) value is inconsistent

The FTU or DS3U/HDS3U NPC channel AMS value stored in the unit data base does not match the AMS value from the DDC hardware.

d0 Not used
d1 Not used
d2 Side
d3 Channel number
d4 NPC number
d5 UNIT number

215 DPC NPC TS0M value is inconsistent

The TS0M value stored in UC data base does not match that stored in the DPC hardware.

d0 NPC TS0M bits from DPC hardware
d1 NPC TS0M bits from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

216 DPC NPC loopback value is inconsistent

The LPBK value stored in UC data base does not match that stored in the DPC hardware.

d0 NPC LPBK bits from DPC hardware
d1 NPC LPBK bits from UC data base
d2 Not used
d3 Not used
d4 NPC number
d5 UNIT number

217 FTU and DS3U/HDS3U NPC pgfbits in the channel are inconsistent

The pgfbits in the data base do not match the pgfbits stored in the transceiver loopback parity channel hardware. The F and G bits determine the signaling type (16-state, 4-state or transparent).
This comparison is only done on domestic NPCs on the RECEIVE side.

d0 Data base F and G bits
d1 Transceiver Hardware F and G bits
d2 CHANNEL side : (Receive side)
d3 CHANNEL number
d4 NPC number
d5 UNIT number

218 FTU NPC Channel AIS flag is inconsistent.

The AIS flag set in the DDC Digital Signal Interface (DSI) hardware register does not match with the associated flag saved in the UC data base.

d0 AIS flag in the DSI register
d1 AIS flag in the UC data base
d2 Not used
d3 Channel side
d4 NPC number
d5 Unit number

220 FTU and DS3U/HDS3U NPC COFAMAJ threshold value is inconsistent

The Change Of Frame Alignment Major value of the FTU NPC threshold value stored in the FTU Unit data base does not match that stored in the DDC hardware.

d0 Second byte of the cofamaj value from DDC hardware
d1 First byte of the cofamaj value from DDC hardware
d2 Second byte of the cofamaj value from UC data base
d3 First byte of the cofamaj value from UC data base
d4 NPC number
d5 UNIT number

221 FTU and DS3U/HDS3U NPC COFAMIN threshold value is inconsistent

The Change Of Frame Alignment Minor value of the FTU NPC NPC threshold value stored in the FTU data base does not match that stored in the DDC hardware.

d0 Second byte of the cofamin value from DDC hardware
d1 First byte of the cofamin value from DDC hardware
d2 Second byte of the cofamin value from UC data base
d3 First byte of the cofamin value from UC data base
d4 NPC number
d5 UNIT number

222 FTU NPC SLIPMAJ threshold value is inconsistent

The Slip Major value stored in the UC data base does not match that stored in the DDC hardware

d0 Second byte of the slipmaj value from DDC hardware
d1 First byte of the slipmaj value from DDC hardware
d2 Second byte of the slipmaj value from UC data base
d3 First byte of the slipmaj value from UC data base
d4 NPC number
d5 UNIT number

223 FTU and DS3U/HDS3U NPC SLIPMIN threshold value is inconsistent

The Slip Minor threshold value stored in the UC data base does not match that stored in the DDC hardware

d0 Second byte of the slipmin value from DDC hardware
d1 First byte of the slipmin value from DDC hardware
d2 Second byte of the slipmin value from UC data base
d3 First byte of the slipmin value from UC data base
d4 NPC number
d5 UNIT number

224 FTU and DS3U/HDS3U NPC SES threshold value is inconsistent

The Severe Errored Seconds value stored in the UC data base does not match that stored in the DDC hardware.

d0 Second byte of the ses value from DDC hardware
d1 First byte of the ses value from DDC hardware
d2 Second byte of the ses value from UC data base
d3 First byte of the ses value from UC data base
d4 NPC number
d5 UNIT number

225 FTU and DS3U/HDS3U NPC ES threshold value is inconsistent

The Errored Seconds value stored in the UC data base does not match that stored in the DDC hardware.

d0 Second byte of the es value from DDC hardware
d1 First byte of the es value from DDC hardware
d2 Second byte of the es value from UC data base
d3 First byte of the es value from UC data base
d4 NPC number
d5 UNIT number

226 FTU and DS3U/HDS3U NPC BERMAJ threshold value is inconsistent

The Bit Error Rate Major value stored in the UC data base does not match that stored in the DDC hardware.

d0 Second byte of the bermaj value from DDC hardware
d1 First byte of the bermaj value from DDC hardware
d2 Second byte of the bermaj value from UC data base
d3 First byte of the bermaj value from UC data base
d4 NPC number
d5 UNIT number

227 FTU and DS3U/HDS3U NPC BERMIN threshold value is inconsistent

The Bit Error Rate Minor value stored in the UC data base does not match that stored in the DDC hardware.

d0 Second byte of the bermin value from DDC hardware
d1 First byte of the bermin value from DDC hardware
d2 Second byte of the bermin value from UC data base
d3 First byte of the bermin value from UC data base
d4 NPC number
d5 UNIT number

228 NPC (DIU/DPC) Error Seconds 15 min. threshold value is inconsistent

The Error Seconds 15 min. (ERS15) threshold value stored in UC data base does not match that stored in the NPC hardware.

d0 Second byte of the ERS15 value of the NPC from hardware
d1 First byte of the ERS15 value of the NPC from hardware
d2 Second byte of the ERS15 value of the NPC from UC data base
d3 First byte of the ERS15 value of the NPC from UC data base
d4 NPC number
d5 Unit number

229 DIU NPC Bursty Error Seconds 15 Min threshold value is inconsistent

The Bursty Error Seconds 15 min. threshold value of a DIU NPC stored in the UC data base does not match with that in the hardware.

d0 Second byte of the BERS15 value of the NPC from hardware
d1 First byte of the BERS15 value of the NPC from hardware
d2 Second byte of the BERS15 value of the NPC from UC data base
d3 First byte of the BERS15 value of the NPC from UC data base
d4 DIU NPC number
d5 Unit number

230 NPC (DIU/DPC) Severely Error Seconds 15 min. threshold value is inconsistent

The Severely Error Seconds 15 min. (SERS15) threshold value stored in the UC data base does not match with that in the hardware.

d0 Second byte of the SERS15 value of the NPC from hardware
d1 First byte of the SERS15 value of the NPC from hardware
d2 Second byte of the SERS15 value of the NPC from UC data base
d3 First byte of the SERS15 value of the NPC from UC data base
d4 NPC number
d5 Unit number

231 NPC (DIU/DPC) Unavailable Seconds 15 min. threshold value is inconsistent

The Unavailable Seconds 15 min. (US15) threshold value of an NPC stored in the UC data base does not match with that in the hardware.

d0 Second byte of the US15 value of the NPC from hardware
d1 First byte of the US15 value of the NPC from hardware
d2 Second byte of the US15 value of the NPC from UC data base
d3 First byte of the US15 value of the NPC from UC data base
d4 NPC number
d5 Unit number

232 NPC (DIU/DPC) Slips 15 min. threshold value is inconsistent

The Slips Error Seconds 15 min. (SLP15) threshold value stored in the UC data base does not match with that in the hardware.

d0 Second byte of the SLP15 value of the NPC from hardware
d1 First byte of the SLP15 value of the NPC from hardware
d2 Second byte of the SLP15 value of the NPC from UC data base
d3 First byte of the SLP15 value of the NPC from UC data base
d4 NPC number
d5 Unit number

233 NPC (DIU/DPC) Error Seconds 24 hr. threshold value is inconsistent

The Error Seconds 24 hr. (ESR24) threshold value stored in UC data base does not match that stored in the hardware.

d0 Second byte of the ERS24 value of the NPC from hardware
d1 First byte of the ERS24 value of the NPC from hardware
d2 Second byte of the ERS24 value of the NPC from UC data base
d3 First byte of the ERS24 value of the NPC from UC data base
d4 NPC number
d5 Unit number

234 DIU NPC Bursty Error Seconds 24 Min threshold value is inconsistent

The Bursty Error Seconds 24 min. threshold value of a DIU NPC stored in the UC data base does not match with that in the hardware.

d0 Second byte of the BERS24 value of the NPC from hardware
d1 First byte of the BERS24 value of the NPC from hardware
d2 Second byte of the BERS24 value of the NPC from UC data base
d3 First byte of the BERS24 value of the NPC from UC data base
d4 DIU NPC number
d5 Unit number

235 NPC (DIU/DPC) Severely Error Seconds 24 hr. threshold value is inconsistent

The Severely Error Seconds 24 hr. (SERS24) threshold value stored in the UC data base does not match with that in the hardware.

d0 Second byte of the SERS24 value of the NPC from hardware
d1 First byte of the SERS24 value of the NPC from hardware
d2 Second byte of the SERS24 value of the NPC from UC data base
d3 First byte of the SERS24 value of the NPC from UC data base
d4 NPC number
d5 Unit number

236 NPC (DIU/DPC) Unavailable Seconds 24 hr. threshold value is inconsistent

The Unavailable Seconds 24 hr. (US24) threshold value stored in the UC data base does not match with that in the hardware.

d0 Second byte of the US24 value of the NPC from hardware
d1 First byte of the US24 value of the NPC from hardware
d2 Second byte of the US24 value of the NPC from UC data base
d3 First byte of the US24 value of the NPC from UC data base
d4 NPC number
d5 Unit number

237 NPC (DIU/DPC) Slips Error Seconds 24 hr. threshold value is inconsistent

The Slips Error Seconds 24 hr. (SLP24) threshold value stored in the UC data base does not match with that in the hardware.

d0 Second byte of the SLP24 value of the NPC from hardware
d1 First byte of the SLP24 value of the NPC from hardware
d2 Second byte of the SLP24 value of the NPC from UC data base
d3 First byte of the SLP24 value of the NPC from UC data base
d4 NPC number
d5 Unit number

238 DPC NPC Degraded Minute 1 hr (DM) threshold value is inconsistent

The Degraded Minute 1 hr. threshold value stored in UC data base does not match that stored in the DPC hardware.

d0 Second byte of the DM value from DPC hardware
d1 First byte of the DM value from DPC hardware
d2 Second byte of the DM value from UC data base
d3 First byte of the DM value from UC data base
d4 NPC number
d5 UNIT number

239 DPC NPC Degraded Minute 24 hr (DM24) threshold value is inconsistent

The Degraded Minute 24 hr. threshold value stored in UC data base does not match that stored in the DPC hardware.

d0 Second byte of the DM24 value from DPC hardware
d1 First byte of the DM24 value from DPC hardware
d2 Second byte of the DM24 value from UC data base
d3 First byte of the DM24 value from UC data base
d4 NPC number
d5 UNIT number

240 SLC carrier NPC SANE threshold value is inconsistent

The SLC carrier NPC SANE threshold value stored in the UC data base does not match with that stored in the DDC hardware

d0 Second byte of the sane threshold value from DDC hardware
d1 First byte of the sane threshold value from DDC hardware
d2 Second byte of the sane threshold value from UC data base
d3 First byte of the sane threshold value from UC data base
d4 NPC number
d5 UNIT number

241 SLC carrier NPC SAFE threshold value is inconsistent

The SLC carrier NPC SAFE threshold value stored in the UC data base does not match with that stored in the DDC hardware

d0 Second byte of the SAFE threshold value from DDC hardware
d1 First byte of the SAFE threshold value from DDC hardware
d2 Second byte of the SAFE threshold value from UC data base
d3 First byte of the SAFE threshold value from UC data base
d4 NPC number
d5 UNIT number

242 SLC carrier NPC SELF alarm threshold value is inconsistent

The SLC carrier NPC SELF alarm threshold value stored in the UC data base does not match with that stored in the DDC hardware

d0 Second byte of the SELF alarm threshold value from DDC hardware
d1 First byte of the SELF alarm threshold value from DDC hardware
d2 Second byte of the SELF alarm threshold value from UC data base
d3 First byte of the SELF alarm threshold value from UC data base
d4 NPC number
d5 UNIT number

250 HUB-ID value in hardware is inconsistent

The HUB-ID is inconsistent between the MP data base and the hardware.

d0 HUB-ID value from MP data base
d1 HUB-ID value from the hardware
d2 Not used
d3 Not used
d4 NPC number
d5 Unit number

251 The time slot hardware image or control memory is inconsistent

The EC Hardware Image/Control Memory is inconsistent between MP data base and the hardware.

d0 The EC image value from MP data base
d1 The EC image value from the hardware
d2 SRM hardware data
d3 The time slot number
d4 The NPC number of the time slot
d5 The Unit number of the time slot

252 E1/T1 hardware selection flag inconsistent

d0 UH hardware flag
d1 UH database flag
d2 Not used
d3 DS2 Number (1 through 7)
d4 HMXR Number
d5 Unit Number

253 DS3 FLI LOG hardware inconsistent

d0 UA hardware
d1 UA lbo
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

254 DS3 MXR/HMXR hardware flag inconsistent

d0 UA hardware flag
d1 UA data base flag
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

255 DS3 MXR/HMXR hardware type inconsistent

d0 UA hardware type
d1 UA data base type
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

256 DS3 MXR/HMXR hardware xoption inconsistent

d0 UA hardware xoption
d1 UA data base xoption
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

257 DS3 MXR/HMXR hardware yoption inconsistent

d0 UA hardware yoption
d1 UA data base yoption
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

258 DS3 MXR/HMXR hardware zoption inconsistent

d0 UA hardware zoption
d1 UA data base zoption
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

259 DS3 MXR/HMXR hardware BER threshold inconsistent

d0 UA hardware BER threshold
d1 UA data base BER threshold
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

25A DS3 MXR/HMXR hardware BER type inconsistent

d0 UA hardware BER type
d1 UA data base BER type
d2 Not used
d3 Not used
d4 MXR/HMXR Number
d5 Unit Number

25B DS3 MIU hardware flag inconsistent

d0 UA hardware flag
d1 UA data base flag
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

25C DS3 MIU hardware type inconsistent

d0 UA hardware type
d1 UA data base type
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

25D DS3 MIU hardware xoption inconsistent

d0 UA hardware xoption
d1 UA data base xoption
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

25E DS3 MIU hardware yoption inconsistent

d0 UA hardware yoption
d1 UA data base yoption
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

25F DS3 MIU hardware zoption inconsistent

d0 UA hardware zoption
d1 UA data base zoption
d2 Not used
d3 Not used
d4 MIU Number
d5 Unit Number

260 MMFG data base inhibit flag inconsistent

d0 UA hardware flag
d1 UA data base flag
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

261 MMFG data base protection status inconsistent

d0 UA hardware status
d1 UA data base status
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

262 MMFG data base protection index inconsistent

d0 UA hardware index
d1 UA data base index
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

263 MMFG data base protection mode inconsistent

d0 UA hardware mode
d1 UA data base mode
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

264 MMFG data base service status of MXR P/HMXR P inconsistent

d0 UA hardware status
d1 UA data base status
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

265 MMFG data base service status of MIU P inconsistent

d0 UA hardware status
d1 UA data base status
d2 Not used
d3 Not used
d4 Not used
d5 Unit Number

266 Invalid value of Receive Framer Mode A register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

267 Invalid value of Receive Framer Mode B register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

268 Invalid value of Receive Framer Exercise register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

269 Invalid value of Receive Synchronizer Mode A register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

26A Invalid value of Receive Synchronizer Mode B register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

26B Invalid value of Receive Exercise Mode register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

26C Invalid value of Transmit Exercise Mode register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

26D Invalid value of Transmit Framing Mode register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

26E Invalid value of Transmit Signaling Mode register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

26F Invalid value of Transmit System Mode register

d0 Not used
d1 Not used
d2 Expected value
d3 Actual value read back from the hardware
d4 NPC number
d5 Unit Number

270 NPC Daily Near-end Path Coding Violations threshold values are inconsistent

The Daily Near-end Path Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

271 NPC Daily Near-end Path Errored Seconds threshold values are inconsistent

The Daily Near-end Path Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

272 NPC Daily Near-end Path Severely Errored Seconds threshold values are inconsistent

The Daily Near-end Path Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

273 NPC Daily Near-end Severely Errored Framing Seconds threshold values are inconsistent

The Daily Near-end Severely Errored Framing Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

274 NPC Daily Near-end Controlled Slip Seconds threshold values are inconsistent

The Daily Near-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

275 NPC Daily Near-end Unavailable Seconds threshold values are inconsistent

The Daily Near-end Unavailable Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

276 NPC Daily Near-end Line Coding Violations threshold values are inconsistent

The Daily Near-end Line Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

277 NPC Daily Near-end Line Errored Seconds threshold values are inconsistent

The Daily Near-end Line Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

278 NPC Daily Near-end Line Severely Errored Seconds threshold are inconsistent

The Daily Near-end Line Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

279 NPC Daily Far-end Path Coding Violations threshold values are inconsistent

The Daily Far-end Path Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

27A NPC Daily Far-end Path Errored Seconds threshold values are inconsistent

The Daily Far-end Path Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

27B NPC Daily Far-end Path Severely Errored Seconds threshold values are inconsistent

The Daily Far-end Path Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

27C NPC Daily Far-end Severely Errored Framing Seconds threshold values are inconsistent

The Daily Far-end Severely Errored Framing Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

27D NPC Daily Far-end Controlled Slip Seconds threshold values are inconsistent

The Daily Far-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

27E NPC Daily Far-end Unavailable Seconds threshold values are inconsistent

The Daily Far-end Unavailable Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

27F NPC Daily Far-end Line Errored Seconds threshold values are inconsistent

The Daily Far-end Line Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

280 NPC 15-Minute Near-end Path Coding Violations threshold values are inconsistent

The 15-Minute Near-end Path Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

281 NPC 15-Minute Near-end Path Errored Seconds threshold values are inconsistent

The 15-Minute Near-end Path Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

282 NPC 15-Minute Near-end Path Severely Errored Seconds threshold values are inconsistent

The 15-Minute Near-end Path Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

283 NPC 15-Minute Near-end Severely Errored Framing Seconds threshold values are inconsistent

The 15-Minute Near-end Severely Errored Framing Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

284 NPC 15-Minute Near-end Controlled Slip Seconds threshold values are inconsistent

The 15-Minute Near-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

285 NPC 15-Minute Near-end Unavailable Seconds threshold values are inconsistent

The 15-Minute Near-end Unavailable Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

286 NPC 15-Minute Near-end Line Coding Violations threshold values are inconsistent

The 15-Minute Near-end Line Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

287 NPC 15-Minute Near-end Line Errored Seconds threshold values are inconsistent

The 15-Minute Near-end Line Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

288 NPC 15-Minute Near-end Line Severely Errored Seconds threshold values are inconsistent

The 15-Minute Near-end Line Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

289 NPC 15-Minute Far-end Path Coding Violations threshold values are inconsistent

The 15-Minute Far-end Path Coding Violations of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

28A NPC 15-Minute Far-end Path Errored Seconds threshold values are inconsistent

The 15-Minute Far-end Path Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

28B NPC 15-Minute Far-end Path Severely Errored Seconds threshold values are inconsistent

The 15-Minute Far-end Path Severely Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

28C NPC 15-Minute Far-end Severely Errored Framing Seconds threshold values are inconsistent

The 15-Minute Far-end Severely Errored Framing Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

28D NPC 15-Minute Far-end Controlled Slip Seconds threshold values are inconsistent

The 15-Minute Far-end Controlled Slip Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

28E NPC 15-Minute Far-end Unavailable Seconds threshold values are inconsistent

The 15-Minute Far-end Unavailable Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

28F NPC 15-Minute Far-end Line Errored Seconds threshold values are inconsistent

The 15-Minute Far-end Line Errored Seconds of the ANSI NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long ANSI threshold value in the hardware
d1 Long ANSI threshold value in the hardware
d2 Long ANSI threshold value in the hardware
d3 Long ANSI threshold value in the hardware
d4 Long ANSI threshold value in the data base
d5 Long ANSI threshold value in the data base
d6 Long ANSI threshold value in the data base
d7 Long ANSI threshold value in the data base
d8 NPC number
d9 UNIT number

290 NPC Daily CRC Block Error Count threshold values are inconsistent

The Daily CRC Block Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

291 NPC Daily Framing Error Count threshold values are inconsistent

The Daily Framing Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

292 NPC Daily Out of Frame Seconds threshold values are inconsistent

The Daily Out of Frame Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

293 NPC Errored Seconds threshold values are inconsistent

The Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

294 NPC Daily Severely Errored Seconds threshold values are inconsistent

The Daily Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

295 NPC Daily Controlled Slip Seconds threshold values are inconsistent

The Daily Controlled Slip Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

296 NPC Daily Code Violation Count threshold values are inconsistent

The Daily Code Violation Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

297 NPC Daily Unavailable Seconds threshold values are inconsistent

The Daily Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

298 NPC Daily Unavailable Time Count threshold values are inconsistent

The Daily Unavailable Time Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

299 NPC Daily Multiframe Alignment Error Count threshold values are inconsistent

The Daily Multiframe Alignment Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

29A NPC Daily Far End Block Error Count threshold values are inconsistent

The Daily Far End Block Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

29B NPC Daily Far End Errored Seconds threshold values are inconsistent

The Daily Far End Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

29C NPC Daily Far End Severely Errored Seconds threshold values are inconsistent

The Daily Far End Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

29D NPC Daily Far End Unavailable Seconds threshold values are inconsistent

The Daily Far End Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

29E NPC 15-Minute CRC Block Error Count threshold values are inconsistent

The 15-Minute CRC Block Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

29F NPC 15-Minute Framing Error Count threshold values are inconsistent

The 15-Minute Framing Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A0 NPC 15-Minute Out of Frame Seconds threshold values are inconsistent

The 15-Minute Out of Frame Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A1 NPC 15-Minute Errored Seconds threshold values are inconsistent

The 15-Minute Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A2 NPC 15-Minute Severely Errored Seconds threshold values are inconsistent

The 15-Minute Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A3 NPC 15-Minute Controlled Slip Seconds threshold values are inconsistent

The 15-Minute Controlled Slip Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A4 NPC 15-Minute Code Violation Count threshold values are inconsistent

The 15-Minute Code Violation Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A5 NPC 15-Minute Unavailable Seconds threshold values are inconsistent

The 15-Minute Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A6 NPC 15-Minute Unavailable Time Count threshold values are inconsistent

The 15-Minute Unavailable Time Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A7 NPC 15-Minute Multiframe Alignment Error Count threshold values are inconsistent

The 15-Minute Multiframe Alignment Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A8 NPC 15-Minute Far End Block Error Count threshold values are inconsistent

The 15-Minute Far End Block Error Count of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2A9 NPC 15-Minute Far End Errored Seconds threshold values are inconsistent

The 15-Minute Far End Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2AA NPC 15-Minute Far End Severely Errored Seconds threshold values are inconsistent

The 15-Minute Far End Severely Errored Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2AB NPC 15-Minute Far End Unavailable Seconds threshold values are inconsistent

The 15-Minute Far End Unavailable Seconds of the enhanced-30-channel NPC threshold value stored in the unit data base does not match that stored in the hardware

d0 Long enhanced-30-channel threshold value in the hardware
d1 Long enhanced-30-channel threshold value in the hardware
d2 Long enhanced-30-channel threshold value in the hardware
d3 Long enhanced-30-channel threshold value in the hardware
d4 Long enhanced-30-channel threshold value in the data base
d5 Long enhanced-30-channel threshold value in the data base
d6 Long enhanced-30-channel threshold value in the data base
d7 Long enhanced-30-channel threshold value in the data base
d8 NPC number
d9 UNIT number

2B1 NPC Transmit or Receive Pseudo Framing Word values are inconsistent

The Transmit or Receive Pseudo Framing Word of the NPC mismatch between unit data base and the hardware

d0 The Receive Pseudo Framing Word of NPC from hardware
d1 The Receive Pseudo Framing Word of NPC from unit data base
d2 The Transmit Pseudo Framing Word of NPC from hardware
d3 The Transmit Pseudo Framing Word of NPC from unit data base
d4 NPC number
d5 UNIT number

2B2 NPC Non Framing Setting values are inconsistent

The Non Framing Setting value the NPC mismatch between unit data base and the hardware

d0 Fourth byte the Non Framing Setting of NPC from hardware
d1 Third byte of the Non Framing Setting of NPC from hardware
d2 Fourth byte of the Non Framing Setting of NPC from unit data base
d3 Third byte of the Non Framing Setting of NPC from unit data base
d4 NPC number
d5 UNIT number

300 E1/T1 Select Registers are inconsistent

The various select registers are not consistently provisioned for either E1 or T1 within a DS2

d0 NPC type
d1 Not used
d2 Not used
d3 DS2 number
d4 HMXR number
d5 UNIT number

301 CCN sides is unpested (INS) in DB but pested in hardware (BXREG).

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 Not used
d5 CCN side

302 TSI entity is unpested (INS) in DB but pested in hardware (CCNI EMR).

d0 Not used
d1 Not used
d2 Not used
d3 To UNIT
d4 From UNIT
d5 CCNI side

303 CCB entity is unpested (INS) in DB but pested in hardware (CCNI EMR).

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 CCB number
d5 CCN side

305 SYNC entity is in-service in DB but cannot communicate with MP.

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 Not used
d5 SYNC side

306 TLI entity is in-service in DB but out-of-service in SYNC data.

d0 Syncdata.arch
d1 TLI data base flags
d2 TLI hardware status
d3 Number of times data mismatch verified
d4 TLI number
d5 SYNC side

307 TLR entity is in-service in DB but out-of-service in SYNC data.

TLR is the Timing Link Reference.

d0 Not used
d1 Not used
d2 Not used
d3 TLR number
d4 TLI number
d5 SYNC side

308 CI links is in-service in DB but out of service in CI hardware data

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 Not used
d5 link number

310 TLR entity priority is different b/t DB and SYNC data (TE and TP)

TLR is the Timing Link Reference.

d0 Not used
d1 SYNC hardware TLR priority
d2 Data base priority
d3 TLR number
d4 TLI number
d5 SYNC side

311 TLR entity x and y value is different b/t DB and SYNC data

TLR is the Timing Link Reference.

d0 SYNC hardware y value
d1 Data base y value
d2 SYNC hardware x value
d3 Data base x value
d4 [AB] A = TLI number; B = TLR number;
d5 SYNC side

312 SYNC entity architect or stratum value is different b/t DB and SYNC.

d0 SYNC hardware stratum value
0 - domestic stratum 3
1 - CEPT local exchange
2 - CEPT toll exchange
3 - domestic stratum 2
d1 Data base stratum value
0 - no type defined
1 - stratum 2 sync
2 - stratum 3 sync
3 - CEPT local
4 - CEPT toll
d2 SYNC hardware architect value
0 - slaved in master-slave system
1 - master in master-slave system
2 - mutual synchronization system
d3 Data base architect value
0 - no type defined
1 - master in master-slave system
2 - slaved in master-slave system
3 - mutual synchronization system
d4 Not used
d5 SYNC side

313 SYNC entity mode is different b/t DB and SYNC data

d0 Not used
d1 Not used
d2 SYNC hardware mode value
 0 - normal
 1 - fast
 2 - holdover
d3 Data base sync mode value
 1 - normal
 2 - fast
 3 - holdover
d4 Not used
d5 SYNC side

314 SYNC timing source or active link is different b/t DB and hardware

d0 SYNC hardware active link
This field is only valid when the source is timing link and the architecture field is slave in the master-slave system
0 - TLI #1, Link #0
1 - TLI #1, Link #1
2 - TLI #2, Link #0
3 - TLI #2, Link #1
4 - TLI #3, Link #0
5 - TLI #3, Link #1
6 - TLI #4, Link #0
7 - TLI #4, Link #1

d1 Data base sync active link
This field is only valid when the source is timing link and the architecture field is slave in the master-slave system
0 - TLI #1, Link #0
1 - TLI #1, Link #1
2 - TLI #2, Link #0
3 - TLI #2, Link #1
4 - TLI #3, Link #0
5 - TLI #3, Link #1
6 - TLI #4, Link #0
7 - TLI #4, Link #1

d2 SYNC hardware timing source
0 - holdover
1 - timing link
2 - cross couples
3 - CRO

d3 Data base sync timing source
1 - holdover
2 - timing link
3 - cross couples
4 - CRO

d4 Not used

d5 SYNC side

315 SYNC TLI type is different b/t DB and SYNC hardware

d0 Not used

d1 Data base TLIs x option if TLI type is TDTYPE

d2 SYNC hardware type

d3 Data base TLI type

d4 TLI number

d5 SYNC side

316 ECCN sides is unpested (INS) in DB but pested in hardware (BXREG).

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 Not used
d5 ECCN side

317 ETSI entity is unpested (INS) in DB but pested in hardware(CCI EMR).

d0 Not used
d1 Not used
d2 Not used
d3 Not used
d4 ETSI number
d5 ECCN side

320 Receive sync upper address different b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

321 Receive sync lower address different b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

322 Receive sync data b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

323 PIF data differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Not used
d4 MXR/HMXR number
d5 Unit number

324 Receive frame mode A differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 NPC
d4 MXR/HMXR number
d5 Unit number

325 Receive frame mode B differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 NPC
d4 MXR/HMXR number
d5 Unit number

326 Receive sync mode A differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 NPC
d4 MXR/HMXR number
d5 Unit number

327 Receive sync mode B differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 NPC
d4 MXR/HMXR number
d5 Unit number

328 Transmit framing mode differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 NPC
d4 MXR/HMXR number
d5 Unit number

329 Transmit signaling mode differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 NPC
d4 MXR/HMXR number
d5 Unit number

32A Transmit system mode differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 NPC
d4 MXR/HMXR number
d5 Unit number

32B Even NPC receive ams 0 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

32C Even NPC receive ams 1 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

32D Even NPC receive ams 2 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

32E Even NPC transmit ams 0 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

32F Even NPC transmit ams 1 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

330 Even NPC transmit ams 2 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

331 Odd NPC receive ams 0 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

332 Odd NPC receive ams 1 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

333 Odd NPC receive ams 2 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

334 Odd NPC transmit ams 0 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

335 Odd NPC transmit ams 1 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

336 Odd NPC transmit ams 2 value differs b/t UA DB and PS DB

d0 Not used
d1 UA value
d2 PS value
d3 Channel
d4 NPC number
d5 Unit number

351 E1 Channel Controller Data - Special Function A

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 NPC number
d4 HMXR number
d5 Unit number

352 E1 Channel Controller Data - Special Function B

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 NPC number
d4 HMXR number
d5 Unit number

353 E1 Channel Controller Data - AMS[512] Array Mismatch

d0 Index to instruction RAM arrays
d1 HMXR register value
d2 PSWDB value
d3 NPC number
d4 HMXR number
d5 Unit number

358 E1 Transceiver Data - Spare Bit Provisioning

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

359 E1 Transceiver Data - Link Option 1

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

360 E1 Transceiver Data - Transmit TS16 Spare Bits

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

361 E1 Transceiver Data - TS0 Cross-Connect Transmit 0

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

362 E1 Transceiver Data - TS0 Cross-Connect Transmit 1

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

363 E1 Transceiver Data - TS0 Cross-Connect Transmit 2

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

364 E1 Transceiver Data - TS0 Cross-Connect Transmit 3

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

365 E1 Transceiver Data - Link Action-FP Control

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

366 E1 Transceiver Data - Consequent Action Option

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

367 E1 Transceiver Data - System RCV Data Option

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

368 E1 Transceiver Data - TS0 Receive 0

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

369 E1 Transceiver Data - TS0 Receive 1

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

370 E1 Transceiver Data - TS0 Receive 2

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

371 E1 Transceiver Data - TS0 Receive 3

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

372 E1 Transceiver Data - Link Option 3

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

373 E1 Transceiver Data - Link Option 2

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

374 E1 Transceiver Data - Force Reframe

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

375 E1 Transceiver Data - Parity Block Fail Options

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Transceiver number
d4 HMXR number
d5 Unit number

376 M13 Data - DS3 Framer Configuration

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Not used
d4 HMXR number
d5 Unit number

377 M13 Data - MX23 Configuration

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Not used
d4 HMXR number
d5 Unit number

378 M13 Data - Master Loopback Configuration

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Not used
d4 HMXR number
d5 Unit number

379 M13 Data - DS2 Framer Configuration

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 DS2 number
d4 HMXR number
d5 Unit number

380 M13 Data - DS2 MX12 Configuration and Control

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 DS2 number
d4 HMXR number
d5 Unit number

381 M13 Data - DS2 MX12 AIS Insert

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 DS2 number
d4 HMXR number
d5 Unit number

382 M13 Data - DS2 MX12 Loopback Activate

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 DS2 number
d4 HMXR number
d5 Unit number

383 M13 Data - MX23 Demux AIS Insert

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Not used
d4 HMXR number
d5 Unit number

384 M13 Data - DS3 TRAN Configuration

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 Not used
d4 HMXR number
d5 Unit number

390 MXR Protection Switch Database does not match Shared RAM

d0 Not used
d1 HMXR register value
d2 PSWDB value
d3 NPC number
d4 HMXR number
d5 Unit number

3A7 E1 Opaque Data - E1 Opaque Data Array

d0 Index to opaque data
d1 HMXR register value
d2 PSWDB value
d3 NPC number
d4 HMXR number
d5 Unit number

3B0 Fully-connected pseudo-channels not actually cross-connected

Two channels are in a fully-connected pseudo-channel entry, but are not actually cross-connected to each other.

d0 Unused
d1 Unused
d2 Pseudo-channel number Low Byte
d3 Pseudo-channel number High Byte
d4 Channel number on NPC 2
d5 NPC number 2 Low Byte
d6 NPC number 2 High Byte
d7 Channel number on NPC 1
d8 NPC number 1 Low Byte
d9 NPC number 1 High Byte

3B1 Duplicate NPC/channel number in pseudo-channel connection.

Two pseudo-channel entries contain the same NPC number and channel number.

d0 Unused
d1 Unused
d2 Unused
d3 Pseudo-channel 2 Low Byte
d4 Pseudo-channel 2 High byte
d5 Pseudo-channel 1 Low Byte
d6 Pseudo-channel 1 High byte
d7 Channel number
d8 NPC number Low Byte
d9 NPC number High Byte

3B2 Reserved pseudo-channel already involved in a cross-connect

A pseudo-channel entry is in the reserved state and the NPC and channel present are already involved in an actual cross-connect.

d0 Unused
d1 Unused
d2 Pseudo-channel number Low Byte
d3 Pseudo-channel number High byte
d4 Channel number cross-connected to
d5 NPC number cross-connected to Low Byte
d6 NPC number cross-connected to High Byte
d7 Channel number in pseudo-channel entry
d8 NPC number in pseudo-channel entry Low Byte
d9 NPC number in pseudo-channel entry High Byte

3B3 The DSP Platform software version is inconsistent.

The DSP Platform software version stored in the main controller does not match that stored in the hardware.

d0 Not used
d1 Data stored in the database
d2 Data stored in the hardware
d3 Index - the reason of failure
1 - DSPP software generic is inconsistent
2 - DSPP software issue is inconsistent
3 - DSPP software release is inconsistent
4 - DSPP software year load is inconsistent
5 - CP code version is inconsistent
6 - DSP code version is inconsistent
d4 NPC number
d5 UNIT number

3B4 The DSP Platform application database does not match that stored in hardware

d0 Not used
d2 Not used
d3 Not used
d4 NPC number of circuit pack that is running the application
d5 UNIT number

FRADTS,MC,DGN

FRAME AUDITS MAIN CONTROLLER

Explanation Of Command

This autonomous output message from frame audits indicates that a diagnostic test was run on the main controller (MC) but failed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.82004]

```
I hh:mm:ss xy,ww   FRADTS MC DGN <tt> COMPL
```

Explanation Of Parameters

MC - Main controller

DGN - Diagnose

tt - Entity identifier

tt	*Explanation*
BX	Bus Extender RAM
CI	Communications Interface
EBX	Expanded Bus Extender RAM
EMTC	Expanded Maintenance Circuit
MP	Main Processor
MTC	Maintenance Circuit
PMEM	Primary Memory Device
SMEM	Secondary Memory Device

GRTH,FRAME,CHAR,UID

GROWTH FRAME

Explanation Of Command

This command allows the optional frame identifier and unique frame identifier to be set.

Until this command is used, the frame identifier defaults to 00.

NOTE:
Note: If the frame identifier is protected (hard wired), it cannot be changed by this command.

The **CHAR** field determines the number of characters in the frame identifier (2 is the default).

For DACS II Capacity Expansion Frames (CEF), this command also results in the provisioning of virtual NPCs [9]961, [9]962, [9]963, [9]964, [9]965, and [9]966 (99101, 99102, 99103, 99104, 99105, and 99106 in the hierarchical NPC numbering format), default type VI100.

For Non-CEF frames, this command also results in the provisioning of virtual NPCs 961 and 962 (99101 and 99102 in the hierarchical NPC numbering format), default type VI100. This NPC type may be changed if necessary by the **CHG::NPC,TYPE** command (Message 38211).

Command

[I.30101]

```
GRTH:FRM xy,SEQ ww:FRAME fg[,CHAR m][,UID <uid>]!
```

Completion Message

[O.30101]

```
M hh:mm:ss fg,ww n[vv] GRTH FRAME fg CHAR m UID [<uid>] COMPL
```

Denial Message

[O.30101.01]

```
M hh:mm:ss xy,ww n[vv] GRTH FRAME fg CHAR m UID [<uid>] \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FRAME - Frame

fg - Frame identifier. (alphanumeric, 01 through ZZ).

The frame identifier is required. If the disk-stored frame identifier is 00, then this command sets the frame identifier to fg. Until the GRTH::FRAME command is used, the frame number defaults to 00.

The frame identifier is used in input and output messages.

CHAR - Character

m - The number of characters in the frame identifier. (2 or 3).

UID - Unique identifier

uid - Unique frame identifier. (1 to 20 alphanumeric characters)

If the UID field is entered, the unique frame identifier will be assigned the value of uid.

cc - Hexadecimal condition code

cc	*Explanation*
81	Frame ID is protected

GRTH,NPC,NPCTG

GROWTH TEST-ACCESS GROUP NPC

Explanation Of Command

This command is used to designate a network processing circuit (NPC) as a test-access group NPC (NPCTG).
To provision an individual test-access group (TG) use the GRTH::TG,NPCTG command

Command

Nonhierarchical

[I.31401]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTG rrr!
```

Hierarchical

[I.31401]

```
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTG rrr!
```

Completion Message

Nonhierarchical

[O.31401]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTG rrr COMPL
```

Hierarchical

[O.31401]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTG rrr COMPL
```

Denial Message

Nonhierarchical

[O.31401.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTG rrr COND cc DNY
```

Hierarchical

[O.31401.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTG rrr COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NPCTG - NPC (for) test group

rrr - Test-access Group NPC number (1 through 400)

NPC used as a test-access group NPC.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
26	NPC type error
85	NPC has been designated as NPCTP
10	NPC out of service or failed
57	Designated TG or circuit to be tested in process of being rolled
A1	NPC has been designated as NPCTG
A2	All channels assigned, cannot be grown as NPCTG

GRTH,NPC,NPCTP

GROWTH TEST PORT NPC

Explanation Of Command

This message requests the designation of a Network Processing Circuit as a test port NPC.

The growth of an individual test port is described in GRTH,TP.

Command

Nonhierarchical

[I.31381]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc,NPCTP n!
```

Hierarchical

[I.31381]

```
GRTH:FRM xy,SEQ ww:NPC uvmnp,NPCTP n!
```

Completion Message

Nonhierarchical

[O.31381]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTP n TPS kk-mm\
COMPL
```

Hierarchical

[O.31381]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTP n TPS kk-mm\
COMPL
```

Denial Message

Nonhierarchical

[O.31381.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc NPCTP n COND cc DNY
```

Hierarchical

[O.31381.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp NPCTP n COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NPCTP - NPC (for) test ports

n - Test Port NPC number (must be in the range from 1 to 8).

TPS - Test Ports

kk,mm - Test port numbers

n	*kk*	*mm*
1	01	12
2	13	24
3	25	36
4	37	48
5	49	60
6	61	72
7	73	84
8	85	96

M
M

Note: When a CEPT NPC is grown as a test NPC, it must be grown for CAS-type primaries using the Message Number 31362, otherwise a denial message will occur.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
01	Subject entity is equipped
15	NPC is unequipped
26	NPC type error
2F	Channels assigned, cannot be grown as test port
85	NPC has been designated as NPCTP
19	Test ports must be on CAS
FF	Termination is in process of being rolled
A1	NPC has been designated as NPCTG

GRTH,NPC,TYPE

PROVISION DIGITAL SIGNAL PROCESSING NPC

Explanation Of Command

This command is used to request the provisioning of a Digital Signal Processing (DSP) circuit pack which may either be used for a DACS II feature or for a separate DACS II application that is packaged separately from the DACS II software:

1. The DSP circuit pack may be used for a feature that is integrated into the DACS II software. The Integrated Test Set (ITS) feature is currently supported in the DACS II software.

   DSP circuit packs are provisioned for the Integrated Test Set feature using the type field ST100 when placed in an International Facility Terminating Module (FTM). DSP circuit packs are provisioned for the Integrated Test Set feature using the type field ST110 when placed in a North American Facility Terminating Module (FTM). Both odd and even numbered STxyz NPCs may be provisioned.
2. The DSP circuit pack may be used as an application platform for the following applications:
   a. The X.50/X.57 International Subrate application, which has the type field SD111.
   b. The Digital Multipoint Bridge (DMB) application, which has the type field SD311 (this application is similar to the DMB feature that may be provisioned in the DSPU).
   c. The DDS Subrate and Multipoint Junction Unit application, which has the type field SD411 (this application is similar to the SRM and MJU features that may be provisioned in the DSPU). This application supports 19.2 MJU circuits, which the DSPU MJU does not support.

d. Any future application, which has a type field of the form SDxyz.

Only odd numbered SD NPCs may be provisioned. The next higher even numbered NPC is not available for other NPC types and must be unequipped when an SD NPC is provisioned. When specifying a range of NPCs to be provisioned the beginning and end of the range should be specified as odd numbers.

DSP applications are separately orderable products and are shipped with their own documentation. See command I.55721 INSTALL on how to install an application.

The DSP circuit pack may be provisioned in an FTU, IFTU, or IFTU2. In those units it may be provisioned in a North American module or in an International module. When being provisioned in an International module, a full complement of 64 channels are usable unless the application itself restricts the number of channels. A total number of 16 DSP circuit packs may be provisioned in an International module. When being provisioned in a North American module, a maximum number of 48 channels are available to the application running on the circuit pack. A total of 20 DSP circuit packs may be provisioned in a North American module. Customers running a North American DACS II installation may want to set one or more FTU (IFTU or IFTU2) modules aside and provision them as International modules for running the DSP circuit packs with a maximum of 64 channels.

Command

Nonhierarchical

[I.31331]

GRTH:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def],TYPE mnxyz!

Hierarchical

[I.31331]

GRTH:[FRM xy,SEQ ww]:NPC uvmnp[-wxkqr],TYPE mnxyz!

Completion Message

Nonhierarchical

[O.31331]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc[-[t]def] TYPE mnxyz COMPL

Hierarchical

[O.31331]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp[-wxkqr] TYPE mnxyz COMPL

Denial Message

Nonhierarchical

[O.31331.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc[-[t]def] TYPE mnxyz EQD DNY

[O.31331.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc[-[t]def] TYPE mnxyz COND cc DNY

Hierarchical

[O.31331.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp[-wxkqr] TYPE mnxyz EQD DNY

[O.31331.01]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp[-wxkqr] TYPE mnxyz COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network Processing Circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

[t]def - The 3- or 4-digit nonhierarchical NPC number designating the end of a range specification

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

wxkqr - Hierarchical NPC number designating the end of a range specification

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mnxyz - NPC type

mnxyz	*Explanation*
SD111	X.50/X.57 International Subrate application
SD311	Digital Multipoint Bridge (DMB) application
SD411	DDS Subrate and MJU application
SDxyz	Any future DSPP application
ST100	Integrated Test Set provisioned for International FTM
ST110	Integrated Test Set provisioned for North American FTM

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
34	NPC type option xyz is unassigned, or invalid for feature package
83	NPC type is inconsistent with FTMI type
F2	Invalid NPC number specified
FD	NPC range crosses unit boundary

GRTH,NPC,TYPE,CBTIMER

PROVISION DIGITAL SIGNAL PROCESSING UNIT NPC

Explanation Of Command

This command requests the provisioning of a digital signal processing unit type (non-FTU) network processing circuit (NPC). This DSPU type NPC can be either type MB (digital multipoint bridge) or type CB (c-bit processor).

The growth command results in the provisioning of all NPCs in the circuit pack on both duplicated sides. For CEPT circuit packs, there is only one NPC per circuit pack.

Command

Nonhierarchical

[I.31351]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc,TYPE mnxyz[,CBTIMER [t]v]!
```

Hierarchical

[I.31351]

```
GRTH:FRM xy,SEQ ww:NPC uvmnp,TYPE mnxyz[,CBTIMER [t]v]!
```

Completion Message

Nonhierarchical

[O.31351]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc TYPE mnxyz [CBTIMER [t]v]\
COMPL
```

Hierarchical

[O.31351]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp TYPE mnxyz [CBTIMER [t]v]\
COMPL
```

Denial Message

Nonhierarchical

[O.31351.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc TYPE mnxyz [CBTIMER [t]v] EQD DNY
```

[O.31351.02]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]abc TYPE mnxyz COND cc [CBTIMER [t]v]\
DNY
```

Hierarchical

[O.31351.01]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp TYPE mnxyz [CBTIMER [t]v] EQD DNY
```

[O.31351.02]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvmnp TYPE mnxyz [CBTIMER [t]v] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical NPC number.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mnxyz - NPC type

mnxyz	*Explanation*
CB10z	C-bit processor
MB100	Digital Multipoint Bridge

Explanation for type CB10z

z - Network alarm timeout

z	*Timeout range in milliseconds*
0	600 to 750
1	1500 to 1650
2	2400 to 2550
3	4650 to 4800

[t]def - Nonhierarchical NPC numbers applicable only to MBxyz type NPCs.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmqr - Hierarchical NPC numbers applicable only to MBxyz type NPCs. The valid NPC numbers are:

CBTIMER
- C-bit timer; can only be used with CB10z NPC types.

[t]v - A timer value 1-10

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

EQD - Equipped

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
F3	Maximum number of CPRs have already been grown for this unit

GRTH,NPC,TYPE,OPTS,IW,X,AIS,MI,PMA,DMA

GROWTH NPC for PA and TH TYPES

Explanation Of Command

This command is used to request the provisioning of one or more PA type or TH type network processing circuits (NPCs). (See command I.31362 for PB and PC type NPCs.) PA type NPCs are provisioned in a facility terminating unit (FTU, IFTU, or IFTU2). TH type NPCs are provisioned in a Hybrid DS3 Unit (HDS3U). It is also used to enable the minor bit error rate (MBER) and Signaling Freeze Delay Time Features. For the MBER feature, CTS0 NFW bit 4 is used as RBER. CTS0 NFW bit 4 use as REER is not supported.

One output message is printed for each NPC requested and successfully provisioned.

Provisioning commands where the specified NPC range crosses a Unit boundary will be denied.

For TH type NPCs, the NPC numbers which are divisible by four with a remainder of zero are not valid NPCs. However, the range of THxyz type NPC numbers is still supported with the understanding that there may be gaps in the NPC number range.

When a provisioning command addressing a range of NPCs is denied for successive NPCs in the range for the same reason, a summary denial message will be output, giving the range of NPC numbers denied and the reason for the denial.

If the type field is inconsistent with the first FTM specified or the first FTM specified is unequipped, the entire command is denied. Otherwise, the specified type field is applied to the entire NPC range.

When a provisioning command addressing a range of NPCs within a unit crosses a facility terminating module (FTM) boundary, and if that subsequent FTM is unequipped or provisioned inconsistently with respect to the first FTM, then that FTM will be skipped as a

whole, with a summary denial message.

The execution of normal completions, or of denials for reasons other than diagnostic failures, then resumes at the next NPC and continues until the end of the range.

Command

Nonhierarchical

[I.31363]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def],TYPE mnxyz[,OPTS (rr/<m>[,rr/<m>...])]\
[,IW X'pq[r]][,AIS {MI|PMA|DMA|PMC}][,LEV g]!
```

Hierarchical

[I.31363]

```
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr],TYPE mnxyz[,OPTS (rr/<m>[,rr/<m>...])]\
[,IW X'pq[r]][,AIS {MI|PMA|DMA|PMC}][,LEV g]!
```

Completion Message

Nonhierarchical

[O.31363]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC}][ LEV g]  4 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
OPTIONS     a        b         c     d     e     f     g           EOM

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC}][ LEV g]  4 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n    EOM

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC|PMC}][ LEV g]  4 LN MSG:
15MIN       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a        b         c     d     e     f     g    EOM

M hh:mm:ss xy,ww n[vv] GRTH NPC [s]jkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC}][ LEV g]  4 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k        l     m     n    EOM

M hh:mm:ss xy,ww n GRTH NPC [s]jkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

Note that CV, FEBE, FES, FSES and FUAS are not applicable for TH type NPCs.

Hierarchical

[O.31363]

```
M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC}][ LEV g]  4 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
OPTIONS     a        b         c     d     e     f     g           EOM

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC}][ LEV g]  4 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n    EOM

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC}][ LEV g]  4 LN MSG:
15MIN       CRC      FRER     OFS   ES    SES   CSS   CV
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a        b         c     d     e     f     g    EOM

M hh:mm:ss xy,ww n[vv] GRTH NPC uvjkl TYPE mnxyz[ IW pqr] \
[ AIS {MI|DMA|PMA|PMC}][ LEV g]  4 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k        l     m     n    EOM

M hh:mm:ss xy,ww n GRTH NPC uvjkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

Note that CV, FEBE, FES, FSES and FUAS are not applicable for TH type NPCs.

Denial Message

Nonhierarchical

[O.31363.01]

```
M hh:mm:ss xy,ww n GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz\
[ ss/n][ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][ LEV g] COND cc DNY
```

If the output message requires more than 80 characters:

```
M hh:mm:ss xy,ww n GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz  2 LN MSG:
[ ss/n][ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][ LEV g] COND cc DNY
```

[O.31363.02]

```
M hh:mm:ss xy,ww n GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz EQD DNY
```

Hierarchical

[O.31363.01]

```
M hh:mm:ss xy,ww n GRTH NPC uvjkl[-uvmno] TYPE mnxyz[ ss/n]\
[ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][ LEV g] COND cc DNY
```

If the output message requires more than 80 characters:

```
M hh:mm:ss xy,ww n GRTH NPC uvjkl[-uvmno] TYPE mnxyz  2 LN MSG:
[ ss/n][ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][ LEV g] COND cc DNY
```

[O.31363.02]

```
M hh:mm:ss xy,ww n GRTH NPC uvjkl[-uvmno] TYPE mnxyz EQD DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, the first NPC of a range specification.

[t]def - The 3- or 4-digit nonhierarchical NPC number, the last NPC of a range specification.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, the first NPC of a range specification.
uvkqr - Hierarchical NPC number, the last NPC of a range specification.

uv - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TYPE - Type

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mn - NPC Type

mn	*Explanation*
PA	2Mbit/s Interface NPC
TH	2Mbit/s HDS3U NPC

For PA type NPCs the impedance will automatically be set according to the configuration of the FTMI. If the NPC type field is omitted, the NPC type will default to PB100 or PC100 depending on how the FTMI is grown (75- or 120-ohm NPCs) (see command 31362).

The argument xyz is to be interpreted as a 3-digit hexadecimal number. The 3 digits in xyz indicate the selection of provisioning options for the NPC. A detailed discussion of these provisioning options for both the PA and TH type NPCs is given below.

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Additionally:

- If the NPC is not located in a sync NPC location, the value of "x" must be in the range 0 - 3 or 8 - B. Otherwise the command will be denied.
- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.
- If the value of "y" is 0, 2, 4 or 6 (i.e., a CAS NPC) and the value of "z" is C (i.e. Transmic 1G), the command will be denied.

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

OPTS - Options

rr - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected.

<m> - Facility performance parameter threshold index (0 through X'10')

Variable <m> is used to select the threshold value and alarm type previously programmed for parameter rr. There are four possible alarm thresholds and 4 different alarm levels. A given value of <m> selects one combination of threshold value and alarm level. The combinations of these two result in 16 possible values of <m>. There is a 17th <m> value which is used to disable the alarm threshold and the alarm. The values of <m> that produce the default values of the thresholds and alarms are shown in the table below under the column heading "Threshold Value". Threshold and alarm combinations selected by m = 3 through b or d-X'10 must exist, that is, must have been programmed, prior to being selected. The thresholds are programmed by using the ED-OPT-T1 command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. Setting m = c disables thresholding for a given parameter.

For PA type NPCs:

Table 13-1. Parameter Register Threshold Range and Default Values

rr	Parameter	Interval	Threshold Value Range	Default Threshold Value
11	CRC Block Errors	DAILY	1 - 79056000	176947
12	Framing Errors	DAILY	1 - 345600000	176947
13	Out of Frame Seconds	DAILY	1 - 86400	4
14	Errored Seconds	DAILY	1 - 86400	4320
15	Severely Errored Seconds	DAILY	1 - 86400	90
16	Controlled Slip Seconds	DAILY	1 - 86400	4
17	Coding Violations	DAILY	1 - 176947200	176947
18	Unavailable Seconds	DAILY	1 - 86400	90
19	Unavailable Time Count	DAILY	1 - 4320	9
20	Multiframe Errors	DAILY	1 - 86400	4095
21	Far End Block Errors	DAILY	1 - 79056000	176947
22	Far End Errored Seconds	DAILY	1 - 86400	4320
23	Far End Severely Errored Seconds	DAILY	1 - 86400	90
24	Far End Unavailable Seconds	DAILY	1 - 86400	90
81	CRC Block Errors	15MIN	1 - 823500	18432
82	Framing Errors	15MIN	1 - 3600000	18432
83	Out of Frame Seconds	15MIN	1 - 900	4
84	Errored Seconds	15MIN	1 - 900	300
85	Severely Errored Seconds	15MIN	1 - 900	30
86	Controlled Slip Seconds	15MIN	1 - 900	1
87	Coding Violations	15MIN	1 - 1843200	18432
88	Unavailable Seconds	15MIN	1 - 900	30
89	Unavailable Time Count	15MIN	1 - 45	3
90	Multiframe Errors	15MIN	1 - 900	255
91	Far End Block Errors	15MIN	1 - 823500	18432
92	Far End Errored Seconds	15MIN	1 - 900	300
93	Far End Severely Errored Seconds	15MIN	1 - 900	30
94	Far End Unavailable Seconds	15MIN	1 - 900	30

For PA, PB, and PC type NPCs:

In the following table these definitions apply:

MI	Maintenance Information
DMA	Deferred Maintenance Action Minor Alarm
PMA Major	Prompt Maintenance Action Major Alarm
PMA Critical	Prompt Maintenance Action Critical Alarm

<m>	Threshold Value	Alarm Type
0	Default	MI (Maintenance Information)
1	Default	DMA (Deferred Maintenance Minor Alarm)
2	Default	PMA (Prompt Maintenance Major Alarm)
3	Set 1	MI
4	Set 1	DMA
5	Set 1	PMA Major
6	Set 2	MI
7	Set 2	DMA
8	Set 2	PMA Major
9	Set 3	MI
a	Set 3	DMA
b	Set 3	PMA Major
c	Threshold disabled	no alarm
d	Default	PMA Critical
e	Set 1	PMA Critical
f	Set 2	PMA Critical
10	Set 3	PMA Critical

Note 1: m = 0 is the default.

Note 2: Threshold values for Set 1, Set 2, and Set 3 must be set (programmed) by using the command mentioned in the explanation of m above before variable **m** can be used to select threshold levels and alarm types other than the defaults.

IW - Insertion Word

pq[r] - Hexadecimal value of the Growth Insertion Word (GIW)

Used in the transmit direction on unassigned channels for CEPT NPCs.

pq	transmitted data information
r	transmitted signaling information

A special code, called the Growth Insertion Word (GIW), is transmitted by this NPC on unassigned channels. This code is specified by the optional keyword **IW** and its argument **pq**.

This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the TCON Insertion Word, which is transmitted when the **"TDIS::FROM,TO,...,DCC"** *command is used.*

For PA type NPCs, the IW argument is X'pq[r], and the default GIW code is X'D5D (Binary: 11010101 1101). The "pq" hex digits represent the CEPT insertion word for cross-connected time slots and the "r" hex digit represents the CEPT signaling options. The "r" digit is needed to accommodate the cross-connected CEPT time slot and its associated portion of TS16 used for signaling when provisioned for CAS.

Although the "r" digit is accepted on input, for NSA NPCs, it has no significance.

For clear E1 NPCs (y value "C" or "D") the insertion word option is **not** available and the message will be denied if this option is entered. The alarm indication signal (AIS) is transmitted in the disconnected or idle state for clear E1 NPCs.

AIS - Alarm indication signal

AIS is not detected by unframed clear (unchannelized) 2Mbit/s PAxDz type NPCs. Therefore, specifying AIS with one of the alarm level types MI, DMA, or PMA, is unnecessary. However, the command will not be denied if AIS is specified with an alarm level for unframed clear PAxDz NPCs. AIS with its alarm level will simply never be reported for unframed clear PAxDz NPCs.

MI - Maintenance information

This is the default option.

PMA - Prompt maintenance major alarm

PMC - Prompt maintenace critical alarm

DMA - Deferred maintenance minor alarm

LEV -Intervention Level
g - Intervention Level Setting (1-6)

Intervention Level is a feature that changes the Alarm Severity of an alarm based on the alarm severity and the Intervention Level setting.

[s]jkl - Nonhierarchical NPC number ([s]abc ≤ [s]jkl ≤ [t]def)
[t]mno - Nonhierarchical NPC number ([s]jkl ≤ [t]mno ≤ [t]def)

uvjkl - Hierarchical NPC number (uvmnp ≤ uvjkl ≤ uvkqr)
uvmno - Hierarchical NPC number (uvjkl ≤ uvmno ≤ uvkqr)

Note: uvjkl and uvkqr are in the **same** unit.

ss/n - First improper value of "rr/<m>" for which the message is denied.

For each NPC listed, this message prints out values of the states, counts, thresholds and options of the following facility performance parameters and the spare international and national bits in time slot 0 for CEPT DPCs.

parameter	explanation
CRC	CRC Block Errors
FRER	Framing Errors
OFS	Out of Frame Seconds
ES	Errored Seconds
SES	Severely Errored Seconds
CSS	Controlled Slip Seconds
CV	Coding Violations
UAS	Unavailable Seconds
UATC	Unavailable Time Count
MER	Multiframe Errors
FEBE	Far End Block Errors
FES	Far End Errored Seconds
FSES	Far End Severely Errored Seconds
FUAS	Far End Unavailable Seconds

Note that parameters CV, FEBE, FES, FSES and FUAS do not apply to TH type NPCs.

Two sets of thresholds are kept for each parameter: One for DAILY intervals and one for 15 MINUTE intervals.

For PA type NPCs:

Depending on which interface functions are enabled by the provisioning values of xyz, some parameters may not be applicable. In this case the threshold value, the parameter count (if present in the message) and the selection value will appear as dashes ("-"). In the table below "N/A" indicates that a parameter is not applicable for the given value of x or y.

Also, if the selection value m=c has been chosen for a parameter, the threshold value and the parameter count (if present in the message) will appear as dashes.

For PA Type NPCs				
Parameter	CRC-4 Mode Disabled (x=A,B,E,F)	Far-End PM Disabled (x=0,2,4,6,A,B,E,F)	CAS Disabled (y=8,9,C,D)	Unframed Clear 2Mbit/s (y=D)
CRC	N/A			N/A
FRER				N/A
OFS				N/A
ES				N/A
SES				N/A
CSS				
CV				
UAS				N/A
UATC				N/A
MER			N/A	N/A
FEBE		N/A		N/A
FES		N/A		N/A
FSES		N/A		N/A
FUAS		N/A		N/A

aaaaaaaa
- Daily CRC block error threshold value.

a - Daily CRC block error threshold selection, (0 through 3)

bbbbbbbbb
- Daily framing error threshold value.

b - Daily framing error threshold selection, (0 through 3)

ccccc - Daily out of frame seconds threshold value.

c - Daily out of frame seconds threshold selection, (0 through 3)

ddddd - Daily errored second threshold value.

d - Daily errored second threshold selection, (0 through 3)

eeeee - Daily severely errored second threshold value.

e - Daily severely errored second threshold selection, (0 through 3)

fffff - Daily controlled slip second threshold value.

f - Daily controlled slip second threshold selection, (0 through 3)

ggggggggg
- Daily coding violation threshold value.

g - Daily coding violation threshold selection, (0 through 3)

hhhhh - Daily unavailable second threshold value.

h - Daily unavailable second threshold selection, (0 through 3)

iiii - Daily unavailable time count threshold value.

i - Daily unavailable time count threshold selection, (0 through 3)

jjjjj
- Daily multiframe alignment error threshold value.

j - Daily multiframe alignment error threshold selection, (0 through 3)

kkkkkkkk
- Daily far-end block error threshold value.

k - Daily far-end path block error selection, (0 through 3)

lllll - Daily far-end errored second threshold value.

l - Daily far-end path second threshold selection, (0 through 3)

mmmmm - Daily far-end severely errored second threshold value.

m - Daily far-end severely errored second threshold selection, (0 through 3)

nnnnn - Daily far-end unavailable second threshold value.

n - Daily far-end unavailable second threshold selection, (0 through 3)

_a_a_a_a_a
- 15-Minute CRC block error threshold value.

a - 15-Minute CRC block error threshold selection, (0 through 3)

bbbbbbb
- 15-Minute framing error threshold value.

b - 15-Minute framing error threshold selection, (0 through 3)

ccc - 15-Minute out of frame seconds threshold value.

c - 15-Minute out of frame seconds threshold selection, (0 through 3)

ddd - 15-Minute errored second threshold value.

d - 15-Minute errored second threshold selection, (0 through 3)

eee - 15-Minute severely errored second threshold value.

e - 15-Minute severely errored second threshold selection, (0 through 3)

fff - 15-Minute controlled slip second threshold value.

f - 15-Minute controlled slip second threshold selection, (0 through 3)

ggggggg
- 15-Minute coding violation threshold value.

g - 15-Minute coding violation threshold selection, (0 through 3)

hhh - 15-Minute unavailable second threshold value.

h - 15-Minute unavailable second threshold selection, (0 through 3)

ii - 15-Minute unavailable time count threshold value.

i - 15-Minute unavailable time count threshold selection, (0 through 3)

jjj
- 15-Minute multiframe alignment error threshold value.

j - 15-Minute multiframe alignment error threshold selection, (0 through 3)

kkkkkk
- 15-Minute far-end block error threshold value.

k - 15-Minute far-end path block error selection, (0 through 3)

lll - 15-Minute far-end errored second threshold value.

l - 15-Minute far-end path second threshold selection, (0 through 3)

mmm - 15-Minute far-end severely errored second threshold value.

m - 15-Minute far-end severely errored second threshold selection, (0 through 3)

nnn - 15-Minute far-end unavailable second threshold value.

n - 15-Minute far-end unavailable second threshold selection, (0 through 3)

The options {a,b,c,d,e,f,g,h,i,j,k,l,m,n} and {a, b, c, d, e, f, g, h, i, j, k, l, m, n} are **m values** as previously shown and specify the threshold sets of the performance parameters listed.

The **TS0 abcdefgh** variables represent international and national bits in time slot 0, as defined by:

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

These variables are set to their default values "11011111" by this command, except for the Transmic‘1G option, where the default is "11000000."

The variables may later be changed by setting the abcdefgh parameters in the TS0 field of the ED-PRMTR-EQPT::NPC or CHG::NPC (38321) command. Each of the variables may then be set to "0", "1", "P" or "V." "P" indicates that the incoming bit will be cross-connected unchanged; "V" indicates that the bit received will be inverted.

When TS0 is cross-connected, the TS0 bits will be either passed, inverted or set to "0" or "1" as indicated by the "abcdefgh" variable values. Note that bits which are used for alarms (bit 3 always; bits 4 and 5 if provisioned by the **mnxyz** values) may not be set to "P."

This is also true for NPCs assigned as test port NPCs.

The **TS0M abcdefgh** field allows monitoring of state changes in the received spare international bits, where the "abcdefgh" variables refer to the same TS0 bits as defined above for the TS0 "abcdefgh" variables.

The TS0M variables are specified for monitoring in the command as:

The default values for TS0M variables are **abcdefgh=00000000**, unless the **xyz** parameters set them differently, i.e., for Transmic‘1G the abcdefgh=00111111. The TS0M variables may later be provisioned by the CHG::TS0M‘abcdefgh (I.38323) command.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
20	Option rr/m has not been set up on 2nd database
24	Unit type error
26	NPC type error
34	NPC type option xyz is unassigned, or invalid for feature package
83	NPC type is inconsistent with FTMI type
84	Incompatible types of NPCs on a circuit pack
31	NPC not provisioned for NSA
32	Bit 3 provisioned for use as RAI3
33	Bit 4 provisioned for use as RAIS
39	NPC provisioned as a SYNC source cannot be provisioned for RPSFI
3A	Bit 4 provisioned for use as RBER
3B	Bit 5 provisioned for use as SFI
3C	Bits 3 through 8 are provisioned for Transmic 1G
3D	Alarm bits cannot be passed through or inverted
B0	Combination of bit g (b7) and h (b8) is invalid
BB	Timeslot channel numbering not allowed with CAS
CD	NPC not designated as sync timing source
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FD	NPC range crosses unit boundary
8B	Must provision for SFI if also provisioning for RPSFI
8C	Must provision for CAS if also provisioning for RPSFI
A3	Transmic 1G NPC designated as SYNC source invalid
A4	Firmware timing invalid for Transmic 1G NPC
A5	AIS keyword incompatible with NPC type
AB	LEV keyword incompatible with NPC type
AC	LEV keyword not allowed with Intervention Level Feature OFF
04	This NPC type does not allow Payload
7E	Framed/Unframed clear 2Mbit/s NPC invalid for Automatic CRC-4
7F	Unframed clear 2Mbit/s NPC invalid for TS0 processing
80	Framed/Unframed clear 2Mbit/s NPC invalid for Transmic 1G, 2G
81	Framed/Unframed clear 2Mbit/s NPC invalid for Firmware Timing
82	Unframed clear 2Mbit/s NPC invalid for Bit 4 used as RA IS/RBER
85	IW not allowed to be specified in Clear 2Mbit/s
91	Option not programmable for this NPC type

GRTH,NPC,TYPE,OPTS,IW,X,AIS,MI,PMA,PMC

GROWTH NPC for PB and PC TYPES

Explanation Of Command

This message requests the equipage of one or more primary block or primary block coaxial network processing circuits in a facility terminating unit within a CEPT or Gateway frame. The system uses type PB with 120-ohm and type PC with 75-ohm facility terminating module interfaces.

This message is also used to enable the minor bit error rate (MBER) and signaling freeze delay time features.
When a range of NPCs is being equipped, the execution of this command may be aborted by entering the ABT command.

Although the NPC type field is optional for PB and PC types, it is required if the options field is specified.

One output message is printed for each NPC requested and successfully provisioned.

Provisioning commands where the specified NPC range crosses a Unit boundary will be denied.

When a provising command addressing a range of NPCs is denied for successive NPCs in the range for the same reason, a summary denial message will be output, giving the range of NPC numbers denied and the reason for the denial.

When a provisioning command addressing a range of NPCs within a unit crosses a facility terminating module (FTM) boundary, if the FTM is unequipped or provisioned as a CEPT module, then the FTM will be skipped as a whole, with a summary denial message, as noted below.

- If the type field is specified, and it is inconsistent with the first FTM specified or the first FTM specified is unequipped, the entire command is denied. Otherwise, the specified type field is applied to the entire NPC range.
- If the type field is omitted, the NPC type will default to the type of the first FTM, either domestic or CEPT.

Whether or not the type field is specified, if an FTM, beyond the first one addressed, is of a different type, that entire FTM will be denied.

The execution of the normal completions, or of denials for a reason other than diagnostic failures, then resumes at the next NPC and continues until the end of the range.

A summary denial message will not be issued for denial of range NPC RESTORE commands if the reason is an NPC diagnostic failure. In this case, there is one output message for each NPC in the range.

Command

Nonhierarchical

[I.31362]

```
GRTH:FRM xy,SEQ ww:NPC [s]abc[-[t]def]\
[,TYPE mnxyz][,OPTS (rr/<m>[,rr/<m>...])]\
[,IW X'pq[r]][,AIS {MI|PMA|PMC|DMA}][,LEV g]!
```

Hierarchical

[I.31362]

```
GRTH:FRM xy,SEQ ww:NPC uvmnp[-uvkqr]\
[,TYPE mnxyz][,OPTS (rr/<m>[,rr/<m>...])]\
[,IW X'pq[r]][,AIS {MI|PMA|PMC|DMA}][,LEV g]!
```

Completion Message

Nonhierarchical

[O.31362]

```
M hh:mm:ss xy,ww n GRTH NPC [s]jkl TYPE mnxyz IW pqr \
[ AIS {MI|PMA|PMC|DMA}][ LEV g]  4 LN MSG:
24 HOUR                DM        SERS      ERS       US     \
   SLIP
THRESHOLDS             nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS                e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n GRTH NPC [s]jkl TYPE mnxyz IW pqr \
[ AIS {MI|PMA|PMC|DMA}][,LEV g]  4 LN MSG:
SHORT INTERVAL         DM        SERS      ERS       US     \
   SLIP
THRESHOLDS             nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS                e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n GRTH NPC [s]jkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

Hierarchical

[O.31362]

```
M hh:mm:ss xy,ww n GRTH NPC uvjkl TYPE mnxyz IW pqr \
[ AIS {MI|PMA|PMC|DMA}][ LEV g]  4 LN MSG:
24 HOUR                DM        SERS      ERS       US     \
   SLIP
THRESHOLDS             nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS                e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n GRTH NPC uvjkl TYPE mnxyz IW pqr \
[ AIS {MI|PMA|PMC|DMA}][ LEV g]  4 LN MSG:
SHORT INTERVAL         DM        SERS      ERS       US     \
   SLIP
THRESHOLDS             nnnnn     ppppp     qqqqq     rrrrr  \
   sssss
OPTIONS                e         f         g         h      \
   i   EOM


M hh:mm:ss xy,ww n GRTH NPC uvjkl TYPE mnxyz TS0 abcdefgh \
TS0M abcdefgh COMPL
```

Denial Message

Nonhierarchical

[O.31362.01]

```
M hh:mm:ss xy,ww n GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz\
[ ss/n][ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][LEV g] COND cc DNY
```

If the output message requires more than 80 characters:

```
M hh:mm:ss xy,ww n GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz  2 LN MSG:
[ ss/n][ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][ LEV g] COND cc DNY
```

[O.31362.02]

```
M hh:mm:ss xy,ww n GRTH NPC [s]jkl[-[t]mno] TYPE mnxyz EQD \
DNY
```

Hierarchical

[O.31362.01]

```
M hh:mm:ss xy,ww n GRTH NPC uvjkl[-uvmno] TYPE mnxyz\
[ ss/n][ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][ LEV g] COND cc DNY
```

If the output message requires more than 80 characters:

```
M hh:mm:ss xy,ww n GRTH NPC uvjkl[-uvmno] TYPE mnxyz  2 LN MSG:
[ ss/n][ IW pq[r]][ AIS {MI|PMA|PMC|DMA}][ LEV g] COND cc DNY
```

[O.31362.02]

```
M hh:mm:ss xy,ww n GRTH NPC uvjkl[-uvmno] TYPE mnxyz EQD DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, the first NPC of a range specification.

[t]def - The 3- or 4-digit nonhierarchical NPC number, the last NPC of a range specification.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, the first NPC of a range specification.
uvkqr - Hierarchical NPC number, the last NPC of a range specification.

uv - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TYPE - Type

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mn - NPC Type

mn	*Explanation*
PB	CEPT NPC (120-Ohm twisted pair)
PC	CEPT NPC (75-Ohm coaxial)

If the NPC TYPE field is omitted, the NPC type will default to PB100 or PC100 depending on how the FTMI is provisioned (75- or 120-ohm NPCs).

The argument xyz is to be interpreted as a 3-digit hexadecimal number. The 12 bits in xyz, represented as abcd efgh jklm, indicate the selection of provisioning options for the NPC.

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Additionally:

- If the NPC is not located in a sync NPC location, bit "b" set to "1" will be denied.
- For telephone channel numbering, channels 16 to 30 occupy time slots 17 to 31.
- For time slot channel numbering, channels 16 to 30 occupy time slots 16 to 30.
- For NSA NPCs (bit d = 0), bits "f" and "g" are don’t cares: any values are accepted.
- If bit "d" is set to "1" (that is, a CAS NPC) and "jkl" is "110" (that is, Transmic 1G), the command will be denied.
- If bit "d" is set to "1" (that is, a CAS NPC) and bit "e" is "1" for time slot channel numbering, the command will be denied.

OPTS - Options

rr - Facility performance parameter number

Variable rr specifies the parameter whose alarm threshold is being selected.

<m> - Facility performance parameter threshold index (0 through X’10’)

Variable <m> is used to select threshold values previously programmed for rr. The default threshold value for each parameter is shown in the table below under the column heading "Default Threshold Value". This is the value selected by m = 0, 1, 2 or d in the table of <m> values following the parameter table. A given value of m selects both the performance monitoring threshold level and the alarm type associated with it as shown in that table. Threshold values selected by values of m other than the default must exist, that is, must have been programmed, prior to being selected. These other thresholds can be set by using the CHG,SETOP, TYPE,ALL,NPCOP command. Thresholds of all unspecified parameters will be set to the default value associated with m=0. Although the NPC type field is optional for PB and PC types, the options field must not be given without the NPC type field.

For PB and PC type NPCs:

rr	Parameter	Threshold Value Range	Default Threshold Value
31	Degraded Minutes, 1 hour	1-60	60
32	Degraded Minutes, 24 hours	1-1440	1440
33	Severely Errored Seconds, 15 mins	1-900	900
34	Severely Errored Seconds, 24 hours	1-65535	65535
35	Errored Seconds, 15 minutes	1-900	900
36	Errored Seconds, 24 hours	1-65535	65535
37	Unavailable Seconds, 15 minutes	1-900	900
38	Unavailable Seconds, 24 hours	1-65535	65535
39	Slips, 15 minutes	1-900	900
40	Slips, 24 hours	1-65535	65535

Note 1: 24-hour thresholds must be greater than their respective 15-minute or 1-hour threshold.

For PA, PB, and PC type NPCs:

In the following table these definitions apply:

MI	Maintenance Information
DMA	Deferred Maintenance Action Minor Alarm
PMA Major	Prompt Maintenance Action Major Alarm
PMA Critical	Prompt Maintenance Action Critical Alarm

<m>	Threshold Value	Alarm Type
0	Default	MI (Maintenance Information)
1	Default	DMA (Deferred Maintenance Minor Alarm)
2	Default	PMA (Prompt Maintenance Major Alarm)
3	Set 1	MI
4	Set 1	DMA
5	Set 1	PMA Major
6	Set 2	MI
7	Set 2	DMA
8	Set 2	PMA Major
9	Set 3	MI
a	Set 3	DMA
b	Set 3	PMA Major
c	Threshold disabled	no alarm
d	Default	PMA Critical
e	Set 1	PMA Critical
f	Set 2	PMA Critical
10	Set 3	PMA Critical

Note 1: m = 0 is the default.

Note 2: Threshold values for Set 1, Set 2, and Set 3 must be set (programmed) by using the command mentioned in the explanation of m above before variable **m** can be used to select threshold levels and alarm types other than the defaults.

Note: If the queried NPC can not be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options will still be correctly output.

In addition, certain parameters do not apply. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

IW - Insertion Word

pq[r] - Hexadecimal value of the Growth Insertion Word (GIW)

Used in the transmit direction on unassigned channels for CEPT NPCs.

pq transmitted data information
r transmitted signaling information

A special code, called the Growth Insertion Word (GIW), is transmitted by this NPC on unassigned channels. This code is specified by the optional keyword **IW** and its argument **pq**.

This code was previously called the Disconnect Code (DCC), but that name is properly reserved for the TCON Insertion Word, which is transmitted when the **"TDIS::FROM,TO,...,DCC"** *command is used.*

For PB and PC type NPCs, the IW argument is X'pq[r], and the default GIW code is X'D5D (Binary: 11010101 1101). Hexadecimal digits "pq" represent the CEPT insertion word for cross-connected time slots and hexadecimal digit "r" represents the CEPT signaling option. The "r" digit is needed to accommodate the cross-connected CEPT time slot and its associated portion of TS16 used for signaling when provisioned for channel associated signaling (CAS).

Although the "r" digit is accepted on input, for NSA NPCs, it has no significance.

AIS - Alarm indication signal

LEV - Intervention Level
g Intervention Level Setting(1-6)

Intervention Level is a feature that changes the Alarm Severity of an alarm based on the alarm severity and the Intervention Level setting.

MI - Maintenance information

This is the default option.

PMA - Prompt maintenance major alarm

DMA - Deferred maintenance minor alarm

PMC -Prompt Maintenance Critical Alarm

[s]jkl - Nonhierarchical NPC number ([s]abc ≤ [s]jkl ≤ [t]def)
[t]mno - Nonhierarchical NPC number ([s]jkl ≤ [t]mno ≤ [t]def)

uvjkl - Hierarchical NPC number (uvmnp ≤ uvjkl ≤ uvkqr)
uvmno - Hierarchical NPC number (uvjkl ≤ uvmno ≤ uvkqr)

Note: uvjkl and uvkqr are in the **same** unit.

ss/n - First improper value of "rr/<m>" for which the message is denied.

For each NPC listed, this message prints out values of the states, counts, thresholds and options of the following facility performance parameters and the spare international and national bits in time slot 0 for CEPT NPCs.

For PB and PC type NPCs:

DM - Degraded Minutes

nnnnn - 24-hour Degraded Minutes threshold
nnnnn - 1-hour DM threshold

e - 24-hour Degraded Minutes threshold/alarm selection
e - 1-hour DM threshold/alarm selection

SERS - Severely Errored Seconds

ppppp - 24-hour Severely Errored Seconds threshold
ppppp - 15-minute SERS threshold

f - 24-hour Severely Errored Seconds threshold/alarm selection
f - 15-minute SERS threshold/alarm selection

ERS - Errored Seconds

qqqqq - 24-hour Errored Seconds threshold
qqqqq - 15-minute ERS threshold

g - 24-hour Errored Seconds threshold/alarm selection
g - 15-minute ES threshold/alarm selection

US - Unavailable Seconds

rrrrr - 24-hour Unavailable Seconds threshold
rrrrr - 15-minute US threshold

h - 24-hour Unavailable Seconds threshold/alarm selection
h - 15-minute US threshold/alarm selection

SLIP - Slip Events

sssss - 24-hour Slip Events threshold
sssss - 15-minute SLIP threshold

i - 24-hour Slip threshold/alarm selection
i - 15-minute SLIP threshold/alarm selection

For SHORT INTERVAL, DM is calculated hourly and SERS, ERS, US, and SLIP are calculated at 15 minute intervals.

The **TS0 abcdefgh** variables represent international and national bits in time slot‘0, as defined by:

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

These variables are set to their default values "11011111" by this command, except for the Transmic‘1G option, where the default is "11000000."
The variables may later be changed by setting the abcdefgh parameters in the TS0 field of the CHG::NPC command.

Each of the variables may then be set to "0", "1", or "P." "P" indicates that the incoming bit will be cross-connected unchanged.

When TS0 is cross-connected, the TS0 bits will be either passed, or set to "0" or "1" as indicated by the "abcdefgh" variable values. Note that bits which are used for alarms (bit 3 always; bits 4 and 5 if provisioned by the **mnxyz** values) may not be set to "P."

This is also true for NPCs assigned as test port NPCs.

The **TS0M abcdefgh** field allows monitoring of state changes in the received spare international bits, where the "abcdefgh" variables refer to the same TS0 bits as defined above for the TS0 "abcdefgh" variables.

The TS0M variables are specified for monitoring in the command as:

The default values for TS0M variables are **abcdefgh=00000000**, unless the **xyz** parameters set them differently, that is, for Transmic‘1G the abcdefgh=00111111. The TS0M variables may later be provisioned by the CHG::TS0M‘abcdefgh or the ED-PRMTR-EQPT TS0M-abcdefgh (38323) command.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
20	Option rr/m has not been set up on 2nd database
24	Unit type error
26	NPC type error
34	NPC type option xyz is unassigned, or invalid for feature package
83	NPC type is inconsistent with FTMI type
84	Incompatible types of NPCs on a circuit pack
14	1 hr >= 24 hr for DM opt
15	15 min >= 24 hr for SERS opt
16	15 min >= 24 hr for ERS opt
17	15 min >= 24 hr for US opt
18	15 min >= 24 hr for SLIP opt
31	NPC not provisioned for NSA
32	Bit 3 provisioned for use as RAI3
33	Bit 4 provisioned for use as RAIS
3A	Bit 4 provisioned for use as RBER
3B	Bit 5 provisioned for use as SFI
3C	Bits 3 through 8 are provisioned for Transmic 1G
3D	Alarm bits cannot be passed through or inverted
B0	Combination of bit g (b7) and h (b8) is invalid
BB	Timeslot channel numbering not allowed with CAS
CD	NPC not designated as sync timing source
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
FD	NPC range crosses unit boundary
1A	The facility parameter not programmable for specified x or z parameter
A3	Transmic 1G NPC designated as SYNC source invalid
A4	Firmware timing invalid for Transmic 1G NPC
A5	AIS keyword incompatible with NPC type
AB	LEV keyword incompatible with NPC type
AC	LEV keyword not allowed with Intervention Level Feature OFF
04	This NPC type does not allow Payload
91	Option not programmable for this NPC type

GRTH,SYNC,TB,TYPE

GROW SYNCHRONIZER TIME BASE

Explanation Of Command

This message requests equipage of the time base circuit packs of the synchronizer. Both sides of the time base (sides 0 and 1) will be equipped by entering this command.

Command

[I.31101]

GRTH:FRM xy,SEQ ww:SYNC,TB,TYPE TBpqr!

Completion Message

[O.31101]

M hh:mm:ss xy,ww n[vv] GRTH SYNC TB TYPE TBpqr COMPL

Denial Message

[O.31101.01]

M hh:mm:ss xy,ww n[vv] GRTH SYNC TB TYPE TBpqr COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TB - Time base

p - Time base identifier

qr - Unassigned

q and r can take any value from 0 through 9

p	*Time base*
0	Stratum 3
1	CEPT Local
2	CEPT Toll
3	Stratum 2

cc - Hexadecimal condition code

cc	*Explanation*
AA	Syncs are equipped

GRTH,SYNC,TLI,TYPE

GROWTH CLOCK REFERENCE OSCILLATOR

Explanation Of Command

This message requests equipage of the synchronizer time base as a clock reference oscillator (CRO), which is the extra (third) time base on the synchronizer. The CRO is required to provision the synchronizer to the master mode and is located in timing link interface 3 of side 1 of the synchronizer.

Command

[I.31111]

```
GRTH:FRM xy,SEQ ww:SYNC,TLI 3,TYPE TBpqr!
```

Completion Message

[O.31111]

```
M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI 3 TYPE TBpqr CRO COMPL
```

Denial Message

[O.31111.01]

```
M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI 3 TYPE TBpqr CRO \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TLI - Timing Link Interface

TYPE - Type

TB - Time base

p - Time base identifier

qr - Unassigned

q and r can take any value from 0 through 9

p	*Time base*
0	Stratum 3
1	CEPT Local
2	CEPT Toll
3	Stratum 2

CRO - Clock reference oscillator

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
01	Subject entity is equipped
16	SYNC TB is not equipped
33	Wrong TLI type
A5	(Timing Distributor) TLI is not equipped
A7	Sync 0 is not in-service
A8	Sync 1 is not in-service
A9	Both syncs are out-of-service
AA	Syncs are equipped
AB	Bad sync mode

GRTH,SYNC,TLI,TYPE,SSP,SRC,NPC

PROVISION SYNCHRONIZER TIMING LINK INTERFACE

Explanation Of Command

This message requests provisioning of the synchronizer's timing link interface. The TLI can be configured as a timing extractor or as a timing distributor.

If the timing extractor is selected, you must also select synchronizer sync port (SSP) 0 or 1 and its source for priority.

Timing extractor types must be compatible for both **SSP 0** and **SSP 1**.

Command

Nonhierarchical

[I.31121]

```
GRTH:FRM xy,SEQ ww:SYNC,TLI m,\
{TYPE texyz,SSP a,SRC p[,NPC [0]abc]|TYPE TDxyz}!
```

Hierarchical

[I.31121]

```
GRTH:FRM xy,SEQ ww:SYNC,TLI m,\
{TYPE texyz,SSP a,SRC p[,NPC uvmnp]|TYPE TDxyz}!
```

Completion Message

Nonhierarchical

[O.31121]

```
M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI m  2 LN MSG:
{TYPE texyz SSP a SRC p[ NPC [0]abc]|TYPE TDxyz} COMPL
```

Hierarchical

[O.31121]

```
M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI m  2 LN MSG:
{TYPE texyz SSP a SRC p[,NPC uvmnp]|TYPE TDxyz} COMPL
```

Denial Message

Nonhierarchical

[O.31121.01]

```
M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI m  2 LN MSG:
{TYPE texyz SSP a SRC p[ NPC [0]abc]|TYPE TDxyz} COND cc DNY
```

Hierarchical

[O.31121.01]

```
M hh:mm:ss xy,ww n[vv] GRTH SYNC TLI m  2 LN MSG:
{TYPE texyz SSP a SRC p[ NPC uvmnp]|TYPE TDxyz} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TLI - Timing link interface

m - TLI number (1 through 4)

TYPE - Type

texyz - Timing Extractor type

te	*Explanation*
TC	Composite Clock Timing Extractor
TE	DS1 Timing Extractor
TP	Primary Block Timing Extractor
TR	Basic System Reference Frequency (BSRF)
TU	Unipolar Clock Timing Extractor

Note: For the TC, TU and TR timing extractors the x, y and z parameters can be any value from 0 to 9.

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SSP - Synchronizer synchronization port

a - SSP number (0 or 1)

Required when texyz is specified.

Note: Timing Extractors must have the same "te" type for both SSP 0 and SSP 1.

SRC - Source

p - Priority (1 through 8)

Required when texyz is specified. 1 = HIGHEST priority, 8 = LOWEST priority

TDxyz - Timing Distributor type

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NPC - Network Processing Circuit

The NPC keyword and its associated parameter are only specified in conjunction with the SSP and SRC keywords for TLI type TUxyz.

This keyword indicates that the synchronization signal is terminated in one of the facility terminating locations. Use of this keyword allows the DACS II system to correlate a synchronizing source failure to either an NPC failure or an NPC input signal failure.

[0]abc - The 3- or 4-digit nonhierarchical NPC number

Timing source NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

cc - Hexadecimal condition code

cc	*Explanation*
01	Subject entity is equipped
16	SYNC TB is not equipped
A7	Sync 0 is not in-service
A8	Sync 1 is not in-service
A9	Both syncs are out-of-service
AC	Timing Extractor type TLI (need SSP info)
AD	Not Timing Extractor type TLI (not SSP)
AE	Wrong TLI type (need CRO grow command)
AF	3 Timing Distributor type TLIs are equipped
B1	Illegal priority value
B2	Illegal SSP type (not same as other SSPs)
B3	X option is illegal
B4	Y option is illegal
B5	Z option is illegal
BE	Hardware mismatch or not present
CB	NPC parameter only valid with TU type TLI
CC	NPC is still provisioned to provide sync timing
CD	NPC not designated as sync timing source
CE	NPC already allocated as sync timing source

cc *Explanation*

CF NPC already grown as non-synchronization source
F1 Parameter only valid with PA, PB, or PC type NPCs
E4 NPC already has Equipment Loopback

GRTH,TG,NPCTG

GROWTH TEST-ACCESS GROUP

Explanation Of Command

This command is used to provision a test-access group (TG) as a network processing circuit for test groups (NPCTG) covering a specific channel range.

The TG consists of two bundles of n consecutive DS0 channels each. The TG's width is determined by the number of channels within the range specified in the command. The east bundle of the TG is located on the first NPCTG and spans the given channel range; the west bundle is located on the second NPCTG and spans the second channel range. Both bundles may be assigned to the same NPCTG, provided the necessary bandwidth is available.

Command

[I.31421]

```
GRTH:FRM xy,SEQ ww:TG mmm,NPCTG (rrr,eee[-fff];sss,www[-xxx])\
[,<tc>]!
```

Completion Message

[O.31421]

```
M hh:mm:ss xy,ww n[vv] GRTH TG mmm NPCTG (rrr,eee[-fff];sss,\
www[-xxx])  2 LN MSG:
[<tc>] COMPL
```

Denial Message

[O.31421.01]

M hh:mm:ss xy,ww n[vv] GRTH TG mmm[<tc>] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test (access) group

mmm - TG number (1 through 400)

NPCTG - NPC (for) test group

rrr - NPCTG number supporting the east bundle

sss - NPCTG number supporting the west bundle, may be same as rrr

eee,fff
- Channel range for east bundle

www,xxx
- Channel range for west bundle

001-030	Primary NPCs grown as Channel Associated Signaling (CAS)
001-031	Primary NPCs grown as Non Signaling Associated (NSA)

tc - Trunk conditioning

For this command trunk conditioning is limited to "TRSP,IW X'pq".
Any other trunk conditioning specification will be denied.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
1E	Customer control or red circuit exists
85	Using the 24th channel of a T1DM NPC
86	Using the 24th channel of a DMI NPC
4A	channel part of a TP or TG
4B	channel already under test
57	Designated TG or circuit to be tested in process of being rolled
59	Invalid TC specification
5D	Inconsistent Signaling on CEPT NPCTGs
64	TG width too large for single NPCTG
65	Ending channel is out of range
66	TG number previously assigned
95	TG East/West type inconsistent with each other or circuit
A0	TS16 specified for CAS TG
A1	NPC has been designated as NPCTG
A3	Channels assigned, cannot be grown as test group
A8	NPCTG not grown

GRTH,TP

GROW TEST PORT

Explanation Of Command

This message requests the provisioning of a test port.

If trunk conditioning is omitted from the input command the test port is provisioned as a *dynamic* test port. A dynamic test port's trunk conditioning is set to match the trunk conditioning of the circuit under test at the time the circuit is accessed.

If trunk conditioning is given in the input command the test port is provisioned as a *static* test port. A static test port's trunk conditioning is set at the time the port is provisioned. Its trunk conditioning does not change when a circuit is accessed for testing.

The *static* or *dynamic* designations have meaning only for access to unmapped terminations.

For access to a mapped termination, trunk conditioning is always adopted from the circuit under test.

Command

[I.31411]

```
GRTH:FRM xy,SEQ ww:TP kk[,<tc>]!
```

Completion Message

[O.31411]

```
M hh:mm:ss xy,ww n[vv] GRTH TP kk [<tc>] COMPL
```

Denial Message

[O.31411.01]

```
M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] NPCTP UEQD DNY
```

[O.31411.02]

```
M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] TP NSO DNY
```

[O.31411.03]

```
M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] TERM ASGN DNY
```

[O.31411.04]

```
M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] IMPR TC DNY
```

[O.31411.08]

```
M hh:mm:ss xy,ww n[vv] GRTH TP kk[ <tc>] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TP - Test port

kk - Test port number (01 through 96)

A 2Mbit/s NPC will support 12 test ports numbered as follows:

TA Port	Channel	
	FROM	TO
01,13,25,37,49,61,73,85	5	6
02,14,26,38,50,62,74,86	7	8
03,15,27,39,51,63,75,87	9	10
04,16,28,40,52,64,76,88	11	12
05,17,29,41,53,65,77,89	13	14
06,18,30,42,54,66,78,90	16	17
07,19,31,43,55,67,79,91	18	19
08,20,32,44,56,68,80,92	20	21
09,21,33,45,57,69,81,93	22	23
10,22,34,46,58,70,82,94	24	25
11,23,35,47,59,71,83,95	26	27
12,24,36,48,60,72,84,96	28	29

tc - Trunk conditioning

Represents the desired signaling and insertion word to be applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP,IW X'pq (input form).

signaling	*Explanation*
TC(ijkl,mnop)	2-way, 4-state signaling in binary. For CEPT and ESF type framing format, software will expand 4-state to 16-state by duplicating the bits.
TC(efghijkl,mnopqrst)	2-way, 16-state in binary.
TC(X'ab,X'cd)	2-way, 16-state in hexadecimal.
TRSP	Transparent, no signaling.
Omitted	Cross-connections. Default is TC X'FF,X'FF if both terminations are channel associated signaling types. Default will be TRSP if one of the terminations is nonsignaling associated (NSA) type.

insertion word	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
Omitted	Will default to IW X'FF.

For 4-state signaling, the A/B signaling bits of both test port channels are specified by ijkl for the receive time slot interchange (RTSI), and by mnop for the transmit time slot interchange (TTSI).

For 16-state signaling, the A/B/C/D signaling bits of both test port channels are specified by efghijkl (or hexadecimal digits ab) for the RTSI, and by mnopqrst (or hexidecimal digits cd) for the TTSI.

NPCTP - NPC for test ports

UEQD - Unequipped

TP NSO - Test port not in sequence order

TERM - Terminated

ASGN - Assigned

IMPR - Improper

TC - Trunk conditioning

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
1E	Customer control or red circuit exists
82	Can not use 12-th TP when NPCTP is in the T1DM or DMI mode
FF	Termination is in process of being rolled
4B	channel already under test

GRTH,UNIT,FTMI,IMP

PROVISION FACILITY TERMINATING MODULE INTERFACE

Explanation Of Command

This message requests provisioning of the facility terminating module (FTM) and its interface and format converter in DACS II **`UNIT q`** with a specified termination impedance (75 or 120 ohms).

Command

[I.31321]

```
GRTH:FRM xy,SEQ ww:UNIT [q]q,FTMI d,IMP <imp>!
```

Completion Message

[O.31321]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q FTMI d FC 0d 1d IMP\
(<imp>) CEPT COMPL
```

Denial Message

[O.31321.01]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q FTMI d FC 0d 1d IMP\
(<imp>) CEPT COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FC - Format converter

0 - FC side 0
1 - FC side 1

d - FC number (1 through 4)

FTMI - Facility terminating module interface

d - FTMI in the DACS II unit (1 through 4)

IMP - Impedance

imp - Impedance value

CEPT facility terminating module impedance setting

Valid values are listed below:

imp	*Explanation*
75	75-ohm coaxial termination
120	120-ohm twisted pair termination

CEPT - Conference of European Postaland Telecommunications Administration

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
01	Subject entity is equipped
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
24	Unit type error

GRTH,UNIT,TYPE

PROVISION A UNIT

Explanation Of Command

This command requests the provisioning of a DACS II unit.

This will result in the provisioning of the expanded time slot interchanger. When this request has completed, all circuit packs required by the subject unit to cross-connect to other equipped units have been provisioned.

The unit type is optionally specified in the **TYPE** field.

The unit type can be a facility terminating unit, a DS3 terminating unit, a Hybrid DS3 terminating unit, or a digital signal processing unit.

If the unit is a digital signal processing unit, its associated digital signal processing interface is also provisioned. If the unit is a DS3 or a Hybrid DS3 facility terminating unit, both of its associated service and protection facility line interface packs, both sides of its formatter or hybrid formatter packs (side 0 and 1), and its protection multiplexer or hybrid multiplexer are also provisioned. Only facility line interface packs, Hybrid Formatter packs (HFMT), and Hybrid Multiplexer packs (HMXR) can be equipped in the Hybrid DS3 facility terminating unit. Therefore, FMT and MXR as shown in the command output messages should be interpreted as HFMT and HMXR when the Hybrid DS3 Unit type HT100 is provisioned.

Note: DMB, ETSI, and FMT/HFMT circuit packs must be inserted into the inactive side of

DACS II. Inserting circuit packs into the active side may result in transmission "hits."

Command

[I.31211]

```
GRTH:[FRM xy][,SEQ] ww:UNIT [q]q[,TYPE utxyz]!
```

Completion Message

[O.31212]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT qq TYPE utxyz e LN MSG:
ETSI 0qq 1qq TOTAL ETSIS kk
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr
0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr 0rr 1rr\
[ COMPL]
[FMT 0 1   FLI S P   MXR P COMPL]
```

Note: If the unit type is FT100 or DP100, the output will be a 4-line message. If the unit type is DT100 or HT100, the output will be a 5-line message.

Denial Message

[O.31211.01]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q TYPE utxyz\
{EQD uexyz|NSUP} DNY
```

[O.31211.02]

```
M hh:mm:ss xy,ww n[vv] GRTH UNIT [q]q TYPE utxyz COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

utxyz - Unit type as submitted in the input message

uexyz - Type of unit already equipped as

uexyz	*Explanation*
FT100	FT = Facility Terminating Unit
DP100	DP = Digital Signal Processing Unit
HT100	HT = Hybrid DS3 Facility Terminating Unit

The unit type is optionally specified in the TYPE utxyz field. The unit type can be an FTxyz (Facility Terminating Unit), , a HTxyz (Hybrid DS3 Terminating Unit) or a DPxyz (Digital Signal Processing Unit) type.

Currently, only FT100, HT100, and DP100 types are supported by DACS II.

The unit type entered must be consistent with the unit type entered for the configuration file.

If the unit is a DPxyz type, its associated DSPI (Digital Signal Processing Interface) is also provisioned.

If the unit is a DTxyz or HTxyz type, both of its associated Service and Protection Facility Line Interface (FLI) packs, both sides of its Formatter (FMT) or Hybrid Formatter (HFMT) packs (side 0 and 1), and its Protection Multiplexer(MXR) or Hybrid Multiplexer (HMXR) pack are also provisioned.

If the unit type is not entered, the unit type will default to FT100.

e - Number of lines in message

Equals either 4 or 5 depending on the type of the unit provisioned.

ETSI - Expanded time slot interchanger

0qq - ETSI number side 0

1qq - ETSI number side 1

0qq and 1qq identify the ETSI packs provisioned by this command. qq is the unit number (see UNIT above).

Three dashes "---" are shown if an ETSI pack is not provisioned.

kk - Total number of provisioned ETSIs in frame (02 through 32)

rr - Unit number with the same definition as qq.

FMT - Formatter (FMT) or Hybrid Formatter (HFMT), sides 0 and 1 (automatically provisioned FMT with DT100 or HFMT with HT100 units)

FLI - Facility line interface

S - Service FLI (automatically provisioned with DT100 or HT100 units)

FLI - Facility line interface

P - Protection FLI (automatically provisioned with DT100 or HT100 units)

MXR - Multiplexer (MXR) or Hybrid Multiplexer (HMXR)

P - Protection multiplexer (MXR) or Hybrid Multiplexer (HMXR) (automatically provisioned MXR with DT100 or HMXR with HT100 units)

EQD - Equipped

NSUP - Not supported

cc - Hexadecimal condition code

cc	*Explanation*
27	Illegal connectivity specified
28	Connectivity contains unequipped units
97	Entity can't be addressed in this configuration
99	Unit type (xyz) not supported
CA	Connectivity can not be specified for CEF unit

ICI,RESET

STARTUP

Explanation Of Command

DACS II outputs this message immediately after a hardware reset. The message notifies remote systems by the major alarm state (indicated by ******) that the frame has reset.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01201]

```
**ICI RESET
```

Explanation Of Parameters

ICI	- Intelligent communications interface
RESET	- Reset Indicates a hardware reset of the frame

ICI,STARTUP,STF,ATP

STARTUP

Explanation Of Command

The intelligent communications interfaces has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or all tests passed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01211]

`ICI STARTUP {STF|ATP}`

Explanation Of Parameters

ICI	- Intelligent communications interface
STARTUP	- Startup Indicates initialization
STF	- Some tests failed
ATP	- All tests passed

IN,PROGRESS

GENERIC IN PROGRESS MESSAGE

Explanation Of Command

This output message indicates that the requested action (verb) is in progress.

Command

Not applicable.

Completion Message

[O.55703]

```
M hh:mm:ss xy,ww n[vv] <verb> IN PROGRESS
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

Not applicable.

INHSW,UNIT,MMFG,TOPRTN,TOSRVC

INHIBIT SWITCH MMFG

Explanation Of Command

This message requests the inhibition of automatic protection switching from multiplexer-multiple interface unit functional group (MMFG) c on a DS3 unit (DS3U) or a Hybrid DS3 unit (HDS3U) to MMFG P or the automatic switchback from MMFG P to service MMFG c (when MMFG c becomes in-service). Only automatic switches due to failure will be affected by this message.

If **`TOPRTN`** is specified and MMFG P is already protecting the MMFG c's facility, the command will be denied.

If **`TOSRVC`** is specified and MMFG c is not under protection, the command will be denied.

This inhibition will be removed if a switch occurs from the "selected" MMFG.

Command

[I.35311]

`INHSW:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d],{TOPRTN|TOSRVC}!`

Completion Message

[O.35311]

```
M hh:mm:ss xy,ww n[vv] INHSW UNIT [q]q MMFG a {TOPRTN|TOSRVC} \
COMPL
```

Denial Message

[O.35311.01]

```
M hh:mm:ss xy,ww n[vv] INHSW UNIT [q]q MMFG a {TOPRTN|TOSRVC} \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

MMFG - Multiplexer-multiplexer interface unit functional group

c,d - The number of the MMFG within the unit (1 - 6)

TOPRTN - To protection

TOSRVC - To service

When TOSRVC is specified, a range of MMFGs is not acceptable. In this case the command will be denied.

a - The number of the service MMFG within the range c and d

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
4E	The switch is already inhibited

INSTALL

UTILITY FOR APPLICATION SOFTWARE RELEASE INSTALLATION, REMOVAL, AND UPGRADE

Explanation Of Command

Software that runs on the Digital Signal Processing Platform (DSPP) circuit pack is called application software because it is treated by DACS II as a separate and distinct application that interacts with the DACS II generic software through an operating system like interface. Applications for the DSPP circuit pack are packaged and shipped as separately orderable software releases on PCMCIA cards. Documentation for an individual application is also separate from regular DACS II documentation and is shipped together with the PCMCIA card containing that application.

This command **`(INSTALL)`** performs installation services for application releases. These services consist of:

1. Listing application releases currently installed.
2. Installation of a new application release.
3. Upgrading an older release of an application with a newer release of that application.
4. Removal of an application release.

Usage of this command is limited to the Frame Administrator and users with Restricted Maintenance privileges. The following configuration must be present for a successful application installation, removal, or upgrade.

1. The Main Controller (MC) must be in Maintenance Condition (MCOND).
2. The SMEM slot of the MC must contain the following depending on the task:

— For installing or upgrading an application the SMEM slot must have inserted into it a PCMCIA card purchased from Lucent Technologies that contains the application to be installed or upgraded.

— For removing an application the SMEM slot should contain the normal DACS II card with the current executables and system database.

This command allows the listing of application version information, but DACS II must be in MCOND for this to work. Command I.51001 UTL::QRY,MEMSTAT should be used for listing application version information while DACS II is in-service.

To install DSPP Application software, follow the Installation Procedure in the Software Release Description which should have accompanied the software. The following steps can be considered an overview:

1. The Main Controller must be placed in Maintenance Condition (MCOND).
2. The regular memory card in the SMEM slot must be removed logically and physically.
3. The memory card with the application must be inserted into slot SMEM and then must be restored.
4. The customer must invoke the INSTALL command as shown in the input command format section.
5. The INSTALL command appears as shown in Menu Display 1 below. The user is asked to respond with a number between "1" and "3" or with a "Q" to quit. A response of "1" initially generates a response as shown in Menu Display 1, which shows that in the PMEM slot there is a regular DACS II memory card. This card does not have an application program, thus no application line is shown. The memory card in the SMEM slot is identified as an application distribution card (called DSP DISTRIBUTION CARD), and it **does** have an application on it. Note that the type, the version, and the date stamp of when the application was built is given; this is the identity of the application.
6. The actual install happens when the user responds with a "2" to the INSTALL menu. This is shown in Menu Display 4.
7. Then the user can quit out of the install menu as shown in Menu Display 9.

Upgrading an application from one version to another is a very similar procedure as given above. The memory card carrying the new version of the application must be in the SMEM slot. Menu Display 3 shows what a listing of the applications looks like. Notice that the regular DACS II card in PMEM has the application version that is to be replaced, while the application card in the SMEM slot has the application version that is to replace the current version. Menu Display 5 shows how the actual upgrade takes place if no NPCs are actually running the application. Menu Display 6 shows how the actual upgrade takes place if at least one NPC is running the application. The user gets a chance to reconsider the upgrade, which must be responded to with a "Y", before the actual upgrade takes place. Please note that as part of the upgrade the application is downloaded into the appropriate DSPP Circuit Pack(s) if they are in service and each affected DSPP Circuit Pack is then

rebooted after the download is complete. This last step happens at the time the MC is placed back into service.

Menu Display 7 shows how to remove an application from the regular DACS II memory card. Again, the user is required to respond to "ARE YOU REALLY SURE" questions to ensure that no inadvertent mistakes are made. Menu Display 8 shows what happens when an attempt is being made to remove an application when at least one NPC is still running that application. The removal attempt is denied.

As previously stated, the execution of the **INSTALL** command generates a menu for the user. These menus are shown in nine displays next:
Menu Display 1:

Listing application releases (No application installed, but application card in SMEM slot):

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:1

DSP LOADS ON MEMORY CARDS:

=============== LOADS ON PMEM: (DACS II CARD) =================
NAME             BYTES  TYPE  VERSION    DATE BUILT
--------------- ------- ---- ------------ --------------------

=========== LOADS ON SMEM: (DSP DISTRIBUTION CARD) ============
NAME             BYTES  TYPE  VERSION    DATE BUILT
--------------- ------- ---- --------- ------ ----------------
SDxload          bbbbbb  SDx  g.ii.rr  yy/mm/dd hh:mm:ss

-----------------------------------------------------------------
```

Menu Display 2:

Listing application releases (Both PMEM and SMEM have the same application):

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:1

DSP LOADS ON MEMORY CARDS:

=============== LOADS ON PMEM: (DACS II CARD) ================
NAME             BYTES  TYPE  VERSION    DATE BUILT
--------------- ------- ---- --------- -----------------------
SDxload          bbbbbb  SDx  g.ii.rr  yy/mm/dd hh:mm:ss

=============== LOADS ON SMEM: (DACS II CARD) ================
NAME             BYTES  TYPE  VERSION    DATE BUILT
--------------- ------- ---- --------- -----------------------
SDxload          bbbbbb  SDx  g.ii.rr  yy/mm/dd hh:mm:ss

-------------------------------------------------------------
```

Menu Display 3:

Listing application releases (PMEM and SMEM have different versions of the same application, SMEM has an application card)

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:1

DSP LOADS ON MEMORY CARDS:

=============== LOADS ON PMEM: (DACS II CARD) ================
NAME             BYTES  TYPE  VERSION    DATE BUILT
--------------- ------- ---- --------- -----------------------
SDxload          bbbbbb  SDx  g.ii.rr  yy/mm/dd hh:mm:ss

=========== LOADS ON SMEM: (DSP DISTRIBUTION CARD) ===========
NAME             BYTES  TYPE  VERSION    DATE BUILT
--------------- ------- ---- --------- -----------------------
SDxload          bbbbbb  SDx  g.ii.rr  yy/mm/dd hh:mm:ss

-------------------------------------------------------------
```

Menu Display 4:

Installing a new application release:

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:2
Installing DSP load file: x.xx/SDxload, bbbbbb bytes from SMEM to PMEM

Installation Complete, Number of files installed from SMEM to PMEM: 1.
```

Menu Display 5:

Upgrading an older release of an application with a newer release of that application:

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:2
WARNING: different SDxload file exists on target: PMEM
OLD (PMEM): SDxxx g.ii.rr  yy/mm/dd hh:mm:ss
NEW (SMEM): SDxxx g.ii.rr  yy/mm/dd hh:mm:ss
0 NPCs may be affected

Do you wish to continue overwrite of this file? [y/N]:Y
Installing DSP load file: x.xx/SDxload, bbbbbb bytes from SMEM to PMEM

Installation Complete, Number of files installed from SMEM to PMEM: 1.
```

Menu Display 6:

Upgrading an older release of an application with a newer release
of that application while at least one NPC is running the application.

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:2
WARNING: different SDxload file exists on target: PMEM
OLD (PMEM): SDxxx g.ii.rr  yy/mm/dd hh:mm:ss
NEW (SMEM): SDxxx g.ii.rr  yy/mm/dd hh:mm:ss
x NPCs may be affected

Do you wish to continue overwrite of this file? [y/N]:Y
Installing DSP load file: x.xx/SDxload, bbbbbb bytes from SMEM to PMEM

Installation Complete, Number of files installed from SMEM to PMEM: 1.
```

Menu Display 7:

Removing an application release:

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:3

WARNING:  This function will REMOVE a DSP PLATFORM load
          from the DACSII flash card you specify.

Are you REALLY SURE you wish to proceed? [y/N]: Y
Enter Device [A=PMEM, B=SMEM]: A
------------------ REMOVE FILES: PMEM DEVICE ------------------

         1.  Remove SDxload              (  bbbbbb bytes)
         Q.  QUIT

Enter File number to remove, or "Q" to QUIT: 1
WARNING:  This will remove SDxload on PMEM.

Are you REALLY sure? [y/N]: Y
File SDxload removed from PMEM.
```

Menu Display 8:

Attempting to remove an application release when NPCs are running that application:

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:3

WARNING:  This function will REMOVE a DSP PLATFORM load
          from the DACSII flash card you specify.

Are you REALLY SURE you wish to proceed? [y/N]: Y
Enter Device [A=PMEM, B=SMEM]: A
----------------- REMOVE FILES: PMEM DEVICE -----------------

 1.  Remove SDxload              (  bbbbbb bytes)   1 NPCs using load!
 Q.  QUIT

Enter File number to remove, or "Q" to QUIT: 1
Can’t remove file SDxload, there are 1 NPCs using this load
```

Menu Display 9:

Quitting the INSTALL menu:

```
********** DSP PLATFORM - LOAD INSTALLATION UTILITY ***********

        1.  List DSPP Load Files
        2.  Install DSPP Load Files
        3.  Remove DSPP Load Files

Enter number of command [1-3], or Q to QUIT:Q
INSTALL QUIT
```

Command

[I.55721]

INSTALL;

Completion Message

[O.55721]

```
<install menu> and <user responses>
INSTALL QUIT
```

Denial Message

```
M hh:mm:ss  xy,ww n[vv] INSTALL 2 LN MSG:
[MUST BE USER DAX OR HAVE RMON PRIVILEGE TO USE INSTALL DNY]
[FRAME MUST BE IN MCOND TO USE INSTALL DNY]
```

Autonomous Message

Not applicable.

Explanation Of Parameters

INSTALL
- Invoke the install menu to list, install, upgrade, or remove application files.

g.ii.rr - Generic.issue.release string that identifies the version of the application

SDx - The "x" in the type field SDx identifies the application

SD1	X.50/X.57 Subrate application
SD3	Digital Multipoint Bridge application
SD4	DDS Subrate and Multipoint Junction Unit application
SDx	Any future application with identity "x"

bbbbbb - Number of bytes in this version of the application

INVALID,SFW,ID,BLOCK,COND

INVALID SOFTWARE IDENTIFICATION BLOCK

Explanation Of Command

This message indicates that either a software identification block check failed or that a mismatch exists in the generic number, point issue, or release number.

Command

Not applicable.

Completion Message

[O.01291]

```
I hh:mm:ss xy,ww   INVALID SFW ID BLOCK COND cc COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

SFW - Software

ID - Identification

BLOCK - Block

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
20	Software Identification Block is not readable
21	Software Identification Block failed comparison
22	Release number mismatch
23	Point number mismatch
24	PDI Version number mismatch
A5	FPI on SMEM does not match one on PMEM

LINE

QUERY LINE NUMBER

Explanation Of Command

This command retrieves the current line number and the total number of lines within the macro while in a macro session.

Command

[I.19071]

```
LINE[:FRM xy,SEQ ww:]!
```

Completion Message

[O.19071]

```
M hh:mm:ss xy,ww n[vv] LINE <line pointer> TOTAL \
<line total>  COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

LINE	- Line
line pointer	- Current line number
TOTAL	- Total
line total	- Total number of lines within the macro

LIST,END

LIST MACRO CONTENTS

Explanation Of Command

This command is used to list the contents of a macro. If neither a range of line numbers nor END is specified then the line pointed to by the line pointer (the current line) is listed.

Command

[I.19061]

```
LIST[:FRM xy,SEQ ww:{<starting line>|END}[-{<ending line>|\
END}]]!
```

Completion Message

If the macro contains no component command,

[O.19061]

```
M hh:mm:ss xy,ww n[vv] LIST[ {<starting line>|\
END}[-{<ending line>|END}]] NONE  COMPL
```

If the macro contains one or more component commands,

[O.19062]

```
M hh:mm:ss xy,ww n[vv] LIST[ {<starting line>|\
END}[-{<ending line>|END}]]  e LN MSG:
00001 <first 65 characters of 1st component command text>
  <remaining characters of 1st component command text>
                            .
                            .
                            .
mmmmm <first 65 characters of mth component command text>
  <remaining characters of mth component command text>  \
{EOM|COMPL}

M hh:mm:ss xy,ww n[vv] LIST[ <starting line>\
[-<ending line>]]  e LN MSG:
nnnnn <first 65 characters of nth component command text>
  <remaining characters of nth component command text>
                            .
                            .
                            .
ppppp <first 65 characters of pth component command text>
  <remaining characters of pth component command text>  \
{EOM|COMPL}

M hh:mm:ss xy,ww n[vv] LIST[ <starting line>\
[-<ending line>]]  e LN MSG:
qqqqq <first 65 characters of qth component command text>
  <remaining characters of qth component command text>
                            .
                            .
                            .
zzzzz <first 65 characters of zth component command text>
  <remaining characters of zth component command text>  \
COMPL
```

Denial Message

[O.19061.01]

```
M hh:mm:ss xy,ww n[vv] LIST[ {<starting line>|\
END}[-{<ending line>|END}]] COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

starting line

- Beginning line number of a line range (1, 2, ..., n)

Starting line indicates the line number of the first line of a range of lines within a macro that are to be listed.

ending line

- Ending line number of a line range (2, 3, ..., n+1)

Ending line indicates the line number of the last line of a range of lines within a macro that are to be deleted.

END - End

Line number of the line at the end of the macro.

00001,
mmmmm,
nnnnn,
ppppp,
qqqqq,
zzzzz - Component command line numbers (00001 through 99999)

cc - Hexadecimal condition code

cc	*Explanation*
6B	Invalid line number
6E	No edit session active

LOGIN,USER,PASSWD

LOG ON TO DACS II

Explanation Of Command

Note: Before logging on to DACS II for the first time, it is suggested that the user thoroughly read the documentation for this message.

This command allows a user or frame administrator to identify himself/herself to DACS II by an identification code, the **`user id`**, on any link.

DACS II checks the user id and password against entries previously stored in the data base. If the user is not authorized, DACS II will deny the input command.

A user can log on to DACS II from more than one link.

If on a Snider administrative link, the command must be entered as follows:

```
LOGIN:FRM xy,SEQ ww:USER <user id>!
```

The DACS II system will respond with the following dialogue:

PASSWD: The user enters a password. Note that the password is not echoed by DACS II.

If on an X.25 administrative link, the command must be entered as follows:

```
LOGIN:FRM xy,SEQ ww:USER <user id>,PASSWD <user password>!
```

Output from this command is sent only to the link on which the command was input.

Command

[I.39001]

```
LOGIN:FRM xy,SEQ ww:USER <user id>[,PASSWD <user password>]!
```

If the user is on a Snider protocol administrative link, the message is entered as follows:

[I.39001]

```
LOGIN:FRM xy,SEQ ww:USER <user id>!
```

Then DACS II will prompt the following:

```
PASSWD: <user enters the user password>
```

Completion Message

[O.39001]

```
M hh:mm:ss  xy,ww n[vv] LOGIN USER <user id>  COMPL

WARNING MESSAGE
THIS SYSTEM IS RESTRICTED TO [AT&T ]AUTHORIZED USERS FOR
BUSINESS PURPOSES. UNAUTHORIZED ACCESS IS A VIOLATION OF THE
LAW. THIS SERVICE MAY BE MONITORED FOR ADMINISTRATIVE AND SECU-
RITY REASONS. BY PROCEEDING, YOU CONSENT TO THIS MONITORING.
```

Denial Message

[O.39001.01]

```
M hh:mm:ss  xy,ww n[vv] LOGIN USER <user id> COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

USER - User

user id
- User identifier

The user login identification (two to eight alphabetic characters)

PASSWD - Password

user password
- User password (at least six alphanumeric characters)

cc - Hexadecimal condition code

cc	*Explanation*
D3	User does not exist
D4	A user is already logged in on the link/vc
D6	Incorrect or missing password

LOGOFF,USER,LINK,INCL

LOG OFF USER OR LINK

Explanation Of Command

This command requests DACS II to log off a user or a link. A user is specified by his or her **`<user id>`**; a link, by its physical link number. The virtual link number is optional. The INCL keyword is also optional. The virtual link number and INCL are mutually exclusive. The INCL keyword must be specified to log off all virtual links of an X.25 link (5 or 6) or a TCP/IP link (7).

The DACS II frame administrator can use the **`<user id>`** option from any link to log off any user on another link. If the user is logged in on more than one link and is not the frame administrator, DACS II will log the user off every link. An autonomous message will appear on the user's link if the frame administrator logs a user out.

Output from this command is sent only to the link on which the command was input.

Command

[I.39101]

```
LOGOFF:FRM xy,SEQ ww:{USER <user id>|LINK j[{mm|,INCL}]}!
```

Completion Message

[O.39101]

```
M hh:mm:ss xy,ww n[vv] LOGOFF {USER <user id>|LINK j[{mm|,INCL}]} \
COMPL
```

Denial Message

[O.39101.01]

```
M hh:mm:ss xy,ww n[vv] LOGOFF {USER <user id>|LINK j[{mm|,INCL}]} \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

USER - User

user id

- User identifier (two to eight alphabetic characters)

User login identification

TERM - Terminal (link)

LINK - Link

j[mm] - Administrative link number

j - Physical link number (1 through 7)
mm - Virtual link/session number (01 through 16)

The virtual link/session number must be entered when logging off a single virtual link of an X.25 link or a session of a TCP/IP link.

INCL - Inclusive

Include virtual links of link 5,6 or sessions of link 7. The INCL keyword can only be entered with links 5,6 or 7, and no virtual link/session number is allowed when this keyword is used. That is, "mm" and "INCL" are mutually exclusive. In addition, the INCL keyword is also mutually exclusive with the "<user id>". When the INCL keyword is entered, it means that the logoff applies to all the virtual links of the X.25 link (link 5, 6) or all the sessions of the TCP/IP link (link 7).

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
D3	User does not exist
D5	No user is logged in on the link/vc
D7	Cannot execute privileged command
DA	User is not logged in
E1	Virtual circuit is not specified for X.25 link
E2	Invalid link number specified
E3	Invalid keyword(s) combination specified

MC — MTC

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MC — MTC

14

MC — MTC

This section documents the commands **MC** through **MTC**.

MC,MCOND

UTILITIES

Explanation Of Command

This autonomous message reports that the Main Controller is in maintenance condition during the boot process.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.58011]

```
I hh:mm:ss xy,ww   MC MCOND
```

Explanation Of Parameters

MC - Main controller

MCOND - Maintenance condition

MC,RESET,RELEASE,ISSUE,FPKG,COND

MAIN CONTROLLER RESET RELEASE DACS II ISSUE

Explanation Of Command

This message is used to report that the reset procedure has succesfully completed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01261]

```
I hh:mm:ss xy,ww n[vv] MC RESET RELEASE DACSIIgg.pp ISSUE r  \
2 LN MSG:
FPKG kkttuuvv [COND cc] COMPL
```

Explanation Of Parameters

MC - Main controller

RESET - Reset

RELEASE
- Release

ISSUE - Issue

gg.pp - DACS II software release number

r - Software issue number of the release

FPKG - Feature package

kkttuuvv
- Feature package identification (Hex)

00000001	DS1
00000002	CEPT
00000004	Subrate
00000008	Direct SLC® 96 and Series 5 Carrier Interface
00000010	DS3 Terminations
00000020	Enhanced CEPT C-bit C-bit filtering RPSFI
00000040	Switched Teleconferencing
00000080	CEF
00000100	Enhanced DS1 Performance Monitoring
00000200	DS0/DS1 Roll
00000400	AT&T Security Warning Message
00000800	Nx64kbit Test Access
00001000	Clear 2MB/s Interface
00002000	TS0 to Non-TS0 Cross-connection
00004000	2MB/S Roll
00008000	SPARE
00010000	TRT/FT Features Intervention Level
00020000	DS3 Hybrid

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

	binary	hex	Feature
	0001	1	DS1
	0010	2	CEPT
	0100	4	Subrate
	1000	8	Direct SLC
Total	1111	F	(DS1 + CEPT + Subrate + SLC)

COND - Condition

DACSII - Digital access and crossconnect system II

cc - Hexadecimal condition code

cc	*Explanation*
46	Failed to boot CONF file
47	Failed to boot DB
48	Failed to boot journal--recurrence indicates database corruption
49	Failed to boot unit
4A	SMEM error, boot from PMEM
4B	PMEM error, boot from SMEM
4C	Failed to boot CI
51	General boot failure (vanilla flavor)
18	DSPI not in service, or failed
20	Software Identification Block is not readable
21	Software Identification Block failed comparison
22	Release number mismatch
23	Point number mismatch

cc	*Explanation*
24	PDI Version number mismatch
4D	MP database not consistent with Configuration file
52	Database is empty
3F	G4 to G4.1 retrofit failed
91	Can't mount or unmount SMEM
92	Can't mount or unmount PMEM

MOVE,FROM,END,TO

MOVE MACRO LINES

Explanation Of Command

This command is used to move one or more lines and place them after a specified line in the macro while in a macro session.

If only one line is specified, the **`starting line`** or **`END`**, then only that line is moved to **`destination line`**.

Command

[I.19091]

```
MOVE:FRM xy,SEQ ww:FROM {<starting line>|END}\
[-{<ending line>|END}],TO {<destination line>|END}!
```

Completion Message

[O.19091]

```
M hh:mm:ss xy,ww n[vv] MOVE FROM {<starting line>|END}\
[-{<ending line>|END}] TO {<destination line>|END}  COMPL
```

Denial Message

[O.19091.01]

```
M hh:mm:ss xy,ww n[vv] MOVE FROM {<starting line>|END}\
[-{<ending line>|END}] TO {<destination line>|END}  COND cc \
DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

starting line
- Beginning line number of a line number range (1, 2, ..., n)

Starting line indicates the first line of the group of lines to be moved.

ending line
- Ending line number of a line number range (2, 3, ..., n+1)

Ending line indicates the end line of the group of lines to be moved.

END - End

END is a special line number that marks the position of the last line in the macro. If END is specified in place of ending line then the lines from starting line through END will be moved to destination line. If END is specified as destination line then the line range specified in the command will be moved, as a unit, to the line following END. The line number associated with END will change to the new line number of the last line moved.

TO - To

destination line
- Destination line number for the move (0, 1, 2, ..., n)

The first line of the lines to be moved will be placed on the line following destination line.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
6B	Invalid line number

MP,STARTUP,STF,ATP

STARTUP

Explanation Of Command

This message indicates that The main processor has initialized itself, established local area network communications between itself and the communications interface or the enhanced communications interface and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or all tests passed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01221]

`MP STARTUP {STF|ATP}`

Explanation Of Parameters

MP - Main processor

STARTUP
- Startup

Indicates initialization

STF - Some tests failed

ATP - All tests passed

MTC,STF,ATP

MAINTENANCE

Explanation Of Command

This message indicates that the maintenance controller has initialized itself and has performed self-diagnostics. The results of these diagnostics are reported as some tests failed or as all tests passed passed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01281]

`MTC {STF|ATP}`

Explanation Of Parameters

MTC - Maintenance circuit

STF - Some tests failed

ATP - All tests passed

OCNT — OVERLOAD

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OCNT — OVERLOAD

This section documents the commands **OCNT** through **OVERLOAD**.

OCNT,FROM,TO,MPM,NAM,CUS,INCL,RDC

ONE-WAY CROSS-CONNECT TERMINATED MULTIPOINT CIRCUIT

Explanation Of Command

This message requests a leg to be one-way terminated and cross-connected to a multipoint circuit. The terminated cross-connection means that the circuit will be set up in the terminated state with the disconnect channel code inserted in both directions of transmission.

The backbone and broadcast terminations are on the virtual NPCs.

For both NSA and CAS primaries, the channel numbering range, ddd and eee, is 001 to 030 and jjj is from 001 to 999. Only TRSP channels are allowed for CAS primaries. For CAS primaries, the spare bits of the signaling channel (timeslot 16) are cross-connected by using the value of 031 for both directions.

Command

Nonhierarchical

[I.12121]

```
OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{CUS|INCL}][,RDC]!
```

Hierarchical

[I.12121]

```
OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{INCL|CUS}][,RDC]!
```

Completion Message

Nonhierarchical

[O.12121]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NOBBL {F|T}][ CUS][ RDC][ NAM] COMPL
```

Hierarchical

[O.12121]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NOBBL {F|T}][ CUS][ RDC][ NAM] COMPL
```

Denial Message

Nonhierarchical

[O.12121.01]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12121.02]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Hierarchical

[O.12121.01]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12121.02]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

TO - To

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical FROM NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj - FROM channel numbers
eee, kkk - TO channel numbers denoting end of range specification

Channel numbers

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers

001-500	(Virtual NPC)
001-085	(MB NPC)

MPM - Multipoint mode

fmd - FROM mode

tmd - TO mode

Modes fmd and tmd set the modes of the FROM and TO ends of the circuit. There are three possible values of fmd and tmd:

fmd **tmd**	*Explanation*
LEG	Nonvirtual circuit end of the cross-connections. Must be an FTU, DS3U or HDS3U channel.
BRD	Nonbackbone leg of a virtual conference. Must be a virtual NPC channel.
BBL	Backbone leg of a virtual conference. Must be a virtual NPC channel.

For OCNT multipoint circuits, there are two valid combinations for fmd and tmd:

fmd,tmd

(LEG,BBL) - for the backbone leg of a broadcast multipoint circuit
(BRD,LEG) - for the broadcast legs of the multipoint circuit.

Note: Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL,BRD). These default values are:

Symmetrical bridges	NG = -18 db	ES = -18 db
Polling circuits	NG = 0 db	ES = 0 db

NOBBL - No Backbone Leg

F - From
T - To

tc - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. The tc options allowed are as follows:

tc	*Explanation*
TRSP,IW X'pq	no signaling, insertion word pattern of pq
TRSP	no signaling

All leg connections to multipoint circuits using a virtual NPC must use TRSP signaling (no signaling). The insertion word (IW) portion is user specified and may be varied from leg to leg.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Multi-Point:

E1 to E1	Multi–point cross–connects have A–law to μ–law and μ–law to A–law set as a default. This conversion is performed on pure E1 multi–point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi–point cross-connect since such a connection has more quantization noise than a pure E1 two–point cross–connect. This is due to the back to back A–law to μ–law and μ–law to A–law conversions which are taking place.
E1 to DS1 or DS1 to E1	Same explanation as E1 to E1.
DS1 to DS1	Not applicable.

CUS - Customer

The optional CUS keyword indicates a Customer Controlled Circuit. All legs on a multipoint Customer-Controlled circuit must be designated as CUS.

A disconnected termination previously marked CUS remains as a Customer Controlled termination.

INCL - Inclusive

The INCL keyword must be used to reconnect this termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their Customer Controlled status.

RDC - Red circuit

If the optional RDC field is present, the circuit will be flagged as a Red Circuit. All legs on a multipoint Red Circuit must be designated RDC.

mmm - FROM channel number involved in the denial (ddd through eee)

nnn - TO channel number involved in the denial (jjj through kkk)

d - Direction

d	Explanation
F	FROM
T	TO
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format
50	**INERR**	Trunk conditioning doesn't match that of conference
51	**INERR**	CUS flag doesn't match that of conference
52	**INERR**	RDC flag doesn't match that of conference

cc	st	*Explanation*
70	**CONFERR**	Try to add a BBL to VC, but the VC already has backbone
79	**CONFERR**	Try to operate a TWO-WAY conference with an ONE-WAY input command
80	**CONFERR**	Database conference width does not match the range in input command
83	**INERR**	Invalid input BBL in terminated TWOWAY/ONEWAY command
84	**CONFERR**	Trying to add or delete a leg when a conference is under test
85	**CONFERR**	Input BRD (BBL) has same NPC and channel as BBL (BRD)
B0	**INERR**	Bad use of INCL, cannot override the current state of the conference
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	
TP	**{F|T|B}**	NPC is used for test access
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

OCNT,FROM,TO,NAM,RDC,CUS,INCL,PRIOUT

ONE-WAY CROSS-CONNECTION TERMINATE

Explanation Of Command

For a CAS primary, the channel numbering range, ddd, eee, jjj and kkk is 000 to 030 and for NSA primaries, the channel numbering range is 000 to 031. If the 000 (timeslot 0) value is used, it must be used in both the FROM and TO sides of the cross-connect and only the bits reserved for national and international use will be cross-connected. If 031 is used in the TO side of the CAS primary, the FROM side must also be a CAS primary and only the spare bits will be cross-connected. If 031 is used in the TO side of an NSA, then any value except 000 can be used in the FROM side and all bits will be cross-connected.

Command

Nonhierarchical

[I.12101]

```
OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][,{CUS|INCL}][,PRIOUT]!
```

Hierarchical

[I.12101]

```
OCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][,{CUS|INCL}][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.12101]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ <tc>][ <sc>][ NAM][ RDC][ CUS][ PRIOUT] COMPL
```

[O.12102]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
[<tc> ][<sc> ][NAM ][RDC ][CUS ][PRIOUT ]COMPL
```

Hierarchical

[O.12101]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnp[-eee],wxkqrjjj[-kkk]\
[ <tc>][ <sc>][ NAM][ RDC][ CUS][ PRIOUT] COMPL
```

[O.12102]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
[<tc> ][<sc> ][NAM ][RDC ][CUS ][PRIOUT ]COMPL
```

Denial Message

Nonhierarchical

[O.12101.01]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12101.02]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Hierarchical

[O.12101.01]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12101.02]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

TO -To

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj - Channel numbers, denoting the beginning of a range
eee, kkk - Channel numbers, denoting the end of a range

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Channel 000 is not allowed in a range of channels and CAS channel 031 (that is, TS16 of a CEPT type NPC) is also not allowed in a range of channel numbers.

tc - Trunk conditioning specification

This specifies the signaling and insertion word to be applied to the cross-connection when a failure occurs. In the input command the signaling and insertion word specifications are entered separately, with a comma as the delimiter. An example of tc is "TC(----,mnop),TRB". The following signaling options are allowed:

signaling	Explanation
TC(----,mnop)	One-way, 4-state signaling in binary. For CEPT type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe.
TC(--------,mnopqrst)	One-way, 16-state signaling in binary. Only valid for CEPT framing formats.
TC(X'--,X'cd)	One-way, 16-state signaling in hexadecimal
TRSP	Transparent, no signaling
Omitted	Defaults to TC(X'--,X'FF) if both terminations are channel associated signaling (CAS) type. It will default to TRSP if one of the terminations is nonsignaling associated (NSA) type.

The following insertion word options are allowed:

insertion word	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line
Omitted	Will default to IW X'FF.

Additional rules apply for CEPT cross-connection. (See Tables A and B.)

TC - Trunk conditioning

When the DCC option is provided in GRTH::NPC, a 4-bit pattern is inserted into the associated portion of time slot 16 for CAS circuits when the circuit is disconnected.

CAS - Channel associated signaling in time slot 16

TRSP - No signaling sent out in the associated portion of time slot 16 for CAS primaries. TRSP is the only option for NSA primaries.

Table 15-1. Allowable Signaling Type and Signaling Consequent Action

Primary Type in Cross-connect	Allowable <tc> Signaling Specification	Resulting Signaling Code FROM, TO	Resulting Signaling Consequent Action (Hardware) FROM, TO	Resulting Signaling Consequent Action (Firmware) FROM, TO	Resulting Disconnect (When DCC used in disconnect command)
CAS ⟷ CAS	**TRSP**	Fixed at **X'D**	Fixed at **X'D**	Fixed at **X'D**	**X'D**
	TC-X'uv,X'yz*	CAS (Passed Through)	**X'F**	**X'uv,X'yz**	**X'v,X'z**
	Omitted	CAS (Passed Through)	**X'F**	**X'F**	**X'F**
NSA ⟷ CAS	**TRSP**/Omitted	None (Fixed at **X'D** in CAS direction)	Fixed at **X'D** in CAS direction	Fixed at **X'D** in CAS direction	**X'D** in CAS direction
NSA ⟷ NSA	**TRSP**/Omitted	Not appl.	Not appl.	Not appl.	Not appl.

* For TCON and TCNT TC is X'uv,X'yz.
For OCON, OCNT and BCON TC is --,X'yz.

Allowable <tc> Time slot X-connect keyword	Resulting Cross-Connected Time slot Consequent Action TO	Resulting Disconnect Code (when DCC used in disconnect command)
Omitted	X´FF	X´FF
IW X´pq*	X´FF	X´pq

* Only used as a means of providing per time slot DCC codes. If the DCC code is not used when issuing the disconnect command, then the insertion word at the time the NPC was grown is used. This growth insertion word defaults to hex "D5" if not explicitly specified at growth time.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

sc - Signaling control

The variable sc represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(----,efgh)

efgh - To direction

Where **efgh** represents the four time slot 16 signaling bits to be controlled. All 4 bits can be controlled independently. Control is applied by replacing each character in the variable **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International:	Inversion takes place on both the From and To directions. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.
Gateway:	Inversion takes place only on the international side of the connection. The effect is an inversion.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Two-Point:

E1 to DS1	Gateway cross–connects have A–law to μ–law and μ–law to A–law conversion set as a default. The **NAM** keyword is used to disable the conversions.
E1 to E1	Default, the **NAM** keyword may be used but there is no need to specify **NAM** explicitly since A–law to μ–law and μ–law to A–law conversion is not needed, and therefore not performed, for a pure E1 cross–connect.
DS1 to DS1	Not applicable.

CUS - Customer

The circuit will be flagged as a customer controlled circuit.

RDC - Red circuit

INCL - Inclusive

A termination designated as CUS or RDC cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

mmm - FROM channel number involved in the denial (ddd through eee)

nnn - TO channel number involved in the denial (jjj through kkk)

d - Direction

d	Explanation
F	From
T	To
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination

cc	st	*Explanation*
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
E2	**INERR**	Attempt to one way cross-connect a locally switched channel
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	NPC is grown as a test group
TP	**{F|T|B}**	NPC is used for test access
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

OCNT,FROM,TO,RDC,CUS,INCL,PRIOUT

TERMINATED ONE-WAY CROSS CONNECT

Explanation Of Command

This message terminates one-way cross-connections of non-channelized network processing circuits (NPCs). The alarm-indication signal (AIS) is the idle code and does not need to be entered. Trunk condition options for 64 kbit/s cross-connections are not allowed for non-channelized connections. When a failure occurs or during an alarm state, the AIS is transmitted toward the TO NPC.

Command

Nonhierarchical

[I.12131]

```
OCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC]\
[,{CUS|INCL}][,PRIOUT]!
```

Hierarchical

[I.12131]

```
OCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC]\
[,{CUS|INCL}][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.12131]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abc,[t]ghi[ RDC]\
[ {CUS|INCL}][ PRIOUT] COMPL
```

Hierarchical

[O.12131]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnp,wxkqr[ RDC]\
[ {CUS|INCL}][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.12131.01]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abc,[t]ghi cc <st> DNY
```

[O.12131.02]

```
M hh:mm:ss xy,ww n[vv] OCNT [s]abc,[t]ghi d <st> DNY
```

Hierarchical

[O.12131.01]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnp,wxkqr cc <st> DNY
```

[O.12131.02]

```
M hh:mm:ss xy,ww n[vv] OCNT uvmnp,wxkqr d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

[s]abc - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number

TO - To

[t]ghi - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

RDC - Red circuit
CUS - Customer

Customer-controller circuit

INCL - Inclusive
Inclusive option will remove CUS marking

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

st - Status of denial

d - Direction

d	*Explanation*
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	st	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NPCTA	**{F|T|B}**	NPC used for Test Access
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

OCON,FROM,TO,MPM,CUS,INCL,RDC,NAM

ONE WAY CROSS-CONNECTIONS

Explanation Of Command

This command requests a one-way cross-connection from the specified FROM termination(s) and to the TO termination. It is used to construct a one-way multipoint circuit. The backbone and broadcast terminations are on the virtual NPCs.

If the user wants to cross-connect Nx64 kbits/s circuits, then the range feature of this command should be used.

Command

Nonhierarchical

[I.11121]

```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd),<tc>[,{CUS|INCL}][,RDC]!
```

Hierarchical

[I.11121]

```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{INCL|CUS}][,RDC]!
```

Completion Message

Nonhierarchical

[O.11121]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NOBBL {F|T}][ CUS][ RDC][ NAM] COMPL
```

Hierarchical

[O.11121]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NOBBL {F|T}][ CUS][ RDC][ NAM] COMPL
```

Denial Message

Nonhierarchical

[O.11121.01]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,jjj] cc <st> DNY
```

[O.11121.02]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,jjj] d <st> DNY
```

Hierarchical

[O.11121.01]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],\
wxkqrjjj[-kkk][ mmm,jjj] cc <st> DNY
```

[O.11121.02]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],\
wxkqrjjj[-kkk][ mmm,jjj] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj - Channel numbers
eee, kkk - Channel numbers denoting the end of a range specification

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

001-500	(Virtual NPC)

Note: Range values -eee, -kkk apply only to the FTU/DS3U/HDS3U end of an FTU/DS3U/HDS3U Virtual NPC circuit, that is, they cannot apply to the Virtual NPC end of the circuit.

MPM - Multipoint mode

fmd - FROM mode

tmd - TO mode

Multipoint modes of the FROM and TO ends of the circuit

fmd tmd	Explanation
LEG	Non-VI circuit end of the cross connections. Must be an FTU/DS3U/HDS3U channel.
BRD	Nonbackbone leg of a virtual conference. Must be a virtual NPC channel.
BBL	Backbone leg of a virtual conference. Must be a Virtual NPC channel.

For OCON multipoint circuits, there are two valid combinations for fmd and tmd:

fmd,tmd	Explanation
LEG,BBL	For the backbone leg of a broadcast multipoint circuit
BRD,LEG	For the broadcast legs of the multipoint circuit.

Note: Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL,BRD). These default values are:

Symmetrical bridges	NG = -18db	ES = -18db
Polling circuits	NG = 0db	ES = 0db

tc - Trunk conditioning, which has the input form

TRSP,{IW X'pq|TRB|MUX}

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. The TRSP (transparent) signaling specification is the only one allowed.

The following signaling option is allowed:

tc	*Explanation*
TRSP	Transparent, no signaling.

The following insertion word options are allowed:

IW	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
TRB	Standard trouble code, equal to IW X'E4, not valid for CEPT.
MUX	MUX out of sync code, equal to IW X'1A, not valid for CEPT.
Omitted	Only valid for CEPT, will default to IW-X-FF.

NOBBL - No backbone leg

F - From

T - To

In addition, for CEPT and gateway connections, the terms CAS, TRSP, and IW defined below are used in Tables A and B. Hex notation is shown for brevity, but binary is allowed.

CAS - Channel associated signaling

Indicates that channel associated signaling has been applied in time slot 16.

TRSP - Transparent

No signaling sent out in the associated portion of time slot 16 for CAS primaries.

IW - Insertion word

The insertion word is provided with the DCC option, an 8-bit pattern that is inserted in the specified time slot when the circuit is disconnected.

During the alarm state, AIS (all ones) is sent out in the specified time slot.

All leg connections to multipoint circuits using a Virtual NPC must use TRSP signaling (no signaling). The insertion word portion is user specified as noted above and may be varied from leg to leg.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Multi-Point:

E1 to E1	Multi–point cross–connects have A–law to μ–law and μ–law to A–law set as a default. This conversion is performed on pure E1 multi–point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi–point cross-connect since such a connection has more quantization noise than a pure E1 two–point cross–connect. This is due to the back to back A–law to μ–law and μ–law to A–law conversions which are taking place.
E1 to DS1 or DS1 to E1	Same explanation as E1 to E1.
DS1 to DS1	Not applicable.

CUS - Customer

Customer-controlled circuit

The optional CUS field indicates a customer controlled circuit. All legs on a multipoint customer-controlled circuit must be designated CUS.

INCL - Inclusive

A disconnected termination previously marked CUS remains as a customer controlled termination. The INCL keyword must be used to reconnect this termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their customer controlled status.

RDC - Red circuit

All legs on a multipoint red circuit must be designated RDC.

ddd,jjj -Channel numbers

mmm - FROM channel number involved in the denial (ddd ≤ mmm ≤ eee)

st - Status

d - Direction (F = From, T = To, B = Both)

cc - Hexadecimal condition code

cc	st	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
20	**MCOND**	Line format types are incompatible
21	**INERR**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format
50	**INERR**	Trunk conditioning doesn't match that of conference
51	**INERR**	CUS flag doesn't match that of conference
52	**INERR**	RDC flag doesn't match that of conference
70	**CONFERR**	Try to add a BBL to VC, but the VC already has backbone
79	**CONFERR**	Try to operate a TWO-WAY conference with an ONE-WAY input command
80	**CONFERR**	Database conference width does not match the range in input command
84	**CONFERR**	Trying to add or delete a leg when a conference is under test
85	**CONFERR**	Input BRD (BBL) has same NPC and channel as BBL (BRD)
B0	**INERR**	Bad use of INCL, cannot override the current state of the conference
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	
TP	**{F|T|B}**	NPC is used for test access
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

OCON,FROM,TO,NAM,RDC,CUS,INCL,PRIOUT

ONE WAY CROSS-CONNECTIONS

Explanation Of Command

This message requests the connection of a one-way cross-connect circuit or a range of one-way circuits.

If the user wants to cross-connect Nx64 kbits/s circuits, then the range feature of this command should be used.

Command

Nonhierarchical

[I.11101]

```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][{,CUS|,INCL}][,PRIOUT]!
```

Hierarchical

[I.11101]

```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][{,CUS|,INCL}][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.11101]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ <tc>][ <sc>][ NAM][ RDC][ {CUS|INCL}][ PRIOUT] COMPL
```

Hierarchical

[O.11101]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnp[-eee],wxkqrjjj[-kkk]\
[ <tc>][ <sc>][ NAM][ RDC][ {CUS|INCL}][ PRIOUT] COMPL
```

[O.11102]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
[ <tc>][ <sc>][ NAM][ RDC][ {CUS|INCL}][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.11101.01]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

Hierarchical

[O.11101.01]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.11101.02]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj - Channel numbers

eee, kkk - Channel numbers denoting the end of a range

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Channel 000 and CAS channel 31 (that is, TS16 of a CEPT-type NPC) are not allowed in a range of channel numbers.

tc - Trunk conditioning

tc represents the desired cross-connected signaling and insertion word applied when a failure occurs. The signaling and the insertion word specification are entered separately, with a comma as the delimiter, which have the following form:

<tc_sig>,<tc_iw>

The following signaling options are allowed:

tc_sig	*Explanation*
TC(----,mnop)	1-way, 4-state signaling in binary. For CEPT type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe.
TC(--------,mnopqrst)	1-way, 16-state in binary. Only valid for CEPT framing formats.
TC(X'--,X'cd)	1-way, 16-state in hexadecimal.
TRSP	Transparent, no signaling.
Omitted	Only valid for CEPT cross-connections, defaults to TC(X'--,X'FF) if both terminations are channel associated signaling type. It will default to TRSP if one of the terminations is a nonsignaling associated (NSA) type.

The following insertion word options are allowed:

tc_iw	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted to the downstream direction of a failure on the line.
Omitted	Only valid for CEPT, will default to IW X'FF.

Besides that, additional rules apply for CEPT cross-connections.

Allowable signaling types and signaling consequent actions are given in Table 1 and allowable cross-connected time slot consequent actions are given in Table 2.

TC - Trunk conditioning

When the DCC option is provided in the disconnect command, a 4-bit pattern is inserted into the associated portion of time slot 16 for CAS circuits when the circuit is disconnected.

CAS - Channel associated signaling

Channel associated signaling in time slot 16

TRSP - Transparent

No signaling sent out in the associated portion of time slot 16 for CAS primaries. TRSP is the only option for NSA primaries.

Table 15-3. Allowable Signaling Type and Signaling Consequent Action

Primary Type in Cross-connect	Allowable <tc> Signaling Specification	Resulting Signaling Code FROM, TO	Resulting Signaling Consequent Action (Hardware) FROM, TO	Resulting Signaling Consequent Action (Firmware) FROM, TO	Resulting Disconnect (When DCC used in disconnect command)
CAS ⟷ CAS	**TRSP**	Fixed at **X'D**	Fixed at **X'D**	Fixed at **X'D**	**X'D**
	TC-X'uv,X'yz*	CAS (Passed Through)	**X'F**	**X'uv,X'yz**	**X'v,X'z**
	Omitted	CAS (Passed Through)	**X'F**	**X'F**	**X'F**
NSA ⟷ CAS	**TRSP**/Omitted	None (Fixed at **X'D** in CAS direction)	Fixed at **X'D** in CAS direction	Fixed at **X'D** in CAS direction	**X'D** in CAS direction
NSA ⟷ NSA	**TRSP**/Omitted	Not appl.	Not appl.	Not appl.	Not appl.

* For TCON and TCNT TC is X'uv,X'yz.
For OCON, OCNT and BCON TC is --,X'yz.

Allowable <tc> Time slot X-connect keyword	Resulting Cross-Connected Time slot Consequent Action TO	Resulting Disconnect Code (when DCC used in disconnect command)
Omitted	X´FF	X´FF
IW X´pq*	X´FF	X´pq

* Only used as a means of providing per time slot DCC codes. If the DCC code is not used when issuing the disconnect command, then the insertion word at the time the NPC was grown is used. This growth insertion word defaults to hex "D5" if not explicitly specified at growth time.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

sc - Signaling control

The variable sc represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(----,efgh)

efgh - To direction

Where **efgh** represents the four time slot 16 signaling bits to be controlled. All 4 bits can be controlled independently. Control is applied by replacing each character in the variable **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International:	Inversion takes place on both the From and To directions. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.
Gateway:	Inversion takes place only on the international side of the connection. The effect is an inversion.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Two-Point:

E1 to DS1	Gateway cross–connects have A–law to μ–law and μ–law to A–law conversion set as a default. The **NAM** keyword is used to disable the conversions.
E1 to E1	Default, the **NAM** keyword may be used but there is no need to specify **NAM** explicitly since A–law to μ–law and μ–law to A–law conversion is not needed, and therefore not performed, for a pure E1 cross–connect.
DS1 to DS1	Not applicable.

CUS - Customer

Used to indicate a customer-controlled circuit

RDC - Red circuit

INCL - Inclusive

A termination designated as customer controlled or a red circuit cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the inclusive keyword is given in the remove message.

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

mmm - FROM channel number involved in the denial (ddd through eee)

nnn - TO channel number involved in the denial (jjj through kkk)

st - Status of denial

d - Direction

d	*Explanation*
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	**st**	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination

cc	st	*Explanation*
DF	**INERR**	Unmatched channel range
E2	**INERR**	Attempt to one way cross-connect a locally switched channel
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	NPC is grown as a test group
TP	**{F|T|B}**	NPC is used for test access
UNEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

OCON,FROM,TO,RDC,CUS,INCL,PRIOUT

ONE-WAY NON-CHANNELIZED DIGITAL SIGNAL CROSS CONNECT

Explanation Of Command

This message requests a one-way cross-connection between two non-channelized network processing circuits.

The idle code is the alarm-indication signal (AIS-all ones), and does not need to be specified. The disconnect code for 64 kbit/s disconnection cannot be used for non-channelized network processing circuits.

When a failure occurs or during an alarm state, the AIS is transmitted toward the TO network processing circuits.

Command

Nonhierarchical

[I.11131]

```
OCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!
```

Hierarchical

[I.11131]

```
OCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.11131]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abc,[t]ghi[ RDC][ CUS][ PRIOUT] COMPL
```

Hierarchical

[O.11131]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnp,wxkqr[ RDC][ CUS][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.11131.01]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abc,[t]ghi cc <st> DNY
```

[O.11131.02]

```
M hh:mm:ss xy,ww n[vv] OCON [s]abc,[t]ghi d <st> DNY
```

Hierarchical

[O.11131.01]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnp,wxkqr cc <st> DNY
```

[O.11131.02]

```
M hh:mm:ss xy,ww n[vv] OCON uvmnp,wxkqr d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit non-hierarchical non-channelized FROM NPC

[t]ghi - The 3- or 4-digit non-hierarchical non-channelized TO NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

RDC - Red circuit
CUS - Customer-controller circuit
INCL - Inclusive option will remove CUS marking

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

st - Status

d - Direction

cc - Hexadecimal condition code

cc	st	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
21	**INERR**	Trunk conditioning is invalid
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NPCTA	**{F|T|B}**	NPC used for Test Access
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

ODIS,FROM,TO,INCL,OOS,DCC

ONE-WAY MULTIPOINT DISCONNECTIONS

Explanation Of Command

This message requests a one-way disconnection from the specified FROM end termination(s) and to the TO end termination. It is used to disconnect a one-way multipoint circuit.

Command

Nonhierarchical

[I.15102]

```
ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,INCL][,OOS][,DCC]!
```

Hierarchical

[I.15102]

```
ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,INCL][,OOS][,DCC]!
```

Completion Message

Nonhierarchical

[O.15102]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ RDC][ DCC] COMPL
```

Hierarchical

[O.15102]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ RDC][ DCC] COMPL
```

Denial Message

Nonhierarchical

[O.15101.01]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15101.02]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Hierarchical

[O.15101.01]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15101.02]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From terminations
TO - To terminations

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd,jjj
- Channel number

eee,kkk
- Channel number denoting the end of range.

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

The backbone termination is on the Virtual NPC (001 through 500).

INCL - Inclusive

To disconnect a channel or range of channels including one or more channels marked as a Red Circuit, use the INCL option.
The message will be denied if any circuits in the range are Red Circuits and the INCL option is not used.

OOS - Out of service

At least one end of the circuit must be out-of-service or the OOS disconnect will be denied.

DCC - Disconnect code

DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field of the TCON command that initially connected the channels.
If the DCC option is not used, the disconnect code specified in the grow NPC command will be used.

NOBBL - No backbone leg

The optional NOBBL will appear if the multipoint circuit FROM or TO was in the broadcast mode but has no backbone leg.

MPDIS - Multipoint disconnect

F - From
T - To

Full disconnection of the multipoint circuits is indicated by MPDIS for FROM or TO.

CUS - Customer

Customer-control circuit

RDC - Red circuit

Disconnection was performed on a red circuit.
If the disconnection was given on more than one circuit, then at least one of them was a red circuit.

mmm,nnn
- Channel number involved in denial.

st - Status of denial

d - Direction

d	*Explanation*
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	**st**	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
34	**MCOND**	Termination is under customer control (CUS)
35	**MCOND**	Termination is protected (RDC)
71	**CONFERR**	Try to delete a BBL leg from VC; however, VC has no BBL leg
72	**CONFERR**	The NPC of VC BBL leg doesn't match that in the input command
73	**CONFERR**	The first channel of VC BBL leg doesn't match that in the input cmd
74	**CONFERR**	Try to delete a BRD leg from VC; however, VC has no BRD leg
75	**CONFERR**	The input BRD leg is not in VC
76	**CONFERR**	The first channel of VC BRD leg doesn't match that in the input cmd
77	**CONFERR**	Tried to disconnect a nonexisting VC
79	**CONFERR**	Try to operate a TWO-WAY conference with an ONE-WAY input command
80	**CONFERR**	Database conference width does not match the range in input command
81	**INERR**	Invalid input BBL as fmd in ONE-WAY command
82	**INERR**	Invalid input BRD as tmd in ONE-WAY command
84	**CONFERR**	Trying to add or delete a leg when a conference is under test
D3	**SCERR**	Corresponding NPC for FROM virtual channel is not provisioned
D4	**SCERR**	Corresponding NPC for TO virtual channel is not provisioned
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number

cc	st	*Explanation*
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
NOMTH	**{F|T|B}**	No Match
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TP	**{F|T|B}**	NPC is used for test access
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

ODIS,FROM,TO,INCL,OOS,DCC,PRIOUT

ONE-WAY DISCONNECT

Explanation Of Command

This message requests the disconnection of a one-way two-point cross-connect circuit or a range of one-way circuits.

Command

Nonhierarchical

[I.15101]

```
ODIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,INCL][,OOS][,DCC][,PRIOUT]!
```

Hierarchical

[I.15101]

```
ODIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,INCL][,OOS][,DCC][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.15101]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ OOS][ DCC][ CUS][ RDC][ PRIOUT] COMPL
```

Hierarchical

[O.15101]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ OOS][ DCC][ CUS][ RDC][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.15101.01]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15101.02]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Hierarchical

[O.15101.01]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15101.02]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From
TO - To

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number for beginning of NPC range
wxkqr - Hierarchical TO NPC number for end of NPC range

The valid values are listed below:

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel number
jjj - TO channel number
eee - FROM channel number denoting the end of a channel range.
kkk - TO channel number denoting the end of a channel range.

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

INCL - Inclusive

To disconnect a circuit or range of circuits including one or more circuits marked either RDC or CUS, use the optional INCL keyword. If this keyword is not used, the message will be denied if any circuits in the range are red circuits or customer controlled circuits.

OOS - Out-of-service

An Out-Of-Service disconnect may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnect will be denied.

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

DCC - Disconnect code

If DCC is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the <tc> field of the TCON command that initially connected the channels. If the DCC option is not used, the disconnect code specified in the GRTH NPC command will be used.

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

Terminations cross-connected using the optional CUS keyword retain their CUS status when disconnected. If the terminations are reconnected without the CUS or INCL keyword, the command will be denied. When they are reconnected with the INCL keyword, they lose their customer controlled status.

mmm,nnn
- Channel number involved in denial. Otherwise the same as ddd.

d - Direction

d	*Explanation*
F	From
T	To
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

st	d	*Explanation*
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NOMTH	**{F|T|B}**	No Match
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TP	**{F|T|B}**	NPC is used for test access
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

ODIS,FROM,TO,OOS,INCL,PRIOUT

ONE-WAY DISCONNECT

Explanation Of Command

This message disconnects a one-way cross-connection between two non-channelized network processing circuits. When the circuit is disconnected, the idle code (AIS) is transmitted.

Command

Nonhierarchical

[I.15111]

```
ODIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!
```

Hierarchical

[I.15111]

```
ODIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.15111]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abc,[t]ghi[ OOS][ RDC][ CUS] \
[ PRIOUT] COMPL
```

Hierarchical

[O.15111]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnp,wxkqr[ OOS][ RDC][ CUS] \
[ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.15111.01]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abc,[t]ghi cc <st> DNY
```

[O.15111.02]

```
M hh:mm:ss xy,ww n[vv] ODIS [s]abc,[t]ghi d <st> DNY
```

Hierarchical

[O.15111.01]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnp,wxkqr cc <st> DNY
```

[O.15111.02]

```
M hh:mm:ss xy,ww n[vv] ODIS uvmnp,wxkqr d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number
[t]ghi - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of non-channelized FROM NPC
wxkqr - Hierarchical number of non-channelized TO NPC

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

INCL - Inclusive
Required for a customer-controlled circuit or a red circuit

OOS - Out-of-Service
May be specified if one or both NPCs are out of service

RDC - Red circuit

Disconnection of Red circuit

RDLD - Red lined

CUS - Customer

Disconnection of Customer-controlled circuit

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

st - Status of denial

d - Direction {F-from | T-to | B-both}

cc - Hexadecimal condition code

cc	st	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

st	d	*Explanation*
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NOMTH	**{F|T|B}**	No Match
NPCTA	**{F|T|B}**	NPC used for Test Access
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

OVERLOAD,MP,CI,UNIT,UC,TN,PROCESSOR

OVERLOAD

Explanation Of Command

This troubleshooting message is used only by the DACS II developers and occurs when the indicated CPU processor has reported an internal error from which recovery is not possible. The error may be in the CPU hardware or related software. The resulting troubleshooting data can be useful in isolating software problems.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01381]

```
pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROCESSOR DATA  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> < d06 > < d07 > < d08 >
<d09> <d10> <d11> <d12>    <d13> < d14 > < d15 > < d16 >
<d17> <d18> <d19> <d20>    <d21> < d22 > < d23 > < d24 >
<d25> <d26> <d27> <d28>    <d29> <d3031> < d3233> < d34353637> \
EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
PROGRAM TEXT  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
MEMORY DATA  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd READY \
QUEUE DATA  3 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd PAUSE \
QUEUE DATA  3 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd \
LOCAL STACK DATA  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> EOM

pahh:mm:ss xy,ww   OVERLOAD {MP|CI|UNIT [q]q UC} TN dddd STACK \
TRACE  5 LN MSG:
<d01> <d02> <d03> <d04>    <d05> <d06> <d07> <d08>
<d09> <d10> <d11> <d12>    <d13> <d14> <d15> <d16>
<d17> <d18> <d19> <d20>    <d21> <d22> <d23> <d24>
<d25> <d26> <d27> <d28>    <d29> <d30> <d31> <d32> COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

OVERLOAD
- Overload

DATA - Data

** - Major Alarm

MP - Main processor

CI - Communications interface

UC - Unit controller

UNIT - Unit

[q]q - Unit number (1 through 16)

MC - Main controller

TN - Transaction

dddd - Transaction number

The TN number can be specified in UTL::QRY,ERR to retrieve the contents of the DACS II error recovery log file which contains the past history of all error recovery events related to this output report.

The following interpretations are listed in alphabetical order by the capitalized names

LOCAL - Local

LOCAL STACK DATA interpretation

dxx	*Explanation*
01	user stack pointer (A7)
02-32	dump of stack data (in reverse order)

MEMORY - Memory

MEMORY DATA interpretation

dxx	*Explanation*
01	Address of bad memory segment
02	Number of attached memory segments
03	Memory size
04-08	Not used
09-32	Memory dump

This displays the memory attached to the process at the time of the OVERLOAD. If the memory address and memory dump section contain zeros, this indicates that there was no memory corruption. Otherwise, if corruption was detected, the address of the bad segment along with a memory dump of that segment will be displayed.

PAUSE - Pause

QUEUE - Queue

PAUSE QUEUE interpretation

d01-d16
- process name (ASCII)

This displays the processes that were in the pause queue at the time of the OVERLOAD.

PROCESSOR

- Processor

PROCESSOR DATA interpretation

This displays all relevant data about the processor at the time of the OVERLOAD. Note that pcb stands for process control block.

dxx	*Explanation*
01	process name
02	stack pc
03	pcb address
04	pack id
05	exception vector
06	status register
07	special status word
08	fault address
09	usp
10	fp
11	A5
12	A4
13	A3
14	A2
15	A1
16	A0
17	D7
18	D6
19	D5
20	D4
21	D3
22	D2
23	D1
24	D0
25	pcb memory segs
26	pcb ssp
27	pcb pc
28	pcb return addr
29	pcb usp
30	pcb events
31	pcb tslice
32	pcb sr
33	pcb signals
34	pcb prior
35	pcb mode
36	pcb dflag
37	pcb status

PROGRAM
- Program

TEXT - Text

PROGRAM TEXT interpretation

d01-d32
- disassembled listing of program text (ASCII)

This displays the disassembled listing of the program text. The display contains up to 254 ASCII characters starting at the value of the program counter (pc) at the time the OVERLOAD occurred.

READY - Ready

READY QUEUE interpretation

d01-d16
- process name (ASCII)

This displays the processes that were in the ready-to-run queue at the time of the OVERLOAD.

STACK - Stack

TRACE - Trace

STACK TRACE interpretation

dxx	*Explanation*
01	previous stack 1 (A6)
02	program counter
03-08	stack dump
09	previous stack 2 (A6)
10	program counter
11-16	stack dump
17	previous stack 3 (A6)
18	program counter
19-24	stack dump
25	previous stack 4 (A6)
26	program counter
27-32	stack dump

This message dumps the previous four function calls prior to the function where the OVERLOAD occurred.

RESET — RMV

16

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16

RESET — RMV

This section documents the commands **RESET** through **RMV**.

RESET,DATE,TOD,FORMAT,MDY,DMY

ERROR RECOVERY

Explanation Of Command

This autonomously generated message is used to inform the craft that the system clock has been recovered automatically by the frame. The field can either be date of the year, time of day, or both.
The date and time will default to 12/31/9999 and 00:00:00, respectively.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01393]

```
I hh:mm:ss xy,ww   RESET {DATE|TOD|TOD DATE} hr:mn:sc \
{mo/da/yr FORMAT MDY|da/mo/yr FORMAT DMY} COMPL
```

Explanation Of Parameters

RESET - Reset

TOD - Time of day

DATE - Date

mo/da/yr
- date DACS II is reset to

da/mo/yr
- date DACS II is reset to

yr - 4- digit calendar year
mo - month (01 through 12)
da - day (01 through 31)

hr:mn:sc
- time DACS II is reset to

hr - hour (00 through 23)
mn - minute (00 through 59)
sc - second (00 through 59)

FORMAT - Date display format

MDY - Month/Day/Year format
DMY - Day/Month/Year format

RESET,STOPPED

STARTUP

Explanation Of Command

This autonomous message indicates that the reset procedure has not successfully completed.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.01251]

RESET STOPPED

Explanation Of Parameters

RMV,CCB

REMOVE CROSS-CONNECT BUFFER

Explanation Of Command

This command applies only to the noncapacity expansion frame (NCEF).

It requests the removal of the cross-connect buffer from service.

Command

[I.33202]

```
RMV:FRM xy,SEQ ww:CCB sf!
```

Completion Message

[O.33202]

```
M hh:mm:ss xy,ww n[vv] RMV CCB sf COND 00 COMPL
```

Denial Message

[O.33202.01]

```
**hh:mm:ss xy,ww n[vv] RMV CCB sf COND cc DNY
```

Autonomous Message

[O.33202]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV CCB sf {PMC|PMAS|DMA|MI} \
COND 00 COMPL
```

[O.33202.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV CCB sf {PMC|PMA|DMA|MI} \
COND cc DNY
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

CCB - Cross-connect buffer

sf - CCB identification

s - Side No. (0 or 1).

f - CCB No. (1 through 6).

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
18	CCNI is out of service
19	Mate CCN side is out of service

RMV,CCI

REMOVE CLOCK CONTROL INTERFACE

Explanation Of Command

This command is applicable only to the capacity expansion frame (CEF).

It requests that the clock and control interface (CCI) in side s be removed from service.

When a CCI pack is removed from service, its two corresponding bus terminator (BT) packs are also removed.

Command

[I.33251]

```
RMV:FRM xy,SEQ ww:CCI s!
```

Completion Message

[O.33251]

```
M hh:mm:ss xy,ww n[vv] RMV CCI s COND 00 COMPL
```

Denial Message

[O.33251.01]

```
M hh:mm:ss xy,ww n[vv] RMV CCI s COND cc DNY
```

Autonomous Message

[O.33251]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV CCI s [PMC|PMA|DMA|MI] \
COND ćć COMPL
```

[O.33251.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV CCI s [PMC|PMA|DMA|MI] \
COND cc DNY
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

CCI - Clock and control interface

s - Side No. (0 or 1)

cc - Completion condition code (hexadecimal)

To interpret values of ćć see cc below.

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
19	Mate CCN side is out of service

RMV,CCNI

REMOVE CROSS-CONNECT NETWORK INTERFACE

Explanation Of Command

This command applies only to the noncapacity expansion frame (NCEF).

It requests the removal of the cross-connect network interface from service.

Command

[I.33201]

RMV:FRM xy,SEQ ww:CCNI s!

Completion Message

[O.33201]

M hh:mm:ss xy,ww n[vv] RMV CCNI s COND cc COMPL

Denial Message

[O.33201.01]

M hh:mm:ss xy,ww n[vv] RMV CCNI s COND cc DNY

Autonomous Message

[O.33201]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV CCNI s {PMC|PMA|DMA|MI} \
COND cc COMPL
```

[O.33201.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV CCNI s {PMC|PMA|DMA|MI} \
COND cc DNY
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

CCNI - Cross-connect network interface

s - CCNI number (0 or 1)

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
19	Mate CCN side is out of service

RMV,ETSI

REMOVE ETSI

Explanation Of Command

This command applies only to the capacity expansion frame (CEF).

It requests the removal of an expanded time slot interchanger (ETSI) from service. DACS II will deny this command if the mate expanded cross-connect network (ECCN) side is out-of-service (OOS).

Command

[I.33261]

```
RMV:FRM xy,SEQ ww:ETSI sqq!
```

Completion Message

[O.33261]

```
M hh:mm:ss xy,ww n[vv] RMV ETSI sqq COND 00 COMPL
```

Denial Message

[O.33261.01]

```
M hh:mm:ss xy,ww n[vv] RMV ETSI sqq COND cc DNY
```

Autonomous Message

[O.33261]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV ETSI sqq [PMC|PMA|DMA|MI] \
COND 00 COMPL
```

[O.33261.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV ETSI sqq [PMC|PMA|DMA|MI] \
COND cc DNY
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

ETSI - Expanded time slot interchanger

s - Side (0 or 1).

qq - Unit number (01 through 16)

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
19	Mate CCN side is out of service
CE	CCI is out of service

RMV,ETSIS,ECCN,ALL

REMOVE ETSIS ALL

Explanation Of Command

This command applies only to the capacity expansion frame (CEF).

It requests the removal of all in-service expanded time slot interchangers (ETSIs) in side "s" of the expanded cross-connect network (ECCN). This message is denied if ECCN side "s" is the active side and the mate ECCN side is out-of-service (OOS).

Command

[I.33271]

```
RMV:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!
```

Completion Message

[O.33271]

```
M hh:mm:ss xy,ww n[vv] RMV ETSIS ECCN s ALL  5 LN MSG:
TOTAL ETSIS kk
s01 r nn  s02 r nn  s03 r nn  s04 r nn  s05 r nn  s06 r nn
s07 r nn  s08 r nn  s09 r nn  s10 r nn  s11 r nn  s12 r nn
s13 r nn  s14 r nn  s15 r nn  s16 r nn                     \
COND 00 COMPL
```

Denial Message

[O.33271.01]

```
M hh:mm:ss xy,ww n[vv] RMV ETSIS ECCN s ALL \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ETSIS - Expanded time slot interchangers

ECCN - Expanded cross-connect network

s - Side number (0 or 1)

kk - Total number of ETSIs equipped in side s (01 through 16).

r - Indication of the completion or denial of the removal for each individual ETSI pack.

r	*Explanation*
C	Completed
D	Denied
-	ETSI not equipped

nn - Hexadecimal condition code for the particular ETSI.

For r = C

nn	*Explanation*
00	No condition

For r = D

nn	*Explanation*
04	Subject entity is out of service

"nn" will be shown as "--" if "r" is "-". **cc** - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
19	Mate CCN side is out of service
CE	CCI is out of service

RMV,LINK

REMOVE LINK

Explanation Of Command

This message requests the removal of the administrative link from service.

Command

[I.33011]

RMV:FRM xy,SEQ ww:LINK j!

Completion Message

[O.33011]

M hh:mm:ss xy,ww n[vv] RMV LINK j COND cc COMPL

Denial Message

[O.33011.01]

M hh:mm:ss xy,ww n[vv] RMV LINK j COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

LINK - Link

j - Administrative link number (1 through 7)

pa - Priority of action field.

pa	*Explanation*
*****	Minor alarm
******	Major alarm
M	Manual Response

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
04	Subject entity is out of service
08	Cannot remove own link
09	Last link in service
D0	Command is Frame administrator (DAX) only.
FC	Superuser logged on
FD	Command not allowed

RMV,MC

REMOVE MAIN CONTROLLER

Explanation Of Command

This message removes the main controller from service. The MC must be in service for this command to be accepted. Diagnostic and restore messages can still be run on the MC.

Command

[I.33001]

RMV:FRM xy,SEQ ww:MC!

Completion Message

[O.33001]

M hh:mm:ss xy,ww n[vv] RMV MC COND 00 COMPL

Denial Message

[O.33001.01]

M hh:mm:ss xy,ww n[vv] RMV MC COND cc DNY

Autonomous Message

[O.33001]

```
pa <il> hh:mm:ss xy,ww   RMV MC [PMC|PMA|DMA|MI] COND cc COMPL
```

Explanation Of Parameters

MC - Main controller

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service

RMV,NPC,SIDE,INCL

REMOVE NPCs

Explanation Of Command

This command removes a single Network Processing Circuit (NPC) or a range of NPCs within a unit from service.

The NPCs can belong to a Facility Terminating Unit, a DS3 Unit, a HDS3 Unit or a Digital Signal Processing Unit. For TH type NPCs, the NPC numbers which are divisible by four with a remainder of zero are not valid THxyz NPCs. However, the range of THxyz type NPC numbers is still supported with the understanding that there may be gaps in the NPC number range.

Digital Signal Processing (DSP) NPCs in Facility Terminating Units may also be removed by this command. Please note also that SDxyz type NPCs are always odd and the next higher even NPC number is not used.

A range of NPCs cannot be specified for Digital Signal Processing Unit NPCs in a DSPU. When a range of NPCs is being removed, execution of this command may be aborted by entering **ABT**.

The **INCL** keyword is required for removal of one or more cross-connected Network Processing Circuits with customer or red circuit marking.

Note: **INCL** is also required for subrate Network Processing Circuits with established channels (i.e., channels connected by the **SECH** command).

Note: **INCL** is also required for C-bit processing DSPU packs with C-bit connected channels.

One message segment is output for each Network Processing Circuit requested and

successfully removed.

For NPCs with a Digital Signal Processing Unit (DSPU), this command results in the removal of all NPCs in the circuit pack on only one of the duplicated sides.

When an NPC remove command addresses a range of NPCs, the removal of two or more consecutive NPCs in the range or even an entire Facility Terminating Module (FTM) of NPCs can be skipped, with a summary message, for the following conditions: A range command addressing NPCs within a Unit crosses an FTM boundary and the FTM is unequipped; Addressed NPCs are unequipped; Addressed NPCs are out-of-service; Addressed NPCs have other conditions not involving a failure condition determined by diagnostics.

Specifically:

(a) Remove commands where the address range crosses a Unit boundary shall be denied.

(b) For remove commands which address a range of NPCs, denials for sets of two or more NPCs shall be output in a summary command. The summary denial shall use a floating window denial:

Floating Window Denial Message
When a remove command for a range of NPCs is denied for successive NPCs in the range for the same reason, a summary denial message shall be output, identifying the relevant range of NPCs and the reason. The generation of additional completion or denial responses for reasons other than diagnostic failure resumes at the next NPC and continues to the end of the range.

Command

Nonhierarchical

[I.33351]

```
RMV:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s][,INCL]!
```

Hierarchical

[I.33351]

```
RMV:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s][,INCL]!
```

Completion Message

Nonhierarchical

[O.33351]

```
M hh:mm:ss xy,ww n[vv] RMV NPC [s]ghi[ SIDE s] TYPE mnxyz[ INCL] \
COND kk COMPL
```

Hierarchical

[O.33351]

```
M hh:mm:ss xy,ww n[vv] RMV NPC uvghi[ SIDE s] TYPE mnxyz[ INCL] \
COND kk COMPL
```

Denial Message

Nonhierarchical

[O.33351.01]

```
M hh:mm:ss xy,ww n[vv] RMV NPC [s]jkl[-[t]mno][ SIDE s] TYPE mnxyz\
[ INCL] COND cc DNY
```

Hierarchical

[O.33351.01]

```
M hh:mm:ss xy,ww n[vv] RMV NPC uvjkl[-uvmno][ SIDE s] TYPE mnxyz\
[ INCL] COND cc DNY
```

Autonomous Message

Nonhierarchical

[O.33351]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV NPC [s]ghi[ SIDE s] TYPE mnxyz[ INCL] \
[PMC|PMA|DMA|MI] COND kk COMPL
```

[O.33351.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV NPC [s]jkl[ SIDE s] TYPE mnxyz[ INCL] \
COND cc DNY
```

Hierarchical

[O.33351]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV NPC uvghi[ SIDE s] TYPE mnxyz[ INCL] \
[PMC|PMA|DMA|MI] COND kk COMPL
```

[O.33351.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV NPC uvjkl[ SIDE s] TYPE mnxyz[ INCL] \
COND cc DNY
```

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number (beginning of the range).

[t]def - The 3- or 4-digit nonhierarchical NPC number (end of the range).

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number (beginning of the range).

uvkqr - Hierarchical NPC number (end of the range).

uv - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SIDE - Side

s - Side of duplicated DSPU circuit to be removed (0 or 1)

INCL - Inclusive

This keyword is required for removal of one or more NPCs which have cross-connections marked as customer or red. It is also required for C-bit processing DSPU packs with C-bit connected channels. For CEPT circuit packs, there is only one NPC per circuit pack.

pa - Priority of action

pa	*Explanation*
***C**	Critical
******	Major
*****	Minor
A	Autonomous

il - Intervention level.

il	*Explanation*
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC - Prompt Maintenance Action Critical
PMA - Prompt Maintenance Action Major
DMA - Deferred Maintenance Action Minor
MI - Maintenance Information

[s]ghi - The 3- or 4-digit nonhierarchical number of a successfully removed NPC.

(**[s]abc** through **[t]def**)

[s]jkl - The 3- or 4-digit nonhierarchical number of an NPC whose removal is denied.

If used in a range, it denotes the first NPC of the range.
(**[s]abc** through **[t]def**)

[t]mno - The 3- or 4-digit nonhierarchical number of an NPC whose removal is denied.

It denotes the last NPC of a range. (**[s]abc** through **[t]def**)

uvghi - Hierarchical number of a successfully removed NPC.

(**uvmnp** through **uvkqr**)

uvjkl - Hierarchical number of an NPC whose removal is denied.

If used in a range, it denotes the first NPC of the range.
(**uvmnp** through **uvkqr**)

uvmno - Hierarchical number of an NPC whose removal is denied.

It denotes the last NPC of a range. (**uvmnp** through **uvkqr**)

uv - Unit number
m,g,k,j
- Module number
np,qr,hi,kl,no
- NPC number within the module

TYPE - Type

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mn	Explanation
SD	Digital Signal Processing Application Circuit Pack
ST	Digital Signal Processing Circuit Pack (2 NPCs per card)
CB	C-bit processor (CPR) NPC
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

COND - Condition

kk - Hexadecimal completion code

See cc to interpret values.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
02	Subject entity is not equipped
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
19	Mate CCN side is out of service
1E	Customer control or red circuit exists
1F	FTMI is in service but failed
37	DSPI out-of-service

cc	*Explanation*
3E	DSPI failed
5C	NPC providing timing to inservice SSP
9B	INCL must be specified for SRDC ckts
F2	Invalid NPC number specified
F5	INCL keyword needed to perform this command
FD	NPC range crosses unit boundary
A0	The selected MXR associated with the NPC is Out-Of-Service
B7	The associated MXR is In-Service but pested
AA	Integrated Test Set is currently active on TG

RMV,SMEM,PMEM

REMOVE PMEM OR SMEM

Explanation Of Command

This message removes the Primary Memory card (PMEM) or Secondary Memory card (SMEM) from service.

The SMEM card can be alarmed but the PMEM card cannot.

The PMEM card may only be removed when the main controller (MC) is in maintenance condition (MCOND). The SMEM card may be removed when the MC is in service (IS) or MCOND.

If either card fails autonomously, they are removed by software. However, if the PMEM fails autonomously, the MC will first go into MCOND.

If the SMEM is removed manually, it is removed by software also. Removing the SMEM card will not change the state of the MC. When the MC is IS, all writes to the card will be completed before the this command completes.

Command

[I.33211]

RMV:FRM xy,SEQ ww:{SMEM|PMEM}!

Completion Message

[O.33211]

M hh:mm:ss xy,ww n[vv] RMV {PMEM|SMEM} COMPL

Denial Message

[O.33211.01]

M hh:mm:ss xy,ww n[vv] RMV {PMEM|SMEM} COND cc DNY

Autonomous Message

[O.33211]

pa <il> hh:mm:ss xy,ww n[vv] RMV {PMEM|SMEM} {PMC|PMA|DMA|MI} COMPL

Explanation Of Parameters

PMEM - Primary memory.

SMEM - Secondary memory.

pa - Priority of Action

pa	Explanation
A	Autonomous
I	Informational
*	Minor
**	Major
*C	Critical

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
0B	BOOT on subject entity failed
8B	PMEM not in service or not ready
F1	PMEM and SMEM synchronization fail
F2	Not a DACS II compatible Flash Card
F3	Flash Card is empty
F4	PMEM and SMEM are different
F5	Flash Card is not present
F6	Flash Card is bad

RMV,SYNC

REMOVE SYNCHRONIZER

Explanation Of Command

This command is used to remove the synchronizer from service. This includes the timing extractor circuit, the phase-locked loop, the clock generator circuit, and the service and reply circuit.

If the mate synchronizer is not available for switchover, this message will be denied.

Removing a synchronizer fromm service results in removal of its associated cross-connect side.

Command

[I.33101]

RMV:FRM xy,SEQ ww:SYNC a!

Completion Message

[O.33101]

M hh:mm:ss xy,ww n[vv] RMV SYNC a COND 00 COMPL

Denial Message

[O.33101.01]

M hh:mm:ss xy,ww n[vv] RMV SYNC a COND cc DNY

Autonomous Message

pa <il> hh:mm:ss xy,ww RMV SYNC a [PMC|PMA|DMA|MI] COND 00 COMPL

Explanation Of Parameters

SYNC - Snycronizer

a - Synchronizer side (0 or 1)

pa - Priority of action field.

pa	*Explanation*
I	Information
M	Manual
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
19	Mate CCN side is out of service
1A	Mate SYNC is out of service
31	Failed to switch SYNC side
AB	Bad sync mode
E005	Failed to lock sync to timing reference

RMV,SYNC,TLI,CRO

REMOVE SYNCHRONIZER TIME BASE AS A CLOCK REFERENCE OSCILLATOR

Explanation Of Command

This command requests the removal of the synchronizer time base as a clock reference oscillator.

Command

[I.33111]

```
RMV:FRM xy,SEQ ww:SYNC,TLI 3,CRO!
```

Completion Message

[O.33111]

```
M hh:mm:ss xy,ww n[vv] RMV SYNC TLI 3 CRO COND 00 COMPL
```

Denial Message

[O.33111.01]

```
M hh:mm:ss xy,ww n[vv] RMV SYNC TLI 3 CRO COND cc DNY
```

Autonomous Message

[O.33111]

```
pa <il> hh:mm:ss xy,ww   RMV SYNC a TLI m[ CRO] \
[PMC|PMA|DMA|MI] COND 00 COMPL
```

[O.33111.01]

```
pa <il> hh:mm:ss xy,ww   RMV SYNC a TLI m[ CRO] \
[PMC|PMA|DMA|MI] COND cc DNY
```

Explanation Of Parameters

pa - Priority of Action
- *C - Critical
- ** - Major
- * - Minor
- **A** - Autonomous

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

SYNC - Synchronizer

a - Synchronizer number (0 or 1)

TLI - Timing link interface

m - TLI number (1 through 4)

CRO - Clock Reference Oscillator

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
32	Both SYNCs are OOS
33	Wrong TLI type
A9	Both syncs are out-of-service
CC	One of the IS SYNC is pested

RMV,SYNC,TLI,SSP

REMOVE SYNCHRONIZER'S TLI OR SSP

Explanation Of Command

Input Command:

This command requests the removal from service of a synchronizer's timing link interface(TLI) if the TLI is grown as a distributor or the removal from service of a SSP if the TLI was grown as an extractor. If the timing link interface was configured as a timing extractor, synchronizer sync Port 0 or 1 must also be specified.

Autonomous Removal:

The same autonomous removal message will be used to indicate that either a TLI is being removed or that a SSP is being removed. If a SSP is identified in the output, the message is indicating that a SSP is being removed and the alarm level used will be that assigned to TREF in Alarm Severity. If the SSP is not identified in the output, the message is indicating that the TLI is being removed and the alarm level used will that assigned to TLI in Alarm Severity.

Command

[I.33121]

`RMV:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!`

Completion Message

[O.33121]

```
M hh:mm:ss xy,ww n[vv] RMV SYNC a TLI m[ SSP b] COND cc \
COMPL
```

Denial Message

[O.33121.01]

```
M hh:mm:ss xy,ww n[vv] RMV SYNC a TLI m[ SSP b] COND cc DNY
```

Autonomous Message

[O.33121]

```
pa <il> hh:mm:ss xy,ww   RMV SYNC a TLI m[ SSP b[ c]] \
[PMC|PMA|DMA|MI] COND 00 COMPL
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
M	Manual
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

SYNC - Synchronizer

a - SYNC number (0 or 1)

TLI - Timing Link Interface

m - TLI number (1 through 4)

SSP - Synchronizer Sync Port

b,c - SSP number of TLI-m (0 or 1)

Only a single SSP, "b", can be specified in the input command. Two SSPs, "b" and "c", can appear in an automonous removal message.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
16	SYNC TB is not equipped
17	SYNC is out of service
33	Wrong TLI type
BE	Hardware mismatch or not present
C8	Sync pack denied command

RMV,TSI

REMOVE TIME SLOT INTERCHANGE

Explanation Of Command

This command applies only to a noncapacity expansion frame (NCEF).

It requests the removal of the time slot interchange (TSI) from service.

If the TSI on the other side has already been removed this command will be denied unless there are no provisioned circuits for this TSI.

Command

[I.33221]

```
RMV:FRM xy,SEQ ww:TSI sft!
```

Completion Message

[O.33221]

```
M hh:mm:ss xy,ww n[vv] RMV TSI sft COND cc COMPL
```

Denial Message

[O.33221.01]

```
M hh:mm:ss xy,ww n[vv] RMV TSI sft COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

TSI - Time slot interchange

s - Side number (0 or 1)

f - Cross-connect buffer (CCB) number (1 through 6)

t - TSI number (1 through 6)

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
19	Mate CCN side is out of service

RMV,TSIS,CCN,ALL

REMOVE

Explanation Of Command

This command is applicable only to a noncapacity expansion frame (NCEF).

It requests the removal of all in-service time slot interchanges in the cross-connect network side.

This message will be denied if the cross-connect network side specified is the active side and any time slot interchange on the inactive side is out of service. The exception to this is if there are no cross-connected circuits in the system.

Command

[I.33241]

```
RMV:FRM xy,SEQ ww:TSIS,CCN s,ALL!
```

Completion Message

[O.33241]

```
M hh:mm:ss xy,ww n[vv] RMV TSIS ALL  5 LN MSG:
TOTAL TSIS tt
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
EOP

M hh:mm:ss xy,ww n[vv] RMV TSIS ALL  5 LN MSG:
TOTAL TSIS tt
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
COND ćć COMPL
```

Denial Message

[O.33241.01]

```
M hh:mm:ss xy,ww n[vv] RMV TSIS CCN s ALL COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TSIS - Time slot interchanges

CCN - Cross-connect network

s - CCN side (0 or 1)

ALL - All

TOTAL - Total

f - Cross-connect buffer number (1 through 6)

t - TSI number (1 through 6)

tt - Number of TSIs currently in service (01 through 72)

r - Status of the removal request for the particular TSI

r	*Explanation*
C	COMPL
D	DNY

nn - Hexadecimal condition code for the particular TSI

See cc below to interpret values of nn.

COND - Condition

cc - Completion condition code

See cc below to interpret values of cc.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
02	Subject entity is not equipped
04	Subject entity is out of service
18	CCNI is out of service
19	Mate CCN side is out of service

RMV,TSIS,CCN,UNIT,CONN

REMOVE

Explanation Of Command

This command is applicable only to a noncapacity expansion frame (NCEF).

This message allows removal of all time slot interchanges (TSI) that connect the specified unit to the indicated units, one of which may be the specified unit in cross-connect network side 0 or 1 through use of the optional field. If the field is omitted, then all TSIs connected to the specified unit are removed.

Note that if the TSI on the other CCN side has already been removed, this command will be executed only if no circuits are cross-connected through the TSI. The reason for allowing removal on both sides is to degrow the UNIT or change its connectivity.

Command

[I.33231]

```
RMV:FRM xy,SEQ ww:TSIS,CCN s,UNIT q\
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!
```

Completion Message

[O.33231]

```
M hh:mm:ss xy,ww n[vv] RMV TSIS UNIT q\
[ CONN (a[ b[ c[ d[ e[ f]]]]])]
e LN MSG:
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  \
COND 00 COMPL
```

Denial Message

[O.33231.01]

```
M hh:mm:ss xy,ww n[vv] RMV TSIS CCN s UNIT q\
[ CONN (a[ b[ c[ d[ e[ f]]]]])] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

e - Number of lines in the message segment

TSIS - Time slot interchanges

CCN - Cross-connect network

s - Side number (0 or 1).

UNIT - Unit

q - Unit number containing TSIs (1 through 6).

CONN - Connect

a,b,c,d,e,f
- Unit number to which UNIT q can be connected (1 through 6).

sft - TSI identifier

- **s** - Side number (0 or 1)
- **f** - CCB (Cross-Connect Buffer) number (1 through 6)
- **t** - TSI number (1 through 6).

r - Status code

r	*Explanation*
C	COMPL
D	DNY

nn - Hexadecimal condition code for the particular TSI.

For r = C

nn	*Explanation*
00	No Condition

For r = D

nn	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
18	CCNI is out of service
19	Mate CCN side is out of service
28	Connectivity contains unequipped units

RMV,UNIT,FC

REMOVE UNIT FORMAT CONVERTER

Explanation Of Command

This message requests removal of the unit format converter from service.

Command

[I.33331]

RMV:FRM xy,SEQ ww:UNIT [q]q,FC sb!

Completion Message

[O.33331]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FC sb COND ćć COMPL

Denial Message

[O.33331.01]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FC sb COND cc DNY

Autonomous Message

[O.33331]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FC sb [PMC|PMA|DMA|MI] \
COND ćć COMPL
```

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FC - Format converter

s - Side number (0 or 1)

b - FC number (1 through 4)

pa - *Priority of action*

pa	Explanation
**	Major
*C	Critical
*	Minor
I	Information

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

COND - Condition

cc - Completion condition code

Explanations of these codes are given in the explanation of cc below.

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
19	Mate CCN side is out of service
1F	FTMI is in service but failed

RMV,UNIT,FLI

REMOVE FACILITY LINE INTERFACE

Explanation Of Command

This command requests and reports the removal of one facility line interface (FLI) in a DS3 unit (DS3U) or a Hybrid DS3 Unit (HDS3U). The removal can by caused by either a manual request or autonomously by error recovery.

A request for removal of a FLI will cause a protection switch. A request to remove an unprotected FLI will be denied unless no service mutiplexer (MXR) or hybrid multiplexer (HMXR) or protection MIU is equipped and the protection MMFG is out-of-service in that DS3U or HDS3U.

This message also reports an unsuccessful automatic attempt to remove an unprotected FLI, which will cause a critical alarm.

Command

[I.33401]

```
RMV:FRM xy,SEQ ww:UNIT [q]q,FLI k!
```

Completion Message

[O.33401]

```
M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FLI k COMPL
```

Denial Message

[O.33401.01]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FLI k COND cc DNY

Autonomous Message

[O.33401]

****hh:mm:ss xy,ww RMV UNIT [q]q FLI k COMPL**

[O.33401.01]

***Chh:mm:ss xy,ww RMV UNIT [q]q FLI k COND cc DNY**

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FLI - Facility line interface

k - FLI identifier

k	*Explanation*
S	Service FLI
P	Protection FLI

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
39	An autonomous switch is in progress

RMV,UNIT,FMT

REMOVE FORMATTER

Explanation Of Command

This command requests and reports the removal of one formatter (FMT) or Hybrid Formatter (HFMT) in a DS3 unit or Hybrid DS3 unit (HDS3U). The removal can be either manually by a command or autonomously by error recovery.

A successful request to remove an FMT or HFMT will automatically cause a switch to the other cross-connect side. A request for removal of an FMT or HFMT will be denied if the switch to the other cross-connect side is not possible. The output of this command also reports an unsuccessful automatic attempt to remove an unprotected FMT or HFMT. The removal of both FMTs/HFMTs will automatically come into effect when the unit is degrown.

Command

[I.33411]

```
RMV:FRM xy,SEQ ww:UNIT [q]q,FMT s!
```

Completion Message

[O.33411]

```
M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FMT s COMPL
```

Denial Message

[O.33411.01]

M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q FMT s COND cc DNY

Autonomous Message

[O.33411]

pahh:mm:ss xy,ww RMV UNIT [q]q FMT s COMPL

[O.33411.01]

pahh:mm:ss xy,ww RMV UNIT [q]q FMT s COND cc DNY

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
19	Mate CCN side is out of service

RMV,UNIT,FTMI,DSPI

REMOVE FTMI OR DSPI

Explanation Of Command

This message allows removal of a facility terminating module interface or a digital signal processor interface from service.

Command

[I.33321]

```
RMV:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!
```

Completion Message

[O.33321]

```
M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} \
COND ćć COMPL
```

Denial Message

[O.33321.01]

```
M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} COND cc \
DNY
```

Autonomous Message

[O.33321]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} [PMC|PMA|DMA|MI]\
COND ćć COMPL
```

[O.33321.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV UNIT [q]q {FTMI d|DSPI} \
COND cc DNY
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

UNIT - Unit

[q]q - Unit number (1 through 16)

FTMI - Facility terminating module interface

d - FTMI number (1 through 4)

DSPI - Digital signal processor interface

OOS - Out-of-service

cc - Completion condition code (hexadecimal)

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed

RMV,UNIT,MMFG,FRC,INCL

REMOVE MMFG

Explanation Of Command

This command requests and reports the removal of the circuit packs of one or more Multiplexer - Multiplexer Interface Unit Functional Group (MMFG). The removal of an MMFG can be caused either by manual command or autonomous DACS II error recovery action.

An **RMV MMFG** command will remove the Multiplexer (MXR) or Hybrid Multiplexer (HMXR) and the Multiplexer Interface Unit (MIU) if the MIU is in-service. Note that MIU currently is not supported by HDS3U, therefore, MIU does not exist in an MMFG with the HMXR.

A manual removal request of an MMFG will cause protection switching if protection is available. However, the automatic switch to protection (or the automatic switchback from a protection MMFG) can be inhibited by specifying the FRC option, which can result in loss of service. The FRC option must be used to request the unprotected removal of an MMFG. Any resulting loss of service will not cause an alarm. An attempt to remove more than one MMFG without the FRC option will be denied.

The Inclusive (INCL) keyword must be used if at least one of the DS3's tributary NPCs is in service. This option will remove the NPCs together with the MMFG.

This command also reports the unsuccessful automatic attempt to remove an unprotected MMFG, which will cause a critical alarm. An **RMV IN PROGRESS** message will be generated at 20-second intervals while this command is being executed. There will be one

completion or denial output message for each circuit pack removed.

Command

[I.33421]

```
RMV:FRM xy,SEQ ww:UNIT [q]q,MMFG c[-d][,FRC[,INCL]]!
```

Completion Message

[O.33421]

```
M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q MMFG a[ FRC[ INCL]]  \
2 LN MSG:
MXR a TYPE mnxyz[ MIU a TYPE MI100] COMPL
```

Denial Message

[O.33421.01]

```
M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q MMFG a[ FRC[ INCL]] \
COND cc DNY
```

Autonomous Message

[O.33421]

```
**hh:mm:ss xy,ww   RMV UNIT [q]q MMFG a[ FRC[ INCL]]  2 LN MSG:
MXR a TYPE mnxyz[ MIU a TYPE MI100] COMPL
```

[O.33421.01]

```
*Chh:mm:ss xy,ww   RMV UNIT [q]q MMFG a[ FRC[ INCL]] COND cc \
DNY
```

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

MMFG - Multiplexer-Multiplexer Interface Unit functional group.

c,d - The number of the MMFG within the unit (P,1 through 6) (P means the protection MMFG)

a - The number of the MMFG that is removed or denied (c or d)

FRC - Force

This keyword will force a manual removal (in the case that protection is not available) and will prevent automatic protection switching from accompanying the removal, thus forcing the removal of all the DS1 facilities served by the MMFG.

INCL - Inclusive

This keyword will cause all tributary NPCs which are still in service to be removed. A command with the INCL keyword must also contain the FRC keyword or it will be denied by DACS II.

*C - Critical priority of action
** - Major priority of action
M - Manual priority of action

MXR - Multiplexer (MXR) or Hybrid Multiplexer (HMXR)

a - MXR or HMXR identifier (P, 1 through 6)

TYPE - Type

mnxyz - The DS3 format processed by the MXR:

mn - DS3 type

mn	*Explanation*
MX	The original R4.0 DS3 facility type supported by the Multiplexer (MXR) circuit pack (KCR-1).
EX	The enhanced R6.0 DS3 facility type supported by the Enhanced Multiplexer (EMXR) circuit pack (KCR-5).
HX	The hybrid facility type supported by the Hybrid Multiplexer (HMXR) circuit pack (KCR-8).

If the unit is a regular DS3U of unit type DT100, then the default is the MX type for backward compatibility.
If the unit is a Hybrid DS3U of unit type HT100, then the default is HX.

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

MIU - Multiplexer interface unit

a - MIU identifier (P, 1 through 6)

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
24	Unit type error
A9	INCL not specified and at least one NPC In Service
AA	Range entered without FRC keyword

RMV,UNIT,UC

REMOVE UNIT CONTROLLER

Explanation Of Command

This message requests removal of the specified unit controller from service. Only the unit controller for the IFTU and DSPU will have a changeable alarm severity and intervention level.

Command

[I.33311]

```
RMV:FRM xy,SEQ ww:UNIT [q]q,UC!
```

Completion Message

[O.33311]

```
M hh:mm:ss xy,wz n RMV UNIT [q]q UC COND cc COMPL
```

Denial Message

[O.33311.01]

```
M hh:mm:ss xy,ww n[vv] RMV UNIT [q]q UC COND cc DNY
```

Autonomous Message

[O.33311]

```
pa <il> hh:mm:ss xy,wz n RMV UNIT [q]q UC [PMC|PMA|DMA|MI] \
COND ćć COMPL
```

[O.33311.01]

```
pa <il> hh:mm:ss xy,ww n[vv] RMV UNIT [q]q UC [PMC|PMA|DMA|MI] \
COND cc DNY
```

Explanation Of Parameters

pa - Priority of action field.

pa	*Explanation*
I	Information
M	Manual
*****	Minor alarm
******	Major alarm
***C**	Critical alarm

il - Intervention level.

il	Explanation
AMI	Immediate maintenance action
AMD	Deferred maintenance action
SI	No intervention

PMC Prompt Maintenance Action Critical
PMA Prompt Maintenance Action Major
DMA Deferred Maintenance Action Minor
MI Maintenance Information

UC - Unit controller

UNIT - Unit

[q]q - Unit number (1 through 16)

COND - Condition

cc - Completion condition code

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service

RST

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RST

This section documents the **RST** command.

RST,CCB

RESTORE CROSS-CONNECT BUFFER

Explanation Of Command

This command applies only to the noncapacity expansion frame (NCEF).

It requests the restoration of the specified cross-connect buffer to service.

Command

[I.34202]

RST:FRM xy,SEQ ww:CCB sf!

Completion Message

[O.34202]

M hh:mm:ss xy,ww n[vv] RST CCB sf COND ćć COMPL

Denial Message

[O.34202.01]

M hh:mm:ss xy,ww n[vv] RST CCB sf COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

CCB - Cross-connect buffer

s - Side number (0 or 1)

f - CCB number (1 through 6)

COND - Condition

cc - Completion condition code (hexadecimal)

To interpret values see cc.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
1B	CCN side s is in service
CF	SYNC is inservice but failed
D3	CCNI is inservice but failed

RST,CCI

RESTORE CONTROL AND CLOCK INTERFACE

Explanation Of Command

This command applies only to the capacity expansion frame (CEF).

It requests that the clock and control interface pack of side s be restored to service. The two bus terminator packs of side s are also restored along with the CCI pack.

Command

[I.34251]

```
RST:FRM xy,SEQ ww:CCI s!
```

Completion Message

[O.34251]

```
M hh:mm:ss xy,ww n[vv] RST CCI s COND ćć COMPL
```

Denial Message

[O.34251.01]

```
M hh:mm:ss xy,ww n[vv] RST CCI s COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

CCI - Clock and control interface

s - Side number (0 or 1)

COND - Condition

cc - Completion condition code (hexadecimal)

To interpret values see cc below.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
16	SYNC TB is not equipped
17	SYNC is out of service
CF	SYNC is inservice but failed

RST,CCNI

RESTORE CROSS-CONNECT NETWORK INTERFACE

Explanation Of Command

This command is applicable only to the noncapacity expansion frame (NCEF).

It allows restoral of a cross-connect network interface to service.

Command

[I.34201]

```
RST:FRM xy,SEQ ww:CCNI s!
```

Completion Message

[O.34201]

```
M hh:mm:ss xy,ww n[vv] RST CCNI s COND ćć COMPL
```

Denial Message

[O.34201.01]

```
M hh:mm:ss xy,ww n[vv] RST CCNI s COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

CCNI - Cross-connect network interface.

s - Side No. (0 or 1).

COND - Condition

cc - Completion condition code

To interpret values see cc.

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
16	SYNC TB is not equipped
17	SYNC is out of service
1B	CCN side s is in service
CF	SYNC is inservice but failed

RST,ETSI

RESTORE EXPANDED TIME SLOT INTERCHANGER

Explanation Of Command

This command is applicable only to the capacity expansion frame (CEF).

It requests that an expanded time slot interchanger (ETSI) be restored to service.

Command

[I.34261]

RST:FRM xy,SEQ ww:ETSI sqq!

Completion Message

[O.34261]

M hh:mm:ss xy,ww n[vv] RST ETSI sqq COND 00 COMPL

Denial Message

[O.34261.01]

M hh:mm:ss xy,ww n[vv] RST ETSI sqq COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ETSI - Expanded time slot interchanger

s - Side number (0 or 1)

qq - Unit number (01 through 16)

Note that the unit number qq must always be shown with two digits in both the input and output. The leading 0 is required.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
16	SYNC TB is not equipped
17	SYNC is out of service
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D4	CCI is inservice but failed

RST,ETSIS,ECCN,ALL

RESTORE ALL ETSIS

Explanation Of Command

This command is applicable only to the capacity expansion frame (CEF).

It requests that all equipped expanded time slot interchangers (ETSIs) in side s of the expanded cross-connect network (ECCN) be restored to service.

Command

[I.34271]

```
RST:FRM xy,SEQ ww:ETSIS,ECCN s,ALL!
```

Completion Message

[O.34271]

```
M hh:mm:ss xy,ww n[vv] RST ETSIS ECCN s ALL  5 LN MSG:
TOTAL ETSIS kk
s01 r nn  s02 r nn  s03 r nn  s04 r nn  s05 r nn  s06 r nn
s07 r nn  s08 r nn  s09 r nn  s10 r nn  s11 r nn  s12 r nn
s13 r nn  s14 r nn  s15 r nn  s16 r nn                    \
COND ćć COMPL
```

Denial Message

[O.34271.01]

M hh:mm:ss xy,ww n[vv] RST ETSIS ECCN s ALL COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ETSIS - Expanded time slot interchangers

ECCN - Expanded cross-connect network

s - Side number (0 or 1)

kk - Total number of ETSIs equipped (01 through 16)

r - Restore status

Indication of the completion or denial of the restoration for each individual ETSI pack.

r	*Explanation*
C	Completed
D	Denied
-	ETSI not equipped

nn - Hexadecimal condition code for the particular ETSI

To interpret values of nn see cc below.

cc - Hexadecimal completion condition code.

To interpret values of cc see cc below.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
0C	DGN on subject entity denied
16	SYNC TB is not equipped

cc	*Explanation*
17	SYNC is out of service
41	Failed to boot subject CCN side
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D4	CCI is inservice but failed

RST,LINK

RESTORE ADMINISTRATIVE LINK

Explanation Of Command

This message requests the restoration of the administrative **LINK** to service. The autonomous output message will be generated when the administrative link is successfully restored by the auto-restoration option.

Command

[I.34011]

RST:FRM xy,SEQ ww:LINK j!

Completion Message

[O.34011]

M hh:mm:ss xy,ww n[vv] RST LINK j COND cc COMPL

Denial Message

[O.34011.01]

M hh:mm:ss xy,ww n[vv] RST LINK j COND cc DNY

Autonomous Message

[O.34011]

A hh:mm:ss xy,ww RST LINK j COND cc COMPL

Explanation Of Parameters

LINK - Link

j - Administrative link number (1 through 7)

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
03	Subject entity is in service
0A	DGN on subject entity failed

RST,MC,MCOND,NOJRNL,CLR,ALL

RESTORE MAIN CONTROLLER

Explanation Of Command

The RST::MC command provides different functions when different keywords are entered. DACS II responses to each keyword entered are explained below:

1. **RST:FRM xy,SEQ ww:MC,MCOND!**

   The MCOND keyword transfers the DACS II Main Controller (MC) from the normal in-service state to the Maintenance Condition (MCOND) state. MCOND is a state of the MC in which it is not fully OOS but is in a restricted mode to allow certain maintenance operations. Network traffic carried by the system will not be affected by MCOND.

2. **RST:FRM xy,SEQ ww:MC!**

   This command restores the MC to the normal in-service state from either the OOS or the MCOND state by using the data base on the PMEM. Therefore, if the primary memory data base contains the state existing prior to entering the OOS or MCOND state, the system will return to the original state without affecting service, that is, no network traffic disruption. Normal in-service or original state imply that only states provisioned by the user are recorded in the data base and will be used for restoral; transient states will not be recorded or used for restoral. This command should be used to restore the system for normal operations.

   Any test groups and ports established prior to entering the RST::MC command will be autonomously released by this command. Upon completion of the command a test group release message will be issued for the last test group released as a result of the RST::MC. No messages will be issued for any test ports released during command execution.

3. **RST:FRM xy,SEQ ww:MC,NOJRNL!**

   The NOJRNL keyword causes the system to be restored without the data base journals on the PMEM. At the completion of this command the system returns to the state of the last data base backup from RAM to PMEM. The effect of the commands entered after the last data base backup is destroyed. Therefore, if cross-connect commands were executed after the last backup, the resulting cross-connections will be disconnected by this command. This command is useful for system restoration after the system fails to boot due to JOURNAL failure.

4. **RST:FRM xy,SEQ ww:MC,CLR!**

   The CLR keyword erases Main Processor (MP) and all Unit data bases in the processor memory and on the PMEM before restoring the system. Thus, all transmission equipment is de-grown and all cross-connects are disconnected. This command should be used for installation only and should NOT be used for any other maintenance operations. Note that the Communications Interface (CI) data base is not erased by this command.

   For Installation and Product Evaluation Only. Can be used only if no units are equipped.

   RST:FRM xy,SEQ ww:MC,CLR,ALL!

   The only difference between using only the CLR keyword and using both the CLR and ALL keywords is that entering ALL will cause the Communications Interface (CI) data base to be erased before restoring the system. Therefore, all information associated with user logins (except the Frame Administrator DAX login) will be deleted from the data base and the provisioning data for the administrative links will return to the default values.

WARNING:

The use of the NOJRNL keyword can also affect existing services. DACS II treats the following commands as restricted commands (See Message 36103 for RMON privilege):

```
RST:FRM xy,SEQ ww:MC,NOJRNL!
RST:FRM xy,SEQ ww:MC,CLR!
RST:FRM xy,SEQ ww:MC,CLR,ALL!
```

That is, these commands are restricted to only the users who have the RMON privilege. In addition, to prevent users from accidentally destroying services, when any of these commands is entered, DACS II will respond with:

```
ARE YOU SURE?(YES/NO)
```

When the RST::MC,CLR command is entered, DACS II responds with

WARNING:

EXECUTION OF THIS COMMAND WILL RESULT IN LOSS OF SERVICE AND WILL REQUIRE REPROVISIONING OF THE FRAME.

DO YOU STILL WANT THIS COMMAND EXECUTED? (YES/NO)

Only if the answer is **YES** will the command be executed. If **NO**, DACS II displays the

COMMAND ABORTED response.

Command

For Normal Operations:
[I.34001]

RST:FRM xy,SEQ ww:MC[,{MCOND|NOJRNL}]!

For Installation and Product Evaluation Only:
(Can be used only if no units are equipped.)

[I.34001]

RST:FRM xy,SEQ ww:MC,CLR[,ALL]!

Completion Message

For Normal Operations:
[O.34001]

M hh:mm:ss xy,ww n[vv] RST MC[{MCOND|NOJRNL}] COND cc COMPL

For Installation and Product Evaluation Only:
(Will be available only if no units are equipped.)
[O.34001]

M hh:mm:ss xy,ww n[vv] RST MC CLR[ALL] COND cc COMPL

Denial Message

For Normal Operations:
[O.34001.01]

M hh:mm:ss xy,ww n[vv] RST MC[{MCOND|NOJRNL}] COND cc DNY

For Installation and Product Evaluation Only:
(Will be available only if no units are equipped.)
[O.34001.01]

M hh:mm:ss xy,ww n[vv] RST MC CLR[ALL] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

MC - Main controller

MCOND - Maintenance condition

NOJRNL - No Journal

Boot frame without journals.

CLR - Clear

ALL - All

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
04	Subject entity is out of service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
46	Failed to boot CONF file
47	Failed to boot DB
48	Failed to boot journal--recurrence indicates database corruption
49	Failed to boot unit
4B	PMEM error, boot from SMEM
18	DSPI not in service, or failed
20	Software Identification Block is not readable
21	Software Identification Block failed comparison

cc	*Explanation*
22	Release number mismatch
23	Point number mismatch
24	PDI Version number mismatch
52	Database is empty
53	Database is not empty
91	Can't mount or unmount SMEM
92	Can't mount or unmount PMEM
93	SMEM is not present
F9	Cannot clear journals for OOS unit
EE	Can't RST MC CLR when a unit is equipped
EF	SSC Circuit Pack is Still Equipped

RST,NPC,MON

RESTORE NPC MONITOR

Explanation Of Command

This message restores the *Monitor* function on the C-bit processing pack after the condition of the buffer overflow has occurred (See Message O.65221). Use this message only for CB-type NPCs in a DSPU.

The autonomous form of this message is not an alarm. The output message reports that all C-bit channels designated for monitoring (via the **`CHG::DD,TO`** commands) are enabled.

The completion (**`COMPL`**) message may take some time (up to seconds) before it is sent. This is due to the incremental enabling of the monitored circuits. The circuit pack will start monitoring the received C-bits as soon as the first group of 256 bits is enabled.

Command

Nonhierarchical

[I.34361]

`RST:FRM xy,SEQ ww:NPC [s]abc,MON!`

Hierarchical

[I.34361]

RST:FRM xy,SEQ ww:NPC uvmnp,MON!

Completion Message

Nonhierarchical

[O.34361]

M hh:mm:ss xy,ww n[vv] RST NPC [s]abc MON COMPL

Hierarchical

[O.34361]

M hh:mm:ss xy,ww n[vv] RST NPC uvmnp MON COMPL

Denial Message

Nonhierarchical

[O.34361.01]

M hh:mm:ss xy,ww n[vv] RST NPC [s]abc MON COND cc DNY

Hierarchical

[O.34361.01]

M hh:mm:ss xy,ww n[vv] RST NPC uvmnp MON COND cc DNY

Autonomous Message

Nonhierarchical

[O.34361]

I hh:mm:ss xy,ww n[vv] RST NPC [s]abc MON COMPL

[O.34361.01]

A hh:mm:ss xy,ww n[vv] RST NPC [s]abc MON COND cc DNY

Hierarchical

[O.34361]

I hh:mm:ss xy,ww n[vv] RST NPC uvmnp MON COMPL

[O.34361.01]

A hh:mm:ss xy,ww n[vv] RST NPC uvmnp MON COND cc DNY

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

MON - Restore C-bit monitoring

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
0B	BOOT on subject entity failed
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
15	NPC is unequipped
24	Unit type error
26	NPC type error

cc	*Explanation*
36	DSPI not equipped
37	DSPI out-of-service
3E	DSPI failed
E0	Hardware database mismatch
46	NPC Failed or Out of Service
50	CPR in buffer overflow condition

RST,NPC,SIDE

RESTORE NPCs

Explanation Of Command

This command restores Facility Terminating Unit (FTU/IFTU/IFTU2), DS3 Unit (DS3U), Hybrid DS3 Unit (HDS3U), or Digital Signal Processing Unit (DSPU) Network Processing Circuits (NPC) to service. This command also restores applications on Digital Signal Processing (DSP) NPCs (TG193) which have been grown in Facility Terminating Units. DSP NPCs provisioned as SDxyz types are always odd numbered.

A range of FTU (IFTU or IFTU2), DS3U and HDS3U NPCs may be specified, but DSPU NPCs must be individually restored.

One output message, either completion or denial, is printed for each NPC addressed in the restore command.

DSPU NPCs are duplicated and are associated with the DACS II Cross-Connect Network (CCN) sides. DSPU NPCs are addressed with a side number, and are restored one side at a time. A single DSPU NPC restore command restores only the one addressed side of the duplicated DSPU NPC.
Execution of this command may be stopped by entering the **ABT** command.

For a Network Processing Circuit provisioned with the Minor Bit Error Rate (MBER) feature, the command will be denied if the installed hardware of the addressed NPC does not support the MBER Feature.

Command

Nonhierarchical

[I.34351]

```
RST:[FRM xy,SEQ ww]:NPC [s]abc[-[t]def][,SIDE s]!
```

Hierarchical

[I.34351]

```
RST:[FRM xy,SEQ ww]:NPC uvmnp[-uvkqr][,SIDE s]!
```

Completion Message

Nonhierarchical

[O.34351]

```
M hh:mm:ss xy,ww n[vv] RST NPC [s]ghi[ SIDE s] TYPE mnxyz COND 00 \
COMPL
```

Hierarchical

[O.34351]

```
M hh:mm:ss xy,ww n[vv] RST NPC uvghi[ SIDE s] TYPE mnxyz COND 00 \
COMPL
```

Denial Message

Nonhierarchical

[O.34351.01]

```
M hh:mm:ss xy,ww n[vv] RST NPC [s]jkl[-[t]mno][ SIDE s] TYPE mnxyz \
COND cc DNY
```

Hierarchical

[O.34351.01]

```
M hh:mm:ss xy,ww n[vv] RST NPC uvjkl[-uvmno][ SIDE s] TYPE mnxyz \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number (beginning of the range).

[t]def - The 3- or 4-digit nonhierarchical NPC number (end of the range).

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number (beginning of the range).

uvkqr - Hierarchical NPC number (end of the range).

uv - Unit number
m - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SIDE - Side

s - Side of duplicated DSPU circuit to be removed (0 or 1)

[s]ghi - The 3- or 4-digit nonhierarchical number of a successfully restored NPC.

(**[s]abc** through **[t]def**)

[s]jkl - The 3- or 4-digit nonhierarchical number of an NPC whose restoral is denied.

If used in a range, it denotes the first NPC of the range.
(**[s]abc** through **[t]def**)

[t]mno - The 3- or 4-digit nonhierarchical number of an NPC whose restoral is denied.

It denotes the last NPC of a range. (**[s]abc** through **[t]def**)

uvghi - Hierarchical number of a successfully restored NPC.

(**uvmnp** through **uvkqr**)

uvjkl - Hierarchical number of an NPC whose restoral is denied.

If used in a range, it denotes the first NPC of the range.
(**uvmnp** through **uvkqr**)

uvmno - Hierarchical number of an NPC whose restoral is denied.

It denotes the last NPC of a range. (**uvmnp** through **uvkqr**)

uv - Unit number
m,g,k,j
- Module number
np,qr,hi,kl,no
- NPC number within the module

TYPE - Type of NPC

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mn	*Explanation*
CB	C-bit processor (CPR) NPC
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
SD	Digital Signal Processing Application Circuit Pack
ST	Digital Signal Processing Circuit Pack (2 NPCs per card)

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped

cc	*Explanation*
14	FTMI is out of service
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
1F	FTMI is in service but failed
36	DSPI not equipped
37	DSPI out-of-service
3E	DSPI failed
40	FC out of service
E0	Hardware database mismatch
0D	Unpesting error registers for subj. entity failed
7F	NPC is not added
84	Mate NPC is not equipped
F2	Invalid NPC number specified
FD	NPC range crosses unit boundary
B7	The associated MXR is In-Service but pested
CD	Subject NPC does not support CEPT BER feature
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D2	ETSI is not present
D3	CCNI is inservice but failed
D4	CCI is inservice but failed
D5	CCB is not equipped
D6	CCB is out of service
D7	CCB is inservice but failed
D8	ETSI is not equipped
D9	ETSI is out of service
DA	ETSI is inservice but failed
DB	FC is inservice but failed

RST,NPC,TS0M

RESTORE NPC TIME SLOT 0 MONITOR

Explanation Of Command

This message requests that the current TS0M buffer overflow condition on the specified PA, PB, or PC type NPC be reset.

Command

Nonhierarchical

[I.34371]

```
RST:FRM xy,SEQ ww:NPC [s]abc,TS0M!
```

Hierarchical

[I.34371]

```
RST:FRM xy,SEQ ww:NPC uvmnp,TS0M!
```

Completion Message

Nonhierarchical

[O.34371]

```
M  hh:mm:ss xy,ww <n[vv]> RST NPC [s]abc TS0M COMPL
```

Hierarchical

[O.34371]

```
M  hh:mm:ss xy,ww <n[vv]> RST NPC uvmnp TS0M COMPL
```

Denial Message

Nonhierarchical

[O.34371.01]

```
M  hh:mm:ss xy,ww <n[vv]> RST NPC [s]abc TS0M COND cc DNY
```

Hierarchical

[O.34371.01]

```
M  hh:mm:ss xy,ww <n[vv]> RST NPC uvmnp TS0M COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TS0M - Time slot 0 monitor

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
1F	FTMI is in service but failed
24	Unit type error
E0	Hardware database mismatch
46	NPC Failed or Out of Service
F1	Parameter only valid with PA, PB, or PC type NPCs
F2	Invalid NPC number specified
9B	The MXR is not grown
AE	MXR is failed
B2	MXR is out of service

RST,PMEM,SMEM,CLR,FRC,BKGRND

RESTORE PMEM AND/OR SMEM

Explanation Of Command

This message restores the primary memory card (**PMEM**) or secondary memory card (**SMEM**) to service. The PMEM card may be restored manually when the main controller (MC) is in maintenance condition (MCOND). The SMEM card may be restored manually when the MC is in-service (IS) or in MCOND.

The options **CLR**, **FRC**, and **BKGRND** can only be used with SMEM. In addition, the option **CLR** can only be used when the main controller is in MCOND. The options **FRC** and **BKGRND** can only be used when the main controller is IS. The options do the following:

1. The **CLR** option is used when the frame administrator wants to create a blank card. The executables and the database will be erased from the card. The **CLR** option cannot be used together with the **FRC** or **BKGRND** option.
2. The **FRC** option is used when an SMEM card is to be synchronized but one or more items on the SMEM card are incompatible with the same item on the PMEM card. The purpose of the **FRC** option is to allow the frame administrator to force synchronization, even though an incompatibility has been detected.
3. The **FRC** option may be used together with **BKGRND** option. It is incompatible with the **CLR** option.
4. The **BKGRND** option is used when the frame administrator wants to allow the execution of a certain set of commands to proceed while the synchronization of the SMEM card is proceeding in the background. The **BKGRND** keyword is incompatible with the **CLR** keyword, but it may be used together with the **FRC** keyword.

Command

[I.34211]

RST:FRM xy,SEQ ww:{PMEM|SMEM[{,CLR|[,FRC][,BKGRND]}]}!

Completion Message

[O.34211]

M hh:mm:ss xy,ww n[vv] RST {PMEM|SMEM[CLR][FRC][BKGRND]} COMPL

Denial Message

[O.34211.01]

M hh:mm:ss xy,ww n[vv] RST {PMEM|SMEM[CLR][FRC][BKGRND]} COND cc DNY

Autonomous Message

Normal completion message when command is issued during Boot procedure

[O.34211]

I hh:mm:ss xy,ww n[vv] RST SMEM BKGRND COMPL

Error message when command issued during Boot procedure terminates abnormally

[O.34211.01]

A hh:mm:ss xy,ww n[vv] RST SMEM BKGRND COND cc DNY

Explanation Of Parameters

PMEM - Primary memory card.

CLR - Clear

The CLR option will cause all volumes on the card inserted in the SMEM slot to be initialized. It is not allowed for the PMEM option.

If the **CLR** keyword is entered, DACS II will respond:

ARE YOU SURE?(YES/NO)

If **YES**, the command request will be submitted to DACS II. After completion, all of the file volumes on the SMEM card will be initialized and all information stored previously will be cleared.

If **NO**, DACS II will respond as indicated under the Completion or Denial Message.

SMEM - Secondary memory card.

If the MC is in MCOND, the SMEM card will be restored without any transfer of databases or executables to the card. It will be restored if it passes hardware diagnostics and is recognized as a DACS II compatible memory card.

If the MC is IS, restoring an SMEM card will result in the following actions:

1. The card will go through hardware diagnostics and a check to ensure it is a DACS II compatible card.
2. The SMEM card will be made bit-for-bit identical to the PMEM card.
3. The system software will ensure that subsequent writes to the PMEM card will also be written to the SMEM card, so that the contents of the PMEM and SMEM cards will always be synchronized.

FRC - Force.

If the MC is IS and the SMEM has passed hardware diagnostics and is a compatible card, then the following conditions are checked on the SMEM:

a) blank or uninitialized card

b) a frame ID mismatch between the PMEM and SMEM cards

c) a unique ID mismatch between the PMEM and SMEM cards

d) a release version mismatch between the PMEM and SMEM cards

e) the database on the SMEM is corrupted, missing or unrecognizable

f) the PMEM and SMEM cards do not contain identical DSP Platform applications

If any of the above conditions exist, the frame will generate a warning message listing the condition and deny the command as follows:

```
Warning: The SMEM Card being restored has the following
problems!

<message describing the problem>

      IF YOU STILL WISH TO PROCEED, USE FRC OPTION
```

If the user re-issues the command with the FRC option, then the following message will appear:

```
      ARE YOU SURE? (YES/NO)
```

A response of YES will cause the command to be executed. Any other response, or a 60-second time interval, will cause the command to be aborted.

BKGRND - Background

The BKGRND command is used when the main controller is In Service and is only valid when used with SMEM.

The following is a list of commands that are available while the backup procedure is running in the background.

[I.11001] **TCON,FROM,TO,RDC,CUS,INCL**
[I.11011] **TCON,FROM,TO,RDC,CUS,INCL (clear DS1/clear 2M bps)**
[I.11021] **TCON,FROM,TO,MPM,NAM,NTR,RDC,CUS,INCL**
[I.11051] **TCON,FROM,TO,PFW,NFW(TS0 to non-TS0)**
[I.15001] **TDIS,FROM,TO,INCL,OOS,DCC**
[I.15002] **TDIS,FROM,TO,INCL,OOS,DCC (multi-point)**
[I.15011] **TDIS,FROM,TO,OOS,INCL (clear DS1/clear 2M bps)**
[I.19001] **ED,MACRO,MAP**
[I.19101] **SECH,TO,DS0A,DS0B,SEC,PCH**
[I.19111] **SECH,TO,RATE,DP,PCH**
[I.19151] **SDCH,TO,PCH,DCC**
[I.19201] **SCON,RATE,TPT,FROM,TO**
[I.19211] **SCON,DS0A,RATE,TPT,FROM,TO,DS0B**
[I.19221] **SCON,RATE,MPTM,MJU,MA**
[I.19401] **SDIS,RATE,TPT,FROM,TO**
[I.19411] **SDIS,RATE,TPT,FROM,TO**
[I.19421] **SDIS,RATE,MPTM,MJU (MJU branch)**
[I.19431] **SDIS,RATE,MPTM,MJU,ALL (MJU master)**
[I.19501] **CHG,SECH,OLD,NEW,PCH,DCC**
[I.19581] **CHG,SCON,OLD,NEW (change MJU branch)**
[I.19591] **CHG,SCON,OLD,NEW,MPTM (change MJU master)**
[I.39001] **LOGIN,USER,PASSWD,DACS,II**
[I.39101] **LOGOFF,USER,LINK**
[I.51011] **UTL,TOD,CFA,MONDAT,FAC,BMTR,PRIM,BKGRND**
[I.51041] **UTL,QRY,WHO**
[I.51131] **UTL,QRY,SQN**
[I.52011] **UTL,QRY,CMAP**
[I.52041] **UTL,QRY,TO**
[I.52061] **UTL,QRY,TO (clear DS1/clear 2M bps)**
[I.52501] **UTL,QRY,SECH,TO**
[I.52511] **UTL,QRY,SCON,CH,TO**
[I.52521] **UTL,QRY,SCON,TO**
[I.52531] **UTL,QRY,SRHDW,TO**
[I.55711] **ABT**
[I.56311] **UTL,QRY,STATE,NPC (except DA,TA,PA types)**
[I.56314] **UTL,QRY,STATE,NPC (DA,TA,PA types only)**
[I.56501] **UTL,QRY,SROOF,TO,ALL**
[I.81001] **AUD,QRY,CFA,CGA,LFVR,FFER**

Additionally, the following test access commands are available for use during a background backup procedure.

[I.19601] **STST,MON,TO,TP**
[I.19621] **STST,MON,TO,MJU,TP**
[I.19631] **STST,SPL,TO,TP**
[I.19651] **STST,SPL,TO,MJU,TP**
[I.19671] **STST,TPR,TP**
[I.19681] **STST,TPR,ALL,LINKS**
[I.20001] **CTST,FAD,FROM,TO,AIS,INCL**
[I.20031] **CTST,HUB,FAD,TO,INCL**
[I.20101] **CTST,FAD,AIS,INCL**
[I.20111] **CTST,FAD,EMODE,FMODE,INCL**
[I.20201] **CTST,TNR,FAD,OOS,RDC,CUS,UMPD,EMODE**
[I.20202] **CTST,TNR,ALL,OOS**
[I.20301] **CTST,LPBKT,FAD,INCL**
[I.21001] **TTST,MON,TO,TP**
[I.21021] **TTST,MON,TO,TG**
[I.21031] **TTST,MON,TG**
[I.23001] **TTST,SPL,TP**
[I.23021] **TTST,SPL,TG**
[I.24001] **TTST,HUB,TO,TP**
[I.24021] **TTST,HUB,TO,TG**
[I.26101] **TTST,RT,DGA,DGB,DGC,DGD,DGP**
[I.27001] **TTST,TPR,TP,OOS**
[I.27002] **TTST,TPR,ALL,OOS**
[I.27021] **TTST,TGR,TG,OOS**
[I.29001] **TTST,LPD,TP**
[I.29021] **TTST,LPD,TG**
[I.53061] **UTL,QRY,TPS**
[I.53081] **UTL,QRY,TGS**
[I.53091] **UTL,QRY,NPCTG**

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
06	Device failed to format
07	Device failed to initialize
0B	BOOT on subject entity failed
91	Can't mount or unmount SMEM
FB	PMEM verification failed
11	PMEM type no longer supported
F1	PMEM and SMEM synchronization fail
F2	Not a DACS II compatible Flash Card
F3	Flash Card is empty
F4	PMEM and SMEM are different
F5	Flash Card is not present
F6	Flash Card is bad

cc *Explanation*

RST,SYNC

RESTORE SYNCHRONIZER

Explanation Of Command

This command restores the specified synchronizer to service. This includes all constituent circuit packs; i.e., the timing extractor circuit, the phase-locked loop, the clock generator circuit, and the service and reply circuit.

Command

[I.34101]

```
RST:FRM xy,SEQ ww:SYNC a!
```

Completion Message

[O.34101]

```
M hh:mm:ss xy,ww n[vv] RST SYNC a COND cc COMPL
```

Denial Message

[O.34101.01]

```
M hh:mm:ss xy,ww n[vv] RST SYNC a COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

a - Synchronizer side number (0 or 1)

cc - Hexadecimal condition code

cc	Explanation
00	No conditions
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
91	Sync is not configured yet
92	Boot TLI failed
93	TB type in hardware mismatches DB
AB	Bad sync mode
C8	Sync pack denied command
C9	Syncs failed to cross couple
CA	Mate sync pack denied command
CB	Sync not completely reset

RST,SYNC,TLI,CRO

RESTORE CLOCK REFERENCE OSCILLATOR

Explanation Of Command

This command requests the restoration of the synchronizer time base as a clock reference oscillator.

Command

[I.34111]

```
RST:FRM xy,SEQ ww:SYNC,TLI 3,CRO!
```

Completion Message

[O.34111]

```
M hh:mm:ss xy,ww n[vv] RST SYNC TLI 3 CRO COND 00 COMPL
```

Denial Message

[O.34111.01]

```
M hh:mm:ss xy,ww n[vv] RST SYNC TLI 3 CRO COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TLI - Timing link interface

CRO - Clock reference oscillator

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
16	SYNC TB is not equipped
32	Both SYNCs are OOS
A0	Not a CRO TLI
A9	Both syncs are out-of-service
36	TD on one(both) sync(s) is not equipped or not in-service

RST,SYNC,TLI,SSP

RESTORE SYNCHRONIZER'S TIMING LINK INTERFACE

Explanation Of Command

This command requests the restoration of the synchronizer's timing link interface.

If the timing link interface is configured as a timing extractor, synchronizer sync port 0 or 1 must be specified.

Command

[I.34121]

```
RST:FRM xy,SEQ ww:SYNC a,TLI m[,SSP b]!
```

Completion Message

[O.34121]

```
M hh:mm:ss xy,ww n[vv] RST SYNC a TLI m[ SSP b] COND 00 COMPL
```

Denial Message

[O.34121.01]

```
M hh:mm:ss xy,ww n[vv] RST SYNC a TLI m[ SSP b] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

a - SYNC number (0 or 1)

TLI - Timing link interface

m - TLI number (1 through 4)

SSP - Synchronizer synchronization port

b - SSP number (0 or 1)

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
16	SYNC TB is not equipped
17	SYNC is out of service
33	Wrong TLI type
5D	Sync source NPC is not inservice
5E	Sync source NPC is not equipped
CF	NPC already grown as non-synchronization source

RST,TSI

RESTORE TIME SLOT INTERCHANGE

Explanation Of Command

This command is applicable only to the noncapacity expansion frame (NCEF).

It requests the restoration of the time slot interchange to service.

Command

[I.34221]

```
RST:FRM xy,SEQ ww:TSI sft!
```

Completion Message

[O.34221]

```
M hh:mm:ss xy,ww n[vv] RST TSI sft COND cc COMPL
```

Denial Message

[O.34221.01]

```
M hh:mm:ss xy,ww n[vv] RST TSI sft COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TSI - Time slot interchange

s - Side No. (0 or 1).

f - From unit No. (1 through 6).

t - To unit No. (1 through 6).

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
1B	CCN side s is in service
CF	SYNC is inservice but failed
D3	CCNI is inservice but failed
D5	CCB is not equipped
D6	CCB is out of service
D7	CCB is inservice but failed

RST,TSIS,CCN,ALL

RESTORE TIME SLOT INTERCHANGES

Explanation Of Command

This command applies only to the noncapacity expansion frame (NCEF).

It requests the restoration of all in-service Time Slot Interchanges in the specified Cross-Connect Network side.

Command

[I.34241]

`RST:FRM xy,SEQ ww:TSIS,CCN s,ALL!`

Completion Message

[O.34241]

```
M hh:mm:ss xy,ww n[vv] RST TSIS CCN s ALL  5 LN MSG:
TOTAL TSIS tt
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
EOP

M hh:mm:ss xy,ww n[vv] RST TSIS CCN s ALL  5 LN MSG:
TOTAL TSIS tt
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn \
COND ćć COMPL
```

Denial Message

[O.34241.01]

```
M hh:mm:ss xy,ww n[vv] RST TSIS CCN s ALL COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TSIS - Time slot interchanges

ALL - All

TOTAL - Total

tt - Number of TSIs currently in service (01 through 36)

CCN - Cross-connect network

s - Cross-connect network side number (0 or 1)

f - From unit number (1 through 6)

t - To unit number (1 through 6)

r - Status

r	*Explanation*
C	COMPL
D	DNY

nn - Hexadecimal condition code for the particular TSI

for r = C

nn	*Explanation*
00	No condition

for r = D

nn	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	Diagnostic (DGN) on subject entity failed
0B	Boot on subject entity failed

COND - Condition

cc - Completion condition code

To interpret values see cc.

cc - Hexadecimal condition code

cc	**Explanation**
00	**No conditions**
0C	**DGN on subject entity denied**
16	**SYNC TB is not equipped**
17	**SYNC is out of service**
18	**CCNI is out of service**
1B	**CCN side s is in service**
CF	**SYNC is inservice but failed**
D3	**CCNI is inservice but failed**
D5	**CCB is not equipped**
D6	**CCB is out of service**
D7	**CCB is inservice but failed**

RST,TSIS,CCN,UNIT,CONN

RESTORE

Explanation Of Command

This command applies only to the noncapacity expansion frame (NCEF).
It requests the restoration of time slot interchanges (TSIs) that connect **UNIT q** to other specified units. **CCN s** specifies which cross-connect network side the TSIs are on.

If the optional connectivity field is omitted, then all TSIs connected to **UNIT q** are restored.

Command

[I.34231]

```
RST:FRM xy,SEQ ww:TSIS,CCN s,UNIT q \
[,CONN(a[,b[,c[,d[,e[,f]]]]])]!
```

Completion Message

[O.34231]

```
M hh:mm:ss xy,ww n[vv] RST TSIS CCN s UNIT q \
[ CONN (a[ b[ c[ d[ e[ f]]]]])]
e LN MSG:
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
sft r nn  sft r nn  sft r nn  sft r nn  sft r nn  sft r nn
COND ćć COMPL
```

Denial Message

[O.34231.01]

```
M hh:mm:ss xy,ww n[vv] RST TSIS CCN s UNIT q \
[ CONN (a[ b[ c[ d[ e[ f]]]]])] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

q - Unit number containing TSIs (1 through 6)

TSIS - Time Slot Interchanges

a,b,c,d,e,f
- Unit numbers to which UNIT q can be connected

CCN - Cross-Connect Network

sft - CCN identifier

s - Side number (0 or 1)

f - FROM unit number (1 through 6)

t - TO unit number (1 through 6)

r - Status

r	*Explanation*
C	COMPL
D	DNY

nn - Hexadecimal condition code for the particular TSI

for r = C

nn	*Explanation*
00	No condition

for r = D

nn	*Explanation*
03	Subject entity is in service
0A	Diagnostic on subject entity failed
0B	Boot on subject entity failed

cc - Hexadecimal condition code

cc	*Explanation*
0B	BOOT on subject entity failed
0C	DGN on subject entity denied
10	Unit is not equipped
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
1B	CCN side s is in service
27	Illegal connectivity specified
CF	SYNC is inservice but failed
D3	CCNI is inservice but failed
D5	CCB is not equipped
D6	CCB is out of service
D7	CCB is inservice but failed

RST,UNIT,FC

RESTORE UNIT

Explanation Of Command

This command requests that a format converter of a facility terminating unit be restored to service.

Command

[I.34331]

```
RST:FRM xy,SEQ ww:UNIT [q]q,FC sb!
```

Completion Message

[O.34331]

```
M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FC sb COND 00 COMPL
```

Denial Message

[O.34331.01]

```
M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FC sb COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FC - Format converter

s - Side number (0 or 1)

b - Format Converter number (1 through 4)

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
1B	CCN side s is in service
1F	FTMI is in service but failed
40	FC out of service
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D2	ETSI is not present
D3	CCNI is inservice but failed
D4	CCI is inservice but failed
D5	CCB is not equipped
D6	CCB is out of service
D7	CCB is inservice but failed
D8	ETSI is not equipped
D9	ETSI is out of service
DA	ETSI is inservice but failed
DB	FC is inservice but failed

RST,UNIT,FLI

RESTORE FACILITY LINE INTERFACE

Explanation Of Command

This command requests and reports the restoration of one facility line interface (FLI) in a DS3 unit (DS3U) or a Hybrid DS3 unit (HDS3U).

Command

[I.34401]

```
RST:FRM xy,SEQ ww:UNIT [q]q,FLI k!
```

Completion Message

[O.34401]

```
M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FLI k COMPL
```

Denial Message

[O.34401.01]

```
M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FLI k COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FLI - Facility line interface

k - FLI identifier

k	*Explanation*
S	Service side
P	Protection side

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D2	ETSI is not present
D3	CCNI is inservice but failed
D4	CCI is inservice but failed
D5	CCB is not equipped
D6	CCB is out of service
D7	CCB is inservice but failed
D8	ETSI is not equipped
D9	ETSI is out of service
DA	ETSI is inservice but failed

RST,UNIT,FMT

RESTORE FORMATTER

Explanation Of Command

This command requests and reports the restoration of one Formatter (FMT) in a DS3 Unit or Hybrid Formatter (HFMT) in a Hybrid DS3 (HDS3) Unit. If the restoration of the FMT or HFMT causes all the packs in the associated side to be in service, the side will be marked In-Service. If an attempt is made to restore an FMT in an HDS3 or an HFMT in a DS3 unit, then a diagnostic failure will result.

Command

[I.34411]

```
RST:FRM xy,SEQ ww:UNIT [q]q,FMT s!
```

Completion Message

[O.34411]

```
M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FMT s COMPL
```

Denial Message

[O.34411.01]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q FMT s COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FMT - Formatter or Hybrid Formatter

s - FMT/HFMT side

s	*Explanation*
0	Side 0
1	Side 1

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
0D	Unpesting error registers for subj. entity failed
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D2	ETSI is not present
D3	CCNI is inservice but failed
D4	CCI is inservice but failed
D5	CCB is not equipped
D6	CCB is out of service
D7	CCB is inservice but failed
D8	ETSI is not equipped

cc *Explanation*

D9 ETSI is out of service
DA ETSI is inservice but failed

RST,UNIT,FTMI,DSPI

RESTORE FTMI or DSPI

Explanation Of Command

This command allows restoral of a facility terminating module interface or a digital signal processor interface to service.

Command

[I.34321]

```
RST:FRM xy,SEQ ww:UNIT [q]q,{FTMI d|DSPI}!
```

Completion Message

[O.34321]

```
M hh:mm:ss xy,ww n[vv] RST UNIT [q]q,{FTMI d|DSPI} COND 00
COMPL
```

Denial Message

[O.34321.01]

```
M hh:mm:ss xy,ww n[vv] RST UNIT [q]q {FTMI d|DSPI} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FTMI - Facility terminating module interface

d - FTMI number (1 through 4).

DSPI - Digital signaling processing interface

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
16	SYNC TB is not equipped
17	SYNC is out of service
18	CCNI is out of service
CE	CCI is out of service
CF	SYNC is inservice but failed
D1	CCI is not present
D2	ETSI is not present
D3	CCNI is inservice but failed
D4	CCI is inservice but failed
D5	CCB is not equipped
D6	CCB is out of service
D7	CCB is inservice but failed
D8	ETSI is not equipped
D9	ETSI is out of service
DA	ETSI is inservice but failed

RST,UNIT,UC

RESTORE UNIT CONTROLLER

Explanation Of Command

This message requests the restoration of the unit controller to service.

Command

[I.34311]

RST:FRM xy,SEQ ww:UNIT [q]q,UC!

Completion Message

[O.34311]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q UC COND ćć COMPL

[O.34312]

M hh:mm:ss xy,ww n[vv] RST IN PROGRESS

Denial Message

[O.34311.01]

M hh:mm:ss xy,ww n[vv] RST UNIT [q]q UC COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

UC - Unit controller

COND - Condition

cc - Completion condition code (hexadecimal)

To interpret values of ćć see cc below

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
03	Subject entity is in service
0A	DGN on subject entity failed
0B	BOOT on subject entity failed
42	RST failed to boot program
47	Failed to boot DB
48	Failed to boot journal--recurrence indicates database corruption
49	Failed to boot unit
51	General boot failure (vanilla flavor)
18	DSPI not in service, or failed
43	RST failed to boot DB
C4	XMIT continuity test won't be run: no XMIT timeslots available
C6	No available timeslots on any inservice NPCS associated with FC/FMT

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About This Document

Purpose

The *DACS II Release 9.0 Command and Message Manual* describes the input commands and output messages of Release 9.0 of the Digital Access and Cross-Connect System II (DACS II). In addition, it provides full support for previous product releases.

NOTE:
Those customers using this manual with Releases 3 through 7.0.3 software should be aware that all features of a particular message shown for Release 9.0 may or may not apply to previous releases.

This manual consists of three volumes as follows:

- **Volume I** - This volume contains general information about the document, a detailed introduction that defines DACS II messages, relates how to communicate with DACS II, introduces the administrative links, and discusses in detail NPC addressing, on-line help feature, system configuration and features a listing of related documentation. Message listings in this volume include alphabetical and numerical, summary list of input commands and a list of autonomous messages. A comprehensive presentation of input commands and output messages (ABT through DGN) concludes this volume.
- **Volume II and III** - These two volumes contain input commands and output messages in the following order:
  - **Volume II** - DGRTH through RST
  - **Volume III** - SAVE through UTL and the Glossary

Reason for Issue

The *DACS II Release 9.0 Command and Message Manual* has been issued to include updated and new commands applicable to Release 9.0.

Intended Audiences

This manual is a catalog of messages intended for reference by a technician or craftperson who needs additional details about a message. It provides the user with supplemental information for the Digital Access and Cross-Connect System II (DACS II) that is programmed in the Program Documentation Standards (PDS) language. An example of a user is someone performing a task from an operation and maintenance manual who needs the definition of a specific keyword to complete the task.

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SAVE — SW

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18

SAVE — SW

This section documents the commands **SAVE** through **SW**.

SAVE

SAVE COMPONENT COMMANDS

Explanation Of Command

This command is used to save the contents of a macro while in the macro session.

Command

[I.19081]

```
SAVE[:FRM xy,SEQ ww:]!
```

Completion Message

[O.19081]

```
M hh:mm:ss xy,ww n[vv] SAVE <macro name> SPACE sss \
USED uuu  COMPL
```

Denial Message

[O.19081.01]

```
M hh:mm:ss xy,ww n[vv] SAVE <macro name> SPACE sss \
USED uuu COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

macro name
- The name of the macro to be saved

SPACE - Space

sss - Number representing the percent of total disk space allocated to macro storage

USED - Used

uuu - Number representing the percent of the allocated disk space (sss) being used to store macros

cc - Hexadecimal condition code

cc	*Explanation*
60	User macro/map space is full
61	System macro/map space is full
65	Command invalid while backup in progress
6E	No edit session active
6C	File is empty

STOP,MACRO,LINK

STOP MACRO

Explanation Of Command

This command is used to stop the execution of a macro.

A regular DACS II user can use the link number option to stop macro execution on the link he or she is currently using. A frame administrator may use this option to stop macro execution on any link.

If this command was entered by the frame administrator then output from this command will be sent only to the link on which the frame administrator entered the command.

Command

[I.39311]

```
STOP:FRM xy,SEQ ww:MACRO[,LINK j[mm]]!
```

Completion Message

[O.39311]

```
M hh:mm:ss xy,ww n[vv] STOP MACRO <macro name>[ j[mm]] COMPL
```

Denial Message

[O.39311.01]

```
M hh:mm:ss xy,ww n[vv] STOP MACRO <macro name>[ j[mm]] \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

MACRO - Macro

LINK - Link

j[mm] - Administrative link number

j - Physical link number (1 through 7)
mm - Virtual link/session number (01 through 16)

Variable mm is the virtual link/seesion number in the administrative link. mm may only be specified when j is 5, 6 or 7.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
6A	No macro is currently executing
D0	Command is Frame administrator (DAX) only.

SW,BCAST,OLD,NEW,INCL

DS0 CIRCUIT ROLL - BRIDGE COMMAND

Explanation Of Command

This command is used to perform the Bridge step of the DS0 (64kbit/s) Roll operation. (For DS1 or 2 Mbit/s Roll operations use the commands I.14061, I.14071, and I.14081.)

Test signals may exist on the new DS0. If allowed to remain they will overwrite the signal transferred from the old DS0.

Use the UTL::QRY,TSIG,NPC command, prior to executing this command, to verify that no test signals exist on the new DS0.

The DS0 (64kbit/s) Roll procedure consists of three commands:

1. Bridge

   This step will bridge the transmit data by broadcasting to the new DS0 as well as the old DS0. Use this command.

2. Roll

   This step rolls the service by switching the receive data from the old DS0 to the new DS0. Use command I.14031.

3. Cut

   This step takes down the bridge by disconnecting the transmit data from the old DS0. Use command I.14041.

NOTE: The ROLL procedure will re-direct ALL cross-connections associated with the DS0 signal being rolled.

Command

Nonhierarchical

[I.14021]

```
SW:FRM xy,SEQ ww:BCAST,OLD [s]abcddd[-eee],NEW [t]ghijjj\
[-kkk][,INCL]
```

Hierarchical

[I.14021]

```
SW:FRM xy,SEQ ww:BCAST,OLD uvmnpddd[-eee],NEW wxkqrjjj\
[-kkk][,INCL]
```

Completion Message

Nonhierarchical

[O.14021]

```
M hh:mm:ss xy,ww n[vv] SW BCAST [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ INCL] COMPL
```

Hierarchical

[O.14021]

```
M hh:mm:ss xy,ww n[vv] SW BCAST uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ INCL] COMPL
```

Denial Message

Nonhierarchical

[O.14021.01]

```
M hh:mm:ss xy,ww n[vv] SW BCAST [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ INCL][ mmm,nnn] COND cc DNY
```

Hierarchical

[O.14021.01]

```
M hh:mm:ss xy,ww n[vv] SW BCAST uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ INCL][ mmm,nnn] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

BCAST - Broadcast

OLD - Old

The bridge step does not need the OLD NPC to be in service, however the roll step does. Therefore, it is possible that the bridge step will be allowed when the subsequent roll step will be denied.

For the hierarchical unit entities, however, the bridge step needs both the OLD NPC hierarchy and the NEW NPC hierarchy to be in service. Otherwise, the bridge step will be denied.

NEW - New

[s]abc - The 3- or 4-digit nonhierarchical OLD NPC number

[t]ghi - The 3- or 4-digit nonhierarchical NEW NPC number

Note: Valid types for old and new NPC's are PAxyz, PBxyz and PCxyz, except for the following cases:

- Either NPC is of type PAxyz where y=C or y=D (Clear 2Mb/s).
- The old NPC supports Channel Associated Signaling (CAS) and the new NPC does not.
- The old NPC supports Non-Signaling Associated, the new NPC supports CAS, and CTS16 is being rolled to CTS16.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical OLD NPC number
wxkqr - Hierarchical NEW NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj
- Channel numbers for beginning of channel range

eee, kkk
- Channel numbers for end of channel range

To connect a range of channels, use the optional fields eee and kkk.

INCL - Inclusive

A circuit designated as a customer controlled circuit, a red circuit or a subrate T1 circuit cannot be modified without using the inclusive keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

mmm - The OLD channel number involved in denial (ddd through eee).

nnn - The NEW channel number involved in denial (jjj through kkk).

cc - Hexadecimal condition code

cc	**st**	*Explanation*
02		Subject entity is not equipped
04		Subject entity is out of service
05		Subject entity is pested
1E		Customer control or red circuit exists
26		NPC type error
01		Invalid range for specified NPC type
12		Active CCN side not IS or failed or pested or hardware OOS
13		UNIT not equipped, not in service, or failed
14		CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15		FTMI not equipped, not in service, or failed
16		FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17		TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18		DSPI not in service, or failed
21		Trunk conditioning is invalid
32		Termination is under test
33		Termination is a test port
C8		Exceeded depth limit of 6 on broadcast conference concatenation
1A		Required FLI not equipped, not in service, or failed
1B		Required MXR not equipped, not in service, or failed
1C		FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D		Required MIU not equipped, not in service, or failed
46		NPC Failed or Out of Service
A9		Cross-connect not consistent with feature package
B7		No DSP unit equipped
B8		No CBTYPE NPC equipped
B9		No CBTYPE NPC capacity remaining
BA		Inactive side NPC out of service and inactive side in service
EA		AIS invalid for cross-connection specified
EC	**MCOND**	Invalid channel 000 cross-connection specified
ED	**MCOND**	Invalid channel 031 cross-connection specified
0A		All CBTYPE NPCs out of service or failed
7E		Incomplete circuit exists on OLD NPC
E0		ETSI not equipped, not in service, or failed
68		New NPC already cross-connected or mapped channel(s) exist on New
69		Mapped parity channel(s) on new
6C		Old and New channel on same NPC and within the range

cc	st	*Explanation*
6E		Old or new is a non-channelized type in a DS0 command
6F		The OLD or NEW NPC is already being rolled.
70		One of the FAR end channels is being rolled
71		Unmapped channel(s) on old
72		One of the far NPC(s) is SLC
73		Channel has a FAR, which is within the range
77		Obsolete circuit type
78		Ranges of old and new do not match
79		DCTN conference channel cannot be rolled
7A		Testport/testgroup channel cannot be rolled
7B		Channel out-of-bounds in a Broadcast or Virtual Circuit
7C		Parity channel out of bound on new
7D		Not first channel in a BCON/virtual conf
9C		Parity channel cannot be within the range of a DS0 command.

SW,BCAST,OLD,NEW,INCL

FACILITY ROLL - BRIDGE COMMAND

Explanation Of Command

This input command is used to perform the Bridge step of the DS1 or 2Mbit/s Roll operation. (For DS0 Roll operations use the commands I.14021, I.14031, and I.14041.)

Test signals may exist on the new DS0. If allowed to remain they will overwrite the signal transferred from the old DS0.

Use the UTL::QRY,TSIG,NPC command, prior to executing this command, to verify that no test signals exist on the new DS0.

This command will be denied with a condition code of **73** if one or more pairs of channels within the old NPC are cross-connected to each other. This command will also be denied with the same condition code if a channel is looped back on itself.

The error message that corresponds to condition code **73** is:

`Channel has a FAR, which is within the range`

The term **FAR** in that error message refers to the other channel that is cross-connected to a channel on the NPC that is being rolled, but the other channel of the cross-connection must not be rolled, thus the error message occurs for a cross-connection that connects two channels on the same NPC.

The DS1 or 2Mbit/s Roll procedure consists of three commands:

1. Bridge

   This step will bridge the transmit data by broadcasting to the new NPC as well as the old NPC. Use this command.

2. Roll

   This step rolls the service by switching the receive data from the old NPC to the new NPC. Use command I.14071.

3. Cut

   This step takes down the bridge by disconnecting the transmit data from the old NPC. Use command I.14081.

Command

Nonhierarchical

[I.14061]

SW:FRM xy,SEQ ww:BCAST,OLD [s]abc,NEW [t]ghi[,INCL]

Hierarchical

[I.14061]

SW:FRM xy,SEQ ww:BCAST,OLD uvmnp,NEW wxkqr[,INCL]

Completion Message

Nonhierarchical

[O.14061]

M hh:mm:ss xy,ww n[vv] SW BCAST [s]abc,[t]ghi[INCL] COMPL

Hierarchical

[O.14061]

```
M hh:mm:ss xy,ww n[vv] SW BCAST uvmnp,wxkqr[ INCL] COMPL
```

Denial Message

Nonhierarchical

[O.14061.01]

```
M hh:mm:ss xy,ww n[vv] SW BCAST [s]abc,[t]ghi\
[ INCL][ mmm,nnn] COND cc DNY
```

Hierarchical

[O.14061.01]

```
M hh:mm:ss xy,ww n[vv] SW BCAST uvmnp,wxkqr\
[ INCL][ mmm,nnn] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

BCAST - Broadcast

OLD - Old

The bridge step does not need the OLD NPC to be in service, however the roll step does. Therefore, it is possible that the bridge step will be allowed but the subsequent roll step will be denied.

For the hierarchical unit entities, however, the bridge step needs both the OLD NPC hierarchy and the NEW NPC hierarchy to be in service. Otherwise, the bridge step will be denied.

NEW - New

[s]abc - The 3- or 4-digit nonhierarchical OLD NPC number

[t]ghi - The 3- or 4-digit nonhierarchical NEW NPC number

Note: Valid types for old and new NPC's are PAxyz, PBxyz and PCxyz.

Note: The valid combinations of old/new NPCs are as follow:

- When the old NPC is of type PBxyz/PCxyz, the new NPC is of type PBxyz/PCxyz and the xyz values of the old and new NPCs are the same.
- When the old NPC is of type PBxyz/PCxyz, the new NPC is of type PAxyz, and the xyz values of the old and new NPCs are equivalent. The characteristics in the PBxyz/PCxyz are present in the PAxyz type, even though the xyz values are different.
- When the old NPC is of type PAxyz, the new NPC is of type PAxyz and the xyz values of the old and new NPCs are the same.

The roll procedure will be denied based upon the valid combinations rules, the service status of the old/new NPCs, the new NPC under PBA, channels on the old/new NPCs under test or loopback. The denial messages will explain the denial condition.

If a channel is involved in C-bit monitoring (i.e. its C bits is being monitored by the C-bit processor), the roll still takes place, the CTS16 cross-connection to the C-bit processor on the old NPC remains unimpacted, and the rolled channel will not automatically be C-bit monitored on the new NPC.

At the facility level, however, 2Mbit/s roll will be denied if the CTS16 is cross-connected to the C-bit processor.

Some information is carried forward from the old to the new NPC. Some information is NOT carried forward with the roll.

Information being carried forward to the new NPC:

- Channel Timeslot 0 (CTS0) alarm bit settings (e.g. alarm bits 3,4,5 can be set to 0 or 1).
- Spare bit settings for CTS0 to CTS0 cross connection. (dictate how the spare bits will be treated: passthrough, invert, etc.)
- Spare bit settings for CTS0 to non CTS0 cross connection.
- The Pseudo Frame Word (PFW) or the NFW (Mode 2) mode.
- All circuit parameters (e.g. RDLC, CUS, trunk conditioning, etc.) are retained for all channels.

It is important to note that if a roll procedure is reversed, the copying of the CTS0 settings to the new NPC will NOT be reversed. Therefore, the copied CTS0 settings on the new NPC will remain there.

Information NOT being carried forward to the new NPC:

- Alarm severity level information (alarms can be provisioned to be informational, minor, major, etc.)
- Threshold parameters, including THMODE state.
- Since xyz must be the same (or equivalent) between the old and new NPCs, if the old NPC is provisioned to be a possible Synchronization source, the new NPC must also be provisioned as one. However, the roll will not cause the new NPC to be an **active** sync source, even if the old one is.

In addition, it should be noted that all of the CTS0-related settings on the old NPC will not be affected by the roll. They will remain unchanged.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical OLD NPC number
wxkqr - Hierarchical NEW NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

INCL - Inclusive

A circuit designated as a customer controlled circuit, a red circuit or a subrate T1 circuit cannot be modified without using the inclusive keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
05	Subject entity is pested
1E	Customer control or red circuit exists
26	NPC type error
01	Invalid range for specified NPC type
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed

cc	*Explanation*
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
21	Trunk conditioning is invalid
32	Termination is under test
C8	Exceeded depth limit of 6 on broadcast conference concatenation
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
46	NPC Failed or Out of Service
A9	Cross-connect not consistent with feature package
B6	C-bit operations are enabled
B7	No DSP unit equipped
B8	No CBTYPE NPC equipped
B9	No CBTYPE NPC capacity remaining
BA	Inactive side NPC out of service and inactive side in service
EA	AIS invalid for cross-connection specified
0A	All CBTYPE NPCs out of service or failed
7E	Incomplete circuit exists on OLD NPC
E0	ETSI not equipped, not in service, or failed
68	New NPC already cross-connected or mapped channel(s) exist on New
6B	No mapped channel on old
6D	One NPC is a non-channelized type and the other is not
6F	The OLD or NEW NPC is already being rolled.
70	One of the FAR end channels is being rolled
72	One of the far NPC(s) is SLC
73	Channel has a FAR, which is within the range
74	Old and new are the same NPC in a DS1 command
77	Obsolete circuit type
79	DCTN conference channel cannot be rolled
7A	Testport/testgroup channel cannot be rolled
7B	Channel out-of-bounds in a Broadcast or Virtual Circuit
7C	Parity channel out of bound on new
7D	Not first channel in a BCON/virtual conf
9B	Termination is under test or is a test port or group
9C	Parity channel cannot be within the range of a DS0 command.

SW,DISC,OOS

DS0 CIRCUIT ROLL - DISCONNECT COMMAND

Explanation Of Command

This input command is used to perform the Cut step of the DS0 (or 64kbit/s) Roll operation. (For DS1 or 2 Mbit/s Roll operations use the commands I.14061, I.14071, and I.14081.)

The DS0 (or 64kbit/s) Roll procedure consists of three commands:

1. Bridge

   This step will bridge the transmit data by broadcasting to the new DS0 as well as the old DS0. Use command I.14021.

2. Roll

   This step rolls the service by switching the receive data from the old DS0 to the new DS0. Use command I.14031.

3. Cut

   This step takes down the bridge by disconnecting the transmit data from the old DS0. Use this command.

NOTE:
The ROLL procedure will re-direct ALL cross-connections associated with the DS0 signal being rolled.

Command

Nonhierarchical

[I.14041]

```
SW:FRM xy,SEQ ww:DISC [s]abcddd[-eee][,OOS]
```

Hierarchical

Same as North American.
Not applicable.

Completion Message

Nonhierarchical

[O.14041]

```
M hh:mm:ss xy,ww n[vv] SW DISC [s]abcddd[-eee][ OOS] COMPL
```

Hierarchical

[O.14041]

```
M hh:mm:ss xy,ww n[vv] SW DISC uvmnpddd[-eee][ OOS] COMPL
```

Common

Not applicable

Denial Message

Nonhierarchical

[O.14041.01]

```
M hh:mm:ss xy,ww n[vv] SW DISC [s]abcddd[-eee]\
[ OOS][ mmm] COND cc DNY
```

Hierarchical

[O.14041.01]

```
M hh:mm:ss xy,ww n[vv] SW DISC uvmnpddd[-eee]\
[ OOS][ mmm] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

DISC - Disconnect

[s]abc - The 3- or 4-digit nonhierarchical NPC number

Note: Valid NPC types are PAxyz, PBxyz, and PCxyz, except for the following cases:

- Either NPC is of type PAxyz where y=C or y=D (Clear 2Mb/s)
- The old NPC supports Channel Associated Signaling (CAS) and the new NPC does not.
- The old NPC supports Non-Signaling Associated (NSA), the new NPC supports CAS and CTS16 is being rolled to CTS16.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical OLD NPC number
wxkqr - Hierarchical NEW NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Channel number for beginning of channel range

eee - Channel number for end of channel range

To connect a range of channels, use the optional field eee.

OOS - Out Of Service

The OOS keyword is used to force a disconnect from an NPC which is out of service.

mmm - The channel number involved in denial (ddd through eee).

cc - Hexadecimal condition code

cc	st	*Explanation*
02		Subject entity is not equipped
04		Subject entity is out of service
01		Invalid range for specified NPC type
12		Active CCN side not IS or failed or pested or hardware OOS
13		UNIT not equipped, not in service, or failed
14		CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15		FTMI not equipped, not in service, or failed
16		FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17		TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18		DSPI not in service, or failed
C8		Exceeded depth limit of 6 on broadcast conference concatenation
1A		Required FLI not equipped, not in service, or failed
1B		Required MXR not equipped, not in service, or failed
1C		FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D		Required MIU not equipped, not in service, or failed
A9		Cross-connect not consistent with feature package
B7		No DSP unit equipped
B8		No CBTYPE NPC equipped
B9		No CBTYPE NPC capacity remaining
BA		Inactive side NPC out of service and inactive side in service
EC	MCOND	Invalid channel 000 cross-connection specified
ED	MCOND	Invalid channel 031 cross-connection specified
0A		All CBTYPE NPCs out of service or failed
E0		ETSI not equipped, not in service, or failed
67		Improper roll command sequence

cc	st	*Explanation*
6C		Old and New channel on same NPC and within the range
75		Old and new channels have not been paired by a BCAST command.
76		Channel or NPC not bridged
79		DCTN conference channel cannot be rolled
7A		Testport/testgroup channel cannot be rolled
7B		Channel out-of-bounds in a Broadcast or Virtual Circuit
7C		Parity channel out of bound on new
7D		Not first channel in a BCON/virtual conf
9C		Parity channel cannot be within the range of a DS0 command.

SW,DISC,OOS

FACILITY ROLL - DISCONNECT COMMAND

Explanation Of Command

This input command is used to perform the Cut step of the DS1 or 2Mbit/s Roll procedure. (For DS0 Roll operations use the commands I.14021, I.14031, and I.14041.)

The DS1 or 2Mbit/s Roll procedure consists of three commands:

1. Bridge

   This step will bridge the transmit data by broadcasting to the new NPC as well as the old NPC. Use command I.14061.

2. Roll

   This step rolls the service by switching the receive data from the old NPC to the new NPC. Use command I.14071.

3. Cut

   This step takes down the bridge by disconnecting the transmit data from the old NPC. Use this command.

Command

Nonhierarchical

[I.14081]

SW:FRM xy,SEQ ww:DISC [s]abc[,OOS]

Hierarchical

[I.14081]

SW:FRM xy,SEQ ww:DISC uvmnp[,OOS]

Completion Message

Nonhierarchical

[O.14081]

M hh:mm:ss xy,ww n[vv] SW DISC [s]abc[OOS] COMPL

Hierarchical

[O.14081]

M hh:mm:ss xy,ww n[vv] SW DISC uvmnp[OOS] COMPL

Denial Message

Nonhierarchical

[O.14081.01]

M hh:mm:ss xy,ww n[vv] SW DISC [s]abc[OOS][mmm] COND cc DNY

Hierarchical

[O.14081.01]

M hh:mm:ss xy,ww n[vv] SW DISC uvmnp [OOS][mmm] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

DISC - Disconnect

[s]abc - The 3- or 4-digit nonhierarchical NPC number

Note: Valid NPC types are PAxyz, PBxyz, and PCxyz.

Note: The valid combinations of old/new NPCs are as follow:

- When the old NPC is of type PBxyz/PCxyz, the new NPC is of type PBxyz/PCxyz and the xyz values of the old and new NPCs are the same.
- When the old NPC is of type PBxyz/PCxyz, the new NPC is of type PAxyz, and the xyz values of the old and new NPCs are equivalent. The characteristics in the PBxyz/PCxyz are present in the PAxyz type, even though the xyz values are different.
- When the old NPC is of type PAxyz, the new NPC is of type PAxyz and the xyz values of the old and new NPCs are the same.

The roll procedure will be denied based upon the valid combinations rules, the service status of the old/new NPCs, the new NPC under PBA, channels on the old/new NPCs under test or loopback. The denial messages will explain the denial condition.

If a channel is involved in C-bit monitoring (i.e. its C bits is being monitored by the C-bit processor), the roll still takes place, the CTS16 cross-connection to the C-bit processor on the old NPC remains unimpacted, and the rolled channel will not automatically be C-bit monitored on the new NPC.

At the facility level, however, 2Mbit/s roll will be denied if the CTS16 is cross-connected to the C-bit processor.

Some information is carried forward from the old to the new NPC. Some information is NOT carried forward with the roll.

Information being carried forward to the new NPC:

- Channel Timeslot 0 (CTS0) alarm bit settings (e.g. alarm bits 3,4,5 can be set to 0 or 1).
- Spare bit settings for CTS0 to CTS0 cross connection. (dictate how the spare bits will be treated: passthrough, invert, etc.)
- Spare bit settings for CTS0 to non CTS0 cross connection.
- The Pseudo Frame Word (PFW) or the NFW (Mode 2) mode.
- All circuit parameters (e.g. RDLC, CUS, trunk conditioning, etc.) are retained for all channels.

It is important to note that if a roll procedure is reversed, the copying of the CTS0 settings to the new NPC will NOT be reversed. Therefore, the copied CTS0 settings on the new NPC will remain there.

Information NOT being carried forward to the new NPC:

- Alarm severity level information (alarms can be provisioned to be informational, minor, major, etc.)
- Threshold parameters, including THMODE state.
- Since xyz must be the same (or equivalent) between the old and new NPCs, if the old NPC is provisioned to be a possible Synchronization source, the new NPC must also be provisioned as one. However, the roll will not cause the new NPC to be an **active** sync source, even if the old one is.

In addition, it should be noted that all of the CTS0-related settings on the old NPC will not be affected by the roll. They will remain unchanged.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical OLD NPC number
wxkqr - Hierarchical NEW NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

OOS - Out of service

The OOS keyword is used to force a disconnect from an NPC which is out of service.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
01	Invalid range for specified NPC type
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
C8	Exceeded depth limit of 6 on broadcast conference concatenation
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
A9	Cross-connect not consistent with feature package
B7	No DSP unit equipped
B8	No CBTYPE NPC equipped
B9	No CBTYPE NPC capacity remaining
BA	Inactive side NPC out of service and inactive side in service
0A	All CBTYPE NPCs out of service or failed
E0	ETSI not equipped, not in service, or failed
67	Improper roll command sequence
6B	No mapped channel on old
75	Old and new channels have not been paired by a BCAST command.
76	Channel or NPC not bridged
79	DCTN conference channel cannot be rolled
7A	Testport/testgroup channel cannot be rolled
7B	Channel out-of-bounds in a Broadcast or Virtual Circuit
7C	Parity channel out of bound on new
7D	Not first channel in a BCON/virtual conf
9C	Parity channel cannot be within the range of a DS0 command.

SW,ROLL,OLD,NEW,INCL,FRC,OOS

DS0 CIRCUIT ROLL- ROLL COMMAND

Explanation Of Command

This input command is used to perform the Roll step of the DS0 (or 64kbit/s) Roll operation. (For DS1 or 2 Mbit/s Roll operations use the commands I.14061, I.14071, and I.14081.)

The DS0 (or 64kbit/s) Roll procedure consists of three commands:

1. Bridge

   This step will bridge the transmit data by broadcasting to the new DS0 as well as the old DS0. Use command I.14021.

2. Roll

   This step rolls the service by switching the receive data from the old DS0 to the new DS0. Use this command.

3. Cut

   This step takes down the bridge by disconnecting the transmit data from the old DS0. Use command I.14041.

NOTE:
The ROLL procedure will re-direct ALL cross-connections associated with the DS0 signal being rolled.

Command

Nonhierarchical

[I.14031]

```
SW:FRM xy,SEQ ww:ROLL,OLD [s]abcddd[-eee],NEW [t]ghijjj[-kkk]\
[,INCL][,FRC][,OOS]
```

Hierarchical

[I.14031]

```
SW:FRM xy,SEQ ww:ROLL,OLD uvmnpddd[-eee],NEW wxkqrjjj[-kkk]\
[,INCL][,FRC][,OOS]
```

Completion Message

Nonhierarchical

[O.14031]

```
M hh:mm:ss xy,ww n[vv] SW ROLL [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ INCL][ FRC][ OOS] COMPL
```

Hierarchical

[O.14031]

```
M hh:mm:ss xy,ww n[vv] SW ROLL uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ INCL][ FRC][ OOS] COMPL
```

Denial Message

Nonhierarchical

[O.14031.01]

```
M hh:mm:ss xy,ww n[vv] SW ROLL [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ INCL][ FRC][ OOS]  2 LN MSG:
[ mmm,nnn] COND cc DNY
```

Hierarchical

[O.14031.01]

```
M hh:mm:ss xy,ww n[vv] SW ROLL uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ INCL][ FRC][ OOS]  2 LN MSG:
[ mmm,nnn] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ROLL - Roll

OLD - Old termination

NEW - New termination

[s]abc - The 3- or 4-digit nonhierarchical OLD NPC number

[t]ghi - The 3- or 4-digit nonhierarchical NEW NPC number

Note: Valid types for old and new NPC's are
PAxyz, PBxyz, and PCxyz, except for the following cases:

- Either is of type PAxyz where y=C or y=D (Clear 2Mb/s)
- The old NPC supports Channel Associated Signaling (CAS) and the new NPC does not.
- The old NPC supports Non-Signaling Associated (NSA), the new NPC supports CAS, and CTS16 is being rolled to CTS16.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical OLD NPC number
wxkqr - Hierarchical NEW NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj
- Channel numbers for beginning of channel range

eee, kkk
- Channel numbers for end of channel range

To connect a range of channels, use the optional fields eee and kkk.

INCL - Inclusive

A circuit designated as a customer controlled circuit, a red circuit or a subrate T1 circuit cannot be modified without using the inclusive keyword in the message.

The FRC keyword is used to force a roll to an NPC which is in PBA.

OOS - Out of service

The OOS keyword is used to force a roll from an NPC which is out of service.

mmm - The OLD channel number involved in denial (ddd through eee).

nnn - The NEW channel number involved in denial (jjj through kkk).

cc - Hexadecimal condition code

cc	st	*Explanation*
02		Subject entity is not equipped
04		Subject entity is out of service
05		Subject entity is pested
1E		Customer control or red circuit exists
01		Invalid range for specified NPC type
12		Active CCN side not IS or failed or pested or hardware OOS
13		UNIT not equipped, not in service, or failed
14		CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15		FTMI not equipped, not in service, or failed
16		FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17		TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18		DSPI not in service, or failed
C8		Exceeded depth limit of 6 on broadcast conference concatenation

cc	st	*Explanation*
1A		Required FLI not equipped, not in service, or failed
1B		Required MXR not equipped, not in service, or failed
1C		FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D		Required MIU not equipped, not in service, or failed
46		NPC Failed or Out of Service
A9		Cross-connect not consistent with feature package
B7		No DSP unit equipped
B8		No CBTYPE NPC equipped
B9		No CBTYPE NPC capacity remaining
BA		Inactive side NPC out of service and inactive side in service
EC	**MCOND**	Invalid channel 000 cross-connection specified
ED	**MCOND**	Invalid channel 031 cross-connection specified
0A		All CBTYPE NPCs out of service or failed
E0		ETSI not equipped, not in service, or failed
67		Improper roll command sequence
6A		New in CGA or PBA
6C		Old and New channel on same NPC and within the range
75		Old and new channels have not been paired by a BCAST command.
78		Ranges of old and new do not match
79		DCTN conference channel cannot be rolled
7A		Testport/testgroup channel cannot be rolled
7B		Channel out-of-bounds in a Broadcast or Virtual Circuit
7C		Parity channel out of bound on new
7D		Not first channel in a BCON/virtual conf
9C		Parity channel cannot be within the range of a DS0 command.

SW,ROLL,OLD,NEW,INCL,FRC,OOS,TWAY

FACILITY ROLL - ROLL COMMAND

Explanation Of Command

This input command is used to perform the Roll step of the DS1 or 2Mbit/s Roll procedure. (For DS0 Roll operations use the commands I.14021, I.14031, and I.14041.)

The DS1 or 2Mbit/s Roll procedure consists of three commands:

1. Bridge

   This step will bridge the transmit data by broadcasting to the new NPC as well as the old NPC. Use command I.14061.

2. Roll

   This step rolls the service by switching the receive data from the old NPC to the new NPC. Use this command.

3. Cut

   This step takes down the bridge by disconnecting the transmit data from the old NPC. Use command I.14081.

Command

Nonhierarchical

[I.14071]

```
SW:FRM xy,SEQ ww:ROLL,OLD [s]abc,NEW [t]ghi[,INCL][,FRC]\
[,OOS][,TWAY]
```

Hierarchical

[I.14071]

```
SW:FRM xy,SEQ ww:ROLL,OLD uvmnp,NEW wxkqr[,INCL][,FRC]\
[,OOS][,TWAY]
```

Completion Message

Nonhierarchical

[O.14071]

```
M hh:mm:ss xy,ww n[vv] SW ROLL [s]abc,[t]ghi[ INCL][ FRC]\
[ OOS][ TWAY] COMPL
```

Hierarchical

[O.14071]

```
M hh:mm:ss xy,ww n[vv] SW ROLL uvmnp,wxkqr[ INCL][ FRC][ OOS]\
[ TWAY] COMPL
```

Denial Message

Nonhierarchical

[O.14071.01]

```
M hh:mm:ss xy,ww n[vv] SW ROLL [s]abc,[t]ghi\
[ INCL][ FRC][ OOS][ TWAY][ mmm,nnn] COND cc DNY
```

Hierarchical

[O.14071.01]

```
M hh:mm:ss xy,ww n[vv] SW ROLL uvmnp,wxkqr\
[ INCL][ FRC][ OOS][ TWAY][ mmm,nnn] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ROLL - Roll

OLD - Old

The old termination

NEW - New

The new termination

[s]abc - The 3- or 4-digit nonhierarchical OLD NPC number

[t]ghi - The 3- or 4-digit nonhierarchical NEW NPC number

Note: Valid types for old and new NPC's are PAxyz, PBxyz, and PCxyz.

Note: The valid combinations of old/new NPCs are as follow:

- When the old NPC is of type PBxyz/PCxyz, the new NPC is of type PBxyz/PCxyz and the xyz values of the old and new NPCs are the same.
- When the old NPC is of type PBxyz/PCxyz, the new NPC is of type PAxyz, and the xyz values of the old and new NPCs are equivalent. The characteristics in the PBxyz/PCxyz are present in the PAxyz type, even though the xyz values are different.
- When the old NPC is of type PAxyz, the new NPC is of type PAxyz and the xyz values of the old and new NPCs are the same.

The roll procedure will be denied based upon the valid combinations rules, the service status of the old/new NPCs, the new NPC under PBA, channels on the old/new NPCs under test or loopback. The denial messages will explain the denial condition.

If a channel is involved in C-bit monitoring (i.e. its C bits is being monitored by the C-bit processor), the roll still takes place, the CTS16 cross-connection to the C-bit processor on the old NPC remains unimpacted, and the rolled channel will not automatically be C-bit monitored on the new NPC.

At the facility level, however, 2Mbit/s roll will be denied if the CTS16 is cross-connected to the C-bit processor.

Some information is carried forward from the old to the new NPC. Some information is NOT carried forward with the roll.

Information being carried forward to the new NPC:

- Channel Timeslot 0 (CTS0) alarm bit settings (e.g. alarm bits 3,4,5 can be set to 0 or 1).
- Spare bit settings for CTS0 to CTS0 cross connection. (dictate how the spare bits will be treated: passthrough, invert, etc.)
- Spare bit settings for CTS0 to non CTS0 cross connection.
- The Pseudo Frame Word (PFW) or the NFW (Mode 2) mode.
- All circuit parameters (e.g. RDLC, CUS, trunk conditioning, etc.) are retained for all channels.

It is important to note that if a roll procedure is reversed, the copying of the CTS0 settings to the new NPC will NOT be reversed. Therefore, the copied CTS0 settings on the new NPC will remain there.

Information NOT being carried forward to the new NPC:

- Alarm severity level information (alarms can be provisioned to be informational, minor, major, etc.)
- Threshold parameters, including THMODE state.
- Since xyz must be the same (or equivalent) between the old and new NPCs, if the old NPC is provisioned to be a possible Synchronization source, the new NPC must also be provisioned as one. However, the roll will not cause the new NPC to be an **active** sync source, even if the old one is.

In addition, it should be noted that all of the CTS0-related settings on the old NPC will not be affected by the roll. They will remain unchanged.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical OLD NPC number
wxkqr - Hierarchical NEW NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

INCL - Inclusive

A circuit designated as a customer controlled circuit, a red circuit or a subrate T1 circuit cannot be modified without using the inclusive keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

FRC - Force

The FRC keyword is used to force a roll to an NPC which is in CGA.

OOS - Out of service

The OOS keyword is used to force a roll from an NPC which is out of service.

TWAY - Two-way

The TWAY keyword is used to request a two-way Roll (Bridge and Roll combined). The user should understand that combining the Bridge and Roll step should only be done if the DS1 or E1 to be rolled has no live traffic. Combining the two steps causes substantial interruption in traffic, because there can be no coordination between the Bridge and the Roll step.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
05	Subject entity is pested
1E	Customer control or red circuit exists
01	Invalid range for specified NPC type
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
C8	Exceeded depth limit of 6 on broadcast conference concatenation
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
46	NPC Failed or Out of Service
A9	Cross-connect not consistent with feature package
B6	C-bit operations are enabled
B7	No DSP unit equipped
B8	No CBTYPE NPC equipped
B9	No CBTYPE NPC capacity remaining
BA	Inactive side NPC out of service and inactive side in service
0A	All CBTYPE NPCs out of service or failed
E0	ETSI not equipped, not in service, or failed
67	Improper roll command sequence
6A	New in CGA or PBA
6B	No mapped channel on old
75	Old and new channels have not been paired by a BCAST command.
79	DCTN conference channel cannot be rolled
7A	Testport/testgroup channel cannot be rolled
7B	Channel out-of-bounds in a Broadcast or Virtual Circuit
7C	Parity channel out of bound on new
7D	Not first channel in a BCON/virtual conf

cc *Explanation*

9C Parity channel cannot be within the range of a DS0 command.

SW,UNIT,FLI,TOPRTN

SWITCH FLI TO PROTECTION

Explanation Of Command

This message requests and reports a switch from the selected facility line interface (FLI) on a DS3 unit (DS3U) or a Hybrid DS3 unit (HDS3U). This message only covers the direction of switch from the service FLI in a DS3U or HDS3U to protection. The other direction of the FLI switch is covered in Message I.35105. The output message reports the occurrence of autonomous protection switching.

Command

[I.35101]

```
SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOPRTN!
```

Completion Message

[O.35101]

```
M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOPRTN COMPL
```

Denial Message

[O.35101.01]

```
M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOPRTN COND cc DNY
```

Autonomous Message

[O.35101]

I hh:mm:ss xy,ww SW UNIT [q]q FLI TOPRTN COMPL

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FLI - Facility Line Interface

TOPRTN - To protection pack

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed

SW,UNIT,FLI,TOSRVC

SWITCH FLI TO SERVICE

Explanation Of Command

This message requests and reports a switch from the protected facility line interface (FLI) on a DS3 unit (DS3U) or a Hybrid DS3 unit (HDS3U) to the service FLI. The output message reports the occurrence of automatic switchback.

Command

[I.35105]

```
SW:FRM xy,SEQ ww:UNIT [q]q,FLI,TOSRVC!
```

See I.35101

Completion Message

[O.35105]

```
M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOSRVC COMPL
```

Denial Message

```
M hh:mm:ss xy,ww n[vv] SW UNIT [q]q FLI TOSRVC COND cc DNY
```

Autonomous Message

[O.35105]

`I hh:mm:ss xy,ww  SW UNIT [q]q FLI TOSRVC COMPL`

Explanation Of Parameters

`UNIT` - Unit

`[q]q` - Unit number (1 through 16)

`TOSRVC` - To Service Pack

`cc` - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed

SW,UNIT,MMFG,TOPRTN,FRC

SWITCH MMFG TO PROTECTION

Explanation Of Command

This command requests and reports a switch from multiplexer-multiple interface unit functional group (MMFG) c to MMFG P on a DS3 or HDS3 unit. The input message can force MMFG P to serve the MMFG c facility, even though MMFG P was serving another facility which can result in that facility being out-of-service. Alarm reporting is discussed below in the case of a switch that results in that facility being out-of-service.

Alarm reporting in the case of double MMFG failures:
(For example, a unit is equipped with MMFG 1 , 2 and P).

Event	MMFG 1 fails
	Automatic protection switch occurs
Message	I hh:mm:ss xy,ww SW UNIT q MMFG 1 TOPRTN COMPL
	MMFG 1 is autonomously removed
Message	**hh:mm:ss xy,ww RMV UNIT q MMFG 1 COMPL
Event	MMFG 2 fails
Message	*C hh:mm:ss xy,ww RMV UNIT q MMFG 2 COND cc DNY
Event	The craft decides that MMFG-2 is more important and makes a switch
Command	SW:FRM xy,ww:UNIT q,MMFG 2,TOPRTN,FRC!
Message	M hh:mm:ss xy,ww[n[vv]] SW UNIT q MMFG 1 TOPRTN FRC COMPL
	MMFG 1 will switch back to service automatically
Message	I hh:mm:ss xy,ww SW UNIT q MMFG 1 TOSRVC COMPL

Notice that after the switch to protection of MMFG 2, there will be no alarm reporting associated with loss of service of MMFG 1. The alarm condition, which is escalated to critical after loss of service of MMFG 2, actually covers both failures. If the FRC keyword is used, then the MMFG that **was** under protection will no longer be in alarm but will still need to be restored. When the FRC keyword is used, the alarm is idled on the MMFG that **was** under protection, even though it is still OOS. Note also that the autonomous switch message will precede the removal command on the first failure.

Command

[I.35111]

`SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOPRTN[,FRC]!`

Completion Message

[O.35111]

```
M hh:mm:ss xy,ww[ n[vv]] SW UNIT [q]q MMFG c TOPRTN[ FRC] \
COMPL
```

Denial Message

[O.35111.01]

```
M hh:mm:ss xy,ww n[vv] SW UNIT [q]q MMFG c TOPRTN[ FRC] COND \
cc DNY
```

Autonomous Message

[O.35111]

```
I hh:mm:ss xy,ww[ n[vv]] SW UNIT [q]q MMFG c TOPRTN[ FRC] \
COMPL
```

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

MMFG - Multiplexer-multiplexer interface unit functional Group

c - The number of the service MMFG within the unit ($1 \leq c \leq 6$)

TOPRTN - Protection Pack

FRC - Force the switch to protection MMFG even though it was serving another facility.

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed

SW,UNIT,MMFG,TOSRVC

SWITCH MMFG TO SERVICE

Explanation Of Command

This command requests and reports a switch from multiplexer-multiple interface unit functional group (MMFG) P to MMFG c on a DS3 or HDS3 unit. MMFG P was serving the DS3 or HDS3 facility associated with MMFG c. The output message also reports the occurrence of automatic switchback from protection.

Command

[I.35121]

```
SW:FRM xy,SEQ ww:UNIT [q]q,MMFG c,TOSRVC!
```

Completion Message

[O.35121]

```
M hh:mm:ss xy,ww n[vv] SW UNIT [q]q MMFG c TOSRVC COMPL
```

Denial Message

[O.35121.01]

```
M hh:mm:ss xy,ww n[vv] SW UNIT [q]q MMFG c TOSRVC COND cc DNY
```

Autonomous Message

[O.35121]

I hh:mm:ss xy,ww SW UNIT [q]q MMFG c TOSRVC COMPL

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

MMFG - Multiplexer-multiplexer interface unit functional group

c - The number of the service MMFG within the unit (1 through 6)

TOSRVC - To service

Priority of action

I - Information

M - Manual

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed

TCNT — TTST

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19

TCNT — TTST

This section documents the commands **TCNT** through **TTST**.

TCNT,FROM,TO,MPM,NAM,NTR,RDC,CUS,INCL

TWO-WAY CROSS-CONNECT TERMINATE,
FROM,TO,MULTIPOINT MODE

Explanation Of Command

This message requests the two-way terminated cross-connection of a leg to a multipoint circuit. The circuit will be set up in the terminated state with the disconnect channel code (DCC) inserted in both directions of transmission.

Note: Range values apply only to the FTU end of an FTU to Virtual NPC circuit.

Command

Nonhierarchical

[I.12021]

```
TCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!
```

Hierarchical

[I.12021]

```
TCNT:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,NTR m][,RDC][,{CUS|INCL}]!
```

Completion Message

Nonhierarchical

[O.12021]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NAM][ NTR m][ NOBBL {F|T}][ CUS][ RDC] COMPL
```

Hierarchical

[O.12021]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NAM][ NTR m][ NOBBL {F|T}][ CUS][ RDC] COMPL
```

Denial Message

Nonhierarchical

[O.12021.01]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12021.02]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Hierarchical

[O.12021.01]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12021.02]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj - Channel numbers
eee, kkk - Channel numbers denoting the end of a range specification

Range variables eee and kkk apply only to the FTU end of an FTU to Virtual NPC circuit; that is, they cannot apply to the Virtual NPC end. Range variables do not apply to either end of an FTU to DMB or DMB to DMB circuit.

Channel numbers
000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers
001-085 (MB NPC)

001-500 (Virtual NPC)

Cross-connections may be between various Network Processing Circuit (NPC) types:

Facility Terminating Unit (IFTU/FTU)/DS3U NPC and DMB
DMB and DMB
IFTU/FTU/DS3U NPC and Virtual NPC

MPM - Multipoint mode

fmd - Multipoint mode of FROM end of the circuit

tmd - Multipoint mode of TO end of the circuit

The direction of data flow is indicated by MPM (fmd,tmd)

For DMB circuits, there are four possible values for fmd and tmd:

fmd **tmd**	*Explanation*
SYM	For legs of a symmetrical multipoint circuit (must be a DMB channel)
BRD	For nonbackbone (tributary) legs of a broadcast multipoint circuit (must be a DMB channel)
BBL	For the backbone leg of a broadcast multipoint circuit (must be a DMB channel)
LEG	For the end that does not terminate on the multipoint circuit (must be an FTU/DS3U channel)

For virtual NPC circuits, there are three possible values for fmd and tmd:

fmd **tmd**	*Explanation*
BRD	For nonbackbone legs of a broadcast multipoint circuit (must be a virtual NPC channel)
BBL	For the backbone leg of a broadcast multipoint circuit (must be a virtual NPC channel)
LEG	For the end that does not terminate on the multipoint circuit (must be FTU/DS3U channels)

The possible combinations are:

For within a DMB or virtual conference:

LEG,BBL
LEG,BRD
SYM,LEG (only for DMB)

For concatenation of conferences:

BRD,BBL
BBL,BBL
SYM,SYM

Note: To avoid possible transmission delays in the conferencers, DACS II will not allow DMB broadcast conferences to be concatenated more than six deep. However, each concatenated conference will support the maximum allowable number of legs. This allows conferences to branch out at any point in the daisy chain, as long as each branch does not concatenate more than six conferences from the backbone leg.

Note: Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL,BRD). These default values are:

Symmetrical bridges	NG = -18db	ES = -18db
Polling circuits	NG = 0db	ES = 0db

tc - Trunk conditioning, which has the input form

TRSP,{IW X'pq|TRB|MUX}

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. The TRSP (transparent) signaling specification is the only one allowed.

The following signaling options are allowed:

signaling	*Explanation*
TRSP	Transparent, no signaling

The following insertion word options are allowed:

IW	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
TRB	Standard trouble code, equal to IW X'E4, not valid for CEPT.
MUX	MUX out of sync code, equal to IW X'1A, not valid for CEPT.
Omitted	Only valid for CEPT, will default to IW-X-FF.

All leg connections to multipoint circuits using a DMB NPC or a Virtual NPC must use TRSP signaling. The insertion word portion is user specified as noted above and may be varied from leg to leg.

For all multipoint to multipoint conference cross-connections (DMB concatenated conferences) the only allowable trunk conditioning specification is TRSP, and need not be specified, as it is the default. An insertion word is not valid for concatenated conferences.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

NTR - No transmit

m - Direction in which transmission is shut off

m	*Explanation*
F	FROM
T	TO

To set up one-way connections; that is, to shut off transmission towards a FROM or TO termination, use NTR and specify the direction in variable m. If NTR m is specified on the BBL (backbone leg) of a multipoint circuit, then the broadcast (BRD) legs of this circuit have their outward transmission turned off.

NTR m is optional if the virtual NPC is part of the circuit.

NOBBL - No backbone leg

If the type of circuit was a broadcast circuit, NOBBL indicates that no backbone leg is yet specified in either the FROM or TO direction. This argument will appear until a backbone leg is specified for this circuit.

m	*Explanation*
F	- From
T	- To

CUS - Customer

Customer-controlled circuit

The optional CUS keyword is used to flag a circuit as a customer controlled circuit. On output it indicates that the circuit is customer controlled.

All legs on a multipoint customer controlled circuit must be designated as CUS.

RDC - Red circuit

On input the optional RDC keyword is used to mark a circuit as a Red Circuit. On output it indicates that the circuit is a Red Circuit.

All legs on a multipoint Red Circuit must be designated RDC.

INCL - Inclusive

A termination designated as CUS or RDC cannot be disconnected or modified without using the INCL keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

A disconnected termination previously marked CUS remains a customer controlled termination. The INCL keyword must be used to reconnect this termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their customer controlled status.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Multi-Point:

E1 to E1	Multi–point cross–connects have A–law to μ–law and μ–law to A–law set as a default. This conversion is performed on pure E1 multi–point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi–point cross-connect since such a connection has more quantization noise than a pure E1 two–point cross–connect. This is due to the back to back A–law to μ–law and μ–law to A–law conversions which are taking place.
E1 to DS1 or DS1 to E1	Same explanation as E1 to E1.
DS1 to DS1	Not applicable.

mmm - FROM channel number involved in the denial (ddd through eee)

nnn - TO channel number involved in the denial (jjj through kkk)

st - Status of denial

d - Direction

d	*Explanation*
B	Both
F	FROM
T	TO

cc - Hexadecimal condition code

cc	**st**	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed

cc	st	*Explanation*
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format
50	**INERR**	Trunk conditioning doesn't match that of conference
51	**INERR**	CUS flag doesn't match that of conference
52	**INERR**	RDC flag doesn't match that of conference
70	**CONFERR**	Try to add a BBL to VC, but the VC already has backbone
78	**CONFERR**	Try to operate a ONE-WAY conference with a TWO-WAY input command
80	**CONFERR**	Database conference width does not match the range in input command
83	**INERR**	Invalid input BBL in terminated TWOWAY/ONEWAY command
84	**CONFERR**	Trying to add or delete a leg when a conference is under test
85	**CONFERR**	Input BRD (BBL) has same NPC and channel as BBL (BRD)
A0	**INERR**	Illegal LEG LEG combination
A1	**INERR**	Illegal BBL BBL combination
A2	**INERR**	Illegal BRD BRD combination
A3	**INERR**	Illegal SYM BRD combination
A4	**INERR**	Illegal BRD SYM combination
A5	**INERR**	Illegal BBL SYM combination
A6	**INERR**	Illegal SYM BBL combination
A7	**INERR**	LEG mode was assigned to a DSPU-type NPC on the input
A8	**INERR**	A DMB mode was assigned to a FTU-type NPC on the input
A9	**INERR**	Trying to add a BBL to a DMB conference that already has one
AA	**INERR**	Trying to add a broadcast leg to a conference set up as SYM
AB	**INERR**	Trying to add a SYM leg to conference set up as broadcast
AC	**INERR**	Trying to add a BBL leg to a conference set up as SYM
B0	**INERR**	Bad use of INCL, cannot override the current state of the conference
B1	**INERR**	Bad use of INCL, cannot use keyword on conf.-to-conf. connection
B5	**INERR**	CPR circuit pack specified in the command
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination

cc	st	*Explanation*
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
E1	**INERR**	A locally switched channel is specified as BBL, LEG, or BRD
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NOCHAN	**{F|T|B}**	Conference has no more channels to connect
NOCUS	**{F|T|B}**	Conference not CUS
NORDC	**{F|T|B}**	Conference not RDC
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	
TP	**{F|T|B}**	NPC is used for test access
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

TCNT,FROM,TO,NAM,CUS,INCL,RDC,PRIOUT

TWO-WAY CROSS-CONNECTION TERMINATED

Explanation Of Command

This command requests a set of terminated cross-connections over a range of specified From-direction and To-direction terminations.

If the user wants to cross-connect Nx64 kbits/s circuits, then the range feature of this command should be used.
The circuit will be formed in the terminated state with the disconnect code (DCC) inserted in both directions of transmission.

Command

Nonhierarchical

[I.12001]

```
TCNT:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][ NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

Hierarchical

[I.12001]

```
TCNT:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][ NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.12001]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ <tc>][ <sc>][ NAM][ CUS][ RDC][ PRIOUT] COMPL
```

[O.12002]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]  2 LN MSG:
[<tc> ][<sc> ][NAM ][CUS ][RDC ][PRIOUT ]COMPL
```

Hierarchical

[O.12001]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ <tc>][ <sc>][ NAM][ CUS][ RDC][ PRIOUT] COMPL
```

[O.12002]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]  2 LN MSG:
[<tc> ][<sc> ][ NAM][CUS ][RDC ][PRIOUT ]COMPL
```

Denial Message

Nonhierarchical

[O.12001.01]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12001.02]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Hierarchical

[O.12001.01]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.12001.02]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

[s]abcddd
- Nonhierarchical termination in to direction

[s]abc - The 3- or 4-digit NPC number
ddd - Channel number, beginning of range

TO - To

[s]ghijjj
- Nonhierarchical termination in from direction

[s]ghi - NPC number
jjj - Channel number, beginning of range

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnpddd
- Hierarchical termination in from direction

wxkqrjjj
- Hierarchical termination in to direction

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module
ddd,jjj
- Channel number, beginning of range

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

eee,kkk

- Channel numbers for end of channel range

To connect a range of channels, use the optional fields **eee** and **kkk**.

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

The following channels are not allowed in a channel range:

- Channel 000
- CAS (channel associated signaling) channel 031 (TS16 of a CEPT type NPC)

tc - Trunk conditioning

Defines the cross-connected signaling and insertion word applied to the circuit during a failure condition. The signaling and insertion word are separately specified, using a comma as the delimiter using the form:

<tc_sig>,<tc_iw>

where: tc_sig is the **signaling** portion of trunk conditioning and
tc_iw is the **insertion word** portion of trunk conditioning.

Valid values for two-way cross-connects are:

4-state signaling	*16-state signaling*
TC(ijkl,mnop),IW X'nn	**TC(efghijkl,mnopqrst),IW X'nn** **TC(X'uv,X'yz),IW X'nn**

Transparent signaling

TRSP,IW X'nn
TRSP

Note: 4-state signaling will be expanded to 16–state by duplicating the bits.

Note: If **<tc>** is omitted and both terminations are Channel Associated Signaling (CAS) types, it will default to 16-state signaling with all ones and an insertion word of all ones.

Example:

TC(X'FF,X'FF),IW X'FF

Note: If **<tc>** is omitted, and one or both terminations are Non-Signaling Associated (NSA) types, it will default to transparent signaling with no insertion word.

Example:

TRSP

ijkl - 4-state binary signaling value - From direction

mnop - 4-state binary signaling value - To direction

efghijkl
- 16-state binary signaling value - From direction

mnopqrst
- 16-state binary signaling value - To direction

uv - 16-state hexadecimal signaling value - From direction

yz - 16-state hexadecimal signaling value - To direction

nn - Hexadecimal Insertion Word

TRSP - Transparent

Outgoing signaling will be fixed at **1101** (hex **D**) in slot 16 for Channel Associated Signaling (CAS) primaries. **TRSP** is the only allowable option for Non-Signaling Associated (NSA) primaries.

Note: When the provisioning insertion word (PIW) is assigned in the **GRTH::NPC** command, a four-bit pattern is inserted into the associated portion of time slot 16 for CAS circuits when the circuit is disconnected.

Additional rules apply for 2.048 Mbit/s termination cross-connects.

The allowable signaling type and signaling consequent action are shown in the following table.

Table 19-1. Allowable Signaling Type and Signaling Consequent Action

Primary Type in Cross-connect	Allowable <tc> Signaling Specification	Resulting Signaling Code FROM, TO	Resulting Signaling Consequent Action (Hardware) FROM, TO	Resulting Signaling Consequent Action (Firmware) FROM, TO	Resulting Disconnect (When DCC used in disconnect command)
CAS ⟷ CAS	**TRSP**	Fixed at **X'D**	Fixed at **X'D**	Fixed at **X'D**	**X'D**
	TC-X'uv,X'yz*	CAS (Passed Through)	**X'F**	**X'uv,X'yz**	**X'v,X'z**
	Omitted	CAS (Passed Through)	**X'F**	**X'F**	**X'F**
NSA ⟷ CAS	**TRSP**/Omitted	None (Fixed at **X'D** in CAS direction)	Fixed at **X'D** in CAS direction	Fixed at **X'D** in CAS direction	**X'D** in CAS direction
NSA ⟷ NSA	**TRSP**/Omitted	Not appl.	Not appl.	Not appl.	Not appl.

* For TCON and TCNT TC is X'uv,X'yz.
For OCON, OCNT and BCON TC is --,X'yz.

The allowable cross-connected time slot consequent action are shown in the following table.

Table 19-2. Allowable Cross-Connected Time Slot Consequent Action

Allowable <tc> Insertion Word	Resulting Cross-Connected Time Slot Consequent Action FROM, TO	Resulting Disconnect Code (When DCC used in disconnect command)
Omitted	**X´FF**, **X´FF**	**X´FF**
IW X´pq *	**X´FF**, **X´FF**	**X´pq**

* Only used as a means of providing per time slot DCC codes. If the DCC code is not used when issuing the disconnect command, then the insertion word at the time the NPC was grown is used. This growth insertion word defaults to hex "D5" if not explicitly specified at growth time.

Note: In a gateway application, when E1 channels are connected to T1 channels,

the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

sc - Signaling control

This variable represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(abcd,efgh)

abcd - Time slot 16 signalling bits, From direction
efgh - Time slot 16 signalling bits, To direction

All 8 bits can be controlled independently. Control is applied by replacing each character in variable **abcd** or **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International:	Inversion takes place on both the From and To-direction sides. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.
Gateway:	Inversion takes place only on the international side of the connection. The effect is an inversion.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Two-Point:

E1 to DS1	Gateway cross–connects have A–law to μ–law and μ–law to A–law conversion set as a default. The **NAM** keyword is used to disable the conversions.
E1 to E1	Default, the **NAM** keyword may be used but there is no need to specify **NAM** explicitly since A–law to μ–law and μ–law to A–law conversion is not needed, and therefore not performed, for a pure E1 cross–connect.
DS1 to DS1	Not applicable.

CUS - Customer

This optional keyword is used to flag a circuit as a customer controlled circuit. On output it indicates that the circuit is customer controlled.

RDC - Red circuit

This optional keyword is used to mark a circuit as a Red Circuit. On output it indicates that the circuit is a Red Circuit.

INCL - Inclusive

A termination designated as a customer controlled circuit or a red circuit cannot be disconnected or modified without using this keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless this keyword is given in the remove command.

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

mmm - The From-direction channel number involved in denial (**ddd** through **eee**).

nnn - The To-direction channel number involved in denial (**jjj** through **kkk**).

d - Direction

d	*Explanation*
F	FROM
T	TO
B	Both

st - Status of denial

cc - Hexadecimal condition code

cc	st	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	NPC is grown as a test group
TP	**{F|T|B}**	NPC is used for test access
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

st	d	*Explanation*

TCNT,FROM,TO,PFW,NFW

TWO WAY CROSS-CONNECTION TERMINATE

Explanation Of Command

This command requests the terminated connection of timeslot 0 (TS0) of one NPC to a timeslot other than TS0 (non-TS0) on another NPC. A cross-connect mode must be chosen to prevent the TS0 Frame Alignment Signal from being transmitted in a non-TS0 timeslot.

Command

Nonhierarchical

[I.12051]

```
TCNT:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

Hierarchical

[I.12051]

```
TCNT:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

Completion Message

Nonhierarchical

[O.12051]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd,[t]ghijjj \
{PFW(abcdefg,ijklmno)|NFW} COMPL
```

Hierarchical

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd,wxkqrjjj \
{PFW(abcdefg,ijklmno)|NFW} COMPL
```

Denial Message

Nonhierarchical

[O.12051.01]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd,[t]ghijjj\
[ {PFW(abcdefg,ijklmno)|NFW}] cc <st> DNY
```

[O.12051.02]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abcddd,[t]ghijjj\
[ {PFW(abcdefg,ijklmno)|NFW}] d <st> DNY
```

Hierarchical

[O.12051.01]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd,wxkqrjjj\
[ {PFW(abcdefg,ijklmno)|NFW}] cc <st> DNY
```

[O.12051.02]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnpddd,wxkqrjjj\
[ {PFW(abcdefg,ijklmno)|NFW}] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FRM - Frame

FROM - From

TO - To

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Channel number for FROM NPC

jjj - Channel number for TO NPC

000-030	on CEPT type NPCs grown as CAS
000-031	on CEPT type NPCs grown as NSA

Note: One of the channel numbers specified (ddd or jjj) must be channel 000 (TS0), while the other channel number (jjj or ddd) must be a number other than channel 000 (non-TS0).

The NPC containing the TS0 channel must be a PA or TH type NPC, while the NPC containing the non-TS0 channel can be either a PA, PB, PC or TH type NPC.

Channel 000 is not allowed in a range of channels.

PFW - Pseudo Frame Word

The PFW parameter is used to select Mode 1 of TS0 Cross-Connect: In both directions of transmission the Frame Word is replaced by a Pseudo Frame Word.

abcdefg
- Value of the Pseudo Frame Word

This value replaces the Frame Alignment Signal (Bits 2 - 8) of the Frame Word being transmitted from the TO NPC to the FROM NPC.

The characters in the field represent the following bits:

a - Pseudo Frame Word Bit 2
b - Pseudo Frame Word Bit 3
c - Pseudo Frame Word Bit 4
d - Pseudo Frame Word Bit 5
e - Pseudo Frame Word Bit 6
f - Pseudo Frame Word Bit 7
g - Pseudo Frame Word Bit 8

Values for bits a - g:

"0" - Sets the corresponding bit to "0"
"1" - Sets the corresponding bit to "1"

ijklmno
- Value of the Pseudo Frame Word

This value replaces the Frame Alignment Signal (Bits 2 - 8) of the Frame Word being transmitted from the FROM NPC to the TO NPC.

The characters in the field represent the following bits:

i - Pseudo Frame Word Bit 2
j - Pseudo Frame Word Bit 3
k - Pseudo Frame Word Bit 4
l - Pseudo Frame Word Bit 5
m - Pseudo Frame Word Bit 6
n - Pseudo Frame Word Bit 7
o - Pseudo Frame Word Bit 8

Values for bits i - o:

"0" - Sets the corresponding bit to "0"
"1" - Sets the corresponding bit to "1"

Note: Bit 2 of timeslot 0 in a 2Mbit/s signal is used to distinguish the Frame Word from the Non Frame Word and it must always be '0' in the FW and '1' in the NFW. When defining the Pseudo Frame Word the user must make sure that the Pseudo Frame Word can be distinguished from the Non Frame Word.

NFW - Non frame word

The NFW parameter is used to select Mode 2 of TS0 Cross-Connect. In both directions of transmission the Frame Word is replaced by the Non Frame Word, thus repeating the content of the Non Frame Word in consecutive frames.

If no mode is selected in the command, the default shall be NFW, that is, the default mode of operation is Mode 2.

d - Direction

d	*Explanation*
F	From
T	To
B	Both

st - Status

cc - Hexadecimal condition code

cc	**st**	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
E8	**INERR**	SC invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed
3A	**SCERR**	Invalid FPI value

cc	st	*Explanation*
8A	**INERR**	Mismatch between channel 0 crossconnect and keywords

TCNT,FROM,TO,RDC,CUS,INCL,PRIOUT

TERMINATED TWO-WAY CROSS CONNECT

Explanation Of Command

This message terminates two-way cross connections of non-channelized network processing circuits. The alarm-indication signal (AIS) is the idle code and does not need to be entered. Trunk condition options for 64 kbit/s cross connection are not allowed for non-channelized connections.

When a failure occurs or during an alarm state, the AIS is transmitted toward the TO NPC.

Command

Nonhierarchical

[I.12031]

```
TCNT:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!
```

Hierarchical

[I.12031]

```
TCNT:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.12031]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abc,[t]ghi[ RDC][ CUS][ PRIOUT] COMPL
```

Hierarchical

[O.12031]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnp,wxkqr[ RDC][ CUS][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.12031.01]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abc,[t]ghi cc <st> DNY
```

[O.12031.02]

```
M hh:mm:ss xy,ww n[vv] TCNT [s]abc,[t]ghi d <st> DNY
```

Hierarchical

[O.12031.01]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnp,wxkqr cc <st> DNY
```

[O.12031.02]

```
M hh:mm:ss xy,ww n[vv] TCNT uvmnp,wxkqr d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number

[t]ghi - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical non-channelized FROM NPC number

wxkqr - Hierarchical non-channelized TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

INCL - Inclusive

This option will remove CUS marking

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

st - Status of denial

d - Direction

d	**FIExplanation**
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	st	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NPCTA	**{F|T|B}**	NPC used for Test Access
OOS	**{F|T|B}**	Out-of-service
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

TCON,FROM,CB,CUS,RDC,INCL

TWO-WAY C-BIT CROSS-CONNECTS

Explanation Of Command

This message establishes a cross-connection between signaling timeslot 16 (channel 031) of the PB- or PC-type NPC provisioned for channel associated signaling and the C-bit (CB) type NPC on the DSPU. The software automatically assigns the CB number and the channel number on the CB.

Command

Nonhierarchical

[I.11041]

TCON:FRM xy,SEQ ww:FROM [s]abc,CB[,CUS][,RDC][,INCL]!

Hierarchical

[I.11041]

TCON:FRM xy,SEQ ww:FROM uvmnp,CB[,CUS][,RDC][,INCL]!

Completion Message

Nonhierarchical

[O.11041]

```
M hh:mm:ss: xy,ww n[vv] TCON [s]abc CB[ CUS][ RDC]\
[ INCL] COMPL
```

Hierarchical

[O.11041]

```
M hh:mm:ss: xy,ww n[vv] TCON uvmnp,CB[ CUS][ RDC]\
[ INCL] COMPL
```

Denial Message

Nonhierarchical

[O.11041.01]

```
M hh:mm:ss: xy,ww n[vv] TCON [s]abc CB cc <st> DNY
```

[O.11041.02]

```
M hh:mm:ss: xy,ww n[vv] TCON [s]abc CB <d> <st> DNY
```

Hierarchical

[O.11041.01]

```
M hh:mm:ss: xy,ww n[vv] TCON uvmnp CB cc <st> DNY
```

[O.11041.02]

```
M hh:mm:ss: xy,ww n[vv] TCON uvmnp CB <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

FTU NPC identifier keyword

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

CB - C-bit

C-bit processing NPC identifier keyword

Note: The CB number and the channel number on the CB are automatically assigned by software.

CUS - Customer

Specify that this cross-connect is customer controlled

RDC - Red circuit

Specify that this is a red circuit

INCL - Inclusive

Specify that red circuits and/or customer controlled circuits are to be included. A termination designated as a CUS or a RDC cannot be disconnected or modified without using the INCL keyword in the message. An NPC which supports these circuits cannot be manually removed unless the INCL keyword is given in the remove message.

d - Direction

d	*Explanation*
F	FROM
T	TO
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	*Explanation*
03	**INERR**	No RDC or CUS circuits and INCL keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
30	**INERR**	NPC not provisioned for CAS
B7	**MCOND**	No DSP unit equipped
B8	**MCOND**	No CBTYPE NPC equipped
B9	**MCOND**	No CBTYPE NPC capacity remaining
BA	**MCOND**	Inactive side NPC out of service and inactive side in service
F1	**INERR**	Parameter only valid with PA, PB, or PC type NPCs
0A	**OOS**	All CBTYPE NPCs out of service or failed
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed
2C		not allowed for clear 2MB

st	d	*Explanation*
ASGN	**F**	Termination assigned
CUS	**F**	Customer-controlled Circuit
FAIL	**F**	Failed
OOS	**F**	Out-of-service
UEQD	**F**	Unequipped
UTST	**F**	Under Test

TCON,FROM,TO,MPM,NAM,NTR,RDC,CUS,INCL

TWO-WAY CROSS-CONNECT FROM, TO MULTIPOINT MODE

Explanation Of Command

This command requests a multipoint two-way cross-connection between the specified FROM and TO end terminations and is used to connect a DS0 leg to a multipoint circuit, or to cross-connect a leg, consisting of a single or a contiguous range of DS0 channels, to a multipoint circuit in the virtual network processing circuit. Cross-connections may be between various network processing circuit types.

If the user wants to cross-connect Nx64 kbits/s circuits, then the range feature of this command should be used.

Command

Nonhierarchical

[I.11021]

```
TCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM],[NTR m][,RDC][,{CUS|INCL}]!
```

Hierarchical

[I.11021]

```
TCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM],[NTR m][,RDC][,{CUS|INCL}]!
```

Completion Message

Nonhierarchical

[O.11021]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NAM][ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] \
COMPL
```

Hierarchical

[O.11021]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]  \
2 LN MSG:
fmd,tmd[ <tc>][ NAM][ NTR m][ NOBBL {F|T}][ {CUS|INCL}][ RDC] \
COMPL
```

Denial Message

Nonhierarchical

[O.11021.01]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.11021.02]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Hierarchical

[O.11021.01]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.11021.02]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd, jjj - Channel or conference numbers
eee, kkk - Channel or conference numbers denoting the end of range specification

Channel numbers

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers
001-085 (MB NPC)

001-500 (Virtual NPC)

Cross-connections may be between various Network Processing Circuit (NPC) types:

DMB and DMB

MPM - Multipoint mode

fmd - FROM mode

tmd - TO mode

Multipoint modes of the FROM and TO ends of the circuit

For DMB circuits, there are four possible values for fmd and tmd:

fmd
tmd

SYM For legs of a symmetrical multipoint circuit (must be a DMB channel)
BRD For nonbackbone (tributary) legs of a broadcast multipoint circuit (must be a DMB channel)
BBL For the backbone leg of a broadcast multipoint circuit (must be a DMB channel)
LEG For the end that does not terminate on the multipoint circuit (must be an FTU/DS3U/HDS3U channel)

For virtual NPC circuits, there are three possible values for fmd and tmd:

fmd
tmd

BRD For nonbackbone legs of a broadcast multipoint circuit (must be a virtual NPC channel)

BBL For the backbone leg of a broadcast multipoint circuit (must be a virtual NPC channel)

LEG For the end that does not terminate on the multipoint circuit (must be FTU/DS3U/HDS3U channels)

The valid combinations of fmd and tmd are:

For within a DMB or virtual conference:

LEG,BBL or BBL,LEG
LEG,BRD or BRD,LEG
SYM,LEG or LEG,SYM (only for DMB)

For concatenation of conferences:

BRD,BBL or BBL,BRD
BBL,BBL
SYM,SYM

Note: Default values for noise guard (NG) and echo suppression (ES) are applied to symmetrical bridges (multipoint mode SYM) and polling circuits (multipoint mode BBL,BRD). These default values are:

Symmetrical bridges	NG = -18db	ES = -18db
Polling circuits	NG = 0db	ES = 0db

Note: To avoid possible transmission delays in the conferencers, DACS II will not allow DMB broadcast conferences to be concatenated more than six deep. However, each concatenated conference will support the maximum allowable number of legs. This allows conferences to branch out at any point in the daisy chain, as long as each branch does not concatenate more than six conferences from the backbone leg.

tc - Trunk conditioning, which has the input form

TRSP,{IW X'pq|TRB|MUX}

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. The TRSP (transparent) signaling specification is the only one allowed.

The following signaling options are allowed:

signaling	*Explanation*
TRSP	Transparent, no signaling

The following insertion word options are allowed:

IW	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
TRB	Standard trouble code, equal to IW X'E4, not valid for CEPT.
MUX	MUX out of sync code, equal to IW X'1A, not valid for CEPT.
Omitted	Only valid for CEPT, will default to IW-X-FF.

All leg connections to multipoint circuits using a DMB NPC or a Virtual NPC must use TRSP signaling. The insertion word is user specified and may be varied from leg to leg.

For all multipoint to multipoint conference cross-connections (DMB concatenated conferences) only TRSP signaling is allowed and is the default hence it need not be specified. The insertion word is not valid for concatenated conferences.

Note: In a gateway application, when E1 channels are connected to T1 channels, the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

NTR - No Transmit

m - The direction toward which transmission is shut off

m	*Explanation*
F	FROM
T	TO

The NTR option is used to set up one-way connections; that is, to shut off transmission towards the specified FROM or TO termination. If NTR m is specified on the BBL (backbone leg) of a multipoint circuit, then the BRD (broadcast) legs of this circuit have their outward transmission turned off.

The NTR field is optional if the virtual NPC is part of the circuit. The direction of the data flow is indicated by the MPM (fmd,tmd) field.

CUS - Customer

All legs on a multipoint customer controlled circuit must be designated as CUS. A disconnected termination previously marked CUS remains as a customer controlled termination.

INCL - Inclusive

The INCL keyword must be used to reconnect a termination to other terminations. However, if they are reconnected without the CUS keyword, they lose their customer controlled status.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Multi-Point:

E1 to E1	Multi–point cross–connects have A–law to μ–law and μ–law to A–law set as a default. This conversion is performed on pure E1 multi–point connections in case a DS1 leg is ever added to the broadcast connection. The **NAM** keyword is used to disable the conversions. It may be desirable to disable conversions in a pure E1 multi–point cross-connect since such a connection has more quantization noise than a pure E1 two–point cross–connect. This is due to the back to back A–law to μ–law and μ–law to A–law conversions which are taking place.
E1 to DS1 or DS1 to E1	Same explanation as E1 to E1.
DS1 to DS1	Not applicable.

RDC - Red circuit

If the optional RDC field is present, the circuit will be flagged as a Red Circuit. All legs on a multipoint red circuit must be designated RDC.

NOBBL - No backbone leg

If the type of circuit was a broadcast circuit, the optional NOBBL indicates that no backbone leg is yet specified in either the FROM or TO direction. This argument will appear until a backbone leg is specified for this circuit.

F - From

T - To

mmm - FROM channel number involved in the denial (ddd through eee)

nnn - TO channel number involved in the denial (jjj through kkk)

st - Status

d - Direction

d	*Explanation*
F	FROM
T	TO
B	BOTH

cc - Hexadecimal condition code

cc	**st**	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format

cc	st	*Explanation*
37	**INERR**	Two confs. were prev. connected or the concat. cause BRD-BBL loop
50	**INERR**	Trunk conditioning doesn't match that of conference
51	**INERR**	CUS flag doesn't match that of conference
52	**INERR**	RDC flag doesn't match that of conference
70	**CONFERR**	Try to add a BBL to VC, but the VC already has backbone
78	**CONFERR**	Try to operate a ONE-WAY conference with a TWO-WAY input command
80	**CONFERR**	Database conference width does not match the range in input command
84	**CONFERR**	Trying to add or delete a leg when a conference is under test
85	**CONFERR**	Input BRD (BBL) has same NPC and channel as BBL (BRD)
A1	**INERR**	Illegal BBL BBL combination
A2	**INERR**	Illegal BRD BRD combination
A3	**INERR**	Illegal SYM BRD combination
A4	**INERR**	Illegal BRD SYM combination
A5	**INERR**	Illegal BBL SYM combination
A6	**INERR**	Illegal SYM BBL combination
A7	**INERR**	LEG mode was assigned to a DSPU-type NPC on the input
A8	**INERR**	A DMB mode was assigned to a FTU-type NPC on the input
A9	**INERR**	Trying to add a BBL to a DMB conference that already has one
AA	**INERR**	Trying to add a broadcast leg to a conference set up as SYM
AB	**INERR**	Trying to add a SYM leg to conference set up as broadcast
AC	**INERR**	Trying to add a BBL leg to a conference set up as SYM
B0	**INERR**	Bad use of INCL, cannot override the current state of the conference
B1	**INERR**	Bad use of INCL, cannot use keyword on conf.-to-conf. connection
C8	**INERR**	Exceeded depth limit of 6 on broadcast conference concatenation
AE	**INERR**	A subrate circuit pack is specified in the command line
B5	**INERR**	CPR circuit pack specified in the command
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
E1	**INERR**	A locally switched channel is specified as BBL, LEG, or BRD
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified

cc	st	*Explanation*
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NOCHAN	**{F|T|B}**	Conference has no more channels to connect
NOCUS	**{F|T|B}**	Conference not CUS
NORDC	**{F|T|B}**	Conference not RDC
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	
TP	**{F|T|B}**	NPC is used for test access
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

TCON,FROM,TO,NAM,CUS,INCL,RDC,PRIOUT

TWO-WAY CROSS-CONNECTION

Explanation Of Command

This command requests the two-point two-way connection of two specified cross-connect circuits or a range of cross-connected circuits.

If the user wants to cross-connect Nx64 kbits/s circuits, then the range feature of this command should be used.

Command

Nonhierarchical

[I.11001]

```
TCON:[FRM xy,SEQ ww]:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

Hierarchical

[I.11001]

```
TCON:[FRM xy,SEQ ww]:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,<tc>][,<sc>][,NAM][,{CUS|INCL}][,RDC][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.11001]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ <tc>][ <sc>][ NAM][ CUS][ RDC][ PRIOUT] COMPL
```

[O.11002]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]  2 LN MSG:
[ <tc>][ <sc>][ NAM][ CUS][ RDC][ PRIOUT] COMPL
```

Hierarchical

[O.11001]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ <tc>][ <sc>][ NAM][ CUS][ RDC][ PRIOUT] COMPL
```

[O.11002]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]  2 LN MSG:
[ <tc>][ <sc>][ NAM][ CUS][ RDC][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.11001.01]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.11001.02]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Hierarchical

[O.11001.01]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.11001.02]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

[s]abcddd
- Nonhierarchical termination in from direction

[s]abc - The 3- or 4-digit NPC number
ddd - Channel number, beginning of range

TO - To

[s]ghijjj
- Nonhierarchical termination in to direction

[s]ghi - The 3- or 4-digit NPC number
jjj - Channel number, beginning of range

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnpddd
- Hierarchical termination in from direction

wxkqrjjj
- Hierarchical termination in to direction

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module
ddd,jjj
- Channel number, beginning of range

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

If the channel being connected is an FDL (Facility Data Link), then **ddd** (**jjj**) is **000** and signaling type should be of type **TC(ijkl,mnop)**.
TRSP and 16-state signalling also work.
Only the FDL of a DE type NPC with ESF Format can be cross-connected.

eee,kkk
- Channel numbers for end of channel range

To connect a range of channels, use the optional fields **eee** and **kkk**.

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Channel 000 and channel 031 (that is, TS16 of a CEPT type NPC) are not allowed in a range of channel numbers.

tc - Trunk conditioning

Defines the cross-connected signaling and insertion word applied to the circuit during a failure condition. The signaling and insertion word are separately specified, using a comma as the delimiter using the form:

<tc_sig>,<tc_iw>

where: tc_sig is the **signaling** portion of trunk conditioning and
tc_iw is the **insertion word** portion of trunk conditioning.

Valid values for two-way cross-connects are:

4-state signaling	*16-state signaling*
TC(ijkl,mnop),IW X'nn	**TC(efghijkl,mnopqrst),IW X'nn** **TC(X'uv,X'yz),IW X'nn**

Transparent signaling

TRSP,IW X'nn
TRSP

Note: 4-state signaling will be expanded to 16–state by duplicating the bits.

Note: If **<tc>** is omitted and both terminations are Channel Associated Signaling (CAS) types, it will default to 16-state signaling with all ones and an insertion word of all ones.

Example:

TC(X'FF,X'FF),IW X'FF

Note: If **<tc>** is omitted, and one or both terminations are Non-Signaling Associated (NSA) types, it will default to transparent signaling with no insertion word.

Example:

TRSP

ijkl - 4-state binary signaling value - From direction

mnop - 4-state binary signaling value - To direction

efghijkl
- 16-state binary signaling value - From direction

mnopqrst
- 16-state binary signaling value - To direction

uv - 16-state hexadecimal signaling value - From direction

yz - 16-state hexadecimal signaling value - To direction

nn - Hexadecimal Insertion Word

TRSP - Transparent

Outgoing signaling will be fixed at **1101** (hex **D**) in slot 16 for Channel Associated Signaling (CAS) primaries. **TRSP** is the only allowable option for Non-Signaling Associated (NSA) primaries.

Note: When the provisioning insertion word (PIW) is assigned in the **GRTH::NPC** command, a four-bit pattern is inserted into the associated portion of time slot 16 for CAS circuits when the circuit is disconnected.

Additional rules apply for 2.048 Mbit/s termination cross-connects.

The allowable signaling type and signaling consequent action are shown in the following table.

Table 19-3. Allowable Signaling Type and Signaling Consequent Action

Primary Type in Cross-connect	Allowable <tc> Signaling Specification	Resulting Signaling Code FROM, TO	Resulting Signaling Consequent Action (Hardware) FROM, TO	Resulting Signaling Consequent Action (Firmware) FROM, TO	Resulting Disconnect (When DCC used in disconnect command)
CAS ⟷ CAS	**TRSP**	Fixed at **X'D**	Fixed at **X'D**	Fixed at **X'D**	**X'D**
	TC-X'uv,X'yz*	CAS (Passed Through)	**X'F**	**X'uv,X'yz**	**X'v,X'z**
	Omitted	CAS (Passed Through)	**X'F**	**X'F**	**X'F**
NSA ⟷ CAS	**TRSP**/Omitted	None (Fixed at **X'D** in CAS direction)	Fixed at **X'D** in CAS direction	Fixed at **X'D** in CAS direction	**X'D** in CAS direction
NSA ⟷ NSA	**TRSP**/Omitted	Not appl.	Not appl.	Not appl.	Not appl.

* For TCON and TCNT TC is X'uv,X'yz.
For OCON, OCNT and BCON TC is --,X'yz.

The allowable cross-connected time slot consequent action are shown in the following table.

Table 19-4. Allowable Cross-Connected Time Slot Consequent Action

Allowable <tc> Insertion Word	Resulting Cross-Connected Time Slot Consequent Action FROM, TO	Resulting Disconnect Code (When DCC used in disconnect command)
Omitted	**X´FF**, **X´FF**	**X´FF**
IW X´pq *	**X´FF**, **X´FF**	**X´pq**

* Only used as a means of providing per time slot DCC codes. If the DCC code is not used when issuing the disconnect command, then the insertion word at the time the NPC was grown is used. This growth insertion word defaults to hex "D5" if not explicitly specified at growth time.

Note: In a gateway application, when E1 channels are connected to T1 channels,

the following rules apply to the transmittal of the Insertion Word (IW) towards the facility. If the Insertion Word needs to be transmitted towards the facility as a result of consequent action, then the Insertion Word transmitted by the T1 NPC towards its transmission facility is the Insertion Word specified in this command; however, the Insertion Word transmitted by the E1 NPC towards its facility is always X'FF.

sc - Signaling control

This variable represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(abcd,efgh)

abcd - Time slot 16 signalling bits, From direction
efgh - Time slot 16 signalling bits, To direction

All 8 bits can be controlled independently. Control is applied by replacing each character in variable **abcd** or **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International:	Inversion takes place on both the From and To-direction sides. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.
Gateway:	Inversion takes place only on the international side of the connection. The effect is an inversion.

NAM - No A-law to μ-law

The A-law to μ-law and μ-law to A-law code translators on the E1 type NPC are disabled. This keyword is valid in the following types of cross-connects:

Two-Point:

E1 to DS1	Gateway cross–connects have A–law to μ–law and μ–law to A–law conversion set as a default. The **NAM** keyword is used to disable the conversions.
E1 to E1	Default, the **NAM** keyword may be used but there is no need to specify **NAM** explicitly since A–law to μ–law and μ–law to A–law conversion is not needed, and therefore not performed, for a pure E1 cross–connect.
DS1 to DS1	Not applicable.

CUS - Customer

This optional keyword is used to flag a circuit as a customer controlled circuit. On output it indicates that the circuit is customer controlled.

RDC - Red circuit

This optional keyword is used to mark a circuit as a Red Circuit. On output it indicates that the circuit is a Red Circuit.

INCL - Inclusive

A termination designated as a customer controlled circuit or a red circuit cannot be disconnected or modified without using this keyword in the message. Also, an NPC which supports these circuits cannot be manually removed unless this keyword is given in the remove command.

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

mmm - The From-direction channel number involved in denial (**ddd** through **eee**).

nnn - The To-direction channel number involved in denial (**jjj** through **kkk**).

d - Direction

d	*Explanation*
F	FROM
T	TO
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	*Explanation*
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
08	**INERR**	Invalid FROM NPC type for AIS insertion
09	**INERR**	Invalid TO NPC type for AIS insertion
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
22	**MCOND**	FMC cannot be cross-connected in this format
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
E8	**INERR**	SC invalid for cross-connection specified
E9	**INERR**	MUX or TRB invalid for cross-connection specified
EA	**INERR**	AIS invalid for cross-connection specified
EB	**INERR**	NAM invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TG	**{F|T|B}**	NPC is grown as a test group
TP	**{F|T|B}**	NPC is used for test access
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

st	d	*Explanation*

TCON,FROM,TO,PFW,NFW

TWO-WAY CROSS-CONNECTIONS

Explanation Of Command

This command requests a TS0 to non-TS0 cross-connection. A cross-connect mode must be chosen to prevent the TS0 Frame Alignment Signal from being transmitted in a non-TS0 timeslot.

Command

Nonhierarchical

[I.11051]

```
TCON:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

Hierarchical

[I.11051]

```
TCON:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj\
[,{PFW(abcdefg,ijklmno)|NFW}]!
```

Completion Message

Nonhierarchical

[O.11051]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd,[t]ghijjj \
{PFW(abcdefg,ijklmno)|NFW} COMPL
```

Hierarchical

[O.11051]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd,wxkqrjjj \
{PFW(abcdefg,ijklmno)|NFW} COMPL
```

Denial Message

Nonhierarchical

[O.11051.01]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd,[t]ghijjj\
[ {PFW(abcdefg,ijklmno)|NFW}] cc <st> DNY
```

[O.11051.02]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abcddd,[t]ghijjj\
[ {PFW(abcdefg,ijklmno)|NFW}] d <st> DNY
```

Hierarchical

[O.11051.01]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd,wxkqrjjj\
[ {PFW(abcdefg,ijklmno)|NFW}] cc <st> DNY
```

[O.11051.02]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnpddd,wxkqrjjj\
[ {PFW(abcdefg,ijklmno)|NFW}] d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

TO - To

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Channel number for FROM NPC

jjj - Channel number for TO NPC

000-030	on CEPT type NPCs grown as CAS
000-031	on CEPT type NPCs grown as NSA

Note: One of the channel numbers specified (ddd or jjj) must be channel 000 (TS0), while the other channel number (jjj or ddd) must be a number other than channel 000 (non-TS0).

The NPC containing the TS0 channel must be a PA or TH type NPC, while the NPC containing the non-TS0 channel can be either a PA, PB or PC or TH type NPC.

Channel 000 is not allowed in a range of channels.

PFW - Pseudo Frame Word

The PFW parameter is used to select Mode 1 of TS0 Cross-Connect: In both directions of transmission the Frame Word is replaced by a Pseudo Frame Word.

abcdefg - Value of the Pseudo Frame Word

This value replaces the Frame Alignment Signal (Bits 2 - 8) of the Frame Word being transmitted from the TO NPC to the FROM NPC.

The characters in the field represent the following bits:

a - Pseudo Frame Word Bit 2
b - Pseudo Frame Word Bit 3
c - Pseudo Frame Word Bit 4
d - Pseudo Frame Word Bit 5
e - Pseudo Frame Word Bit 6
f - Pseudo Frame Word Bit 7
g - Pseudo Frame Word Bit 8

Values for bits a - g:

"0" - Sets the corresponding bit to "0"
"1" - Sets the corresponding bit to "1"

ijklmno - Value of the Pseudo Frame Word

This value replaces the Frame Alignment Signal (Bits 2 - 8) of the Frame Word being transmitted from the FROM NPC to the TO NPC.

The characters in the field represent the following bits:

i - Pseudo Frame Word Bit 2
j - Pseudo Frame Word Bit 3
k - Pseudo Frame Word Bit 4
l - Pseudo Frame Word Bit 5
m - Pseudo Frame Word Bit 6
n - Pseudo Frame Word Bit 7
o - Pseudo Frame Word Bit 8

Values for bits i - o:

"0" - Sets the corresponding bit to "0"
"1" - Sets the corresponding bit to "1"

Note: Bit 2 of timeslot 0 in a 2Mbit/s signal is used to distinguish the Frame Word from the Non Frame Word and it must always be '0' in the FW and '1' in the NFW. When defining the Pseudo Frame Word the user must make sure that the Pseudo Frame Word can be distinguished from the Non Frame Word.

NFW - Non frame word

The NFW parameter is used to select Mode 2 of TS0 Cross-Connect. In both directions of transmission the Frame Word is replaced by the Non Frame Word, thus repeating the content of the Non Frame Word in consecutive frames.

If no mode is selected in the command, the default shall be NFW, that is, the default mode of operation is Mode 2.

NORM - Normal

NORM,NORM means that the cross-connection will come up in the normal state. The NORM keyword corresponds to the PDS TCON command.

TERM - Terminate

TERM,TERM means that the cross-connection will come up in the terminated state. The TERM keyword corresponds to the PDS TCNT command.

d - Direction

d	Explanation
F	From
T	To
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	*Explanation*
06	INERR	Invalid range for specified FROM NPC type
07	INERR	Invalid range for specified TO NPC type
08	INERR	Invalid FROM NPC type for AIS insertion
09	INERR	Invalid TO NPC type for AIS insertion
12	MCOND	Active CCN side not IS or failed or pested or hardware OOS
13	MCOND	UNIT not equipped, not in service, or failed
14	MCOND	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	MCOND	FTMI not equipped, not in service, or failed

cc	st	*Explanation*
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
20	**MCOND**	Line format types are incompatible
21	**MCOND**	Trunk conditioning is invalid
E8	**INERR**	SC invalid for cross-connection specified
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed
3A	**SCERR**	Invalid FPI value
8A	**INERR**	Mismatch between channel 0 crossconnect and keywords
9D	**INERR**	NPC containing channel 000 is invalid type.

st	d	*Explanation*
ASGN	**F**	Termination assigned
CUS	**F**	Customer-controlled Circuit
FAIL	**F**	Failed
OOS	**F**	Out-of-service
UEQD	**F**	Unequipped
UTST	**F**	Under Test

TCON,FROM,TO,RDC,CUS,INCL,PRIOUT

TWO-WAY NON-CHANNELIZED DIGITAL SIGNAL CROSS CONNECTION

Explanation Of Command

This message is used to form a two-way cross-connection between two non-channelized network processing circuits (NPCs). It is also used to form a terminated two-way cross-connection. The idle code is the alarm-indication signal (AIS, all ones) and does not need to be specified. The disconnect code (DCC) for 64 kbit/s disconnection cannot be used for non-channelized NPCs.

When a failure occurs or during an alarm state, the AIS is transmitted toward the TO NPC.

NPCs with customer-controlled marking retain the CUS status when disconnected. When the NPCs are reconnected without CUS or inclusive (INCL) keyword, the command will be denied. If the NPCs are reconnected with INCL keyword, they lose the CUS status.

Red circuit marking is removed when the circuit is disconnected.

Command

Nonhierarchical

[I.11011]

```
TCON:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,RDC][,{CUS|INCL}][,PRIOUT]!
```

Hierarchical

[I.11011]

```
TCON:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,RDC][,{CUS|INCL}][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.11011]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abc,[t]ghi[ RDC][ CUS][ PRIOUT] COMPL
```

Hierarchical

[O.11011]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnp,wxkqr[ RDC][ CUS][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.11011.01]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abc,[t]ghi cc <st> DNY
```

[O.11011.02]

```
M hh:mm:ss xy,ww n[vv] TCON [s]abc,[t]ghi d <st> DNY
```

Hierarchical

[O.11011.01]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnp,wxkqr cc <st> DNY
```

[O.11011.02]

```
M hh:mm:ss xy,ww n[vv] TCON uvmnp,wxkqr d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module
The values are listed below:

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

RDC - Red circuit
CUS - Customer

Indicates a customer-controlled Circuit

INCL - Inclusive

Inclusive option must be used to remove CUS marking

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

st - Status of denial

d - Direction

d	*Explanation*
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	st	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
EC	**INERR**	Invalid channel 000 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
ASGN	**{F|T|B}**	Termination assigned
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NPCTA	**{F|T|B}**	NPC used for Test Access
OOS	**{F|T|B}**	Out-of-service
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

TDIS,FROM,CB,INCL,OOS

DISCONNECTIONS

Explanation Of Command

This message requests a disconnection between the Facility Terminating Unit (FTU) or Hybrid DS3 Unit (HDS3U) type NPC signaling time slot 16 and the C-Bit Processor (CB) type NPC on the Digital Signal Processing Unit (DSPU). The CB number and the channel number on the CB are automatically specified by software.

Command

Nonhierarchical

[I.15004]

```
TDIS:FRM xy,SEQ ww:FROM [s]abc,CB[,INCL][,OOS]!
```

Hierarchical

[I.15004]

```
TDIS:FRM xy,SEQ ww:FROM uvmnp,CB[,INCL][,OOS]!
```

Completion Message

Nonhierarchical

[O.15004]

```
M hh:mm:ss: xy,ww n[vv] TDIS [s]abc,CB[ OOS][ CUS][ RDC]\
[ INCL] COMPL
```

Hierarchical

[O.15004]

```
M hh:mm:ss: xy,ww n[vv] TDIS uvmnp,CB[ OOS][ CUS][ RDC]\
[ INCL] COMPL
```

Denial Message

Nonhierarchical

[O.15004.01]

```
M hh:mm:ss: xy,ww n[vv] TDIS [s]abc,CB cc <st> DNY
```

[O.15004.02]

```
M hh:mm:ss: xy,ww n[vv] TDIS [s]abc,CB <d> <st> DNY
```

Hierarchical

[O.15004.01]

```
M hh:mm:ss: xy,ww n[vv] TDIS uvmnp,CB cc <st> DNY
```

[O.15004.02]

```
M hh:mm:ss: xy,ww n[vv] TDIS uvmnp,CB <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From termination
TO - To termination

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number

uv - Unit number
m - Module number
np - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

An Out-Of-Service disconnect may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnect will be denied.
d - Direction {F-from | T-to | B-both}

st - Status

d	*st*	*Explanation*
F	UEQD	FROM Unequipped
F	OOS	FROM Out-of-service
F	FAIL	FROM Failed
F	UASG	FROM Termination unassigned
F	CUS	FROM Customer Controlled Circuit
F	RDC	FROM Red Circuit
F	NOMTH	FROM No Match

cc - Hexadecimal condition code

cc	**st**	*Explanation*
03	**INERR**	No RDC or CUS circuits and INCL keyword used
04	**INERR**	No NPC's out of service and OOS keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed

cc	st	*Explanation*
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
30	**INERR**	NPC not provisioned for CAS
B6	**INERR**	C-bit operations are enabled
F1	**INERR**	Parameter only valid with PA, PB, or PC type NPCs
FF	**ROLL**	Termination is in process of being rolled

TDIS,FROM,TO,INCL,OOS,DCC

TWO-WAY DISCONNECTIONS

Explanation Of Command

This message requests a disconnection between the specified FROM and TO end terminations and is used to disconnect a leg or legs from a multipoint circuit. Disconnections may be between various Network Processing Circuit (NPC) types:

Facility Terminating Unit (FTU)/DS3U/HDS3U NPC and Digital Signal Processing (DSPU) Unit NPC

FTU/DS3U/HDS3U NPC and Virtual NPC

DSPU NPC and DSPU NPC

Command

Nonhierarchical

[I.15002]

```
TDIS:FRM xy,SEQ ww:FROM [s]abcddd,TO [t]ghijjj[,INCL][,OOS]\
[,DCC]!
```

Hierarchical

[I.15002]

```
TDIS:FRM xy,SEQ ww:FROM uvmnpddd,TO wxkqrjjj[,INCL][,OOS]\
[,DCC]!
```

Completion Message

Nonhierarchical

[O.15002]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abcddd,[t]ghijjj  2 LN MSG:
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ DDC][ RDC] COMPL
```

Hierarchical

[O.15002]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd,wxkqrjjj  2 LN MSG:
[NOBBL {F|T}][ MPDIS {F|T|B}][ OOS][ CUS][ DDC][ RDC] COMPL
```

Denial Message

Nonhierarchical

[O.15001.01]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15001.02]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Hierarchical

[O.15001.01]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15001.02]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From termination
TO - To termination

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number for beginning of NPC range
wxkqr - Hierarchical TO NPC number for end of NPC range

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Note: The range of allowable NPC numbers is dependent on the equipage of the frame.
ddd - FROM channel or conference number
jjj - TO channel number or conference number

Channel Numbers

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference Numbers

001-085 (MB NPC)

001-500 (Virtual NPC)

INCL - Inclusive

To disconnect a channel or range of channels including one or more channels marked as a Red Circuit, use the INCL (inclusive) option. If this option is not used, the message will be denied if any circuits in the range are Red Circuits.

OOS - Out-of-service

An Out-Of-Service disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied.

DCC - Disconnect code

If DCC is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field of the TCON command that initially connected to the channels. If the DCC option is not used, the disconnect code specified in the GRTH NPC command will be used.

mmm,nnn
- Channel numbers involved in the denial. Otherwise, the same as ddd.

CUS - Customer

Indicates the circuit is a customer controlled Circuit.

NOBBL - No backbone leg

This optional field will appear if the multipoint circuit(s) FROM or TO is in the broadcast mode but has no backbone leg after the TDIS command.

MPDIS - Multipoint disconnect

Full disconnection of the multipoint circuits is indicated by MPDIS for FROM, TO, or BOTH.

RDC - Red circuit

RDC indicates that the disconnection was performed on a Red Circuit. This implies that the INCL keyword was given in the input message. If the disconnection was given on more than one circuit, then at least one of them was a Red Circuit.

d - Direction

d	*Explanation*
F	- From
T	- To
B	- Both

st - Status of denial

17	Required ETSI not equipped, not in service, or failed or inactive side ETSI not equipped or not in service

cc - Hexadecimal condition code

cc	**st**	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	**MCOND**	DSPI not in service, or failed
71	**CONFERR**	Try to delete a BBL leg from VC; however, VC has no BBL leg
72	**CONFERR**	The NPC of VC BBL leg doesn't match that in the input command
73	**CONFERR**	The first channel of VC BBL leg doesn't match that in the input cmd
74	**CONFERR**	Try to delete a BRD leg from VC; however, VC has no BRD leg
75	**CONFERR**	The input BRD leg is not in VC
76	**CONFERR**	The first channel of VC BRD leg doesn't match that in the input cmd
77	**CONFERR**	Tried to disconnect a nonexisting VC

cc	st	*Explanation*
78	**CONFERR**	Try to operate a ONE-WAY conference with a TWO-WAY input command
80	**CONFERR**	Database conference width does not match the range in input command
84	**CONFERR**	Trying to add or delete a leg when a conference is under test
A1	**INERR**	Illegal BBL BBL combination
A2	**INERR**	Illegal BRD BRD combination
A3	**INERR**	Illegal SYM BRD combination
A4	**INERR**	Illegal BRD SYM combination
A5	**INERR**	Illegal BBL SYM combination
A6	**INERR**	Illegal SYM BBL combination
AF	**INERR**	Delete or change a leg from a conference that has no leg
D3	**SCERR**	Corresponding NPC for FROM virtual channel is not provisioned
D4	**SCERR**	Corresponding NPC for TO virtual channel is not provisioned
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled

st	d	*Explanation*
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
NOMTH	**{F|T|B}**	No Match
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TP	**{F|T|B}**	NPC is used for test access
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

TDIS,FROM,TO,INCL,OOS,DCC,DCP,PRIOUT

DISCONNECTIONS, CROSS-CONNECT CIRCUITS

Explanation Of Command

This message requests the disconnection of two-way, two-point cross-connect circuits or a range of cross-connected circuits.

Command

Nonhierarchical

[I.15001]

```
TDIS:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,INCL][,OOS][{,DCC|,DCP}][,PRIOUT]!
```

Hierarchical

[I.15001]

```
TDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,INCL][,OOS][{,DCC|,DCP}][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.15001]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ OOS][ {DCC| DCP}][ RDC][ PRIOUT] COMPL
```

Hierarchical

[O.15001]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ OOS][{ DCC| DCP}][ RDC][ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.15001.01]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15001.02]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Hierarchical

[O.15001.01]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] cc <st> DNY
```

[O.15001.02]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[ mmm,nnn] <d> <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From termination
TO - To termination

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd,jjj
- Channel numbers

eee,kkk
- Channel numbers, denoting the end of a range.

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

INCL - Inclusive

To disconnect a circuit or range of circuits including one or more circuits marked either RDC or CUS, use the optional INCL keyword. If this keyword is not used, the message will be denied if any circuits in the range are red circuits or customer controlled circuits.

OOS - Out of service

An Out-Of-Service disconnection may be done by giving the optional OOS keyword. At least one end of the circuit must be out-of-service or the OOS disconnection will be denied. This keyword is not valid if the DSPP NPC is the only NPC out-of-service.

DCC - Disconnect code

If the Disconnect Code (DCC) option is specified, DACS II will insert the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field of the cross connect command that initially connected the channels. Only the post 2.5 second signaling will be inserted in the disconnected channels. If the DCC option was specified on a fully transparent (TRSP with no insertion word) domestic circuit, DACS II will insert the default trouble code X'E4. If the DCC option is not used, the disconnect code specified in the grow NPC command will be used.

DCP - Disconnect Pre/Post code

If the Disconnect Code (DCP) option is specified, DACS II inserts the user-defined disconnect code and signaling into the disconnected channels. This disconnect code and signaling are specified by the trunk conditioning field of the cross connect command that initially connected the channels. Both pre- and post 2.5 second signaling are inserted in the disconnected channels. If the DCP option was specified on a fully transparent (TRSP with no insertion word) domestic circuit, DACS II will insert the default trouble code X'E4. If the neither the DCC option nor the DCP option is used, the disconnect code specified in the grow NPC command will be used.

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

CUS - Customer

Customer-controlled circuit

Terminations cross-connected using the optional CUS keyword retain their CUS status when disconnected. If the terminations are reconnected without the CUS or INCL keyword, the command will be denied. When they are reconnected with the INCL keyword, they lose their customer controlled status.

RDC - Red circuit

mmm,nnn
- Channel number involved in the denial. Otherwise the same as ddd.

d - Direction

d	*Explanation*
F	From
T	To
B	Both

st - Status of denial

cc - Hexadecimal condition code

cc	**st**	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
06	**INERR**	Invalid range for specified FROM NPC type
07	**INERR**	Invalid range for specified TO NPC type
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
D6	**INERR**	Invalid FROM channel number
D7	**INERR**	Invalid TO channel number
D9	**INERR**	Invalid FROM channel number range
DA	**INERR**	Invalid TO channel number range
DC	**INERR**	A loopback is active on the FROM termination
DD	**INERR**	A loopback is active on the TO termination
DF	**INERR**	Unmatched channel range
EC	**INERR**	Invalid channel 000 cross-connection specified
ED	**INERR**	Invalid channel 031 cross-connection specified
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

st	**d**	*Explanation*
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NOMTH	**{F|T|B}**	No Match
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
TP	**{F|T|B}**	NPC is used for test access
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

st	d	*Explanation*

TDIS,FROM,TO,OOS,INCL,PRIOUT

TWO-WAY DISCONNECTION

Explanation Of Command

This message disconnects a two-way cross-connection between two non-channelized network processing circuits. When the circuit is disconnected, the idle code (AIS) is transmitted.

Command

Nonhierarchical

[I.15011]

```
TDIS:FRM xy,SEQ ww:FROM [s]abc,TO [t]ghi[,OOS][,INCL][,PRIOUT]!
```

Hierarchical

[I.15011]

```
TDIS:FRM xy,SEQ ww:FROM uvmnp,TO wxkqr[,OOS][,INCL][,PRIOUT]!
```

Completion Message

Nonhierarchical

[O.15011]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abc,[t]ghi[ OOS][ RDC][ CUS] \
[ PRIOUT] COMPL
```

Hierarchical

[O.15011]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnp,wxkqr[ OOS][ RDC][ CUS] \
[ PRIOUT] COMPL
```

Denial Message

Nonhierarchical

[O.15011.01]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abc,[t]ghi cc <st> DNY
```

[O.15011.02]

```
M hh:mm:ss xy,ww n[vv] TDIS [s]abc,[t]ghi d <st> DNY
```

Hierarchical

[O.15011.01]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnp,wxkqr cc <st> DNY
```

[O.15011.02]

```
M hh:mm:ss xy,ww n[vv] TDIS uvmnp,wxkqr d <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From termination
TO - To termination

[s]abc - The 3- or 4-digit non-hierarchical non-channelized FROM NPC number
[t]ghi - The 3- or 4-digit non-hierarchical non-channelized TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of non-channelized FROM NPC
wxkqr - Hierarchical number of non-channelized TO NPC

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

INCL - Inclusive

Required for a CUS circuit or a red circuit

PRIOUT - Priority Output

This keyword is used on the command line to prioritize the output response.

OOS - Out-of-Service

May be specified if one or both NPCs are out of service

RDC - Red circuit

Disconnection of Red circuit

CUS - Customer

Disconnection of Customer-controlled Circuit

st - Status of denial

d - Direction

d	*Explanation*
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	**st**	*Explanation*
04	**INERR**	No NPC's out of service and OOS keyword used
12	**MCOND**	Active CCN side not IS or failed or pested or hardware OOS
13	**MCOND**	UNIT not equipped, not in service, or failed
14	**MCOND**	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	**MCOND**	FTMI not equipped, not in service, or failed
16	**MCOND**	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	**MCOND**	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
FF	**ROLL**	Termination is in process of being rolled
E0	**MCOND**	ETSI not equipped, not in service, or failed

st	**d**	*Explanation*
CUS	**{F|T|B}**	Customer-controlled Circuit
FAIL	**{F|T|B}**	Failed
INVLD	**{F|T|B}**	Invalid NPC type
NOMTH	**{F|T|B}**	No Match
NPCTA	**{F|T|B}**	NPC used for Test Access
OOS	**{F|T|B}**	Out-of-service
RDC	**{F|T|B}**	Red Circuit
UNPASGN	**{F|T|B}**	Unassigned or Not Properly Assigned
UEQD	**{F|T|B}**	Unequipped
UTST	**{F|T|B}**	Under Test

TS0,R,NPC,OLD,NEW

TIME SLOT ZERO RECEIVE NPC

Explanation Of Command

This autonomous output message reports a change of state in the spare national and international bits being received in time slot zero of a network processing circuit. The change of state probably is incompatible provisioning by using time slot zero monitor.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65201]

```
I hh:mm:ss xy,ww   TS0 R NPC [s]abc OLD abcdefgh NEW \
abcdefgh COMPL
```

Hierarchical

[O.65201]

```
I hh:mm:ss xy,ww   TS0 R NPC uvmnp OLD abcdefgh NEW \
abcdefgh COMPL
```

Explanation Of Parameters

TS0 - Time slot zero keyword

R - Received bits in time slot zero

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

- **uv** - Unit number
- **m** - Module number
- **np** - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

OLD - Old time slot zero pattern keyword

NEW - New time slot zero pattern keyword

abcdefgh

- Time slot zero bits

Note: The only bit values which will be output are those which have been provisioned for monitoring. All other bits will be output as "-" (dash).

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

TS0MBOFL

ALARM TS0MBOFL

Explanation Of Command

This output message prints out the buffer overflow condition for the time slot zero monitor (TS0M). This message applies to PA, PB, and PC type NPCs.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

Nonhierarchical

[O.65231]

`I hh:mm:ss xy,ww  TS0MBOFL [s]abc COMPL`

Hierarchical

[O.65231]

`I hh:mm:ss xy,ww  TS0MBOFL uvmnp COMPL`

Explanation Of Parameters

`TS0MBOFL`
- Time Slot 0 Monitor Buffer Overflow

`[s]abc` - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

`uvmnp` - Hierarchical NPC number

`uv` - Unit number
`m` - Module number
`np` - NPC number
The values are listed below:

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TTST,HUB,TO,TG

NX64Kbit/s TWO-WAY TEST ACCESS, HUB

Explanation Of Command

To set up an Nx64Kbit/s hub test access connection via a test-access group to an Nx64Kbit/s TO termination. The TO termination consists of two Nx64Kbit/s bundles that will be connected to the test-access group's east and west bundles. These channel bundles must be of the same width as the test-access group. If all of the channels, starting at the number specified for the TO termination, are not available the first unavailable channel encountered will cause the command to be denied. The channel that caused the denial will be reported in the denial message.

Command

Nonhierarchical

[I.24021]

```
TTST:FRM xy,SEQ ww:HUB,TO ([s]abcddd,[t]ghijjj),TG mmm[,<tc>]!
```

Hierarchical

[I.24021]

```
TTST:FRM xy,SEQ ww:HUB,TO (uvmnpddd,wxkqrjjj),TG mmm[,<tc>]!
```

Completion Message

Nonhierarchical

[O.24021]

```
M hh:mm:ss xy,ww n[vv] TTST HUB [s]abcddd,[t]ghijjj NN TG mmm  \
2 LN MSG:
<tc> <sc> CGA(fsb) COMPL
```

Hierarchical

[O.24021]

```
M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpddd,wxkqrjjj NN TG mmm  \
2 LN MSG:
<tc> <sc> CGA(fsb) COMPL
```

Denial Message

Nonhierarchical

[O.24021.01]

```
M hh:mm:ss xy,ww n[vv] TTST HUB [s]abcddd,[t]ghijjj TG mmm \
[[u]jklppp] COND cc DNY
```

Hierarchical

[O.24021.01]

```
M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpddd,wxkqrjjj TG mmm \
[jklmnppp] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test (access) group

mmm - Test access group number (001 through 400)

TG is designated as in the GRTH,TG,NPCTG command.

HUB - Hub

[s]abc - 3- or 4-digit non-hierarchical first TO NPC number
[t]ghi - 3- or 4-digit non-hierarchical second TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical first TO NPC number
wxkqr - Hierarchical second TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Starting channel number of first TO NPC
jjj - Starting channel number of second TO NPC
ppp - First channel causing denial

001-030	Primary NPCs grown as Channel Associated Signaling (CAS)
001-031	Primary NPCs grown as Non Signaling Associated (NSA)

tc - Trunk conditioning

For TGs supported by NSA NPCTG(s), the TO NPC(s) must be NSA type also. The default and the only allowed <tc> is TRSP IW FF. Any other input will result in denial.

For TGs supported by CAS NPCTG(s), the TO NPC(s) must be CAS type also. If TRSP is entered as <tc>, TRSP IW FF will be used as <tc>. If anything else or nothing is entered, TC(FF,FF) IW FF is used.

sc - Signaling control

This variable represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(abcd,efgh)

abcd - Time slot 16 signalling bits, From direction
efgh - Time slot 16 signalling bits, To direction

All 8 bits can be controlled independently. Control is applied by replacing each character in variable **abcd** or **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International:	Inversion takes place on both the From and To-direction sides. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.
Gateway:	Inversion takes place only on the international side of the connection. The effect is an inversion.

CGA - Carrier group alarm

PBA - Primary block alarm

fsb - CGA or PBA state

f - First TO NPC CGA or PBA state

f	*Explanation*
F	First TO NPC is in CGA or PBA
0	First TO NPC is not in CGA or PBA

s - Second TO NPC CGA or PBA state

s	*Explanation*
S	Second TO NPC is in CGA or PBA
0	Second TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

b	*Explanation*
E	East-bundle NPCTG in CGA or PBA
W	West-bundle NPCTG in CGA or PBA
B	NPCTG(s) supporting both bundles in CGA or PBA
0	NPCTG(s) not in CGA or PBA

RDC - Red circuit

The cross-connection tested is a red circuit.

CUS - Customer

The cross-connection tested is a customer-controlled circuit.

COND - Condition

NN - TG width (1 through 31)

cc - Hexadecimal condition code

cc	*Explanation*
26	NPC type error
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
E0	ETSI not equipped, not in service, or failed
3C	TS0 specified with width not 1
3D	Illegal test access mode for TS0
3E	TS16 specified for test with width not 1

cc	*Explanation*
3F	Illegal test access mode for TS16
47	Invalid channel number
49	test group unequipped
4A	channel part of a TP or TG
4B	channel already under test
4D	Gateway test access not supported
51	TG width incompatible with circuit
53	inconsistent HUB width for specified TG
59	Invalid TC specification
5A	NPC unequipped, out of service or failed
5D	Inconsistent Signaling on CEPT NPCTGs
5E	invalid test access mode
5F	input channel out of range (SLC not supported)
60	circuit contains mapped channels for HUB request
95	TG East/West type inconsistent with each other or circuit
96	incompatible HUB feature types

TTST,HUB,TO,TP,NAM

TWO-WAY TEST ACCESS, HUB

Explanation Of Command

This command requests a hubbing mode test access via a specified test port (TP) to the TO termination. In the hubbing mode, DACS II is used as a test access concentrator to connect a local TP to a remote TP. The cross-connection will be made between TP **kk** and two 64-kb/s channels, the TO end of which is specified in the command. Successive termination numbers **jjj** and **ddd** correspond to lower and upper channels of the test port, respectively. These two channels are from a test port in another DACS II or other test access device to be cross-connected. DACS II does not know if the requested access is, in fact, to a hubbed test port on another frame; however, the request will be denied if either channel is mapped, under test, or if channel **jjj** would be out of range on the NPC.

Trunk conditioning **<tc** may be specified, however, it only has an effect on Gateway (T1-E1) conversion circuits. For hub test access of non-Gateway circuits, any trunk conditioning values entered by the user will be overwritten by all one values for the circuit's signaling and insertion word.

Command

Nonhierarchical

[I.24001]

TTST:FRM xy,SEQ ww:HUB,TO [t]ghijjj,TP kk[,<tc>][,NAM]!

Hierarchical

[I.24001]

```
TTST:FRM xy,SEQ ww:HUB,TO uvmnpjjj,TP kk[,<tc>][,NAM]!
```

Completion Message

Nonhierarchical

[O.24001]

```
M hh:mm:ss xy,ww n[vv] TTST HUB [t]ghijjj,[t]ghimmm TP kk  \
2 LN MSG:
[<tc>][ NAM] CGA(ftp) COMPL
```

Hierarchical

[O.24001]

```
M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpjjj,uvmnpmmm TP kk  \
2 LN MSG:
[<tc>][ NAM] CGA(ftp) COMPL
```

Denial Message

Nonhierarchical

[O.24001.01]

```
M hh:mm:ss xy,ww n[vv] TTST HUB [t]ghijjj <tc>[ NAM] TP kk <st> \
DNY
```

If the error response exceeds 80 characters:

[O.24001.02]

```
M hh:mm:ss xy,ww n[vv] TTST HUB [t]ghijjj <tc>  2 LN MSG:
[NAM ]TP kk <st> DNY
```

Hierarchical

[O.24001.01]

```
M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpjjj <tc>[ NAM] TP kk <st> \
DNY
```

If the error response exceeds 80 characters:

[O.24001.02]

```
M hh:mm:ss xy,ww n[vv] TTST HUB uvmnpjjj <tc>  2 LN MSG:
[NAM ]TP kk <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

HUB - Hub

TO - To

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical TO NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

jjj - TO channel number

The TO channel number must correspond to a lower channel of a test port for CEPT and Primary digroups

tc - Trunk conditioning

tc represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. The signaling and the insertion word specification are entered separately, with a comma as the delimiter.

signaling	*Explanation*
TC(ijkl,mnop)	2-way, 4-state signaling in binary. For CEPT and ESF type framing format, software will expand 4-state to 16-state by duplicating the bits.
TC(efghijkl,mnopqrst)	2-way, 16-state in binary.
TC(X'ab,X'cd)	2-way, 16-state in hexadecimal.
TRSP	Transparent, no signaling.
Omitted	Default is TC X'FF,X'FF if both terminations are channel associated signaling types (CAS). Default will be TRSP if one of the terminations is nonsignaling associated (NSA) type.

insertion word	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
Omitted	Will default to IW X'FF.

mmm - Channel number

Variable mmm is equal to jjj + 1. Must be an even number.

TP - Test port

kk - Test port number (01 through 96)

CGA - Carrier group alarm

f - FROM CGA status

f	*Explanation*
F	FROM NPC is in CGA
0	FROM NPC is not in CGA

t - TO CGA status

t	*Explanation*
T	TO NPC is in CGA
0	TO NPC is not in CGA

p - Test port NPC CGA status

p	*Explanation*
P	Test port NPC is in CGA
0	Test port NPC is not in CGA

Note: FROM test port NPC will never appear in the CGA condition.

Signaling mode of port

T - Transparent
R - Robbed bit Signaling
C - Channel associated signaling (CAS)
H - Hubbing

ASGN - Assigned

The test port is already assigned.

NMON - Not monitor

The test port is not in monitor mode.

st - Status

Note: When st is set to "T NOT LOWER", for CEPT type NPCs, jjj must be one of the following channels:

005, 007, 009, 011, 013, 016, 018, 020, 022, 024, 026, or 028.

st	*Explanation*
BADCCB	CCB OOS or failed
BADCCN	CCN OOS or failed
BADCHAN	Bad channel number was specified
BADFC	FC OOS or failed
BADFCB	FCB OOS or failed
BADFLI	FLI OOS or failed
BADFMT	FMT (Formatter) OOS or failed
BADFTMI	FTMI OOS or failed
BADMIU	MIU OOS or failed
BADMXR	MXR OOS or failed
BADNPC	Bad NPC number
BADTSI	TSI OOS or failed
BADUNIT	UNIT OOS or failed
EVEN	TO termination is not an odd channel
FAIL	Test port Group NPC failed
IMPR TC	Improper trunk conditioning specification
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
NAM_NA	NAM keyword is not applicable to the cross-connection type
NOT IDLE	Test port is not idle
OOS	Test port Group NPC out of service
SG COND 02	Test port is static
T CLR	The TO NPC is a clear-DS1 or clear-2Mb NPC
T FAIL	TO side NPC is marked failed
T NOT CAS	TO termination not CAS.
T NOT LOWER	TO termination is not the lower test access channel
T OOS	TO side NPC is Out Of Service
T UEQD	TO side NPC is Unequipped
T UTST	TO termination is under test
TERM ASGN	TO termination is assigned
TG	
TP	TO termination is a test port
T_SCDG	TO termination is an RT (DL) termination
UEQD	The test port Group NPC is unequipped

TTST,INS,TG

NX64Kbit/s TWO-WAY TEST ACCESS,
INTEGRATED TEST SIGNAL ERROR INSERTION

Explanation Of Command

This command is used to insert a bit error into a test pattern generated by the Integrated Test Set. The test-access group specified must be in test signal generation mode. A bit error is inserted by the Integrated Test Set by inverting a bit in the next transmitted frame of the generated signal. The integrated test signal generation (and bit error insertion) function is provided by the TG193 circuit pack. No external test sets are required. The test group NPC (NPCTG) must be provisioned as an Integrated Test Set (type ST1yz) to allow integrated test signal generation.

Command

[I.22221]

TTST:FRM xy,SEQ ww:INS,TG mmm!

Completion Message

[O.22221]

M hh:mm:ss xy,ww n[vv] TTST INS TG mmm COMPL

Denial Message

[O.22221.01]

M hh:mm:ss xy,ww n[vv] TTST INS TG mmm COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test-access group

mmm - Test-access Group number (001 through 400)

The TG is designated as in command I.31421

INS - Insert a bit error into the generated test signal

COND cc
- Condition code

TTST,LPD,TG

NX64Kbit/s LOOPED TEST ACCESS

Explanation Of Command

This command is used to place both bundles of a test-access group (TG) in the looped mode. If the TG is not provisioned or currently assigned the command will be denied.

Command

[I.29021]

```
TTST:FRM xy,SEQ ww:LPD,TG mmm[,<tc>]!
```

Completion Message

[O.29021]

```
M hh:mm:ss xy,ww n[vv] TTST LPD TG mmm NN <tc> COMPL
```

Denial Message

[O.29021.01]

```
M hh:mm:ss xy,ww n[vv] TTST LPD TG mmm COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LPD - Looped

TG - Test (access) group

mmm - TG number (001 through 400)

tc - Trunk conditioning

If the static tc was not furnished in the growth TG command, it must be dynamically specified in this command or the test access will be denied. A dynamic tc will override any static tc. The effective tc will be used, and will be output.

COND - Condition

NN - TG width (1 through 31)

cc - Hexadecimal condition code

cc	*Explanation*
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not equipped, not in service, or failed
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	Reqd FMT not eqd,not IS,or failed,or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
E0	ETSI not equipped, not in service, or failed
3D	Illegal test access mode for TS0
3F	Illegal test access mode for TS16
49	test group unequipped
59	Invalid TC specification
5A	NPC not in service or failed
5D	Inconsistent Signaling on CEPT NPCTGs
5E	invalid test access mode

TTST,LPD,TP

LOOPED TEST ACCESS

Explanation Of Command

This message requests that both test port channels on a given test port be placed in the looped mode.

Trunk conditioning *may be specified* to loop a static test port **kk**. If specified it will overide the specification given when the test port was equipped. If not specified it will default to the specification given when the test port was equipped.

Trunk conditioning *must be specified* to loop a dynamic test port **kk** since tc is dynamically set when any test access message makes the test port active. If trunk conditioning is omitted, the request will be denied.

TTST::TPR,TP will undo this command.

The test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port. All CEPT types that have been provisioned for channel associated signaling (CAS) can be provisioned as NPCTP. For the mapping between the test ports and the channels of the test NPCs, see the CRTE::TP message.

Command

[I.29001]

```
TTST:FRM xy,SEQ ww:LPD,TP kk,<tc>!
```

Completion Message

[O.29001]

M hh:mm:ss xy,ww n[vv] TTST LPD TP kk <tc> COMPL

Denial Message

[O.29001.01]

M hh:mm:ss xy,ww n[vv] TTST LPD TP kk <st> DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

LPD - Looped

TP - Test port

kk - Test port number (01 through 96)

tc - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP,IW X'pq (input form).

The following signaling options are allowed:

signaling	*Explanation*
TC(ijkl,mnop)	2-way,4-state signaling in binary. For CEPT type framing format, software will expand 4-state to 16-state by duplicating the format on the remaining frames on a superframe.
TC(efghijkl,mnopqrst)	2-way,16-state in binary. Only valid for CEPT framing format.
TC(X'ab,X'cd)	2-way,16-state in hexadecimal
TRSP	Transparent, no signaling
omitted	Only valid for CEPT cross-connections, defaults to TC(X'FF,X'FF) if both terminations are channel associated signaling type. It will default to TRSP if one of the terminations is nonsignaling associated (NSA) type.

The following insertion words options are allowed:

insertion word	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted to the downstream direction of a failure on either line.
Omitted	Only valid for CEPT, will default to IW X'FF

For channel 016 on a CAS primary trunk conditioning defaults to TRSP,IW X'FF
and will override any trunk conditioning option provided in this message.

The following trunk conditioning usage applies:

- If trunk conditioning is omitted from this message and was omitted from GRTH::TP,
  the message will be denied.
- If trunk conditioning is omitted from this message but was provided in GRTH::TP,
  the trunk conditioning value provided in GRTH::TP,
  is applied.
- If trunk conditioning is provided in this message, it overrides the value, (if provided), in GRTH::TP.

st - Status

st	*Explanation*
ASGN	Termination assigned
BADCCN	CCN OOS or failed
BADFC	FC OOS or failed
BADFLI	FLI OOS or failed
BADFMT	FMT (Formatter) OOS or failed
BADFTMI	FTMI OOS or failed
BADMIU	MIU OOS or failed
BADMXR	MXR OOS or failed
BADTSI	TSI OOS or failed
BADUNIT	UNIT OOS or failed
FAIL	Test port Group NPC failed
IMPR TC	Improper trunk conditioning specification
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
NO TC	<tc> not provided
NOT IDLE	Test port is not idle
OOS	Test port Group NPC out of service
SG COND 02	Trunk conditioning not given for dynamic test port
UEQD	The test port Group NPC is unequipped

TTST,MON,TG

NX64Kbit/s TWO-WAY TEST ACCESS, MONITOR

Explanation Of Command

This command is used to change the mode of a test-access group, that is currently in the split mode, to the monitor mode.

Note: If the test-access group is already in the monitor mode this command will be denied.

Command

[I.21031]

`TTST:FRM xy,SEQ ww:MON,TG mmm!`

Completion Message

Nonhierarchical

[O.21031]

```
M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM [s]abc TO [t]ghi  \
6 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Hierarchical

[O.21031]

```
M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM uvmnp TO wxkqr  \
6 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Denial Message

[O.21031.01]

```
M hh:mm:ss xy,ww n[vv] TTST MON TG mmm COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test-access group

mmm - Test-access group number (001 through 400)

The TG is designated as in message 31421, and must have the same width as the number of channels specified in this message.

MON - Monitor

[s]abc - 3- or 4-digit non-hierarchical FROM NPC number
[t]ghi - 3- or 4-digit non-hierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM Channel numbers

001-031*	Primary NPCs grown as Channel Associated Signaling (CAS)
001-031	Primary NPCs grown as Non Signaling Associated (NSA)

*Circuits involving CAS channel 31 can only be tested individually.

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

tc - Trunk conditioning

For mapped circuits, <tc> will be omitted.
For unmapped circuits, the effective <tc> will be output.

SG - Signaling

g - Signaling mode of the TG

g	*Explanation*
T	All channels are Transparent (TRSP)
C	One or more channels is CAS or non-TRSP

CGA - Carrier group alarm

PBA - Primary block alarm

ftb - CGA or PBA state

f - FROM CGA or PBA state

f	*Explanation*
F	FROM NPC is in CGA or PBA
0	FROM NPC is not in CGA or PBA

t - TO CGA or PBA state

t	*Explanation*
T	TO NPC is in CGA or PBA
0	TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

b	*Explanation*
E	East-bundle NPCTG in CGA or PBA
W	West-bundle NPCTG in CGA or PBA
B	NPCTG(s) supporting both bundles in CGA or PBA
0	NPCTG(s) not in CGA or PBA

RDC - Red circuit

The cross-connection tested is a red circuit.

CUS - Customer

The cross-connection tested is a customer-controlled circuit.

ONEWAY - One-way

The cross-connection tested is a one-way circuit.

BCAST - Broadcast

The cross-connection tested is part of a broadcast circuit.

TLA - Terminate and leave active

s

- Termination state of the circuit

s	*Explanation*
R	All channels are released
F	One or more FROM channel is terminated
T	One or more TO channel is terminated
B	One or more of FROM and TO channels are terminated

UMPD - Unmapped

The circuit under test is unmapped.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
E0	ETSI not equipped, not in service, or failed
47	Invalid channel number
49	test group unequipped
5A	NPC unequipped, out of service or failed
5E	invalid test access mode
AA	Integrated Test Set is currently active on TG

TTST,MON,TO,NAM,TP

TWO-WAY TEST ACCESS, MONITOR

Explanation Of Command

This command can be used to do one of two things:

1. To set up a previously unassigned test port to monitor a particular termination.
2. To change a previously assigned test port to monitor mode.

If the test port is already in the monitor mode, DACS II will deny the execution of the message.

The trunk conditioning **(tc)** specified in this command applies only when accessing an unmapped termination. For an access to a mapped circuit, **tc** is adopted from the circuit being accessed and, therefore, will be ignored if specified.

The DACS II test ports are either static or dynamic. A test port is defined as static when trunk conditioning is specified in a test port provisioning command otherwise it is a dynamic test port. If this test port is static, trunk conditioning must be specified.

If the test port is in the split mode, do not specify the TO NPC number.

For Broadcast (BCON) connections test access shall be denied except for the TS0 to non-TS0 connection.

This command does **not** monitor any connections inside a Digital Signal Processing Platform (DSPP) application, such as the DDS Subrate and MJU application, the X.50 International subrate application, or the DMB application. However, test ports may be established to any of the applications via application commands, and may then be used, again via application commands, to monitor or split circuits within the application. If a test

port has been established to an application, then that test port will always appear as a split connection in an invocation of the UTL::QRY,TPS command, regardless of whether that test port is in monitor, split, or release mode inside the application.

Command

Nonhierarchical

[I.21001]

```
TTST:FRM xy,SEQ ww:MON[,TO [t]ghijjj][,<tc>][,NAM],TP kk!
```

Hierarchical

[I.21001]

```
TTST:FRM xy,SEQ ww:MON[,TO uvmnpjjj][,<tc>][,NAM],TP kk!
```

Completion Message

Nonhierarchical

[O.21001]

```
M hh:mm:ss xy,ww n[vv] TTST MON [s]abcddd,[t]ghijjj TP kk  \
2 LN MSG:
<tc>[ NAM] SG g CGA(ftp)[ RDC][ CUS] [ ONEWAY] TLA s COMPL
```

[O.21002]

```
M hh:mm:ss xy,ww n[vv] TTST MON [t]ghijjj TP kk[ NAM] SG g  \
2 LN MSG:
<tc> CGA(ftp) UMPD COMPL
```

Hierarchical

[O.21001]

```
M hh:mm:ss xy,ww n[vv] TTST MON wxkqrddd,uvmnpjjj TP kk  \
2 LN MSG:
<tc>[ NAM] SG g CGA(ftp)[ RDC][ CUS][ ONEWAY] TLA s COMPL
```

[O.21002]

```
M hh:mm:ss xy,ww n[vv] TTST MON uvmnpjjj TP kk[ NAM] SG g  \
2 LN MSG:
<tc> CGA(ftp) UMPD COMPL
```

Denial Message

Nonhierarchical

[O.21001.01]

```
M hh:mm:ss xy,ww n[vv] TTST TP kk <reason> DNY
```

[O.21001.02]

```
M hh:mm:ss xy,ww n[vv] TTST MON[ [t]ghijjj] TP kk  2 LN MSG:
[<tc> ][NAM ]<reason> DNY
```

[O.21001.03]

```
M hh:mm:ss xy,ww n[vv] TTST MON [t]ghijjj TP kk [s] \
klmnnn,[t]pqrsss ASGN DNY
```

[O.21001.04]

```
M hh:mm:ss xy,ww n[vv] TTST MON [s]abcddd,[t]ghijjj TP kk \
<reason> DNY
```

Hierarchical

[O.21001.01]

```
M hh:mm:ss xy,ww n[vv] TTST TP kk <reason> DNY
```

[O.21001.02]

```
M hh:mm:ss xy,ww n[vv] TTST MON[ uvmnpjjj] TP kk  2 LN MSG:
[<tc> ][NAM ]<reason> DNY
```

[O.21001.03]

```
M hh:mm:ss xy,ww n[vv] TTST MON uvmnpjjj TP kk edhfgnnn, \
opjstsss ASGN DNY
```

[O.21001.04]

```
M hh:mm:ss xy,ww n[vv] TTST MON wxkqrddd,uvmnpjjj TP kk \
<reason> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TP - Test port

kk - Test port number (01 through 96)

A test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port.

Only NPC types that have been provisioned for channel associated signaling (CAS) can be provisioned as an NPCTP.

For the mapping between the test ports and the channels of the test NPCs, see the GRTH::TP Message

The DACS II test ports are either static or dynamic, as defined in the GRTH::TP message.

If the test port is in the split mode, TO [t]ghijjj may not be specified.

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical TO NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

jjj - TO Channel number

Channel numbers

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers
001-085 (MB NPC)

tc - Trunk conditioning

If the tc option was not furnished in the test port provisioning command, it must be furnished in this input command to provide a test connection for unmapped circuits; otherwise, the test access will be denied.

Represents the desired signaling and insertion word to be applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification. For example, TRSP,IW X'pq (input form).

For channel 031 on a CAS primary, tc must take on the value TRSP, and will override any tc option provided in the input command.

Note: For mapped terminations, tc takes on the mapped cross-connect tc value and overrides any tc option provided in the input command.

For unmapped terminations, trunk conditioning will be applied as follows:
If tc is omitted from this command and was omitted in the test port provisioning command, the command will be denied (unless CAS channel 031).

If tc is omitted from this command but was provided in the test port provisioning command, the tc value provided in the provisioning command is applied.

If tc is provided in this command, it overrides the value, (if provided), in the test port provisioning command.

signaling	*Explanation*
TC(ijkl,mnop)	2-way, 4-state signaling in binary. For CEPT and ESF type framing format, software will expand 4-state to 16-state by duplicating the bits.
TC(efghijkl,mnopqrst)	2-way, 16-state in binary.
TC(X'ab,X'cd)	2-way, 16-state in hexadecimal.
TRSP	Transparent, no signaling.
Omitted	Default is TC X'FF,X'FF if both terminations are channel associated signaling types. Default will be TRSP if one of the termination is nonsignaling associated (NSA) type.

insertion word	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
Omitted	Will default to IW X'FF.

For 4-state signaling, the A/B signaling bits of both test port channels are specified by ijkl for the receive time slot interchange (RTSI), and by mnop for the transmit time slot interchange (TTSI).

For 16-state signaling, the A/B/C/D signaling bits of both test port channels are specified by efghijkl (or hexadecimal digits ab) for the RTSI, and by mnopqrst (or hexidecimal digits cd) for the TTSI.

NAM - No A to Mu (conversion)

This keyword is used to disable the A- to μ-law conversions on CEPT type NPCs which can be either the tested circuit or a test port itself.

The NAM keyword will have this meaning only on the following three configurations; in other test access configurations the DACS II will provision the accessed circuits appropriately and therefore the NAM keyword will be ignored.

Unmapped domestic termination accessed via a CEPT test port

Unmapped CEPT termination accessed via a domestic test port

Mapped pure domestic circuit accessed via a CEPT test port

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[s]klm - The 3- or 4-digit nonhierarchical FROM NPC number
[t]pqr - The 3- or 4-digit nonhierarchical TO NPC number

uvmnp - Hierarchical TO NPC number
wxkqr - Hierarchical FROM NPC number.

Supports the termination that is cross-connected to channel ghijjj.

[s]klmnnn
- Nonhierarchical format termination being tested as FROM on test port kk otherwise the same as [s]abcddd. If this field is all zeroes, test port kk is assigned to an unmapped termination.

edhfgnnn
- Hierarchical format of [s]klmnnn

pqrsss
- Nonhierarchical format termination being tested as TO on test port kk; otherwise, the same as abcddd.

opjstsss
- Hierarchical format of [t]pqrsss

ddd - FROM channel number of the termination that is cross-connected to
nnn - FROM channel number of the termination that is cross-connected to channel [t]ghi-jjj.

sss - TO channel number

SG - Signaling

g - Signaling mode of test port kk

g	*Explanation*
C	Channel Associated Signaling (CAS)
R	Robbed Bit Signaling
T	Transparent

CGA - Carrier group alarm

ftp - PBA state

f - FROM PBA state

f	*Explanation*
F	FROM NPC is in PBA
0	FROM NPC is not in PBA

t - TO PBA state

t	*Explanation*
T	TO NPC is in PBA
0	TO NPC is not in PBA

p - Test port digroup PBA state

p	*Explanation*
P	Test port NPC is in PBA
0	Test port NPC is not in PBA

RDC - Red circuit

CUS - Customer

The cross-connection tested is a customer controlled circuit.

ONEWAY
- One-way

The cross-connection tested is a one-way circuit.

TLA - Terminate and leave activate

s
- Termination state of the circuit

s	*Explanation*
R	RELEASED. Neither side is terminated
F	FROM side is terminated
T	TO side is terminated
B	BOTH sides are terminated

ASGN - Assigned

The test port is already assigned to another termination, denoted

UMPD - Unmapped

reason - Reason for denial

cc - Hexadecimal condition code

cc	**st**	*Explanation*
D4	**SCERR**	Corresponding NPC for TO virtual channel is not provisioned
D7	**SCERR**	Invalid TO channel number

st	*Explanation*
BADCCB	CCB OOS or failed
BADCCN	CCN OOS or failed
BADCHAN	Bad channel number was specified
BADDSPI	DSPI OOS or failed
BADFC	FC OOS or failed
BADFLI	FLI OOS or failed
BADFMT	FMT (Formatter) OOS or failed
BADFTMI	FTMI OOS or failed
BADMIU	MIU OOS or failed
BADMXR	MXR OOS or failed
BADNPC	Bad NPC number
BADTSI	TSI OOS or failed
BCAST	The TO side is part of a broadcast circuit
C TOO DEEP	DMB concatenations go too deep (for more than 6 level)
CBIT	The TO side is part of a c-bit cross-connection
CWNOT1	Conference width is not equal to 1 (for virtual conferences)
F ASGN	The FROM side NPC, wx-k-qr, is assigned
F FAIL	FROM side NPC is marked failed
F OOS	FROM side NPC (abc) is out of service

st	*Explanation*
F UEQD	The DACS unit supporting the FROM termination is out-of-service or failed
FAIL	Test port Group NPC failed
IMPR TC	Improper trunk conditioning specification
INERR	Input error
INV CKT TYPE	TO termination has invalid circuit type for test access
NA	DACS CCN or UNIT involved cannot perform the cross-connect
OOS	Test port Group NPC out of service
SG COND 02	Test port is dynamic
T ASGN	The TO side NPC is assigned
T CLR	The TO NPC is a clear-DS1 NPC
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service
T UEQD	TO side NPC is Unequipped
T UTST	TO termination is under test
TG	
TP	The TO termination is part of a test port
T_DCLU	Attempt to test a locally switched channel
UEQD	Test port kk is unequipped
UTST	Under Test

TTST,MON,TO,TG

NX64Kbit/s TWO-WAY TEST ACCESS, MONITOR

Explanation Of Command

This command is used to request a monitor test access of a specified group of Nx64Kbit/s terminations. Monitor test access of a broadcast TS0 to non-TS0 connection will not use this command but will use I.21001 instead. The test access is made through the test-access group specified in the command line.

The N TO channels to be tested may be entered as a range, a list, or a combination of both, in ascending order. For two-point circuits, the numbers do not have to be consecutive, and the circuits may have been cross-connected separately. For a one-way circuit under test, the other direction of the same termination cannot be tested at the same time. For Nx64Kbit/s broadcast circuits, the channels have to be consecutive and must have been set up together for the same broadcast circuit.

The primary output line will not echo the input with range(s) of channels, but will show a list of all channels.

Command

Nonhierarchical

[I.21021]

```
TTST:FRM xy,SEQ ww:MON,TO [t]ghi(jjj[-kkk][,lll,...])[,<tc>],\
TG mmm!
```

Hierarchical

[I.21021]

```
TTST:FRM xy,SEQ ww:MON,TO wxkqr(jjj[-kkk][,lll,...])[,<tc>],\
TG mmm!
```

Completion Message

Nonhierarchical

[O.21021]

```
M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM [s]abc TO [t]ghi  \
6 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Hierarchical

[O.21021]

```
M hh:mm:ss xy,ww n[vv] TTST MON TG mmm FROM uvmnp TO wxkqr  \
6 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Denial Message

Nonhierarchical

[O.21021.01]

```
M hh:mm:ss xy,ww n[vv] TTST MON TG mmm[ [t]ghippp] COND cc DNY
```

Hierarchical

[O.21021.01]

M hh:mm:ss xy,ww n[vv] TTST MON TG mmm[wxkqrppp] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

MON - Monitor

TO - To

[s]abc - 3- or 4-digit non-hierarchical FROM NPC number
[t]ghi - 3- or 4-digit non-hierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For an unmapped TO termination, or a backbone leg (BBL) without return, the FROM NPC number will be shown as zeroes.

ddd - FROM Channel number
jjj,kkk,lll
- TO Channel numbers
ppp - First TO Channel number causing denial

kkk is shown as an example of a range jjj-kkk of TO channels, and lll is an example of an item on a list of TO channels.

001-031* Primary NPCs grown as Channel Associated Signaling (CAS)
001-031 Primary NPCs grown as Non Signaling Associated (NSA)

* Circuits involving CAS channel 31 can only be tested individually.

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If channel jjj is mapped to a channel 000, the circuit can only be tested as N = 1, and the corresponding FROM channel ddd will be '000'.

tc - Trunk conditioning

For mapped circuits, regardless of what is specified here, the circuit's tc will be used but not shown in the output response.

For unmapped circuits, if the static tc was not furnished when the TG was provisioned, it must be dynamically specified in this command or the test access will be denied. A dynamic tc will override any static tc. The effective tc will be used for all channels under test, and will be shown in the output.

For any unmapped circuits tested by NSA TGs, TRSP must be entered for tc or the command will be denied.

For channel 031 on a CAS primary, any tc value specified will be replaced by TRSP.

TG - Test-access Group

mmm - Test-access Group number (001 through 400)

The TG is designated as in GRTH::TG,NPCTG and must have the same width as the number of channels specified in this message.

SG - Signaling

g - Signaling mode of the TG

g	*Explanation*
T	All channels are Transparent (TRSP)
C	At least one channel is CAS or non-TRSP

CGA - Carrier group alarm

PBA - Primary block alarm

ftb - CGA or PBA state

f - FROM CGA or PBA state

f	*Explanation*
F	FROM NPC is in CGA or PBA
0	FROM NPC is not in CGA or PBA

t - TO CGA or PBA state

t	*Explanation*
T	TO NPC is in CGA or PBA
0	TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

b	*Explanation*
B	NPCTG(s) supporting both bundles in CGA or PBA
E	East-bundle NPCTG in CGA or PBA
W	West-bundle NPCTG in CGA or PBA
0	NPCTG(s) not in CGA or PBA

RDC - Red circuit

The cross-connection tested is a red circuit.

CUS - Customer

The cross-connection tested is a customer-controlled circuit.

ONEWAY - One-way

The cross-connection tested is a one-way circuit.

BCAST - Broadcast

The cross-connection tested is part of a broadcast circuit.

TLA - Terminate and leave active

s

- Termination state of the circuit

s	*Explanation*
R	All channels are released
F	At least one FROM channel is terminated
T	At least one TO channel is terminated
B	At least one FROM and TO channel is terminated

UMPD - Unmapped

The circuit under test is unmapped.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
26	NPC type error
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
1D	Required MIU not equipped, not in service, or failed
E0	ETSI not equipped, not in service, or failed
3C	TS0 specified with width not 1
3D	Illegal test access mode for TS0
3E	TS16 specified for test with width not 1
3F	Illegal test access mode for TS16
45	NPC not provisioned as DGA
46	virtual SLC NPC not provisioned
47	Invalid channel number
48	Invalid SLC Mode-III channel number
49	test group unequipped
4A	channel part of a TP or TG
4B	channel already under test
4C	BCON BBL has one or more legs under test
4D	Gateway test access not supported
4F	inconsistent BCON width for test access
50	invalid channel designation for BCON
51	TG width incompatible with circuit
52	FDL selected with width not 1

cc	*Explanation*
57	Designated TG or circuit to be tested in process of being rolled
59	Invalid TC specification
5A	NPC unequipped, out of service or failed
5B	channel is OCON in opposite direction
5C	Inconsistent or invalid circuit type for Nx64Kbit TA
5D	Inconsistent Signaling on CEPT NPCTGs
5E	invalid test access mode
5F	input channel out of range (SLC not supported)
61	not all FROM channels on same NPC
95	TG East/West type inconsistent with each other or circuit
A9	Circuits TCONed itself cannot be UTST

TTST,SPL,TG

NX64Kbit/s TWO-WAY TEST ACCESS, SPLIT

Explanation Of Command

This command is used to split each direction of transmission of an Nx64Kbit/s circuit that is currently under test access in monitor mode.

The optional keyword NOYLW is added to allow DACS II to disable the yellow alarm transmission while the facility is connected to a Test Group which is set to split mode via this command with NOYLW option.

Note: If the test-access group is connected to an unmapped Nx64Kbit/s termination, this command connects both directions of the unmapped termination to the test-access group's west bundle.

Command

[I.23021]

`TTST:FRM xy,SEQ ww:SPL,TG mmm!`

Completion Message

Nonhierarchical

[O.23021]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm FROM [s]abc TO [t]ghi  \
5 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Hierarchical

[O.23021]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm FROM uvmnp TO wxkqr  \
5 LN MSG:
SG g CGA(ftb)[ RDC][ CUS][ ONEWAY] {TLA s|BCAST|UMPD <tc>}
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Denial Message

[O.23021.01]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TG mmm COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test-access group

mmm - Test-access Group number (001 through 400)

The TG is designated as in message 31421

SPL - Split

[s]abc - 3- or 4-digit non-hierarchical FROM NPC number
[t]ghi - 3- or 4-digit non-hierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM Channel numbers

001-031* Primary NPCs grown as Channel Associated Signaling (CAS)
001-031 Primary NPCs grown as Non Signaling Associated (NSA)

***Circuits involving CAS channel 31 can only be tested individually.**

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be to a channel 000, the circuit can only be tested as N=1, the corrisponding FROM channel ddd will be '000'.

tc - Trunk conditioning

For mapped circuits, <tc> will be omitted.
For unmapped circuits, the effective <tc> will be output.

SG - Signaling

g - Signaling mode of the TG

g	*Explanation*
T	**All channels are Transparent (TRSP)**
C	**One or more channels is CAS or non-TRSP**

CGA - Carrier group alarm

PBA - Primary block alarm

ftb - CGA or PBA state

f - FROM CGA or PBA state

f	*Explanation*
F	**FROM NPC is in CGA or PBA**
0	**FROM NPC is not in CGA or PBA**

t - TO CGA or PBA state

t	*Explanation*
T	**TO NPC is in CGA or PBA**
0	**TO NPC is not in CGA or PBA**

b - TG digroup CGA or PBA state

b	*Explanation*
E	**East-bundle NPCTG in CGA or PBA**
W	**West-bundle NPCTG in CGA or PBA**
B	**NPCTG(s) supporting both bundles in CGA or PBA**
0	**NPCTG(s) not in CGA or PBA**

RDC - Red circuit

The cross-connection tested is a red circuit.

CUS - Customer

The cross-connection tested is a customer-controlled circuit.

TLA - Terminate and leave active

s
- Termination state of the circuit

s	*Explanation*
R	**All channels are released**
F	**One or more FROM channel is terminated**
T	**One or more TO channel is terminated**
B	**One or more of FROM and TO channels are terminated**

COND cc
- Condition code

cc - Hexadecimal condition code

cc	*Explanation*
3D	Illegal test access mode for TS0
3E	TS16 specified for test with width not 1
3F	Illegal test access mode for TS16
51	TG width incompatible with circuit
5A	NPC unequipped, out of service or failed
5E	invalid test access mode

TTST,SPL,TP

TWO-WAY TEST ACCESS

Explanation Of Command

This command splits a mapped circuit in the normal circuit state. Also, in the normal circuit state, it connects both directions of an unmapped termination to test port kk (01 through 48). If the test port is connected to an unmapped termination, this command will connect both directions of an unmapped termination to the test port.

This command does **not** split any connections inside a Digital Signal Processing Platform (DSPP) application, such as the DDS Subrate and MJU application, the X.50 International subrate application, or the DMB application. However, test ports may be established to any of the applications via application commands, and may then be used, again via application commands, to monitor or split circuits within the application. If a test port has been established to an application, then that test port will always appear as a split connection in an invocation of the UTL::QRY,TPS command, regardless of whether that test port is in monitor, split, or release mode inside the application.

Command

[I.23001]

TTST:FRM xy,SEQ ww:SPL,TP kk!

Completion Message

Nonhierarchical

[O.23001]

```
M hh:mm:ss xy,ww n[vv] TTST SPL [s]abcddd,[t]ghijjj \
[ RDC] [ CUS] TP kk[ TLA s] COMPL
```

Hierarchical

[O.23001]

```
M hh:mm:ss xy,ww n[vv] TTST SPL wxkqrddd,uvmnpjjj \
[ RDC] [ CUS] TP kk[ TLA s] COMPL
```

Denial Message

Nonhierarchical

[O.23001.02]

```
M hh:mm:ss xy,ww n[vv] TTST SPL [s]abcddd,[t]ghijjj \
TP kk <st> DNY
```

Hierarchical

[O.23001.02]

```
M hh:mm:ss xy,ww n[vv] TTST SPL wxkqrddd,uvmnpjjj \
TP kk <st> DNY
```

Common

[O.23001.01]

```
M hh:mm:ss xy,ww n[vv] TTST SPL TP kk <st> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TP - Test port

kk - Test port number (01 through 96)

The test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port. The NPC types that can be provisioned as NPCTP are all domestic non-SLC NPC types and all CEPT types that have been provisioned for channel associated signaling (CAS). For the mapping between the test ports and the channels of the test NPCs, see Message No. 31411.

The DACS II test ports are either static or dynamic, as defined in Message No. I.31411.

SPL - Split

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical TO NPC number
wxkqr - Hierarchical FROM NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel number
jjj - TO channel number

The valid values are:

Channel numbers

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers
001-085 (MB NPC)

NOTE: If the field [s]abcddd (or wxkqrddd in Hierarchical addressing) is all zeroes, then this test port is assigned to a unmapped termination.

CUS - Customer

Customer-controlled circuit.

RDC - Red circuit

TLA - Terminate and leave activate

s - Termination state of the circuit:

s	*Explanation*
R	RELEASED. Neither side is terminated
F	FROM side is terminated
T	TO side is terminated
B	BOTH sides are terminated

st - Status

st	*Explanation*
F FAIL	FROM side NPC is marked failed
F OOS	FROM side NPC (abc) is out of service
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
NMON	Not Monitor, the testport is not currently in monitor mode
SIG TS NS	Signaling timeslot (CAS TS16) cannot be split
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service

TTST,TGR,TG,OOS

NX64Kbit/s TWO-WAY TEST ACCESS, TEST-ACCESS GROUP RELEASE

Explanation Of Command

This command is used to release one or more currently active test-access groups, and restore any circuits under test to their normal, terminated, or unmapped state. The OOS keyword is required to release a test-access group in two cases:

1. The associated circuit under test is out-of-service.
2. One of both of the NPCs supporting the test-access group is out-of-service.

Where more than one test-access group is specified in the input command the completion message will list the test-access groups in ascending order by the test-access group number and provide information for all test-access groups. If an attempt is made to release a range of test-access groups and no test-access groups in the range have been provisioned the release will be denied. The output for test-access groups testing in other monitor or split modes is printed with a mapping of channels.

When an administrative link fails, all test-access groups associated with that link will be released; automatically. All circuits under test by those TGs will be restored to their normal state; mapped or unmapped. Any termination state entered before or during the test access will remain in effect.

If a failure in an entity involved in an autonomous test-access group release causes the

release to fail the release may be performed manually by this command.

Command

[I.27021]

```
TTST:FRM xy,SEQ ww:TGR,TG mmm[-nnn][,OOS]!
```

Completion Message

Nonhierarchical

[O.27021]

```
M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN[ OOS]  5 LN MSG:
FROM [s]abc TO [t]ghi[ RDC][ CUS][ TLA s][ NTR]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm[-nnn] UEQD {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN {UASGN|LPD} {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN HUB [s]abcddd,\
[t]ghijjj[ OOS] {EOM|COMPL}
```

Hierarchical

[O.27021]

```
M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN[ OOS]  5 LN MSG:
FROM uvmnp TO wxkqr[ RDC][ CUS][ TLA s][ NTR]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd {EOM|COMPL}
```

or

```
M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm[-nnn] UEQD {EOM|COMPL}
```

or

```
M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN {UASGN|LPD} {EOM|COMPL}
```

or

```
M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm NN HUB uvmnpddd,wxkqrjjj\
[ OOS] {EOM|COMPL}
```

Denial Message

[O.27021.01]

```
M hh:mm:ss xy,ww n[vv] TTST TGR TG mmm[-nnn] COND cc DNY
```

Autonomous Message

Nonhierarchical

[O.27021]

```
I hh:mm:ss xy,ww   TTST TGR TG mmm NN[ OOS]  5 LN MSG:
FROM [s]abc TO [t]ghi[ RDC][ CUS][ TLA s][ NTR]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

or

```
I hh:mm:ss xy,ww   TTST TGR TG mmm NN HUB [s]abcddd [t]ghijjj\
[ OOS] COMPL
```

Hierarchical

[O.27021]

```
I hh:mm:ss xy,ww   TTST TGR TG mmm NN[ OOS]  5 LN MSG:
FROM uvmnp TO wxkqr[ RDC][ CUS][ TLA s][ NTR]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

or

```
I hh:mm:ss xy,ww   TTST TGR TG mmm NN HUB uvmnpddd wxkqrjjj\
[ OOS] COMPL
```

Common

[O.27021]

```
I hh:mm:ss xy,ww   TTST TGR TG mmm NN {UASGN|LPD} {EOM|COMPL}
```

[O.27021.01]

```
I hh:mm:ss xy,ww   TTST TGR TG mmm COND cc DNY
```

Explanation Of Parameters

TGR - Test (access) group release

TG - Test (access) group

mmm - TG number (001 through 400)
nnn - TG number (001 through 400, greater than mmm)

Variable mmm is used to specify a single TG number or to specify the beginning of a range of TG numbers. Variable nnn is used to specify the end of a range of TG numbers.

[s]abc - 3- or 4-digit non-hierarchical FROM NPC number or first TO NPC number if TG is in HUB mode

[t]ghi - 3- or 4-digit non-hierarchical TO NPC number or second TO NPC number if TG is in HUB mode

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number or first TO NPC number if TG is in HUB mode
wxkqr - Hierarchical TO NPC number or second TO NPC number if TG is in HUB mode

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For an unmapped TO termination, or a backbone leg (BBL) without a return, the FROM NPC number will be shown as zeroes.

ddd - FROM channel number or starting channel of first TO NPC in HUB mode
jjj - Starting channel of second TO NPC in HUB mode

001-031* Primary NPCs grown as Channel Associated Signaling (CAS)
001-031 Primary NPCs grown as Non Signaling Associated (NSA)

* Circuits involving CAS channel 31 can only be tested for N = 1.

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s).
If channel jjj is mapped to a channel 000 (N = 1 only), the corresponding FROM channel ddd will be '000'.

OOS - Out-of-service

RDC - Red circuit

The circuit is a red circuit

CUS - Customer

The circuit is customer controlled

TLA - Terminate and leave active

s - Termination state of the circuit

s	Explanation
R	All channels are released
F	One or more FROM channel is terminated
T	One or more TO channel is terminated
B	One or more of FROM and TO channels are terminated

NTR - No Transmit

Backbone leg with no return

UASGN - Unassigned

TG is unassigned or idle

LPD - Looped

UEQD - Unequipped

TG is not equipped

HUB - Hub

TG is in Hub mode

COND - Condition

NN - TG width (1 through 31)

cc - Hexadecimal condition code

cc	*Explanation*
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
E0	ETSI not equipped, not in service, or failed
49	test group unequipped
58	NPC is OOS for a TGR command and OOS keyword not specified
5A	NPC unequipped, out of service or failed
AA	Integrated Test Set is currently active on TG

TTST,TLA,NOT,TP

TWO-WAY TEST ACCESS

Explanation Of Command

This message is used to modify the terminate and leave activate status of one or both ends of the cross-connected channel associated with the specified test port. The test port is mapped to a predesignated channel of a network processing circuit for test ports during the provisioning of that test port. All domestic NPC types except SLC® NPCs can be provisioned as NPC test ports (NPCTP). All CEPT NPC types that have been provisioned with channel associated signaling may be provisioned as NPC test ports (NPCTP).

Command

Nonhierarchical

[I.25101]

```
TTST:FRM xy,SEQ ww:TLA m[,NOT [t]rstvvv],TP kk!
```

Hierarchical

[I.25101]

```
TTST:FRM xy,SEQ ww:TLA m[,NOT uvmnpvvv],TP kk!
```

Completion Message

Nonhierarchical

[O.25101]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m [s]abcddd,[t]ghijjj TP kk  \
2 LN MSG:
[NOT [t]rstvvv][ RDC][ CUS] TLA s COMPL
```

Hierarchical

[O.25101]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m edhfgddd,wxkqrjjj TP kk  \
2 LN MSG:
[NOT uvmnpvvv][ RDC][ CUS] TLA s COMPL
```

Denial Message

Nonhierarchical

[O.25101.02]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m [t]ghijjj TP kk T UASGN\
DNY
```

[O.25101.03]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m [s]abcddd,[t]ghijjj\
TP kk <reason> DNY
```

[O.25101.04]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m [s]abcddd,[t]ghijjj\
[ RDC] [ CUS] TP kk TLA s PTLA DNY
```

Hierarchical

[O.25101.02]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m wxkqrjjj TP kk T UASGN DNY
```

[O.25101.03]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m edhfgddd,wxkqrjjj\
TP kk <reason> DNY
```

[O.25101.04]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m edhfgddd,wxkqrjjj\
[ RDC] [ CUS] TP kk TLA s PTLA DNY
```

Common

[O.25101.01]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m TP kk <reason> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TLA - Terminate and leave activate

m - The end of the tested circuit that must be put into the TLA state. Set m to one of the values given below:

m	*Explanation*
F	Apply TLA to the FROM end
T	Apply TLA to the TO end
B	Apply TLA to BOTH ends

The following apply only to a DMB/conference

L	Apply TLA on all legs towards facilities
G	Apply TLA on all legs towards bridge
A	Apply TLA on all legs in both directions

The end or ends of the channel to which termination has been applied will transmit the idle code specified in the insertion word entered in the GRTH::NPC message, or its default, instead of passing data from the other end of the circuit. If the growth insertion word is MUX (X'1A), the terminate transmit word is the UMC code (X'18).

This message will be denied if test port kk is not in the monitor or split mode or if the tested circuit is already in the specified termination state.

[t]rst - The 3- or 4-digit nonhierarchical NPC number of a termination that must not be affected by this command.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical TO NPC number of a termination that must not be affected by this command.

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

vvv - Channel or conference number

Channel numbers
000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers
001-085 (MB NPC)

001-500 (Virtual NPC)

NOT - Not

Not means that the following channel number must not be affected by this command. This field is only valid if the termination state is equal to L, G, or A.

TP - Test port

kk - Test port number (01 through 96)

The test port is mapped to predesignated channels of a Network Processing Circuit for test ports (NPCTP) during the provisioning of that test port.

For information on the mapping between the test ports and the channels of the test NPCs (NPCTP), see GRTH::TP kk[,<tc>].

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number with the same valid values as [t]rst.

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number with the same valid values as [t]rst.

wxkqr - Hierarchical NPC number of the TO termination of the circuit assigned to the test port (with the same valid values as uvmnp).

edhfg - Hierarchical NPC number side of the FROM termination of the circuit assigned to the test port. If the test port is assigned to an unmapped termination, this field will be all zeroes (with the same valid values as uvmnp).

ed,wx - Unit number
h,k - Module number
fg,qr - NPC number

jjj - TO channel number with the same value as vvv.
ddd - FROM channel number with the same value as vvv.

s - Termination state of the circuit

s	*Explanation*
B	BOTH sides are terminated
F	FROM side is terminated
R	RELEASED. Neither side is terminated
T	TO side is terminated

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

T UASGN
- The test port is assigned to an unmapped termination.

PTLA - The requested TLA state is the present TLA state.

reason - Denial reason

st	*Explanation*
BADCCN	CCN OOS or failed
BADFC	FC OOS or failed
BADFLI	FLI OOS or failed
BADFMT	FMT (Formatter) OOS or failed
BADFTMI	FTMI OOS or failed
BADMIU	MIU OOS or failed
BADMXR	MXR OOS or failed
BADNPC	Bad NPC number
BADUNIT	UNIT OOS or failed
CHREST	CAS channel 031 not allowed
F FAIL	FROM side NPC is marked failed
F OOS	FROM side NPC (abc) is out of service
FAIL	Test port Group NPC failed
INERR	Input error in the specification of TLA direction
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
OOS	Test port Group NPC out of service
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service

TTST,TLA,TG

NX64Kbit/s TWO-WAY TEST ACCESS, TERMINATE-AND-LEAVE-ACTIVE

Explanation Of Command

This command is used to terminate one or both ends of an Nx64Kbit/s cross-connection associated with a test-access group.

Note: In the terminated state the data normally transmitted over the circuit is replaced by the trunk conditioning specified when the cross-connection was made. The Nx64Kbit/s circuit must be an unterminated, mapped one-way or two-way circuit that is currently in the Monitor or Split test access mode.

Command

[I.25121]

`TTST:FRM xy,SEQ ww:TLA m,TG mmm!`

Completion Message

Nonhierarchical

[O.25121]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m TG mmm FROM [s]abc TO [t]ghi  \
6 LN MSG:
TLA s[ RDC][ CUS][ ONEWAY]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Hierarchical

[O.25121]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m TG mmm FROM uvmnp TO wxkqr  \
6 LN MSG:
TLA s[ RDC][ CUS][ ONEWAY]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Denial Message

[O.25121.01]

```
M hh:mm:ss xy,ww n[vv] TTST TLA m TG mmm COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test-access Group

mmm - Test-access Group number (001 through 400)

The TG is designated as in message 31421

[s]abc - 3- or 4-digit non-hierarchical FROM NPC number
[t]ghi - 3- or 4-digit non-hierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM Channel numbers

001-031*	Primary NPCs grown as Channel Associated Signaling (CAS)
001-031	Primary NPCs grown as Non Signaling Associated (NSA)

*Circuits involving CAS channel 31 can only be tested individually.

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

RDC - Red circuit

The cross-connection tested is a red circuit.

CUS - Customer

The cross-connection tested is a customer-controlled circuit.

TLA - Terminate and leave active

m

- Direction of the circuit to be terminated

m	*Explanation*
F	FROM side is terminated
T	TO side is terminated
B	BOTH sides are terminated

s

- Termination state of the circuit

s	*Explanation*
F	One or more FROM channel is terminated
T	One or more TO channel is terminated
B	One or more of FROM and TO channels are terminated

UMPD - Unmapped

Circuit under test is unmapped.

COND cc

- Condition code

cc - Hexadecimal condition code

cc	*Explanation*
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
E0	ETSI not equipped, not in service, or failed
44	Invalid direction specified for NTST TLA/TLR
49	test group unequipped
54	invalid mode for TLA/TLR

cc	*Explanation*
55	circuit already terminated
5A	NPC unequipped, out of service or failed
AB	TLA/TLR invalid with ITS test groups

TTST,TLR,NOT,TP

TWO-WAY TEST ACCESS

Explanation Of Command

This message is used to modify the Terminate and Leave Release status of one or both ends of the cross-connected channels associated with the specified test port. This message will be denied if the specified test port is not in the monitor or split mode or if the tested circuit is already in the specified termination release state. When used with the Subrate Feature for a circuit termination, the system response will be STST TLA TP or STST TLA MPTM TP. When used with the Subrate Feature for a circuit termination, the system response will be DISC TACC TS RLS or DISC TACC TS RLS MJU.

Command

Nonhierarchical

[I.25501]

```
TTST:FRM xy,SEQ ww:TLR m[,NOT [t]rstvvv],TP kk!
```

Hierarchical

[I.25501]

```
TTST:FRM xy,SEQ ww:TLR m[,NOT uvmnpvvv],TP kk!
```

Completion Message

Nonhierarchical

[O.25501]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m [s]abcddd,[t]ghijjj TP kk  \
2 LN MSG:
[NOT [t]rstvvv][ RDC][ CUS] TLR s COMPL
```

Hierarchical

[O.25501]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m edhfgddd,wxkqrjjj TP kk  \
2 LN MSG:
[NOT uvmnpvvv] [RDC] [CUS] TLR s COMPL
```

Denial Message

Nonhierarchical

[O.25501.02]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m [t]ghijjj TP kk T UASGN DNY
```

[O.25501.03]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m [s]abcddd,[t]ghijjj TP kk\
<reason> DNY
```

[O.25501.04]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m [s]abcddd,[t]ghijjj TP kk\
TLR s NTLA DNY
```

Hierarchical

[O.25501.02]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m wxkqrjjj TP kk T UASGN DNY
```

[O.25501.03]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m edhfgddd,wxkqrjjj TP kk\
<reason> DNY
```

[O.25501.04]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m edhfgddd,wxkqrjjj TP kk\
TLR s NTLA DNY
```

Common

[O.25501.01]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m TP kk <reason> DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TLR - Terminate and leave release

m - The end of the tested circuit that must be put into the terminate and leave release state.

Set m to one of the values listed below:

m	*Explanation*
F	Apply TLR to the FROM end
T	Apply TLR to the TO end
B	Apply TLR to BOTH ends

The following apply only to multipoint circuits

L	Apply TLR on all legs towards facilities
G	Apply TLR on all legs towards bridge
A	Apply TLR on all legs in both directions

NOT - Not

NOT means that the termination number following the NOT keyword is not to be affected by this command. This field is only valid for m values L, G, or A.

TP - Test port

kk - Test port number (01 through 96)

The test port is mapped to predesignated channels of a network processing circuit for test ports (NPCTP) during the provisioning of that test port. All domestic nonSLC NPC types can be provisioned as NPCTP. For the mapping between the test ports and the channels of the test NPCs, see the GRTH::TP message.

[t]rst - The 3- or 4-digit Nonhierarchical NPC number of a termination that must not be affected by the command.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of a termination that must not be affected by this command

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

vvv - Channel or conference number

Channel numbers

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers

001-085	(MB NPC)
001-500	(Virtual NPC)

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number with the same valid values as [t]rst.

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number with the same valid values as [t]rst.

wxkqr - The hierarchical NPC number of the TO termination of the circuit assigned to the test port with the same valid values as uvmnp.

edhfg - The hierarchical NPC number of the FROM termination of the circuit assigned to the test port. If the test port is assigned to an unmapped termination, this field will be all zeros (with the same valid values as uvmnp).

ed,wx - Unit number
h,k - Module number
fg,qr - NPC number

jjj - TO channel with the same valid values as vvv.
ddd - FROM channel with the same valid values as vvv.

CUS - Customer

The circuit is a Customer-controlled Circuit

RDC - Red circuit

The tested circuit is a protected circuit

s - Termination state of the circuit

s	*Explanation*
F	FROM side is terminated
T	TO side is terminated
B	BOTH sides are terminated
R	Neither side is terminated

T UASGN
- The test port is assigned to an unmapped termination

NTLA - The requested TLA state is the present TLR (RLS) state

reason - Denial reason

st	*Explanation*
SCERR D2	NOT NPC is not provisioned as DGA
SCERR D5	Corresponding NPC for NOT virtual channel is not provisioned
SCERR D8	Invalid NOT channel number
BADCCN	CCN OOS or failed
BADFC	FC OOS or failed
BADFLI	FLI OOS or failed
BADFMT	FMT (Formatter) OOS or failed
BADFTMI	FTMI OOS or failed
BADMIU	MIU OOS or failed
BADMXR	MXR OOS or failed
BADNPC	Bad NPC number
BADUNIT	UNIT OOS or failed
CHREST	CAS channel 031 not allowed
F FAIL	FROM side NPC is marked failed
F OOS	FROM side NPC (abc) is out of service
FAIL	Test port Group NPC failed
INERR	Input error in the specification of TLA direction
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
OOS	Test port Group NPC out of service
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service

TTST,TLR,TG

NX64Kbit/s TWO-WAY TEST ACCESS, TERMINATE-AND-LEAVE-RELEASE

Explanation Of Command

This command is used to release one or both ends of an Nx64Kbit/s cross-connection associated with the specified test-access group. The circuit to be released must be a terminated, mapped one-way or two-way circuit, that is currently in the Monitor or Split test access mode. Upon release normal data transmission is restored in the direction specified in the command.

Command

[I.25521]

`TTST:FRM xy,SEQ ww:TLR m,TG mmm!`

Completion Message

Nonhierarchical

[O.25521]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m TG mmm FROM [s]abc TO [t]ghi  \
6 LN MSG:
TLA s[ RDC][ CUS][ ONEWAY]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Hierarchical

[O.25521]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m TG mmm FROM uvmnp TO wxkqr  \
6 LN MSG:
TLA s[ RDC][ CUS][ ONEWAY]
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd
ddd ddd ddd ddd ddd ddd ddd ddd COMPL
```

Denial Message

[O.25521.01]

```
M hh:mm:ss xy,ww n[vv] TTST TLR m TG mmm COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test-access group

mmm - Test-access Group number (001 through 400)

The TG is designated as in message 31421

[s]abc - 3- or 4-digit non-hierarchical FROM NPC number
[t]ghi - 3- or 4-digit non-hierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM NPC number
wxkqr - Hierarchical TO NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM Channel number

001-031*	Primary NPCs grown as Channel Associated Signaling (CAS)
001-031	Primary NPCs grown as Non Signaling Associated (NSA)

*Circuits involving CAS channel 31 can only be tested individually.

The FROM channel ddd will be '---' for circuits not involved in this test session. For unmapped TO channel(s) or a BBL without return, ddd will be '000' in the corresponding channel position(s). If TO channel is mapped to a channel 000, the circuit can only be tested as N = 1, the corresponding FROM channel ddd will be '000'.

RDC - Red circuit

The cross-connection tested is a red circuit.

CUS - Customer

The cross-connection tested is a customer-controlled circuit.

TLR - Terminate and leave released

m
- Direction of the circuit to be released

m	*Explanation*
F	FROM side is released
T	TO side is released
B	BOTH sides are released

TLA - Terminate and leave active

s
- Termination state of the circuit

s	*Explanation*
R	All channels are released
F	One or more FROM channel is terminated
T	One or more TO channel is terminated

UMPD - Unmapped

Circuit under test is unmapped.

COND cc
- Condition code

cc - Hexadecimal condition code

cc	*Explanation*
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
14	CCB not eqd, not IS, or failed or inactive side CCB not eqd or not IS
15	FTMI not equipped, not in service, or failed
16	FC not eqd, not IS, or failed or inactive side FC not eqd or not IS
17	TSI not eqd, not IS, or failed or inactive side TSI not eqd or not IS
18	DSPI not in service, or failed
1A	Required FLI not equipped, not in service, or failed
1B	Required MXR not equipped, not in service, or failed
1C	FMT not eqd, not IS, or failed, or inact side FMT not eqd, or not IS
1D	Required MIU not equipped, not in service, or failed
E0	ETSI not equipped, not in service, or failed

cc	*Explanation*
44	Invalid direction specified for NTST TLA/TLR
49	test group unequipped
56	circuit not terminated
5A	NPC unequipped, out of service or failed
AB	TLA/TLR invalid with ITS test groups

TTST,TPR,ALL,OOS

TEST PORT RELEASE

Explanation Of Command

This command requests that all test ports set up by the link on which this command is input be restored to the released mode. An individual output message will be received for each test port released (see TTST,TPR,TP,OOS)

This output message will be received after all test ports have been released.

Subrate test sessions are also released by this command.

Command

[I.27002]

`TTST:FRM xy,SEQ ww:TPR,ALL[,OOS]!`

Completion Message

[O.27002]

`M hh:mm:ss xy,ww n[vv] TTST TPR ALL COND cc COMPL`

Denial Message

Not applicable.

Autonomous Message

[O.27002]

`I hh:mm:ss xy,ww  TTST TPR ALL COND cc COMPL`

Explanation Of Parameters

TPR - Test Port Release

ALL - All

OOS - Out-of-service

The OOS keyword is used to release test ports on an out-of-service circuit. Any test port, regardless of the type of circuit accessed, will be released.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
01	No test ports were activated by link n
02	One or more test ports could not be released

TTST,TPR,TP,OOS,FRC

TWO-WAY TEST ACCESS

Explanation Of Command

This command allows a circuit under test to be put in the release mode and to be restored to its mapped (terminated or normal) state. When the Subrate Feature is used for a circuit termination, the system response will be a Subrate test port release message.

The FRC keyword is only used for an emergency disconnect of a test port from a DSP Platform application in the unlikely event that an application cannot disconnect the test port itself using an application command. The FRC keyword may only be used by users who have the RMON (Restricted Maintenance privilege ON) privilege. The UTL::QRY,CMAP command (I.52011) should be used to find the appropriate pair of application channel numbers **before** this command is used to take the test port down.

Command

[I.27001]

`TTST:FRM xy,SEQ ww:TPR,TP kk[,OOS][,FRC]!`

Completion Message

Nonhierarchical

[O.27001]

```
M hh:mm:ss xy,ww n[vv] TTST TPR [s]abcddd,[t]ghijjj \
[ RDC][ CUS] TP kk[ TLA s][ OOS][ FRC] [NTR] COMPL
```

Hierarchical

[O.27001]

```
M hh:mm:ss xy,ww n[vv] TTST TPR wxkqrddd,uvmnpjjj \
[ RDC][ CUS] TP kk[ TLA s][ OOS][ FRC] [NTR] COMPL
```

Denial Message

Nonhierarchical

[O.27001.02]

```
M hh:mm:ss xy,ww n[vv] TTST TPR [s]abcddd,[t]ghijjj \
TP kk <reason> DNY
```

Hierarchical

[O.27001.02]

```
M hh:mm:ss xy,ww n[vv] TTST TPR wxkqrddd,uvmnpjjj \
TP kk <reason> DNY
```

Common

[O.27001.01]

```
M hh:mm:ss xy,ww n[vv] TTST TPR TP kk <reason> DNY
```

Autonomous Message

Nonhierarchical

[O.27001]

```
I hh:mm:ss xy,ww   TTST TPR [s]abcddd,[t]ghijjj \
[ RDC][ CUS] TP kk[ TLA s][ OOS] [NTR] COMPL
```

[O.27001.02]

```
I hh:mm:ss xy,ww   TTST TPR [s]abcddd,[t]ghijjj\
TP kk <reason> DNY
```

Hierarchical

[O.27001]

```
I hh:mm:ss xy,ww   TTST TPR wxkqrddd,uvmnpjjj \
[ RDC][ CUS] TP kk[ TLA s][ OOS] [NTR] COMPL
```

[O.27001.02]

```
I hh:mm:ss xy,ww   TTST TPR wxkqrddd,uvmnpjjj \
TP kk <reason> DNY
```

Common

[O.27001.01]

```
I hh:mm:ss xy,ww   TTST TPR TP kk <reason> DNY
```

Explanation Of Parameters

TP - Test port

kk - Test port number (01 through 96)

OOS - Out-of-service

Used to release test ports on an out-of-service circuit

FRC - Force the disconnect

This keyword is used only in an emergency, when a DSP Platform application (such as DDS Subrate, X.50 Subrate, or DMB) running on a TG193B circuit pack cannot disestablish a test port via an application command. This keyword is also restricted to users with the RMON privilege.

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number
[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical TO NPC number of the circuit assigned to the test port.
wxkqr - Hierarchical FROM NPC number of the circuit assigned to the test port.

If the test port is assigned to an unmapped termination, this field will be all zeroes.

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - FROM channel or conference number
jjj - TO channel or conference number

Channel numbers

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

Conference numbers

001-085	(MB NPC)
001-500	(Virtual NPC)

TPR - Test port release

TLA - Terminate and leave active

s - Termination state of the circuit

s	Explanation
R	RELEASED. Neither side is terminated
F	FROM side is terminated
T	TO side is terminated
B	Both sides are terminated

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

NTR - No transmit

st	*Explanation*
BADNPC	Bad NPC number
F FAIL	FROM side NPC is marked failed
F OOS	FROM side NPC (abc) is out of service
F UEQD	The DACS unit supporting the FROM termination is out-of-service or failed
FAIL	Test port Group NPC failed
MCOND	An entity in the network is OOS or failed
NA	DACS CCN or UNIT involved cannot perform the cross-connect
NUTST	Test port kk is presently idle
OOS	Test port Group NPC out of service
T FAIL	TO side NPC is marked failed
T OOS	TO side NPC is Out Of Service
T UEQD	The DACS unit supporting the TO termination is out-of-service or failed
UEQD	The test port Group NPC or the test port is not equipped

TTST,TSG,ON,OFF,TG,EAST,WEST,SIG

NX64Kbit/s TWO-WAY TEST ACCESS,
INTEGRATED TEST SIGNAL GENERATION

Explanation Of Command

This command is used to turn on or turn off integrated test signal generation on one bundle of a test-access group (TG) currently in split, looped, or hub mode. The integrated test signal generation function is provided by the TG193 circuit pack. No external test sets are required. The test group NPC (NPCTG) must be provisioned as an Integrated Test Set (type ST1yz) to allow integrated test signal generation.

When turning on test signal generation, a test pattern, and which bundle to transmit the pattern on, must be specified. A background pattern (all ones) will be transmitted in the data bits on the unspecified bundle. The optional keyword SIG is added to allow the user to specify the 4 bit signaling word to be transmitted with the test pattern.

When an administrative link fails or is dropped for whatever reason (including a hard reset or a restoral of the main controller), all test-access groups associated with that link will be released automatically. Prior to the release of the test groups, any active integrated test signal generation and monitoring on any test group associated with that link will be turned off automatically.

Note: Only one test-access group bundle per TG193 card can be in test signal generation mode at a time. No other test access group on that test-access group NPC (NPCTG), or on

its mate NPC, can be generating a test signal at the same time.

Command

[I.22021]

```
TTST:FRM xy,SEQ ww:TSG {ON|OFF},TG mmm[,<pattern>,{EAST|WEST}[,SIG abcd]]!
```

Completion Message

[O.22021]

```
M hh:mm:ss xy,ww n[vv] TTST TSG {ON|OFF} TG mmm[ <pattern>  \
{EAST|WEST}[ SIG abcd]] COMPL
```

Denial Message

[O.22021.01]

```
M hh:mm:ss xy,ww n[vv] TTST TSG {ON|OFF} TG mmm COND cc DNY
```

Autonomous Message

[O.22021]

```
I hh:mm:ss xy,ww   TTST TSG OFF TG mmm COMPL
```

Explanation Of Parameters

TG - Test-access group

mmm - Test-access Group number (001 through 400)

The TG is designated as in command I.31421

TSG - Test Signal Generation

ON - Initiate test signal generation

OFF - Stop test signal generation

<pattern> - Test pattern to be transmitted

Test Patterns Supported:

pattern	*Explanation*
PATT X'ef	8 bit user-defined pattern (in hexadecimal notation) Examples of 8 bit user-defined patterns: PATT X'00 all zeroes pattern (permanent space) PATT X'FF all ones pattern (permanent mark) PATT X'55 or PATT X'AA alternating mark/space (1:1 ratio)
511PRBS	511 bit pseudo-random bit sequence
2047PRBS	2047 bit pseudo-random bit sequence

EAST - Generated signal to be transmitted on East bundle of TG

WEST - Generated signal to be transmitted on West bundle of TG

abcd - 4 bit signaling word to be transmitted with pattern

If not specified, the signaling word defaults to 0101.

COND cc
- Condition code

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
15	FTMI not equipped, not in service, or failed
49	test group unequipped
59	Invalid TC specification
AF	Invalid bundle specified, EAST not connected for unmapped TG
70	ITS TG Already Generating
71	ITS TG Not Generating
76	ITS NPC Hardware Error
77	TG in TSM ON mode

TTST,TSM,ON,OFF,TG,EAST,WEST,TINT

NX64Kbit/s TWO-WAY TEST ACCESS,
INTEGRATED TEST SIGNAL MONITORING

Explanation Of Command

This command is used to turn on or turn off integrated test signal monitoring on one bundle of a test-access group (TG) currently in test signal generation mode. The integrated test signal monitoring function counts logical bit errors based on discrepancies between the transmitted and received bit streams. Logical bit errors are counted only while pattern synchronization is obtained. The bit errors are used to calculate error performance statistics based on ITU Recommendation G.821. These statistics are calculated and displayed in response to a separate user query (I.53401).

The integrated test signal monitoring function is provided by the TG193 circuit pack. No external test sets are required. The test group NPC (NPCTG) must be provisioned as an Integrated Test Set (type ST1yz) to allow integrated test signal monitoring. Also, if the test group specified is not in test signal generation mode when this command is entered, it will be denied.

When turning on integrated test signal monitoring, the test group bundle to be used to monitor the received pattern must be specified. The optional keyword TINT is added to allow the user to specify the duration of the test in minutes. After this test interval has expired, an autonomous message will be output indicating that test signal monitoring was turned off.

When an administrative link fails or is dropped for whatever reason (including a hard reset or a restoral of the main controller), all test-access groups associated with that link will be released automatically. Prior to the release of the test groups, any active integrated test signal generation and monitoring on any test group associated with that link will be turned off automatically.

Note: Only one test-access group bundle per TG193 card can be in test signal monitor mode at a time. No other test access group on that test-access group NPC (NPCTG), or on its mate NPC, can be monitoring a test signal at the same time.

Command

[I.22421]

TTST:FRM xy,SEQ ww:TSM {ON|OFF},TG mmm[,{EAST|WEST}[,TINT nnn]]!

Completion Message

[O.22421]

M hh:mm:ss xy,ww n[vv] TTST TSM {ON|OFF} TG mmm[{EAST|WEST}[TINT nnn]] COMPL

Denial Message

[O.22421.01]

M hh:mm:ss xy,ww n[vv] TTST TSM {ON|OFF} TG mmm COND cc DNY

Autonomous Message

[O.22421]

I hh:mm:ss xy,ww TTST TSM OFF TG mmm COMPL

Explanation Of Parameters

TG - Test-access group

mmm - Test-access Group number (001 through 400)

The TG is designated as in command I.31421

TSM - Test Signal Monitor

ON - Initiate test signal monitoring

OFF - Stop test signal monitoring

EAST - Monitor the signal received on East bundle of TG

WEST - Monitor the signal received on West bundle of TG

TINT - Test interval

nnn - Duration of test in minutes (acceptable range 1-120)

If not specified, the test interval is open-ended.

COND cc
- Condition code

cc - Hexadecimal condition code

cc	*Explanation*
71	ITS TG Not Generating
72	TG not in TSG ON mode
73	ITS TG Already Monitoring
74	ITS TG Not Monitoring
76	ITS NPC Hardware Error

UTL

20

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UTL

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UTL

This section documents the **UTL** command.

UTL,ACO

ALARM CUTOFF

Explanation Of Command

This message executes an audible alarm cutoff (ACO), silencing any currently active central office audible frame alarms. DACS II also illuminates the green ACO LED on the front status panel. The ACO remains active and the green LED remains illuminated until all frame alarms are retired or a new alarm appears on the system.

Note that executing an ACO **`does not`** inhibit subsequent audible alarms from being generated for additional failures. In addition, the ACO does not retire local or remote **`visible`** indications and does not cause the system to issue an alarm clear notification.

Executing an ACO by inputing this command is equivalent to pressing the status panel ACO push-button. When the ACO push-button is pressed, a message indicating that the ACO has been activated is generated by the system.

Command

[I.51111]

`UTL:FRM xy,SEQ ww:ACO!`

Completion Message

[O.51111]

`pahh:mm:ss xy,ww n[vv] UTL ACO {ACTIVE|INACT} COMPL`

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

ACO - Alarm cutoff

ACTIVE - Active alarm

The appearance of this keyword indicates that the audible alarm cutoff has been activated in the system.

INACT - Inactive alarm

The appearance of this keyword indicates that there were no alarms on the system and the audible alarm cutoff was not activated.

UTL,BMTR,FROM,TO,EXCT,INCL,UPGRD

BACKUP MEMORY TRANSFER

Explanation Of Command

This command performs the following functions:

1. When the MC is in-service, it may be used to request a transfer of database information from random access memory (RAM) to the memory device (MEM) or devices that are in-service. The Primary Memory (PMEM) device will always be in-service. The Secondary Memory (SMEM) device may or may not be in-service. If SMEM is in-service, then a transfer of database information will be performed from RAM to SMEM.
2. When the MC is in maintenance condition (MCOND), it may be used to request a transfer of executables or database information between PMEM and SMEM or between SMEM and PMEM. If the optional EXCT keyword is **not** used, only database information will be transferred. If the EXCT keyword **is** used only executables will be transferred.
3. During a release upgrade procedure, when in MCOND, it transfers the database and DSP Platform Applications, if any, from SMEM to PMEM. The UPGRD keyword must be used in that case. Note that the UPGRD keyword is only available to user DAX with the frame in MCOND.

Restricted maintenance privilege is required for transfers of executables or database information from SMEM to PMEM.

Every ten minutes the state of the frame is checked to look for changes in provisioning and/or cross connections. If a change has occurred within that period, an autonomous request is made to transfer data base information from RAM to MEM.

If the user issues a command transferring database information or executables from PMEM to SMEM, the command is executed immediately; however, if the transfer occurs from SMEM to PMEM the following message will appear (see below when the UPGRD keyword is used):

ARE YOU SURE? (YES/NO)

Only if the answer is YES, will the command be executed. If the answer is not YES or the user does not respond within 60 seconds, the following will be displayed:

COMMAND ABORTED

When transferring executables between PMEM and SMEM in either direction, Digital Signal Processing Platform (DSPP) application executables (if present) are treated as follows:

1. If executables for a particular application are on the source card, but not on the destination card, the transfer of those application executables takes place.
2. If executables for a particular application are on the destination card, but not on the source card, the application executables are not erased, even if executables for another application are copied from source to destination card.
3. If executables of the same application (the "x" in SDxyz is the same) that have the same version identifiers are on both the source and the destination card, then both executables remain untouched and no transfer takes place for that application.
4. If different versions of the executables of the same application are on the source and the destination card respectively, then this command is denied. The user must invoke the INSTALL command to first list and then remove one or the other version of the application before invoking this command again.

The **UPGRD** keyword must only be used during an upgrade procedure for the purpose of copying the database and previously installed DSP Platform Applications from SMEM to PMEM. The following restrictions apply for the use of the UPGRD keyword.

1. Only a copy from SMEM to PMEM is allowed.
2. The EXCT keyword is not allowed.
3. The INCL keyword is not allowed.
4. The Main Controller must be in Maintenance Condition (MCOND).
5. The user must be user DAX.
6. The release identifier for the executables on the PMEM card must refer to a newer release than the release identifier of the database on the SMEM card; i.e., this must be a genuine upgrade situation.

At the beginning of the invocation of this utility with the UPGRD keyword the following message will appear:

WARNING - YOU HAVE INVOKED THE "UPGRD" KEYWORD.
THE "UPGRD" KEYWORD SHOULD ONLY BE USED DURING A GENERIC UPGRADE.
DO YOU WISH TO CONTINUE? (YES/NO)

The user should respond with a **YES** if and only if an upgrade for the DACS II generic is to be done.

During the execution of this copy utility during an upgrade procedure (i.e., with the UPGRD keyword), the database is copied from SMEM to PMEM and a retrofit of the size of the database takes place if needed. In addition, all the applications residing on SMEM, if any, are copied to PMEM.

New PMEM cards with new DACS II executable software should **not** have any application software on them. Therefore, if for some reason, a different version of the same application resides on the PMEM card that resides on the SMEM card, then this command will be denied.

Command

[I.55701]

```
UTL:FRM xy,SEQ ww:BMTR,FROM <from>,TO <to>[,{EXCT|INCL|UPGRD}]!
```

Completion Message

[O.55701]

```
M hh:mm:ss xy,ww n[vv] UTL BMTR FROM <from> TO <to>\
[ {EXCT|INCL|UPGRD}]  COMPL
```

[O.55702]

```
M hh:mm:ss xy ww n[vv] UTL BMTR IN PROGRESS
```

Denial Message

[O.55701.01]

```
M hh:mm:ss xy,ww n[vv] UTL BMTR FROM <from> TO <to>[ {EXCT|INCL|UPGRD}] \
COND cc  DNY
```

Autonomous Message

[O.55701]

```
A hh:mm:ss xy,ww UTL BMTR FROM <from> TO <to>[ EXCT]  COMPL
```

[O.55701.01]

```
A hh:mm:ss xy,ww UTL BMTR FROM <from> TO <to>[ EXCT] \
COND cc  DNY
```

Explanation Of Parameters

BMTR - Backup memory transfer

FROM - From

from - Source for backup memory transfer

TO - To

to - Destination for backup memory transfer

RAM	Random access memory
PMEM	Primary memory device
SMEM	Secondary memory device
MEM	PMEM, SMEM or both

Note: The only permissible combinations are listed below:

from	**to**
RAM	MEM
PMEM	SMEM
SMEM	PMEM

EXCT - Executable

Transfer generic executable software only. May not be used when transferring memory contents from RAM to MEM. Frame must be in maintenance condition state (MCOND) when transferring executable software from PMEM to SMEM or SMEM to PMEM. Additionally, SMEM to PMEM requires restricted maintenance (RMON) privileges.

INCL - Inclusive

The INCL keyword is used to request that the data base on PMEM be transferred to SMEM excluding the generic journal files. This keyword cannot be combined with the EXCT keyword. INCL may not be used when transferring RAM to MEM.

The INCL keyword is used only as a preparatory step before starting a generic upgrade. It makes sure that the database residing on the SMEM card has no journal files before the upgrade is started. This is different from an invocation of this utility to copy from RAM to MEM, which converts the journals to the database leaving the journal files empty, but which does not remove the journal files.

UPGRD - Upgrade

The UPGRD keyword must be used only during a DACS II Release upgrade for the purpose of copying the database and any previously installed DSP Platform Applications from SMEM to PMEM. It is an assumption that the PMEM card has the new executables and nothing else, while the SMEM card contains the old executables, all installed DSPP Applications, and a complete database with no remaining journal entries. Only user DAX may use this keyword; also, the MC must be in MCOND.

cc - Hexadecimal condition code

cc	*Explanation*
8C	DB MP or units ram error
8D	DB PMEM error OP-CL-RD-WR-SK
8E	DB can't send or receive mail
8F	Can't lock or unlock ram database
90	DB can't get the slave mail box
95	Invalid option,mailbox or flag
96	Unit(s) OOS, and additional backup required
97	Entity can't be addressed in this configuration
98	Checksums verification failed
99	G1 SMEM for SMEM->PMEM w/journals
20	Software Identification Block is not readable
21	Software Identification Block failed comparison
A5	FPI on SMEM does not match one on PMEM
84	Problem occurred while accessing SMEM or unformatted SMEM
85	Problem occurred while accessing PMEM
86	Source does not contain requested information
87	Old_tape is a special install tape
88	SMEM is a normal SMEM
89	Problem occurred while accessing BOTH_MEM
90	Can't mount or unmount BOTH_MEM
91	Can't mount or unmount SMEM
92	Can't mount or unmount PMEM
93	SMEM is not present
94	SMEM unit is not restored

cc	*Explanation*
E6	DB SMEM error OP-CL-RD-WR-SK
E7	PMEM not restored
B4	Can't copy executables
B8	Application version mismatch
F0	SSC Diagnostic Failure
F7	Can't mount or unmount old_tape
F8	Old_tape is not present
F9	Old_tape unit is not restored
FA	Bad old_tape DB generic
FB	Old_tape with journal
FC	Invalid executable on card
FD	Problem occurred while accessing old_tape
FE	Fail transfer DB from old_tape to SMEM
FF	DB retrofit fail

UTL,BOOT,FRAME,CLR

UTILITY BOOT

Explanation Of Command

This command requests the transfer of the data base from the primary memory (PMEM) to the random access memory (RAM).

Note: No hardware circuit packs or memory cards should be removed from or inserted into the frame while a boot or reset is in progress.

The optional CLR keyword is unnecessary but it is allowed for compatibility with older software releases.

Command

[I.58001]

UTL:FRM xy,SEQ ww:BOOT,FRAME[,CLR]!

Completion Message

[O.58001]

M hh:mm:ss xy,ww n[vv] UTL BOOT FRAME[CLR] COND cc COMPL

[O.58002]

M hh:mm:ss xy,ww n[vv] UTL BOOT FRAME IN PROGRESS

Denial Message

[O.58001.01]

M hh:mm:ss xy,ww n[vv] UTL BOOT FRAME[CLR] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

CLR - Clear

The optional CLR keyword is unnecessary but it is allowed for compatibility with older software releases.

PMEM - Primary memory card.

cc - Hexadecimal condition code

cc	*Explanation*
46	Failed to boot CONF file
47	Failed to boot DB
48	Failed to boot journal--recurrence indicates database corruption
49	Failed to boot unit
4C	Failed to boot CI
51	General boot failure (vanilla flavor)
18	DSPI not equipped, not in service, or failed
52	Database is empty
92	Can't mount or unmount PMEM

UTL,CLR,ALL

UTILITY CLEAR

Explanation Of Command

This message requests a clear of the counters or state on a specified facility performance parameter for all in-service network processing circuits (NPCs) which have the specified parameter.

DACS II will silently skip NPCs which can not be cleared.

Command

[I.56011]

```
UTL:FRM xy,SEQ ww:CLR,<parameter>,ALL!
```

Completion Message

[O.56011]

```
M hh:mm:ss xy,ww n UTL CLR <parameter> ALL COMPL
```

Denial Message

[O.56011.01]

```
M hh:mm:ss xy,ww n UTL CLR <parameter> ALL COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

CLR - Clear

parameter
- Facility performance monitoring parameter

The addition to this message requests a clear of the counters or state of the facility performance PM 24 hour, PM previous 15 minute and PM current 15 minute or the total since "local midnight" for the parameters listed below for all in-service PB and or PC type NPCs.

parameter	*Explanation*	
CRC	CRC-4 check block error events	
FRER	Framing error events	
LOFA	Loss of frame alignment events	
MER	Multiframe error alignment events (time slot 16)	
PM	Performance monitoring. Clears the following registers:	
	DM	Degraded Minutes
	ERS	Errored Seconds
	SERS	Severely Errored Seconds
	SLIP	Slip Events
	US	Unavailable Seconds

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
14	FTMI is out of service
15	NPC is unequipped
1F	FTMI is in service but failed
24	Unit type error
26	NPC type error
46	NPC Failed or Out of Service
7E	Bank id number not found
A0	No SAFE alarm for DGP

cc *Explanation*

A1 The parameter specified does not match with the NPC type

UTL,CLR,ERR,HWER,SWER

UTILITY CLEAR HARDWARE/SOFTWARE ERROR RECOVERY LOG FILE

Explanation Of Command

This message clears the DACS II error rate (ERR) recovery log. The log is a file that contains the history of the recovery events.

Command

[I.56061]

UTL:FRM xy,SEQ ww:CLR,ERR,{HWER|SWER}!

Completion Message

[O.56061]

M hh:mm:ss xy,ww n[vv] UTL CLR ERR {HWER|SWER} COMPL

Denial Message

[O.56061.01]

M hh:mm:ss xy,ww n[vv] UTL CLR ERR {HWER|SWER} COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

CLR - Clear

ERR - Error rate recovery

HWER - Hardware error recovery log file

SWER - Software error recovery log file

cc - Hexadecimal condition code

cc	*Explanation*
F1	File has already been cleared

UTL,CLR,NPC

UTILITY CLEAR

Explanation Of Command

This message requests a given facility performance parameter be cleared of the count or state for a single network processing circuit (NPC) or a range of circuits in a facility terminating unit (FTU) or a Hybrid DS3 unit (HDS3U).

Command

Nonhierarchical

[I.56001]

```
UTL:FRM xy,SEQ ww:CLR,<parameter>,NPC [s]abc[-[t]def]!
```

Hierarchical

[I.56001]

```
UTL:FRM xy,SEQ ww:CLR,<parameter>,NPC uvmnp[-wxkqr]!
```

Completion Message

Nonhierarchical

[O.56001]

```
M hh:mm:ss xy,ww n UTL CLR <parameter>
NPC [s]abc[-[t]def][ NONE] COMPL
```

Hierarchical

[O.56001]

```
M hh:mm:ss xy,ww n UTL CLR <parameter> NPC uvmnp[-wxkqr][ NONE] COMPL
```

Denial Message

Nonhierarchical

[O.56001.01]

```
M hh:mm:ss xy,ww n UTL CLR <parameter> NPC [s]abc[-[t]def] \
{UEQD|BADNPC} DNY
```

[O.56001.02]

```
M hh:mm:ss xy,ww n UTL CLR <parameter>[ NPC [s]abc] COND cc DNY
```

Hierarchical

[O.56001.01]

```
M hh:mm:ss xy,ww n UTL CLR <parameter> NPC uvmnp[-wxkqr] {UEQD|\
BADNPC} DNY
```

[O.56001.02]

```
M hh:mm:ss xy,ww n UTL CLR <parameter>[ NPC uvmnp] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

CLR - Clear

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, the first NPC number of a range

[t]def - The 3- or 4-digit nonhierarchical NPC number, the last NPC number of a range

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, the first NPC number of a range
wxkqr - Hierarchical NPC number, the last NPC number of a range

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

parameter
- One chosen from the list below:

Parameter	Explanation
BER	Bit Error Rate
BPV	Bipolar Violation
COFA	Change Of Frame Alignment
CRC	Cyclic redundancy (CR) code CR check block error events (CRC-4)
ER	Error Rate (same as BER for D4 framing)
ERS	Errored Seconds
FRER	Framing Error
LOFA	Loss of Frame Alignment Events
MER	Multiframe Alignment Error Events (Time slot 16)
OOF	Out Of Frame
SERS	Severely Errored Seconds
SLIP	Slip count

PM Clears the following registers (CEPT):

DM - Degraded Minutes
SERS - Severely Errored Seconds
ERS - Errored Seconds
US - Unavailable Seconds
SLIP - Slip count

Note: Only the BER and SLIP parameters are allowed for Clear-DS1 NPCs. SERS, ERS, and SLIP are only individually clearable for domestic NPCs. For CEPT NPCs they will be cleared by the PM parameter.

UEQD - Unequipped

BADNPC - Bad NPC

The selected parameter is not valid for this NPC.

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
1F	FTMI is in service but failed
24	Unit type error
26	NPC type error
0B	Invalid CEPT NPC
46	NPC Failed or Out of Service
A1	The parameter specified does not match with the NPC type

UTL,CLR,NPC,ALL,AI,MONDAT,MONTIM

UTILITY CLEAR DA/TA/PA/TH NPC PARAMETERS

Explanation Of Command

This message clears the facility performance monitoring parameter counts of DA, TA, TH, and PA type NPCs.

This command will handle NPC addressing in the input command as follows: If only a single NPC is addressed in the input command, then either a completion or denial response will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCs.

If a range of NPCs is addressed or the ALL NPC keyword is used and the feature applies to one or more NPCs within the range, DACS II will perform the operation on the NPCs in the range that support the requested feature, but skip the NPCs which do not support the requested feature. DACS II provides a variety of line termination types which support different features and can be randomly mixed within the frame. If at least one of the NPCs in the addressed range supports the requested feature, DACS II will generate a completion response for the entire range of NPCs; individual denial responses will not be generated for NPCs within the range which do not support the feature. If *none* of the NPCs in the addressed range support the requested feature, DACS II will generate a range denial response.

If an NPC range is specified in the input command, the following floating window rules apply:

1. Unequipped NPCs within the requested range will be skipped.
2. If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.
3. If an endpoint of the requested range is in a CEPT gap, then the command will be denied."

Command

Nonhierarchical

[I.56071]

```
UTL:FRM xy,SEQ ww:CLR,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa \
[,MONDAT dddd][,MONTIM tttt]!
```

Hierarchical

[I.56071]

```
UTL:FRM xy,SEQ ww:CLR,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa \
[,MONDAT dddd][,MONTIM tttt]!
```

Completion Message

Nonhierarchical

[O.56071]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC [s]abc[-[t]def]|ALL} <parameter> \
AI aaaaa [MONDAT dddd ][MONTIM tttt ]COMPL
```

Hierarchical

[O.56071]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC uvmnp[-wxkqr]|ALL} <parameter> \
AI aaaaa [MONDAT dddd ][MONTIM tttt ]COMPL
```

Denial Message

Nonhierarchical

If the output message requires less than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC [s]abc[-[t]def]|ALL} <parameter> \
AI aaaaa [MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

If the output message requires more than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC [s]abc[-[t]def]|ALL} <parameter>  2 LN MSG:
AI aaaaa [MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

Hierarchical

If the output message requires less than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC uvmnp[-wxkqr]|ALL} <parameter> \
AI aaaaa [MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

If the output message requires more than 80 characters:

[O.56071.01]

```
M hh:mm:ss xy,ww n[vv] UTL CLR {NPC uvmnp[-wxkqr]|ALL} <parameter>  2 LN MSG:
AI aaaaa [MONDAT dddd ][MONTIM tttt ]COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number
wxkqr - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ALL - All

This keyword is a valid option for NPCs rather than specifying a single or range of NPCs. It is used to clear a single parameter on all PA/TH type NPCs. If the ALL NPC option is selected, the input command must specify only a single facility parameter. An input command with the ALL NPC key word and any facility parameter groupings, i.e., ALLPM, ALLE or ALLF, will be denied.

[s]abc - The 3- or 4-digit nonhierarchical NPC number
[t]def - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number
wxkqr - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

parameter

- Parameter name

The type of monitored parameter accumulation registers which are to be reset. If only a single NPC is specified in the input command, all types of its parameter accumulators may be reset (possibly restricted by the choices of other input parameters) by selecting the value ALLPM in the <parameter> field. If more than one NPC is specified in the input command, then ALLPM, ALLE, and ALLF are not valid values for parameter.

The values ALLE or ALLF may be selected to clear all Near-end or all Far-end parameters, respectively, as a group. The far-end parameters are: FEBE, FES, FSES, and FUAS. All other parameters are near-end parameters. **Note that parameters FEBE, FES, FSES and FUAS are not applicable for the TH type NPCs.**

parameter	*Explanation*
ALLE	All Near-end parameters listed below
ALLF	All Far-end parameters listed below
ALLPM	All parameters listed below
CRC	CRC Block Errors
CSS	Controlled Slip Seconds
CV	Coding Violations
ES	Errored Seconds
FEBE	Far End Block Errors
FES	Far End Errored Seconds
FRER	Framing Errors
FSES	Far End Severely Errored Seconds
FUAS	Far End Unavailable Seconds
MER	Multiframe Errors
OFS	Out of Frame Seconds
SES	Severely Errored Seconds
UAS	Unavailable Seconds
UATC	Unavailable Time Count

AI - Accumulation interval

aaaaa - The accumulation time period for the specified parameter

If the ALLAI option is specified, the command will be applied to all 15-minute and daily accumulators. That is, all accumulators will be reset.

aaaaa	*Explanation*
15MIN	Parameter count from a 15-minute accumulator
ALLAI	Parameter counts from both 15-minute and daily accumulators
DAILY	Parameter count from a daily accumulator

MONDAT - Monitored Date

dddd - This option specifies the performance monitoring period to be reset. It is used to allow users to specify the counts of which 24-hour period (current or previous) are to be cleared. Therefore, this option is applicable only if the AI option is entered with "DAILY". If the "AI DAILY" option is entered without this "MONDAT field, both the current and previous 24-hour counts will be cleared. The "MONDAT" option cannot be specified with the AI option being 15MIN or ALLAI.

dddd	*Explanation*
CURD	Current day
HIST	Previous 24-hour period

MONTIM - Monitored Time

tttt - This option specifies the performance monitoring period to be reset and can be entered. It is used to allow users to specify the counts of which 15-minute period (current or previous) are to be cleared. Therefore, this option is applicable only if the AI option is entered with "15MIN". If the "AI 15MIN" option is entered without this "MONTIM" field, both the current and previous 15-minute counts will be cleared. The "MONTIM" option cannot be specified with the AI option being DAILY or ALLAI.

tttt	*Explanation*
CURT	Current 15-minute period
HIST	Previous 15-minute period

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
11	UC is out of service
12	UC is in service but failed
14	FTMI is out of service
15	NPC is unequipped
1F	FTMI is in service but failed
26	NPC type error
0C	The MONDAT and MONTIM parameters can not both be specified
B7	The associated MXR is In-Service but pested
A1	The parameter specified does not match with the NPC type
17	Command did not execute for any entity specified in the command
1B	Historical data can not be specified
1E	Monitored Date field is not allowed
20	Only DAILY for accumulation interval is allowed
21	Only 15MIN for accumulation interval is allowed
22	FTMI is PESTED
23	No PM data available
24	Monitored Time field is not allowed
25	Accumulation Interval field is missing
27	Only historical data can be specified
31	Accumulation Interval field is not allowed
89	Interval is not valid/not available

UTL,CLR,NPC,PARAMS

CLEAR FACILITY PERFORMANCE PARAMETERS

Explanation Of Command

This message requests the facility performance parameters be cleared of the values or state for one network processing circuit (NPC).

This message clears all facility performance parameters except the loss of frame alignment (LOFA) parameter on one CEPT PB or PC type NPC.

Command

Nonhierarchical

[I.56051]

`UTL:FRM xy,SEQ ww:CLR,NPC [s]abc,PARAMS!`

Hierarchical

[I.56051]

`UTL:FRM xy,SEQ ww:CLR,NPC uvmnp,PARAMS!`

Completion Message

Nonhierarchical

[O.56051]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC [s]abc PARAMS COMPL

Hierarchical

[O.56051]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC uvmnp PARAMS COMPL

Denial Message

Nonhierarchical

[O.56051.01]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC [s]abc PARAMS COND cc DNY

Hierarchical

[O.56051.01]

M hh:mm:ss xy,ww n[vv] UTL CLR NPC uvmnp PARAMS COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number
For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

CLR - Clear

PARAMS - Parameters

For CEPT NPCs, the parameters which will be cleared with this command are:

Parameter	*Explanation*
CRC	Cyclic Redundancy Code
FRER	Framing Error
MER	Multiframe Alignment Error Events (time slot 16)
DM	Degraded minutes
ERS	Errored Seconds
SERS	Severe Errored Seconds
US	Unavailable seconds
SLIP	Slip count

Note: BER condition is not clearable for CEPT type NPCs, even though it is clearable for domestic type NPCs.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
1F	FTMI is in service but failed
46	NPC Failed or Out of Service

UTL,CLR,PWR

CLEAR POWER SUPPLY OR BACKUP FAILURE

Explanation Of Command

This message clears alarms caused by a power supply failure.

Command

[I.56052]

UTL:FRM xy,SEQ ww:CLR,PWR pp!

Completion Message

[O.56052]

M hh:mm:ss xy,,ww n[vv] UTL CLR PWR pp COMPL

Denial Message

[O.56052.01]

M hh:mm:ss xy,,ww n[vv] UTL CLR PWR pp COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

CLR - Clear

PWR - Power

pp - Power supply identifier

pp	*Explanation*
00	All power supplies
01	Unit Controller (UC) 1
02	UC 2
03	UC 3
04	UC 4
05	UC 5
06	UC 6
07	Synchronizer (SYNC) 0
08	SYNC 1
09	Cross-connect network (CCN)/Expanded cross-connect network (ECCN) 0
10	CCN/ECCN 1
11	UC 7
12	UC 8
13	UC 9
14	UC 10
15	UC 11
16	UC 12
17	UC 13
18	UC 14
19	UC 15
20	UC 16

cc - Hexadecimal condition code

cc	*Explanation*
96	Subject PWR to be cleared is not failed

UTL,DATE,FORMAT,INT

SET DATE

Explanation Of Command

This command sets the date (month-day-year or day-month-year) and the interval at which it will be printed for the DACS II clock.

Command

[I.51021]

```
UTL:FRM xy,SEQ ww:DATE <new-date>[,FORMAT ggg][,INT ii]!
```

Completion Message

[O.51021]

```
M hh:mm:ss xy,ww n[vv] UTL DATE aa/bb/cc FORMAT ggg INT ii COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

DATE - Date

new-date
- Date specified in one of the following formats:

new-date	*Date format*
moda[ce]yr	Month, followed by day, followed by year
damo[ce]yr	Day, followed by month, followed by year

mo - month
da - day
ce - century
yr - year

The 2-digit century (ce) field is optional. If the user enters a 2-digit number for the year field, DACS II assumes a default value of 19 for the century for the range of years between 86 and 99 and a default value of 20 for the century for the range between 00 and 85. Any 4-digit century-year entry from 1986 onward is also acceptable.

INT - Interval

ii - Interval at which DACS II will print the date

ii	*Meaning*
01	Every hour on the hour
02	Every even hour on the hour
04	Every fourth hour on the hour: 04, 08, 12, 16, 20, 24
06	Every sixth hour on the hour: 06, 12, 18, 24
08	Every eighth hour on the hour: 08, 16, 24
12	Twice daily on the hour: 12, 24
24	Once daily at midnight (default)

FORMAT - Format

ggg - Date format

The format to be used for interpreting the date from the input message and printing it on PDS output messages.

ggg	Date format
MDY	Month/Day/Year (USA format)
DMY	Day/Month/Year (International format)

DATE - Date

aa - Month or day

bb - Day or Month

cc - Year (2 or 4 digits)

The DATE will be displayed in either the USA format or the International format, depending on the value of ggg.

cc - Hexadecimal condition code

cc	*Explanation*
6C	NPC number does not point to an application card

UTL,INIT,ALM

UTILITIES, ALARM REPORTING

Explanation Of Command

This message sets the DACS II audio/visual alarm reporting method to either remote only (**a** = **2**) or to local and remote (**a** = **3**).

Command

[I.51101]

UTL:FRM xy,SEQ ww:INIT,ALM a!

Completion Message

[O.51101]

M hh:mm:ss xy,ww n[vv] UTL INIT ALM a COMPL

Denial Message

[O.51101.01]

M hh:mm:ss xy,ww n[vv] UTL INIT ALM a COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

INIT - Initialize

ALM - Alarm

a - Alarm reporting method

a	Explanation
2	Remote
3	Local and Remote

cc - Hexadecimal condition code

cc	*Explanation*
03	Subject entity is in service
11	UC is out of service
12	UC is in service but failed
14	FTMI is out of service
15	NPC is unequipped
1F	FTMI is in service but failed
46	NPC Failed or Out of Service

UTL,INIT,IP,GATEWAY,IPMASK

UTILITIES, SET IP ADDRESS

Explanation Of Command

This message sets the Internet Address or the subnetwork mask (IP mask) for a DACS II system. This message can only be entered by the frame administrator. These address modifications take effect only after a frame reset. The addresses are written to an EPROM and are only in effect after a firmware boot.

Command

[I.56411]

```
UTL:FRM xy,SEQ ww:INIT,{IP|GATEWAY|IPMASK} x.x.x.x!
```

Completion Message

[O.56411]

```
M hh:mm:ss xy,ww n[vv] UTL INIT {IP|GATEWAY|IPMASK} x.x.x.x COMPL
```

Denial Message

[O.564156411.01]

```
M hh:mm:ss xy,ww n[vv] UTL INIT {IP|GATEWAY|IPMASK} x.x.x.x COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

INIT - Initialize

IP - Internet Address

GATEWAY
- Gateway Address

IPMASK - Subnetwork Mask

x - The valid value is from 0 through 255.

UTL,LOC

UTILITY LOCATION

Explanation Of Command

This message requests a printout of the physical location of a plug-in entity using the equipment location (EQL) method. A similar method must be used if nonplug-in entities must be located, such as a network processing circuit, main controller, cross-connect network, etc.

Command

[I.56401]

```
UTL:FRM xy,SEQ ww:LOC,<entity>!
```

Completion Message

[O.56401]

```
M hh:mm:ss xy,ww n[vv] UTL LOC <entity> \
b[-[q]q]-vv hhh[,c[-[q]q]-uu iii] COMPL
```

Denial Message

[O.56401.01]

```
M hh:mm:ss xy,ww n[vv] UTL LOC <entity> COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LOC - Location

Physical location

entity - Plug-in equipment entity

Main Controller Entities:

entity	*Explanation*	
MC	Main controller	
CPU	Central processing unit	
BX	Bus extender	(SBF/Non-CEF)
MTC	Maintenance circuit pack	(SBF/Non-CEF)
EBX	Expanded bus extender	(CEF/ECEF/ESBF)
EMTC	Expanded maintenance circuit pack	(CEF/ECEF/ESBF)
CI	Communications interface	
PMEM	Primary Memory Card, within CPU board	
DISK	Secondary Memory Card, plugs into the CPU board	
STATUS PANEL	(Note 1)	

Note 1: The location of this entity is not on the designation strip. The approximate location is returned in the output message.

The entity CPU cannot be used with UNIT to query the Unit Controller; instead only the entity UC can be used.

Synchronizer entities:

entity	Explanation
SYNC 0	Synchronizer
SYNC 1	
SYNC 0,TB	Synchronizer Time Base
SYNC 1,TB	
SYNC 0,TLI 1	Synchronizer Timing Link Interface
SYNC 0,TLI 2	
SYNC 0,TLI 3	
SYNC 0,TLI 4	
SYNC 1,TLI 1	
SYNC 1,TLI 2	
SYNC 1,TLI 3	
SYNC 1,TLI 4	
SYNC,TLI 3,CRO	Synchronizer Clock Reference Oscillator (Note 2)

Note 2: The location of the CRO is not on the designation strip. It is a Time Base application for TLI slots 3 and 4 on sides 0 and 1.

Cross-Connect entities:

entity	Explanation	
CCN 0 CCN 1	Cross-connect network	(SBF/ESBF/Non-CEF)
CCNI 0 CCNI 1	Cross-connect network interface	(SBF/ESBF/Non-CEF)
CCB 01 CCB 02 CCB 03 CCB 04 CCB 05 CCB 06 CCB 11 CCB 12 CCB 13 CCB 14 CCB 15 CCB 16	Cross-connect buffer	(SBF/ESBF/Non-CEF)
ECCN 0 ECCN 1	Expanded cross-connect network	(CEF/ECEF)
CCI 0 CCI 1	Clock and control interface	(CEF/ECEF)
BT 01 BT 02 BT 11 BT 12	Bus terminator	(CEF/ECEF)

Time-Slot Interchange entities: (SBF/ESBF/Non-CEF)

entity	**entity**	**entity**	**entity**
TSI 011	TSI 111	TSI 041	TSI 141
TSI 012	TSI 112	TSI 042	TSI 142
TSI 013	TSI 113	TSI 043	TSI 143
TSI 014	TSI 114	TSI 044	TSI 144
TSI 015	TSI 115	TSI 045	TSI 145
TSI 016	TSI 116	TSI 046	TSI 146
TSI 021	TSI 121	TSI 051	TSI 151
TSI 022	TSI 122	TSI 052	TSI 152
TSI 023	TSI 123	TSI 053	TSI 153
TSI 024	TSI 124	TSI 054	TSI 154
TSI 025	TSI 125	TSI 055	TSI 155
TSI 026	TSI 126	TSI 056	TSI 156
TSI 031	TSI 131	TSI 061	TSI 161
TSI 032	TSI 132	TSI 062	TSI 162
TSI 033	TSI 133	TSI 063	TSI 163
TSI 034	TSI 134	TSI 064	TSI 164
TSI 035	TSI 135	TSI 065	TSI 165
TSI 036	TSI 136	TSI 066	TSI 166

entity	Explanation
ETSI 001	Expanded Time Slot Interchanger (CEF/ECEF)
ETSI 002	
ETSI 003	
ETSI 004	
ETSI 005	
ETSI 006	
ETSI 007	
ETSI 008	
ETSI 009	
ETSI 010	
ETSI 011	
ETSI 012	
ETSI 013	
ETSI 014	
ETSI 015	
ETSI 016	
ETSI 101	Expanded Time Slot Interchanger (CEF/ECEF)
ETSI 102	
ETSI 103	
ETSI 104	
ETSI 105	
ETSI 106	
ETSI 107	
ETSI 108	
ETSI 109	
ETSI 110	
ETSI 111	
ETSI 112	
ETSI 113	
ETSI 114	
ETSI 115	
ETSI 116	

FTU/IFTU/IFTU2 entities:

entity	Explanation
UNIT [q]q,UBX	Unit bus extender
UNIT [q]q,FTMI b	Facility terminating module interface (b = 1 through 4)
UNIT [q]q,FC 0b	Format converter
UNIT [q]q,FC 1b	

DSPU entities:

entity	Explanation
UNIT [q]q,DSPI	Digital signal processing interface

If the unit is equipped as a DS3 Unit or a Hybrid DS3 Unit:

UNIT Common Equipment entities:

entity	Explanation
UNIT [q]q	Unit [q]q's Protection MXR (1 through 16)
UNIT [q]q,UC	Unit Controller
UNIT [q]q,MXR d	Multiplexer/Hybrid Multiplexer (d = P,1 through 6)
UNIT [q]q,MIU d	Multiple Interface Unit
UNIT [q]q,FLI k	Facility Line Interface (k = S or P)
UNIT [q]q,FMT s	Formatter/Hybrid Formatter (s = 0 or 1)

Network Processing Circuit entities of an FTU:

entity	**Explanation**
NPC [s]abc[-[t]def]	Nonhierarchical NPC number
NPC uvmnp[-wxkqr]	Hierarchical NPC number
NPC [s]abc[-[t]def]	Nonhierarchical NPC number
NPC uvmnp[-wxkqr]	Hierarchical NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

If an NPC is in an FTU, the command will return the location of the Dual Digroup Card that processes the NPC.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

If an NPC is in a DS3/HDS3 Unit, the command will return the location of the Service MXR/HMXR that processes the NPC.

Network Processing Circuit entities of a DSPU:

entity

NPC [s]abc[-[t]def],SIDE-s
NPC uvmnp[-wxkqr],SIDE-s

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

As shown above, the command will return the location of the DSPC pack including the side information, the value of "s" can be either 0 or 1.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

b,c - Bay number (1 through 7)

The bay in which the entity is located.

[q]q - Unit number (1 through 16)
vv,uu - Entity height, in inches.

For an FTU, the value is the number of inches from the bottom of the unit shelf to the center of the entity. The possible vv and uu values are:

02, 06, 10, 14, and 18 inches

For a DSPU the value of variables vv and uu can only be 06.

For a DS3U/HDS3U the value of variables vv and uu can only be 06.

hhh,iii
- Entity horizontal location in inches

Entity horizontal distance from the left front side of the bay, approximately 1-1/4 inches to the right of the bay upright, in 1/8 inch increments, to the center of the circuit pack slot of the entity (000 through 158).

The values for any entity will be the same as those shown on the designation strips for that entity, located above the entity. Note, however, that for duplicated entities the side (0 or 1)

value precedes the name on the designation strip. **cc** - Hexadecimal condition code

cc	*Explanation*
97	Entity can't be addressed in this configuration

UTL,QRY,ALL

UTILITY QUERY ALL

Explanation Of Command

This message requests a printout on a specified facility performance parameter for all Network Processing Circuits (NPCs).

Note that DS3U message segment applies to both DS3 unit and Hybrid DS3 unit (HDS3U). The MXR applies to both MXR and Hybrid MXR.

Command

[I.56031]

```
UTL:FRM xy,SEQ ww:QRY,<parameter>,ALL!
```

Completion Message

Nonhierarchical

[O.56031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL \
NPCS [s]abc-[t]def[ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx COMPL

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL COMPL
```

Note: The above message applies to parameters other than BER.

[O.56031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL \
NPCS [s]abc-[t]def[ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
            .
            .
            .
```

Note: The above message applies to a DS3 or a HDS3 module (that is, a MXR or a HMXR) and parameter other than ER and BER.

[O.56032]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BER ALL NPCS [s]abc-[t]def\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
```

Hierarchical

[O.56031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL NPCS uvmnp-uvmqr\
[ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL COMPL
```

Note: The above message applies to parameters other than BER.

[O.56031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> ALL NPCS uvmnp-uvmqr\
[ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM
            .
            .
            .
```

Note: The above message applies to a DS3 or a HDS3 module (that is, a MXR or a HMXR) and parameter other than ER and BER.

[O.56032]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BER ALL NPCS uvmnp-uvmqr[ RESET] \
TOT nnnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM
            .
            .
            .
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

ALL - All

parameter
- Facility performance parameter

The parameter values listed below are applicable only to PB or PC type NPCs. If there are PA or THNPCs in the FTM, dashes ("-") will be output in the position of these NPCs:

parameter	*Explanation*
DM	Degraded minutes
SERS	Severely errored seconds
ERS	Errored seconds
US	Unavailable seconds
SLIP	Slip events
CRC	Cyclic redundancy check-4 check block error events
FRER	Framing error events
LOFA	Loss of frame alignment events
MER	Multiframe alignment error events (Time slot 16)

Note: If the parameter reports threshold alarms (DM, SERS, ERS, US, or SLIP), the count represents the total for the last 24 hours (a rolling 24-hour count). The other parameter counts represent the total since local midnight.

The parameter value below is applicable to all CEPT NPC types, that is, PA, PB, PC and TH:

parameter	*Explanation*
BER	Bit Error Rate (Also MBER/RBER for NPCs with MBER feature)

Note: For BER and RBER, the message reports NPCs that are currently in the BER state.

A message segment will be omitted for:

- Unequipped FTMs
- Equipped FTM with no equipped NPC

- Equipped FTM with all NPCs having zero value of <parameter>
- Equipped CEPT FTM with all NPCs being PA type but with a parameter other than BER.

xxxxx - Parameter count values

Dashes ("-") will be output for NPCs that are not equipped or are provisioned with a type unapplicable to the parameter. If an entire FTM is unequipped or all its NPCs are dashes, the segment is skipped.

xx - BER states

xx represents a combination of the excessive error rate (EER), bit error rate (BER), and remote bit error rate (RBER). It is interpreted as either a prompt maintenance alarm-major (PMA), deferred maintenance alarm -minor(DMA), prompt maintenance alarm-critical (PMC),or clear.

xx	*EER/BER state*	*RBER state*
CR	PMC	
MJ	EER/PMA	Not applicable
MN	DMA	Inactive
RN	DMA	Active
CL	Clear*	Inactive
RL	Clear*	Active
--	NPC unequipped or out of service	

* Clear refers to a Facility type NPC whose received error rate is less than the Minor BER threshold.

without CRC (10^{-5})
with CRC (10^{-6})

Note: EER has priority over the BER/RBER states. EER does not coexist with them; however, BER and RBER coexist with each other.

Unless the CHG::NPC,TS0 command is used to redefine the active value of bit 4 of CTS 0, the RBER values are:

RBER	*Explanation*
1	Inactive
0	Active

NPC(S) - Network processing circuit(s)

[s]abc - The first 3- or 4-digit nonhierarchical NPC number in a module

[t]def - The last 3- or 4-digit nonhierarchical NPC number in a module

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of the first NPC in a module
uvmqr - Hierarchical NPC number of the last NPC in a module

uv, - Unit number
m, - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

The parameter value for the first NPC is listed in the first position (upper left corner) of the first line of each message segment. The value for the last NPC occurs in the last position (lower right corner).

TOT - Total

nnnn - Cumulative count of NPCs returning nonzero states or values

The last nnnn, the one printed out in the last message module, gives the total number of NPCs with nonzero states or values in the frame.

RESET - Reset

Indicates that one or more autonomous resets have occurred.

UTL,QRY,ALL,COMMON

QUERY ALL COMMON EQUIPMENT

Explanation Of Command

This message is used to request reports on the out-of-service, fail, or pest status of the common frame equipment. Common frame equipment includes the administrative links, cross-connects, clock and control interfaces or cross-connect network interfaces (CEF or nonCEF, respectively), synchronizers, clock reference oscillator, timing link interfaces, time slot interchangers and expanded time slot interchangers.

Command

[I.53104]

`UTL:FRM xy,SEQ ww:QRY,ALL,COMMON!`

Completion Message

[O.53104]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON  4 LN MSG:
OOS  g h i j k l f  m n  o p
FAIL g h i j k l f  m n  o p
PEST g h i j k l f  m n  o p  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON  4 LN MSG:
SYNC ofp ófp CRO ofp
TLI ofp ofp ofp ofp  ofp ofp ofp ofp  ófp ófp ófp ófp  ófp ófp ófp ófp
     a   b   c   d    e   f   g   h    i   j   k   l    m   n   o   p  EOM
```

The next segment(s) describes the CCN hardware but the format depends upon whether the frame is a CEF or nonCEF.

For DACS II nonCEF frames there are two segments:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp  5 LN MSG:
11 ofp ófp 12 ofp ófp 13 ofp ófp 14 ofp ófp 15 ofp ófp 16 ofp ófp
21 ofp ófp 22 ofp ófp 23 ofp ófp 24 ofp ófp 25 ofp ófp 26 ofp ófp
31 ofp ófp 32 ofp ófp 33 ofp ófp 34 ofp ófp 35 ofp ófp 36 ofp ófp
41 ofp ófp 42 ofp ófp 43 ofp ófp 44 ofp ófp 45 ofp ófp 46 ofp ófp EOP

M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp  3 LN MSG:
51 ofp ófp 52 ofp ófp 53 ofp ófp 54 ofp ófp 55 ofp ófp 56 ofp ófp
61 ofp ófp 62 ofp ófp 63 ofp ófp 64 ofp ófp 65 ofp ófp 66 ofp ófp EOM
```

For DACS II CEF frames there is only one segment:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL ETSIS tt oo ff pp  5 LN MSG:
01 ofp ófp 02 ofp ófp 03 ofp ófp 04 ofp ófp
05 ofp ófp 06 ofp ófp 07 ofp ófp 08 ofp ófp
09 ofp ófp 10 ofp ófp 11 ofp ófp 12 ofp ófp
13 ofp ófp 14 ofp ófp 15 ofp ófp 16 ofp ófp EOM


M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

ALL - All

COMMON - Common

OOS - Out of service

FAIL - Fail

PEST - Pest

For the OOS, FAIL and PEST keywords, variables g through p each represent a frame entity. The values of these variables give the OOS, FAIL, or PEST status of the associated entity. Values are interpreted using the table below. The entity associated with a given variable is given following the explanation of PEST below.

Value	**OOS**	**FAIL**	**PEST**
1	out-of-service	failed	pested
0	in service	not failed	unpested
-	not applicable	not applicable	not applicable

to the particular entity. For example, an unequipped circuit would display a "-" in the position of its OOS, FAIL and PEST indicators g through p.

The keyword PEST is used to indicate that error reporting is disabled. Out-of-service (OOS) entities and entities related to a side that is out of service are pested to prevent error messages from being reported to the main controller. Error reporting is undesirable if an entity is OOS since it would interrupt normal operations by repeatedly interrupting the microprocessor.

g - Link 1
h - Link 2
i - Link 3
j - Link 4
k - Link 5
l - Link 6
f - Link 7
m - XC0 (cross-connect 0)
n - XC1 (cross-connect 1)

CEF frame

o - CCI 0 (clock and control interface 0)
p - CCI 1 (clock and control interface 1)

nonCEF frame

o - CCNI (cross-connect network interface 0)
p - CCNI (cross-connect network interface 1)

SYNC - Synchronizer

ofp - Side 0 synchronizer status

- **o** - Out of service
- **f** - Fail
- **p** - Pest

ofp - Side 1 synchronizer status

- **o** - Out of service
- **f** - Fail
- **p** - Pest

CRO - Clock reference oscillator

ofp - CRO status

- **o** - Out of service
- **f** - Fail
- **p** - Pest

To aid in interpreting the variables associated with the timing link interface the following lines from the message are printed here for reference.

```
   |<----------- Side 0 ------------>|<------------ Side 1 ----------->|

TLI ofp ofp ofp ofp  ofp ofp ofp ofp   ófp ófp ófp ófp  ófp ófp ófp ófp
     a   b   c   d    e   f   g   h     i   j   k   l    m   n   o   p  EOM

     1   1   2   2    3   3   4   4     1   1   2   2    3   3   4   4  TLI No.
     0   1   0   1    0   1   0   1     0   1   0   1    0   1   0   1  SSP No.
```

TLI - Timing link interface

ofp - Side 0 TLI status

- **o** - Out of service
- **f** - Fail
- **p** - Pest

ofp - Side 1 TLI status

- **o** - Out of service
- **f** - Fail
- **p** - Pest

TLI - Timing link interface

There are four TLIs in each synchronizer side and each TLI has two synchronizer synchronization ports (SSP) for a total of eight SSPs per side. Variables a through p represent these SSPs and are associated with each TLI as shown below. The values of a through p give the priority of each SSP as a synchronization source. Priorities range in value from 1 through 8 and are interpreted as shown below.

- **1** - Highest priority
- **8** - Lowest priority

a - TLI 1 SSP 0 priority
b - TLI 1 SSP 1 priority

c - TLI 2 SSP 0 priority
d - TLI 2 SSP 1 priority

e - TLI 3 SSP 0 priority
f - TLI 4 SSP 1 priority

g - TLI 4 SSP 0 priority
h - TLI 4 SSP 1 priority

i - TLI 1 SSP 0 priority
j - TLI 1 SSP 1 priority

k - TLI 2 SSP 0 priority
l - TLI 2 SSP 1 priority

m - TLI 3 SSP 0 priority
n - TLI 3 SSP 1 priority

o - TLI 4 SSP 0 priority
p - TLI 4 SSP 1 priority

TSI - Time slot interchanger
ETSI - Expanded time slot interchanger

f - FROM unit (1 through 6)
t - TO Unit (1 through 6)

ofp - Side 0 TLI status

- **o** - Out of service
- **f** - Fail
- **p** - Pest

ofp - Side 1 TLI status

- **o** - Out of service
- **f** - Fail
- **p** - Pest

TSIS - Time slot interchanger
ETSIS - Expanded time slot interchangers

tt - Total number of equipped TSIs or ETSIs
oo - Total number of out-of-service TSIs or ETSIs.
ff - Total number of failed TSIs or ETSIs.
pp - Total number of pested TSIs or ETSIs.

UTL,QRY,ALL,UNIT

QUERY ALL

Explanation Of Command

This command is used to request reports on the out-of-service, failed, or pested status of the entire DACS II frame, including the common frame equipment, or the equipment in a specific unit.

The text of the output message varies depending on the input message format and immediately follows the input format.

The UNIT option is specified to query that unit only. The UNIT field must be omitted if the command is used for the entire frame. If the UNIT option is specified, only the information related to the equipment in that unit will be generated.

Note: The odd and even DSPU NPCs do not have independent service states.

Note: The DS3U message segment applies to both the DS3 unit and the Hybrid DS3 unit (HDS3U). Also, the MXR portion of the message applies to both MXR and Hybrid MXR.

Command

[I.53101]

```
UTL:FRM xy,SEQ ww:QRY,ALL[,UNIT [q]q]!
```

Completion Message

Nonhierarchical

For UTL::QRY ALL:

The output message starts with:

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON  4 LN MSG:
OOS  g h i j k l  m n  o p
FAIL g h i j k l  m n  o p
PEST g h i j k l  m n  o p  EOM


M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON  4 LN MSG:
SYNC ofp rst CRO ofp
TLI ofp ofp ofp ofp  ofp ofp ofp ofp  rst rst rst rst  rst rst rst rst
     a   b   c   d    e   f   g   h    i   j   k   l    m   n   o   p  EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp  5 LN MSG:
11 ofp rst 12 ofp rst 13 ofp rst 14 ofp rst 15 ofp rst 16 ofp rst
21 ofp rst 22 ofp rst 23 ofp rst 24 ofp rst 25 ofp rst 26 ofp rst
31 ofp rst 32 ofp rst 33 ofp rst 34 ofp rst 35 ofp rst 36 ofp rst
41 ofp rst 42 ofp rst 43 ofp rst 44 ofp rst 45 ofp rst 46 ofp rst EOM


M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp  3 LN MSG:
51 ofp rst 52 ofp rst 53 ofp rst 54 ofp rst 55 ofp rst 56 ofp rst
61 ofp rst 62 ofp rst 63 ofp rst 64 ofp rst 65 ofp rst 66 ofp rst EOM
```

For DACS II CEF frames, the next segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL ETSIS tt oo ff pp  5 LN MSG:
01 ofp rst 02 ofp rst 03 ofp rst 04 ofp rst
05 ofp rst 06 ofp rst 07 ofp rst 08 ofp rst
09 ofp rst 10 ofp rst 11 ofp rst 12 ofp rst
13 ofp rst 14 ofp rst 15 ofp rst 16 ofp rst EOM
```

The output then continues with segments about the common equipment in the units. One module will be generated per unit, in ascending order by number. The unit equipped for a given unit number determines the output message printed.

The output segment for an FTU, IFTU, or IFTU2:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU  3 LN MSG:
UNIT [q]q UC ofp FTMI ofp ofp ofp ofp [CCB ofp rst]
FC ofp rst  ofp rst  ofp rst  ofp rst EOM
```

The output segment for a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC ofp DSPI opf [CCB opf rst] EOM
```

Then, the output continues with information about individual NPCs. One output message will be printed for each equipped FTM (Facility Terminating Module) or unit in the case of a DSPU.

The output segment for a CEPT FTM is as follows. If any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and dashes will be shown in its place:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU NPCS [s]aaa-[t]bbb tt  5 LN MSG:
ofp ofp ofp ofp   ofp ofp ofp ofp OOS oo FAIL ff PEST pp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp EOM
```

The output segment for a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DSPU NPCS [s]aaa-[t]bbb tt  3 LN MSG:
[z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst
[z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst EOM
```

The output segment for an equipped FTM or DSPU with no failed, pested or out-of-service NPCs:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL {FTU|DSPU} NPCS [s]aaa-[t]bbb tt  2 LN MSG:
OOS 00 FAIL 00 PEST 00 EOM
```

The following segment is output to complete the message:

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMPL
```

For UTL::QRY ALL UNIT:

For an FTU, IFTU, or IFTU2:

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU UNIT [q]q  3 LN MSG:
UC ofp FTMI ofp ofp ofp ofp [CCB ofp rst]
FC ofp rst  ofp rst  ofp rst  ofp rst EOM
```

The above message is followed by up to 4 of the following segments depending on the CEPT FTM equipage. Please note, if any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and dashes will be shown in its place:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q FTU NPCS [s]aaa-[t]bbb tt  5 LN MSG:
ofp ofp ofp ofp   ofp ofp ofp ofp OOS oo FAIL ff PEST pp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp EOM
```

For a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC ofp DSPI ofp [CCB ofp rst] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q DSPU NPCS [s]aaa-[t]bbb tt  3 LN MSG:
[z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst
[z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst EOM
```

The output segment for an equipped FTM or DSPU with no failed, pested or out-of-service NPCs:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q {FTU|DSPU} NPCS [s]aaa-[t]bbb
tt  2 LN MSG:
OOS 00 FAIL 00 PEST 00 EOM
```

The following segment is output to complete the message:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q COMPL
```

Hierarchical

For UTL::QRY ALL:

The output message starts with:

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON  4 LN MSG:
OOS  g h i j k l  m n  o p
FAIL g h i j k l  m n  o p
PEST g h i j k l  m n  o p  EOM


M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMMON  4 LN MSG:
SYNC ofp rst CRO ofp
TLI ofp ofp ofp ofp  ofp ofp ofp ofp  rst rst rst rst  rst rst rst rst
     a   b   c   d    e   f   g   h    i   j   k   l    m   n   o   p  EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp  5 LN MSG:
11 ofp rst 12 ofp rst 13 ofp rst 14 ofp rst 15 ofp rst 16 ofp rst
21 ofp rst 22 ofp rst 23 ofp rst 24 ofp rst 25 ofp rst 26 ofp rst
31 ofp rst 32 ofp rst 33 ofp rst 34 ofp rst 35 ofp rst 36 ofp rst
41 ofp rst 42 ofp rst 43 ofp rst 44 ofp rst 45 ofp rst 46 ofp rst EOM


M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp  3 LN MSG:
51 ofp rst 52 ofp rst 53 ofp rst 54 ofp rst 55 ofp rst 56 ofp rst
61 ofp rst 62 ofp rst 63 ofp rst 64 ofp rst 65 ofp rst 66 ofp rst EOM

For DACS II CEF frames, the next segment describes the ECCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL ETSIS tt oo ff pp  5 LN MSG:
01 ofp rst 02 ofp rst 03 ofp rst 04 ofp rst
05 ofp rst 06 ofp rst 07 ofp rst 08 ofp rst
09 ofp rst 10 ofp rst 11 ofp rst 12 ofp rst
13 ofp rst 14 ofp rst 15 ofp rst 16 ofp rst EOM
```

The output then continues with segments about the common equipment in the units. One module will be generated per unit, in ascending order by number. The unit equipped for a given unit number determines the output message printed.

The output segment for an FTU, IFTU, or IFTU2:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU  3 LN MSG:
UNIT [q]q UC ofp FTMI ofp ofp ofp ofp [CCB ofp rst]
FC ofp rst  ofp rst  ofp rst  ofp rst EOM
```

The output segment for a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC ofp DSPI ofp [CCB ofp rst] EOM
```

The output then continues with segments about the NPCs equipped in an FTM or a DSPU:

The output segment for NPCs in a CEPT FTM is as follows. Please note, if any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and dashes will be shown in its place:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU NPCS uvmnp-uxkqr tt  5 LN MSG:
ofp ofp ofp ofp   ofp ofp ofp ofp OOS oo FAIL ff PEST pp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp EOM
```

The output message for NPCs in a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DSPU NPCS uvmnp-uxkqr tt  3 LN MSG:
uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst
uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst EOM
```

The output segment for an equipped CEPT FTM or DSPU with no failing, pested or out-of-service NPCs using hierarchical addressing:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL {FTU|DS3U|DSPU} NPCS uvmnp-uxkqr tt  2 LN MSG:
OOS 00 FAIL 00 PEST 00 EOM
```

If an FTM or DSPU is not equipped, or if it is equipped but has no NPCs, then the message segment for that FTM or DSPU will not appear.

The following segment is output to complete the message:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL COMPL
```

For UTL::QRY ALL UNIT:

For an FTU, IFTU, or IFTU2:

[O.53101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL FTU UNIT [q]q  3 LN MSG:
UC ofp FTMI ofp ofp ofp ofp [CCB ofp rst]
FC ofp rst  ofp rst  ofp rst  ofp rst EOM
```

This output segment will be followed by up to 4 additional segments for each CEPT FTM depending on the FTM equipage as follows. Please note, if any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and dashes will be shown in its place:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q FTU NPCS uvmnp-uxkqr tt  5 LN MSG:
ofp ofp ofp ofp   ofp ofp ofp ofp OOS oo FAIL ff PEST pp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp
ofp ofp ofp ofp   ofp ofp ofp ofp EOM
```

For a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC ofp DSPI ofp [CCB ofp rst] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q DSPU NPCS uvmnp-uxkqr tt  3 LN MSG:
uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst
uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst EOM
```

If the CEPT FTM or DSPU has no failing, pested or out-of-service NPCs the following segment will be output:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q {FTU|DSPU} NPCS uvmnp-uxkqr tt  2 LN MSG:
OOS 00 FAIL 00 PEST 00 EOM
```

If the FTM/DSPU is not equipped, or if it is equipped but has no NPCs, then the message segment for that FTM/DSPU will not appear.

The following segment is output to complete the message:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q COMPL
```

Denial Message

[O.53101.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

To aid referencing the parameters listed for a given message in a number of cases, the line containing the parameters is listed for those cases just before the explanation of that particular set of parameters is given.

ALL - All

UNIT - Unit

[q]q - Unit number (1 through 16)

The UNIT option is specified to query that unit. The UNIT field will be null when the command is used for the entire frame. If the UNIT option is specified, only the information related to the equipment in that unit will be generated.

OOS - Out of service

FAIL - Failed

PEST - Pested

For the OOS, FAIL and PEST keywords, variables g through p each represent a frame entity. The values of these variables give the OOS, FAIL, or PEST status of the associated entity. Values are interpreted using the table below. The entity associated with a given variable is given following the explanation of PEST below.

Value	**OOS**	**FAIL**	**PEST**
1	out-of-service	failed	pested
0	in service	not failed	unpested
-	not applicable	not applicable	not applicable

As shown above, a hyphen "-" indicates the parameter is not applicable to the particular entity. For example, an unequipped entity would display a "-" in the position of its OOS, FAIL and PEST indicators g through p.

The keyword PEST is used to indicate that error reporting is disabled. Out-of-service (OOS) entities and entities related to a side that is out of service are pested to prevent error messages from being reported to the main controller. Error reporting is undesirable if an entity is OOS since it would interrupt normal operations by repeatedly interrupting the microprocessor.

```
OOS  g h i j k l  m n  o p          (message line for reference)
FAIL g h i j k l  m n  o p                 "
PEST g h i j k l  m n  o p  EOM            "
```

The DACS II entities and their status fields are as follows:

g - Link 1
h - Link 2
i - Link 3
j - Link 4
k - Link 5
l - Link 6
m - XC0 (Cross-Connect 0)
n - XC1 (Cross-Connect 1)
o - CCNI 0 (Cross-Connect Network Interface 0) NonCEF
p - CCNI 1 (Cross-Connect Network Interface 1) NonCEF
o - CCI 0 (Clock and Control Interface 0) CEF
p - CCI 1 (Clock and Control Interface 1) CEF

```
SYNC ofp rst CRO ofp   (message line for reference)
```

SYNC - Synchronizer

ofp - Side 0 sync status
rst - Side 1 sync status

- **o, r** - Out of service
- **f, s** - Failed
- **p, t** - Pested

CRO - Clock reference oscillator

ofp - CRO status

- **o** - Out of service
- **f** - Failed
- **p** - Pested

To aid in interpreting the variables associated with the timing link interface, two lines from the message are printed below for reference. These lines have been marked with identifying information.

```
      |<----------- Side 0 ------------>|<------------ Side 1 ----------->|

    TLI ofp ofp ofp ofp  ofp ofp ofp ofp   rst rst rst rst  rst rst rst rst
         a   b   c   d    e   f   g   h     i   j   k   l    m   n   o   p  EOM

TLI No.  1   1   2   2    3   3   4   4     1   1   2   2    3   3   4   4
SSP No.  0   1   0   1    0   1   0   1     0   1   0   1    0   1   0   1
```

TLI - Timing link interface

ofp - Side 0 TLI status

- o - Out of service
- **f** - Failed
- **p** - Pested

rst - Side 1 TLI status

- r - Out of service
- **s** - Failed
- **t** - Pested

There are four TLIs in each synchronizer side and each TLI has two synchronizer synchronization ports (SSP) for a total of eight SSPs per side. Variables a through p represent these SSPs and are associated with each TLI as shown below. The values of a through p give the priority of each SSP as a synchronization source. Priorities range in value from 1 through 8 and are interpreted as shown below.

1 - Highest priority
8 - Lowest priority

a - TLI 1 SSP 0 priority
b - TLI 1 SSP 1 priority

c - TLI 2 SSP 0 priority
d - TLI 2 SSP 1 priority

e - TLI 3 SSP 0 priority
f - TLI 4 SSP 1 priority

g - TLI 4 SSP 0 priority
h - TLI 4 SSP 1 priority

i - TLI 1 SSP 0 priority
j - TLI 1 SSP 1 priority

k - TLI 2 SSP 0 priority
l - TLI 2 SSP 1 priority

m - TLI 3 SSP 0 priority
n - TLI 3 SSP 1 priority

o - TLI 4 SSP 0 priority
p - TLI 4 SSP 1 priority

UTL QRY ALL TOTAL TSIS tt oo ff pp (message line for reference)

UTL QRY ALL TOTAL ETSIS tt oo ff pp (message line for reference)

TOTAL - Total

TSIS - Time slot interchangers Non-CEF

ETSIS - Expanded time slot interchangers CEF

tt - Total number of equipped TSIS or ETSIS
oo - Total number of equipped but out-of-service TSIS or ETSIS
ff - Total number of equipped but failed TSIS or ETSIS
pp - Total number of equipped but pested TSIS or ETSIS

The following lines are message lines for reference.

```
UNIT [q]q UC ofp FTMI ofp ofp ofp ofp [CCB ofp rst]

FTM number              1   2   3   4

    FC ofp rst  ofp rst  ofp rst  ofp rst EOM

FTM No. 1   1    2   2    3   3    4   4
Side No. 0   1    0   1    0   1    0   1
```

UC - Unit controller

FTMI - Facility terminating module interface

CCB - Cross-connect buffer Non-CEF

FC - Format converter

o, r - Out of service
f, s - Failed
p, t - Pested

The following line is a message line for reference.

```
UNIT [q]q UC ofp FLI ofp rst FMT ofp rst [CCB ofp rst]

FLI ID.                S   P
FMT Side No.                       0   1
```

ofp - Service (S) FLI
rst - Protection (P) FLI

o, r - Out of service
f, s - Failed
p, t - Pested

FTU - Facility terminating unit

The term FTU represents the original facility terminating unit as well as the Integrated facility terminating units (IFTU or IFTU2) that have been delivered as part of a DACS II.

DSPU - Digital signal processing unit

UC ofp DSPI ofp [CCB ofp,rst] (message line for reference)

DSPI - Digital signal processing interface

ofp - UC, DSPI, and for non-CEFs, side 0 of the CCB
rst - for non-CEFs, side 1 of the CCB

o, r - Out of service
f, s - Failed
p, t - Pested

The following lines are message lines for reference.

```
[z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst [z]zzz ofp rst EOM

uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst uvmnp ofp rst EOM
```

ofp - Refers to side 0 DSPU NPC
rst - Refers to side 1 DSPU NPC

o, r - Out of service
f, s - Failed
p, t - Pested

[s]aaa - The first 3- or 4-digit nonhierarchical NPC number of an FTM, MXR, or DSPU

[t]bbb - The last 3- or 4-digit nonhierarchical NPC number of an FTM, MXR, or DSPU

[z]zzz - The 3- or 4-digit nonhierarchical DSPU NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - The first hierarchical NPC number of an FTM, MXR, or DSPU
uxkqr - The last hierarchical NPC number of an FTM, MXR, or DSPU

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

tt - Total number of equipped NPCs

oo - Total number of equipped but out-of-service NPCs

ff - Total number of equipped but failed NPCs

pp - Total number of equipped but pested NPCs

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped

UTL,QRY,ALM,INTV

RETRIEVE Intervention Level Status

Explanation Of Command

This message retrieves the current status of the Intervention Level Feature; that is, whether or not the feature is ON or OFF.

Command

[I.53351]

```
UTL:[FRM xy,SEQ ww]:QRY,ALM,INTV!
```

Completion Message

[O.53351]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALM INTV {ON|OFF} COMPL
```

[O.53351]

```
   [<xy>] yy-mm-dd hh:mm:ss LINK-n[vv]
M  RTRV ALM:::[<ww>]:INTV COMPLD
   /* [O.53351] */
   "Intervention Level-[ON|OFF]"
;
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

INTV - Intervention

ON - Intervention Level Feature ON

OFF - Intervention Level Feature OFF

cc - Hexadecimal condition code

cc	Explanation
00	No conditions

UTL,QRY,ALMOPT,NPC,AIS

UTILITY QUERY, ALARM OPTION, AIS

Explanation Of Command

This command requests alarm indication signal (AIS) information for one or more facility terminating unit (FTU/IFTU/IFTU2), DS3 unit (DS3U) or Hybrid DS3 Unit (HDS3U) network processing circuits. The range can cross the unit boundary, and the two NPCs entered can be from different types of units. This command is not applicable to digital signal processing unit (DSPU) NPCs. DSPU NPCs will be skipped in the output message if they are within the range.

Digital Signal Processing Platform (DSPP) NPCs and the even numbered NPCs immediately following the actual DSPP NPCs will be skipped in the output by using dashes if they are within the range of this command.

ST type NPCs will be skipped in the output by using dashes if they are within the range of this command.

Command

Nonhierarchical

[I.56021]

`UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC [s]abc[-[v]ghi],AIS!`

Hierarchical

[I.56021]

UTL:FRM xy,SEQ ww:QRY,ALMOPT,NPC uvmnp[-wxkqr],AIS!

Completion Message

Nonhierarchical

[O.56021]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [s]abc-[t]def AIS \
TOT nnn  e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt EOM

               .
               .
               .

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [u]jkl-[v]ghi AIS \
TOT nnn  e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS [s]abc-[v]ghi AIS  COMPL
```

Note: The above message applies to FTU, IFTU, or IFTU2 units.

Hierarchical

[O.56021]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS uvmnp-defgh AIS \
TOT nnn  e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt EOM

               .
               .
               .

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS ijklm-wxkqr AIS \
TOT nnn  e LN MSG:
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt
tttt tttt tttt tttt tttt tttt tttt tttt EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPCS uvmnp-wxkqr AIS  COMPL
```

Note: The above message applies to FTU, IFTU, or IFTU2 units.

Denial Message

Nonhierarchical

[O.56021.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC [t]def[-[u]jkl] AIS  \
UEQD DNY
```

[O.56021.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC [t]def[-[u]jkl] AIS  \
COND cc DNY
```

Hierarchical

[O.56021.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC defgh[-ijklm] AIS  UEQD DNY
```

[O.56021.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMOPT NPC defgh[-ijklm] AIS  \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ALMOPT - Alarm option

NPC - Network processing circuit

[s]abc - The 3- or 4-digit starting nonhierarchical NPC number

[v]ghi - The 3- or 4-digit ending nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Starting hierarchical NPC number
wxkqr - Ending hierarchical NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]def - The3- or 4-digit nonhierarchical NPC number ([s]abc through [u]jkl)

[u]jkl - The 3- or 4-digit nonhierarchical NPC number ([t]def through [v]ghi)

edfgh - Hierarchical NPC number (uvmnp through ijklm)
ijklm - Hierarchical NPC number (edfgh through wxkqr)

ed - Unit number (uv through wx)
f - Module number
gh - NPC number

e - Number of lines in message

The number of lines in the message depends on the number of equipped NPCs to be reported.

nnn - Total number of alarms

TOT - Total

tttt - AIS Alarm option programmed for the NPC

tttt	*Explanation*
INFO	Information message (for all domestic NPCs)
MJ	Major alarm (for all domestic NPCs)
MN	Minor alarm (for domestic non-SLC type NPCs)
MI	Information message (for CEPT NPCs)
PMA	Prompt maintenance alarm major (for CEPT NPCs)
PMC	Prompt maintenance critical alarm (for CEPT NPCs)
DMA	Deferred maintenance minor alarm (for CEPT NPCs)
--	Unequipped

Digital Signal Processing Platform NPCs that run applications, and ST type NPCs, will also cause dashes to be produced for **tttt**.

UEQD - Unequipped

cc - Hexadecimal condition code

cc	*Explanation*
60	Selectable AIS not valid for specified NPC(s) type
61	All NPC(s) are either not valid or not grown

UTL,QRY,ALMS

UTILITY QUERY ALARMS

Explanation Of Command

This command reports the source of all alarms currently on the DACS II frame. For each entity that has been autonomously removed, the resulting alarm state is given.

If there are no alarms to report, a short line message is output indicating that the total number of alarms is **`000`**.

Note that the DS3U message segment applies to both the DS3 unit and the Hybrid DS3 unit (HDS3U). The MXR message applies to both MXR and Hybrid MXR.

Separate message segments will be shown for the "Alarm Severity - Intervention Level - Message Logging" feature as appropriate.

Command

[I.53111]

`UTL:FRM xy,SEQ ww:QRY,ALMS!`

Completion Message

Nonhierarchical

When there are no alarms active on the frame, the following output appears:

[O.53112]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL 000 COMPL
```

When there are alarms active on the frame, the following output appears:

The individual message segments are shown in the order they appear. Explanatory text accompanies each message segment.

[O.53111]

1) The following segment appears only if the alarm severity, intervention level, and message logging features are present.

```
M hh:mm:ss xy,ww n[vv] Alarm Severity Feature is {ON|OFF}
M hh:mm:ss xy,ww n[vv] Intervention Level Feature is {ON|OFF}
```

2) Summary line showing status of CR, MJ, MN, MC, and PWR alarms.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \
MC w PWR z EOM
```

3) Summary line showing alarm status of the various power units within each FTU/IFTU/IFTU2/DSPU, the Synchronizer, the Main Controller, and CCN/ECCN.

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS PWR  2 LN MSG:
w w w w w w w w w w w w w w w w w w w w EOM
```

4) Summary line showing status of alarms on the main controller and switch complex (CCN/ECCN).

For both DACS II NonCEF and CEF frames (CCN and ECCN)

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l t m \
n o p q r s EOM
```

For DACS II nonCEF and CEF frames (CCN and ECCN) **with** the alarm severity, intervention level, and message logging feature present.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l t m \
n o p q r s
                                   y - - - - y - - - - - - - y \
y y y y y y
                                   z - - - - z - - - - - - - z \
z z z z z z
                                   u - - - - u - - - - - - - u \
u u u u u u EOM
```

5) Summary line showing synchronizer entities alarm status.

Without the alarm severity, intervention level, and message logging feature present.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  3 LN MSG:
SYNC x y CRO x
TLI  a b c d  e f g h  a b c d  e f g h EOM
```

With the alarm severity, intervention level, and message logging feature present.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  9 LN MSG:
SYNC x y CRO x
     y y     y
     z z     z
     u u     u
TLI  a b c d  e f g h  a b c d  e f g h
     y y y y  y y y y  y y y y  y y y y
     z z z z  z z z z  z z z z  z z z z
     u u u u  u u u u  u u u u  u u u u EOM
```

6) Summary line showing cross-connect (CCN/ECCN) entity alarm status.

For DACS II NonCEF frames (CCN)

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn  5 LN MSG:
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y EOP

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn  3 LN MSG:
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y EOM
```

For DACS II CEF frames (ECCN)

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL ETSIS tt nn  3 LN MSG:
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM
```

7) Alarm status of the common equipment within each unit, in unit number order (Only those units which are equipped will be shown in the output; for example, if only two units are equipped, only two data lines will appear).

For NonCEF frames:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for first  equipped unit>
<data line for second equipped unit>
<data line for third  equipped unit>
<data line for fourth equipped unit>
EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for fifth equipped unit>
<data line for sixth equipped unit>
EOM
```

For CEF frames:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for first  equipped unit>
<data line for second equipped unit>
<data line for third  equipped unit>
<data line for fourth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for fifth   equipped unit>
<data line for sixth   equipped unit>
<data line for seventh equipped unit>
<data line for eighth  equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for ninth    equipped unit>
<data line for tenth    equipped unit>
<data line for eleventh equipped unit>
<data line for twelfth  equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for thirteenth equipped unit>
<data line for fourteenth equipped unit>
<data line for fifteenth  equipped unit>
<data line for sixteenth  equipped unit> EOM
```

Data Lines For Summary Alarm Information On A Unit (FTU/IFTU/IFTU2, DSPU)

Data line for a unit equipped as an FTU/IFTU/IFTU2:

```
UNIT [q]q UC a FTMI b c d e FC f g h i j k l m[ CCB r s][ OOS]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b [CCB r s][ OOS]
```

8) NPC alarm data per unit (FTU/IFTU/IFTU2, DSPU), shown in unit order (1,2,...). If a unit or module is unequipped or there are no NPC alarms, the corresponding message segment is skipped:

For a DS1 Facility Terminating Module (FTM) **without** the alarm severity, intervention level, and message logging feature present, or if present, with intervention levels turned off:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS [s]aaa-[t]bbb \
tt[ OOS]  5 LN MSG:
x x x x x  x x x x x ALMS nn
x x x x x  x x x x x
x x x x x  x x x x x
x x x x x  x x x x x EOM
```

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

For a DS1 Facility Terminating Module (FTM) **with** the alarm severity, intervention level, and message logging feature present and intervention levels turned on:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS [s]aaa-[t]bbb \
tt[ OOS]  5 LN MSG:
[s]ccc-[t]ddd
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
[s]ccc-[t]ddd
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
[s]ccc-[t]ddd
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
[s]ccc-[t]ddd
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
ALMS nn           EOM
```

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

For a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS UNIT [q]q DSPU NPCS\
[ OOS]  3 LN MSG:
[s]zzz x y [s]zzz x y [s]zzz x y [s]zzz x y ALMS nn
[s]zzz x y [s]zzz x y [s]zzz x y [s]zzz x y EOM
```

9) Completion line

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL
```

Hierarchical

When there are no alarms active on the frame, the following output appears:

[O.53112]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL 000 COMPL
```

When there are alarms active on the frame, the following output appears:

The individual message segments are shown in the order they appear. Explanatory text accompanies each message segment.

[O.53111]

1) The following segment appears only if the alarm severity, intervention level, and message logging features are present.

```
M hh:mm:ss xy,ww n[vv] Alarm Severity Feature is {ON|OFF}
M hh:mm:ss xy,ww n[vv] Intervention Level Feature is {ON|OFF}
```

2) Summary line showing status of CR, MJ, MN, MC, and PWR alarms.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \
MC w PWR z EOM
```

3) Summary line showing alarm status of the various power units within each FTU/IFTU/IFTU2/DSPU, the Synchronizer, the Main Controller, and CCN/ECCN.

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS PWR  2 LN MSG:
w w w w w w w w w w w w w w w w w w w w EOM
```

4) Summary line showing status of alarms on the main controller and switch complex (CCN/ECCN).

For both DACS II NonCEF and CEF frames (CCN and ECCN)

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l t m \
n o p q r s EOM
```

For DACS II nonCEF and CEF frames (CCN and ECCN) **with** the alarm severity, intervention level, and message logging feature present.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l t m \
n o p q r s
                                   y - - - - y - - - - - - - y \
y y y y y y
                                   z - - - - z - - - - - - - z \
z z z z z z
                                   u - - - - u - - - - - - - u \
u u u u u u EOM
```

5) Summary line showing synchronizer entities alarm status.

Without the alarm severity, intervention level, and message logging feature present.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  3 LN MSG:
SYNC x y CRO x
TLI  a b c d  e f g h  a b c d  e f g h EOM
```

With the alarm severity, intervention level, and message logging feature present.

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  9 LN MSG:
SYNC x y CRO x
     y y     y
     z z     z
     u u     u
TLI  a b c d  e f g h  a b c d  e f g h
     y y y y  y y y y  y y y y  y y y y
     z z z z  z z z z  z z z z  z z z z
     u u u u  u u u u  u u u u  u u u u EOM
```

6) Summary line showing cross-connect (CCN/ECCN) entity alarm status.

For DACS II NonCEF frames (CCN)

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn  5 LN MSG:
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y EOP

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL TSIS tt nn  3 LN MSG:
ft x y ft x y ft x y ft x y ft x y ft x y
ft x y ft x y ft x y ft x y ft x y ft x y EOM
```

For DACS II CEF frames (ECCN)

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS TOTAL ETSIS tt nn  3 LN MSG:
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM
```

7) Alarm status of the common equipment within each unit, in unit number order (Only those units which are equipped will be shown in the output; for example, if only two units are equipped, only two data lines will appear).

For NonCEF frames:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for first  equipped unit>
<data line for second equipped unit>
<data line for third  equipped unit>
<data line for fourth equipped unit>
EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for fifth equipped unit>
<data line for sixth equipped unit>
EOM
```

For CEF frames:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for first  equipped unit>
<data line for second equipped unit>
<data line for third  equipped unit>
<data line for fourth equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for fifth   equipped unit>
<data line for sixth   equipped unit>
<data line for seventh equipped unit>
<data line for eighth  equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for ninth    equipped unit>
<data line for tenth    equipped unit>
<data line for eleventh equipped unit>
<data line for twelfth  equipped unit> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS  e LN MSG:
<data line for thirteenth equipped unit>
<data line for fourteenth equipped unit>
<data line for fifteenth  equipped unit>
<data line for sixteenth  equipped unit> EOM
```

Data Lines For Summary Alarm Information On A Unit (FTU/IFTU/IFTU2, DSPU)

Data line for a unit equipped as an FTU/IFTU/IFTU2:

```
UNIT [q]q UC a FTMI b c d e FC f g h i j k l m[ CCB r s][ OOS]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b [CCB r s][ OOS]
```

8) NPC alarm data per unit (FTU/IFTU/IFTU2, DSPU), shown in unit order (1,2,...). If a unit or module is unequipped or there are no NPC alarms, the corresponding message segment is skipped:

For a DS1 Facility Terminating Module (FTM) **without** the alarm severity, intervention level, and message logging feature present, or if present, with intervention levels turned off:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS uvmnp-wxkqr tt\
[ OOS]  5 LN MSG:
x x x x x  x x x x x ALMS nn
x x x x x  x x x x x
x x x x x  x x x x x
x x x x x  x x x x x EOM
```

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

For a DS1 Facility Terminating Module (FTM) **with** the alarm severity, intervention level, and message logging feature present and intervention levels turned on:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS uvmnp-wxkqr tt\
[ OOS]  5 LN MSG:
uvmnp-wxkqr
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
uvmnp-wxkqr
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
uvmnp-wxkqr
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
uvmnp-wxkqr
x x x x x  x x x x x
y y y y y  y y y y y
z z z z z  z z z z z
u u u u u  u u u u u
ALMS nn           EOM
```

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

For a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS UNIT [q]q DSPU NPCS\
[ OOS]  3 LN MSG:
uvmnp x y uvmnp x y uvmnp x y uvmnp x y ALMS nn
uvmnp x y uvmnp x y uvmnp x y uvmnp x y EOM
```

9) Completion line

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL
```

Denial Message

Common

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

To aid referencing the parameters listed for a given message, the line containing the parameters is listed below just before the explanation of that particular set of parameters is given.
When an FTM module has been provisioned as CEPT, then there will be 32 NPCs per Facility Terminating Module (FTM).

The DACS II frame alarm state summary is given at the beginning of the alarm report for these variables:

CR t MJ u MN v MC w PWR z

CR - Critical

t - Critical alarm status

MJ - Major

u - Major alarm status

MN - Minor

v - Minor alarm status

MC - Main controller

w - Main controller alarm status

PWR - Power

z - Power alarm status

The value of variables t, u, v, w, and z determines the alarm status. These values and their meaning are given below for t through z.

t-z	*Status*
1	Active
0	Not Active

w - Power failure indicator

Each w in the output message corresponds to a particular power unit in the frame. The w's are numbered from left to right beginning with 1. If the frame is a non-CEF frame, the w's will end with 10. If the frame is a CEF, the w's will end with 20.

Determine the number associated with the w of interest then use the table below to determine the affected power unit.

The value of w determines the status of the power unit

w	*Power unit status*
M	Power failure (Major)
-	No power failure

1	Power unit of unit 1
2	Power unit of unit 2
3	Power unit of unit 3
4	Power unit of unit 4
5	Power unit of unit 5
6	Power unit of unit 6
7	Synchronizer (SYNC) 0
8	SYNC 1
9	Cross-Connect Network (CCN or ECCN) 0
10	CCN or ECCN 1

For CEF frames,

11	power unit of unit 7
12	power unit of unit 8
13	power unit of unit 9
14	power unit of unit 10
15	power unit of unit 11
16	power unit of unit 12
17	power unit of unit 13
18	power unit of unit 14
19	power unit of unit 15
20	power unit of unit 16

ALMS a b c d e f g h i j k l t m n o p q r s

x - Alarm Severity

x	*Explanation*
a	Autonomously removed
-	Does not apply, or part of a larger failure group
*****	Minor alarm
M	Major alarm
C	Critical alarm
I	Information

The following y,z,and u parameters are printed only if the Intervention Level feature is ON.

y -Intervention level setting(1-6)

z -Intervention Level

z	*Intervention Level*
I	IMA (Immediate Maintenance Action)
D	DMA(Deferred Maintenance Action
N	NI(No Intervention)
-	Not applicable

u - New Individual Alarm Status effected by Intervention Level

-	*No alarm or unprovisioned*
I	Information
M	Major alarm
C	Critical

ALMS - Alarms

Each of the letters a through t following the keyword ALMS represents an entity in the DACS II frame. The entities are listed following this paragraph by the letter used to represent them. The values these letters assume give the alarm status of the particular entity. These values are listed immediately following the entity listing. Some entities do not use the full range of values but their values are separately described in the list of entities.

a - MC (Main controller)
b - MP (Main processor)
c - CI/ECI (Communications interface)
d - SCC (Secondary source controller)
e - PMEM
f - SMEM
g - Link 1
h - Link 2
i - Link 3
j - Link 4
k - Link 5
l - Link 6
t - Link 7
m - XC0 (Cross-Connect 0)
n - XC1 (Cross-Connect 1)
o - CCNI 0 (Cross-Connect Network Interface 0 for NonCEF frame)
CCI 0 (Clock and Control Interface 0 for CEF frame)
p - CCNI 1 (Cross-Connect Network Interface 1 for NonCEF frame)
CCI 1 (Clock and Control Interface 1 for CEF frame)
q - TOD (Time of Day) reset
r - DATE (Time of Day) reset
s - SMEM OOS

Value	*Explanation*
a	Autonomously removed
-	Does not apply, or part of a larger failure group
*****	Minor alarm
M	Major alarm
C	Critical alarm
I	Information

"I" reports maintenance information for E1 signals. This state exists for the conditions listed below:

AIS - Alarm indication signal
RAI - Remote alarm indication
RBER - Remote bit error rate indication
RAIS - Remote alarm indication signal
SFI - Synchronization failure indication
A16 - AIS in CTS 16
R16 - RAI in CTS 16

The value "I" will appear in reports for E1s where performance monitoring thresholds have been exceeded if those thresholds were provisioned at the maintenance information (MI) level.

The value "*" will appear in reports of a BER alarm on CEPT NPCs (E1s), in addition to reporting all the minor alarm conditions supported in previous releases.

If the embedded signals within a DS3 or a Hybrid DS3 signal are in AIS (Alarm Indication Signal), then an "I" is shown for that signal. In addition, when the entire DS3 or Hybrid DS3 is receiving AIS the embedded DS1 and E1 signals will show an "I".

Where a failure group includes more than one circuit pack and individual circuit pack information is available, the character "a" will be used to indicate removal or attempted removal of that pack.

A hyphen (-) indicates the alarm state is not applicable to the particular circuit. For example, an unequipped circuit would display a "-" in its status field.

SYNC x y

SYNC - Synchronizer

x - Side 0 alarm status of the synchronizer
y - Side 1 alarm status of the synchronizer

x	*Explanation*
a	Autonomously removed
-	Does not apply, or part of a larger failure group
*****	Minor alarm
M	Major alarm
C	Critical alarm
I	Information

CRO - Clock reference oscillator

x - Side 0 alarm status of the oscillator

x	*Explanation*
a	Autonomously removed
-	Does not apply, or part of a larger failure group
*****	Minor alarm
M	Major alarm
C	Critical alarm
I	Information

TLI a b c d e f g h a b c d e f g h

TLI - Timing link interface

a - TLI 1 or Synchronizer sync port (SSP) 0 of TLI 1 side 0
b - SSP 1 of TLI 1 side 0
c - TLI 2 or SSP 0 of TLI 2 side 0
d - SSP 1 of TLI 2 side 0
e - TLI 3 or SSP 0 of TLI 3 side 0
f - SSP 1 of TLI 3 side 0
g - TLI 4 or SSP 0 of TLI 4 side 0
h - SSP 1 of TLI 4 side 0

a - TLI 1 or SSP 0 of TLI 1 side 1
b - SSP 1 of TLI 1 side 1
c - TLI 2 or SSP 0 of TLI 2 side 1
d - SSP 1 of TLI 2 side 1
e - TLI 3 or SSP 0 of TLI 3 side 1
f - SSP 1 of TLI 3 side 1
g - TLI 4 or SSP 0 of TLI 4 side 1
h - SSP 1 of TLI 4 side 1

See the ALMS section given previously for the alarm status values.

For NonCEF frames only:

TSIS tt nn

TSIS - Time slot interchangers

tt - Total No. of equipped TSIs (1-36)
nn - Total No. of alarming TSIs (0-36)
ft - Unit numbers

f - FROM unit number (1-6)
t - TO unit number (1-6)

x - Side 0 alarm status of the TSI
y - Side 1 alarm status of the TSI

Variables x and y can assume one of the two alarm status values given below.

a *Autonomously removed*
- Does not apply, or part of a larger failure group
***** Minor alarm
M Major alarm
C Critical alarm
I Information

For CEF frames only:

ETSIS tt nn

ETSIS - Expanded time slot interchangers

tt - Total No. of equipped ETSIs (01 through 32)
nn - Total No. of alarming ETSIs (01 through 32)

UNIT [q]q UC a FTMI b c d e FC f g h i j k l m[CCB r s][OOS]
UNIT - Unit

[q]q - Unit number (1 through 16)

UC - Unit controller

a - UC status

The UC status values are the same as those given previously for entities a through s in the explanation of ALMS. This table follows the explanation of variable s.

FTMI b c d e

FTMI - Facility terminating module interface

b - Status for FTMI 1 of specified unit
c - Status for FTMI 2 of specified unit
d - Status for FTMI 3 of specified unit
e - Status for FTMI 4 of specified unit

See the ALMS section given previously for the alarm status values.

FC f g h i j k l m

FC - Format converter

f - Status for FC 01 of specified FTU
g - Status for FC 11 of specified FTU
h - Status for FC 02 of specified FTU
i - Status for FC 12 of specified FTU
j - Status for FC 03 of specified FTU
k - Status for FC 13 of specified FTU
l - Status for FC 04 of specified FTU
m - Status for FC 14 of specified FTU

See the ALMS section given previously for the alarm status values.

For NonCEF frames only:

CCB r s

CCB - Cross-connect buffer

r - Status for CCB 0q in CCN 0 for specified unit q

s - Status for CCB 1q in CCN 1 for specified unit q

See the ALMS section given previously for the alarm status values.

OOS - Out-of-Service

The OOS state applies to the Unit Controller.

DSPI b

DSPI - Digital signal processing interface

b - Status for DSPI (digital signal processing interface) of specified DSPU

See the ALMS section given previously for the alarm status values.

rr - Total number of **equipped** DS3 or HDS3 facilities in the frame

NonCEF (01 through 36)
CEF (01 through 96)

UNIT [q]q y y y y y y ALMS gg

UNIT - Unit

[q]q - Unit number (1 through 16)

y - DS3 facility alarm status.

The DS3 facility will be in a critical alarm if the incoming facility is in LOS, OOF, or BER. The DS3 facility will be in a major alarm if the incoming facility has a Remote Alarm Indication (RAI). There will be an informational "I" alarm, if AIS is received on the DS3 facility.

gg - Total number of alarming DS3 facilities in the frame

NonCEF (01 through 36)
CEF (01 through 96)

FOR FTU AND DS3U/HDS3U NPC ALARM DATA LINES

[s]aaa - The 3- or 4-digit nonhierarchical number of the first NPC in the module

[t]bbb - The 3- or 4-digit nonhierarchical number of the last NPC in the module

[s]ccc - The 3- or 4-digit nonhierarchical number of the last NPC in the module

[t]ddd - The 3- or 4-digit nonhierarchical number of the last NPC in the module

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of the first NPC in the module
wxkqr - Hierarchical number of the last NPC in the module

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

tt - Total number of equipped NPCs

01 through 32

nn - Total number of alarming NPCs

01 through 32

FOR DSPU NPC ALARM DATA LINE

[s]zzz - The 3- or 4-digit nonhierarchical DSPU NPC number

UTL,QRY,ALMS,DBASE

UTILITY QUERY ALARMS

Explanation Of Command

This message reports the following alarms:

- Critical frame alarms caused by duplex failures.
- Buffer overflow alarm on each of the eight C-bit processor (CPR) packs.
- Failed or out-of-service alarms for the FTU/IFTU/IFTU2 NPCs. This includes Digital Signal Processing Platform (DSPP) NPCs.
- Primary block failure alarm(s).
- Received time slot zero (TS0) failure for Transmic 1G.

Command

[I.53151]

`UTL:FRM xy,SEQ ww:QRY,ALMS,DBASE!`

Completion Message

Nonhierarchical

[O.53151]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS c EOM
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CB NPC BOFL  2 LN MSG:]
[[s]ghi [s]ghi [s]ghi [s]ghi [s]ghi [s]ghi [s]ghi [s]ghi EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC AOOS  e LN MSG:
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc
            .
            .
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc EOM

            .
            .
            .

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC AOOS  e LN MSG:
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc
            .
            .
[s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc [s]abc EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA [s]abc k[l[m[...]]] EOM

                        .
                        .
                        .

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA [t]def k[l[m[...]]] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC [s]abc[ PBA k[l[m[...]]]] \
[ TS0 abcdefgh] EOM

                        .
                        .
                        .

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC [t]def[ PBA k[l[m]...]] \
[ TS0 abcdefgh] EOM

M hh:mm:ss xy,mm n[vv] UTL QRY ALMS DBASE COMPL
```

Hierarchical

[O.53151]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS c EOM
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CB NPC BOFL  2 LN MSG:]
[edfgh edfgh edfgh edfgh edfgh edfgh edfgh edfgh EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC AOOS  e LN MSG:
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp
            .
            .
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp EOM
            .
            .
            .
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC AOOS  e LN MSG:
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp
            .
            .
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA uvmnp k[l[m]...] EOM
                        .
                        .
                        .
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS CGA wxkqr k[l[m]...] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC uvmnp[ PBA k[l[m]...]] \
[ TS0 abcdefgh] EOM
                        .
                        .
                        .
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS NPC wxkqr[ PBA k[l[m]...]] \
[ TS0 abcdefgh] EOM

M hh:mm:ss xy,mm n[vv] UTL QRY ALMS DBASE COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

ALM(S) - Alarm(s)

DBASE - Data base

Used to provide the output necessary to verify data base coherence between DACS II and the DACS controller.

c - Duplex frame alarm status

c	*Explanation*
1	Duplex frame alarm
0	No Duplex frame alarm

CB - C-bit

NPC - Network processing circuit

BOFL - Buffer overflow

The section of the message reporting buffer overflow is optional. It will only appear if there are C-bit Processor (CPR) circuit packs exhibiting a buffer overflow condition.

e - Number of lines in message (from 1 to 5 lines)

FTU - Facility terminating unit

Only alarmed FTU NPCs (including DSPP NPCs) will be reported. Hence the number of NPCs in the message and the number of lines will be variable.

[s]ghi - The 3- or 4-digit nonhierarchical CB type NPC number.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[s]abc, [t]def
- The 3- or 4-digit nonhierarchical NPC numbers.

edfgh - Hierarchical CB-type NPC number

ed - Unit number
f - Module number
gh - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FTU NPC number
wxkqr - Hierarchical FTU NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

BOFL - Buffer overflow

AOOS - Autonomous out-of-service (autonomous removal)

PBA - Primary block alarm

The primary block alarms are output only for those FTU NPCs for which the alarms have been reported and without regard for how the NPC is provisioned.

k,l,m,...
- Representation for multiple alarms

k,l,or m (PBA) Explanation

For PA type NPCs:

A Primary AIS - AIS received in all 32 time slots.
B BER - Bit error rate detected in received signal.
C LCMA - Loss of CRC4 multiframe alignment in TS0.
E RBER - Remote bit error rate detected in TS0 bit 4.
F LOF - Loss of Frame type Primary block failure.
G FLCMA - Far-end Loss of CRC4 multiframe alignment in TS0.
I RAIS - Remote AIS detected in TS0 bit 4.
L LMA - Loss of multiframe alignment in CAS TS16.
M R16 - RAI received in TS16 bit 6 of frame 0.
P PFWOOF - TS0 Pseudo Frame Word Out-Of-Frame
R LOS - Loss of Signal type Primary block failure.
S SFI - Synchronization failure indication in TS0 bit 5.
V A16 - AIS received in CAS TS16
X EER - Excessive error rate
Y RAI - Remote alarm indication received in TS0 bit 3.
Z RPSFI- Remote Power Supply Failure Indicator

For PB and PC type NPCs:

A Primary AIS - AIS received in all 32 time slots.
B BER - Bit error rate detected in received signal.
E RBER - Remote bit error rate detected in TS0 bit 4.
I RAIS - Remote AIS detected in TS0 bit 4.
L LMA - Loss of multiframe alignment in CAS TS16.
M R16 - RAI received in TS16 bit 6 of frame 0.
R PBF - Primary block failure caused by LOS or LOF.
S SFI - Synchronization failure indication in TS0 bit 5.
V A16 - AIS received in CAS TS16
X EER - EER - Excessive error rate
Y RAI - Remote alarm indication received in TS0 bit 3.
Z RPSFI- Remote Power Supply Failure Indicator

TS0 - Time slot 0

abcdefgh
- Spare bits in TS0

"TS0-abcdefgh" will only appear in the message for NPCs that are provisioned for Transmic 1G.

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

Valid values for a through h are described below:

Bit value	*Explanation*
0	Transmitted bit set to binary "0"
1	Transmitted bit set to binary "1"
P	Pass-through: the received bit will be cross-connected unchanged.

UTL,QRY,APPL,NPC,ALL

RETRIEVE CROSS-CONNECT INFORMATION BETWEEN PLATFORM APPLICATIONS

Explanation Of Command

This command retrieves the cross-connect information between platform application cards either for all application cards grown in the frame or for an individual application card.

The output message identifies:

1. The pseudo channel number for an individual connection that is used in the application-to-application cross-connect commands to identify the connection.
2. The NPC number and application assigned channel number for the first (FROM) application that is part of the connection.
3. The NPC number and application assigned channel number for the second (TO) application if available that is part of the connection.
4. The status of the connection, which is either:
   - fully connected, or
   - reserved.

   A reserved connection can be identified by the missing channel number for the application that has not yet requested the connection or the application that has already disconnected the connection. A missing channel number is represented by "---".

Pseudo channel numbers are not real channel numbers; instead, they identify table entries in DACS II that contain the pairs of application channels that are cross-connected to each

other. Each cross-connection between application card channels has a unique pseudo channel number that identifies it. Cross-connections between application cards are established by using the NPC number of the other application card that the first application card expects to be cross-connected to and the pseudo channel number. A command to each of the two applications referring to the other application in the command is required. DACS II matches the requests from the two applications that have requested to be cross-connected by matching the pseudo channel numbers in both requests. For further information, see the manual(s) for the application(s) that you are using.

A cross-connection between applications is considered to be in the "reserved" state if at the time of executing this utility

1. only one application has made a request for the connection, or
2. one of the applications has already disconnected, but the other has not.

An actual physical cross-connect is only made when both applications have made matching requests. Also, the physical cross-connection between applications is taken down when the first of the two applications issues a disconnect command.

Command

Nonhierarchical

[I.51201]

UTL:[FRM xy,SEQ ww]:QRY,APPL,{NPC [s]abc|ALL}!

Hierarchical

[I.51201]

UTL:[FRM xy,SEQ ww]:QRY,APPL,{NPC uvmnp|ALL}!

Completion Message

Nonhierarchical

[O.51201]

```
M hh:mm:ss xy,ww n[vv] UTL QRY APPL {NPC [s]abc|ALL}  e LN MSG:
PCHAN   APPL1   CHAN1   APPL2   CHAN2
ddd     [s]abc  eee     [v]ghi  jjj
            .
            .
            .
ddd     [s]abc  eee     [v]ghi  jjj  EOM
                  .
                  .
                  .
[M hh:mm:ss xy,ww n[vv] UTL QRY APPL {NPC [s]abc|ALL}  e LN MSG:
[PCHAN   APPL1   CHAN1   APPL2   CHAN2
[ddd     [s]abc  eee     [v]ghi  jjj
[           .
[           .
[           .
[ddd     [s]abc  eee     [v]ghi  jjj      EOM

[UTL QRY APPL COMPL
```

Hierarchical

[O.51201]

```
M hh:mm:ss xy,ww n[vv] UTL QRY APPL {NPC uvmnp|ALL}  e LN MSG:
PCHAN   APPL1   CHAN1   APPL2   CHAN2
ddd     uvmnp   eee     wxkqr   jjj
            .
            .
            .
ddd     uvmnp   eee     wxkqr   jjj  EOM
                  .
                  .
                  .
M hh:mm:ss xy,ww n[vv] UTL QRY APPL {NPC uvmnp|ALL}  e LN MSG:
PCHAN   APPL1   CHAN1   APPL2   CHAN2
ddd     uvmnp   eee     wxkqr   jjj
            .
            .
            .
ddd     uvmnp   eee     wxkqr   jjj
UTL QRY APPL COMPL
```

Denial Message

Nonhierarchical

[O.51201.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY APPL {NPC [s]abc|ALL} COND cc DNY
```

Hierarchical

[O.51201.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY APPL {NPC uvmnp|ALL} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

APPL - This utility refers to application cards

The following are currently available applications:

Type	*Application*
SD111	X.50/X.57 Subrate Application
SD311	Digital Multipoint Bridge (DMB) Application
SD411	DDS Subrate and MJU Application
SDxyz	Any other application created after issuing this manual

NPC - This command refers to an NPC of the application type

[s]abc - NPC number for the application card (3- or 4-digit), which must always be odd.

uvmnp - NPC number for the application card (hierarchical), "np" must always be odd.

If the NPC number is coded, then the command will generate output for only those application-to-application cross-connections that connect to that application card.

ALL - Output of the entire application-to-application card cross-connect table is requested.

e - number of lines in message (maximum of 10)

PCHAN - Pseudo Channel number column

ddd - Pseudo channel number for this connection, range 1-999

APPL1 - Column for NPC number(s) of first application

[s]abc - NPC number of first application (3- or 4-digit)

uvmnp - NPC number of first application (hierarchical)

CHAN1 - Column for channel number(s) assigned by first application

eee - Channel number assigned by first application

If the channel number is not present because the first application has already disconnected, then three dashes are shown as channel number.

APPL2 - Column for NPC number(s) of second application

[v]ghi - NPC number of second application (3- or 4-digit)

wxkqr - NPC number of second application (hierarchical)

CHAN2 - Column for channel number(s) assigned by second application

jjj - Channel number assigned by second application

If the channel number is not present because the second application has not yet requested the connection or the second application has already disconnected, then three dashes are shown as channel number.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
6A	No application NPCs grown in the frame
6B	No application-to-application connections present in the frame
6D	This application card does not connect to another application card

UTL,QRY,BC,NPC,ALL

QUERY BIT-C NPC

Explanation Of Command

This message queries the C-bit state and the pattern for all CAS-type channels for a network processing circuit (NPC), a range of NPCs or all NPCs.

Command

Nonhierarchical

[I.56351]

```
UTL:FRM xy,SEQ ww:QRY,BC s,{NPC [s]abc[-[t]def]|ALL}!
```

Hierarchical

[I.56351]

```
UTL:FRM xy,SEQ ww:QRY,BC s,{NPC uvmnp[-wxkqr]|ALL}!
```

Completion Message

Nonhierarchical

[O.56351]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BC s [s]abc 001-015  4 LN MSG:
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
EOM

M hh:mm:ss xy,ww n[vv] UTL QRY BC s [s]abc 016-030  4 LN MSG:
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
COMPL

                .
                .
                .

[M hh:mm:ss xy,ww n[vv] UTL QRY BC s [t]def 001-015  4 LN MSG:]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY BC s [t]def 016-030  4 LN MSG:]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY BC s [s]abc-[t]def COMPL]
```

[O.56352]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BC D  n LN MSG:
abcddd {xxxx|zz} abcddd {xxxx|zz} abcddd {xxxx|zz} \
abcddd {xxxx|zz} abcddd {xxxx|zz} abcddd {xxxx|zz}
               .
               .
               .
abcddd {xxxx|zz} abcddd {xxxx|zz} abcddd {xxxx|zz} \
abcddd {xxxx|zz} abcddd {xxxx|zz} abcddd {xxxx|zz} \
EOM

               .
               .
               .

[M hh:mm:ss xy,ww n[vv] UTL QRY BC D  n LN MSG:]
[defddd {xxxx|zz} defddd {xxxx|zz} defddd {xxxx|zz} \
defddd {xxxx|zz} defddd {xxxx|zz} defddd {xxxx|zz}]
               .
               .
               .
[defddd {xxxx|zz} defddd {xxxx|zz} defddd {xxxx|zz} \
defddd {xxxx|zz} defddd {xxxx|zz} defddd {xxxx|zz} \
EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY BC D  ALL COMPL]
```

Hierarchical

[O.56351]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BC s uvmnp 001-015  4 LN MSG:
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
EOM

M hh:mm:ss xy,ww n[vv] UTL QRY BC s uvmnp 016-030  4 LN MSG:
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}
{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
COMPL

                .
                .
                .

[M hh:mm:ss xy,ww n[vv] UTL QRY BC s wxkqr 001-015  4 LN MSG:]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY BC s wxkqr 016-030  4 LN MSG:]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz}]
[{xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} {xxxxxx|zz} \
COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY BC s uvmnp-wxkqr COMPL]
```

[O.56352]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BC D  n LN MSG:
uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz} \
uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz}
                .
                .
                .
uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz} \
uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz} uvmnpddd {xxxx|zz} EOM

                .
                .
                .

[M hh:mm:ss xy,ww n[vv] UTL QRY BC D  n LN MSG:]
[wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz} \
wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz}]
                .
                .
                .
[wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz} \
wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz} wxkqrddd {xxxx|zz} EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY BC D  ALL COMPL]
```

Denial Message

Nonhierarchical

[O.56351.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BC s {[t]ghi|ALL} COND cc DNY
```

Hierarchical

[O.56351.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BC s {edhfg|ALL} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit starting nonhierarchical NPC number
[t]def - The 3- or 4-digit ending nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Starting hierarchical NPC number (PDS)
wxkqr - Ending hierarchical NPC number (PDS)

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

BC - Bit-C

s - Direction of c-bit pattern to be queried

s	*Explanation*
D	to query the c-bit state Received by the CPR pack in the condensed format of output message O.56352
R	to query the c-bit state Received by the CPR pack
T	to query the c-bit state Transmitted by the CPR pack

When "BC D" is specified in the input command, then the output message

When "BC-D" is specified in the input command, then the output message will provide the c-bit pattern for all NPCs without regard to the Unit they reside in.

If "BC D" is specified in the input command then the ALL keyword is required;

When "BC R" or "BC T" is specified in the input command, then the NPC number(s) are required;

ALL - All NPCs

Valid only when s=D

[t]ghi - The 3- or 4-digit nonhierarchical NPC number that caused the denial.
([s]abc ≤ [t]ghi ≤ [t]def)

edhfg - Hierarchical NPC number that caused the denial
(uvmnp ≤ edhfg ≤ wxkqr)

xxxxxx - c-bit pattern being transmitted or received in the form:
X'abcd

xxxxxx - c-bit pattern being transmitted or received in the form:

xxxx - c-bit pattern being transmitted or received in the form: abcd

Hexadecimal number output for those channels on which the c-bit pattern is present.

zz - State of c-bit processing for the channel

zz	*Explanation*
	for s = D or R
ZO	Zero. Received c-bit channel is ALL 0 including the framing bits
NA	Network Alarm. Framing pattern can not be established and is not ALL 0.
UN	Undetermined. CPR hardware has not reported an initial c-bit pattern
	for s = R or T
UP	Unprovisioned. Not provisioned for Monitoring or Transmit.

Note: The UN state can be due to the fact that the CPR has just been provisioned to monitor a c-bit and because the network timer (NT) value can be as high as 4600 milliseconds and the state of that bit has not yet been found.

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
15	NPC is unequipped
0B	Invalid CEPT NPC
54	Cross-connect to CPR is required
F1	Parameter only valid with PA, PB, or PC type NPCs

UTL,QRY,BC,TO

UTILITY QUERY BIT-C TO

Explanation Of Command

This message queries the C-bit state and the pattern for a specified network processing circuit (NPC) and channel.

Command

Nonhierarchical

[I.56353]

```
UTL:FRM xy,SEQ ww:QRY,BC s,TO [s]abcddd!
```

Hierarchical

[I.56353]

```
UTL:FRM xy,SEQ ww:QRY,BC s,TO uvmnpddd!
```

Completion Message

Nonhierarchical

[O.56353]

```
M hh:mm:ss xy,ww n UTL QRY BC s TO [s]abcddd {X'abcd|ZO|NA|UN|UP} COMPL
```

Hierarchical

[O.56353]

```
M hh:mm:ss xy,ww n UTL QRY BC s TO uvmnpddd {X'abcd|ZO|NA|UN|UP} COMPL
```

Denial Message

Nonhierarchical

[O.56353.01]

```
M hh:mm:ss xy,ww n UTL QRY BC s [s]abc COND cc DNY
```

Hierarchical

[O.56353.01]

```
M hh:mm:ss xy,ww n UTL QRY BC s uvmnp COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TO - NPC identifier keyword

[s]abc - The 3- or 4-digit nonhierarchical NPC number
Valid values are listed below:

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number(PDS)

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Channel number
Valid values are listed below:

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Channel 031 of a CAS NPC (TS16) can only be cross-connected to another channel 031 of a CAS NPC (TS16) or one-way cross-connected to another channel. Also these two channels cannot be part of any conference.

BC - Bit-C keyword

s - Direction of c-bit pattern to be queried
Valid values are listed below:

s	*Explanation*
D	to query the c-bit state Received by the CPR pack in the condensed format of output message O.56352
R	to query the c-bit state Received by the CPR pack
T	to query the c-bit state Transmitted by the CPR pack

When "BC D" is specified in the input command, then the output message

When "BC-D" is specified in the input command, then the output message will provide the c-bit pattern for all NPCs without regard to the Unit they reside in.

If "BC D" is specified in the input command then the ALL keyword is required;

When "BC R" or "BC T" is specified in the input command, then the NPC number(s) are required;

abcd - C-bit pattern (Hexadecimal) being transmitted or received by the CPR pack

zz - C-bit status

zz	Explanation
NA	Received pattern is the network alarm.
UN	Received pattern is undetermined.

Note: The UN state can be due to the fact that the CPR has just been provisioned to monitor a c-bit and because the NT value can be as high as 4600 milli-seconds and the state of that bit has not yet been found.

UP	Unprovisioned.
ZO	Received pattern is all zeros.

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
10	Unit is not equipped
15	NPC is unequipped
0B	Invalid CEPT NPC
54	Cross-connect to CPR is required
F1	Parameter only valid with PA, PB, or PC type NPCs

UTL,QRY,BCAST,ALL

QUERY BROADCAST ALL

Explanation Of Command

This message requests a source listing for all the FROM terminations that are associated with broadcast connections.

The ABT command may be used to stop the output of this message.

Command

[I.52101]

`UTL::QRY,BCAST,ALL!`

Completion Message

Nonhierarchical

[O.52101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx  e LN MSG:
[[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj]
[[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj]
[[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj]
[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj EOM

               .
               .
               .

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx  e LN MSG:
[[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj]
[[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj]
[[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj]
[[s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj  [s]rstjjj COMPL
```

Hierarchical

[O.52101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx  e LN MSG:
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj {EOM|COMPL}

               .
               .
               .

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL xx  e LN MSG:
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
[uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj]
uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj  uvmnpjjj COMPL
```

Common

If there is no broadcast connection

[O.52101]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST ALL 000 COMPL

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

BCAST - Broadcast

ALL - All (NPCs)

xx - Number of data fields (terminations) in a segment (01 through 32)

e - Number of lines in a message segment (2 through 5)

[s]rstjjj
- Nonhierarchical termination number of a broadcast source

The termination number will be output as 0000000 if there is no source information for the termination.

[s]rst - The 3- or 4-digit nonhierarchical NPC number belonging to FTU, DS3U or HDS3U

jjj - Source channel number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnpjjj
- Hierarchical NPC number of a broadcast source

The termination number will be output as 0000000 if there is no source information for the termination.

uv - Unit number
m - Module number
np - NPC number within the module
jjj - Source channel number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

jjj - Source channel number

000-031 CEPT

UTL,QRY,BCAST,FROM

UTILITY QUERY BROADCAST

Explanation Of Command

This command requests a listing of the tributaries (**TO**) connected to a specified broadcast type source (**FROM**).

The output message header line lists the full tributary, and the data lines list all the tributaries (**TO**s) connected to a broadcast type circuit with the specified source (**FROM**). Other **TO**s will appear in following lines, with sufficient lines to report all of the **TO**s involved, six per line. The last line of the message will be filled with zeros if there are less than eight **TO**s (or a multiple thereof) connected.

You must enter the first channel of the broadcast source for this command.

Command

Nonhierarchical

[I.52111]

UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abcddd!

Hierarchical

[I.52111]

UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnpddd!

Completion Message

Nonhierarchical

[O.52111]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcddd-eee TO [t]ghijjj xx  e LN MSG:
[[t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu [t]rstuuu]
[[t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu [t]rstuuu]
[[t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu [t]rstuuu]
[t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu  [t]rstuuu [t]rstuuu  COMPL
```

Hierarchical

[O.52111]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd-eee TO wxkqrjjj xx  e LN MSG:
[edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu]
[edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu]
[edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu]
edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  edhfguuu  COMPL
```

Denial Message

Nonhierarchical

[O.52111.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcddd UEQD DNY
```

[O.52111.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcddd NOBBL DNY
```

[O.52111.03]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcddd RT ffff MD g[g] [t]aaa COND cc DNY
```

[O.52111.04]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcddd COND cc DNY
```

Hierarchical

[O.52111.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd UEQD DNY
```

[O.52111.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd NOBBL DNY
```

[O.52111.03]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd RT ffff MD g[g] \
wxjaa COND cc DNY
```

[O.52111.04]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnpddd COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abcddd
- Nonhierarchical FROM termination number

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number belonging to FTU (FT type), DS3U (DT type) or HDS3U (HT type)

ddd - Channel number denoting the first channel of a channel range specification

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FROM termination number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

000-031 CEPT

If a data line contains fewer tributaries than data fields the data fields without corresponding tributary information will be filled with zeros.

[t]ghijjj
- Nonhierarchical termination number

[t]ghi - The 3- or 4-digit nonhierarchical NPC number of the full tributary with the same valid values as [s]abc.

jjj - Channel number of the full tributary with the same valid values as ddd.

[t]rstuuu
- Nonhierarchical termination number

[t]rst - The 3- or 4-digit nonhierarchical NPC number of additional tributaries with the same valid values as [s]abc.

uuu - Channel number of additional tributaries with the same valid values as ddd.

wxkqr - Hierarchical TO termination number with the same valid values as uvmnp.

edhfg - Hierarchical TO termination number with the same valid values as uvmnp

eee - Channel number denoting the last channel of a range specification with the same valid values as ddd.

xx - Number of data fields in the current message segment (01 through 32)

e - Number of lines in the message (2 through 5)

UEQD - Unequipped

NOBBL - No backbone leg

The requested printout of all the tributaries connected to the DACS II broadcast source abcddd was denied because the source NPC was not a backbone leg.

RT - Remote terminal

ffff - Bank identification number (0000 through 9999)

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
62	Invalid channel number
7F	NPC is not added
F7	Corresponding NPC for virtual channel is not provisioned
70	NPC invalid type

UTL,QRY,BCAST,FROM

UTILITY QUERY BROADCAST FROM

Explanation Of Command

This message requests a listing of the tributary network processing circuits that is associated with a non-channelized digital signal broadcast connection.

Command

Nonhierarchical

[I.52121]

```
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM [s]abc!
```

Hierarchical

[I.52121]

```
UTL:FRM xy,SEQ ww:QRY,BCAST,FROM uvmnp!
```

Completion Message

Nonhierarchical

[O.52121]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc \
TO [t]ghi xxx  e LN MSG:
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst EOM

       .              .
       .              .
       .              .


M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc \
TO [t]ghi xxx  e LN MSG:
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst
  [t]rst [t]rst [t]rst [t]rst   [t]rst [t]rst [t]rst [t]rst COMPL


OR

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc 000 COMPL
```

Hierarchical

[O.52121]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp \
TO ghijk xxx  e LN MSG:
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr EOM

              .              .
              .              .
              .              .
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp \
TO ghijk xxx  e LN MSG:
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr
  wxkqr wxkqr wxkqr wxkqr   wxkqr wxkqr wxkqr wxkqr COMPL
```

OR

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp 000 COMPL
```

Denial Message

Nonhierarchical

[O.52121.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc COND cc DNY
```

Hierarchical

[O.52121.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

BCAST - Broadcast

FROM - From

Source network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical non-channelized source (FROM) NPC Number, whose tributaries will be listed

[t]ghi - The 3- or 4-digit full tributary (TO) NPC number

[t]rst - The 3- or 4-digit tributary (TO) NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical number of source (FROM) NPC
ghijk - Hierarchical number of full tributary (TO) NPC
wxkqr - Hierarchical number of tributary (TO) NPC

uv,gh,wx
- Unit number

m,i,k
- Module number

np,jk,qr
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

TO - To

Tributary

e - Number of lines in each message segment (2 through 5)

xxx - Number of tributary NPCs in the broadcast connection

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
AD	No BBL leg
0B	Invalid CEPT NPC
B4	NPC is channelized type

UTL,QRY,CMAP

QUERY PARTIAL CROSS-CONNECT MAP

Explanation Of Command

This command requests a printout of the DACS II cross-connect map for a single network processing circuit (NPC) or a range of NPCs in a facility terminating unit (FTU, IFTU, IFTU2), or digital signal processing unit (DSPU).

If a range of NPCs is specified in this command, DACS II will output the cross-connect maps for only those NPCs that are equipped and have at least one cross-connected channel.

The execution of the command and the generation of the output are aborted by entering ABT.

If the NPCs are unmapped, the TO NPC number is omitted.

For 64 kbit/s test access, the FROM and TO terminations under test by the corresponding active testport channels will be displayed rather than far-end mapped terminations.

For non-channelized digital signal test access, the FROM and TO NPCs of the circuit under test are listed, and if only one NPC is actually under test, it is listed first.

Note: No range is allowed for virtual NPCs.

This command will also generate cross-connect maps for application cards that have the type SDxyz (where xyz is a set of hexadecimal numbers that define a particular application). The actual channel numbers of application cards are assigned by the application and not by the user; therefore, during normal circuit management, the user should utilize the SD application queries rather than this command.

If an SDxyz application is provisioned in a North American module of an FTU, IFTU, or IFTU2, the number of channels available to the application is 48. If an SDxyz application is provisioned in an international module of an FTU, IFTU, or IFTU2, the number of channels available to the application is 64. The output of this command reflects this difference. Please note that individual modules in an FTU, IFTU, or IFTU2 may be provisioned as international modules, even though the other three modules are provisioned as North American modules.

For application-to-application type cross-connects the user should issue command UTL::QRY,APPL (I.51201) to generate the correlation between pseudo channels that the user refers to in commands and the actual channels assigned by the application.

Command

Nonhierarchical

[I.52011]

UTL:[FRM xy,SEQ ww]:QRY,CMAP [s]abc[-[t]def]!

Hierarchical

[I.52011]

UTL:[FRM xy,SEQ ww]:QRY,CMAP uvmnp[-wxkqr]!

Completion Message

Nonhierarchical

Note: The following two message segments will be output for each PA, PB, PC, and ST100 NPC.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc mnxyz 000-015[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc mnxyz 016-031[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr {EOM|COMPL}
```

Note: The following message segment will be output for each Clear-E1 NPC.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]jkl mnxyz[ {FAD <tmode>|ROLL}] \
[t][v]ghi[r][ [v]ghi] {EOM|COMPL}
```

Note: The following four message segments will be output for each SDxyz-type NPC in an international module:

[O.52012]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc SDxyz 001-016  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc SDxyz 017-032  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc SDxyz 033-048  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc SDxyz 049-064  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr {EOM|COMPL}
```

Note: The following two message segments will be output for each MB NPC.

[O.52013]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]mbn MB100 001-064 DPLX  5 LN MSG:
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]mbn MB100 065-085 DPLX  3 LN MSG:
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll {EOM|COMPL}
```

Note: The following four message segments will be output for each CB NPC.

[O.52016]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]cbn CB10z 000-031 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]cbn CB10z 032-063 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]cbn CB10z 064-095 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]cbn CB10z 096-127 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq {EOM|COMPL}
```

Note: The following message segment will be output as many times as needed for each VI NPC.

[O.52014]

```
M hh:mm ss xy,ww n[vv] UTL QRY CMAP [s]vnp VI100 xx  e LN MSG:
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn {EOM|COMPL}
```

Note: For the case when multiple NPCs are queried, the following completion message segment will be output after all other NPC segments have been output.

[O.52011]

```
M hh:mm ss xy,ww n[vv] UTL QRY CMAP  COMPL
```

Hierarchical

Note: The following two message segments will be output for each PA, PB, PC, and ST100 NPC.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp mnxyz 000-015[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp mnxyz 016-031[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr {EOM|COMPL}
```

Note: The following message segment will be output for each Clear-E1 NPC.

[O.52011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edhfg mnxyz[ {FAD <tmode>|ROLL}] \
[t]ghikl[r][ ghikl] {EOM|COMPL}
```

Note: The following four message segments will be output for each SDxyz-type NPC in an international module:

[O.52012]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp SDxyz 001-016  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp SDxyz 017-032  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp SDxyz 033-048  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp SDxyz 049-064  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr {EOM|COMPL}
```

Note: The following two message segments will be output for each MB NPC.

[O.52013]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP mbnop MB100 001-064 DPLX  5 LN MSG:
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP mbnop MB100 065-085 DPLX  3 LN MSG:
lll lll lll lll lll lll lll lll  lll lll lll lll lll lll lll lll
lll lll lll lll lll {EOM|COMPL}
```

Note: The following four message segments will be output for each CB NPC.

[O.52016]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP cbnpq CB10z 000-031 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP cbnpq CB10z 032-063 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP cbnpq CB10z 064-095 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY CMAP cbnpq CB10z 096-127 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  {EOM|COMPL}
```

Note: The following message segment will be output as many times as needed for each VI NPC.

[O.52014]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP vnprs VI100 xx  e LN MSG:
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn {EOM|COMPL}
```

Note: For the case when multiple NPCs are queried, the following completion message segment will be output after all other NPC segments have been output.

[O.52011]

```
M hh:mm ss xy,ww n[vv] UTL QRY CMAP  COMPL
```

Denial Message

Nonhierarchical

[O.52011.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [w]mno UEQD DNY
```

[O.52011.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP [s]abc[-[t]def] COND cc DNY
```

Hierarchical

[O.52011.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edmno UEQD DNY
```

[O.52011.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP uvmnp[-wxkqr] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

CMAP - Cross-connect map

[s]abc - The 3- or 4-digit nonhierarchical NPC number, the first number of a range

[t]def - The 3- or 4-digit nonhierarchical NPC number, the last number of a range

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, the first number of a range
wxkqr - Hierarchical NPC number, the last number of a range

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[s]jkl - Nonhierarchical non-channelized NPC number in range [s]abc-[s]def

edhfg - Hierarchical non-channelized NPC number in range uvmnp-wkxqr

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mnxyz	*Explanation*
SD	Digital Signal Processing Application Circuit Pack
ST	Digital Signal Processing Circuit Pack (2 NPCs per card)
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
CB	C-bit processor (CPR) NPC
VI	Virtual NPC

DPLX - Duplex

Duplex equipped

ccc-ddd
- Channel number range

The channel number range varies with the NPC type. It is not printed for non-channelized NPCs

Conference numbers
001-085 (MB NPC)

[u]lmn - The 3- or 4-digit nonhierarchical NPC number (with the same valid values as [s]abc)

t - type of connection

t	*Type of connection*
*****	One-way
" "	Two-way (a blank)
B	Broadcast (BCON)
R	Roll
T	Test Access*
P	DSP Platform Application connection, two-way
Q	DSP Platform Application connection, one-way

* T will not be displayed for mapped terminations.

NPCTP - Network processing circuit for test port

ROLL - Roll

Bridged facility in Roll procedure

[v]ghijjj
- Nonhierarchical number of NPC and channel or conference port number/circuit ID. For a non-channelized cross-connect, the channel number jjj will not be shown.

[v]ghi - Nonhierarchical NPC with the same valid values as [s]abc.

For an FAD, the tested NPC is listed first if only one of the two mapped NPCs is under test.

Some examples of [v]ghijjj are listed below:

[v]ghijjj	Explanation
[0]000000	Unmapped channel
[v]ghi000	Mapped channel connected to an FDL of NPC [v]ghi

r - Termination status

r	*Termination status*
T	Terminated
blank	Not Terminated

ghikljjj
- Hierarchical number of NPC and channel or conference port number/circuit ID. For a non-channelized cross-connection, the channel number jjj will not be shown.

00000000
- Unmapped channel

[s]cbn - The 3- or 4-digit nonhierarchical CB type NPC number.

cbnpq - Hierarchical CB type NPC number.

- **cb** - Unit number
- **n** - Module number
- **pq** - NPC number

[v]opq - The 3- or 4-digit nonhierarchical PA or PB or PC or TH type NPC number

opqrx - Hierarchical PA or PB or PC or TH type NPC number

- **op** - Unit number
- **q** - Module number
- **rx** - NPC number

[s]mbn - The 3- or 4-digit nonhierarchical MB type NPC number

mbnop - Hierarchical MB type NPC number

- **mb** - Unit number
- **n** - Module number
- **op** - NPC number

lll - Number of legs for the multipoint termination (003 through 256)

[s]vnp - The 3- or 4-digit nonhierarchical virtual NPC number

vnprs - Hierarchical virtual NPC number

- **vn** - Unit number
- **p** - Module number
- **rs** - NPC number

xx - Number of conferences reported in the segment (01 through 48)

e - Number of lines in the segment

tnnn - Virtual conference type and number

t - *Virtual conference type*

t	Explanation
*****	One-way
" "	Two-way (a blank)

nnn - Virtual conference number (001 through 500)

[w]mno - The 3- or 4-digit nonhierarchical NPC number that caused the denial ([s]abc through [t]def)

edmno - Hierarchical NPC number that caused the denial (uvmnp through wxkqr)

cc - Hexadecimal condition code

cc	*Explanation*
0B	Invalid CEPT NPC
91	SR NPC was specified - not allowed

UTL,QRY,CNFGR

UTILITY QUERY CONFIGURE

Explanation Of Command

This command requests information about the configuration of a DACS II frame.

Command

[I.51091]

```
UTL:FRM xy,SEQ ww:QRY,CNFGR!
```

Completion Message

[O.51091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CNFGR  4 LN MSG:
ID xy UID <uid> SS <ssn>
BAY aa TYPE fff-fff UNITS bb CCN c HG d
UNIT a a a a  a a a a  a a a a  a a a a  \
NPCAD[ E][ X] H COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

ID - Identifier (frame)

xy - Frame identifier (00 through ZZ)

UID - Unique identifier

uid - Unique (frame) identifier (1 to 20 alphanumeric characters)

SS - Software serial number

ssn - Software serial number value (1 to 10 alphanumeric characters)

The software serial number may be assigned by the user to identify a particular software package. This would eliminate problems in an office where the user has multiple frames and more than one software package is in use.

BAY - Bay

aa - Total number of bays, in decimal (01 through 07)

TYPE - Type

fff-fff
- Bay types (-, 1, or 2)

Variable fff-fff gives the bay type assigned to each bay in the frame. Bays are numbered from 1 through 7. When viewed from the front of the frame the bays are positioned in the frame in the same order as the bay numbers shown below. Consult this table to determine the bay associated with the position of a given f.

Bay numbers	6 4 1 2 3 5 7
Assignment	f f f - f f f

f	*Explanation*
-	Not configured or the Switch Bay (Bay 2)
1	Original Interface Bay
2	Flexible Interface Bay

UNITS - Units

bb - Number of equipped units, in decimal (01 through 16)

CCN - Cross-connect network

c - Cross-connect network type

c	*Explanation*
1	Multibay CCN
2	Single-bay CCN
E	ECCN

HG - Height

d - Height of bay

d	*Explanation*
0	7’0’’ (2133mm)
1	11’6’’ (3505mm)
2	7’2.6’’ (2200mm)

UNIT - Unit

a - Unit type

a	*Explanation*
-	Not configured
1	FTU
2	DSPU
3	DS3U(or HDS3U)
4	IFTU
5	IFTU2
6	HDS3U

NOTE:The Unit type of 3 indicates DS3U or HDS3U because if the Unit is configured but not grown it can be either. If it is grown as a DS3U, the unit type will be 3. If it is grown as an HDS3U, the unit type will be 6.

NPCAD - Network processing circuit addressing

E - The 3-digit nonhierarchical (Extended) addressing scheme

X - The 4-digit nonhierarchical (Extended) addressing scheme

H - Hierarchical addressing scheme

UTL,QRY,DATE

QUERY DATE

Explanation Of Command

This message requests a printout of the current date (month, day, year) and the time interval at which DACS II prints the date.

Command

[I.51031]

```
UTL:FRM xy,SEQ ww:QRY,DATE!
```

Completion Message

[O.51031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DATE aa/bb/cc FORMAT ggg INT ii \
COMPL
```

Denial Message

Not applicable.

Autonomous Message

[O.51031]

`I hh:mm:ss xy,ww  UTL QRY DATE aa/bb/cc FORMAT ggg INT ii COMPL`

Explanation Of Parameters

INT - Interval

ii - Interval at which DACS II will print the date.

ii	Meaning
01	Every hour on the hour.
02	Every even hour on the hour.
04	Every fourth hour on the hour: 04, 08, 12, 16, 20, 24
06	Every sixth hour on the hour: 06, 12, 18, 24
08	Every eighth hour on the hour: 08, 16, 24
12	Twice daily on the hour: 12, 24
24	Once daily at midnight (default).

DATE - Date

aa - Month or day
bb - Day or Month
cc - Year (2 or 4 digits)

The DATE will be displayed in the International format

FORMAT - Format

ggg - Date format

ggg	*Date format*
MDY	Month/Day/Year (USA format)
DMY	Day/Month/Year (International format)

UTL,QRY,DD

UTILITY QUERY DIRECTOR DACS II

Explanation Of Command

This message queries all the C-bits that are provisioned for the Director DACS on the addressed network processing circuit.

Command

Nonhierarchical

[I.56341]

```
UTL:FRM xy,SEQ ww:QRY,DD [s]abcddd[-fff]!
```

Hierarchical

[I.56341]

```
UTL:FRM xy,SEQ ww:QRY,DD uvmnpddd[-fff]!
```

Completion Message

Nonhierarchical

[O.56341]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DD [s]abcddd[-fff] 3 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw COMPL
```

Hierarchical

[O.56341]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DD uvmnpddd[-fff] 3 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw COMPL
```

Denial Message

Nonhierarchical

[O.56341.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DD [s]abcddd[-fff] COND cc DNY
```

Hierarchical

[O.56341.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DD uvmnpddd[-fff] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

DD - Director DACS

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Channel number for beginning of channel range
fff - Channel number for end of channel range

001-030 (CEPT type NPCs grown as CAS)

m - Monitor
w - Write

m	*Explanation*
0	c-bit not provisioned as a DD for Monitor (default)
1	c-bit provisioned as a DD for Monitor
-	Channel was not specified

w	Explanation
0	c-bit not provisioned as a DD for Write (default)
1	c-bit provisioned as a DD for Write
-	Channel was not specified

The output completion message shows provisioning for 15 channels per line, numbered 1 through 15 on the second line and 16 through 30 on the third line. For those channels which have not been encompassed in the range ddd through fff the "-" (dash) will be output.

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
15	NPC is unequipped
0B	Invalid CEPT NPC
54	Cross-connect to CPR is required
F1	Parameter only valid with PA, PB, or PC type NPCs

UTL,QRY,DD,NPC,DDCT,ALL

UTILITY QUERY DIRECTOR DACS NPC

Explanation Of Command

This message queries a network processing circuit (NPC) or a range of circuits which are provisioned as the Director of DACS.

The output completion message shows the provisioning for 15 channels on the second line and channels 16 through 30 on the third line.

Command

Nonhierarchical

[I.56343]

```
UTL:FRM xy,SEQ ww:QRY,{DD,NPC [s]abc[-[t]def]|DDCT,ALL}!
```

Hierarchical

[I.56343]

```
UTL:FRM xy,SEQ ww:QRY,{DD,NPC uvmnp[-wxkqr]|DDCT,ALL}!
```

Completion Message

Nonhierarchical

[O.56343]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DD NPC [s]abc  3 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw COMPL

            .
            .
            .

[M hh:mm:ss xy,ww n[vv] UTL QRY DD NPC [t]def  3 LN MSG:]
[mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw]
[mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw COMPL]

M hh:mm:ss xy,ww n[vv] UTL QRY DD NPC [s]abc[-[t]def] COMPL
```

[O.56344]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DDCT NPC [s]abc  5 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx EOM

            .
            .
            .

M hh:mm:ss xy,ww n[vv] UTL QRY DDCT NPC [t]def  5 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx COMPL

M hh:mm:ss xy,ww n[vv] UTL QRY DDCT ALL COMPL
```

Hierarchical

[O.56343]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DD NPC uvmnp  3 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw COMPL

            .
            .
            .

[M hh:mm:ss xy,ww n[vv] UTL QRY DD NPC wxkqr  3 LN MSG:]
[mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw]
[mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw COMPL]

M hh:mm:ss xy,ww n[vv] UTL QRY DD NPC uvmnp[-wxkqr] COMPL
```

[O.56344]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DDCT NPC uvmnp  5 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx EOM

            .
            .
            .

M hh:mm:ss xy,ww n[vv] UTL QRY DDCT NPC wxkqr  5 LN MSG:
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
mw mw mw mw mw mw mw mw mw mw mw mw mw mw mw
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx \
xxxx xxxx xxxx COMPL

M hh:mm:ss xy,ww n[vv] UTL QRY DDCT ALL COMPL
```

Denial Message

Nonhierarchical

[O.56343.01]

M hh:mm:ss xy,ww n[vv] UTL QRY DD [t]ghi COND cc DNY

Hierarchical

[O.56343.01]

M hh:mm:ss xy,ww n[vv] UTL QRY DD edhfg COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit starting nonhierarchical NPC number

[t]def - The 3- or 4-digit ending nonhierarchical NPC number
Values are listed below:

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Starting hierarchical NPC number
wxkqr - Ending hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

DD - Director DACS

DDCT - Director DACS with data base coherence feature.

[t]ghi - The 3- or 4-digit nonhierarchical NPC number that caused the denial.
([s]abc ≤ [t]ghi ≤ [t]def)

edhfg - Hierarchical NPC number that caused the denial (PDS).
(uvmnp ≤ edhfg ≤ wxkqr)

ALL - Query All NPCs

mw - Status of Director DACS setting for a given channel

m	*Explanation*
0	Not provisioned for monitor
1	Provisioned for Monitor
-	Channel was not specified

w	*Explanation*
0	Not provisioned for write
1	Provisioned for write
-	Channel was not specified

xxxx - Bit pattern sent on a c-bit.

"xxxx" is a the hexadecimal representation of the 14 bit pattern sent on a c-bit (abcd efgh ijkl mnop). Bits "a" and b" are always 0.
Bits cdefghijklmnop are sent on a c-bit. For those channels in which no bit pattern is transmitted, the xxxx field contains "----".

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
15	NPC is unequipped
0B	Invalid CEPT NPC
54	Cross-connect to CPR is required
F1	Parameter only valid with PA, PB, or PC type NPCs

UTL,QRY,DMAP

QUERY FULL CROSS-CONNECT MAP

Explanation Of Command

This command requests a printout of the DACS II map on ALL cross-connected channels.

The output lists all FROM and TO side identifiers for all equipped network processing circuits (NPCs). Unequipped and fully unassigned Network Processing Circuits will not be listed. The outputs are similar to the **UTL::QRY,CMAP** output. This command may produce a large volume of output. To terminate the output enter the **ABT** command.

Command

[I.52031]

UTL:[FRM xy,SEQ ww]:QRY,DMAP!

Completion Message

Nonhierarchical

Note: The following two message segments will be output for each PA, PB, PC, and ST100 NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]abc mnxyz 000-015[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]abc mnxyz 016-031[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM
```

Note: The following message segment will be output for each Clear-E1 NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]jkl mnxyz[ {FAD <tmode>|ROLL}] \
[t][v]ghi[r][ [v]ghi] EOM
```

Note: The following four message segments will be output for each SDxyz-type NPC in an international module:

[O.52032]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]abc SDxyz 001-016  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]abc SDxyz 017-032  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]abc SDxyz 033-048  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]abc SDxyz 049-064  5 LN MSG:
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr
t[v]ghijjjr  t[v]ghijjjr t[v]ghijjjr  t[v]ghijjjr EOM
```

Note: The following two message segments will be output for each MB NPC.

[O.52033]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]mbn MB100 001-064 DPLX  5 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]mbn MB100 065-085 DPLX  3 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll EOM
```

Note: The following four message segments will be output for each CB NPC.

[O.52036]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]cbn CB10z 000-031 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]cbn CB10z 032-063 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]cbn CB10z 064-095 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP [s]cbn CB10z 096-127 DPLX  5 LN MSG:
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq
[v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq  [v]opq EOM
```

Note: The following message segment will be output as many times as needed for each VI NPC.

[O.52034]

```
M hh:mm ss xy,ww n[vv] UTL QRY DMAP [s]vnp TYPE VI100 xx  e LN MSG:
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn EOM
```

Note: The following completion message segment will be output after all other NPC segments have been output.

[O.52031]

```
M hh:mm ss xy,ww n[vv] UTL QRY DMAP  COMPL
```

Hierarchical

Note: The following two message segments will be output for each PA, PB, PC, and ST100 NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp mnxyz 000-015[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp mnxyz 016-031[ {NPCTP|NPCTG|ROLL}]  \
5 LN MSG:
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr
tghikljjjr  tghikljjjr tghikljjjr  tghikljjjr EOM
```

Note: The following message segment will be output for each Clear-E1 NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP edhfg mnxyz[ {FAD <tmode>|ROLL}] 2 LN MSG:
[t]ghikl[r][ ghikl] EOM
```

Note: The following four message segments will be output for each SDxyz-type NPC in an international module:

[O.52032]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp SDxyz 001-016  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp SDxyz 017-032  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp SDxyz 033-048  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp SDxyz 049-064  5 LN MSG:
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr
tghikljjjr tghikljjjr tghikljjjr tghikljjjr EOM
```

Note: The following two message segments will be output for each MB NPC.

[O.52033]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP mbnop MB100 001-064 DPLX  5 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP mbnop MB100 065-085 DPLX  3 LN MSG:
lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll lll
lll lll lll lll lll EOM
```

Note: The following four message segments will be output for each CB NPC.

[O.52036]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP cbnpq CB10z 000-031 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP cbnpq CB10z 032-063 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP cbnpq CB10z 064-095 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY DMAP cbnpq CB10z 096-127 DPLX  5 LN MSG:
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx
opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  opqrx  EOM
```

Note: The following message segment will be output as many times as needed for each VI NPC.

[O.52034]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP vnprs TYPE VI100 xx  e LN MSG:
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
[tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn]
tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn  tnnn EOM
```

Note: The following completion message segment will be output after all other NPC segments have been output.

[O.52031]

```
M hh:mm ss xy,ww n[vv] UTL QRY DMAP  COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

DMAP - Digroup map

[s]abc - The 3- or 4-digit nonhierarchical NPC number
For FT NPCs excluding non-channelized NPCs.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mn	*Explanation*
SD	Digital Signal Processing Application Circuit Pack
ST	Digital Signal Processing Circuit Pack (2 NPCs per card)
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
CB	C-bit processor (CPR) NPC

ccc - Starting channel or conference number
ddd - Ending channel or conference number

Channel numbers

000-031 CEPT

Conference numbers

001-085 (MB NPC)

tjklmnddd
- Hierarchical termination number

t - Type of connection
jk - Unit number
l - Module number
mn - NPC number within the module
ddd - Channel number
r - Termination state

r	*Explanation*
T	Terminated
blank	Not Terminated

NPCTP - NPC for DS0 Test Ports

NPCTG - NPC for Nx64 kbit/s Test-access Groups

ROLL - bridged facility in Roll procedure

t[v]ghijjjr
- Nonhierarchical termination number and state

t - Type of connection
[v]ghi - Nonhierarchical NPC number
jjj - Channel/conference number
r - Termination state

t	*Explanation*
*****	One-way
blank	Two-way
B	Broadcast
R	Bridged (from Roll)
T	Test access
P	DSP Platform Application connection, two-way
Q	DSP Platform Application connection, one-way

[v]ghijjj
- Nonhierarchical termination number

Number of NPC and channel or conference port number/circuit ID.

[0]000000 Unmapped termination number

r	*Explanation*
T	Terminated
blank	Not Terminated

tghikljjjr
- Hierarchical termination number and state

t	- Type of connection
gh	- Unit number
i	- Module number
kl	- NPC number
jjj	- Channel/conference number
r	- Termination state

ghikljjj	Hierarchical termination number
00000000	Unmapped termination number
ghikl000	Mapped termination number connected to an FDL

[s]mbn - The 3- or 4-digit nonhierarchical MB type NPC number

mbnop - Hierarchical MB type NPC number

mb	- Unit number
n	- Module number
op	- NPC number

lll - Number of legs involved in the multipoint conference (000 through 256)

[s]vnp - The 3- or 4-digit nonhierarchical virtual NPC number

vnprs - Hierarchical virtual NPC number

vn	- Unit number
p	- Module number
rs	- NPC number

e - Number of lines in the message segment

tnnn - Virtual conference type and number

t	- Virtual conference type
nnn	- Virtual conference number (001 through 500)

t	*Explanation*
*****	one-way
blank	two-way

DPLX - Duplex

Duplex equipped

[s]jkl - The 3- or 4-digit non-hierarchical non-channelized NPC number

Values are identical to [s]abc

edhfg - Hierarchical non-channelized NPC number

ed - Unit number
h - Module number
fg - NPC number within the module

Valid values are identical to uvmnp

[t][v]ghi[r]
- Nonhierarchical termination number and state

t - Type of connection
[v]ghi - The 3- or 4- digit nonhierarchical NPC number
r - Termination state

Valid values are identical to [s]abc

[t]ghikl[r]
- Hierarchical termination number and state

t - Type of connection
gh - Unit number
i - Module number
kl - NPC number
r - Termination state

Valid values are identical to uvmnp

Note: For a non-channelized PTN that is under test, the tested NPC is listed first if only one of the two mapped NPCs is under test.

[s]cbn - The 3- or 4-digit nonhierarchical NPC number

cbnpq - Hierarchical NPC number

cb - Unit number
n - Module number
pq - NPC number

[v]opq - The 3- or 4-digit nonhierarchical NPC number

opqrx - Hierarchical NPC number

- **op** - Unit number
- **q** - Module number
- **rx** - NPC number

UTL,QRY,DS3,BERMT,UNIT

UTILITY QUERY DS3 BIT ERROR RATE

Explanation Of Command

This message reports the bit error rate calculation method and the bit error rate threshold setting for the DS3 facilities in a DS3 or Hybrid DS3 (HDS3) unit or for all of the DS3 units, including HDS3U, in a DACS II frame.

Command

[I.53221]

UTL:FRM xy,SEQ ww:QRY,DS3,BERMT[,UNIT [q]q]!

Completion Message

[O.53221]

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT UNIT [q]q 3 LN MSG:
BERM m_1 . . . m_6
BERT t_1 . . . t_6 **EOM**

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT COMPL

[O.53222]

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT NONE COMPL

Denial Message

[O.53221.01]

M hh:mm:ss xy,ww n[vv] UTL QRY DS3 BERMT UNIT [q]q COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

DS3 - Digital signal 3

UNIT - Unit

[q]q - Unit number (1 through 16)

BERM - Bit error rate calculation method

BERT - Bit error rate threshold

BERMT - Both BERM and BERT

m_1 .. m_6
- BERM setting for DS3 1 through 6

m	*Explanation*
B	Bipolar violations
P	DS3 Parity Errors
C	Both Bipolar violations (BPV) and DS3 Parity Errors, support by HMXR only
-	The Service MXR or HMXR associated with the DS3 facility is unequipped

t_1 .. t_6
- BERT setting for DS3 1 through 6

t	*Explanation*
3	10^{-3} threshold
6	10^{-6} threshold
-	The Service MXR or HMXR associated with the DS3 facility is unequipped

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped

UTL,QRY,DS3,LBO

QUERY DS3 LINE BUILD OUT

Explanation Of Command

This message reports the line buildout (LBO) settings for the DS3 facilities on the DACS II frame. Output is printed only for DS3 units, including DS3 Hybrid units, that are equipped.

Command

[I.53231]

```
UTL:FRM xy,SEQ ww:QRY,DS3,LBO!
```

Completion Message

[O.53231]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DS3 LBO  e LN MSG:
UNIT [q]q 1bbb 2bbb 3bbb 4bbb 5bbb 6bbb
     .        .       .
     .        .       .
UNIT [q]q 1bbb 2bbb 3bbb 4bbb 5bbb 6bbb COMPL
```

The following message will be generated if no service MXR is equipped in the DACS frame.

[O.53232]

M hh:mm:xx xy,ww n[vv] UTL QRY DS3 LBO NONE COMPL

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

DS3 - Digital signal 3 (44.736 Mb/s rate)

e - Number of line in the segment (2 through 5)

UNIT - Unit

[q]q - Unit number (1 through 16)

LBO - The line buildout setting provisioned per DS3 facility.

bbb - LBO setting for each DS3 facility

bbb	*Explanation*
ON	Line buildout is turned on
OFF	Line build out is turned off
---	Service MXR or HMXR corresponding to the DS3 or Hybrid DS3 is not equipped

LBO is required as shown in the following table.

734A Cabling to DSX-3	KS-19224,L2 Cabling to DSX-3	LBO
0 to 225 feet	0 to 75 feet	ON
225 to 450 feet	75 to 150 feet	OFF

UTL,QRY,EQD,COMMON

UTILITY QUERY EQUIPAGE, COMMON

Explanation Of Command

This message requests reports on the equipage of common equipment in the frame.

In the output message each entity is represented by a single character alphabetic variable. The value of this variable gives the equipage status of the entity represented by the variable.

Command

[I.53109]

```
UTL:FRM xy,SEQ ww:QRY,EQD,COMMON!
```

Completion Message

[O.53109]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD g h i j k l f  m n  o p  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD  3 LN MSG:
SYNC x y CRO x
TLI x x x x  x x x x  y y y y  y y y y EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt nn  5 LN MSG:
11 x y 12 x y 13 x y 14 x y 15 x y 16 x y
21 x y 22 x y 23 x y 24 x y 25 x y 26 x y
31 x y 32 x y 33 x y 34 x y 35 x y 36 x y
41 x y 42 x y 43 x y 44 x y 45 x y 46 x y EOP

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt nn  3 LN MSG:
51 x y 52 x y 53 x y 54 x y 55 x y 56 x y
61 x y 62 x y 63 x y 64 x y 65 x y 66 x y EOM
```

For DACS II CEF frames, the next segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL ETSIS tt  3 LN MSG:
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD COMMON COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Equipped

The equipage status of an entity is given as follows:

1 Equipped
0 Unequipped

The DACS II entities and their status fields are as follows:

g - Link 1
h - Link 2
i - Link 3
j - Link 4
k - Link 5
l - Link 6
f - Link 7
m - XC0 (Cross-connect 0)
n - XC1 (Cross-connect 1)
o - CCNI/CCI 0 (Cross-connect network interface 0 for non-CEF frame) (Clock and control interface 0 for CEF frame)
p - CCNI/CCI 1 (Cross-connect network interface 1 for non-CEF frame) (Clock and control interface 1 for CEF frame)

TLI - Timing link interface

x - Side 0

y - Side 1

The TLI entities are listed, in the messages, from left to right in the following order.

```
TLI 1, SSP 0
TLI 1, SSP 1
TLI 2, SSP 0
TLI 2, SSP 1
TLI 3, SSP 0
TLI 3, SSP 1
TLI 4, SSP 0
TLI 4, SSP 1

TLI 1, SSP 0
TLI 1, SSP 1
TLI 2, SSP 0
TLI 2, SSP 1
TLI 3, SSP 0
TLI 3, SSP 1
TLI 4, SSP 0
TLI 4, SSP 1
```

TSIS - Time slot interchanges NonCEF
ETSIS - Expanded time slot interchangers CEF

f - FROM unit (1 through 6)

t - TO Unit (1 through 6)

SYNC - Synchronizer

x - Side 0 synchronizer equipage status

y - Side 1 synchronizer equipage status

CRO - Clock reference oscillator

x - CRO equipage status

tt - Total number of equipped TSIs/ETSIs.

UTL,QRY,EQD,CONN

UTILITY QUERY, EQUIPMENT CONNECTIVITY

Explanation Of Command

This message requests a printout of all units that are equipped. This message provides a connectivity matrix showing a "1" at the intersection of rows and columns of units for which time slot cross-connections can be made. A "0" is shown where there is no connectivity. The matrix is thus also an equipage map of the time slot interchange on each side of the cross-connect network.

Command

[I.53031]

UTL:FRM xy,SEQ ww:QRY,EQD,CONN!

Completion Message

[O.53031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD CONN  5 LN MSG:
UNITS 1 2 3 4 5 6  UNITS 1 2 3 4 5 6
    1 x x x x x x      4 x x x x x x
    2 x x x x x x      5 x x x x x x
    3 x x x x x x      6 x x x x x x COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Request equipage status

CONN - Request information on connectivity between units

x - Interunit connectivity

x	Explanation
1	Connectivity
0	No connectivity

UTL,QRY,EQD,ETSIS

UTILITIES, ETSIS

Explanation Of Command

This message requests equipage information for all expanded time slot interchange circuit packs.

Command

[I.53022]

```
UTL:FRM xy,SEQ ww:QRY,EQD,ETSIS!
```

Completion Message

[O.53022]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD ETSIS  4 LN MSG:
TOTAL ETSIS tt
0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq
0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  0qq 1qq  COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Request equipage status

ETSIS - Request information on ETSI circuit packs

tt - Total number of equipped ETSIs (00 through 32)

qq - Unit number (01 through 16)

If the ETSI pack is not equipped, the number "00" shall be shown in the "qq" field. The "0" or "1" shown before the "qq" is the side number.

UTL,QRY,EQD,MXRS

UTILITIES, QUERY,EQUIPPED,MULTIPLEXERS

Explanation Of Command

This message queries the equippage of the Multiplexers (MXRs) or Hybrid Multiplexers (HMXRs) in the DS3 or Hybrid DS3 (HDS3) Unit Service slots of the DACS II frame.

Command

[I.53211]

```
UTL:FRM xy,SEQ ww:QRY,EQD,MXRS!
```

Completion Message

[O.53211]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD MXRS tt  e LN MSG:
UNIT [q]q 1mnxyz 2mnxyz 3mnxyz 4mnxyz 5mnxyz 6mnxyz TOTAL a
            .
            .
            .
UNIT [q]q 1mnxyz 2mnxyz 3mnxyz 4mnxyz 5mnxyz 6mnxyz TOTAL a COMPL
```

[O.53212]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD MXRS TOTAL 00 COMPL
```

Note: This command will be generated if no MXRs are equipped in the DACS II frame.

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Equipped state

MXRS - Service Multiplexers (MXR or HMXR)

Only units that are equipped as DS3 or HDS3 Units will have corresponding output lines.

tt - total number of equipped MXRs or HMXRs in the DACS frame (01 through 96) (not including Protection MXRs or HMXRs)

e - number of lines in a segment (2 through 5)

a - the number of equipped Service MXRs or HMXRs in a unit (1 through 6)

mnxyz - The DS3 format processed by the MXR:

mn - DS3 type

mn	*Explanation*
MX	The original R4.0 DS3 facility type supported by the Multiplexer (MXR) circuit pack (KCR-1).
EX	The enhanced R6.0 DS3 facility type supported by the Enhanced Multiplexer (EMXR) circuit pack (KCR-5).
HX	The hybrid facility type supported by the Hybrid Multiplexer (HMXR) circuit pack (KCR-8).

If the unit is a regular DS3U of unit type DT100, then the default is the MX type for backward compatibility.
If the unit is a Hybrid DS3U of unit type HT100, then the default is HX.

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Note: If a particular MXR or HMXR is not equipped, five hyphens(-----) will occupy the mnxyz field.

UTL,QRY,EQD,NPCS,TOTAL,UNIT

QUERY EQUIPPED NPCS

Explanation Of Command

This command reports the equipage state for each of the network processing circuits (NPCs) on the DACS II frame and can provide the total number of circuits that are equipped in the facility terminating units (FTU/IFTU/IFTU2), DS3 units (DS3U), Hybrid DS3 units (H/DS3U) and digital signal processing units (DSPU).

Digital Signal Processing Platform (DSPP) NPCs that are provisioned within an FTU, IFTU, or IFTU2 will be displayed in the output message or will be counted in the total number of circuits as appropriate. One NPC will count as one circuit even though one NPC occupies a physical slot that normally is occupied by two NPCs.

The results of the output message are in fragment sequence starting with the lowest unit number and ending with the highest unit number.

Within a fragment, the information is listed in NPC number sequence, starting with the lowest number at the top left and increasing to the right. The next line starts with the next highest NPC number.

The output of a partially equipped frame should conform to these rules:

- Omit the output message fragments for half of facility terminating module (FTM) for which there are no equipped NPCs.
- In nonhierarchical addressing, omit the output message fragment for one DS3 or HDS3 FTM (MXR or HMXR) for which there are no equipped NPCs.
- In hierarchical addressing, omit the output message fragment for half a DS3 or HDS3 FTM (MXR or HMXR) for which there are no equipped NPCs.
- Unequipped unit or module will not be reported
- The output will report on NPCs in increasing unit number order, regardless of whether the units are equipped as FTU, DS3U, DS3U or DSPU.
- If there are no DSPUs, the DSPU part is omitted.
- If there are no equipped FTUs, DS3Us, HDS3Us and DSPU NPCs, the output is given in message 53043.
- The DS3U or HDS3U keyword will only be generated in message 53043 if the DS3 feature bit is enabled in the software.
- The range of NPCs in one FTM will be spanned in two output segments.
- The range of nonhierarchical NPCs in one DS3 or HDS3 FTM will be spanned in one output segment.
- The range of hierarchical NPCs in one DS3 or HDS3 FTM will be spanned in two output segments.
- The range of NPCs in one DSPU will be spanned by one output segment.

This command reports the equipage state of each of the network processing circuit slots on the DACS II frame and the sixteen slots (eight duplicated pairs) in each of the two DACS II DSPUs. In the output message, the fields **mnxyz** are set to "-----" if the slot is unequipped or to the 5-character external type identifier of the NPC that occupies the slot if it is equipped.

Command

[I.53041]

UTL:FRM xy,SEQ ww:QRY,EQD,NPCS[,{TOTAL|UNIT [q]q}]!

Completion Message

Nonhierarchical

Output message fragment for NPCs in one FTM:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt  5 LN MSG:
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt  5 LN MSG:
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz
[e]eeemnxyz [e]eeemnxyz [e]eeemnxyz [e]eeemnxyz EOM
```

Output message fragment for 3 digit nonhierarchical NPCs in one DSP unit:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [UNIT [q]q] tt 2 LN MSG:
aaamnxyz aaamnxyz aaamnxyz aaamnxyz aaamnxyz aaamnxyz \
aaamnxyz aaamnxyz EOM
```

Output message fragment for 4-digit nonhierarchical NPCs in one DSP unit:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [UNIT [q]q] tt 3 LN MSG:
[a]aaamnxyz [a]aaamnxyz [a]aaamnxyz [a]aaamnxyz
[a]aaamnxyz [a]aaamnxyz [a]aaamnxyz [a]aaamnxyz EOM
```

Hierarchical

Output message fragment for NPCs in one FTM:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt  5 LN MSG:
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz EOM


M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt  5 LN MSG:
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz EOM
```

Output message fragment for NPCs in one DSP unit:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [UNIT [q]q] tt e LN MSG:
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz
uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz uvmnpmnxyz EOM
```

Common

Output message when the TOTAL keyword is specified:

[O.53042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS TOTAL  e LN MSG:
FTU  nnnn fff fff fff fff fff fff fff fff fff fff fff fff \
fff fff fff fff
H/DS3U hhhh ggg ggg ggg ggg ggg ggg ggg ggg ggg ggg ggg ggg \
ggg ggg ggg ggg
DSPU pppp qqq qqq qqq qqq qqq qqq qqq qqq qqq qqq qqq qqq \
qqq qqq qqq qqq COMPL
```

Output message when there are no equipped NPCs on the frame:

[O.53043]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS [UNIT [q]q] [FTU 0000]\
[ H/DS3U 0000][ DSPU 000] COMPL
```

Overall completion message:

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS [UNIT [q]q] COMPL
```

Denial Message

[O.53041.01]

M hh:mm:ss xy,ww n[vv] UTL QRY EQD NPCS UNIT [q]q COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Equipped

Request equipage status

NPCS - Network processing circuits

Request information on NPCs

UNIT - Unit

[q]q - Unit number (1 through 16)

TOTAL - Total

Request summary information

tt - Total number of NPCs in a segment

mnxyz - The equipage state and type of the NPCs

mnxyz	*Explanation*
-----	Not equipped

mn - The type of NPC

Valid values are listed below:

mn	Explanation
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
CB	C-bit processor (CPR) NPC
SD	Digital Signal Processing Application Circuit Pack

ST Digital Signal Processing Circuit Pack (2 NPCs per card)

xyz - The parameters used to provision the NPC.

See CRTE,EQPT,NPC and CRTE,EQPT,NPC,IW,X,AIS,MI,PMA,DMA for values.

SDxyz - Digital Signal Processing Platform (DSPP) Applications

SDxyz	*Type of Application*
SD111	X.50/X.57 International Subrate Application
SD311	Digital Multipoint Bridge (DMB) Application
SD411	DDS Subrate and MJU Application
SDxyz	Future applications with specific values for x, y, and z

[a]aaa - The 3- or 4-digit nonhierarchical NPC number for DSPU NPCs

Dashes (---) will be shown if no NPC is grown.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

On either CEPT FTM, or DSP unit.

uv - Unit number
m - Module number
np - NPC number within the module

Dashes (-----, -------) will be shown if no NPC is grown.

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

nnnn - Total number of FTU NPCs on the frame.

Dashes (----) will be shown if no unit is grown.

fff - Total number of NPCs on each FTU.

Dashes (---) will be shown if the unit is not grown or is not grown as an FTU.

pppp - Total number of DSPU NPCs on the frame.

Dashes (----) will be shown if no unit is equipped.

qqq - Total number of NPCs on each DSPU.

Dashes (---) will be shown if the unit is not grown or is not grown as a DSPU.

e - number of lines in a segment

[c]ccc - The 3- or 4-digit nonhierarchical NPC number for FTM

Dashes (---) will be shown if no NPC is grown.

[d]ddd - The 3- or 4-digit nonhierarchical NPC number for DS3U or HDS3U NPCs

Dashes (---) will be shown if no NPC is grown.

hhhh - Total number of DS3U or HDS3U NPCs on the frame.

Dashes (----) will be shown if no unit is grown.

ggg - Total number of NPCs on each DS3U or HDS3U.

Dashes (---) will be shown if the unit is not grown or is not grown as a DS3U or HDS3U.

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped

UTL,QRY,EQD,TSIS

UTILITY QUERY EQUIPPED

Explanation Of Command

This message requests a printout for all the equipped time slot interchange (TSI) circuit packs.

A fully equipped Enclosed Single Bay Frame (ESBF) shows the following TSI equipage status:

11 15 51 55

A fully equipped non-ESBF frame shows the following TSI equipage status:

11 12 13 14 15 16	41 42 43 44 45 46
21 22 23 24 25 26	51 52 53 54 55 56
31 32 33 34 35 36	61 62 63 64 65 66

Command

[I.53021]

`UTL:FRM xy,SEQ ww:QRY,EQD,TSIS!`

Completion Message

[O.53021]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD TSIS  5 LN MSG:
TOTAL TSIS tt
ft ft ft ft ft ft     ft ft ft ft ft ft
ft ft ft ft ft ft     ft ft ft ft ft ft
ft ft ft ft ft ft     ft ft ft ft ft ft COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Request equipage status

TSIS - Request information on TSI circuit packs

tt - Total number of equipped TSIs on the in-service side. The total number of equipped TSIs in the frame is twice this number.

ft - TSI equipage status:

ft	*Explanation*
00	Unequipped
TSI No.	Equipped

UTL,QRY,EQD,UNIT

UTILITY QUERY ENTITY EQUIPAGE

Explanation Of Command

This command is used to retrieve the state information associated with equipment.

The UNIT option is specified only when the EQPT modifier is used to query that unit. The UNIT field will be null when the command is used to query the whole frame.

Command

[I.53108]

`UTL:FRM xy,SEQ ww:QRY,EQD[,UNIT [q]q]!`

Completion Message

Nonhierarchical

If the unit number is not entered, the following output messages will be generated:

The output message starts with:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD g h i j k l  m n  o p  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD  3 LN MSG:
SYNC x ẋ CRO x
TLI x x x x  x x x x  ẋ ẋ ẋ ẋ  ẋ ẋ ẋ ẋ EOM


For DACS II Non-CEF frames, the next segment describes the CCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt  5 LN MSG:
11 x  12 x  13 x  14 x  15 x  16 x
21 x  22 x  23 x  24 x  25 x  26 x
31 x  32 x  33 x  34 x  35 x  36 x
41 x  42 x  43 x  44 x  45 x  46 x  EOP

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt  3 LN MSG:
51 x  52 x  53 x  54 x  55 x  56 x
61 x  62 x  63 x  64 x  65 x  66 x  EOM

For DACS II CEF frames, the segment describes the ECCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL ETSIS tt  3 LN MSG:
01 x  02 x  03 x  04 x  05 x  06 x  07 x  08 x
09 x  10 x  11 x  12 x  13 x  14 x  15 x  16 x  EOM
```

The output then continues with segments that contain information about common equipment in the equipped units. If more than 4 units are equipped, the unit equipage output will be divided into multiple segments.

[O.53108]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:]
[<data line for common equipment in the first equipped unit>]
[<data line for common equipment in the second equipped unit>]
[<data line for common equipment in the third equipped unit>]
[<data line for common equipment in the fourth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:]
[<data line for common equipment in the fifth equipped unit>]
[<data line for common equipment in the sixth equipped unit>]
[<data line for common equipment in the seventh equipped unit>]
[<data line for common equipment in the eighth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:
[<data line for common equipment in the ninth equipped unit>]
[<data line for common equipment in the tenth equipped unit>]
[<data line for common equipment in the eleventh equipped unit>]
[<data line for common equipment in the twelfth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:]
[<data line for common equipment in the thirteenth equipped unit>]
[<data line for common equipment in the fourteenth equipped unit>]
[<data line for common equipment in the fifteenth equipped unit>]
[<data line for common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as a DS1 FTU:

```
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```

The output message then lists the NPC numbers of equipped NPCs in each FTM/DS3U/HDS3U/DSPU. Output messages will be generated successively in ascending order by NPC number. If an FTM/DS3U/HDS3U/DSPU has no NPC equipped, the segment for that FTM/DS3U/HDS3U/DSPU will not be output.

Output message for equipage of NPCs in a CEPT FTM:

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [a]aaa-[b]bbb tt  5 LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

Output message for equipage of NPCs in a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS [a]aaa-[b]bbb tt  2 LN MSG:
[z]zzz [z]zzz [z]zzz [z]zzz   [z]zzz [z]zzz [z]zzz [z]zzz EOM
```

After the above information is output, the following format will be generated to complete the output response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD COMPL
```

If the unit number is specified in the input, the following output messages will be generated:

Output message format for an FTU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD  2 LN MSG:
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s] EOM
```

The output then continues with up to 4 of the following segment; one for each FTM:

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q FTU NPCS [a]aaa-[b]bbb tt  5 LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx
[x]xxx [x]xxx [x]xxx [x]xxx   [x]xxx [x]xxx [x]xxx [x]xxx EOM
```

Output message format for a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q UC a DSPI b[ CCB r s] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q DSPU NPCS [a]aaa-[b]bbb tt  2 LN MSG:
[z]zzz [z]zzz [z]zzz [z]zzz   [z]zzz [z]zzz [z]zzz [z]zzz EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q COMPL
```

Hierarchical

If the unit number is not entered, the following output messages will be generated:

The output message starts with:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD g h i j k l  m n  o p  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD  3 LN MSG:
SYNC x x̸ CRO x
TLI x x x x  x x x x  x̸ x̸ x̸ x̸  x̸ x̸ x̸ x̸ EOM


For DACS II Non-CEF frames, the next segment describes the CCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt  5 LN MSG:
11 x  12 x  13 x  14 x  15 x  16 x
21 x  22 x  23 x  24 x  25 x  26 x
31 x  32 x  33 x  34 x  35 x  36 x
41 x  42 x  43 x  44 x  45 x  46 x  EOP

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL TSIS tt  3 LN MSG:
51 x  52 x  53 x  54 x  55 x  56 x
61 x  62 x  63 x  64 x  65 x  66 x  EOM

For DACS II CEF frames, the segment describes the ECCN hardware:

M hh:mm:ss xy,ww n[vv] UTL QRY EQD TOTAL ETSIS tt  3 LN MSG:
01 x  02 x  03 x  04 x  05 x  06 x  07 x  08 x
09 x  10 x  11 x  12 x  13 x  14 x  15 x  16 x  EOM
```

The output then continues with segments that contain information about common equipment in the equipped units. If more than 4 units are equipped, the unit equipage output will be divided into multiple segments.

[O.53108]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:]
[<data line for common equipment in the first equipped unit>]
[<data line for common equipment in the second equipped unit>]
[<data line for common equipment in the third equipped unit>]
[<data line for common equipment in the fourth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:]
[<data line for common equipment in the fifth equipped unit>]
[<data line for common equipment in the sixth equipped unit>]
[<data line for common equipment in the seventh equipped unit>]
[<data line for common equipment in the eighth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:
[<data line for common equipment in the ninth equipped unit>]
[<data line for common equipment in the tenth equipped unit>]
[<data line for common equipment in the eleventh equipped unit>]
[<data line for common equipment in the twelfth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNITS  e LN MSG:]
[<data line for common equipment in the thirteenth equipped unit>]
[<data line for common equipment in the fourteenth equipped unit>]
[<data line for common equipment in the fifteenth equipped unit>]
[<data line for common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as an FTU:

```
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```

The output message then lists the NPC numbers of equipped NPCs in each FTM/DS3U/HDS3U/DSPU. Output messages will be generated successively in ascending order by NPC number. If an FTM/DS3U/HDS3U/DSPU has no NPC equipped, the segment for that FTM/DS3U/HDS3U/DSPU will not be output.

Output message for equipage of NPCs in a CEPT FTM:

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS uvmnp-uxkqr tt  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx EOM
```

Output message for equipage of NPCs in a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DSPU NPCS uvmnp-uxkqr tt  2 LN MSG:
zzzzz zzzzz zzzzz zzzzz   zzzzz zzzzz zzzzz zzzzz EOM
```

After the above information is output, the following format will be generated to complete the output response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD COMPL
```

If the unit number is specified in the input, the following output messages will be generated:

Output message format for an FTU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD  2 LN MSG:
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s] EOM
```

The output then continues with up to 4 of the following segment; one for each FTM:

Note: If any of the odd NPCs have been provisioned as a Digital Signal Processing Platform application NPC (SD-type), then the even NPC following it does not exist and dashes will be shown in its place.

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q FTU NPCS uvmnp-uxkqr tt  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx   xxxxx xxxxx xxxxx xxxxx EOM
```

Output message format for a DSPU:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q UC a DSPI b[ CCB r s] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q DSPU NPCS uvmnp-uxkqr tt  2 LN MSG:
zzzzz zzzzz zzzzz zzzzz   zzzzz zzzzz zzzzz zzzzz EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q COMPL
```

Denial Message

[O.53108.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Equipped

UNIT - Unit

[q]q - Unit number (1 through 16)

The UNIT option is specified to query that unit. The UNIT field will be null when the command is used for the entire frame. If the UNIT option is specified, only the information related to the equipment in that unit will be generated.

For the equipped query, each entity in the DACS II frame is represented by a single character variable. This variable can have a value of 1 or 0 indicating the following status:

Value	EQD or EQPD
1	equipped
0	unequipped

The DACS II entities and their status fields are as follows:

g - Link 1
h - Link 2
i - Link 3
j - Link 4
k - Link 5
l - Link 6
m - XC0 (cross-connect 0)
n - XC1 (cross-connect 1)
o - CCNI/CCI 0 (cross-connect network interface 0 for non-CEF frame) (clock and control interface 0 for CEF frame)
p - CCNI/CCI 1 (cross-connect network interface 1 for non-CEF frame) (clock and control interface 1 for CEF frame)

SYNC - Synchronizer

CRO - Clock reference oscillator

TLI - Timing link interface

The TLI entities are reported in the following order:

```
TLI 1, SSP 0, Side 0
TLI 1, SSP 1, Side 0
TLI 2, SSP 0, Side 0
TLI 2, SSP 1, Side 0
TLI 3, SSP 0, Side 0
TLI 3, SSP 1, Side 0
TLI 4, SSP 0, Side 0
TLI 4, SSP 1, Side 0

TLI 1, SSP 0, Side 1
TLI 1, SSP 1, Side 1
TLI 2, SSP 0, Side 1
TLI 2, SSP 1, Side 1
TLI 3, SSP 0, Side 1
TLI 3, SSP 1, Side 1
TLI 4, SSP 0, Side 1
TLI 4, SSP 1, Side 1
```

TSIS	- Time slot interchangers	NonCEF
ETSIS	- Expanded time slot interchangers	CEF

f - FROM unit (1 through 6)

t - TO Unit (1 through 6)

x - Equipage indication of an entity or of a side 0 entity if duplicated.

x - Equipage indication of a side 1 entity.

UC - Unit controller

FTMI - Facility terminating module interface

FC - Format converter

FLI - Facility line interface

FMT - Formatter or Hybrid Formatter

MXR - Multiplexer or Hybrid Multiplexer

MIU - Multiple interface unit

DSPI - Digital signal processing interface

[a]aaa - The first 3- or 4-digit nonhierarchical NPC number of an FTM/DSPU.
[b]bbb - The last 3- or 4-digit nonhierarchical NPC number of an FTM/DSPU.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[z]zzz - The 3- or 4-digit nonhierarchical DSPU NPC number, the span refers to the odd DSPU circuit pack NPCs, and the total is the number of NPC pairs equipped.

uvmnp - The first hierarchical NPC number of an FTM/DSPU or a hierarchical DSPU NPC number.

uxkqr - The last hierarchical NPC number of an FTM/DSPU

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

tt - Total number of equipped NPCs

For FTU Entities:

a - Status for UC

b - Status for FTMI 1 of specified Unit
c - Status for FTMI 2 of specified Unit
d - Status for FTMI 3 of specified Unit
e - Status for FTMI 4 of specified Unit

f - Status for FC 01 of specified Unit
g - Status for FC 11 of specified Unit
h - Status for FC 02 of specified Unit
j - Status for FC 12 of specified Unit
k - Status for FC 03 of specified Unit
m - Status for FC 13 of specified Unit
p - Status for FC 04 of specified Unit
q - Status for FC 14 of specified Unit

CCB - Cross-connect buffer NonCEF

r - Status for CCB 0q in CCN 0 for specified Unit q

s - Status for CCB 1q in CCN 1 for specified Unit q

For DSPU Entities:

a - Status for UC

b - Status of DSPI for specified unit

[x]xxx - The 3- or 4-digit nonhierarchical FTU NPC number ([a]aaa through [b]bbb)

xxxxx - Hierarchical FTU NPC number (uvmnp through uxkqr)

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped

UTL,QRY,EQD,UNITS

UTILITIES, EQUIPAGE STATUS

Explanation Of Command

This message requests a printout of all units that are equipped.

Command

[I.53011]

```
UTL:FRM xy,SEQ ww:QRY,EQD,UNITS!
```

Completion Message

[O.53011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT  2 LN MSG:
aa bb cc dd ee ff gg hh ii jj kk ll mm nn oo pp COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Request equipage status

UNITS - Request information on units

aa - Equipage status of Unit number 01
bb - Equipage status of Unit number 02
cc - Equipage status of Unit number 03
dd - Equipage status of Unit number 04
ee - Equipage status of Unit number 05
ff - Equipage status of Unit number 06
gg - Equipage status of Unit number 07
hh - Equipage status of Unit number 08
ii - Equipage status of Unit number 09
jj - Equipage status of Unit number 10
kk - Equipage status of Unit number 11
ll - Equipage status of Unit number 12
mm - Equipage status of Unit number 13
nn - Equipage status of Unit number 14
oo - Equipage status of Unit number 15
pp - Equipage status of Unit number 16

If the unit is equipped, the unit number will be shown in its corresponding position. If the unit is not equipped, the number "00" will be shown.

UTL,QRY,ERR,SWER,HWER,INT,DATE,TOD,TN

QUERY SOFTWARE/HARDWARE ERROR RECOVERY

Explanation Of Command

This message requests a printout of the contents of the error recovery log file. The log file contains the past history of error recovery events and can be very large. Therefore, the printout can be aborted. Because the printout is of a technical nature, assistance may be necessary for interpretation.

At least one option must be specified in the input command or it will be denied.

Note: Both the USA date format and international date format are supported by this command. The date format is set by the UTL::DATE,FORMAT,INT command and this message must use the same format. The date format shown in the output for this command will match the current setting.

Note: In the 8-character Block number 10 output of the hardware error log file, the first 4 numbers display the unit number while the second four numbers equate to the NPC number. For the hardware error log, the number of NPCs per unit is 170 instead of 160. This is because the DACS II supports a flexible frame configuration. In each DS3 unit, there are 168 NPCs. To obtain the NPC number, convert the hexadecimal number to decimal and add 1 and then subtract 10 from the result for the the NPCs in Unit 2, subtract 20 from the result for the NPCs in Unit 3, ..., subtract 150 from the result for the NPCs in Unit 16. For example, the first NPC in Unit 1 (NPC 1) will be displayed as 0 (not 1) in hexadecimal format, the first NPC in Unit 2 (NPC 161) will be displayed as 170 (not 161) in hexadecimal format, the first NPC in Unit 3 (NPC 321) will be displayed as 340 (not 321) in hexadecimal format, and so on.

Therefore, the output for the hardware log will be:

00000000 thru 000000a7	for NPC 001 thru 16H (1 - 160, 16A - 16H)
000100aa thru 00010151	for NPC 161 thru 32H (161 - 320, 32A - 32H)
00020154 thru 000201fb	for NPC 321 thru 48H (321 - 480, 48A - 48H)
000301fe thru 000302a5	for NPC 481 thru 64H (481 - 640, 64A - 64H)
000402a8 thru 0004034f	for NPC 641 thru 80H (641 - 800, 80A - 80H)
00050352 thru 000503f9	for NPC 801 thru 96H (801 - 960, 96A - 96H)
000603fc thru 000604a3	for NPC 961 thru 112H (961 - 1120, 112A - 112H)
000704a6 thru 0007054d	for NPC 1121 thru 128H (1121 - 1280, 128A - 128H)
00080550 thru 000805f7	for NPC 1281 thru 144H (1281 - 1440, 144A - 144H)
000905fa thru 000906a1	for NPC 1441 thru 160H (1441 - 1600, 160A - 160H)
000a06a4 thru 000a074b	for NPC 1601 thru 176H (1601 - 1760, 176A - 176H)
000b074e thru 000b07f5	for NPC 1761 thru 192H (1761 - 1920, 192A - 192H)
000c07f8 thru 000c089f	for NPC 1921 thru 208H (1921 - 2080, 208A - 208H)
000d08a2 thru 000d0949	for NPC 2081 thru 224H (2081 - 2240, 224A - 224H)
000e094c thru 000e09f3	for NPC 2241 thru 240H (2241 - 2400, 240A - 240H)
000f09f6 thru 000f0a9d	for NPC 2401 thru 256H (2401 - 2560, 256A - 256H)

Command

[I.55011]

```
UTL:FRM xy,SEQ ww:QRY,ERR,{{SWER|HWER}[,{INT mn|[DATE moda[ce]yr,] TOD hrmnsc}]\
[,TN X'dddd][,EVENT X'eeee][,ERCL{HARD|TRANS|APPINT}][,ENTY <entity>]|ALL}!
```

Completion Message

[O.55011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER mo/da/yr hr:mn:sc  3 LN MSG:
ENTITY=xxxxxx  ERROR=xxxxxx  SOURCE=xxxxxx  DP=xx
TN=xxxx  PID=xxxxxxx  RC=xxxxxxxx  MID=xxxx  PROC=xxxxxx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER TROUBLE SHOOTING ARGS  3 LN MSG:
TSARGSxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
FAUDTIME xxxxxxxx FACYxxxx FATNxxxx ISPExxxx xxxxxxxx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER STACK TRACE ONE  5 LN MSG:
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER STACK TRACE TWO  5 LN MSG:
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  {EOM|COMPL}
```

[O.55012]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ERR HWER mo/da/yr hr:mn:sc  5 LN MSG:
HOSTxxxx ENTTxxxx ERRCxxxx ERRTxxxx TRANxxxx EVENxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx  {EOM|COMPL}
```

[O.55013]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ERR SWER BACKGROUND AUDITS  3 LN MSG:
MSGTYP=<1000>  SOURCE=<2000>  ADD1=<400000>  ADD2=xx
DATA=<5000>  CHKACT=<6000>  CHKCOM=<7000>  COMMTO=<8000>  {EOM|COMPL}
```

[O.55014]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ERR {{SWER|HWER}|ALL}  COMPL
```

Denial Message

[O.55011.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ERR HWER ENTY <entity> cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ALL - Output the entire hardware and software log file.

The ALL keyword will cause the entire log file, both hardware and software log messages, to be output. The user should understand that this keyword may generate a large volume of output. No other optional keywords should be coded together with the ALL keyword.

ERR - Error recovery

Refers to the error recovery log file

SWER - Software error

Query the software error log file.

HWER - Hardware error

Query the hardware error log file.

INT - Time interval

The user may retrieve entries by specifying a past interval of time. This interval may be specified as the last 59 minutes or less or as the interval beginning at a specified date and time of day (see DATE and TOD keywords). If the time but not the optional date is specified, DACS II assumes the present date.

During a system boot the time on the system clock defaults to the time 00:00:00 and the date 12/31/1999 until the clock is initialized. Errors occuring during the boot process consequently are logged as though they occurred in the future when actually they occurred in the past. Because of this behavior a user requesting the errors over one of the intervals mentioned above may experience a large volume of error output listing errors that will (seemingly) occur in the future. These errors actually occurred before the system clock was initialized and should be interpreted as such.

mn - minutes (00 to 59)

DATE - date

moda[ce]yr

mo - Month (01 through 12)
da - Day (01 through 31)
ce - Century (19 or 20)
yr - Year (00 through 99)

TOD - time of day

hrmnsc - Hours, minutes, seconds
hr-mn-sc

hr - hour (00 through 23)
mn - Minutes (00 through 59)
sc - seconds (00 through 59)

TN - Transaction

X - Hexadecimal

dddd - Transaction number

EVENT - Event

eeee - Event number

ERCL - Error class

This keyword applies only to queries of the hardware error log file (HWER option). It is not applicable to queries of the software error log file (SWER option) and it returns no data for the software case. The hardware log file may be queried for errors of either the hardware or transient error class.

HARD - Hard

Hardware error detected by Error Recovery

TRANS - Transient

Transient error detected by Error Recovery

APPINT - Application interrupt

Hardware error detected by applications

ENTY - Entity (hardware)

This keyword applies only to queries of the hardware error log file (HWER option). It is not applicable to queries of the software error log file (SWER option) and it returns no data for the software case. The hardware log file may be queried for entries related to particular DACS II hardware entities.

entity - Entity type

entity	*Explanation*
BX	Bus extender
CCB	Cross-connect buffer
CCNI	Cross-connect network interface
CCI	Clock and control interface
CI	Communications interface
CPR	C-bit processor
CRO	Clock reference oscillator
DDC	Dual digroup circuit
DISK	Hard disk
DMB	Digital multipoint bridge
DSPI	Digital signal processor interface
EBX	Expanded bus extender
EMTC	Expanded maintenance circuit
ETSI	Expanded time slot interchanger
FC	Format converter
FLI	Facility line interface
FMT	Formatter
FTMI	Facility terminating module interface
LINK	Administrative link
MC	Main controller
MIU	Multiplexer interface unit
MJU	Multipoint junction unit
MP	Main processor
MTC	Maintenance circuit
MXR	Multiplexer
NPC	Network processing circuit
SRM	Subrate multiplexer
SSC	Secondary storage controller
SYNC	Synchronizers (DPLL, TB)
TAPE	Tape drive
TL	Timing link
TLI	Timing link interface
TSI	Time slot interchange
UBX	Unit bus extender
UC	Unit controller

ENTITY - Entity

ERROR - Error

SOURCE - Source

DP - Decision point

PID - Process identification

RC - Return code (of function in which the error occurred)

MID - Mbox identification

PROC - Process

TSARGS - Trouble shooting arguments

FAUDTIME - Frame audit time

FACY - Frame audits cycle number when the error occurred

FATN - Frame audits test number when the error occurred

ISPE - ISPerr LAN error count

HOST - Host

xxxx - Error identification

Controller (sub-system) on which the error occurred

xxxx	*error*
0000	UC1
0001	UC2
0002	UC3
0003	UC4
0004	UC5
0005	UC6
0006	UC7
0007	UC8
0008	UC9
0009	UC10
000a	UC11
000b	UC12
000c	UC13
000d	UC14
000e	UC15
000f	UC16
0010	CI
0011	MP

ENTT - Hardware entity for hardware error recovery

xxxx	*Explanation*
0001	Unit UC
0002	UBX
0003	EBX
0004	FTMI
0005	FC
0006	DDC
0007	DSPI
0008	DMB
0009	CCNI
000A	CCB
000B	TSI
000C	SSC
000D	EMTC
000E	SYNC
000F	TLI
0010	Timing Link
0011	DISK
0012	TAPE
0013	MP
0014	CI
0015	LINK
0016	NPC
0017	MC
0018	MJU
0019	SRM
001A	DS3U MXR
001B	DS3U FLI
001C	DS3U FMT
001D	DS3U MIU
001E	PR
001F	ECCN CCI
0020	EBX
0021	CCI
0022	ETSI

ERRC - Error class

XXXX - Error identification

xxxx	*Error*
0001	Hardware Error
0002	Transient Error
0003	Power Failure
0004	Error Sanity Bit Error
0005	CI Link related errors
0006	Sync mode switch
0007	Software error recovery
0008	Error not found
0009	Sync booted message from boot
000A	Sync timing link errors
000B	Background audits
000C	Facility errors
000D	Disk log of errors from HARDERR()
000E	Error detected from Frame Audits

ERRT - Error type

TRAN - Transaction number (software)

EVEN - Event number (software)

MSGTYP - Message type

ADD1 - Address 1

First address of failed range

ADD2 - Address 2

Second address of failed range

DATA - Data

CHKACT - Actual check

CHKCOM - Computed check

COMMTO - Communication to (lost)

MEMORY DATA
- Memory data

READY QUEUE
- Ready queue

PAUSE QUEUE
- Pause queue

LOCAL STACK
- Local stack

STACK TRACE
- Stack trace

cc - Hexadecimal condition code

cc	*Explanation*
97	Entity can't be addressed in this configuration

UTL,QRY,ESR,CCN

UTILITY QUERY ERROR SOURCE REGISTER

Explanation Of Command

This message requests a printout of the error source register for one side of a cross-connect network (CCN).

Command

[I.55401]

```
UTL:FRM xy,SEQ ww:QRY,ESR,CCN s!
```

Completion Message

[O.55401]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR CCN s   4 LN MSG:
MAIN,CCB abcdef ghijkl
FTMI abcd efgh ijkl mnop qrst uvwx
TSIS <tsi a> <tsi b> <tsi c> <tsi d> <tsi e> <tsi f> COMPL
```

Denial Message

[O.55401.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR CCN s COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

CCN - Cross-connect network

s - Cross-connect network side (0 or 1)

CCB - Cross-connect buffer

abcdef, ghijkl
- MAIN,CCB error source register information

a is set to indicate an error has occurred on the synchronizer.
b is set to indicate a parity error was detected on the address bus.
c is set to indicate a parity error was detected on the low byte of data.
d is set to indicate a parity error was detected on the high byte of data.
e is set to indicate an error was detected on the BSR (Bus Status Register). This error indicates that there was a parity error over the work written in the register.
f is set to indicate a parity error has occurred on autonomous

Switch Enable Circuit - ghijkl represents CCB 1 through 6.

FTMI - Facility terminating module interface

abcd,efgh,ijkl,mnop,qrst,uvwx
- FTMI error source register information

abcd - FTMI 1 - 4 of Unit 1 (not used)
efgh - FTMI 1 - 4 of Unit 2 (not used)
ijkl - FTMI 1 - 4 of Unit 3 (not used)
mnop - FTMI 1 - 4 of Unit 4 (not used)
qrst - FTMI 1 - 4 of Unit 5 (not used)
uvwx - FTMI 1 - 4 of Unit 6 (not used)

TSI - Time slot interchange

<tsi a>,..,<tsi f> - TSI error source register information.
Each register is six bits long. A bit set indicates the denoted entity is either out of frame or in frame but under alarm state.

tsi a - Denotes for TSI 1,1; 1,2; 1,3; 1,4; 1,5; 1,6
tsi b - Denotes for TSI 2,1; 2,2; 2,3; 2,4; 2,5; 2,6
tsi c - Denotes for TSI 3,1; 3,2; 3,3; 3,4; 3,5; 3,6
tsi d - Denotes for TSI 4,1; 4,2; 4,3; 4,4; 4,5; 4,6
tsi e - Denotes for TSI 5,1; 5,2; 5,3; 5;4; 5,5; 5,6
tsi f - Denotes for TSI 6,1; 6,2; 6,3; 6,4; 6,5; 6,6

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service

UTL,QRY,ESR,ECCN

QUERY ECCN ERROR SOURCE REGISTER

Explanation Of Command

This message requests a printout of the contents of the Expanded Cross-Connect Network Error Source Register.

Command

[I.55411]

`UTL:FRM xy,SEQ ww:QRY,ESR,ECCN s!`

Completion Message

[O.55411]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s  4 LN MSG:
CCI wd02 wd01 wd00
    aaaa bbbb cccc dddd      eeee ffff gggg hhhh
    iiii jjjj kkkk llll      mmmm nnnn oooo pppp {EOM|COMPL}

[M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s  e LN MSG:]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00 EOM]

            .
            .
            .

[M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s  e LN MSG:]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00]
[ETSI sqq wd05 wd04 wd03 wd02 wd01 wd00 {EOM|COMPL}]
```

Denial Message

[O.55411.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR ECCN s COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

e - Number of lines in the segment (2 through 5)

ECCN - Expanded cross-connect network

s - ECCN side (0 or 1)

qq - Unit number (01 through 16)

ETSI - Expanded Time Slot Interchanger

The ESR data for a ETSI will be shown only if the ETSI is restored. If no ETSI in the ECCN side is restored, only the ESR data of the CCI will be shown.

CCI - Clock and Control Interface

wd02, wd01, wd00 - Error source register data words for the CCI. Each word is a 4-digit hexadecimal number.

wdxx	*Definition*
wd00	CCI System Status Register
wd01	CCI Status Register
wd02	CCI Bus Status Register

Note: wd02 shows the active side; therefore, it is normal to have a non-zero value.

aaaa, bbbb, cccc, dddd - CCI register for ETSI alarm information.

This 16 bit register is shown as four 4-bit binary numbers. Each bit represents one ETSI. The ETSIs are arranged by unit number in descending order from left to right. That is, the left-most bit reports alarm information for the unit 16 ETSI, while the right-most bit reports alarm information for the unit 1 ETSI.

```
Descending order-->
aaaa bbbb cccc dddd
^             ^
|             Unit 1 ETSI
Unit 16 ETSI
```

eeee,
ffff,
gggg,
hhhh - CCI register for ETSI equipage information

See the explanation given for aaaa-dddd above.

iiii,
jjjj,
kkkk,
llll - CCI register for ETSI ready timeout information

See the explanation given for aaaa-dddd above.

mmmm,
nnnn,
oooo,
pppp - CCI register for ETSI read high information

See the explanation given for aaaa-dddd above.

sqq - Combined ECCN side and unit number

See the definitions of s and qq above.

wd05,
wd04,
...,
wd00 - Error source register data words for the ETSI

Each word is a 4-digit hexadecimal number representing the contents of the error source register listed in the table below.

wdxx	*Definition*
wd00	Circuit Pack Summary Register
wd01	Receive Status Register
wd02	Transmit Status Register
wd03	Control RAM Status Register
wd04	Control RAM Port Alarm Register
wd05	Control RAM Data RAM Alarm Register

UTL,QRY,ESR,MP

QUERY ERROR SOURCE REGISTER MAIN PROCESSOR

Explanation Of Command

This message requests a printout of the 40-bit error source register (ESR) for the main processor (MP).

Command

[I.55111]

UTL:FRM xy,SEQ ww:QRY,ESR,MP!

Completion Message

[O.55111]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR MP  2 LN MSG:
aa bb cc dd ee[ ff gg hh ii]  COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

MP - Main Processor

Variables aa, bb, cc, dd, ee, ff, gg, hh, and ii are two digit hexadecimal numbers representing error source registers. The bits in these registers are numbered as shown below:

hex hh = bbbbbbbb binary
76543210 Bit numbering

aa - Error Source Bit (ESB) group. (hexadecimal)

aa	*Function*
a0	SYNC 0 power supply ESB
a1	SYNC 1 power supply ESB
a2	CCN/ECCN 0 power supply ESB
a3	CCN/ECCN 1 power supply ESB
a4	Spare
a5	Spare
a6	Spare
a7	Spare

bb - Error Source Bit (ESB) group. (hexadecimal)

bb	*Function*
b0	UC 01 power supply ESB
b1	UC 02 power supply ESB
b2	UC 03 power supply ESB
b3	UC 04 power supply ESB
b4	UC 05 power supply ESB
b5	UC 06 power supply ESB
b6	UC 07 power supply ESB for CEF, Spare for Non-CEF
b7	Spare

cc - Error Source Bit (ESB) group. (hexadecimal)

cc	*Function*
c0	UC 01 ESB
c1	UC 02 ESB
c2	UC 03 ESB
c3	UC 04 ESB
c4	UC 05 ESB
c5	UC 06 ESB
c6	UC 07 ESB for CEF, Spare for Non-CEF
c7	UC 08 ESB for CEF, Spare for Non-CEF

dd - Error Source Bit (ESB) group. (hexadecimal)

dd	*Function*
d0	MC CPU ESB
d1	MC CI ESB
d2	MC SSC ESB
d3	Spare
d4	MC power supply 0 ESB
d5	MC power supply 1 ESB
d6	Spare
d7	Spare

ee - Error Source Bit (ESB) group. (hexadecimal)

ee	*Function*
e0	Parity over Low Data Byte
e1	Parity over High Data Byte
e2	Error from Side 0 Bus Extension
e3	Error from Side 1 Bus Extension
e4	ECCN side 0 circuit not present for CEF, Spare for Non-CEF
e5	ECCN side 1 circuit not present for CEF, Spare for Non-CEF
e6	Write parity error over low byte data for CEF, Spare for Non-CEF
e7	Write parity error over high byte data for CEF, Spare for Non-CEF

The following parameters (ff, gg, hh, ii) apply only to CEF frames:

ff - Error Source Bit (ESB) group. (hexadecimal)

ff	*Function*
f0	UC 08 power supply ESB
f1	UC 09 power supply ESB
f2	UC 10 power supply ESB
f3	UC 11 power supply ESB
f4	UC 12 power supply ESB
f5	Spare
f6	Spare
f7	Spare

gg - Error Source Bit (ESB) group. (hexadecimal)

gg	*Function*
g0	UC 13 power supply ESB
g1	UC 14 power supply ESB
g2	UC 15 power supply ESB
g3	UC 16 power supply ESB
g4	Spare
g5	Spare
g6	Spare
g7	Spare

hh - Error Source Bit (ESB) group. (hexadecimal)

hh	*Function*
h0	UC 09 ESB
h1	UC 10 ESB
h2	UC 11 ESB
h3	UC 12 ESB
h4	Spare
h5	Spare
h6	Spare
h7	Spare

ii - Error Source Bit (ESB) group. (hexadecimal)

ii	*Function*
i0	UC 13 ESB
i1	UC 14 ESB
i2	UC 15 ESB
i3	UC 16 ESB
i4	Spare
i5	Spare
i6	Spare
i7	Spare

UTL,QRY,ESR,NPC,SIDE

UTILITY QUERY ESR FOR FTU OR SUBRATE NPC

Explanation Of Command

This message requests a print out of the error source register for a particular network processing circuit (NPC).

Command

Nonhierarchical

[I.55601]

UTL:FRM xy,SEQ ww:QRY,ESR,NPC [s]abc[,SIDE s]!

Hierarchical

[I.55601]

UTL:FRM xy,SEQ ww:QRY,ESR,NPC uvmnp[,SIDE s]!

Completion Message

Nonhierarchical

[O.55601]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC [s]abc  2 LN MSG:
aa bb cc dd ee ff gg hh ii jj COMPL
```

Note: The above message applies if the side is not specified.

[O.55602]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC [s]abc SIDE s \
TYPE mnxyz  2 LN MSG:
defghijk lmnopqrs  COMPL
```

Note: The above message applies if the side is specified.

Hierarchical

[O.55601]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC uvmnp  2 LN MSG:
aa bb cc dd ee ff gg hh ii jj COMPL
```

Note: The above message applies if the side is not specified.

[O.55602]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC uvmnp SIDE s \
TYPE mnxyz  2 LN MSG:
defghijk lmnopqrs  COMPL
```

Note: The above message applies if the side is specified.

Denial Message

Nonhierarchical

[O.55601.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC [s]abc[ SIDE s] COND cc DNY
```

Hierarchical

[O.55601.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR NPC uvmnp[SIDE s] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

SIDE - Side

s - Side number (0 or 1)

Subrate type circuit packs are duplicated; therefore, the side must be specified in order to request the contents of the error source register. The side must not be specified when the NPC is a facility terminating NPC.

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Note: In the error source register listings below, the bits are each shown set individually (bit value = 1). In actual practice the bits may be set in combination. For example a value of 0C for register dd would be interpreted as follows:

X'0C = 00001100 binary

Bits 2 and 3 are set to one. An examination of the bits for register dd shows that X'0C means RAM diagnostic complete and power up ready.

aa - Communications Interface ESR 1 (Hexadecimal)

Bit	*Value*	*Bit definition*
0	1	Channel controller error
1	1	Unassigned
2	1	Chip identification parity error
3	1	Sync error
4	1	Facility processor sanity error
5	1	Hardware error
6	1	Transceiver A error (bit not used for SD and ST types)
7	1	Transceiver B error (bit not used for SD and ST types)

bb - Not used

cc - Channel Controller ESR (Hexadecimal)

Bit	*Value*	*Bit definition*
0	1	Exercise indicator
1	1	Receive data parity error
2	1	Transmit data parity error
3	1	Instruction RAM parity error
4	1	Configuration register parity error
5	1	Processor error
6	1	Sync error
7	1	Loss of clock (8 MHz)

dd - Hardware error data from DDC shared RAM (Hexadecimal)
(Not applicable to SD and ST type NPCs)

Bit	*Value*	*Bit definition*
0	1	Not used
1	1	Not used
2	1	RAM diagnostic complete
3	1	Power up ready
4	1	Not used
5	1	Not used
6	1	RAM diagnostic failure
7	1	ROM checksum failure

dd - Hardware error data for SD and ST type NPCs only (Hexadecimal)

Bit	*Value*	*Bit definition*
0	1	Not used
1	1	Firmware error
2	1	Hardware error queue overflow
3	1	System receive parity error
4	1	System transmit parity error
5	1	DSP error
6	1	Downloaded program error
7	1	Not used

ee - Transceiver A ESR (framer alarms) (Hexadecimal)
(**Note:** This register is not used for SD and ST type NPCs)

Bit	*Value*	*Bit definition*
0	1	Device error Remote Frame Alignment
1	1	Device error Remote Multiframe Alignment
2	1	Device error Loss of Multiframe Alignment
3	1	Device error Framing Bit Error
4	1	Not used
5	1	Not used
6	1	Not used
7	1	Not used

ff - Transceiver A ESR (receive sync alarms) (Hexadecimal)
(**Note:** This register is not used for SD and ST type NPCs)

Bit	*Value*	*Bit definition*
0	1	STOMP block device error
1	1	ALU block device error
2	1	ALU block device error
3	1	Data link
4	1	Missing receive synchronizer sync
5	1	Signaling RAM parity error
6	1	PCM RAM parity error
7	1	E signaling bit error

gg - Transceiver A ESR (transmitter alarms) (Hexadecimal)
(**Note:** This register is not used for SD and ST type NPCs)

Bit	*Value*	*Bit definition*
0	1	Transmit framing bit generator circuit
1	1	Transmitter SLIP
2	1	Internal parity error
3	1	Missing transmit sync
4	1	Misaligned transmit sync
5	1	Transmit SLC®-96 carrier framer device alarm
6	1	Missing SLC 96 carrier Fs superframe sync
7	1	Misaligned SLC 96 carrier Fs superframe sync

hh - Transceiver A ESR (framer alarms) (Hexadecimal)
(**Note:** This register is not used for SD and ST type NPCs)

Values and explanations are the same as ee

ii - Transceiver B ESR (receive sync alarms) (Hexadecimal)
(**Note:** This register is not used for SD and ST type NPCs)

Values and explanations are the same as ff

jj - Transceiver B ESR (transmitter alarms) (Hexadecimal)
(**Note:** This register is not used for SD and ST type NPCs)

Values and explanations are the same as gg

The meaning of the bits for types MJ100 and SR100 depends upon the type reported in the output message.

TYPE SR100

defghijk

- First 8 bits of Subrate circuit pack error source register

Bit	*Value*	*Fault*
d	1	Parallel interface between the DSPU processor and the SR100
e	1	Data interface between the DSPU backplane and the SR100
f	1	Data path internal to the SR100 including the Error Correction Device (ECD)
g	1	Data interface between the DSPU backplane and the SR100, or data path internal to the SR100 including the ECD, or PROM5 device
h	1	Output block of SR100, or bus feeding the output block
i	1	Internal data RAM
j	1	Multiplexer state machine, or bus feeding the output block
k	1	Clock circuitry

lmnopqrs

- Second 8 bits of Subrate circuit pack error source register

Bit	*Value*	*Fault*
l	1	Built-in self test on ECD
m-s	0	Unused

TYPE MJ100

defghijk

- First 8 bits of Subrate circuit pack error source register

Bit	*Value*	*Fault*
d	1	Parallel interface Device (PID), or parallel control bus
e	1	Data interface between the ETSI and the MJ100
f	1	ECD data input, or ECD
g	1	MJU control memory parity
h	1	Data path to the output block, or output data interface block, or control code state machine, or FTU time slot parity correction PROM
i	1	MJU control signal PROM
j	1	Overwrite state machine, or secondary channel state machine, or ECD control memory
k	1	Clock

lmnopqrs

- Second 8 bits of Subrate circuit pack error source register

Bit	*Value*	*Fault*
l	1	Built-in self test on ECD
m-s	0	Unused

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
14	FTMI is out of service
26	NPC type error
37	DSPI out-of-service
3E	DSPI failed
0F	Side specified for non-duplicated NPC
2A	Incorrect pack type in slot
57	SIDE must be specified for subrate NPC

UTL,QRY,ESR,UNIT

UTILITY QUERY ERROR SOURCE REGISTER

Explanation Of Command

This message prints out the contents of the error source register for a facility terminating unit (FTU), DS3 unit (DS3U), or Hybrid DS3 unit (HDS3U)

Command

[I.55501]

```
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q!
```

Completion Message

[O.55501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q aa COMPL
```

Note: The above message applies to an FTU.

[O.55501]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q bbbb cccc dddd \
eeee COMPL
```

Note: The above message applies to a DS3 unit.

Denial Message

[O.55501.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

UNIT - Unit

[q]q - Unit number (1 through 16)

aa - FTU ESR

aa	*Explanation*
A2	Error from FTMI 1
A4	Error from FTMI 2
A5	Error from FTMI 3
A6	Error from FTMI 4

bbbb - DS3U or HDS3U Interrupt holding register 0.
Hexadecimal digits are numbered 3210 in left to right order.

hex digit	Bit	Value	Definition
0	0	1	Ram Parity Error
0	1	1	Internal Bus Error
0	2	1	Parallel Bus Parity Error
0	3	1	Series Bus Parity Error
1-3	4-15		Unused

cccc - DS3U or HDS3U Interrupt holding register 1
Hexadecimal digits are numbered 3210 in left to right order.

hex digit	Bit	Value	Definition
0	0	1	MXR1 Power Loss Interrupt
0	1	1	MXR2 Power Loss Interrupt
0	2	1	MXR3 Power Loss Interrupt
0	3	1	MXR4 Power Loss Interrupt
1	4	1	MXR5 Power Loss Interrupt
1	5	1	MXR6 Power Loss Interrupt
1	6	1	MXRP Power Loss Interrupt
1	7	1	SFLI Power Loss Interrupt
2	8	1	MIU1 Power Loss Interrupt
2	9	1	MIU2 Power Loss Interrupt
2	10	1	MIU3 Power Loss Interrupt
2	11	1	MIU4 Power Loss Interrupt
3	12	1	MIU5 Power Loss Interrupt
3	13	1	MIU6 Power Loss Interrupt
3	14	1	MIUP Power Loss Interrupt
3	15	1	PFLI Power Loss Interrupt

dddd - DS3U or HDS3U Interrupt holding register 2 (hexadecimal)
Hexadecimal digits are numbered 3210 in left to right order.

hex digit	Bit	Value	Definition
0	0	1	MXR1 Interrupt
0	1	1	MXR2 Interrupt
0	2	1	MXR3 Interrupt
0	3	1	MXR4 Interrupt
1	4	1	MXR5 Interrupt
1	5	1	MXR6 Interrupt
1	6	1	MXRP Interrupt
1	7	1	0FMT Power Loss Interrupt
2	8	1	MIU1 Interrupt
2	9	1	MIU2 Interrupt
2	10	1	MIU3 Interrupt
2	11	1	MIU4 Interrupt
3	12	1	MIU5 Interrupt
3	13	1	MIU6 Interrupt
3	14	1	MIUP Interrupt
3	15	1	1FMT Power Loss Interrupt

eeee - DS3U or HDS3U CI error source register (hexadecimal)
Hexadecimal digits are numbered 3210 in left to right order.

hex digit	Bit	Value	Definition
0	0	1	Link 1 Error
0	1	1	Link 2 Error
0	2	1	Link 3 Error
0	3	1	Link 4 Error
1	4	1	Link 5 Error
1	5	1	Link 6 Error
1	6	1	Link 7 Error
1	7	1	Link 8 Error
2	8	1	CI device ID Error
2	9	1	Address Parity Error
2	10	1	Data Strobe Error
2	11	1	Loss of Timing Error
3	12-15		Not Used

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service

UTL,QRY,ESR,UNIT,DSPI

QUERY ERROR SOURCE REGISTER

Explanation Of Command

This message prints out the contents of the error source register for the digital signal processing interface (DSPI) in a digital signal processing unit (DSPU).

Command

[I.55531]

```
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,DSPI!
```

Completion Message

[O.55531]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q DSPI   2 LN MSG:
SIDE 0: p1p2p3p4p5p6p7p8   SIDE 1: p1p2p3p4p5p6p7p8   COMPL
```

Denial Message

[O.55531.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q DSPI   2 LN MSG:
<reason>   DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

UNIT - Unit

[q]q - Unit number (1 through 16)

DSPI - Digital signal processing interface

p1,..,p8
- Register data bits

Bit Position	*Error Interrupt For DSPU Circuit Packs*
p1	1
p2	2
p3	3
p4	4
p5	5
p6	6
p7	7
p8	8

reason - Reason for denial

reason

UNIT [q]q IS NOT EQUIPPED
UNIT [q]q IS OUT-OF-SERVICE
UNIT [q]q IS FAILED

UTL,QRY,ESR,UNIT,FC

QUERY ERROR SOURCE REGISTER

Explanation Of Command

This message prints out the contents of the error source register for a format converter (FC) in a particular unit.

Command

[I.55521]

```
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FC sb!
```

Completion Message

[O.55521]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FC sb  2 LN MSG:
aa bb cc dd ee COMPL
```

Denial Message

[O.55521.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FC sb COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

UNIT - Unit

[q]q - Unit number (1 through 16)

FC - Format converter

s - Side (0 or 1)

b - Format converter number (1 through 4)

Note: Data bytes aa through gg must be converted from hexadecimal to binary before the tables below can be used to interpret the data byte values. Each hexdigit converts to 4 binary digits. Bits are numbered from right to left starting from 0 as follows; 76543210.

For example if aa = 01 the binary equivalent of this is 0000 0001. Using the table for aa below this indicates that there is an alarm on the Receive formatter.

Bit value	Explanation
0	Indicates NO error or alarm
1	Indicates an error or alarm

aa - Communications interface (CI) error source register 0 (ESR0) (Hexadecimal)

Bit	*Explanation*
0	Receive formatter summary (look at bytes bb, cc, dd , and ee for details)
1	Transmit formatter summary (look at byte ee for details)
2	Circuit ID error
3	Timing error
4-7	Not used

bb - Receive Formatter (RF) device ESR0 (Hexadecimal)

Bit	*Explanation*
0	Port 0 alarm
1	Port 1 alarm
2	Port 2 alarm
3	Port 3 alarm
4	Port 4 alarm
5	Port 5 alarm
6	Port 6 alarm
7	Port 7 alarm

cc - RF device ESR1 (Hexadecimal)

Bit	*Explanation*
8	Port 8 alarm
9	Port 9 alarm
10	Port 10 alarm
11	Port 11 alarm
12	Port 12 alarm
13	Port 13 alarm
14	Port 14 alarm
15	Port 15 alarm

dd - RF device ESR2 (Hexadecimal)

Bit	*Explanation*
0	Port 17 alarm
1	Port 18 alarm
2	Port 19 alarm
3	Port 20 alarm
4-7	Not used

ee - RF/Transmitter Formatter (TF) device status register (Hexadecimal)

Bit	*Explanation*
0	Domestic/CEPT mode (Domestic = 0, CEPT = 1)
1	Network data error
2	Frame sync error
3	Clock error
4	Microprocessor bus error
5-7	Not used

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
13	FTMI is not equipped
14	FTMI is out of service

UTL,QRY,ESR,UNIT,FLI

QUERY ERROR SOURCE REGISTER FACILITY LINE INTERFACE

Explanation Of Command

This message requests a print out of the error source register (ESR) on one facility line interface (FLI) circuit pack.

Command

[I.55801]

```
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FLI k!
```

Completion Message

[O.55801]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FLI k  2 LN MSG:
aa bb ee dd COMPL
```

Denial Message

[O.55801.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FLI k COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FLI - Facility line interface

k - The identifier of the FLI:

k	*Explanation*
S	Service FLI
P	Protection FLI

ESR - Error source register

aa,bb,ee,dd
- The error register of the queried circuit pack

Variables aa, bb, ee, and dd are two-digit hexadecimal numbers representing error source registers. The bits in these registers are numbered as shown below:

76543210 Bit numbering

Bit values have the following meaning:

0	No error
1	Error

aa - Communication Interface (CI) ESR 1

bit	*Explanation*
0	Summary of facility line interface (FLI) ESR 1
1	Summary of FLI ESR 2
2	Chip identification parity error indicator
3	Sync absence or internal counter error indicator
4-7	Not used (set to zero)

Example:
aa = 05 (= 00000101 binary). At least one bit in the FLI ESR 1 is set, and a chip ID error has been identified.

Note: In practice, the bits may be set in combination.

bb - CI ESR 2

bit	*Explanation*
0	Address Parity Error
1-7	Not Used

ee - FLI ESR 1

Bit	*Value*	*Explanation*
0	1	The LOC alarm for DS-3 # 1 is activated
1	1	The LOC alarm for DS-3 # 2 is activated
2	1	The LOC alarm for DS-3 # 3 is activated
3	1	The LOC alarm for DS-3 # 4 is activated
4	1	The LOC alarm for DS-3 # 5 is activated
5	1	The LOC alarm for DS-3 # 6 is activated
6,7		Not Used

dd - FLI ESR 2

Bit	*Value*	*Explanation*
0	1	The LOS alarm for DS-3 # 1 is activated
1	1	The LOS alarm for DS-3 # 2 is activated
2	1	The LOS alarm for DS-3 # 3 is activated
3	1	The LOS alarm for DS-3 # 4 is activated
4	1	The LOS alarm for DS-3 # 5 is activated
5	1	The LOS alarm for DS-3 # 6 is activated
6	1	Lock and Key procedure alarm is activated
7		Not Used

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed

UTL,QRY,ESR,UNIT,FTMI

QUERY ERROR SOURCE REGISTER FTMI

Explanation Of Command

This message requests a printout of the error source register for a facility terminating module interface in a unit.

Command

[I.55511]

```
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,FTMI d!
```

Completion Message

[O.55511]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FTMI d  2 LN MSG:
aa bb cc dd ee ff gg COMPL
```

Denial Message

[O.55511.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q FTMI d COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ESR - Error source register

UNIT - Unit

[q]q - Unit number (1 through 16)

FTMI - Facility terminating module interface

d - Facility terminating module interface number (1 through 4)

Note: Data bytes aa through gg must be converted from hexadecimal to binary before the tables below can be used to interpret the data byte values. Each hex digit converts to 4 binary digits. Bits are numbered from right to left starting from 0 as follows; 76543210.

For example if aa = 01 the binary equivalent of this is 0000 0001. Using the table for aa below this indicates that there is an alarm on the Communications interface device C.

Bit value	Explanation
0	Indicates NO error or alarm
1	Indicates an error or alarm

aa - FTMI error status register

Bit	*Explanation*
0	Error summary bit from Communications interface device C (CIC) (look at bytes bb and ee for details)
1	Error summary bit from CIB (look at bytes bc and ff for details)
2	Error summary bit from CIA (look at bytes dd and gg for details)
3	Bus error alarm
4-7	Not used

bb - Communications interface (CI) device A error source register

Bit	*Explanation*
0	Chip identification comparison failed
1	Address parity error was detected
2	Data Strobe signal was not presented
3	Loss of timing alarm on the device
4-7	Not used

cc - CI device B error source register

Bit	*Explanation*
0	Chip identification comparison failed
1	Address parity error was detected
2	Data Strobe signal was not presented
3	Loss of timing alarm on the device
4-7	Not used

dd - CI device C error source register

Bit	*Explanation*
0	Chip identification comparison failed
1	Address parity error was detected
2	Data Strobe signal was not presented
3	Loss of timing alarm on the device
4-7	Not used

ee - CI device B error source register

Bit	*Explanation*
0	Error summary bit, Link 1
1	Error summary bit, Link 2
2	Error summary bit, Link 3
3	Error summary bit, Link 4
4	Error summary bit, Link 5
5	Error summary bit, Link 6
6	Error summary bit, Link 7
7	Error summary bit, Link 8

ff - CI device A error source register

Bit	*Explanation*
0	Error summary bit, Link 1
1	Error summary bit, Link 2
2	Error summary bit, Link 3
3	Error summary bit, Link 4
4	Error summary bit, Link 5
5	Error summary bit, Link 6
6	Error summary bit, Link 7
7	Error summary bit, Link 8

gg - CI device C error source register

Bit	*Explanation*
0	Error summary bit, Link 1
1	Error summary bit, Link 2
2	Error summary bit, Link 3
3	Error summary bit, Link 4
4	Error summary bit, Link 5
5	Error summary bit, Link 6
6	Error summary bit, Link 7
7	Error summary bit, Link 8

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service

UTL,QRY,ESR,UNIT,MXR

QUERY ERROR SOURCE REGISTER MULTIPLEXER

Explanation Of Command

This message requests a printout of the error source register (ESR) for one multiplexer (MXR) or Hybrid MXR (HMXR) circuit pack.

Command

[I.55821]

```
UTL:FRM xy,SEQ ww:QRY,ESR,UNIT [q]q,MXR c!
```

Completion Message

[O.55821]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q MXR c  2 LN MSG:
aa bb dd ee ff COMPL
```

[O.55822]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q HMXR c  2 LN MSG:
gg ii jj kk ll nn oo COMPL
```

Denial Message

[O.55821.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q MXR c COND cc DNY

[O.55822.01]

M hh:mm:ss xy,ww n[vv] UTL QRY ESR UNIT [q]q HMXR c COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

MXR - Multiplexer

HMXR - Hybrid Multiplexer

c - The number of the MXR or HMXR within the unit (P,1 ≤ c ≤ 6)

ESR - Error source register

aa,bb,dd,ee,ff,gg,ii,jj,kk,nn,oo
- The error register of the queried circuit pack. (Hexadecimal format)

aa - MXR ESR 1

Bit	*Value*	*Bit definition*
0	1	DS3 LOS / OOF detected
1	1	CC device #7 Error
2	1	CC device #6 Error
3	1	CC device #5 Error
4	1	CC device #4 Error
5	1	CC device #3 Error
6	1	CC device #2 Error
7	1	CC device #1 Error

bb - MXR ESR 2

Bit	*Value*	*Bit definition*
0	1	Facility Processor detected Hardwared Error
1	1	CC device #14 Error
2	1	CC device #13 Error
3	1	CC device #12 Error
4	1	CC device #11 Error
5	1	CC device #10 Error
6	1	CC device #9 Error
7	1	CC device #8 Error

dd - MXR ESR 3

Bit	*Value*	*Bit definition*
0	1	Facility Processor detected Facility Error
1	1	MXR Reset
2	1	PIF Bus Parity Error
3	1	LOC DS3 Clock from the unselected FLI
4	1	LOC DS3 N Rail from the unselected FLI
5	1	LOC DS3 P Rail from the unselected FLI
6	1	45 MHz Clock Out of Lock
7		Not Used

ee - Hardware summary byte 1

Bit	*Value*	*Bit definition*
0	1	HSCC error
1	1	Firmware failure
2	1	PIF I/O error
3	1	M13 error
4	1	XCVR error
5	1	Program error
6	1	RAM error
7	1	ROM error

ff - Hardware summary byte 2

Bit	*Value*	*Bit definition*
0-5		Not Used
6	1	Logic Cell Array error
7	1	Queue overflow

gg - HMXR ESR 1

Bit	*Value*	*Bit definition*
0	1	Bus Error
1	1	T1 CC device #7 Error
2	1	T1 CC device #6 Error
3	1	T1 CC device #5 Error
4	1	T1 CC device #4 Error
5	1	T1 CC device #3 Error
6	1	T1 CC device #2 Error
7	1	T1 CC device #1 Error

ii - HMXR ESR 2

Bit	*Value*	*Bit definition*
0	1	Facility Processor detected Hardwared Error
1	1	T1 CC device #14 Error
2	1	T1 CC device #13 Error
3	1	T1 CC device #12 Error
4	1	T1 CC device #11 Error
5	1	T1 CC device #10 Error
6	1	T1 CC device #9 Error
7	1	T1 CC device #8 Error

jj - HMXR ESR 3

Bit	*Value*	*Bit definition*
0	1	Facility Processor detected Facility Error
1	1	LOC DS3 Clock from the unselected FLI
2	1	LOC DS3 N Rail from the unselected FLI
3	1	LOC DS3 P Rail from the unselected FLI
4	1	Side 1 SY240T Sync Pulse Failure
5	1	Side 1 Loss of 8.192 MHz System Clock
6	1	Side 0 SY240T Sync Pulse Failure
7	1	Side 0 Loss of 8.192 MHz System Clock

kk - HMXR ESR 4

Bit	*Value*	*Bit definition*
0	1	M13 Multiplexer Interrupt
1	1	E1 CC device #7 Error
2	1	E1 CC device #6 Error
3	1	E1 CC device #5 Error
4	1	E1 CC device #4 Error

5	1	E1 CC device #3 Error
6	1	E1 CC device #2 Error
7	1	E1 CC device #1 Error

ll - HMXR ESR 5

Bit	*Value*	*Bit definition*
0		Not Used
1	1	E1 CC device #14 Error
2	1	E1 CC device #13 Error
3	1	E1 CC device #12 Error
4	1	E1 CC device #11 Error
5	1	E1 CC device #10 Error
6	1	E1 CC device #9 Error
7	1	E1 CC device #8 Error

nn - Hardware summary byte 1

Bit	*Value*	*Bit definition*
0	1	HSCC error
1	1	FPGA Failure
2	1	E1 XCVR error
3	1	M13 error
4	1	T1 XCVR error
5	1	Program error
6	1	RAM error
7	1	ROM error

oo - Hardware summary byte 2

Bit	*Value*	*Bit definition*
0-6		Not Used
7	1	HMXR SW error

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed

UTL,QRY,FALMS,TYPE,ALL

RETRIEVE FACILITY ALARM SEVERITY

Explanation Of Command

This command retrieves the current system alarm severity for a single facility alarm or for all the facility alarms. This command is denied if the Alarm Severity feature is turn OFF. (I.38355 command turn the feature ON and OFF. This command does not check the validity of the facility alarm for the type specified. It assumes all facility alarms are available for all types.

Command

[I.53311]

```
UTL:[FRM xy,SEQ ww]:QRY,FALMS,TYPE {mn[xyz]|ALL},{<falm>|ALL}!
```

Completion Message

If a single facility alarm is requested for a specific NPC type:

[O.53311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mnxyz <falm> sev COMPL
```

If a single facility alarm is requested for an NPC type:

[O.53311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mn DEFAULT <falm> sev COMPL
```

If ALL facility alarms are requested for a NPC specific type:

[O.53311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mnxyz  6 lines
LOS sev    RBER sev    LOF  sev    EER   sev
BER sev    LCMA sev    FLC  sev    RAI   sev
SFI sev    RAIS sev    AIS  sev    POF   sev
TAI sev    LMA  sev    RABS sev    RPSFI sev
PBF sev                                      COMPL
```

If ALL facility alarms are requested for a NPC type:

[O.53311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mn DEFAULT 6 lines
LOS sev    RBER sev    LOF  sev    EER   sev
BER sev    LCMA sev    FLC  sev    RAI   sev
SFI sev    RAIS sev    AIS  sev    POF   sev
TAI sev    LMA  sev    RABS sev    RPSFI sev
PBF sev                                      COMPL
```

If the ALL type option is chosen, the message will give the current default for each PA, PB, or PC type and any changes from the default for specific xyz types.

If a single facility alarm is requested:

[O.53311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE PA DEFAULT <falm> sev
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE PB DEFAULT <falm> sev
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE PC DEFAULT <falm> sev [COMPL]
[M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mnxyz <falm> sev [COMPL]]
                  .
                  .
                  .
[M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mnxyz <falm> sev COMPL]
```

If ALL facility alarms were requested:

[O.53311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE PA DEFAULT 6 lines
LOS sev    RBER sev    LOF  sev    EER   sev
BER sev    LCMA sev    FLC  sev    RAI   sev
SFI sev    RAIS sev    AIS  sev    POF   sev
TAI sev    LMA  sev    RABS sev    RPSFI sev
PBF sev

M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE PB DEFAULT 6 lines
LOS sev    RBER sev    LOF  sev    EER   sev
BER sev    LCMA sev    FLC  sev    RAI   sev
SFI sev    RAIS sev    AIS  sev    POF   sev
TAI sev    LMA  sev    RABS sev    RPSFI sev
PBF sev

M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE PC DEFAULT 6 lines
LOS sev    RBER sev    LOF  sev    EER   sev
BER sev    LCMA sev    FLC  sev    RAI   sev
SFI sev    RAIS sev    AIS  sev    POF   sev
TAI sev    LMA  sev    RABS sev    RPSFI sev
PBF sev                                     [COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mnxyz  6 lines]
[LOS sev    RBER sev    LOF  sev    EER   sev]
[BER sev    LCMA sev    FLC  sev    RAI   sev]
[SFI sev    RAIS sev    AIS  sev    POF   sev]
[TAI sev    LMA  sev    RABS sev    RPSFI sev]
[PBF sev                                      [COMPL]]
                  .
                  .
                  .

[M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE mnxyz  6 lines]
[LOS sev    RBER sev    LOF  sev    EER   sev]
[BER sev    LCMA sev    FLC  sev    RAI   sev]
[SFI sev    RAIS sev    AIS  sev    POF   sev]
[TAI sev    LMA  sev    RABS sev    RPSFI sev]
[PBF sev                                      COMPL]
```

Denial Message

[O.53311.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FALMS TYPE {ALL|mn[xyz]} {falm|ALL} \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

falm - Facility Alarms

falm	*Explanation*
RPSFI	Remote Power Supply Failure Indicator
LOS	Loss of Signal
LOF	Loss of Frame
AIS	Alarm Indication Signal
EER	Excessive Error Rate
BER	Bit Error Rate
LCMA	Loss of CRC multiframe alignment
FLC	Far End Loss of CRC Multiframe Alignment
RAI	Remote Alarm Indication
RAIS	Remote AIS
RBER	Remote Bit Error Rate
SFI	Sync Failure Indication
POF	Pseudo Frame Word Out of Frame
TAI	Ts-16 All Ones Alarm
LMA	Loss of Multiframe Alignment
RABS	Remote Alarm bit 6, TS16
ALL	ALL above identified shelf alarms

sev - Severity

sev	*Explanation*
PMACR	- Prompt Maintenance Action CRITICAL alarm severity
PMAMJ	- Prompt Maintenance Action MAJOR alarm severity
DMAMN	- Deferred Maintenance Action MINOR alarm severity
MI	- MESSAGE INFORMATION alarm severity

TYPE - Type

mn	*Explanation*
PA	PA NPC Type
PB	PB NPC Type
PC	PC NPC Type

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
26	NPC type error
34	NPC type option xyz is unassigned, or invalid for feature package
31	NPC not provisioned for NSA
BB	Timeslot channel numbering not allowed with CAS
A3	Transmic 1G NPC designated as SYNC source invalid
A4	Firmware timing invalid for Transmic 1G NPC
7E	Framed/Unframed clear 2Mbit/s NPC invalid for Automatic CRC-4
7F	Unframed clear 2Mbit/s NPC invalid for TS0 processing
80	Framed/Unframed clear 2Mbit/s NPC invalid for Transmic 1G, 2G
81	Framed/Unframed clear 2Mbit/s NPC invalid for Firmware Timing
82	Unframed clear 2Mbit/s NPC invalid for Bit 4 used as RA IS/RBER
F7	Alarm Severity Feature (already) OFF

UTL,QRY,FPKG

QUERY FEATURE PACKAGE

Explanation Of Command

This message requests a listing of the installed features and the feature package identification code.

Command

[I.51121]

UTL:FRM xy,SEQ ww:QRY,FPKG!

Completion Message

[O.51121]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIIgg.pp r  \
e LN MSG:
[BASIC DS1 TERMINATIONS]
[BASIC CEPT TERMINATIONS]
[SUBRATE]
[DIRECT SLC TERMINATION] [{EOM|COMPL}]

[M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIIgg.pp r  \
e LN MSG:]
[DS3 TERMINATIONS]
[ENHANCED CEPT-C-BIT,C-BIT FOLTERING,RPSFI]
[SWITCHED TELCONFERENCING]
[CEF] [{EOM|COMPL}]

[M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIIgg.pp r  \
e LN MSG:]
[ENHANCED DS1 PERFORMANCE MONITORING]
[DS0/DS1 SERVICE ROLL FEATURE]
[AT&T SECURITY WARNING MESSAGE]
[NX64KBIT TEST ACCESS] [{EOM|COMPL}]

[M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIIgg.pp r  \
e LN MSG:]
[CLEAR 2MB/S INTERFACE]
[TS0 TO NON-TS0 XCON]
[2MB/S ROLL FEATURE]
[SPARE] [{EOM|COMPL}]

[M hh:mm:ss xy,ww n[vv] UTL QRY FPKG kkttuuvv DACSIIgg.pp r  \
e LN MSG:]
[INTERVENTION LEVEL]
[DS3 HYBRID] [COMPL]
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

e - The number of lines in an output segment (2 through 6)

FPKG - Feature Package

Output includes a list of DACS II optional features.

kkttuuvv

- Feature package identification code

00000001	DS1
00000002	CEPT
00000004	Subrate
00000008	Direct SLC® 96 and Series 5 Carrier Interface
00000010	DS3 Terminations
00000020	Enhanced CEPT
	C-bit
	C-bit filtering
	RPSFI
00000040	Switched Teleconferencing
00000080	CEF
00000100	Enhanced DS1 Performance Monitoring
00000200	DS0/DS1 Roll
00000400	AT&T Security Warning Message
00000800	Nx64kbit Test Access
00001000	Clear 2MB/s Interface
00002000	TS0 to Non-TS0 Cross-connection
00004000	2MB/S Roll
00008000	SPARE
00010000	TRT/FT Features
	Intervention Level
00020000	DS3 Hybrid

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

	binary	hex	Feature
	0001	1	DS1
	0010	2	CEPT
	0100	4	Subrate
	1000	8	Direct SLC
Total	1111	F	(DS1 + CEPT + Subrate + SLC)

gg - DACS II software release number

pp - DACS II software release point number

r - DACS II software PDI number

UTL,QRY,FROM

UTILITY QUERY FROM

Explanation Of Command

This command is used to query the FROM side of a one-way cross-connected circuit or a range of similar circuits. The results depend on (1) whether the termination is assigned, and (2) whether it is a test port termination. A test port termination requires the NPC type of this termination and the far-end it is mapped to (if any).

For this utility, DACS II terminations can be divided into two categories:

- Multipoint termination, which is a multipoint circuit on a real digital multipoint bridge (DMB) in the digital signal processing unit (DSPU), or on a virtual network processing circuit.
- All other terminations.

Command

Nonhierarchical

[I.52051]

`UTL:FRM xy,SEQ ww:QRY,FROM [s]abcddd[-eee]!`

Hierarchical

[I.52051]

UTL:FRM xy,SEQ ww:QRY,FROM uvmnpddd[-eee]!

Completion Message

Nonhierarchical

[O.52051]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd TYPE mnxyz  2 LN MSG:
[t]ghijjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] EOM
                .
                .
                .
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abceee TYPE mnxyz  2 LN MSG:
[t]ghijjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] COMPL
```

[O.52052]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd TYPE mnxyz  2 LN MSG:
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}
```

[O.52053]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd TYPE mnxyz NOT OCON {EOM|COMPL}
```

Hierarchical

[O.52051]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd TYPE mnxyz  2 LN MSG:
edhfgjjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpeee TYPE mnxyz  2 LN MSG:
edhfgjjj ppqqq <tc>[ CUS][ RDC][ UTST {TP kk|TG mmm}][ TLA T] COMPL
```

[O.52052]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd TYPE mnxyz  2 LN MSG:
UASGN[ <tc> ][DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}
```

[O.52053]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd TYPE mnxyz NOT OCON {EOM|COMPL}
```

Denial Message

Nonhierarchical

[O.52051.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd[-eee][ UEQD] \
COND cc DNY
```

[O.52051.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abcddd[-eee] \
TYPE mnxyz RNGIE DNY
```

Hierarchical

[O.52051.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd[-eee][ UEQD] \
COND cc DNY
```

[O.52051.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnpddd[-eee] \
TYPE mnxyz RNGIE DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit non-hierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Starting channel number
eee - Channel number denoting the end of the range.

The valid values are listed below:

Channel numbers
000-031 CEPT

Conference numbers
001-085 (MB NPC)

001-500 (Virtual NPC)

TYPE - Type

mnxyz - FROM termination NPC information

mn - FROM termination NPC type

Valid values are listed below:

mn	*Explanation*
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)

xyz - Options and formats for NPCs

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]ppp - The 3- or 4-digit nonhierarchical SLC carrier digroup P NPC number.

Valid values are identical to those for [s]abc.

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number.

Valid values are identical to those for [s]abc.

edhfg - Hierarchical TO NPC number

Valid values are identical to those for uvmnp

jjj,kkk
- TO channel numbers

Valid values are identical to those for ddd.

ppqqq - TO termination NPC information

pp - TO termination NPC type

Valid values are listed below:

pp	*Explanation*
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
VI	Virtual NPC

qqq - See xyz above for definition and values.

tc - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word specification.

pq is a user specified insertion word. The binary pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.

Note: Because there is no signal from the FROM direction, ijkl is replaced by ---- in the specification TC(ijkl,mnop) and ab is replaced by -- in the specification TC(X'ab,X'cd).

tc

TC(ijkl,mnop)
TC(efghijkl,mnopqrst)
TC(X'ab,X'cd)
TRSP (DMB to DMB)
Omitted

Note: If tc is omitted, defaults to TC(X'FF,X'FF) if both terminations are channel associated signaling type. TC will default to TRSP if one of the terminations is non-signaling associated type.

The following insertion word options are allowed:

Insertion word	*Explanation*
IW X'pq	The 8-bit pattern corresponding to the hexadecimal value of pq will be inserted in the downstream direction of a failure on either line.
Omitted	Will default to IW X'FF.

RDC - Red circuit

CUS - Customer

Customer-controlled circuit

UTST - Under test

Given termination is under test

TP - Test Port

kk - Test port number (01-96)

TG - Test Group

mmm - Test group number (001-400)

TLA - Terminate and leave active

T - To

TO termination is in the terminate and leave state

DCC - Disconnect code

UEQD - Unequipped

NOT - Not

COND - Condition

RNGIE - Range input error

UASGN - Unassigned

cc - Hexadecimal condition code

cc	*Explanation*
E3	One way unassigned channel/NPC in QRY,TO
62	Invalid channel number
7F	NPC is not added
91	SR NPC was specified - not allowed
97	Invalid NPC type
F7	Corresponding NPC for virtual channel is not provisioned

UTL,QRY,FROM

UTILITY QUERY FROM

Explanation Of Command

This message requests provisioning information for a specific FROM non-channelized network processing circuit of a one-way connection.

Command

Nonhierarchical

[I.52071]

```
UTL:FRM xy,SEQ ww:QRY,FROM [s]abc!
```

Hierarchical

[I.52071]

```
UTL:FRM xy,SEQ ww:QRY,FROM uvmnp!
```

Completion Message

Nonhierarchical

[O.52071]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abc TYPE mnxyz  \
2 LN MSG:
[t]ghi mnxyz  AIS[ CUS][ RDC][ UTST][ TLA T] COMPL
```

Hierarchical

[O.52071]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnp TYPE mnxyz  \
2 LN MSG:
wxkqr mnxyz AIS[ CUS][ RDC][ UTST][ TLA T] COMPL
```

Denial Message

Nonhierarchical

[O.52071.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM [s]abc TYPE mnxyz \
COND cc DNY
```

Hierarchical

[O.52071.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FROM uvmnp TYPE mnxyz \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

FROM - From

[s]abc - The 3- or 4-digit non-hierarchical non-channelized FROM NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of non-channelized FROM NPC

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]ghi - The 3- or 4-digit nonhierarchical number of TO NPC mapped to the FROM NPC

wxkqr - Hierarchical number of TO NPC mapped to the FROM NPC

TYPE - NPC type

mnxyz - NPC type of TO or FROM NPC

PAxyz - FTU NPC
PBxyz - FTU NPC
PCxyz - FTU NPC
THxyz - DS3U NPC
----- - Unequipped NPC

AIS - Alarm indication signal is the idle code for non-channelized digital signal cross-connection.

CUS - Customer controlled circuit

RDC - Red circuit

UTST - Under test

TLA T - Terminate and leave activate TO
Connection is terminated in the TO direction

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
62	Invalid channel number
B4	NPC is channelized type
4F	NPC is not part of a one-way connection

UTL,QRY,INTV,NPC,ALL,TLI,CCN,SYNC

RETRIEVE INTERVENTION LEVEL SETTING

Explanation Of Command

This message retrieves the current intervention level setting for system resources.

Command

Nonhierarchical

[I.53331]

```
UTL:[FRM xy,SEQ ww]:QRY,INTV,{NPC {[s]abc[-[t]def]|ALL}|TLI m|CCN|SYNC|ALL}!
```

Hierarchical

[I.53331]

```
UTL:[FRM xy,SEQ ww]:QRY,INTV,{NPC {uvmnp-uvkqr|ALL}|TLI m|CCN|SYNC|ALL}!
```

Completion Message

Nonhierarchical

[O.53331]

If a single NPC is requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC [s]abc LEV r COMPL
```

If a range of NPCs is requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC [s]abc-[t]def  9 LN MSG:
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x {EOM|COMPL}
            .
            .
            .
[M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC [s]abc-[t]def 9 LN MSG:]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x COMPL]
```

If ALL NPCs are requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC [s]abc-[t]def  9 LN MSG:
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x EOM
            .
            .
            .
[M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC [s]abc-[t]def 9 LN MSG:]
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
```

```
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x COMPL
```

The output for a TLI is:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV TLI m LEV r COMPL
```

The output for CCN :

```
M 17:54:31 00,00 1 UTL QRY INTV CCN0 LEV 2 CCN1 LEV 2 COMPL
```

The output for SYNC is:

```
M 17:54:31 00,00 1 UTL QRY INTV SYNC 0 LEV 2 SYNC 1 LEV 2 COMPL
```

The output for ALL resources is:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC [s]abc-[t]def  9 LN MSG:
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x EOM
            .
            .
            .
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC [s]abc-[t]def 9 LN MSG:]
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x COMPL

M hh:mm:ss xy,ww n[vv] UTL QRY INTV  ALL 5 LN MSG:
TLI 001 LEV r
TLI 002 LEV r
TLI 003 LEV r
TLI 004 LEV r EOM

M hh:mm:ss xy,ww n[vv] UTL QRY INTV  ALL 3 LN MSG:
CCN 000 LEV r
CCN 001 LEV r EOM


M hh:mm:ss xy,ww n[vv] UTL QRY INTV  ALL 3 LN MSG:
SYNC 000 LEV r
SYNC 001 LEV r COMPL
```

Hierarchical

[O.53331]

If a single NPC is requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC uvmnp LEV r COMPL
```

If a range of NPCs is requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC uvmnp-uvkqr  9 LN MSG:
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x {EOM|COMPL}
            .
            .
            .
[M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC uvmnp-uvkqr 9 LN MSG:]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x]
[x x x x x x x x x x  x x x x x x x x x x COMPL]
```

If ALL NPCs are requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC uvmnp-uvkqr  9 LN MSG:
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x EOM
            .
            .
            .
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC uvmnp-uvkqr 9 LN MSG:
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
```

```
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x COMPL
```

The output for a TLI is:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV TLI m LEV r COMPL
```

The output for CCN :

```
M 17:54:31 00,00 1 UTL QRY INTV CCN0 LEV 2 CCN1 LEV 2 COMPL
```

The output for SYNC is:

```
M 17:54:31 00,00 1 UTL QRY INTV SYNC 0 LEV 2 SYNC 1 LEV 2 COMPL
```

The output for ALL resources is:

```
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC uvmnp-uvkqr  9 LN MSG:
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x EOM
            .
            .
            .
M hh:mm:ss xy,ww n[vv] UTL QRY INTV  NPC uvmnp-uvkqr 9 LN MSG:]
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x
x x x x x x x x x x  x x x x x x x x x x COMPL

M hh:mm:ss xy,ww n[vv] UTL QRY INTV  ALL 5 LN MSG:
TLI 001 LEV r
TLI 002 LEV r
TLI 003 LEV r
TLI 004 LEV r EOM

M hh:mm:ss xy,ww n[vv] UTL QRY INTV  ALL 3 LN MSG:
CCN 000 LEV r
CCN 001 LEV r EOM


M hh:mm:ss xy,ww n[vv] UTL QRY INTV  ALL 3 LN MSG:
SYNC 000 LEV r
SYNC 001 LEV r COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, the first NPC of a range specification.

NOTE: The NPC range is not valid for DSPU NPCs. If a range is specified for DSPU NPCs the command will be denied.

[t]def - The 3- or 4-digit nonhierarchical NPC number, the last NPC of a range specification.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, the first NPC of a range specification.
uvkqr - Hierarchical NPC number, the last NPC of a range specification.

uv - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ALL - ALL NPCs

TLI - Timing Link Interface

m - TLI number(1 - 4)

CCN - Cross-connect Network

SYNC - Synchronizer

ALL - All resources

LEV - Level

r - Intervention Level(1-6)

x NPC Intervention Level (1-6) or
- NPC intervention level not requested

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions

UTL,QRY,LIST,MACRO,USER

UTILITY QUERY LIST MACRO

Explanation Of Command

This command lists the contents of individual or public macros. Only the frame administrator can list all macros, whether owned by an individual or by the public.

Command

[I.54131]

```
UTL:FRM xy,SEQ ww:QRY,LIST,MACRO <macro name>\
[,USER <user id>]!
```

Completion Message

[O.54131]

```
M  hh:mm:ss xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>]  e LN MSG:
   l <first 70 characters of lth component command line text>
     <remaining characters of lth component command line text>
                              .
                              .
                              .
   m <first 70 characters of mth component command line text>
     <remaining characters of mth component command line text>  {EOM|COMPL}

M  hh:mm:ss xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>]  e LN MSG:
   n <first 70 characters of nth component command line text>
     <remaining characters of nth component command line text>
                              .
                              .
                              .
   s <first 70 characters of sth component command line text>
     <remaining characters of sth component command line text>  COMPL
```

[O.54132]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>] NONE COMPL
```

Denial Message

[O.54131.01]

```
M  hh:mm:ss  xy,ww n[vv] UTL QRY LIST MACRO <macro name>\
[ USER <user id>] COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LIST - List

MACRO - Macro

macro name
- Macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

USER - User

user id - User identifier (two to eight alphabetic characters)

User login identification

A user can query their own macros but only the frame administrator can use the command to query macros owned by other users. The frame administrator must specify the user id to query other users' macros.

l,
m,
n,
s - Macro command line numbers

NONE - The macro contains no commands

cc - Hexadecimal condition code

cc	*Explanation*
62	File is being accessed
64	File doesn't exist/can't be accessed
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

UTL,QRY,LIST,MAP,USER

UTILITY QUERY LIST MAP

Explanation Of Command

This message lists the user's own login on which link and at what time.

Any user can query his/her own login identification but only the frame administrator can query a login owned by another user.

Command

[I.54101]

```
UTL:FRM xy,SEQ ww:QRY,LIST,MAP <name>[,USER <user id>]!
```

Completion Message

[O.54101]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>[ USER <user id>] \
STATS ab e LN MSG:
<TCON ... format ...
            .
            .
            .
<TCON ... format ... EOM

M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>[ USER <user id>] \
STATS ab e LN MSG:
<TCON ... format ... >
            .
            .
            .
<TCON ... format ... > COMPL
```

[O.54102]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>\
[ USER <user id>] NONE COMPL
```

Denial Message

[O.54101.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LIST MAP <name>\
[ USER <user id>] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

MAP - Alternate MAP

name - Name of the specified alternate MAP. A MAP name may have up to seven alphanumeric characters. The first character of a MAP name must be an alphabetic character. All alphabetic characters of a MAP name must be capitalized.

USER - User

user id
- User login identification is two to eight alphabetic characters.

STATS - Status

ab - Status field

ab	*Explanation*
00	Map is valid (can be activated)
01	Map is not valid (contains conflicting circuits and thus cannot be activated)
D0	USER <id> is not your login name and your are not the frame administrator
D3	USER <id> does not exist
D5	The command cannot be entered without logging in

e - Number of lines in the output segment

cc - Hexadecimal condition code

cc	*Explanation*
62	File is being accessed
64	File doesn't exist/can't be accessed
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

UTL,QRY,LOG,ALL

QUERY LOG

Explanation Of Command

This command is used to query DACS II for the link, user identifier, and date and time of login of the user issuing the command. The frame administrator uses the **ALL** keyword to list information on all current users.

Output from this command is sent only to the link on which the command was input.

Command

[I.54011]

```
UTL:[FRM xy][,SEQ ww]:QRY,LOG[,ALL]!
```

Completion Message

[O.54011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOG  e LN MSG:
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss  COMPL
```

[O.54011]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOG ALL  e LN MSG:
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss
                  .
                  .
                  .
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss  {EOM|COMPL}

M hh:mm:ss xy,ww n[vv] UTL QRY LOG ALL  e LN MSG:
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss
                  .
                  .
                  .
LINK j[mm] USER <user id> {DATE mm/dd/yy FORMAT MDY|\
DATE dd/mm/yy FORMAT DMY} TOD hh:mm:ss  COMPL
```

[O.54012]

```
M hh:mm:ss xx,yy n[vv] UTL QRY LOG[ ALL] NONE  COMPL
```

Denial Message

[O.54011.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LOG[ ALL] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LOG - Login

ALL - All

All user logins. Used only by the frame administrator.

USER - User

user id
- User identifier (two to eight alphabetic characters)

User login identification

LINK - Link

j[mm] - The link number the user is logged onto

j	- Administrative link number (1 through 7)
mm	- Virtual link/session number (1 through 16 when j is 5, 6, or 7)

DATE - Date

mm/dd/yy,dd/mm/yy
- Date, current

mm	Month number (01 through 12)
dd	Day number (01 through 31)
yy	Year number (00 through 99)

FORMAT - Date format

MDY - Month/Day/Year format

DMY - Day/Month/Year format

TOD - Time of day

hh:mm:ss
- Time of day in hours, minutes, and seconds

hh	Hours number (00 through 23)
mm	Minutes number (00 through 59)
ss	Seconds number (00 through 59)

NONE - No user is logged in to DACS II

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D7	Cannot execute privileged command
DF	Command and protocol are inconsistent

UTL,QRY,LPBK,NPC

UTILITY QUERY LOOPBACK

Explanation Of Command

This command requests a report indicating which Network Processing Circuits are in the loopback state. The message applies to PA, PB, and PC type NPCs. If other NPC types are encountered in a range of NPCs, these other NPC types will be skipped.

Command

Nonhierarchical

[I.53131]

```
UTL:FRM xy,SEQ ww:QRY,LPBK,NPC [s]abc[-[t]def]!
```

Hierarchical

[I.53131]

```
UTL:FRM xy,SEQ ww:QRY,LPBK,NPC uvmnp[-wxkqr]!
```

Completion Message

Nonhierarchical

[O.53131]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [u]ghi-[u]jkl TOT nnn\
[ COND cc]  5 LN MSG:
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t EOM

       ...          ...              ...
       ...          ...              ...
       ...          ...              ...

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [v]mno-[v]pqr TOT nnn\
[ COND cc]  5 LN MSG:
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t COMPL
```

[O.53132]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [s]abc [d]t COMPL
```

Hierarchical

[O.53131]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC uvmaa-uvmbb TOT nnn\
[ COND cc]  5 LN MSG:
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t EOM

       ...          ...              ...
       ...          ...              ...
       ...          ...              ...

M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC wxkaa-wxkbb TOT nnn\
[ COND cc]  5 LN MSG:
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t
[d]t [d]t [d]t [d]t [d]t [d]t [d]t [d]t COMPL
```

[O.53132]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC uvmnp [d]t COMPL
```

Denial Message

Nonhierarchical

[O.53131.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC [s]abc[-[t]def] \
COND cc DNY
```

Hierarchical

[O.53131.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY LPBK NPC uvmnp[-wxkqr] \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

LPBK - Loopback

NPC - Network processing circuit

If an NPC range is specified in the input command, the following floating window rules apply:

1. Unequipped NPCs within the requested range will be skipped.
2. If the first NPC in the range is a DA or TA type NPC, only those NPC types will be reported on.
3. If the first NPC in the range is a TE or TH type NPC on a Hybrid DS3U, then only those type of NPCs will be reported on.
4. If the first NPC in the range is a PA, PB, or PC type NPC, then only those NPC types will be reported on.

TOT - Total

nnn - Total Number of NPCs in the module that are in the loopback state

COND - Condition

[s]abc - The 3- or 4-digit nonhierarchical NPC number, start of NPC range
[t]def - The 3- or 4-digit nonhierarchical NPC number, end of NPC range

[u]ghi - Lowest numbered NPC in the FTM that contains NPC [s]abc
[v]mno - Lowest numbered NPC in the FTM that contains NPC [t]def

[u]jkl - Highest numbered NPC in the FTM that contains NPC [s]abc
[v]pqr - Highest numbered NPC in the FTM that contains NPC [t]def

FTM is an acronym for Facility Terminating Module. For FTMs in FTUs or IFTUs, each row contains 10 values of output. For FTMs within DS3Us each row contains 7 values. For FTMs within HDS3Us each row contains 4 values.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number for beginning of NPC range
wxkqr - Hierarchical NPC number for end of NPC range

uvmaa - Lowest numbered NPC in the FTM that contains NPC uvmnp
FTM is an acronym for Facility Terminating Module.
The parameter value for NPC aa is in the first position, first line of the message.

uvmbb - Highest numbered NPC in the FTM that contains NPC uvmnp
The parameter value for NPC bb is just before EOM or COMPL.

wxkaa - Lowest numbered NPC in the FTM that contains NPC wxkqr
The parameter value for NPC aa is in the first position, first line of the message.

wxkbb - Highest numbered NPC in the FTM that contains NPC wxkqr
The parameter value for NPC bb is just before EOM or COMPL.

For FTMs in FTUs or IFTUs, each row contains 10 values of output. For FTMs within DS3Us each row contains 7 values. For FTMs within HDS3Us each row contains 4 values.

uv,wx - Unit number
m,k - Module number
np,qr,aa,bb
- NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

The range of NPCs in the denial messages will be given either as module or unit boundaries depending upon the reason for the denial.

d - Loopback direction specifier

The optional "d" will only be output for PA NPCs. For PDS output, a "blank" space in the "d" position will be used for PB/PC NPCs to line-up the output if at least one PA type NPC is within the specified range. Otherwise, no "blank" space at the "d" position will be used for PB/PC NPCs. No "blank" space is used in the MML output format.

d	*Explanation*
F	Facility loopback, the F type loops the incoming 2 Mbit/s bipolar signal back to the facility.
E	Equipment loopback, the E type loops the outgoing 2 Mbit/s signal back to DACS II equipment. This type is not applicable to PB or PC type NPCs.
N	Not in a loopback state
-	NPC not equipped
0	NPC not specified in the input command, valid for range commands only

t - Signal transmission and PM processing specifier for loopback

Values of "t" are presented in NPC order, grouped within messages by Facility Terminating Module

t	*Explanation*
A	Loopback with AIS downstream/upstream and facility Performance Monitoring (PM) turned off.
B	Loopback with AIS downstream/upstream and PM turned on.
C	Loopback with pass-through and PM turned off.
T	Loopback with pass-through and PM turned on.
N	Not in a loopback state
-	NPC not equipped
0	NPC not specified in the input command, valid for range commands only

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
13	FTMI is not equipped
25	FTMI type error
26	NPC type error
0B	Invalid CEPT NPC

UTL,QRY,MACRO,ATTR,USER,ALL

QUERY MACRO ATTRIBUTES

Explanation Of Command

This message queries the macro attributes associated with all personally-owned macros and any public macros. The frame administrator can query ALL the macro attributes of any macro, public or private.

For each macro, DACS II lists:

- The macro name
- The user who owns the macro
- The number of parameters in the macro
- The language used
- The amount of space used by the macro.

Command

[I.54211]

```
UTL:FRM xy,SEQ ww:QRY,MACRO,ATTR[,{USER <user id>|ALL}]!
```

Completion Message

[O.54211]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY MACRO ATTR\
[ {USER <user id>|ALL}]  e LN MSG:
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \
NPCAD {E|X|H}
  ........         .........
  ........         .........
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \
NPCAD {E|X|H} {EOM|COMPL}

M hh:mm:ss  xy,ww n[vv] UTL QRY MACRO ATTR\
[ {USER <user id>|ALL}]  e LN MSG:
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \
NPCAD {E|X|H}
  ........         .........
USER <user id> MACRO <name> PRMTR tt LANG {P|M} SPACE nnn \
NPCAD {E|X|H} COMPL
```

[O.54212]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY MACRO ATTR\
[ {USER <user id>|ALL}] NONE  COMPL
```

Denial Message

[O.54211.01]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY MACRO ATTR\
[ {USER <user id>|ALL}] COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

ATTR - Attributes

user id
- Query the specified user's private and public macro attributes

User login identification is two to eight alphabetic characters.

ALL - Query all private and public macros' attributes (used by the frame administrator only)

MACRO - The keyword used to indicate that the "name" shown is a macro name. A Macro is a collection of DACS II commands that can be executed as a group.

name - The macro name which is a string of uppercase alphanumeric characters from one to seven characters long. The first character must be an alphabetic character.

A macro name start with the character "P" is a public macro. Only the frame administrator is allowed to create a public macro.

LANG - Language

M - Man-Machine Language

P - Program Documentation Standard

PRMTR - Macro parameters

tt - Total number of macro parameters used (01 - 10)

SPACE - Macro space

nnn - Macro space used by the macro in percentage of the user macro space allocation (000 - 100)

NPCAD - NPC addressing scheme

E - 3-digit extended (nonhierarchical) NPC addressing scheme

X - 4-digit extended (nonhierarchical) NPC addressing scheme

H - Hierarchical NPC addressing scheme, i.e., address the NPC by using the unit number, module number, and NPC number within the module.

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

UTL,QRY,MACRO,MAP,SPACE,USER,ALL

UTILITY QUERY MACRO/MAP SPACE

Explanation Of Command

This message requests the amount of space that the user's alternate map or macro requires and how much space is still available.

The frame administrator can query for all user's macro or alternate map space requirements and for the system space requirements and allocation.

In summary, a user can query his/her own alternate map or macro space, but only the frame administrator can use the ALL and SYSTEM options of the command to query space owned by another user.

Command

[I.54221]

```
UTL:FRM xy,SEQ ww:QRY,{MACRO|MAP},SPACE[,{USER <user id>|ALL|\
SYSTEM}]!
```

Completion Message

[O.54221]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn \
AVAIL xxx
[ {USER <user id>|SYSTEM}]  COMPL
```

[O.54222]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn ALL  \
e LN MSG:
USER <user id> AVAIL xxx
USER <user id> AVAIL xxx
         ....         ...
USER <user id> AVAIL xxx  {EOM|COMPL}

M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn ALL  \
e LN MSG:
USER <user id> AVAIL xxx
USER <user id> AVAIL xxx
         ....         ...
USER <user id> AVAIL xxx  {EOM|COMPL}
         ....         ...
         ....         ...
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE nnn ALL  \
e LN MSG:
USER <user id> AVAIL xxx
USER <user id> AVAIL xxx
         ....         ...
USER <user id> AVAIL xxx  COMPL
```

Denial Message

[O.54221.01]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY {MACRO|MAP} SPACE\
[ {USER <user id>|ALL|SYSTEM}] COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

MAP - Map

MACRO - Macro

USER - User

user id
- query the specified user's macro/map space status.

User login identification is two to eight alphabetic characters.

ALL - query all users' macro/map space status.

SYSTEM - query the system macro/map space status.

nnn - percentage of macro/map space allocated (000 to 100%). If user ID or ALL option is used, nnn is the user macro/map space allocation percentage. If SYSTEM option is used, nnn is the percentage of system macro/map space allocated, and it is always 100 (i.e., 100%).

AVAIL - Percentage of space available.

xxx - percentage of user or system macro/map space still available (000 to 100%)

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

UTL,QRY,MACRO,USER

UTILITY QUERY MACRO

Explanation Of Command

This command is used to query the attributes of a macro including the language, the number of macro parameters, the amount of user macro space used by the macro, the NPC addressing scheme used by the macro, and the total number of macro command lines in the macro.

A user can query his or her own macros but only the frame administrator can query macros owned by another user.

Command

[I.54121]

```
UTL:FRM xy,SEQ ww:QRY,MACRO <name>[,USER <user id>]!
```

Completion Message

[O.54121]

```
M hh:mm:ss  xy,ww n[vv] UTL QRY MACRO <name>[ USER <user id>]  2 LN MSG:
LANG {M|P} PRMTR jk SPACE sss NPCAD {E|X|H} TOTAL <line total>  COMPL
```

Denial Message

[O.54121.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MACRO <name>[ USER <user id>] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

MACRO - Macro

name - The macro name (seven characters maximum length)

The name of a collection of DACS II commands executed as a group.

A macro name is a string of capitalized alphanumeric characters. There are two type of macros; public and private. A private macros is created by a user in space allocated to the user by the system administrator. Only the user that created it can execute or read (LIST) a private macro. A public macro is created by the system administrator and is executable and readable by all users. A public macro name must start with the letter "P". A private macro name must not start with the letter "P".

USER - User

user id
- User identifier (two to eight alphabetic characters)

User login identification

A user can query their own macros but only the frame administrator can use the command to query macros owned by other users. The frame administrator must specify the user id to query other users' macros.

LANG - Language

M - Man-Machine language

P - Program documentation standards

PRMTR - Parameter

jk - Total number of macro parameters used (01 through 10)

SPACE - Space

sss - User macro or map space allocation (000 through 100 percent)

Variable sss represents the space allocated to user macros or maps for the entire DACS II system as a percentage of the system macro space.

TOTAL - Total

line total
- Total number of macro command lines in the macro

NPCAD - NPC addressing scheme

E - 3-digit extended (non-hierarchical) NPC addressing scheme

X - 4-digit extended (non-hierarchical) NPC addressing scheme

H - Hierarchical NPC addressing scheme, that is, address the NPC by using the unit number, module number, and NPC number within the module.

cc - Hexadecimal condition code

cc	*Explanation*
64	File doesn't exist/can't be accessed
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

UTL,QRY,MAP,ATTR,ALL,USER,MAPNM

UTILITY QUERY MAP

Explanation Of Command

This message requests the following information on the user's alternate map:

- User identifier
- Status of the map
- Amount of space used by the map.

Only the administrator can request information on other users or request ALL alternate maps on the DACS II frame. A user can query his or her own maps but only the frame administrator can use the command to query maps owned by other users.

Command

[I.54201]

```
UTL:FRM xy,SEQ ww:QRY,MAP,ATTR[,{ALL|USER <user id>|MAPNM <name>}]!
```

Note: Only the DACS II frame administrator can use the ALL option.

Completion Message

[O.54201]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\
MAPNM <name>}]  e LN MSG:
USER <user id> MAP <name> STATS bb SPACE nnn
                    .
                    .
                    .
USER <user id> MAP <name> STATS bb SPACE nnn EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\
MAPNM <name>}]  e LN MSG:
USER <user id> MAP <name> STATS bb SPACE nnn
                    .
                    .
                    .
USER <user id> MAP <name> STATS bb SPACE nnn COMPL
```

[O.54202]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\
MAPNM <name>}] NONE COMPL
```

Denial Message

[O.54201.01]

```
M  hh:mm:ss xy,ww n[vv] UTL QRY MAP,ATTR[ {ALL|USER <user id>|\
MAPNM <name>}] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

MAP - Map

ATTR - Attributes

ALL - All

USER - User

user id
- User identifier

User login identification is two to eight alphabetic characters.

The USER option is available to a regular DACS II user to query his or her own maps. Only the administrator can use the option to request information on other users or ALL alternate maps on the DACS II frame.

MAPNM - Alternate map name

name - The alternate map name which is a string of uppercase alphanumeric characters from one to seven characters long. The first character must be an alphabetic character.

STATS - Status of the alternate map

bb - Map Status

bb	Explanation
00	Map is valid (can be activated)
01	Map is not valid (it contains conflicting circuits and therefore cannot be activated)

SPACE - Alternate map space

nnn - Alternate Map space used by the alternate map in percentage of the user alternate map space allocation (000 - 100)

cc - Hexadecimal condition code

cc	*Explanation*
64	File doesn't exist/can't be accessed
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

UTL,QRY,MARK

UTILITY QUERY MARKINGS

Explanation Of Command

This command is used to query a single or a range of network processing circuits (NPCs) in a facility terminating unit, a digital signal processing unit, a DS3 or a HDS3 unit. DSP Application circuit packs provisioned in a facility terminating unit are supported. This command can be aborted before the entire printout has completed.

When specifying a single NPC, the channel and conference or non-channelized circuit with markings (red circuit and/or customer controlled) are listed. The output for a channel or conference with markings is skipped. When the circuit does not contain markings, the output message indicates this with the NONE keyword. A denial message is printed when the NPC is unequipped.

When specifying a range of NPCs, the channel and conference or non-channelized circuit with markings (red circuit and/or customer controlled) are listed for each equipped NPC. The output for an unequipped or unmarked channel and conference or non-channelized NPC is skipped.

For a non-channelized circuit with markings, a one-line output message segment is printed for each NPC marked, but the channel or conference information is not printed.

For a disconnected channel which was previously used in both two-way and/or one-way cross-connections, the CUS marking is retained for the two-way cross-connection and output by default.

Outputs are skipped under the following conditions:

- NPC is unequipped
- Channel or conference point has no **RDC** or **CUS** marking.

Command

Nonhierarchical

[I.52201]

UTL:FRM xy,SEQ ww:QRY,MARK [s]abc[-[t]def]!

Hierarchical

[I.52201]

UTL:FRM xy,SEQ ww:QRY,MARK uvmnp[-wxkqr]!

Completion Message

Nonhierarchical

[O.52201]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc TYPE mnxyz [FDL t000cccrrr] xx  e LN MSG:
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr EOM
                .
                .
                .

[M hh:mm:ss xy,ww n[vv] UTL QRY MARK [t]jkl TYPE mnxyz tcccrrr EOM]
                .
                .
                .
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [t]def TYPE mnxyz [FDL t000cccrrr] xx  e LN MSG:
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc[-[t]def] COMPL
```

Note: The format above assumes all 24 DS0 channels in each NPC are marked. Only NPCs with markings are listed.

[O.52203]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc[-[t]def][ NONE]  COMPL
```

Hierarchical

[O.52201]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp TYPE mnxyz [FDL t000cccrrr] xx  e LN MSG:
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr EOM
               .
               .
               .

[M hh:mm:ss xy,ww n[vv] UTL QRY MARK edhfg TYPE mnxyz tcccrrr EOM]
               .
               .
               .

M hh:mm:ss xy,ww n[vv] UTL QRY MARK wxkqr TYPE mnxyz [FDL t000cccrrr] xx  e LN MSG:
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
[tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr]
tnnncccrrr tnnncccrrr tnnncccrrr tnnncccrrr EOM


M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp[-wxkqr] COMPL
```

Note: The format above assumes all 24 DS0 channels in each NPC are marked. Only NPCs with markings are listed.

[O.52203]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp[-wxkqr] [NONE] COMPL
```

Denial Message

Nonhierarchical

[O.52201.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc TYPE ----- UEQD  DNY
```

[O.52201.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abc[-[t]def] TYPE mnxyz COND cc  DNY
```

Hierarchical

[O.52201.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp TYPE ----- UEQD  DNY
```

[O.52201.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmnp[-wxkqr] TYPE mnxyz COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

MARK - Mark

One of the following:

RDC - Red circuit
CUS - Customer-controlled circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number denoting beginning of range specification
[t]def - The 3- or 4-digit nonhierarchical NPC number denoting end of range specification

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number denoting beginning of range specification
wxkqr - Hierarchical NPC number denoting end of range specification

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]jkl - The 3- or 4-digit NPC number in range [s]abc-[t]def, of a non-channelized NPC.

edhfg - Hierarchical non-channelized NPC number in range uvmnp-wxkqr

TYPE - Type

mnxyz - NPC type

mnxyz	*Explanation*
CB10z	C-bit Processor
PAxyz	Enhanced 2Mbit/s primary interface
PBxyz	CEPT primary interface (twisted pair termination)
PCxyz	CEPT primary interface (coaxial termination)
SDxyz	DSP Application
ST100	Integrated Test Set provisioned for International FTM
ST110	Integrated Test Set provisioned for North American FTM
VIxyz	Virtual circuit

xx - Total number of marked channels in the message segment (01 through 16)

FDL - Facility data link

t - Cross-connection type

t	*Explanation*
B	For broadcast cross-connection
D	For disconnection
*	For one-way cross-connection
' '	Blank for two-way cross-connection,
T	A Facility Access Digroup (FAD) or a Test Port (TP) channel

nnn - Channel or conference number

ccc - CUS if customer controlled or --- if not customer controlled

rrr - RDC if red circuit or --- if not red circuit

UEQD - Unequipped

----- - Unknown NPC type

UTL,QRY,MARK

QUERY CHANNEL MARKS

Explanation Of Command

This command is used to query a network processing circuit for the channel and conference points that are **MARK**ed as red or customer controlled circuits.

The command can be entered to request a listing for a group of channels or conference points or for a single channel or conference point. This command can be aborted before the entire printout has completed.

For a disconnected channel which was previously used in both two-way and one-way cross-connections, the CUS marking retained for the two-way cross-connection is output by default.

Outputs are skipped under the following conditions:

- Unequipped NPC
- Channel/conference point has no red circuit or customer controlled marking.

Command

Nonhierarchical

[I.52211]

UTL:FRM xy,SEQ ww:QRY,MARK [s]abcjjj[-kkk]!

Hierarchical

[I.52211]

UTL:FRM xy,SEQ ww:QRY,MARK uvmnpjjj[-kkk]!

Completion Message

Nonhierarchical

Usage: Single channel or conference point

[O.52211]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj TYPE mnxyz tjjjcccrrr COMPL
```

Usage: Range of channels or conference points

[O.52211]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx  e LN MSG:
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
tnnnrrr tnnnrrr tnnnrrr tnnnrrr EOM

               .
               .
               .
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx  e LN MSG:
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
tnnnrrr tnnnrrr tnnnrrr tnnnrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj[-kkk] COMPL
```

Usage: No channel or conference points are marked.

[O.52213]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj[-kkk] NONE COMPL

Hierarchical

Usage: Single channel or conference point

[O.52211]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj TYPE mnxyz tjjjcccrrr COMPL
```

Usage: Range of channels or conference points

[O.52211]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx  e LN MSG:
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
tnnnrrr tnnnrrr tnnnrrr tnnnrrr EOM

               .
               .
               .
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx  e LN MSG:
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
[tnnnrrr tnnnrrr tnnnrrr tnnnrrr]
tnnnrrr tnnnrrr tnnnrrr tnnnrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]uvmnpjjj[-kkk] COMPL
```

Usage: No channel or conference points are marked.

[O.52213]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]uvmnpjjj[-kkk] NONE COMPL
```

Denial Message

Nonhierarchical

[O.52211.01]

```
M hh:mm:ss xy,ww n[vv] QRY MARK [s]abc TYPE ----- UEQD DNY
```

[O.52211.02]

```
M hh:mm:ss xy,ww n[vv] QRY MARK [s]abcjjj[-kkk] COND cc DNY
```

Hierarchical

[O.52211.01]

M hh:mm:ss xy,ww n[vv] QRY MARK uvmnp TYPE ----- UEQD DNY

[O.52211.02]

M hh:mm:ss xy,ww n[vv] QRY MARK uvmnpjjj[-kkk] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

MARK - Mark

Red circuit and customer controlled MARKings

NONE - None

This keyword indicates that no channel or conference point is marked as a red and/or customer controlled circuit.

[s]abcjjj
- Termination number

[s]abc - The 3- or 4-digit nonhierarchical NPC number

jjj - Channel or conference point number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module
jjj - Channel or conference point number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

kkk - Channel or conference point number

Conference numbers

001-085	(MB NPC)
001-500	(Virtual NPC)

tnnncccrrr
- Channel or conference information

t - Cross-connection type

t	*Explanation*
*	One-way cross-connection
B	Broadcast cross-connection,
	Blank for two-way cross-connection,
D	Disconnection

nnn - Channel or conference point number (jjj through kkk)

ccc - Customer controlled marking

ccc	*Explanation*
CUS	Customer controlled
---	Not customer controlled

rrr - Red circuit marking

rrr	*Explanation*
RDC	Red circuit
---	Not red circuit

xx - Total number of data fields in the segment (01 through 16)

UEQD - Unequipped

TYPE - Type

mnxyz - NPC type

mnxyz	*Explanation*
-----	Unknown NPC type
MBxyz	Multipoint bridge
PAxyz	CEPT NPC (75-ohm or 120-ohm)
PBxyz	CEPT NPC (120-ohm twisted pair)
PCxyz	CEPT NPC (75-ohm coaxial)
SDxyz	DSP Application
THxyz	HDS3U CEPT NPC type

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
01	Invalid range for specified NPC type
62	Invalid channel number
7F	NPC is not added
91	SR NPC was specified - not allowed
B5	CPR circuit pack specified in the command
F7	Corresponding NPC for virtual channel is not provisioned
70	NPC invalid type

UTL,QRY,MEMSTAT

RETRIEVE MEMORY STATUS

Explanation Of Command

This command identifies the current contents of the system memory devices. A separate line of information is provided for the Main Controller random access memory (RAM), Primary Memory Card (PMEM) and Secondary Memory Card (SMEM). The message response provides the following information for each particular memory device that can be accessed:

1. Software Release of the Executable Program
2. Software Release of the Database
3. Date and Time Stamps of the Database
4. Frame ID and Unique ID
5. Feature Package ID
6. Serial number of the database
7. Serial number of the SunDisk card (PMEM and SMEM only)
8. Service state of the card (PMEM and SMEM) and the service state of the RAM as it corresponds to the state of the MC. If the MC is in-service, RAM is in-service; if the MC is in maintenance condition, RAM is out-of-service.

In addition information about applications that reside on the memory cards is given as follows:

1. The type of the application in the form SDx, where "x" indicates the type.
2. The generic, issue, and release numbers that identify the version of the application
3. The date when this version of the application was generated.

The output format depends on what the MEMSTAT command finds on each memory card and whether a memory card is in its respective slot as follows:

1. Applications are listed separately in the output of the command. An application section is only created in the output command if applications actually reside on the memory cards.
2. The output for an application does not contain any information about an executable or a database, because it does not apply. The version information identifies the application.
3. If no memory card is in a particular slot, then the output for that slot will generate dashes for the data.
4. If the SMEM slot contains an application card (the PMEM slot should never have an application card), then SMEM is not mentioned in the main section of the output, but is mentioned only in the application section of the output message. In addition, the type field in the output for an application card has an asterisk at its end to identify the card as an application card.

This message may be executed either while the Main Controller is In-Service or in Maintenance Condition.

Command

[I.51001]

UTL:[FRM xy,SEQ ww]:QRY,MEMSTAT!

Completion Message

In the normal case, with no platform application card in SMEM and no applications residing on PMEM or SMEM, only the main section (plus the feature package section) is generated; no application section is generated.

[O.51001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  5 LN MSG:
DEV   EXCT     DBASE    DATE      TIME      FID  UID
RAM   gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
PMEM  gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
SMEM  gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  5 LN MSG:
FPKG      DBSN        FCSN                  STATE
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>  COMPL
```

In a normal case with no platform application card in SMEM, but applications residing on PMEM and SMEM, both a main section and an application section (plus a feature package section) are generated.

[O.51001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  e LN MSG:
DEV   EXCT     DBASE    DATE      TIME      FID  UID
RAM   gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
PMEM  gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
SMEM  gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
DEV   APPLICATION TYPE  DATE      VERSION
PMEM  SDx               aa/bb/yr  gen.iss.rel
                        .
                        .
[PMEM  SDx               aa/bb/yr  gen.iss.rel]
SMEM  SDx               aa/bb/yr  gen.iss.rel
                        .
                        .
[SMEM  SDx               aa/bb/yr  gen.iss.rel]  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  5 LN MSG:
FPKG      DBSN        FCSN                  STATE
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>  COMPL
```

Case with no card in SMEM slot and platform applications residing on PMEM, both a main section and an application section (plus feature package section) are generated.

[O.51001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  e LN MSG:
DEV   EXCT     DBASE    DATE      TIME      FID  UID
RAM   gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
PMEM  gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
SMEM  --.--.-  --.--.-  --/--/--  --:--:--  --   ---
DEV   APPLICATION TYPE  DATE      VERSION
PMEM  SDx               aa/bb/yr  gen.iss.rel
                        .
                        .
[PMEM  SDx               aa/bb/yr  gen.iss.rel]  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  5 LN MSG:
FPKG      DBSN        FCSN                  STATE
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>  COMPL
```

Case with platform application card in SMEM and one application residing on PMEM and SMEM, both a main section and an application section (plus feature package section) are generated.

[O.51001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  e LN MSG:
DEV   EXCT     DBASE    DATE      TIME      FID  UID
RAM   gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
PMEM  gg.pp.r  dd.rr.v  aa/bb/yr  hr:mn:sc  fg   <uid>
DEV   APPLICATION TYPE  DATE      VERSION
PMEM  SDx               aa/bb/yr  gen.iss.rel
SMEM  SDx*              aa/bb/yr  gen.iss.rel  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT  5 LN MSG:
FPKG      DBSN        FCSN                  STATE
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>
nnnnnnnn  oooooooooo  qqqqqqqqqqqqqqqqqqqq  <state>  COMPL
```

Note: The asterisk (*) following the application type "SDx" in the application section of the message indicates that SMEM is an application card and not a regular 40 Mbyte memory card. Application cards are used for distributing applications to the customer.

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

MEMSTAT
- Memory Status

e - number of lines in message

DEV - Device

EXCT - Executables

gg.pp.r
- Software release identifier.

This field identifies the software release of the executable program that is stored in the memory device. The software release ID is a three part number composed of a release number, a point number, and a version number. This field will appear as a set of dashes if no executable program can be found on the memory device. The software release number "gg.pp.r" is composed of:

gg - Software release number
pp - Point release number
r - Version number

DBASE - Database

dd.rr.v
- Database release identifier.

This field identifies the release of executable program that the database stored in the memory device is formatted for. The release ID is a three part number composed of a release number, a point number and a version number. This field will appear as a set of dashes if no database can be found on the memory device. The database release number "dd.rr.v" is composed of:

dd - Release number
rr - Point release number
v - Version number

DATE - Date

aa/bb/yr
- Date of last update to the database.

This field identifies the date that the database was created or last updated. In the RAM data line, this field shows the current system date. For the PMEM and SMEM data lines, this field shows the date that the most recent database backup to the Flash Card occurred.

The date field will appear as a set of dashes if no database can be found on the memory device. The date may be generated in either the month-day or the day-month format, depending on how the user has provisioned it using command I.51021, UTL::DATE.

aa	Month or Day, depending on selected date format.
bb	Day or Month, depending on selected date format.
yr	Year

TIME - Time

hr:mn:sc
- Time of last update to the database.

This field identifies the time that the database was created or last updated. In the RAM memory data line, this field shows the current system time. In the PMEM and SMEM data lines, this field shows the time of day that the most recent database backup to the Flash Card occurred. This field will appear as a set of dashes if no database can be found on the memory device.

hr	- Hour (00 through 23)
mn	- Minute (00 through 59)
sc	- Second (00 through 59)

FID - Frame ID

fg - Frame identifier of the memory device.

This field displays the two alphanumeric character frame identifier "fg" of the memory device. In the RAM memory line, the frame ID shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the frame ID identifies the system that the memory card belongs to. This field will be shown as dashes if no frame ID can be found on the memory device.

UID - Unique ID

<uid> - Unique identifier of the memory device.

This field displays the unique identifier **<uid>**, up to 20 alpha-numeric characters, of the memory device. In the RAM memory line, the unique ID shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the unique ID identifies the system that the flash card belongs to. This field will be shown as dashes if no unique ID can be found on the memory device.

APPLICATION TYPE
- Application Type

This field identifies the type of application "SDx" that resides on the application card, where "x" is a hexidecimal number that designates the application as shown in the list;

SD1 X.50/X.57 Subrate application
SD3 Digital Multipoint Bridge application
SD4 DDS Subrate and Multipoint Junction application
SDx Future application with a specific "x" value

VERSION
- Version

This field identifies the version number of an application. The version number is subdivided into three fields as follows:

gen Generic number of the application
iss Issue number of the application
rel Release number of the application

FPKG - Feature Package ID

nnnnnnnn
- Feature package identifier.

This field displays the eight character hexadecimal identifier of the feature package. In the RAM memory line, the feature package ID shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the feature package ID identifies the system that the flash card belongs to. This field will be shown as dashes if no feature package ID can be found on the memory device.

For those customers that operate a non-CEF DACS II frame, the feature package identifier may show an anomaly that is harmless. PCMCIA cards are formatted with the CEF feature bit ("00000080" in hexadecimal) on. However, these PCMCIA cards may be used in a non-CEF frame. The program will automatically turn the CEF bit off in the Main Controller's random access memory (RAM), when it finds that it is not running on a CEF. For this reason, there may be a discrepancy between what the feature package ID is in random access memory and what the feature package ID is on the PCMCIA cards. For example, if the feature package ID is "00003822" in RAM, it may be "000038A2" on the PCMCIA cards.

DBSN - Database Serial Number

oooooooooo
- Database serial number.

This field displays the ten character numeric identifier of the serial number of the database which is set when the frame is configured (default=1234567890). In the RAM memory line, the database serial number shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the database serial number identifies the system that the flash card belongs to. This field will be shown as dashes if no serial number can be found on the memory device.

This field will be padded with blanks if necessary.

FCSN - Flash Card

qqqqqqqqqqqqqqqqqqqq
- Flash card serial number.

This field displays the 20 character alpha-numeric serial number of the flash card. In the RAM memory line, the flash card serial number shown is that of the DACS II system. For the flash cards, PMEM and/or SMEM, the serial number identifies the system that the flash card belongs to. This field will be shown as dashes if no serial number can be found on the memory device.

This field will be padded with blanks if necessary.

STATE - Service State

<state> - Identifies the state of the memory device.

This field displays the service state of the memory device. The valid states are:

state	*Explanation*
IS	In State
OOS	Out Of State

UTL,QRY,NETADDR,DB,RAM

QUERY IP AND ETHERNET ADDRESSES

Explanation Of Command

This command requests the Internet address, the Ethernet address, and the Subnetwork Mask of the DACS II system from the EPROM. With the DB and RAM optional keywords, it will be able to extract the data mentioned above from the data base or from the random access memory to see if the data from three different locations is in synchronous. Out of synchronous of the IP data might occur when no re-boot follows with the I.56411 command used to set up the IP address or when the memory card is replaced by a new one with a different IP address stored in it.

Command

[I.56391]

```
UTL:FRM xy,SEQ ww:QRY,NETADDR[,{DB|RAM}]!
```

Completion Message

[O.56391]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NETADDR[ {DB|RAM}] 4 LN MSG:
INTERNET ADDR     - x.x.x.x
GATEWAY ADDR      - x.x.x.x
SUBNETWORK MASK   - x.x.x.x
ETHERNET ADDR     - yy:yy:yy:yy:yy:yy
```

Denial Message

[O.56391.01]

M hh:mm:ss xy,ww n[vv] UTL QRY NETADDR[{DB|RAM}] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

DB - Extract IP information from Data Base

RAM - Extract IP information from Random Access Memory

IP ADDR - Internet Address

GATEWAY ADDR
- Gateway Address

SUBNETWORK MASK
- Subnetwork Mask

x - One of the 4 numbers of the internet address (0 through 255)

ETHERNET ADDR
- Ethernet Address

yy - One of the 6 numbers of the Ethernet address (00 through FF)

UTL,QRY,NFS,NPC

QUERY NPC NON FRAME-WORD SETTING

Explanation Of Command

This command displays the non Frame-Word Setting (NFS) of the spare international and national bits, that are being cross-connected from a timeslot 0 (TS0) to a non-TS0 timeslot. These bits are bit 1 of the Frame Word (FW) and bits 1-8 of the non Frame Word (NFW). The request can be made for the TS0 on one or a range of Network Processing Circuits (NPCs).

Command

Nonhierarchical

[I.56324]

```
UTL:FRM xy,SEQ ww:QRY,NFS,NPC [s]abc[-[t]def]!
```

Hierarchical

[I.56324]

```
UTL:FRM xy,SEQ ww:QRY,NFS,NPC uvmnp[-wxkqr]!
```

Completion Message

Nonhierarchical

[O.56324]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC [s]abc abcdefghi COMPL
                                .
                                .
                                .
[M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC [t]def abcdefghi COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC [s]abc-[t]def COMPL]
```

Hierarchical

[O.56324]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC uvmnp abcdefghi COMPL
                                .
                                .
                                .
[M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC wxkqr abcdefghi COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC uvmnp-wxkqr COMPL]
```

Denial Message

Nonhierarchical

[O.56324.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC [[u]ghi[-[v]jkl]] COND cc DNY
```

Hierarchical

[O.56324.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NFS NPC [edhfg[-opjst]] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number, start of range
[t]def - The 3- or 4-digit nonhierarchical NPC number, end of range

[u]ghi - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]def)
[v]jkl - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [t]def)

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number, start of range
wxkqr - Hierarchical NPC number, end of range

edhfg - Hierarchical NPC number (uvmnp through wxkqr)
opjst - Hierarchical NPC number (uvmnp through wxkqr)

uv,wx,ed,op
- Unit number

m,k,h,j
- Module number

np,qr,fg,st
- NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NFS - Non-Frame-Word Setting

abcdefghi
- Variables representing the TS0 bits to which NFS is applied

For Clear-2Mbit/s NPCs, dashes ("---------") will be shown in place of NFS bits.

a: Bit 1 of Frame Word (FW) - International spare bit
b: Bit 1 of Non Frame Word (NFW) - International spare bit
c: Bit 2 of NFW
d: Bit 3 of NFW - Remote Alarm Indicator
e-f: Bits 4-5 of Non Frame Word, National spare bits
g: Bit 6 of Non Frame Word, RPSFI bit if provisioned for RPSFI otherwise National spare bit
h-i: Bits 7-8 of Non Frame Word, National spare bits.

Variable Value	Action on corresponding TS0 bit:
"0" or "1"	Set TS0 bit to this value
"V"	Received bit is inverted and passed through
"P"	Received bit is passed through unchanged
"-"	Not applicable

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
25	FTMI type error
26	NPC type error
0B	Invalid CEPT NPC
46	NPC Failed or Out of Service
3A	Invalid FPI value

UTL,QRY,NPC

QUERY NETWORK PROCESSING CIRCUIT PARAMETER

Explanation Of Command

This message requests a printout of the values for a specified facility performance parameter for a single network processing circuit (NPC), a range of circuits, or a SLC® carrier remote terminal or Digital Carrier Line Unit.

These values may be cleared at any time by using the UTL,CLR,ALL command This message requests a printout of the values for a specified facility performance parameter for a single network processing circuit (NPC) or a range of circuits.

These values may be cleared at any time by using the INIT,REG,ALL command. This message also reports on the CEPT BER status of NPCs. The responses generated by this command are determined by the number of NPCs addressed in the command.

- If a single NPC is addressed in the input command then one message, either a completion or denial, will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCs.
- If a range of NPCs is addressed in the input command, no denial response will be generated.

Command

Nonhierarchical

[I.56041]

```
UTL:FRM xy,SEQ ww:QRY,<parameter>,NPC [s]abc[-[t]def]!
```

Hierarchical

[I.56041]

```
UTL:FRM xy,SEQ ww:QRY,<parameter>,NPC uvmnp[-wxkqr]!
```

Completion Message

Nonhierarchical

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPCS [s]jjj[-[t]kkk][ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPCS [s]ooo[-[t]ppp][ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC [s]abc-[t]def \
COMPL
```

Note: The above message applies to CEPT Facility Terminating Module (FTM) and parameter other than BER.

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPCS [s]jjj[-[t]kkk][ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPCS [s]ooo[-[t]ppp][ RESET] TOT nnnn 5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC [s]abc-[t]def COMPL
```

Note: The above message applies to DS3/HDS3 modules (i.e., a MXR/HMXR) and parameter other than ER and BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BER NPCS [s]jjj[-[t]kkk]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY BER NPCS [s]ooo[-[t]ppp]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY BER NPC [s]abc-[t]def COMPL
```

Note: The above message applies to CEPT Facility Terminating Module (FTM) and parameter BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]jjj[-[t]kkk]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]ooo[-[t]ppp]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS [s]abc[-[t]kkk]\
COMPL
```

Note: The above message applies to DS3/HDS3 modules (i.e., a MXR/HMXR) and either parameter ER or BER.

Hierarchical

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS uvmkl[-uvmpq]\
[ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS wxkfg[-wxkst]\
[ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC uvmnp-wxkqr \
COMPL
```

Note: The above message applies to CEPT Facility Terminating Module (FTM) and parameter other than BER.

[O.56041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS uvmkl[-uvmpq]\
[ RESET] TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPCS wxkfg[-wxkst]\
[ RESET]
TOT nnnn  5 LN MSG:
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> NPC uvmnp-wxkqr \
COMPL
```

Note: The above message applies to DS3/HDS3 modules (i.e., a MXR/HMXR) and parameter other than ER and BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY BER NPCS uvmkl[-uvmpq]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY BER NPCS wxkfg[-wxkst]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx
xx xx xx xx  xx xx xx xx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY BER NPC uvmnp-wxkqr COMPL
```

Note: The above message applies to CEPT Facility Terminating Module (FTM) and parameter BER.

[O.56042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS uvmkl[-unmpq]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPCS wxkfg[-wxkst]\
[ RESET] TOT nnnn  5 LN MSG:
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx
xx xx xx xx xx xx xx EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {ER|BER} NPC uvmnp-wxkqr COMPL
```

Note: The above message applies to DS3/HDS3 modules (i.e., a MXR/HMXR) and either parameter ER or BER.

Denial Message

Nonhierarchical

[O.56041.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPC [s]abc[-[t]def] COND cc DNY
```

Hierarchical

[O.56041.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY <parameter> \
NPC uvmnp[-wxkqr] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3- or 4-digit nonhierarchical NPC number, the first number of a range

[t]def - The 3- or 4-digit nonhierarchical NPC number, the last number of a range

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number the first NPC number of a range

wxkqr - Hierarchical NPC number denoting end of an NPC range

uv,wx - Unit number

m,k - Module number

np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

parameter

- Facility performance parameter

For CEPT frames, the parameter variable listed below are only applicable to PB or PC type NPCs. If there are PA NPCs in the FTM, dashes ("-") will be output in the position of these NPCs:

parameter	*Explanation*
DM	Degraded Minutes,
SERS	Severely Errored Seconds,
ERS	Errored Seconds,
US	Unavailable Seconds,
SLIP	Slip Events
CRC	CRC-4 Check Block Error Events
FRER	Framing Error Events
LOFA	Loss of Frame Alignment Events
MER	Multiframe Alignment Error Events (Time slot 16)

Note: If the parameter reports threshold alarms (DM, SERS, ERS, US, or SLIP), the count represents the total for the last 24 hours (a rolling 24-hour count).
The other parameter counts represent the total since local midnight.

For CEPT frames, the parameter variable below is applicable to all CEPT NPC types, i.e., PA, PB, and PC:

parameter	*Explanation*
BER	Excessive Error Rate (Also MBER/RBER for NPCs with MBER feature)

Note: For BER and RBER, the message reports NPCs that are currently in the BER state.

A message segment will be omitted for:

- Unequipped FTMs
- Equipped FTMs having no NPCs
- Equipped FTMs with NPCs having zero parameter values.
- DS3/HDS3 modules in case of BPV request
- Equipped CEPT FTM with all NPCs being PA type but with a parameter other than BER.

xxxxx - Parameter count values

Note that dashes ("-") will be output for NPCs that are not equipped or are provisioned with a type inapplicable to the parameter. If an entire FTM is unequipped or all its NPCs are dashes, the segment is skipped.

xx - BER states

For xx representing CEPT BER/RBER states, the state represents a combination of the Excessive Bit Error Rate (EER), Bit Error Rate (BER), and Remote Bit Error Rate (RBER). It is interpreted as either a Prompt Maintenance Alarm (PMA), Deferred Maintenance Alarm (DMA), or Clear.

xx	*EER/BER state*	*RBER state*
MJ	EER/PMA	Not applicable
MN	DMA	Inactive
RN	DMA	Active
CL	Clear*	Inactive
RL	Clear*	Active
--	NPC unequipped or out of service	

* Clear refers to the Facility type NPC whose received error rate is less than the Minor BER threshold.

without CRC (10^{-5})
with CRC (10^{-6})

Note that EER has priority over the BER/RBER states. EER does not coexist with them; however, BER and RBER coexist with each other.

Unless the active value of bit 4 of channel
time slot 0 has been redefined by use of the CHG::NPC,TS0 (I.38321) command,
the RBER values are:

RBER	*Explanation*
1	Inactive
0	Active

[s]jjj - The Lowest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR/HMXR that contains NPC [s]abc

[t]kkk - The Highest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR/HMXR that contains NPC [s]abc

[s]ooo - The Lowest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR/HMXR that contains NPC [t]def

[t]ppp - The Highest 3- or 4-digit nonhierarchical NPC number in the FTM/MXR/HMXR that contains NPC [t]def

uvmkl - Lowest hierarchical NPC number in the FTM/MXR/HMXR that contains NPC uvmnp
uvmpq - Highest hierarchical NPC number in the FTM/MXR/HMXR that contains NPC uvmnp
wxkfg - Lowest hierarchical NPC number in the FTM/MXR/HMXR that contains NPC wxkqr
wxkst - Highest hierarchical NPC number in the FTM/MXR/HMXR that contains NPC wxkqr

RESET - Reset. Indicates that one of more autonomous resets have occurred

The parameter value for the first NPC is in the first position (upper left corner); first line of the message. The parameter value for the last NPC is located in the lower right corner.

nnnn - Cumulative count of NPCs returning nonzero states or values. The last nnnn, the one printed out in the message concluding with COMPL gives the total number of NPCs with nonzero states or values over the specified range.

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
1F	FTMI is in service but failed
24	Unit type error
0B	Invalid CEPT NPC
46	NPC Failed or Out of Service
7E	Bank id number not found
A1	The parameter specified does not match with the NPC type

UTL,QRY,NPC,ALL,AI,LV,MONDAT,MONTIM

QUERY PERFORMANCE MONITORING DATA FOR DA, TA, TH AND PA TYPE NPCS

Explanation Of Command

This message retrieves current and/or historical DS1 performance monitoring data from DA, TA, TH and PA type NPCs. The message response is output in two distinct formats depending on whether the input command is applied to ALL NPCs on the frame or a set of specifically addressed NPCs.

When the command is applied to ALL NPCs, DACS II responds with the current parameter counts of a single specified performance parameter for ALL NPCs. No output level thresholding is performed and all counts, whether they are zero or greater, are output. The output is formatted on a module-by-module basis for Facility Terminating Units, DS3 and Hybrid DS3 Units. If a particular NPC within a module is not a DA, TA TH or PA type NPC, its accumulator count will be printed as a string of dashes. Also for TH type NPCs in a hybrid DS3 unit the fourth NPC which does not exist will be printed as dashes.

When a single NPC or range of NPCs is specifically addressed in the input command, all of the optionally entered user parameters are programmable. DACS II outputs the requested data in a different format, which accommodates the various user options.

This command will handle NPC addressing as follows: If only a single NPC is addressed in the input command, then either a completion or denial response will be generated for the addressed NPC. DACS II will always deny invalid commands to specifically addressed NPCs.

If a range of NPCs is addressed and the feature applies to one or more NPCs within the range, DACS II will perform the command on the NPCs in the range that support the requested feature, but skip the NPCs which do not support the requested feature. DACS II

does not output denial responses for a range of NPCs.

Restrictions are placed on the use of the "ALL" options for various keywords to constrain the amount of data that will be output for a single command. In particular,

1. If all parameters are requested, the input command is restricted to specifying a single NPC and a single monitored date and/or historical accumulation interval (monitored time).
2. If all daily accumulation registers are requested, the input command is restricted to specifying a single NPC and a single parameter.
3. If all 15-minute accumulation registers are requested, the input command is restricted to specifying a single NPC and a single parameter.

Command

Nonhierarchical

[I.56091]

```
UTL:FRM xy,SEQ ww:QRY,{NPC [s]abc[-[t]def]|ALL},<parameter>,AI aaaaa \
[,LV lllllllll][,MONDAT dddd][,MONTIM tttt]!
```

Hierarchical

[I.56091]

```
UTL:FRM xy,SEQ ww:QRY,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa \
[,LV lllllllll][,MONDAT dddd][,MONTIM tttt]!
```

Completion Message

Nonhierarchical

Output message when the ALL keyword is used for NPCs, retrieving the current counter values of a single specified parameter from all PA type NPCs:

Note: The following segment applies to a Facility Terminating Module.

[O.56091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL NPCS [s]abc-[t]def <parameter> \
AI aaaaa  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

                .
                .
                .

M hh:mm:ss xy,ww n[vv] UTL QRY ALL <parameter> AI aaaaa  COMPL
```

Output message when the ALL keyword is not used for NPCs.

[O.56092]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter>  e LN MSG:
AI aaaaa [LV llllllllll ][MONDAT dddd ][MONTIM tttt]
  NPC   PARAM   COUNT   MONDAT MONTIM THMODE
 [s]abc  pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
 [v]ghi  pppp cccccccc  dddd   tttt   hhh   EOM

                .
                .
                .
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter>  e LN MSG:
AI aaaaa [LV llllllllll ][MONDAT dddd ][MONTIM tttt]
  NPC   PARAM   COUNT   MONDAT MONTIM THMODE
 [u]jkl  pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
 [t]def  pppp cccccccc  dddd   tttt   hhh   EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS [s]abc[-[t]def] <parameter>  2 LN MSG:
AI aaaaa [LV llllllllll ][MONDAT dddd ][MONTIM tttt ] COMPL
```

Hierarchical

Output message when the ALL keyword is used for NPCs, retrieving the current counter values of a single specified parameter from all PA type NPCs:

Note: The following segment applies to a Facility Terminating Module.

[O.56091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL NPCS uvmnp-uvmqr <parameter> \
AI aaaaa  6 LN MSG:
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx
hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx hxxxxxxxxx EOM

               .
               .
               .

M hh:mm:ss xy,ww n[vv] UTL QRY ALL <parameter> AI aaaaa COMPL
```

Output message when the ALL keyword is not used for NPCs.

[O.56092]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter>  e LN MSG:
AI aaaaa [LV llllllllll ][MONDAT dddd ][MONTIM tttt]
  NPC   PARAM   COUNT   MONDAT MONTIM THMODE
 uvmnp   pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
 edhfg   pppp cccccccc  dddd   tttt   hhh   EOM

              .
              .
              .
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPCS <parameter>  e LN MSG:
AI aaaaa [LV llllllllll ][MONDAT dddd ][MONTIM tttt]
  NPC   PARAM   COUNT   MONDAT MONTIM THMODE
 opjst   pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
   .     pppp cccccccc  dddd   tttt   hhh
 wxkqr   pppp cccccccc  dddd   tttt   hhh   EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPCS uvmnp[-wxkqr] <parameter>  2 LN MSG:
AI aaaaa [LV llllllllll ][MONDAT dddd ][MONTIM tttt ]COMPL
```

Denial Message

Nonhierarchical

[O.56091.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {NPC [s]abc[-[t]def]|ALL} <parameter>  2 LN MSG:
AI aaaaa[ LV llllllllll][ MONDAT dddd][ MONTIM tttt] COND cc DNY
```

Hierarchical

[O.56091.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {NPC uvmnp[-wxkqr]|ALL} <parameter>  2 LN MSG:
AI aaaaa[ LV lllllllll][ MONDAT dddd][ MONTIM tttt] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit
NPCS - Network processing circuits

If an NPC range is specified in the input command, the following rules apply:

- Unequipped NPCs within the requested range will be skipped.
- A range across a unit boundary between a FTU and a DS3U(or HDS3U) will be denied.
- A range across a FTU (or IFTU) boundary is allowed, but if the range starts with a DA type NPC then the PA type NPCs will be skipped. Similiarly, a range that starts with a PA type NPC will skip DA type NPCs.

[s]abc - The 3- or 4-digit nonhierarchical NPC number
[v]ghi - The 3- or 4-digit nonhierarchical NPC number
[u]jkl - The 3- or 4-digit nonhierarchical NPC number
[t]def - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number
uvmqr - Hierarchical NPC number
edhfg - Hierarchical NPC number
opjst - Hierarchical NPC number
wxkqr - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

e - Number of lines in the message

ALL - All

PARAM - Parameter

parameter
- Parameter name

pppp - Parameter value

For PA type NPCs:

The parameter whose value is requested and/or reported. The parameters ALLPM, ALLE and ALLF are input parameters only. If ALLPM, ALLE, or ALLF is specified on input then the following restrictions apply to the input command:

1) The command must specify only a single NPC; ranges, including the ALL option, are not allowed.
2) The MONTIM input parameter may not have a value of ALL.
3) The MONDAT input parameter may not have a value of ALL.
4) The optional LV input parameter must not be present in the command; it defaults to a value of 1-Up and parameter counts of zero are not shown.

parameter	*Explanation*
CRC	CRC Block Errors
FRER	Framing Errors
OFS	Out of Frame Seconds
ES	Errored Seconds
SES	Severely Errored Seconds
CSS	Controlled Slip Seconds
CV	Coding Violations
UAS	Unavailable Seconds
UATC	Unavailable Time Count
MER	Multiframe Errors
FEBE	Far End Block Errors*
FES	Far End Errored Seconds*
FSES	Far End Severely Errored Seconds*
FUAS	Far End Unavailable Seconds*
ALLPM	All parameters listed above
ALLE	All Near-end parameters listed above
ALLF	All Far-end parameters (marked by *) listed above

LV - Level

lllllllll
- The discriminating level for the requested parameter

If lllllllll is not specified in the input command, it defaults to a value of 1-Up.

If "ALL" is specified in the input command a default value of 0-Up is applied. This provides the current counts (zero included, unfiltered) of the specified parameter for all NPCs on the frame.

Keywords LV and ALL are mutually exclusive.

lllllllll	*Explanation*
{000000000-345600000}U	Discriminating Level-Up Direction
{000000000-345600000}D	Discriminating Level-Down Direction

Up - Parameters with values equal to or greater than the specified "discriminating level" are reported.

Down - Parameters with values equal to or less than the specified "discriminating level" are reported.

AI - Accumulation interval

aaaaa - The accumulation time period for the specified parameter

aaaaa	*Explanation*
15MIN	Parameter count from a 15-minute accumulator
DAILY	Parameter count from a daily accumulator

COUNT - Count

ccccccccc
- The accumulated value of a monitored parameter (nine digits)

All leading 0's will be output.

ccccccccc	*Explanation*
{000000000-345600000}	Range of parameter counts

COND - Condition

AI - Accumulation interval

aaaaa - The accumulation time period for the specified parameter

aaaaa	*Explanation*
15MIN	Parameter count from a 15-minute accumulator
DAILY	Parameter count from a daily accumulator

hxxxxxxxxx
- Threshold mode and parameter value

h - PA NPC thresholding mode

xxxxxxxxx
- Accumulated value of a monitored parameter.

Nine digit field. All leading 0's will be output. (000000000-345600000)

h	*Explanation*
I	Inhibited
A	Allowed

MONDAT - Monitored date

dddd - Performance monitoring period (24 hour)

This parameter specifies the requested 24-hour performance monitoring period. If this optional input parameter is not present in the command, it defaults to a value of CURD.

The value ALL is an option only for input commands. Selecting the value ALL retrieves both previous and current 24-hour accumulation registers of the selected NPC. If the value ALL is selected, only a single NPC can be specified in the input command. This parameter must not appear in input commands which specify 15-minute accumulation intervals (AI = 15MIN). When the parameter ALLPM, ALLE or ALLF is specified, MONTIM and MONDAT cannot be ALL.

dddd	*Explanation*
HIST	Previous 24-hour accumulators
CURD	Current 24-hour accumulators
ALL	ALL Current and previous daily accumulators

MONTIM - Monitored Time

tttt - Performance monitoring period (15 minute)

This parameter specifies the requested 15-minute performance monitoring period. If this optional input parameter is not present in the command, it defaults to a value of CURT.

The value ALL is an option only for input commands. Selecting the value ALL retrieves both previous and current 15-minute accumulation registers of the selected NPC. If the value ALL is selected, only a single NPC can be specified in the input command. This parameter must not appear in input commands which specify daily accumulation intervals (AI = DAILY). When the parameter ALLPAR, ALLE or ALLF is specified, MONTIM and MONDAT cannot be ALL.

tttt	*Explanation*
HIST	Previous 15-minute accumulators
CURT	Current 15-minute accumulators
ALL	All Current and previous 15-minute accumulators

THMODE - Thresholding Mode

hhh - This output keyword indicates the thresholding mode of the PA NPC.

hhh	*Explanation*
INH	Inhibited
ALW	Allowed

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
11	UC is out of service
12	UC is in service but failed
14	FTMI is out of service
15	NPC is unequipped
1F	FTMI is in service but failed
26	NPC type error
0B	Invalid CEPT NPC
0C	The MONDAT and MONTIM parameters can not both be specified
A0	The selected MXR associated with the NPC is Out-Of-Service
A1	The selected MXR associated with the NPC is In-Service but failed
B7	The associated MXR is In-Service but pested
A1	The parameter specified does not match with the NPC type
0E	Only one parameter is allowed
1B	Historical data can not be specified
1D	Level field is not allowed

cc	*Explanation*
1E	Monitored Date field is not allowed
20	Only DAILY for accumulation interval is allowed
21	Only 15MIN for accumulation interval is allowed
22	FTMI is PESTED
23	No PM data available
24	Monitored Time field is not allowed
89	Interval is not valid/not available
9E	MONDAT set to ALL is not allowed
9F	MONTIM set to ALL is not allowed

UTL,QRY,NPC,CBTIMER

Explanation Of Command

This message retrieves the current setting of the C-bit message timer for an NPC or range of NPCs. NPCs with type CB10z or cept NPCs cross-connected to NPCs with CB10z type can be specified. The timeout value return for an NPC value applies to all the timeslots served by the NPC. Valid settings for the timer 0,1,2,3,4,5,6,7,8,9 and 10 seconds

Command

Nonhierarchical

[I.53171]

```
UTL:FRM xy,SEQ ww:QRY,NPC [s]abc[-[t]def],CBTIMER!
```

Hierarchical

[I.53171]

```
UTL:FRM xy,SEQ ww:QRY,NPC uvmnp[-uvkqr],CBTIMER!
```

Completion Message

Nonhierarchical

[O.53171]

```
M hh:mm:ss xy,ww UTL QRY NPC [s]abc CBTIMER [t]v EOM
            .
            .
            .
M hh:mm:ss xy,ww UTL QRY NPC [t]def CBTIMER [t]v EOM
```

Hierarchical

[O.53171]

```
M hh:mm:ss xy,ww UTL QRY NPC uvmnp CBTIMER [t]v COMPL
            .
            .
            .
M hh:mm:ss xy,ww UTL QRY NPC uvkqr CBTIMER [t]v COMPL
```

Denial Message

Nonhierarchical

[O.53171.01]

```
M hh:mm:ss xy,ww UTL QRY NPC [s]abc[-[t]def] CBTIMER COND cc DNY
```

Hierarchical

[O.53171.01]

```
M hh:mm:ss xy,ww UTL QRY NPC uvmnp[-uvkqr] CBTIMER  COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network Processing Number

[s]abc - NPC number non-Hierarchical
[t]def - NPC number non-Hierarchical

uvmnp - NPC number Hierarchical
uvkqr - NPC number Hierarchical

CBTIMER
- C-Bit Message Filter Timer

[t]v - Values (0-10) of CBTIMER for all channels of NPC

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
54	Cross-connect to CPR is required
F1	Parameter only valid with PA, PB, or PC type NPCs

UTL,QRY,NPC,MAP,USER

UTILITY QUERY NPC MAP

Explanation Of Command

This message lists all network processing circuits (NPCs) added to the alternate map except for the two-point, two-way cross-connect circuits (TCONs).

A user can query their own maps or macros but only the frame administrator can query maps or macros owned by another user.

Command

[I.54111]

```
UTL:FRM xy,SEQ ww:QRY,NPC,MAP <name>[,USER <user id>]!
```

Completion Message

Nonhierarchical

[O.54111]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>]  e LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
     .             .
     .             .
     .             .
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>]  e LN MSG:
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx
     .             .
     .             .
     .             .
[x]xxx [x]xxx [x]xxx [x]xxx [x]xxx [x]xxx  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>]  COMPL
```

[O.54112]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>] NONE  COMPL
```

Hierarchical

[O.54111]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>]  e LN MSG:
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp
     .             .
     .             .
     .             .
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>]  e LN MSG:
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp
     .             .
     .             .
     .             .
uvmnp uvmnp uvmnp uvmnp uvmnp uvmnp  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>]  COMPL
```

[O.54112]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>] NONE  COMPL
```

Denial Message

[O.54111.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC MAP <name>\
[ USER <user id>] COND cc  DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

MAP - Alternate Map

name - The alternate map name which is a string of uppercase alphanumeric characters from one to seven characters long. The first character must be an alphabetic character.

USER - User

user id
- User login identification is two to eight alphabetic characters.

A user can query his or her own maps but only the frame administrator can use the command to query maps owned by other users. To do so, the optional USER field must be entered.

[x]xxx - The 3- or 4-digit nonhierarchical NPC Number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC Number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

cc - Hexadecimal condition code

cc	*Explanation*
62	File is being accessed
64	File doesn't exist/can't be accessed
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D5	No user is logged in on the link/vc

UTL,QRY,NPCTG

UTILITY QUERY TEST-ACCESS GROUP NPC

Explanation Of Command

This command is used to request information regarding one or more network processing circuits used for test-access groups (NPCTGs). the following information will be provided for each designated NPCTG:

1. All test-access groups (TGs)
2. TG width
3. The bundle being supported (east or west)
4. the channel assignment on the NPCTG

The TGs are listed in the order of bandwidth assignment.

Command

[I.53091]

`UTL:FRM xy,SEQ ww:QRY,NPCTG rrr[-sss]!`

Completion Message

Nonhierarchical

[O.53091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC [s]abc  p LN MSG:
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
      .....  {EOM|COMPL}
      .
      .
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr[-sss] UEQD {EOM|COMPL}
      .
      .
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC [s]abc UASGN {EOM|COMPL}
      .
      .
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG sss NPC [t]def  p LN MSG:
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
      .....  {EOM|COMPL}
```

Hierarchical

[O.53091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC uvmnp  p LN MSG:
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
      .....  {EOM|COMPL}
      .
      .
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr[-sss] UEQD {EOM|COMPL}
      .
      .
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr NPC uvmnp UASGN {EOM|COMPL}
      .
      .
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG sss NPC wxkqr  p LN MSG:
TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
[TG mmm NN {E|W} aa-bb[ TG mmm NN {E|W} aa-bb][ TG mmm NN {E|W} aa-bb]]
      .....  {EOM|COMPL}
```

Denial Message

[O.53091.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPCTG rrr[-sss] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test (access) group

mmm - TG number (001 through 400)

NPCTG - NPC (for) test group

rrr - TG number (001 through 400)

sss - TG number (001 through 400, must be greater than rrr)

Variable sss is used to specify the end of an NPCTG range

[s]abc - 3- or 4-digit non-hierarchical NPC number designated as NPCTG rrr

[t]def - 3- or 4-digit non-hierarchical NPC number designated as NPCTG sss

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number designated as NPCTG rrr
wxkqr - Hierarchical NPC number designated as NPCTG sss

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

E - East

East bundle of the TG

W - West

West bundle of the TG

UEQD - Unequipped

UASGN - Unassigned

No TG assigned to this NPCTG

NN - TG width (01 through 31)

aa - Starting channel for the bundle (01 through 31)

bb - Ending channel for the bundle (02 through 31);
for NN = 1, bb is '--'

cc - Hexadecimal condition code

cc	*Explanation*
62	None of the designated NPCTG(s) are equipped

UTL,QRY,OPT,TYPE,ALL,NPCS

UTILITY QUERY OPTIONS NPCS

Explanation Of Command

This message requests a printout of the parameter threshold values for NPC types stored in the DACS II threshold data base.

If an NPC type is specified, the output message shows the threshold values for all parameters associated with the designated NPC type. If the ALL keyword is entered, the output message shows the threshold values for the parameters and all NPC types.

Command

[I.53051]

```
UTL:FRM xy,SEQ ww:QRY,OPT[,{TYPE mn|ALL}],NPCS!
```

Completion Message

Usage: PB or PC type

[O.53051]

```
M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 5 LN MSG:
OPT 31 00060 bbbbb ccccc ddddd DM, 1 hour
OPT 32 01440 bbbbb ccccc ddddd DM, 24 hours
OPT 33 00900 bbbbb ccccc ddddd SERS, 15 Min.
OPT 34 65535 bbbbb ccccc ddddd SERS, 24 Hrs.

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 5 LN MSG:
OPT 35 00900 bbbbb ccccc ddddd ERS, 15 Min.
OPT 36 65535 bbbbb ccccc ddddd ERS, 24 Hrs.
OPT 37 00900 bbbbb ccccc ddddd US, 15 Min.
OPT 38 65535 bbbbb ccccc ddddd US, 24 Hrs.

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 3 LN MSG:
OPT 39 00900 bbbbb ccccc ddddd SLIPS, 15 Min.
OPT 40 65535 bbbbb ccccc ddddd SLIPS, 24 Hrs. COMPL
```

Usage: PA type

[O.53051]

```
M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 8 LN MSG:
OPT 11 000176947 bbbbbbbbb ccccccccc ddddddddd CRC,  DAILY
OPT 12 000176947 bbbbbbbbb ccccccccc ddddddddd FRER, DAILY
OPT 13 000000004 bbbbbbbbb ccccccccc ddddddddd OFS,  DAILY
OPT 14 000004320 bbbbbbbbb ccccccccc ddddddddd ES,   DAILY
OPT 15 000000090 bbbbbbbbb ccccccccc ddddddddd SES,  DAILY
OPT 16 000000004 bbbbbbbbb ccccccccc ddddddddd CSS,  DAILY
OPT 17 000176947 bbbbbbbbb ccccccccc ddddddddd CV,   DAILY  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 8 LN MSG:
OPT 18 000000090 bbbbbbbbb ccccccccc ddddddddd UAS,  DAILY
OPT 19 000000009 bbbbbbbbb ccccccccc ddddddddd UATC, DAILY
OPT 20 000004095 bbbbbbbbb ccccccccc ddddddddd MER,  DAILY
OPT 21 000176947 bbbbbbbbb ccccccccc ddddddddd FEBE, DAILY
OPT 22 000004320 bbbbbbbbb ccccccccc ddddddddd FES,  DAILY
OPT 23 000000090 bbbbbbbbb ccccccccc ddddddddd FSES, DAILY
OPT 24 000000090 bbbbbbbbb ccccccccc ddddddddd FUAS, DAILY  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 8 LN MSG:
OPT 81 0018432 bbbbbbb ccccccc ddddddd CRC,  15MIN
OPT 82 0018432 bbbbbbb ccccccc ddddddd FRER, 15MIN
OPT 83 0000004 bbbbbbb ccccccc ddddddd OFS,  15MIN
OPT 84 0000300 bbbbbbb ccccccc ddddddd ES,   15MIN
OPT 85 0000030 bbbbbbb ccccccc ddddddd SES,  15MIN
OPT 86 0000001 bbbbbbb ccccccc ddddddd CSS,  15MIN
OPT 87 0018432 bbbbbbb ccccccc ddddddd CV,   15MIN  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 8 LN MSG:
OPT 88 0000030 bbbbbbb ccccccc ddddddd UAS,  15MIN
OPT 89 0000003 bbbbbbb ccccccc ddddddd UATC, 15MIN
OPT 90 0000255 bbbbbbb ccccccc ddddddd MER,  15MIN
OPT 91 0018432 bbbbbbb ccccccc ddddddd FEBE, 15MIN
OPT 92 0000300 bbbbbbb ccccccc ddddddd FES,  15MIN
OPT 93 0000030 bbbbbbb ccccccc ddddddd FSES, 15MIN
OPT 94 0000030 bbbbbbb ccccccc ddddddd FUAS, 15MIN  COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

OPT - Option

In the output messages the first value shown following the keyword OPT is the option number. The value immediately following the option number is the default alarm threshold value. The next three fields show user-programmed values. Any user-programmed values that have not been initialized in the DACS II data base will be shown as "-----[----]". Until they are initialized, user-programmable values cannot be used as valid alarm thresholds.

TYPE - Type

mn - NPC type

mn	*Explanation*
PA	Enhanced CEPT NPC type for 120/75 ohm impedance
PB	CEPT NPC type for 120 ohm impedance
PC	CEPT NPC type for 75 ohm impedance

ALL - Indicates all NPC types associated with the features being turned on in the frame

If neither an NPC type nor the ALL keyword are specified, the default NPC type is PB.

NPCS - Network processing circuits

MJ - Major
MN - Minor

Threshold parameters for PB/PC type NPCs

DM - Degraded minutes
SERS - Severely Errored Seconds
ERS - Errored Seconds
US - Unavailable Seconds
SLIPS - Slips

Threshold parameters for PA type NPCs

DAILY - Daily
CRC - CRC Block Errors
FRER - Framing Errors
OFS - Out of Frame Seconds
ES - Errored Seconds
SES - Severely Errored Seconds
CSS - Controlled Slip Seconds
CV - Coding Violations
UAS - Unavailable Seconds
UATC - Unavailable Time Count
MER - Multiframe Errors
FEBE - Far End Block Errors
FES - Far End Errored Seconds
FSES - Far End Severely Errored Seconds
FUAS - Far End Unavailable Seconds

15MIN - Fifteen minute
CRC - CRC Block Errors
FRER - Framing Errors
OFS - Out of Frame Seconds
ES - Errored Seconds
SES - Severely Errored Seconds
CSS - Controlled Slip Seconds
CV - Coding Violations
UAS - Unavailable Seconds
UATC - Unavailable Time Count
MER - Multiframe Errors
FEBE - Far End Block Errors
FES - Far End Errored Seconds
FSES - Far End Severely Errored Seconds
FUAS - Far End Unavailable Seconds

User-programmed PA NPC daily alarm threshold values

bbbbbbbbb
- First

ccccccccc
- Second

ddddddddd
- Third

bbbbbbb
- First

ccccccc
- Second

dddddddd
- Third

UTL,QRY,PEST,FAIL,OOS,COMMON

UTILITY QUERY STATUS COMMON EQUIPMENT

Explanation Of Command

This message is used to request reports on one of the following parameters:

PEST Pest states
FAIL Failed components
OOS Out-of-service components

The output message reports the status of the requested parameter on common equipment of the frame.

Command

[I.53105]

`UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS},COMMON!`

Completion Message

[O.53105]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} \
g h i j k l f  m n  o p  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS}  3 LN MSG:
SYNC x ẋ CRO x
TLI x x x x  x x x x  ẋ ẋ ẋ ẋ  \
ẋ ẋ ẋ ẋ EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn  5 LN MSG:
11 x ẋ 12 x ẋ 13 x ẋ 14 x ẋ 15 x ẋ 16 x ẋ
21 x ẋ 22 x ẋ 23 x ẋ 24 x ẋ 25 x ẋ 26 x ẋ
31 x ẋ 32 x ẋ 33 x ẋ 34 x ẋ 35 x ẋ 36 x ẋ
41 x ẋ 42 x ẋ 43 x ẋ 44 x ẋ 45 x ẋ 46 x ẋ EOP

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn  3 LN MSG:
51 x ẋ 52 x ẋ 53 x ẋ 54 x ẋ 55 x ẋ 56 x ẋ
61 x ẋ 62 x ẋ 63 x ẋ 64 x ẋ 65 x ẋ 66 x ẋ EOM
```

For DACS II CEF frames, the segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
ETSIS tt nn  3 LN MSG:
01 x ẋ 02 x ẋ 03 x ẋ 04 x ẋ 05 x ẋ 06 x ẋ \
07 x ẋ 08 x ẋ
09 x ẋ 10 x ẋ 11 x ẋ 12 x ẋ 13 x ẋ 14 x ẋ \
15 x ẋ 16 x ẋ EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} COMMON COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

PEST - Pested

FAIL - Failed

OOS - Out of service

For the PEST, FAIL and OOS indications, each entity in the DACS II frame is represented by a single character variable. This variable can have the value of 1, 0 or "-" indicating the following status:

Value	*OOS*	*FAIL*	*PEST*
1	out of service	failed	pested
0	in service	not failed	unpested
-	not applicable	not applicable	not applicable

A hyphen (-) indicates the parameter is not applicable to the particular entity. For example, an unequipped circuit displays a "-" for its OOS, FAIL and PEST indicators.

The DACS II entities and their status fields are as follows:

g - Link 1
h - Link 2
i - Link 3
j - Link 4
k - Link 5
l - Link 6
f - Link 7
m - XC0 (cross-connect 0)
n - XC1 (cross-connect 1)
o - CCNI/CCI 0 (cross-connect network interface 0 for non-CEF frame) (clock and control interface 0 for CEF frame)
p - CCNI/CCI 1 (cross-connect network interface 1 for non-CEF frame) (clock and control interface 1 for CEF frame)

SYNC - Synchronizer

CRO - Clock reference oscillator

TLI - Timing link interface

x - TLI status, side 0
x - TLI status, side 1

TLI information is listed in the message from left to right, starting with status information for TLI 1, SSP 0, Side 0 in the first position and ending with status information for TLI 4, SSP1, Side 1 in the last position. The entities for which status is reported are listed below in the order they appear in the output message.

The status is represented by the variable x or x'. The value of the variable is interpreted as follows.

x	*Explanation (PEST, FAIL, or OOS will be indicated in message)*
0	Unpested, in-service, or not failed
1	Pested, out-of-service, or failed

Side 0

```
      TLI 1, SSP 0
TLI 1, SSP 1
TLI 2, SSP 0
TLI 2, SSP 1
TLI 3, SSP 0
TLI 3, SSP 1
TLI 4, SSP 0
TLI 4, SSP 1
```

Side 1

```
  TLI 1, SSP 0
TLI 1, SSP 1
TLI 2, SSP 0
TLI 2, SSP 1
TLI 3, SSP 0
TLI 3, SSP 1
TLI 4, SSP 0
TLI 4, SSP 1
```

TSI - Time slot interchange

f - FROM unit (1 through 6)
t - TO Unit (1 through 6)
ETSI - Expanded time slot interchanger

x - Status indication for the entity or for the side 0 entity if duplicated.

x - Status indication for side 1 entity.

tt - Total number of equipped TSIs/ETSIs.

nn - Total number of equipped TSIs/ETSIs having the requested status.

UTL,QRY,PEST,FAIL,OOS,UNIT

UTILITY QUERY STATUS OF ENTITIES/EQUIPMENT

Explanation Of Command

This message requests reports on any one of the following parameters:

PEST	Pested components
FAIL	Failed components
OOS	Out-of-service components

These reports may be generated for the entire DACS II frame or for a particular unit. The UNIT parameter must be specified in the command to query for a particular unit. The UNIT parameter must be omitted to generate a report for the entire frame.

Command

[I.53103]

```
UTL:FRM xy,SEQ ww:QRY,{PEST|FAIL|OOS}[,UNIT [q]q]!
```

Completion Message

Nonhierarchical

If the optional unit number is not entered, the following output segments will be generated:

The output starts out with:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} \
g h i j k l f  m n  o p  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS}  3 LN MSG:
SYNC x ǵ CRO x
TLI x x x x  x x x x  y y y y  y y y y  EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn  5 LN MSG:
11 x y 12 x y 13 x y 14 x y 15 x y 16 x y
21 x y 22 x y 23 x y 24 x y 25 x y 26 x y
31 x y 32 x y 33 x y 34 x y 35 x y 36 x y
41 x y 42 x y 43 x y 44 x y 45 x y 46 x y EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn  3 LN MSG:
51 x y 52 x y 53 x y 54 x y 55 x y 56 x y
61 x y 62 x y 63 x y 64 x y 65 x y 66 x y EOM
```

For DACS II CEF frames, the segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
ETSIS tt nn  3 LN MSG:
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM
```

The output then continues with information about the common equipment in the units. The data line will only appear for units that are equipped. If more than four units are equipped, the output for the equipage of the units will be divided into multiple segments.

[O.53103]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the first equipped unit>]
[<data line for the common equipment in the second equipped unit>]
[<data line for the common equipment in the third equipped unit>]
[<data line for the common equipment in the fourth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the fifth equipped unit>]
[<data line for the common equipment in the sixth equipped unit>]
[<data line for the common equipment in the seventh equipped unit>]
[<data line for the common equipment in the eighth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the ninth equipped unit>]
[<data line for the common equipment in the tenth equipped unit>]
[<data line for the common equipment in the eleventh equipped unit>]
[<data line for the common equipment in the twelfth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the thirteenth equipped unit>]
[<data line for the common equipment in the fourteenth equipped unit>]
[<data line for the common equipment in the fifteenth equipped unit>]
[<data line for the common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as an FTU:

```
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```

Then the output message continues with information about individual NPCs. For each FTM or DSPU, one output message will be printed.

Output message for PEST, FAIL, or OOS status of NPCs on an equipped CEPT FTM:

Please note, if any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and a dash will be shown in its place:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} FTU \
NPCS [a]aaa-[b]bbb tt  5 LN MSG:
x x x x   x x x x {PEST|FAIL|OOS} nn
x x x x   x x x x
x x x x   x x x x
x x x x   x x x x EOM
```

Output message for PEST, FAIL, or OOS status of NPCs on an equipped DSP Unit:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DSPU \
NPCS [a]aaa-[b]bbb tt  3 LN MSG:
[z]zzz x y [z]zzz x y [z]zzz x y [z]zzz x y
[z]zzz x y [z]zzz x y [z]zzz x y [z]zzz x y \
{PEST|FAIL|OOS} nn EOM
```

Output message for NPCs on an equipped FTM/DSPU with no NPC in PEST, FAIL, or OOS state:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} {FTU|DSPU} \
NPCS [a]aaa-[b]bbb tt  2 LN MSG:
{PEST|FAIL|OOS} 00 EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} COMPL
```

If the unit number is specified, the following output segments will be generated:

For entities in an FTU:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS}  2 LN MSG:
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s] EOM
```

The output then continues with up to four of the following segment depending on the FTM equipage:

Please note, if any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and a dash will be shown in its place:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q FTU \
NPCS [a]aaa-[b]bbb tt  5 LN MSG:
x x x x   x x x x {PEST|FAIL|OOS} nn
x x x x   x x x x
x x x x   x x x x
x x x x   x x x x EOM
```

For entities in a DSPU:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q UC a \
DSPI b[ CCB r s] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q \
DSPU NPCS [a]aaa-[b]bbb tt  3 LN MSG:
[z]zzz x y [z]zzz x y [z]zzz x y [z]zzz x y
[z]zzz x y [z]zzz x y [z]zzz x y [z]zzz x y \
{PEST|FAIL|OOS} EOM
```

Output message for NPCs on an equipped FTM/DSPU with no NPC in PEST, FAIL, or OOS state:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} {FTU|DSPU} \
NPCS [a]aaa-[b]bbb tt  2 LN MSG:
{PEST|FAIL|OOS} 00 EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q COMPL
```

Hierarchical

If the unit number is not entered, the following output segments will be generated:

The output starts out with:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} \
g h i j k l f  m n  o p  EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS}  3 LN MSG:
SYNC x x̸ CRO x
TLI x x x x  x x x x  x̸ x̸ x̸ x̸  x̸ x̸ x̸ x̸ EOM
```

For DACS II Non-CEF frames, the next segment describes the CCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn  5 LN MSG:
11 x y 12 x y 13 x y 14 x y 15 x y 16 x y
21 x y 22 x y 23 x y 24 x y 25 x y 26 x y
31 x y 32 x y 33 x y 34 x y 35 x y 36 x y
41 x y 42 x y 43 x y 44 x y 45 x y 46 x y EOP

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn  3 LN MSG:
51 x y 52 x y 53 x y 54 x y 55 x y 56 x y
61 x y 62 x y 63 x y 64 x y 65 x y 66 x y EOM
```

For DACS II CEF frames, the segment describes the ECCN hardware:

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
ETSIS tt nn  3 LN MSG:
01 x y 02 x y 03 x y 04 x y 05 x y 06 x y 07 x y 08 x y
09 x y 10 x y 11 x y 12 x y 13 x y 14 x y 15 x y 16 x y EOM
```

The output then continues with information about the common equipment in the units. The data line will only appear for units that are equipped. If more than four units are equipped, the output for the equipage of the units will be divided into multiple messages.

[O.53103]

```
[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the first equipped unit>]
[<data line for the common equipment in the second equipped unit>]
[<data line for the common equipment in the third equipped unit>]
[<data line for the common equipment in the fourth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the fifth equipped unit>]
[<data line for the common equipment in the sixth equipped unit>]
[<data line for the common equipment in the seventh equipped unit>]
[<data line for the common equipment in the eighth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the ninth equipped unit>]
[<data line for the common equipment in the tenth equipped unit>]
[<data line for the common equipment in the eleventh equipped unit>]
[<data line for the common equipment in the twelfth equipped unit> EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNITS  e LN MSG:]
[<data line for the common equipment in the thirteenth equipped unit>]
[<data line for the common equipment in the fourteenth equipped unit>]
[<data line for the common equipment in the fifteenth equipped unit>]
[<data line for the common equipment in the sixteenth equipped unit> EOM]
```

Data line for a unit equipped as an FTU:

```
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s]
```

Data line for a unit equipped as a DSPU:

```
UNIT [q]q UC a DSPI b[ CCB r s]
```

Then the output message continues with information about individual NPCs. For each FTM or DSPU, one output message will be printed.

For PEST, FAIL, or OOS status of NPCs on an equipped CEPT FTM:

Please note, if any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and a dash will be shown in its place:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} FTU \
NPCS uvmnp-uxkqr tt  5 LN MSG:
x x x x   x x x x {PEST|FAIL|OOS} nn
x x x x   x x x x
x x x x   x x x x
x x x x   x x x x EOM
```

For PEST, FAIL, or OOS status of NPCs on an equipped DSP unit:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DSPU \
NPCS uvmnp-uxkqr tt  3 LN MSG:
uvmnp x y uvmnp x y uvmnp x y uvmnp x y
uvmnp x y uvmnp x y uvmnp x y uvmnp x y {PEST|FAIL|OOS} nn EOM
```

Output message for an equipped FTM/DSPU with no NPC having the PEST, FAIL, or OOS status:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} {FTU|DS3U|DSPU} \
NPCS uvmnp-uxkqr tt  2 LN MSG:
{PEST|FAIL|OOS} 00 EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} COMPL
```

If the unit number is specified, the following output segments will be generated:

For entities in an FTU:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS}  2 LN MSG:
UNIT [q]q UC a FTMI b c d e  FC f g  h j  k m  p q[  CCB r s] EOM
```

The output then continues with up to four of the following segment for NPCs in an FTM. If an FTM is not equipped, the segment for this FTM will not be output:

Please note, if any of the odd NPCs has been provisioned with a Digital Signal Processing Platform (DSPP) application (TG193), then the even NPC following it does not exist and a dash will be shown in its place:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q \
FTU NPCS uvmnp-uxkqr tt  5 LN MSG:
x x x x   x x x x {PEST|FAIL|OOS} nn
x x x x   x x x x
x x x x   x x x x
x x x x   x x x x EOM
```

For entities in a DSPU:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q UC a \
DSPI b[ CCB r s] EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q DSPU \
NPCS uvmnp-uxkqr tt  3 LN MSG:
uvmnp x y uvmnp x y uvmnp x y uvmnp x y
uvmnp x y uvmnp x y uvmnp x y uvmnp x y {PEST|FAIL|OOS} nn EOM
```

Output message for an equipped FTM/DSPU with no NPC having the PEST, FAIL, or OOS status:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} {FTU|DS3U|DSPU} \
NPCS uvmnp-uxkqr tt  2 LN MSG:
{PEST|FAIL|OOS} 00 EOM
```

After the above information is output, the following message will be generated to complete the response:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q COMPL

Denial Message

[O.53103.01]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

The UNIT option must be specified to query a particular unit. The UNIT option must be omitted to query the entire frame. If the UNIT option is specified, only the information related to the equipment in that unit will be generated.

OOS - Out of service

Out of Service Components

FAIL - Failed

Failed Components

PEST - Pested

Pest States

For the OOS, FAIL and PEST indications, each entity in the DACS II frame is represented by a single character variable. This variable can have the value of 1, 0 or "-" indicating the following status:

Value	*OOS*	*FAIL*	*PEST*
1	out of service	failed	pested
0	in service	not failed	unpested
-	not applicable	not applicable	not applicable

A hyphen (-) indicates the parameter is not applicable to the particular entity. For example, an unequipped circuit displays a "-" for its OOS, FAIL and PEST indicators.

The DACS II entities and their status fields are as follows:

g - Link 1
h - Link 2
i - Link 3
j - Link 4
k - Link 5
l - Link 6
f - Link 7
m - XC0 (cross-connect 0)
n - XC1 (cross-connect 1)
o - CCNI/CCI 0 (cross-connect network interface 0 for non-CEF frame) (clock and control interface 0 for CEF frame)
p - CCNI/CCI 1 (cross-connect network interface 1 for non-CEF frame) (clock and control interface 1 for CEF frame)

SYNC - Synchronizer

CRO - Clock reference oscillator

TLI - Timing link interface

The order of the TLI presented in the output is shown below:

```
TLI 1, SSP 0, Side 0
TLI 1, SSP 1, Side 0
TLI 2, SSP 0, Side 0
TLI 2, SSP 1, Side 0
TLI 3, SSP 0, Side 0
TLI 3, SSP 1, Side 0
TLI 4, SSP 0, Side 0
TLI 4, SSP 1, Side 0

TLI 1, SSP 0, Side 1
TLI 1, SSP 1, Side 1
TLI 2, SSP 0, Side 1
TLI 2, SSP 1, Side 1
TLI 3, SSP 0, Side 1
TLI 3, SSP 1, Side 1
TLI 4, SSP 0, Side 1
TLI 4, SSP 1, Side 1
```

TSIS - Time slot interchanges NonCEF

f - FROM unit (1 through 6) NonCEF
t - TO Unit (1 through 6) NonCEF

ETSIS - Expanded time slot interchangers

x - Status of the entity or the side 0 entity if the entity is duplicated

y - Status of the side 1 entity

tt - Total number of equipped entities

nn - Total number of entities having the requested status

UC - Unit controller

FTMI - Facility terminating module interface

FC - Format converter

CCB - Cross-connect buffer

For an FTU equipment output, the definition of each character is given below:

a - status of UC

b - status of FTMI 1
c - status of FTMI 2
d - status of FTMI 3
e - status of FTMI 4

f - status of FC 01
g - status of FC 11

h - status of FC 02
j - status of FC 12

k - status of FC 03
m - status of FC 13

p - status of FC 04
q - status of FC 14

r - status of side 0 CCB
s - status of side 1 CCB

FMT - Formatter or Hybrid Formatter

DSPI - Digital signal processing interface

For a DSPU equipment output, the definition of each character is as below:

a - status of UC
b - status of DSPI

r - status of side 0 CCB
s - status of side 1 CCB

[a]aaa - The first 3- or 4-digit nonhierarchical NPC number of an FTM/DSPU.
[b]bbb - The last 3- or 4-digit nonhierarchical NPC number of an FTM/DSPU.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[z]zzz - The 3- or 4-digit nonhierarchical DSPU NPC number.

uvmnp - The first hierarchical NPC number of an FTM or a hierarchical DSPU NPC number.

uxkqr - The last hierarchical NPC number of an FTM or a hierarchical DSPU NPC number.

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped

UTL,QRY,ROLL,DS0,NPC,ALL,UNIT

UTILITY QUERY ROLL DS0

Explanation Of Command

This command is used to request a report on the roll status of all of the channels in a network processing circuit (NPC). The roll status request may be for a single NPC, a range of NPCs, all NPCs in a unit, or all NPCs in the DACS II frame.

The output message shows the correspondence between the bridge and service legs of the Roll procedure. Original Service and Original Bridged leg refer to the service and bridged leg designations created by the Bridge step of the Roll procedure. New Service and New Bridged leg refer to the service and bridged leg designations created by the Roll step of the Roll procedure.

The output message displays the roll status of each of the 32 channels of an NPC.
The top left position corresponds to telephone channel 0 of the NPC and the last item corresponds to telephone channel 31 of the NPC. Note that telephone channel 0 (Channel Timeslot 0) and telephone channel 31 (Channel Timeslot 16) in the Channel Associated Signaling mode cannot be rolled.

All dashes are displayed if there is neither a Service leg nor a Bridged leg associated with a channel. Telephone channel 0 and telephone channel 31 in the Channel Associated Signaling mode will have all dashes.

The display is repeated for each NPC in the range.
If there are no rolled channels on an NPC within a range,
then no roll status output will be generated for that NPC.

Note: The processing time to
query the roll status of a fully equipped frame could exceed 9 minutes.

The specified NPC range can cross a unit boundary.

Command

Nonhierarchical

[I.52081]

```
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!
```

Hierarchical

[I.52081]

```
UTL:FRM xy,SEQ ww:QRY,ROLL,DS0,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!
```

Completion Message

Nonhierarchical

The output message in nonhierarchical PDS form will span one output segment per NPC.

If the 3- or 4-digit nonhierarchical NPC number is used, the output will be six channels per line (except for the last line) as shown below:

[O.52081]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC [s]abc  7 LN MSG:
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj EOM

            .
            .
            .

[M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC [t]def  7 LN MSG:
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj rr[u]ghijjj
rr[u]ghijjj rr[u]ghijjj EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 {NPC [s]abc[-[t]def]|\
ALL[ UNIT [q]q]} COMPL
```

Hierarchical

The output message in hierarchical PDS form will span one output segment per NPC.

If a hierarchical NPC number is used, the output will be six channels per line (except for the last line) as shown below:

[O.52081]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC uvmnp  7 LN MSG:
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj EOM

            .
            .
            .

[M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 NPC wxkqr  6 LN MSG:
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj rrghikljjj
rrghikljjj rrghikljjj EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS0 {NPC uvmnp[-wxkqr]|\
ALL[ UNIT [q]q]} COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - 3- or 4-digit nonhierarchical NPC number, the first number of a range or a single NPC number.

[t]def - 3- or 4-digit nonhierarchical NPC number, the last number of a range.

ALL - All

Keyword indicating that all NPCs in the frame are being queried for Roll status.

UNIT - Unit

[q]q - Unit number (1 through 16)

Keyword used to limit query to all NPCs in a Unit.

[u]ghi - The 3- or 4-digit nonhierarchical NPC number of the Service or Bridged channel associated with the queried NPC.

ghikl - Hierarchical NPC number of the Service or Bridged leg associated with the queried NPC

jjj - Channel number of the Service or Bridged leg associated with the queried NPC

rr - The Roll status of a channel interpreted as follows:

rr	*Type of Leg*
OS	Indicates that channel [u]ghijjj or ghikljjj is the Original Service leg and the corresponding channel is the Original Bridged leg.
NS	Indicates that channel [u]ghijjj or ghikljjj is the New Service leg and the corresponding channel is the New Bridged leg.
OB	Indicates that channel [u]ghijjj or ghikljjj is the Original Bridged leg and the corresponding channel is the Original Service leg.
NB	Indicates that channel [u]ghijjj or ghikljjj is the New Bridged leg and the corresponding channel is the New Service leg.
--	Indicates that the channel is not a Service or Bridged leg

uvmnp - Hierarchical NPC number, the first number of a range or a single NPC number

wxkqr - Hierarchical NPC number, the last number of a range

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

Note: Valid NPC types for 64kbps Roll are PAxyz, PBxyz and PCxyz, except for the following conditions:

- Either NPC is of type PAxyz where y=C or y=D
- The old NPC supports Channel Associated Signaling (CAS) and the new NPC does not.
- The old NPC supports Non-Signaling Associated, the new NPC supports CAS, and CTS16 is being rolled to CTS16.

Because CTS0 and CTS16 (when Channel Associated Signaling is used) are not rolled at the 64kbps level, the status for these channels will be displayed with "-". If NSA (Non-Signaling Associated) mode is used, CTS16 can be rolled. The appropriate roll status will be displayed for this channel.

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

UTL,QRY,ROLL,DS1,NPC,ALL,UNIT

UTILITY QUERY ROLL DS1

Explanation Of Command

This command is used to request a report on the roll status of 2Mbit/s facilities.

The roll status request may be for a single network processing circuit (NPC), a range of NPCs, all NPCs in a unit, or all NPCs in the DACS II frame. The output message shows the correspondence between the bridge and service facilities of the Roll procedure.
Original Service and Original Bridged facility refer to the service and bridged facility designations created by the Bridge step of the Roll procedure.
New Service and New Bridged facility refer to the service and bridged facility designations created by the Roll step of the Roll procedure.

The output message displays the roll status of each of the NPCs in a Facility Terminating Module (FTM).
The top left position corresponds to the first NPC in the FTM and the bottom right position corresponds to the last NPC in that FTM.
All dashes are displayed if there is neither a Service facility nor a Bridged facility associated with an NPC.
The display is repeated for each FTM in the range.

If the range queried in the input message is a subset of a FTM, all NPCs of that FTM will still be displayed.
If there are no rolled channels in a FTM, then no roll status output will be generated for that FTM.

The specified NPC range can cross a unit boundary and is applicable to facility terminating unit (FTU) types.

If only one NPC is queried, then the output display will be one line with the roll status information for the requested NPC.

Command

Nonhierarchical

[I.52091]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC [s]abc[-[t]def]|ALL[,UNIT [q]q]}!

Hierarchical

[I.52091]

UTL:FRM xy,SEQ ww:QRY,ROLL,DS1,{NPC uvmnp[-wxkqr]|ALL[,UNIT [q]q]}!

Completion Message

Nonhierarchical

The output message in nonhierarchical PDS form will span one output segment per FTM for FTU NPC ranges, and one line for a single FTU NPC.

If the 3- or 4-digit nonhierarchical NPC number in an FTU range is used, the output will be eight NPCs per line as shown below:

[O.52091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 FTU NPC [a]aaa-[b]bbb  5 LN MSG:
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi
rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi rr[u]ghi \
EOM

        .                   .                       .
        .                   .                       .
        .                   .                       .

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {NPC [s]abc-[t]def|\
ALL[ UNIT [q]q]} COMPL
```

If a single 3- or 4-digit nonhierarchical NPC number in a FTU used, the output will be one line as shown below:

[O.52091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 NPC [s]abc rr[u]ghi COMPL
```

Hierarchical

The output message in hierarchical PDS form will span two output segments per FTM for FTU NPC ranges, and one line for a single FTU NPC.

If the hierarchical NPC number in a FTU range is used, each output segment will display four NPCs per line as shown below:

[O.52091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 FTU NPC bcdef-edhfg  5 LN MSG:
rrghikl rrghikl rrghikl rrghikl
rrghikl rrghikl rrghikl rrghikl
rrghikl rrghikl rrghikl rrghikl
rrghikl rrghikl rrghikl rrghikl EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 FTU NPC fhjrk-stxyz  5 LN MSG:
rrghikl rrghikl rrghikl rrghikl
rrghikl rrghikl rrghikl rrghikl
rrghikl rrghikl rrghikl rrghikl
rrghikl rrghikl rrghikl rrghikl EOM

        .                 .                       .
        .                 .                       .
        .                 .                       .

M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 {NPC uvmnp-wxkqr|\
ALL[ UNIT [q]q]} COMPL
```

If a single 3- or 4-digit hierarchical NPC number in a FTU is used, the output will be one line as shown below:

[O.52091]

```
M hh:mm:ss xy,ww n[vv] UTL QRY ROLL DS1 NPC uvmnp rrghikl COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - 3- or 4-digit nonhierarchical NPC number, the first number of a range or a single NPC number.

[t]def - 3- or 4-digit nonhierarchical NPC number, the last number of a range.

ALL - All

Keyword indicating that all NPCs in the frame are being queried for Roll status.

UNIT - Unit

[q]q - Unit number (1 through 16)

Keyword used to limit query to all NPCs in a Unit.

[q]q - The 1- or 2-digit Unit number

[a]aaa - 3- or 4-digit nonhierarchical NPC number, the first NPC number of a FTM.

[b]bbb - 3- or 4-digit nonhierarchical NPC number, the last NPC number of a FTM.

[u]ghi - The 3- or 4-digit nonhierarchical NPC number of the Service or Bridged facility associated with the queried NPC.

ghikl - Hierarchical NPC number of the Service or Bridged facility associated with the queried NPC.

rr - NPC Roll status interpreted as follows:

rr	*Type of Facility*
OS	Indicates that NPC [u]ghi or ghikl is the Original Service facility and the corresponding NPC is the Original Bridged facility.
NS	Indicates that NPC [u]ghi or ghikl is the New Service facility and the corresponding NPC is the New Bridged facility.
OB	Indicates that NPC [u]ghi or ghikl is the Original Bridged facility and the corresponding NPC is the Original Service facility.
NB	Indicates that NPC [u]ghi or ghikl is the New Bridged facility and the corresponding NPC is the New Service facility.
--	Indicates that the NPC is not a Service or Bridged facility.

bcdef - Hierarchical NPC number, the first NPC number of a FTM.

edhfg - Hierarchical NPC number, the last NPC number of an FTM output segment.

fhjrk - Hierarchical NPC number, the first NPC number of an FTM output segment.

stxyz - Hierarchical NPC number, the last NPC number of a FTM.

uvmnp - Hierarchical NPC number, the first NPC number of a range or a single NPC number.

wxkqr - Hierarchical NPC number, the last NPC number of a range.

uv,wx,bc,st,fh,ed
- Unit number

m,k,d,x,j,h
- Module number

np,qr,ef,yz,rk,fg
- NPC number within the module

Note: Valid NPC types for 2Mbit/s Roll are PAxyz, PBxyz,PCxyz. However, Roll is denied when rolling from a PAxyz type FTU NPC to a PBxyz/PCxyz type FTU NPC. Also, the xyz values between the old and the new NPCs have to be the same or equivalent (in the case of rolling from PBxyz/PCxyz to PAxyz).

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

UTL,QRY,RPSFI

RETRIEVE E1 NPCs WITH RPSFI CONDITION

Explanation Of Command

This message retrieves all the E1 NPCs that have the RPSFI (Remote Power Supply Failure Indication) condition active.

Command

[I.56326]

```
UTL:[FRM xy,SEQ ww]:QRY,RPSFI!
```

Completion Message

Nonhierarchical

[O.56326]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC [s]abc RPSFI COMPL
                                .
                                .
                                .
M hh:mm:ss xy,ww n[vv] UTL QRY NPC [s]abc RPSFI COMPL
M hh:mm:ss xy,ww n[vv] UTL QRY RPSFI COMPL
```

Hierarchical

[O.56326]

```
M hh:mm:ss xy,ww n[vv] UTL QRY NPC uvmnp RPSFI COMPL
                                .
                                .
                                .
M hh:mm:ss xy,ww n[vv] UTL QRY NPC uvmnp RPSFI COMPL
M hh:mm:ss xy,ww n[vv] UTL QRY RPSFI COMPL
```

Denial Message

[O.56326.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY RPSFI COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

- **uv** - Unit number
- **m** - Module number
- **np** - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

RPSFI - Remote Power Supply Failure Indicator

UTL,QRY,SALMS,ALL

QUERY SHELF ALARMS SEVERITY

Explanation Of Command

This command retrieves the current system alarm severity for a single shelf alarm or for all the shelf alarms. This command is only executable if the Alarm Severity feature is turned ON via the I.38355 command.

Command

[I.53301]

`UTL:[FRM xy,SEQ ww]:QRY,SALMS,{salm|ALL}!`

Completion Message

[O.53301]

If a single shelf alarm is requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY SALMS,salm sev COMPL
```

If ALL shelf alarms are requested:

```
M hh:mm:ss xy,ww n[vv] UTL QRY SALMS 6 lines
PFF sev    SYNC sev    DSPC sev    CCN sev
LTF sev    TREF sev    STREF sev   TLI sev
CRO sev    SMEM sev    MCE sev     CCNI sev
TSI sev    FC sev      FTMI sev    DSPI sev
FTUC sev   CCB sev     DSPUC sev   SDT sev COMPL
```

Denial Message

[O.53301.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SALMS {salm|ALL} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

salm - Shelf Alarms

salm	*Explanation*
PFF	Power Failure
SYNC	Failure of one SYNC
CCN	CCN autonomously removed
LTF	NPC Harware Failure
TREF	Failure of one SSP
STREF	Failure of last SSP
TLI	TLI removed from service
CRO	Failure of Clock Reference Oscillator
SMEM	Failure of SMEM memory card
MCE	MC removed from service
CCNI	CCI/CCNI autonomously removed
TSI	TSI/ETSI autonomously removed
FC	FC autonomously removed
FTMI	FTMI autonomously removed
DSPI	DSPI autonomously removed
FTUC	FTU UC autonomously removed
CCB	CCB autonomously removed
DSPUC	DSP UC autonomously removed
SDT	System date and time not set
DSPUC	DSPU NPC autonomously removed
ALL	All Shelf Alarms

sev - Severity

sev	*Explanation*
PMACR	- Prompt Maintenance Action CRITICAL alarm severity
PMAMJ	- Prompt Maintenance Action MAJOR alarm severity
DMAMN	- Deferred Maintenance Action MINOR alarm severity
MI	- MESSAGE INFORMATION alarm severity

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
F7	Alarm Severity Feature (already) OFF

UTL,QRY,SCR,LINK,USER,LINKS,USERS

QUERY USER|LINK SCREENING OPTION

Explanation Of Command

This command is used to query the user/administrative link for screening options, command category, and the restricted maintenance privilege. These items are set when the user accesses the link.

For the TCP/IP link, because all the options can only be set for a USER, not a LINK, therefore, this command cannot be used to query the TCP/IP link for options.

The frame administrator may query any one or all users and may query the screening options for any one or all administrative links.

The RMON/RMOFF option indicates that the user/administrative link is assigned the privilege or not assigned the privilege of issuing the commands restricted to the frame administrator. Default is RMOFF.

The restricted commands are:

I.37301 DLT::FPKG
I.34001 RST::MC:CLR[,ALL];
I.34001 RST::MC:TAPE;
I.34211 RST::DISK[,CLR];
I.34211 RST::[,CLR]|TAPE;
I.58001 UTL::BOOT,FRAME[,{TAPE|CLR}];
I.55701 UTL::BMTR,FROM {RAM|DISK|TAPE}[,{EXCT|INCL}];
I.51051 UTL::CLR,BMTR;
I.38471 CHG::MSGLOG {ON|OFF}
I.57031 UTL::CLR, MSGLOG[,RSTNUM]
I.38355 CHG::ALMS,{ON|OFF}
I.38451 CHG::INTV,{ON|OFF}

Output from this command is sent only to the link on which the command was input.

Also, for the Message Logging feature, the logged messages will be sent to the link on which the command was input and the links with screening option 5.

Command

[I.54001]

UTL:FRM xy,SEQ ww:QRY,SCR,{LINK j[mm[-jnn]]|USER <user id>|LINKS|USERS}!

Completion Message

For a single link/user

[O.54001]

M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm]|USER <user id>} 3 LN MSG:
LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF} COMPL

For a range of links, virtual links, or all links/users

[O.54001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm]-p[nn]|LINKS|USERS}  5 LN MSG:
{LINK j[mm]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a b \
c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF}
{LINK h[ii]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a b \
c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF} {EOM|COMPL}
```

. . .

```
[M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm]-p[nn]|LINKS|USERS}  e LN MSG:
[{LINK j[kk]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a \
b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF}[  {EOM|COMPL}]]
{LINK p[nn]|USER <user id>} LANG {P|M} NPCAD {E|X|H} LEV a \
b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF} {EOM|COMPL}]
```

For a range of virtual circuits on an X.25 link

[O.54001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCR LINK jmm[-lnn]  5 LN MSG:
LINK jmm LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF}
LINK jii LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF}  {EOM|COMPL}

              .                .                .
[M hh:mm:ss xy,ww n[vv] UTL QRY SCR LINK jmm[-lnn]  e LN MSG:
[LINK jkk LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF}]
LINK jnn LANG {P|M} NPCAD {E|X|H} LEV a b c d e f {RMON|RMOFF}
SCR n[ GR a b c d e f] {MCON|MCOFF} RLK {A|I} {CONVON|CONVOFF}[  COMPL]
```

Denial Message

[O.54001.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SCR {LINK j[mm][-jnn]| \
USER <user id>|LINKS|USERS} COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SCR - Screening

n - Screening option number (1 - 5)

n	*Explanation*
1	Responses to input at the same link.
2	Responses to input at the same link and autonomous messages.
3	Responses to messages input at the same link and some specified sets of action verbs.
4	Responses to messages input at the same link and some specified sets of action verbs including autonomous messages.
5	Responses to input messages on all links and autonomous messages and message log replay if link is in MML and log retrieval is requested

LINK - Link

j[mm] - Administrative link number

j - Physical link number (1 through 6)
mm - Virtual link number (01 through 16) for j = 5 or 6

Variable j[mm] when used in combination with p[nn] denotes a range of administrative link numbers beginning with j[mm] and ending with p[nn] In the general case j is the same value as p; that is, there is no link range. A range of links may only be specified by the Frame Administrator and may only be used for synchronous X.25 links, neither the asynchronous links 1 through 4 nor the TCP/IP link 7.

o[uu] - Next administrative link number in command range
g[vv] - Next administrative link number in command range
h[ii] - Next administrative link number in command range
j[kk] - Next administrative link number in command range
r[tt] - Next administrative link number in command range
s[yy] - Next administrative link number in command range
p[nn] - Administrative link number at end of command range

o,g,h,j,r,s,p	Physical link numbers (1 through 6)
uu,vv,ii,kk,tt,yy,nn	Virtual circuit numbers (01 through 16) for o, g, h, j, r, s, or p = 5 or 6

USER - User

user id
- User identifier

The user's login identifier (two to eight alphabetic characters). The frame administrator may use specify any user_id but an individual user is restricted to their own user_id.

LINKS - Links

All administrative links (frame administrator only)

USERS - Users

All users (frame administrator only)

LANG - Language

P - Program Documentation Standards (PDS)

M - HuMan-Machine Language (MML)

NPCAD - NPC Addressing scheme

E - Extended 3-digit nonhierarchical NPC addressing

X - Extended 4-digit nonhierarchical NPC addressing

H - Hierarchical NPC addressing

LEV - Level

a - Execution priority level for circuit provisioning commands
b - Execution priority level for equipment provisioning commands
c - Execution priority level for maintenance commands
d - Execution priority level for test access commands
e - Execution priority level for monitoring commands
f - Execution priority level for common commands

A table giving the command verbs associated with each of the above command sets is given below.

LEV is used in combination with the command set identifiers a through f to set the execution priority level for each command set. A priority level applies to a user or link as appropriate. Priority levels range from 0 through 3. A list of these levels and their meaning is given below for a. The list for b through f is similar to the a list.

a	*Explanation*
0	Commands in the command set assigned this execution priority level cannot be executed.
1	Highest execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 2 or 3.
2	Middle execution priority level. Commands in the command set assigned this execution priority level will be executed before commands with priority level 3
3	Lowest execution priority level. Commands in the command set assigned this execution priority level will be executed after all priority level 1 and 2 commands have been executed. Level 3 is the default priority level.
-	The execution priority level of the command set assigned this execution priority level is not to be changed.

Note: The commands used to login, logoff, cross-connect, stop, and abort always have the highest priority.

A single queue is used for DACS II commands. When multiple commands arrive at the same time, they will be queued for execution according to the priority assigned to their command set. Commands with the same priority will be executed in the order of arrival, that is, first come first served. A timeout feature insures that no command will wait in the queue forever. When the timeout period has expired for a given command that command will be executed regardless of its priority level.

a Circuit Prov.	**b Equipment Prov.**	**c Maint.**	**d Test Access**	**e Monitoring**	**f Common**
BCON	COPY	CFR	CTST	AUD	ACT
BDIS	DGRTH	DGN	STST	UTL	ADD
CONF	DLT	RMV	TTST		ALW
OCNT	GRTH	RST			CHG
OCON					ED
ODIS					EXC
OPR					INH
RLS					
TCNT					
TCON					
TDIS					

RMON - Restricted maintenance privilege on
RMOFF - Restricted maintenance privilege off (default)

GR - Group

a - Screening level for circuit provisioning commands
b - Screening level for equipment provisioning commands
c - Screening level for maintenance commands
d - Screening level for test access commands
e - Screening level for monitoring commands
f - Screening level for common commands

A table giving the command verbs associated with each of the above command sets is given in the Explanation of Message section.

The command set identifiers a through f are used to set the group screening level for each command set. Screening levels range from 0 through 1. A list of these levels and their meaning is given below for a. The list for b through f is similar to the a list.

a	Explanation
1	Output messages from other links are allowed,
0	Output messages from other links are not allowed (the screening option for commands LOGIN, LOGOFF, STOP and ABT is not changeable, and it is set to 1).

Note: Group information applies only to screening options 3 or 4; it does not appear for options 1, 2, and 5.

MCON - Macro component completion messages screening on
MCOFF - Macro component completion messages screening off

RLK - Remove link

A - Allowed

I - Inhibited

A and I are used to assign to a user or link the privilege of removing a link. There is a relationship between the link privilege and the execution priority level. If c (see previous Command Sets table) in the LEV field is set to zero then the command to remove a link cannot be executed hence the remove link privilege is inhibited even if the RLK option is set to A or I.

CONVON
- Mixed Addressing Conversion ON

CONVOFF
- Mixed Addressing Conversion OFF

This mixed addressing conversion feature is only applicable to PDS commands in an environment that uses 4-digit sequential NPC numbers. This conversion feature is useful when a DACS II frame is converted from 3-digit sequential NPC addressing to 4-digit sequential NPC addressing for growth reasons. In that case this conversion feature allows certain Operational Support Systems to use 3-digit NPC numbers, even though the frame has been changed to normally accept only 4-digit NPC numbers.

Assuming sequential NPC number usage, DACS II normally accepts only fixed length NPC numbers in its input commands. This conversion feature transfers the fixed length requirement from NPC number to channel number on a link basis. This allows the DACS II parser to accept 3- or 4-digit NPC numbers assuming that the channel number is interpreted to be of 2-digit fixed length. If a 3-digit NPC number is entered with CONVON in effect, then DACS II will internally expand 3-digit NPC numbers to 4-digit NPC numbers.

For some feature configurations this conversion feature is not available, and the CONVOFF keyword will not appear in the output of this command.

cc - Hexadecimal condition code

cc	*Explanation*
D0	Command is Frame administrator (DAX) only.
D3	User does not exist
D7	Cannot execute privileged command
DF	Command and protocol are inconsistent
E1	Virtual circuit is not specified for X.25 link
E2	Invalid link number specified

UTL,QRY,SIGST

QUERY TRUNK SIGNALING CONVERSION STATE

Explanation Of Command

This command is used to query the signaling state of a trunk which is using the E1/T1 signaling conversion feature. This feature is implemented on the Digital Signal Processing Platform (DSPP) circuit pack.

The signaling state on any given trunk will change rapidly with respect to time. This command will only take a snapshot of the state of the specified trunk. This snapshot will only be useful if the circuit is stuck in one given state. Thus it will give field personnel a way of tracking down the real problem.

Command

Nonhierarchical

[I.52601]

`UTL:[FRM xy,SEQ ww]:QRY,SIGST abcddd`

Hierarchical

[I.52601]

`UTL:[FRM xy,SEQ ww]:QRY,SIGST uvmnpddd`

Completion Message

Nonhierarchical

[O.52601]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SIGST abcddd TYPE mnxyz  4 LN MSG:
TRUNK  E1-TRN  E1-RCV  T1-TRN  T1-RCV  SIG
DIR    AB      AB      A       A       STATE
tdir   ab      cd      e       g       <sigst> COMPL
```

Hierarchical

[O.52601]

```
M hh:mm:ss xy,ww n[vv] UTL QRY SIGST uvmnpddd TYPE mnxyz  4 LN MSG:
TRUNK  E1-TRN  E1-RCV  T1-TRN  T1-RCV  SIG
DIR    AB      AB      A       A       STATE
tdir   ab      cd      e       g       <sigst> COMPL
```

Denial Message

Nonhierarchical

[O.52601.01]

```
M hh:mm:ss xy,ww n[vv] QRY SIGST abcddd COND cc DNY
```

Hierarchical

[O.52601.01]

```
M hh:mm:ss xy,ww n[vv] QRY SIGST uvmnpddd COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SIGST - Signaling state

abcddd - E1/T1 trunk termination

abc - NPC number
ddd - Channel number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnpddd
- E1/T1 trunk termination

uv - Unit number
m - Module number
np - NPC number within the module
ddd - Channel number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Valid ddd values are listed below:

ddd	*Explanation*
001-024	T1 NPC channel range
001-030	E1 NPC channel range

TYPE - Type

mnxyz - NPC Type and provisioning options

tdir - Trunk direction

The direction of the trunk as viewed from this channel. A trunk will have a direction specified in the circuit provisioning command which established the cross-connection. That direction will be either "from T1 to E1" or "from E1 to T1". This represents the direction in which a call is being established on the trunk between two switches. Valid values are listed below:

tdir	*Explanation*
T1IC	T1 Incoming, Channel belongs to a T1 NPC receiving the call
T1OG	T1 Outgoing, Channel belongs to a T1 NPC originating the call
E1IC	E1 Incoming, Channel belongs to an E1 NPC receiving the call
E1OG	E1 Outgoing, Channel belongs to an E1 NPC originating the call

ab - E1 Transmitting AB signaling bits associated with this channel

cd - E1 Receiving AB signaling bits associated with this channel

e - T1 Transmitting A signaling bit associated with this channel

g - T1 Receiving A signaling bit associated with this channel

Valid values for each bit are zero or one.

sigst - Signaling state value

sigst	*Explanation*
ANS	Answer
BLK	Blocking
CLB	Clear Backward
CLF1	Clear Forward 1
CLF2	Clear Forward 2
DIL0	Dial 0
DIL1	Dial 1
IDL	Idle
SEI	Seizure
SEA	Seize Acknowledgement

Note: An asterisk (*****) may be appended to any of the above states. This means that the current received signaling bit value(s) do not correspond to the current signaling state.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
11	UC is out of service
12	UC is in service but failed
14	FTMI is out of service
15	NPC is unequipped
1F	FTMI is in service but failed
26	NPC type error
0B	Invalid CEPT NPC

UTL,QRY,SQN

UTILITY QUERY SEQUENCE

Explanation Of Command

This command is used to retrieve the sequence number of the last autonomous message issued by DACS II.

Command

[I.51131]

`UTL:FRM xy,SEQ ww:QRY,SQN!`

Completion Message

[O.51131]

`M hh:mm:ss xy,ww n[vv] UTL QRY SQN nn COMPL`

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

SQN - Sequence Number

nn - two digit sequence number of the last autonomous message

UTL,QRY,STATE,ACO

UTILITY QUERY STATE ALARM CUT OFF

Explanation Of Command

This message queries for the active or inactive status of the alarm cutoff.

Command

[I.54340]

UTL:FRM xy,SEQ ww:QRY,STATE,ACO!

Completion Message

[O.54340]

M hh:mm:ss xy ww n[vv] UTL QRY STATE ACO <mode> COMPL

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

STATE - State

ACO - Alarm cut off

mode - Alarm mode

Current state of alarm cut off

mode	*Explanation*
ACTIVE	Alarm cutoff is active
INACT	Alarm cutoff is inactive

UTL,QRY,STATE,NPC

UTILITY QUERY STATE

Explanation Of Command

This command requests the provisioning and status information of a single Network Processing Circuit (NPC) or range of NPCs for one or more Facility Terminating Units (FTU) or DS3 Units (DS3U) or Hybrid DS3 units (HDS3U) or for a single Digital Signal Processing Unit (DSPU).

In the output message, the "PREVIOUS SHORT INTERVAL" data should be ignored for the first 15 minutes following the execution of the CHG::SETOP (Message I.38201) or CHG::NPC,OPTS (Message I.38221) command. These CHG commands clear the stored data, which results in a value of zero being printed for the interval count.

Note: If the accumulated count of a parameter reaches or exceeds its programmed threshold, an autonomous alarm message is generated.

If an NPC range is specified in the input command, the following floating window rules apply:

— Unequipped NPCs within the requested range will be skipped.

— If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.

— If an endpoint of the requested range is in a CEPT gap, then the NPCs in the portion of the range which is in the gap will be denied.

Command

Nonhierarchical

[I.56311]

UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC [s]abc[-[t]def]!

Hierarchical

[I.56311]

UTL:[FRM xy,SEQ ww]:QRY,STATE,NPC uvmnp[-wxkqr]!

Completion Message

Nonhierarchical

Note: The following message segments will be output for each PB and PC NPC.

[O.56311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE mnxyz[ RESET] \
IW pqr  5 LN MSG:
24 HOUR OOS FAIL PEST PBA DM    SERS  ERS   US    SLIP  CRC   FRER  LOFA  MER
        a    b    c    d  aaaaa bbbbb ccccc ddddd eeeee fffff ggggg hhhhh iiiii
THRESHOLDS                 laaaa lbbbb lcccc lddd d leeee
OPTIONS                    f     g     h     i     j           EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE mnxyz[ RESET] \
IW pqr  5 LN MSG:
PREVIOUS SHORT INTERVAL       DM    SERS  ERS   US    SLIP
                              jjjjj kkkkk lllll mmmmm nnnnn
THRESHOLDS                    saaaa sbbbb scccc sdddd seeee
OPTIONS                       k     l     n     p     q       EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE mnxyz[ RESET] \
IW pqr  5 LN MSG:
CURRENT SHORT INTERVAL        DM    SERS  ERS   US    SLIP
                              ooooo ppppp qqqqq rrrrr sssss
THRESHOLDS                    saaaa sbbbb scccc sdddd seeee
OPTIONS                       k     l     n     p     q       EOM

M hh:mm:ss xy,ww n[vv] UTL QRY TS0 abcdefgh TS0M abcdefgh TS0MBOFL v COND cc COMPL
```

Note: The following message will be output for each MB and CB NPC.

[O.56312]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE mnxyz  2 LN MSG:
OOS a a FAIL b b PEST c c[ BOFL o] COMPL
```

Note: The following message segment will be output for each SD and ST NPC.

[O.56313]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc TYPE mnxyz  2 LN MSG:
OOS a FAIL b PEST c COMPL
```

Hierarchical

Note: The following message segments will be output for each PB and PC NPC.

[O.56311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE mnxyz[ RESET] \
IW pqr  5 LN MSG:
24 HOUR OOS FAIL PEST PBA DM    SERS  ERS   US    SLIP  CRC   FRER  LOFA  MER
        a    b    c    d  aaaaa bbbbb ccccc ddddd eeeee fffff ggggg hhhhh iiiii
THRESHOLDS                 laaaa lbbbb lcccc lddddd leeee
OPTIONS                    f     g     h     i     j           EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE mnxyz[ RESET] \
IW pqr  5 LN MSG:
PREVIOUS SHORT INTERVAL       DM    SERS  ERS   US    SLIP
                              jjjjj kkkkk lllll mmmmm nnnnn
THRESHOLDS                    saaaa sbbbb scccc sdddd seeee
OPTIONS                       k     l     n     p     q       EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE mnxyz[ RESET] IW pqr  5 LN MSG:
CURRENT SHORT INTERVAL        DM    SERS  ERS   US    SLIP
                              ooooo ppppp qqqqq rrrrr sssss
THRESHOLDS                    saaaa sbbbb scccc sdddd seeee
OPTIONS                       k     l     n     p     q       EOM

M hh:mm:ss xy,ww n[vv] UTL QRY TS0 abcdefgh TS0M abcdefgh TS0MBOFL v COND cc COMPL
```

Note: The following message will be output for each MB and CB NPC.

[O.56312]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE mnxyz  2 LN MSG:
OOS a a FAIL b b PEST c c[ BOFL o] COMPL
```

Note: The following message segment will be output for each SD and ST NPC.

[O.56313]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp TYPE mnxyz  2 LN MSG:
OOS a FAIL b PEST c COMPL
```

Denial Message

Nonhierarchical

[O.56311.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc UEQD DNY

[O.56311.02]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [s]abc[-[t]def] COND cc DNY

Hierarchical

[O.56311.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp UEQD DNY

[O.56311.02]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC uvmnp[-wxkqr] COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - The 3- or 4-digit starting nonhierarchical NPC number

[t]def - The 3- or 4-digit ending nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Starting hierarchical NPC number
wxkqr - Ending hierarchical NPC number defined for uvmnp

- **uv,wx** - Unit number
- **m,k** - Module number
- **np,qr** - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]ghi - The 3- or 4-digit nonhierarchical NPC number (**[s]abc** through **[t]def**)

edfgh - Hierarchical NPC number (**uvmnp** through **wxkqr**)

ed - Unit number
f - Module number
gh - NPC number

TYPE - Type

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mn	*Explanation*
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
CB	C-bit processor (CPR) NPC

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

IW - Insertion word

pq - Insertion word value (Hexadecimal)

Also referred to as the Disconnect Code (DCC) or idle code. This value is inserted in the transmit direction on unassigned channels. DCC is not applicable to clear-DS1 NPCs, and is not printed. Some common disconnect codes are:

pq	*Explanation*
D5	Unassigned Channel code (UAC), the default value

r - Transmitted signaling information

r	*Explanation*
D	Unassigned Channel code (UAC), the default value for CEPT

OOS - Out-of-Service

a - Out of Service flag, applies to FTU NPCs and DSP NPCs on Side 0
a - Out of Service flag, applies to DSP NPCs on Side 1

a,_a	*Explanation*
1	Out-of-service
0	Not Out-of-service

FAIL - Fail

b - Failed flag, applies to FTU NPCs and DSP NPCs on Side 0
b - Failed flag, applies to DSP NPCs on Side 1

b,_b	*Explanation*
1	Failed
0	Not failed

PEST - Pest

c - Pested flag, applies to FTU NPCs and DSP NPCs on Side 0
c - Pested flag, applies to DSP NPCs on Side 1

c,_c	*Explanation*
1	Pested
0	Not pested

PBA - Primary block alarm

d - PBA flag

_d	*Explanation*
1	PBA
0	No PBA

Note: The PBA flag indicates the presence of one or more of the following conditions:

A16	AIS received in CAS time slot 16.
AIS	Alarm Indication Signal received in all 32 time slots.
BER	Bit Error Rate detected in received signal.
EER	Excessive Error Rate
LMA	Loss of Multiframe Alignment in CAS time slot 16.
LOFA	Loss of Frame Alignment
LOS	Loss of Signal
R16	RAI received in bit 6 of frame 0 of TS16.
RAI	Remote Alarm Indication received in bit 3 of NFW of TS0.
RAIS	Remote AIS detected in bit 4 of TS0.
RBER	Remote Bit Error Rate detected in bit 4 of TS0.
SFI	Synchronization Failure Indication in bit 5 of TS0.

Note: The facility monitoring parameters accumulated by the NPC are described below. If the queried NPC cannot be accessed for some reason, for example because the Facility Terminating Module is not equipped or the FTMI or Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options are still correctly output in this case.

In addition, some parameters are not applicable to all NPCs. Certain parameters may or may not be collected based on NPC type and whether the NPC carries a Clear or Channelized facility. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

DM - Degraded minutes

Degraded minutes are accumulated on an hourly interval and not a 15-minute interval as with SERS, ERS, US, and SLIP.

aaaaa - DM long interval count

laaaa - DM long interval threshold (1 through 1440)

f - DM long interval option selection (0 through C)

jjjjj - DM previous short interval count

saaaa - DM short interval threshold (1 through 60)

k - DM short interval option selection (0 through C)

ooooo - DM current short interval count

SERS - Severely errored seconds

bbbbb - SERS long interval count (CEPT)

lbbbb - SERS long interval threshold (1 through 65535)

g - SERS long interval option selection (0 through C)

kkkkk - SERS previous short interval count

sbbbb - SERS short interval threshold (1 through 900)

ppppp - SERS current short interval count

l - SERS short interval option selection (0 through C)

ERS - Errored seconds

ccccc - ERS long interval count (CEPT)

lcccc - ERS long interval threshold (1 through 65535)

h - ERS long interval option selection (0 through C)

lllll - ERS previous short interval count

scccc - ERS short interval threshold (1 through 900)

n - ERS short interval option selection (0 through C)

qqqqq - ERS current short interval count

US - Unavailable seconds

ddddd - US long interval count

ldddd - US long interval threshold (1 through 65535)

i - US long interval option selection (0 through C)

mmmmm - US previous short interval count

sdddd - US short interval threshold (1 through 900)

p - US short interval option selection (0 through C)

rrrrr - US current short interval count

SLIP - Slip

eeeee - Slip long interval count

leeee - Slip long interval threshold (1 through 65535)

j - Slip long interval option selection (0 through C)

nnnnn - Slip previous short interval count

seeee - Slip short interval threshold (1 through 900)

q - Slip short interval option selection (0 through C)

sssss - Slip current short interval count

CRC - Cyclic redundancy code

fffff - CRC-4 check block error count

FRER - Framing error

ggggg - FRER count

LOFA - Loss of frame alignment

hhhhh - LOFA count

MER - Multiframe alignment error (time slot 16)

iiiii - MER count

TS0 - Time slot 0 bits transmitted by the NPC

abcdefgh
- Spare bits in TS0

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

Valid values for a through h are described below:

Bit value	*Explanation*
0	Transmitted bit set to binary "0"
1	Transmitted bit set to binary "1"
P	Pass-through: the received bit will be cross-connected unchanged.

Note: A bit provisioned for pass-through may be cross-connected to a bit from another TS0.

The values displayed for 'abcdefgh' are those that the NPC is provisioned to transmit. The actually transmitted values may be different, depending on alarm states (see Message 56321).

TS0M - Time slot 0 bits monitored by NPC

abcdefgh
- Spare bits in TS0M

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

Valid values for bits **a** through **h** are described below:

Bit value	*Explanation*
0	Do not monitor and therefore do not send a message if this bit changes state
1	Monitor and therefore send a message if this bit changes state

TS0MBOFL
- TS0M buffer overflow keyword

v - TS0M buffer overflow condition indicator

0	NPC is not in TS0M buffer overflow condition
1	NPC is in TS0M buffer overflow condition

BOFL - Buffer overflow

CB type NPC buffer overflow keyword

o - State of the buffer

o	*State*
1	C-bit buffer overflow
0	No C-bit overflow

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
04	Subject entity is out of service
11	UC is out of service
12	UC is in service but failed
14	FTMI is out of service
1F	FTMI is in service but failed
0B	Invalid CEPT NPC
46	NPC Failed or Out of Service

UTL,QRY,STATE,NPC

UTILITY QUERY NPC STATE

Explanation Of Command

This command requests the provisioning and status information of a single Network Processing Circuit (NPC) or a range of NPCs. The output format shown in this message applies to PA type NPCs in one or more Facility Terminating Unit(s) (FTUs).

NOTE: Similar information for other NPC types are given by message 56311.

Command

Nonhierarchical

[I.56314]

```
UTL:FRM xy,SEQ ww:QRY,STATE,NPC [s]abc[-[t]def]!
```

Hierarchical

[I.56314]

```
UTL:FRM xy,SEQ ww:QRY,STATE,NPC uvmnp[-wxkqr]!
```

Completion Message

Nonhierarchical

[O.56314]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pqr]  5 LN MSG:
OOS FAIL PEST CRCST FEPM SYNSRC CAS LPBK THMOD AISPROV ERB
q   r    s    u     v    w      x   df   z     ttt     ccc
PBA LOS LOF AIS EER RAI LMA LCMA BER A16 RAIS RBER RMA SFI PFWOOF FLCMA
p   y   y   y   y   y   y   y    y   y   y    y    y   y   y      y
PBA RPSFI
p   y     EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
COUNTS      aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
OPTIONS     a        b         c     d     e     f     g          EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
COUNTS      hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n      EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pqr]  5 LN MSG:
15MIN       CRC      FRER      OFS   ES    SES   CSS   CV
COUNTS      aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a        b         c     d     e     f     g       EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pqr]  5 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
COUNTS      hhh   ii   jjj   kkkkkk   lll   mmm   nnn
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k        l     m     n   EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi TYPE mnxyz[ IW pqr]  2 LN MSG:
TS0 abcdefgh TS0M abcdefgh TS0MBOFL v  COND kk COMPL
```

Hierarchical

[O.56314]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pqr]  5 LN MSG:
OOS FAIL PEST CRCST FEPM SYNSRC CAS LPBK THMOD AISPROV ERB
q   r    s    u     v    w      x   df   z     ttt     ccc
PBA LOS LOF AIS EER RAI LMA LCMA BER A16 RAIS RBER RMA SFI PFWOOF FLCMA
p   y   y   y   y   y   y   y    y   y   y    y    y   y   y      y
PBA RPSFI
p   y     EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       CRC      FRER      OFS   ES    SES   CSS   CV
COUNTS      aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
THRESHOLDS  aaaaaaaa bbbbbbbbb ccccc ddddd eeeee fffff gggggggg
OPTIONS     a        b         c     d     e     f     g          EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pqr]  5 LN MSG:
DAILY       UAS   UATC MER   FEBE     FES   FSES  FUAS
COUNTS      hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
THRESHOLDS  hhhhh iiii jjjjj kkkkkkkk lllll mmmmm nnnnn
OPTIONS     h     i    j     k        l     m     n      EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pqr]  5 LN MSG:
15MIN       CRC      FRER      OFS   ES    SES   CSS   CV
COUNTS      aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
THRESHOLDS  aaaaaa   bbbbbbb   ccc   ddd   eee   fff   ggggggg
OPTIONS     a        b         c     d     e     f     g       EOM

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz IW pqr  5 LN MSG:
15MIN       UAS   UATC MER   FEBE     FES   FSES  FUAS
COUNTS      hhh   ii   jjj   kkkkkk   lll   mmm   nnn
THRESHOLDS  hhh   ii   jjj   kkkkkk   lll   mmm   nnn
OPTIONS     h     i    j     k        l     m     n   EOM


M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg TYPE mnxyz[ IW pqr]  2 LN MSG:
TS0 abcdefgh TS0M abcdefgh TS0MBOFL v  COND kk COMPL
```

Denial Message

Nonhierarchical

[O.56314.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC [t]ghi COND cc DNY
```

Hierarchical

[O.56314.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STATE NPC edhfg COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NPC - Network Processing Circuit

If an NPC range is specified in the input command, unequipped NPCs within the requested range will be skipped.

[s]abc - The first 3- or 4-digit nonhierarchical NPC Number of a range.
[t]def - The last 3- or 4-digit nonhierarchical NPC Number of a range.
[t]ghi - A 3- or 4-digit nonhierarchical NPC number, where ([s]abc ≤ [t]ghi ≤ [t]def)

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - The first hierarchical NPC number of a range.
wxkqr - The last hierarchical NPC number of a range.
edhfg - A 3- or 4-digit hierarchical NPC number, where (uvmnp ≤ edhfg ≤ wxkqr)

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

mnxyz - NPC type

PAxyz - Enhanced 2Mbit/s Interface NPC type (120-ohm or 75-ohm)

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

IW - Insertion Word

pq - Hexadecimal value of the DCC (disconnect code).

This value is inserted in the transmit direction on unassigned channels. DCC is not applicable to Clear-2Mbit NPCs, and is not printed. Although any 2-digit hexadecimal code may be specified, the following are the default codes:

pq	*Explanation*
D5	Unassigned Channel code (UAC), the default value for CEPT

r - Transmitted signaling information

r	*Explanation*
D	Unassigned Channel code (UAC), the default value for CEPT

OOS - Out-of-Service
q - Out-of-service indicator

q	*Explanation*
1	NPC is out-of-service
0	NPC is not out-of-service

FAIL - Failed
r - Failed indicator

r	*Explanation*
1	NPC is failed
0	NPC is not failed

PEST - Pested
s - Pested indicator

s	*Explanation*
1	NPC is pested
0	NPC is not pested

CRCST - CRC Multiframe Status for NPCs with the automatic CRC mode
u - CRC Multiframe status flag

u	*Explanation*
1	CRC Multiframe active
0	CRC Multiframe inactive
-	Not applicable, i.e., automatic CRC mode not provisioned

FEPM - Far End Performance Monitoring
v - Far End Performance Monitoring provisioning flag

v	*Explanation*
1	FEPM provisioned
0	FEPM not provisioned

SYNSRC - Synchronization source
w - SYNC source provisioning flag

w	*Explanation*
1	NPC used as SYNC source
0	NPC not used as SYNC source
-	Not applicable, i.e., the NPC cannot be SYNC source

CAS - Channel Associated Signaling
x - CAS provisioning flag

x	*Explanation*
1	NPC with CAS
0	NPC with NSA
-	Not applicable, i.e., NPC is non-channelized

LPBK - Loopback status

d - Loopback direction flag
t - Loopback NPC state flag

d	*Explanation*
F	Facility loopback
E	Equipment loopback
-	Not applicable, i.e., no loopback

t	*Explanation*
A	AIS downstream/upstream with performance monitoring off
B	AIS downstream/upstream with performance monitoring on
C	Pass-through with performance monitoring off
T	Pass-through with performance monitoring on
-	Not applicable, i.e., no loopback

THMOD - Thresholding Mode
z - Thresholding mode flag

z	*Explanation*
1	Thresholding is inhibited
0	Thresholding is allowed

AISPROV
- AIS provisioning

ttt - Provisioned AIS alarm level

The AIS PBA alarm is not provisioned for unframed clear (unchannelized) 2.048Mbit/s PAxDz type NPCs. Therefore, disregard the value of "ttt" for these NPCs, since the AIS alarm with the "ttt" alarm level will not be detected.

ttt	*Explanation*
PMC	Prompt maintenance alarm - critical
PMA	Prompt maintenance alarm - major
DMA	Deferred maintenance alarm - minor
MI	Maintenance information

ERB - Errored block

ee - Percentage of errored blocks (1% through 91%, default is 81%)

The number of errored blocks, expressed as a percentage, used to declare a severely errored second (SES) or far-end SES (FSES).

PBA - Primary block alarm

p - PBA flag

p	*Explanation*
1	PBA
0	No PBA

The PBA flag indicates the presence of one or more of the failure conditions output in the same data line.

LOS - Loss of Signal

LOF - Loss of Frame

AIS - Alarm Indication Signal received in all 32 time slots.

EER - Excessive Error Rate

RAI - Remote Alarm Indication received in bit 3 of NFW of TS0.

LMA - Loss of Multiframe Alignment in CAS time slot 16.

LCMA - Loss of CRC4 Multiframe Alignment

BER - Bit Error Rate detected in received signal.

A16 - AIS received in CAS time slot 16.

RAIS - Remote AIS detected in bit 4 of NFW of TS0.

RBER - Remote Bit Error Rate detected in bit 4 of NFW of TS0.

RMA - Remote Multiframe Alarm received in bit 6 of frame 0 of TS16.

SFI - Synchronization Failure Indication in bit 5 of NFW of TS0.

PFWOOF - Pseudo Frame Word Out-Of-Frame for TS0 to non-TS0 cross-connect.

FLCMA - Far-end loss of CRC-4 Multiframe Alignment.

RPSFI - Remote Power Supply Failure Indicator

y - failure flag

y	*Explanation*
1	The failure condition exists
0	The failure condition does not exist
-	The detection of the failure condition is not provisioned

Note: The facility monitoring parameters accumulated by the NPC are described below. If the queried NPC cannot be accessed for some reason, for example because the Unit Controller is out of service, then the NPC's parameter count fields are printed as a string of dashes to indicate that the counts are not available. The parameter thresholds and options are still correctly output in this case.

In addition, some parameters are not applicable to all NPCs. Certain parameters may or may not be collected based on NPC type and whether the NPC carries a Clear or Channelized facility. In the cases where specific parameters do not apply to the queried NPC, the respective parameter count fields, threshold values and threshold options are all displayed as a string of dashes.

PA NPC performance monitoring parameters:

CRC - CRC Block Errors
FRER - Framing Errors
OFS - Out of Frame Seconds
ES - Errored Seconds
SES - Severely Errored Seconds
CSS - Controlled Slip Seconds
CV - Coding Violations
UAS - Unavailable Seconds
UATC - Unavailable Time Count
MER - Multiframe Errors
FEBE - Far End Block Errors
FES - Far End Errored Seconds
FSES - Far End Severely Errored Seconds
FUAS - Far End Unavailable Seconds

Note that parameters FEBE, FES, FSES and FUAS are not applicable for the TH type NPCs.

aaaaaaaa
- Daily CRC block error current counts.

bbbbbbbbb
- Daily framing error current counts.

ccccc - Daily out of frame seconds current counts.
ddddd - Daily errored second current counts.
eeeee - Daily severely errored second current counts.
fffff - Daily controlled slip second current counts.

ggggggggg
- Daily coding violation current counts.

hhhhh - Daily unavailable second current counts.
iiii - Daily unavailable time count current counts.
jjjjj - Daily multiframe alignment error current counts.

kkkkkkkk
- Daily far-end block error current counts.

lllll - Daily far-end errored second current counts.
mmmmm - Daily far-end severely errored second threshold value.
nnnnn - Daily far-end unavailable second current counts.

aaaaaaaa
- Daily CRC block error threshold value.

bbbbbbbbb
- Daily framing error threshold value.

ccccc - Daily out of frame seconds threshold value.
ddddd - Daily errored second threshold value.
eeeee - Daily severely errored second threshold value.
fffff - Daily controlled slip second threshold value.

ggggggggg
- Daily coding violation threshold value.

hhhhh - Daily unavailable second threshold value.
iiii - Daily unavailable time count threshold value.
jjjjj - Daily multiframe alignment error threshold value.

kkkkkkkk
- Daily far-end block error threshold value.

lllll - Daily far-end errored second threshold value.
mmmmm - Daily far-end severely errored second threshold value.
nnnnn - Daily far-end unavailable second threshold value.

a - Daily CRC block error threshold selection,
b - Daily framing error threshold selection,
c - Daily out of frame seconds threshold selection,
d - Daily errored second threshold selection,
e - Daily severely errored second threshold selection,
f - Daily controlled slip second threshold selection,
g - Daily coding violation threshold selection,
h - Daily unavailable second threshold selection,
i - Daily unavailable time count threshold selection,
j - Daily multiframe alignment error threshold selection,
k - Daily far-end path block error selection,
l - Daily far-end path second threshold selection,
m - Daily far-end severely errored second threshold selection,
n - Daily far-end unavailable second threshold selection,

aaaaaa
- 15-minute CRC block error current counts.

bbbbbbb
- 15-minute framing error current counts.

ccc - 15-minute out of frame seconds current counts.
ddd - 15-minute errored second current counts.
eee - 15-minute severely errored second current counts.
fff - 15-minute controlled slip second current counts.

ggggggg
- 15-minute coding violation current counts.

hhh - 15-minute unavailable second current counts.
ii - 15-minute unavailable time count current counts.
jjj - 15-minute multiframe alignment error current counts.

kkkkkk
- 15-minute far-end block error current counts.

lll - 15-minute far-end errored second current counts.
mmm - 15-minute far-end severely errored second current counts.
nnn - 15-minute far-end unavailable second current counts.

aaaaaa
- 15-minute CRC block error threshold value.

bbbbbbb
- 15-minute framing error threshold value.

ccc - 15-minute out of frame seconds threshold value.
ddd - 15-minute errored second threshold value.
eee - 15-minute severely errored second threshold value.
fff - 15-minute controlled slip second threshold value.

ggggggg
- 15-minute coding violation threshold value.

hhh - 15-minute unavailable second threshold value.
ii - 15-minute unavailable time count threshold value.
jjj - 15-minute multiframe alignment error threshold value.

kkkkkk
- 15-minute far-end block error threshold value.

lll - 15-minute far-end errored second threshold value.
mmm - 15-minute far-end severely errored second threshold value.
nnn - 15-minute far-end unavailable second threshold value.

a - 15-minute CRC block error threshold selection,
b - 15-minute framing error threshold selection,
c - 15-minute out of frame seconds threshold selection,
d - 15-minute errored second threshold selection,
e - 15-minute severely errored second threshold selection,
f - 15-minute controlled slip second threshold selection,
g - 15-minute coding violation threshold selection,
h - 15-minute unavailable second threshold selection,
i - 15-minute unavailable time count threshold selection,
j - 15-minute multiframe alignment error threshold selection,
k - 15-minute far-end path block error selection,
l - 15-minute far-end path second threshold selection,
m - 15-minute far-end severely errored second threshold selection,
n - 15-minute far-end unavailable second threshold selection,

For PA type NPCs:

Depending on which interface functions are enabled by the provisioning values of xyz, some parameters may not be applicable. In this case the threshold value, the parameter count (if present in the message) and the selection value will appear as dashes ("-"). In the table below "N/A" indicates that a parameter is not applicable for the given value of x or y.

Also, if the selection value m=c has been chosen for a parameter, the threshold value and the parameter count (if present in the message) will appear as dashes.

For PA Type NPCs				
Parameter	CRC-4 Mode Disabled (x=A,B,E,F)	Far-End PM Disabled (x=0,2,4,6,A,B,E,F)	CAS Disabled (y=8,9,C,D)	Unframed Clear 2Mbit/s (y=D)
CRC	N/A			N/A
FRER				N/A
OFS				N/A
ES				N/A
SES				N/A
CSS				
CV				
UAS				N/A
UATC				N/A
MER			N/A	N/A
FEBE		N/A		N/A
FES		N/A		N/A
FSES		N/A		N/A
FUAS		N/A		N/A

TS0 - Time Slot 0

Note that the TS0 output data field will be populated with dashes ("-") if the NPC is provisioned as a non-channelized NPC, that is, clear 2Mbit/s NPC.

abcdefgh

- Spare bits in TS0

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

Valid values for a through h are described below:

Bit value	*Explanation*
0	Transmitted bit set to binary "0"
1	Transmitted bit set to binary "1"
P	Pass-through: the received bit will be cross-connected unchanged.

Note: A bit provisioned for pass-through may be cross-connected to a bit from another TS0.

The values displayed for 'abcdefgh' are those that the NPC is provisioned to transmit. The actually transmitted values may be different, depending on alarm states (see UTL::QRY,TS0,NPC).

TS0M - Time slot 0 bits monitored by NPC

The TS0 output data field will be populated with dashes ("-") if the NPC is provisioned as a non-channelized NPC, i.e., clear 2Mbit/s NPC.

abcdefgh
- Spare bits in TS0M

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

Valid values for bits **a** through **h** are described below:

Bit value	*Explanation*
0	Do not monitor and therefore do not send a message if this bit changes state
1	Monitor and therefore send a message if this bit changes state

TS0MBOFL
- TS0M buffer overflow

v - TS0M buffer overflow condition indicator

v	*Explanation*
0	NPC is not in TS0M buffer overflow condition
1	NPC is in TS0M buffer overflow condition

COND - Condition

kk - Hexadecimal completion condition code
cc - Hexadecimal denial condition code

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
04	Subject entity is out of service
11	UC is out of service
12	UC is in service but failed
14	FTMI is out of service
0B	Invalid CEPT NPC
46	NPC Failed or Out of Service

UTL,QRY,STATE,SYNC

UTILITY QUERY

Explanation Of Command

This message requests the state of the synchronizer.

Command

[I.56301]

```
UTL:FRM xy,SEQ ww:QRY,STATE,SYNC!
```

Completion Message

[O.56301]

```
M hh:mm:ss xy,ww n UTL QRY STATE SYNC  4 LN MSG:
CFR <arch> STRATUM <stratum> MODE <pllop0>,<pllop1> \
SOURCE <source0>,<source1>
IN SERVICE DPLL a b TB c d SOURCE e f
ACTIVE LINK gh ij PLL TIMING ERROR k l COMPL
```

Denial Message

[O.56301.01]

```
M hh:mm:ss xy,ww n UTL QRY STATE SYNC COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

CFR - Configure

arch - {MASTER | SLAVED}

STRATUM
- Stratum

stratum
- {STR2 | STR3 | CEPT TOLL | CEPT LOCAL}

MODE - Mode

pllop0 - {HOLDOVER | FAST | NORMAL} for side 0

pllop1 - {HOLDOVER | FAST | NORMAL} for side 1

SOURCE - Source

source0
- {HOLDOVER | TLI | MATE | CRO} for side 0

source1
- {HOLDOVER | TLI | MATE | CRO} for side 1

DPLL - Digital phase-locked loop

a - Digital Phase-Locked Loop, side 0

b - Digital Phase-Locked Loop, side 1

a **b**	*Explanation*
0	Out of service
1	In service

TB - Time base

c - Time Base, side 0

d - Time Base, side 1

c **d**	*Explanation*
0	Out of service
1	In service

SOURCE - Timing source

e - Timing Source status, side 0

f - Timing Source status, side 1

e **f**	*Explanation*
0	No SSP on side 1 is in service
1	At least one SSP on side 1 is in service

gh,
ij - Active SSP number

These variables will be output as "--" if no active SSP is present for SYNC 0 and SYNC 1, respectively

g,i - Timing link interface number of active SSP
h,j - Synchronizer synchronization port (SSP) number

PLL - Phase locked loop

k - Phase-locked loop timing error, side 0

l - Phase-locked loop timing error, side 1

k **l**	*Explanation*
0	No errors
1	PLL error exists

cc - Hexadecimal condition code

cc	*Explanation*
16	SYNC TB is not equipped

UTL,QRY,STR,LINK

QUERY LINK STATUS AND PROTOCOL

Explanation Of Command

This message queries the status and protocol parameters of an administrative link, including all virtual circuits of a X.25 link and all sessions of a TCP/IP link.

Command

[I.55113]

```
UTL:[FRM xy][,SEQ ww]:QRY,STR,LINK j[mm][-jnn]!
```

Completion Message

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL S  2 LN MSG:
STATUS bb e k q x m s hh COMPL
```

Note: The above message applies to the Snider protocol.

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL X  4 LN MSG:
STATUS bb - k - - m xxxx hh
LNKL b eee ggg aa {A|B}
PKTL iii nn v ppss gghh COMPL
```

Note: The above message applies to the X.25 protocol when virtual circuit is not specified.

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jmm PTCOL X  4 LN MSG:
STATUS bb - k - - m s hh
LNKL b eee ggg aa {A|B}
PKTL c ddd iii jjj kkk lll mmm nn p q r v ppss gghh COMPL
```

Note: The above message applies to the X.25 protocol when a single virtual circuit is specified.

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jmm PTCOL X  4 LN MSG:
STATUS bb - k - - m s hh
LNKL b eee ggg aa {A|B}
PKTL c ddd iii jjj kkk lll mmm nn p q r v ppss gghh  {EOM|COMPL}
                      .
                      .
                      .
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jnn PTCOL X  4 LN MSG:
STATUS bb - k - - m s hh
LNKL b eee ggg aa {A|B}
PKTL c ddd iii jjj kkk lll mmm nn p q r v ppss gghh COMPL
```

Note: The above message applies to the X.25 protocol when a range of virtual circuits is specified.

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL M  2 LN MSG:
STATUS bb - k - - m s hh COMPL
```

Note: The above message applies to the Modified Snider protocol.

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL T  e LN MSG:
STATUS bb - k - - m s hh  [COMPL]
[APPL {ASCS|ASCD} aa ttt  [COMPL]]
[APPL PM aa ttt [COMPL]]
```

Note: The above message applies to the TABS protocol.

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j PTCOL I  2 LN MSG:
STATUS -- e k - - - xxxx hh  COMPL
```

Note: The above message applies to the TCP/IP protocol when the session number is not specified.

[O.55113]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jmm PTCOL I  2 LN MSG:
STATUS -- e k - - - s hh  {EOM|COMPL}
                      .
                      .
                      .
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK jnn PTCOL I  2 LN MSG:
STATUS -- e k - - - s hh  COMPL
```

Note: The above message applies to the TCP/IP protocol when a session or a range of sessions is specified.

Denial Message

[O.55113.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR LINK j[mm][-jnn] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

STR - Status register

LINK - Link

j[mm] - Administrative link number
jnn - Administrative link number

j	- Physical link number (1 through 7)
mm	- First virtual circuit (VC)/session number of the VC/session range mm-nn (01 through 16, j must be 5,6 or 7)
nn	- Last virtual circuit (VC)/session number of the VC/session range mm-nn (01 through 16, j must be 5,6 or 7)

PTCOL - Protocol

S - Snider
X - X.25
M - Modified Snider
T - TABS
I - TCP/IP

e - Number of lines in the message (2, 3, or 4)

STATUS - Status

bb - Baud rate. For the physical link j alarm class.

bb	*Baud rate*
03	300 b/s
06	600 b/s
12	1200 b/s (default for CIU link)
24	2400 b/s
48	4800 b/s
96	9600 b/s
00	X.25 links

Note: X.25 links are set up to receive external timing only.

e - Backspace character echo

e	*Explanation*
0	Backspace is echoed (default)
1	Backspace is not echoed

k - Failure of the X.25 and/or TCP/IP link

k	*Explanation*
0	No alarm (default)
1	Minor alarm
2	Major alarm

q - ENQ/ACK Protocol Enable/Disable Control

q	*ENQ/ACK Protocol State*
0	Disabled
1	Enabled (default)

x - XON/XOFF Protocol Enable/Disable Control

x	*XON/XOFF Protocol State*
0	Disabled (default)
1	Enabled

m - Mode

m	*Status*
0	Idle
1	Input message in progress
2	Output message in progress

s - Status

This status applies to the following protocols:

Snider
Modified Snider
X.25 (Single or Range of Virtual Circuits)
TABS
TCP/IP

s	*Explanation*
0	In service
1	Out-of-service (OOS)

xxxx - Virtual circuit (VC)/session status (hexadecimal). Range 0000 through FFFF.

This status applies to the X.25 protocol and TCP/IP protocol. A four-digit hexadecimal number will be output in the protocol field whenever a specific VC or session number is not entered. Each digit represents four bits and each bit is associated with a particular VC/session. The four hexadecimal digits therefore represent 16 VCs/sessions. The bits are assigned to VCs/sessions from right to left in increasing order of VC/session number. That is, bit 1 represents VC/session 1 and bit 16 represents virtual circuit/session 16. See below where VC/session 16 marks the position of the bit representing virtual circuit/session 16 and VC/session 01 similarly marks the position of the bit representing VC/session 1.

```
hex        binary
xxxx       bbbbbbbbbbbbbbbb
           ^               ^
           VC/session 16   VC/session 01
```

The interpretation of the value of a particular bit is given in the explanation of variable s above. Some specific examples of the output are interpreted below.

xxxx	binary expansion	Explanation
0000	0000000000000000	All 16 VCs/sessions in service
0001	0000000000000001	VC/session 1 OOS, all others in service
0002	0000000000000010	VC/session 2 OOS, all others in service
8004	1000000000000100	VC/session 16 and 3 OOS, all others in service
FFFF	1111111111111111	All VCs/sessions are OOS

hh - Hardware status

hh	*Explanation*
03	Link hardware in service
04	Link hardware out of service
05	Link hardware pested for autonomous restoral

LNKL - Link Layer

b - Maximum number of outstanding I frames (1 through 7). Default is 7

eee - Acknowledgment timer (2 through 20 seconds). Default is 3 seconds

ggg - Disconnect (or Idle channel) timer (4 through 120 seconds). Default is 26 seconds

aa - Maximum number of frame transmissions (2 through 16) (including original transmission). Default is 7

A - Data link layer frame address A

B - Data link layer frame address B

PKTL - Packet layer

c - Window size (1 through 7). Default is 2

ddd - Packet size P (ddd) can be 128, 256, or 512 octets. Default is 128 octets

iii - Restart request response timer (10 through 180 seconds). Default is 180 seconds

jjj - Reset request response timer (10 through 180 seconds). Default is 180 seconds

kkk - Disconnect (or Idle channel) timer (10 through 180 seconds). Default is 180 seconds

lll - Data packet acknowledgement timer (10 through 200 seconds). Default is 200 seconds

mmm - Interrupt response timer (10 through 180 seconds). Default is 180 seconds

nn - Restart request retransmission counter (1 through 10). Default is 1

p - Reset request retransmission counter (1 through 3). Default is 1

q - Clear request retransmission counter (1 through 10). Default is 1

r - Data packet retransmission counter (0 through 3). Default is 0

ppss - Virtual circuit range

pp - Range of permanent virtual circuits (PVCs).
ss - Range of switched virtual circuits (SVCs).

The sum of the number of PVCs and SVCs must be equal to 16.

Table 1 shows the default values for these fields.

Table 1 and Table 2 show the acceptable values for these fields, allowing for an LCN numbering scheme of 00-255.

TABLE 1

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
00	16	00	16	--	01
01	15	01	15	01	02
02	14	02	14	01	03
03	13	03	13	01	04
04	12	04	12	01	05
05	11	05	11	01	06
06	10	06	10	01	07
07	09	07	09	01	08
08	08	08	08	01	09
09	07	09	07	01	10
10	06	10	06	01	11
11	05	11	05	01	12
12	04	12	04	01	13
13	03	13	03	01	14
14	02	14	02	01	15
15	01	15	01	01	16
16	00	16	00	01	--

TABLE 2

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
			0 ≤ nn ≤ 48		
20	nn	00	16	--	nn
21	nn	01	15	nn	nn+1
22	nn	02	14	nn	nn+2
23	nn	03	13	nn	nn+3
24	nn	04	12	nn	nn+4
25	nn	05	11	nn	nn+5
26	nn	06	10	nn	nn+6
27	nn	07	09	nn	nn+7
28	nn	08	08	nn	nn+8
29	nn	09	07	nn	nn+9
30	nn	10	06	nn	nn+10
31	nn	11	05	nn	nn+11
32	nn	12	04	nn	nn+12
33	nn	13	03	nn	nn+13
34	nn	14	02	nn	nn+14
35	nn	15	01	nn	nn+15
36	nn	16	00	nn	--
40	nn	00	16	--	nn+64
41	nn	01	15	nn+64	nn+65
42	nn	02	14	nn+64	nn+66
43	nn	03	13	nn+64	nn+67
44	nn	04	12	nn+64	nn+68
45	nn	05	11	nn+64	nn+69
46	nn	06	10	nn+64	nn+70
47	nn	07	09	nn+64	nn+71
48	nn	08	08	nn+64	nn+72
49	nn	09	07	nn+64	nn+73
50	nn	10	06	nn+64	nn+74
51	nn	11	05	nn+64	nn+75
52	nn	12	04	nn+64	nn+76
53	nn	13	03	nn+64	nn+77
54	nn	14	02	nn+64	nn+78
55	nn	15	01	nn+64	nn+79
56	nn	16	00	nn+64	--

TABLE 2 (continued)

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
			0 ≤ nn ≤ 48		
60	nn	00	16	--	nn+128
61	nn	01	15	nn+128	nn+129
62	nn	02	14	nn+128	nn+130
63	nn	03	13	nn+128	nn+131
64	nn	04	12	nn+128	nn+132
65	nn	05	11	nn+128	nn+133
66	nn	06	10	nn+128	nn+134
67	nn	07	09	nn+128	nn+135
68	nn	08	08	nn+128	nn+136
69	nn	09	07	nn+128	nn+137
70	nn	10	06	nn+128	nn+138
71	nn	11	05	nn+128	nn+139
72	nn	12	04	nn+128	nn+140
73	nn	13	03	nn+128	nn+141
74	nn	14	02	nn+128	nn+142
75	nn	15	01	nn+128	nn+143
76	nn	16	00	nn+128	--
80	nn	00	16	--	nn+192
81	nn	01	15	nn+192	nn+193
82	nn	02	14	nn+192	nn+194
83	nn	03	13	nn+192	nn+195
84	nn	04	12	nn+192	nn+196
85	nn	05	11	nn+192	nn+197
86	nn	06	10	nn+192	nn+198
87	nn	07	09	nn+192	nn+199
88	nn	08	08	nn+192	nn+200
89	nn	09	07	nn+192	nn+201
90	nn	10	06	nn+192	nn+202
91	nn	11	05	nn+192	nn+203
92	nn	12	04	nn+192	nn+204
93	nn	13	03	nn+192	nn+205
94	nn	14	02	nn+192	nn+206
95	nn	15	01	nn+192	nn+207
96	nn	16	00	nn+192	--

gghh - Virtual circuit group number

gg - Group number of all PVCs
hh - Group number for all SVCs (00 through 15)

APPL - Application layer

ASCS - Alarm surveillance and control, summary

ASCD - Alarm surveillance and control, detailed

PM - Performance monitoring

aa - Layer 2 address

ttt - Polling time

DBIT - D-bit

v - X.25 d-bit setting

v	*Explanation*
0	Off (unset) (acknowledgement done from local DTE). Default
1	On (set) (acknowledgement done from remote DTE)

DBIT is valid only on a per link basis and will be denied on an individual virtual circuit.

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
E1	Virtual circuit is not specified for X.25 link
E2	Invalid link number specified

UTL,QRY,STR,SYNC

UTILITY QUERY, SYNCHRONIZER

Explanation Of Command

This message requests a printout on the 12-byte status register and configuration of a synchronizer.

Command

[I.55201]

```
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a!
```

Completion Message

[O.55201]

```
M hh;mm;ss xy,ww n[vv] UTL QRY STR SYNC a  3 LN MSG:
<byte01> <byte02> <byte03> <byte04> <byte05> <byte06>
<byte07> <byte08> <byte09> <byte10> <byte11> <byte12> COMPL
```

Denial Message

[O.55201.01]

```
M hh;mm;ss xy,ww n[vv] UTL QRY STR SYNC a COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

STR - Status register

SYNC - Synchronizer

a - Synchronizer number (0 or 1)

byte01,
...,
byte12 - Status register data bytes

Each data byte contains eight bits. These bits are labeled, in the order they appear in the output, as abcdefgh. These bits are set for the following conditions:

byte01

- **a** - Unused by craft
- **b** - Sync core hardware fault
- **c** - Mate sync is bad or declared out of service
- **d** - Time base is bad or missing
- **e** - TLI 1 in service without errors
- **f** - TLI 2 in service without errors
- **g** - TLI 3 in service without errors
- **h** - TLI 4 in service without errors

byte02

- **a** - Timing Extractor Timing link 1 is in service and good
- **b** - Timing Extractor Timing link 2 is in service and good
- **c** - Timing Extractor Timing link 3 is in service and good
- **d** - Timing Extractor Timing link 4 is in service and good
- **e** - Timing Extractor Timing link 5 is in service and good
- **f** - Timing Extractor Timing link 6 is in service and good
- **g** - Timing Extractor Timing link 7 is in service and good
- **h** - Timing Extractor Timing link 8 is in service and good

byte03

a - Sync has been reset and awaits configuration
b - Hardware error on DPLL pack. See byte06 and byte07
c - Time base has an error, see byte09
d - PLL symmetry error, see byte08
e - Problem with cross-couple timing. See byte10 and byte11
f - Problem with CRO timing. See byte12
g - Unused bit
h - Unused bit

byte04 - Sync configuration data

ab - Sync architecture:

ab	*Explanation*
00	Sync is slave in master-slave system
01	Sync is master in master-slave system

cde - Operational stratum

cde	*Explanation*
000	Domestic stratum 3
001	CEPT local exchange
010	CEPT toll exchange
011	Domestic stratum 2

fg - PLL locking mode

fg	*Explanation*
00	Normal
01	Fast
10	Holdover

h - Unused by craft

byte05 - Sync configuration data

ab - Source of timing to which Sync is presently locking

ab	*Explanation*
00	Holdover (Not locking)
01	Timing link(s)
10	Cross couple
11	CRO (Clock Reference Oscillator)

cde - Active Link: Which timing link the Sync is locking to (This field is meaningful only if byte04 ab = 00 and byte05 ab = 01)

cde	Explanation
000	TLI 1, Link 0
001	TLI 1, Link 1
010	TLI 2, Link 0
011	TLI 2, Link 1
100	TLI 3, Link 0
101	TLI 3, Link 1
110	TLI 4, Link 0
111	TLI 4, Link 1

f - Unused by craft
g - Unused by craft
h - Unused by craft

byte06 - DPLL Hardware status. If any bit equals 1, a DPLL hardware failure is indicated

a - ROM error
b - RAM error
c - Phase/Frequency latch error
d - Loss of energy on 2.048 MHz output of frequency synthesizer
e - Loss of energy on 2.048 MHz output of phase shifter
f - Loss of energy on generated sync pulse
g - Loss of energy on time base strobe signal
h - Unused by craft

byte07 - DPLL Hardware status. If any bit equals 1, a DPLL hardware failure is indicated

a - Interrupt controller error
b - Interrupt holding register error
c - UART error
d - Control data readable output latch error
e-h - Unused bits

byte08 - PLL status

- **a** - PLL end of range indicator
- **b** - PLL excessive range error
- **c** - PLL real time violation
- **d** - Fast start timeout
- **e-h** - Unused bits

byte09 - Time base status

- **a** - Loss of energy for time base signal
- **b** - Time base I/O error
- **c** - Time base oscillator has drifted beyond its specified accuracy limit. (This condition is monitored only when the sync is the master timing source)
- **d** - Time base oven is cold. It must warm up for accurate holdover
- **e** - Unused bit
- **fgh** - Stratum of oscillator:

fgh	*Explanation*
000	TBS3, Domestic stratum 3
001	TBCL, CEPT local exchange
010	TBCT, CEPT toll exchange
011	TBS2, Domestic stratum 2

byte10 - Cross Couple Status

- **a** - Mate sync declared out-of-service by MC
- **b** - Mate sync hardware error
- **c** - Loss of energy on the 1 ms cross couple interrupt flag
- **d** - Loss of energy on the 30 ms cross couple interrupt flag
- **e** - Cross couple fast lock not working
- **f** - Sync's time base drifting with respect to CRO in master mode
- **g** - Cross couple timing problem
- **h** - Cross couple timing problem - mate sync's timing suspected

byte11 - Cross couple status

- **a** - Sync clocks not aligned, cross couple network may alarm
- **b-h** - Unused bits

byte12 - CRO status

The following bits are important only when the sync is a master timing source:

a - Timing from CRO bad or declared out of service by MC
b - CRO declared out of service by the MC
c - Loss of energy on the CRO input signal flag
d - In master mode, CRO drifting with respect to sync time bases
e-h - Unused bits

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
04	Subject entity is out of service
05	Subject entity is pested
16	SYNC TB is not equipped
17	SYNC is out of service
C8	Sync pack denied command

UTL,QRY,STR,SYNC,TLI

UTILITY QUERY, TIMING LINK INTERFACE

Explanation Of Command

This message requests a printout of the 3-byte status register of a timing link interface (TLI) for a specific synchronizer.

Command

[I.55311]

```
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m!
```

Completion Message

[O.55311]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m <byte01> \
<byte02> <byte03> COMPL
```

Denial Message

[O.55311.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

STR - Status register

SYNC - Synchronizer

a - Synchronizer number (0 or 1)

TLI - Timing link interface

m - Timing link interface number (1 through 4)

byte01,
...,
byte03 - Status register data bytes

Each data byte contains eight bits: abcdefgh. These bits are set for the following conditions:

byte01 - Overall TLI type and configuration

abcd	TLI type
0000	TXB1, 1.544 Mb/s DS1 Extractor
0001	TXB2, 2.048 Mb/s Primary Block (120 OHM) Extractor
0010	TXCC, Composite Clock Extractor
0011	TXUC, High Level Unipolar Clock Extractor
0100	TXRF, Basic System Reference Frequency and CEPT 2.048 MHz Sine (75 OHM) Extractor
0101	TDCC, 64 kb/s Composite Clock Distributor
0110	TDS2, 2.048 MHz Sine Distributor
0111	TXCP, CEPT 2.048 MHz Sine (120 Ohm) Extractor

e - TLI is grown
f - TLI out-of-service
g - TLI hardware error
h - Unused bit

byte02 - TLI phase detector and timing monitor circuitry status

- **a** - Hardware energy detector on the time base strobe signal has failed
- **b** - Loss of timebase strobe signal coming from the DPLL
- **c** - Hardware energy detector on the CRO signal has failed
- **d** - Loss of reference clock signal coming form the CRO

Note: Bits c and d have meaning only for TDCC and TDS2 TLIs and when the SYNC is a master timing source.

For TXB1 or TXB2 TLIs:

- **e** - Framer chip on side 0 has failed
- **f** - Framer chip on side 1 has failed

For TXCC TLIs:

- **e** - Out-of-lock detector on side 0 has failed
- **f** - Out-of-lock detector on side 1 has failed

Note: Bits e and f have meaning only for TE TLIs

byte03 - Hardware status and diagnostic results for Timing Distributor (TD) type TLI only

cc - Hexadecimal condition code

cc	*Explanation*
05	Subject entity is pested
16	SYNC TB is not equipped
17	SYNC is out of service
A5	(Timing Distributor) TLI is not equipped
C8	Sync pack denied command

UTL,QRY,STR,SYNC,TLI,SSP

UTILITY QUERY SSP

Explanation Of Command

This message requests a printout of the 5-byte status register for a select synchronizer port (SSP). The port is located on a timing link interface (TLI) circuit pack of a synchronizer.

Command

[I.55321]

```
UTL:FRM xy,SEQ ww:QRY,STR,SYNC a,TLI m,SSP b!
```

Completion Message

Nonhierarchical

[O.55321]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m SSP b \
[NPC abc]  2 LN MSG:
<byte1> <byte2> <byte3> <byte4> <byte5> COMPL
```

Hierarchical

[O.55321]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m SSP b \
[NPC uvmnp] 2 LN MSG
<byte1> <byte2> <byte3> <byte4> <byte5> COMPL
```

Denial Message

[O.55321.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY STR SYNC a TLI m SSP b  \
COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

STR - Status register

SYNC - Synchronizer

a - Synchronizer number (0 or 1)

TLI - Timing link interface

m - Timing link interface number (1 through 4)

SSP - Synchronization Sync Port

b - Synchronization Sync Port number (0 or 1)

NPC - Network processing circuit

abc - Nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

byte1, ... byte5
- Status register data bytes

Each data byte contains eight bits: abcdefgh. These bits are set for the following conditions:

byte1 - Overall status and configuration
- **a** - Timing link is grown
- **b** - Timing link out-of-service
- **c** - Timing link out-of-service; Timing signal from the link has serious enough errors that it will not be accepted as a source of reference clock
- **d** - TE TLI hardware problem; link will not be accepted as a source of reference clock
- **e-h** - Undefined

byte2 - Timing link priority field. This field ranges from a value of 1 (highest) to 8 (lowest) for master/slave synchronization networks and affects the choice of a link as the active timing source.

byte3 - Characteristics of the timing source

abc - Framing format (TXB1 or TXB2 TE TLIs only)

- For TXB1 TE TLIs:
  - 000 D4
  - 001 ESF
  - 010 DDS
- For TXB2 TE TLIs:
  - 000 CCS
  - 001 ERSM
  - 010 CAS0
  - 011 CAS1

de - Line format (TXB1 or TXB2 TE TLIs only)

- For TXB1 TE TLIs:
  - 00 Bipolar
  - 01 B8ZS
- For TXB2 TE TLIs:
  - 00 AMI
  - 01 HDB3

fgh - Frequency (TXUC TLIs only)

- 000 512 kHz
- 001 1.000 MHz
- 010 1.544 MHz
- 011 2.048 MHz
- 100 5.000 MHz

byte4 - Timing and line error information on the reference signal

- **a** - (TXB1, TXB2, or TXCC TE TLIs only) Carrier failure alarm/loss of signal flag
- **b** - Timing signal loss of energy
- **c** - (TXUC TE TLIs only) Autobaud failure flag: the frequency of the incoming unipolar clock is not one of the possible frequencies specified in <byte3, ghi>
- **d** - Not used
- **e** - Excessive jitter flag
- **f** - Phase step flag
- **g-h** - Not used

byte5 - Timing and line error information on the reference signal (TXB1 and TXB2 only)

- **a** - Out of frame flag
- **b** - Major framing error rate flag
- **c** - Minor framing error rate flag
- **d-h** - Not used

cc - Hexadecimal condition code

cc	*Explanation*
05	Subject entity is pested
16	SYNC TB is not equipped
17	SYNC is out of service
A2	SSP number is illegal
A5	(Timing Distributor) TLI is not equipped
C8	Sync pack denied command

UTL,QRY,STR,XC

UTILITY QUERY, STATUS REGISTER

Explanation Of Command

This message requests a printout of a status register for side 0 or side 1 of a cross-connect network.

Command

[I.55191]

UTL:FRM xy,SEQ ww:QRY,STR,XC a!

Completion Message

[O.55191]

M hh:mm:ss xy,ww n[vv] UTL QRY STR XC a pq rs COMPL

Denial Message

[O.55191.01]

M hh:mm:ss xy,ww n[vv] UTL QRY STR XC a DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

STR - Status register

XC - Cross-connect network

a - Cross-connect network side (0 through 1).

pq - Cross connect status register byte 1 (hexadecimal, all bits = 0)

rs - Cross connect status register byte 0 (hexadecimal)

rs	*Explanation*
01	In service
05	Active, in service
08	Pested
09	Pested and in service
0A	Pested and Failed
0D	Pested, active and in service

UTL,QRY,SYNC,TYPE

UTILITY QUERY, SYNCHRONIZER

Explanation Of Command

This message is used to query the priority status and types of the equipped timing link interfaces.

Command

[I.53001]

UTL:FRM xy,SEQ ww:QRY,SYNC,TYPE!

Completion Message

[O.53001]

```
M hh:mm:ss xy,ww n[vv] QRY SYNC TYPE  5 LN MSG:
TB TYPE     mnxyz mnxyz
TLI TYPE    pqxyz rsxyz  pqxyz rsxyz  pqxyz rsxyz  pqxyz rsxyz
SRC VALUE     p     p      p     p      p     p      p     p
SOURCE NPC  <xxx> <xxx>  <xxx> <xxx>  <xxx> <xxx>  <xxx> <xxx> COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

SYNC - Synchronizer

TYPE - Type

Request for provisioning information

TB - Time base

mnxyz - SYNC time base type

mnxyz	*Explanation*
-----	Not equipped
TB1yz	CEPT Local
TB2yz	CEPT Toll

TLI - Timing link interface

pqxyz - TLI type provisioned on synchronizer synchronization port (SSP) 0
rsxyz - TLI type provisioned on SSP 1

pqxyz *rsxyz*	*Explanation*
-----	Not equipped
TCxyz	64 kb/s composite clock timing extractor
TD1yz	64 kb/s composite clock timing distributor
TD2yz	Sinusoidal 2.048 MHz timing distributor
TPxyz	2.048 Mb/s primary block timing extractor (xyz should be same as for PBxyz/PCxyz NPCs)
TUxyz	Unipolar clock timing extractor
TRxyz	Basic system reference frequency timing extractor

For CRO applications in MASTER mode, TLI 3 is equipped with a Time Base circuit pack. In this case, "pqxyz" = "mnxyz", showing the Time Base type in the TLI 3 and TLI 4 positions.

SRC - Source

p - Source for priority for the given TLI/SSP

p	*Explanation*
-	Not equipped.
1-8	1 is the HIGHEST priority, 8 is the LOWEST priority

VALUE - Value

SOURCE - Source

NPC - Network processing circuit

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions

UTL,QRY,TGS

UTILITY QUERY TEST-ACCESS GROUP

Explanation Of Command

This message is used to get a listing of one or a range of Nx64Kbit/s test-access groups (TGs). To retrieve a listing of ALL test-access groups specify the maximum range (1-400).

Command

[I.53081]

`UTL:FRM xy,SEQ ww:QRY,TGS mmm[-nnn]!`

Completion Message

Nonhierarchical

[O.53081]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn]  p LN MSG:
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>
TG mmm, rrr, [s]abceee, sss, [t]defwww, NN, <mode>
TG nnn, rrr, [s]abceee, sss, [t]defwww, NN, <mode> {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-kkk] UEQD {EOM|COMPL}
```

Hierarchical

[O.53081]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn]  p LN MSG:
TG mmm, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode>
TG mmm, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode>
TG mmm, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode>
TG nnn, rrr, uvmnpeee, sss, wxkqrwww, NN, <mode> {EOM|COMPL}

or

M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-kkk] UEQD {EOM|COMPL}
```

Denial Message

[O.53081.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TGS mmm[-nnn] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TG - Test-access group

mmm - Test-access group number (001 through 400)

nnn - Test-access group number specifying the end of a TG range (002 through 400)

NPCTG - NPC (for) test group

rrr - NPCTG number supporting the east bundle (001 through 400)

sss - NPCTG number supporting the west bundle, may be same as rrr

[s]abc - 3- or 4-digit non-hierarchical NPC number designated as NPCTG rrr

[t]def - 3- or 4-digit non-hierarchical NPC number designated as NPCTG sss

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number designated as NPCTG rrr
wxkqr - Hierarchical NPC number designated as NPCTG sss

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

eee - Starting channel for east bundle

www - Starting channel for west bundle

mode - Test access mode

mode	*Explanation*
MON	Monitor
SPL	Split
HUB	Hub
LPD	Looped
IDLE	Idle
SPLNOY	Split with yellow alarm transmission disabled

UEQD - Unequipped

NN - TG width (01 through 31)

cc - Hexadecimal condition code

cc	*Explanation*
63	None of the designated TG(s) are equipped

UTL,QRY,TO

QUERY DESTINATION CROSS-CONNECT

Explanation Of Command

This command requests circuit provisioning information associated with the specified To-direction termination(s). The output messages generated depend upon:

- Whether or not the termination is assigned,
- Whether or not the termination is a test port termination,
- The type of network processing circuit for this termination,
- The far-end to which the termination is mapped (if any).

For this utility command, DACS II terminations can be divided into two categories:

- Multipoint termination, which is a multipoint circuit on a real digital multipoint bridge (DMB) in the digital signaling processing unit (DSPU), or in virtual network processing circuits.
- All other terminations.

If the network processing circuit (NPC) number specified in the command is the number of a remote terminal (DL) digroup currently under protection by the protection digroup (DGP), the execution of the command will be completed and DGP with its associated NPC number appears on the output message.

For a SLC® carrier denial message, the following appears on output: the bank identification number, operation mode, and digroup A NPC number for that remote terminal.

Command

Nonhierarchical

[I.52041]

```
UTL:[FRM xy,SEQ ww]:QRY,TO [s]abcddd[-eee]!
```

Hierarchical

[I.52041]

```
UTL:[FRM xy,SEQ ww]:QRY,TO uvmnpddd[-eee]!
```

Completion Message

Nonhierarchical

[O.52041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abckkk TYPE mnxyz  e LN MSG:
[<nonhierarchical_PDS_data_line>]
[<nonhierarchical_PDS_data_line>]
[<nonhierarchical_PDS_data_line>]
<nonhierarchical_PDS_data_line> {EOM|COMPL}
            .
            .
            .
[M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abclll TYPE mnxyz  e LN MSG:
[<nonhierarchical_PDS_data_line>]
[<nonhierarchical_PDS_data_line>]
[<nonhierarchical_PDS_data_line>]
<nonhierarchical_PDS_data_line> COMPL]
```

nonhierarchical_PDS_data_line may take on the following forms:

Format 1 Data Line: For One-Way, Two-Way, and Broadcast Cross-Connections

```
[t]defiii ppqqq[ <tc>[ <sc>]][ NAM]
[CUS][ RDC][ {UTST {TP kk|TG mmm}|ROLL}][ {ONEWAY|BCAST}][ TLA s]
```

Format 2 Data Line: For DMB to non-DMB Cross-Connections

```
[t]defiii ppqqq fmd,tmd snn,smm nn ee <tc>[ NAM]
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ NTR r][ TLA s]
```

Format 2a Data Line: For VI to non-VI Cross-Connections

```
[t]defiii ppqqq fmd,tmd <tc>[ NAM]
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ TLA s]
```

Format 3 Data Line: For DMB to DMB Cross-Connections

```
[t]defiii ppqqq fmd,tmd snn,smm vv ww spp,sqq tt uu <tc>
[CUS][ RDC][ UTST TP kk][ NTR r][ TLA s]
```

Format 4 Data Line: Test Access to a Cross-Connection or Unmapped Termination

```
{TP kk|TG mmm} <tsm> l[vv] <tc>[ <sc>][ NAM] p [t]ghijjj q [t]jklnnn
[CUS][ RDC][ {ONEWAY|BCAST}][ NTR r][ TLA s]
```

Format 5 Data Line: For Subrate Cross-Connections

Not applicable.

Format 6 Data Line: For Subrate Cross-Connections involving test access

Not applicable.

Format 7 Data Line: For TS0 to non-TS0 Cross-Connections

```
[t]defiii ppqqq {PFW(abcdefg,ijklmno)|NFW}[ <tc>][ NAM]
[BCAST][ {UTST {TP kk|TG mmm}|ROLL}][ TLA s]
```

Format 8 Data Line: For E1 or T1 to SDxyz Cross-Connections

```
[t]defiii ppqqq [{UTST {TP kk|TG mmm}|ROLL}]
```

Note: Formats 1 through 4 data lines are output as either one or two lines. The second line is output only if any of its optional fields are present.

[O.52042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abchhh TYPE mnxyz  2 LN MSG:
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}
```

Hierarchical

[O.52041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpkkk TYPE mnxyz  e LN MSG:
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
<hierarchical_PDS_data_line> {EOM|COMPL}
            .
            .
            .
[M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnplll TYPE mnxyz  e LN MSG:
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
[<hierarchical_PDS_data_line>]
<hierarchical_PDS_data_line> COMPL]
```

hierarchical_PDS_data_line may take on the following forms:

Format 1 Data Line: For One-Way, Two-Way, and Broadcast Cross-Connections

```
wxkqriii ppqqq[ <tc>[ <sc>]][ NAM]
[CUS][ RDC][ {UTST {TP kk|TG mmm}|ROLL}][ {ONEWAY|BCAST}][ TLA s]
```

Format 2 Data Line: For DMB to non-DMB Cross-Connections

```
wxkqriii ppqqq fmd,tmd snn,smm nn ee <tc>[ NAM]
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ NTR r][ TLA s]
```

Format 2a Data Line: For VI to non-VI Cross-Connections

```
wxkqriii ppqqq fmd,tmd <tc>[ NAM]
[CUS][ RDC][ {UTST TP kk|ROLL}][ ONEWAY][ TLA s]
```

Format 3 Data Line: For DMB to DMB Cross-Connections

```
wxkqriii ppqqq fmd,tmd snn,smm vv ww spp,sqq tt uu <tc>
[CUS][ RDC][ UTST TP kk][ NTR r][ TLA s]
```

Format 4 Data Line: Test Access to a Cross-Connection or Unmapped Termination

```
{TP kk|TG mmm} <tsm> l[vv] <tc>[ <sc>][ NAM] p edhfgjjj q opjstnnn
[CUS][ RDC][ {ONEWAY|BCAST}][ NTR r][ TLA s]
```

Format 5 Data Line: For Subrate Cross-Connections

Not applicable.

Format 6 Data Line: For Subrate Cross-Connections involving test access

Not applicable.

Format 7 Data Line: For TS0 to non-TS0 Cross-Connections

```
wxkqriii ppqqq {PFW(abcdefg,ijklmno)|NFW}[ <tc>][ NAM]
[BCAST ][ {UTST {TP kk|TG mmm}|ROLL}][ TLA s]
```

Format 8 Data Line: For E1 or T1 to SDxyz Cross-Connections

```
wxkqriii ppqqq [{UTST {TP kk|TG mmm}|ROLL}]
```

Note: Formats 1 through 4 data lines are output as either one or two lines. The second line is output only if any of its optional fields are present.

[O.52042]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnphhh TYPE mnxyz  2 LN MSG:
UASGN[ <tc> DCC][ CUS][ UTST {TP kk|TG mmm}][ cc] {EOM|COMPL}
```

Denial Message

Nonhierarchical

[O.52041.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcddd[-eee] \
TYPE ----- UEQD DNY
```

[O.52041.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abcddd[-eee] \
TYPE mnxyz RNGIE DNY
```

Hierarchical

[O.52041.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpddd[-eee] \
TYPE ----- UEQD DNY
```

[O.52041.02]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnpddd[-eee] \
TYPE mnxyz RNGIE DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TO - To

[s]abc - The 3- or 4-digit nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number

- **uv** - Unit number
- **m** - Module number
- **np** - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

ddd - Beginning range channel or conference number
eee - End range channel or conference number
kkk - Mid-range channel or conference number
lll - Mid-range channel or conference number
hhh - Typical midrange channel or conference number

Valid values are given below

Channel numbers
000-031 CEPT

000-127 (C-bit processing)

Conference numbers
001-500 (Virtual NPC)

001-085 (MB NPC)

UASGN - Unassigned

DCC - Disconnect code

tc - Trunk conditioning

Represents the desired cross-connected signaling and insertion word applied when a failure occurs. A trunk conditioning specification consists of a combination of a signaling specification followed by an insertion word (IW) specification.

Valid values are listed below:

tc	*signaling modes*
TC(ijkl,mnop) IW pq	**2-way 4-state**
TC(----,mnop) IW pq	**1-way 4-state**
TC(ab,cd) IW pq	**2-way 16-state**
TC(--,cd) IW pq	**1-way 16-state**
TRSP IW pq	
TRSP	**(DMB to DMB)**

Note: For CEPT to CEPT connections, the insertion word may be specified by the USER if the NPC is provisioned for firmware control. Otherwise, the insertion word defaults to X'FF.

Note: For connection of Channel Time Slot 16 (CTS 16) to the CPR pack, the tc field is not output. Also the only optional keywords that can be output are **[CUS][RDC]**.

sc - Signaling control

This variable represents the optional signaling bit control specification and is used only in the Channel Associated Signaling (CAS) to CAS application with CAS signaling.

If this option is not used, all four cross-connected time slot 16 (**abcd**) signaling bits in each direction will be cross-connected unchanged.

Signaling control is specified as follows:

SC(abcd,efgh)

abcd - Time slot 16 signalling bits, From direction
efgh - Time slot 16 signalling bits, To direction

All 8 bits can be controlled independently. Control is applied by replacing each character in variable **abcd** or **efgh** with the appropriate control character.

The allowable control characters are:

Bit Setting	*Explanation*
P	Pass through unchanged
V	Pass through inverted
0	Set output to 0
1	Set output to 1

The effect of the **V** control character depends upon whether the connection is international or gateway.

International:	Inversion takes place on both the From and To-direction sides. The net effect is to cancel out the inversion. Hence it will appear that no inversion took place.
Gateway:	Inversion takes place only on the international side of the connection. The effect is an inversion.

MD - Mode

g[g] - Mode of operation of the RT or DCLU

g[g]	*Explanation*
1	SLC 96 Carrier Mode 1
3	SLC 96 Carrier Mode 3
C	SLC Series 5 Carrier Feature Package C (FPC)

NAM - No A to Mu (conversion)

In all cases where the NAM keyword is output, the A law to μ law and and μ law to A law code translators on the PA, PB and PC type NPCs are disabled.

Presence of the NAM keyword in the output reports on the conversion mode of the circuit, not necessarily on the input keyword used to create it, since NAM is the default case for CEPT to CEPT two — point connections.

For multipoint connections the conference mode is established as NAM or A law to μ law when the first CEPT leg is connected.

The NAM keyword is output only in the following cases:

two—point:

- CEPT to CEPT
- CEPT to North American

multi—point:

- CEPT only or GATEWAY conference:
  NAM keyword is output ONLY if conference mode is NAM

  This applies to both the CEPT and North American legs of a GATEWAY conference.

The NAM keyword is *NOT* output in the following cases:

two—point:

- North American to North American

multi—point:

- CEPT only or GATEWAY conference:
  NAM keyword is NOT output if conference mode is A law to μ law.
- North American only conference:
  Here the conference mode is NAM.

Note: For purposes of this utility, a CEPT only multipoint conference created without the NAM keyword is considered a conversion type conference, *even though all data is externally transmitted in A law,* because canceling A law to μ law and μ law to A law conversions are done. This type of conference has more quantization noise than a true NAM connection such as a CEPT to CEPT two — point.

[t]defiii

- Nonhierarchical FROM termination

[t]def - The 3- or 4-digit nonhierarchical NPC number

Valid values are identical to those for [s]abc

iii - Channel number

Valid values are identical to those for ddd

ppqqq - NPC type of the FROM termination

To interpret values of ppqqq see the table following mnxyz below.

Note: If ppqqq = MB100 or VI100,
then FROM is a multipoint termination and TO is not.

If ppqqq = PAxyz, PBxyz, or PCxyz, then TO is a multipoint termination,
FROM is not.

TYPE - Type

mnxyz - NPC Type

mn	*Explanation*
CB	C-Bit processing NPC
MB	Digital multipoint bridge NPC
PA	Primary block NPC (120- or 75-Ohm)
PB	Primary block NPC (120-Ohm twisted pair)
PC	Primary block NPC (75-Ohm coaxial)
SD	Digital Signal Processing Application NPC on TG193 pack
ST	Digital Signal Processing Circuit Pack (2 NPCs per card)
VI	Virtual NPC

xyz - Multiframe, line and signaling, and channel numbering formats

For a listing of the NPC parameters, refer to Chapter 2, Command
and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

e - Number of lines in the message segment

SECH - Subrate establish channel

CUS - Customer

The circuit is a customer controlled circuit

RDC - Red circuit

The circuit is a red circuit

UTST - Under test

The circuit is under test

ONEWAY - One-way

The circuit is a one-way connection

BCAST - Broadcast

The circuit is a broadcast-type connection

ROLL - Roll

Bridged leg from Roll procedure

TLA - Terminate and leave active

s - Terminate and leave state

s	*state*
F	FROM terminated
T	TO terminated
B	BOTH terminated

fmd - FROM multipoint circuit mode of the connection
tmd - TO multipoint circuit mode of the connection

For DMB circuits, there are four possible values for fmd and tmd:

fmd, tmd	*Explanation*
SYM	For legs of a symmetrical multipoint circuit (must be a DMB channel)
BRD	For nonbackbone (tributary) legs of a broadcast multipoint circuit (must be a DMB channel)
BBL	For the backbone leg of a broadcast multipoint circuit (must be a DMB channel)
LEG	For the end that does not terminate on the multipoint circuit (must be an FTU/DS3U channel)

For virtual NPC circuits, there are three possible values for fmd and tmd:

fmd, tmd	*Explanation*
BRD	For nonbackbone legs of a broadcast multipoint circuit (must be a virtual NPC channel)
BBL	For the backbone leg of a broadcast multipoint circuit (must be a virtual NPC channel)
LEG	For the end that does not terminate on the multipoint circuit (must be FTU/DS3U channels)

snn - Incoming gain adjust parameters for the DMB NPC
smm - Outgoing gain adjust parameters for the DMB NPC

s - Sign (+ or -)
nn - Incoming gain adjust value (-90 through +88)
mm - Outgoing gain adjust value (-90 through +88)

These are the parameters requested for the TO termination. Values are given in steps of two and the units are tenths of a db.

For type VI100 NPCs snn and smm will be output as "---"

The special value --- (three dashes) can be used for either snn or smm (but not both) when no change is to be made to that parameter. This feature allows changing only one of the two parameters if desired. Also, if the cross-connection was provisioned with the NTR (no transmit) option, the gain adjustment in the direction for which transmission is shut off MUST be ---.

nn - Noise guard setting (in dB) for the FROM/TO NPC

The following default values apply:

For Symmetrical bridges Default: nn = -18 db
For Polling circuits Default: nn = 0 db

Valid values are listed below:

nn

00 db
06 db
12 db
18 db
-- (For VI100 NPCs)

ee - Echo suppression setting (in dB) for the FROM/TO NPC

The following default values apply:

For Symmetrical bridges Default: ee = -18 db
For Polling circuits Default: ee = 0 db

Valid values are listed below:

ee

00 db
06 db
12 db
18 db
-- (For VI100 NPCs)

spp - Incoming gain adjust parameters for the TO DMB NPC
sqq - Outgoing gain adjust parameters for the FROM DMB NPC

See snn and smm above for explanation and values.

vv - Noise guard setting (in dB) for the FROM DMB NPC
tt - Noise guard setting (in dB) for the TO DMB NPC

See nn above for default values.

vv, tt

00 db
06 db
12 db
18 db

ww - Echo suppression setting (in dB) for the FROM DMB NPC
uu - Echo suppression setting (in dB) for the TO DMB NPC

See ee above for default values.

ww, uu

00 db
06 db
12 db
18 db

NTR - No transmit

r - Direction which has no transmission

r	*Explanation*
F	FROM
T	TO

TP - Test port

kk - Test port number (01 through 96)

TG - Test (access) group

mmm - Test group number (001 through 400)

tsm - Test mode

Values are listed below:

tsm	*Mode*
HUB	Hubbed
LPD	Looped
MON	Monitor
SPL	Split
TPR	Test Port Released
TGR	Test Group Released
SPLNOY	Split with yellow alarm transmission disabled

l - Link used to access this test port (0 if mode is released)

vv - Virtual circuit number of an X.25 link used to access this test port (01 through 16)

p - Channel assignment

Valid values are listed below:

p	*Explanation*
F	FROM side of circuit under test
H	HIGH channel of hubbed test port (only for HUB test mode)

q - Channel assignment

Valid values are listed below:

q	*Explanation*
T	TO side of circuit under test
L	LOW channel of hubbed Test Port (only for HUB test mode)

[s]ghijjj
- Nonhierarchical FROM, HIGH, or DSPP NPC number

If test access is made to a digital signal processing platform (used for signaling conversion between an E1 and a T1 NPC) then [s]ghijjj is the SP100 NPC.

[t]jklnnn
- Nonhierarchical TO, LOW, E1, or T1 NPC number

If test access is made to a digital signal processing platform (used for signaling conversion between an E1 and a T1 NPC) then [t]jklnnn is the E1 or T1 NPC.

edhfg - Hierarchical FROM/HIGH
opjst - Hierarchical TO/LOW

ed,op - Unit number
h,j - Module number
fg,st - NPC number within module

Valid values are identical to those for uvmnp

[s]ghi,[t]jhk
- The 3- or 4-digit nonhierarchical NPC number

Valid values are identical to those for [s]abc.

jjj,nnn
- Channel or time slot number

Valid values are identical to those for ddd above.

PFW - Pseudo frame word

abcdefg
- Pseudo frame word value (TO to FROM direction)

ijklmno
- Pseudo frame word value (FROM to TO direction)

The PFW keyword is used to select Mode 1 of TS0 Cross-Connect. In both directions of transmission the Frame Word is replaced by a Pseudo Frame Word. The pseudo frame word value replaces the Frame Alignment Signal (Bits 2 - 8) of the transmitted Frame Word. The bit assignments for abcdefg and ijklmno are shown below:

```
2345678      - bit numbers
abcdefg
ijklmno
```

Variables a through g and i through o may each be set to 0 or 1.

0 - Sets the corresponding bit to 0
1 - Sets the corresponding bit to 1

NFW - Non frame word

The NFW keyword is used to select Mode 2 of TS0 Cross-Connect. In both directions of transmission the Frame Word is replaced by the Non Frame Word, thus repeating the content of the Non Frame Word in consecutive frames.

UEQD - Unequipped

RNGIE - Range input error

COND - Condition

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
E3	One way unassigned channel/NPC in QRY,TO
62	Invalid channel number
7F	NPC is not added
91	SR NPC was specified - not allowed
F7	Corresponding NPC for virtual channel is not provisioned
B4	NPC is channelized type

UTL,QRY,TO

NON-CHANNELIZED UTILITY QUERY TO

Explanation Of Command

This command requests provisioning information for a specific TO non-channelized network processing circuit.

Command

Nonhierarchical

[I.52061]

```
UTL:FRM xy,SEQ ww:QRY,TO [s]abc!
```

Hierarchical

[I.52061]

```
UTL:FRM xy,SEQ ww:QRY,TO uvmnp!
```

Completion Message

Nonhierarchical

[O.52061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abc TYPE mnxyz  2 LN MSG:
[[t]ghi mnxyz][ AIS][ CUS][ RDC][ {UTST jj|ROLL}]\
[ {ONEWAY|BCAST|UASGN[ kk]}][ TLA s] COMPL
```

Usage: If the NPC is involved in test access,

[O.52061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abc TYPE mnxyz  2 LN MSG:
[t]ghi [u]klm FAD <tmode> <link number>  COMPL
```

Hierarchical

[O.52061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnp TYPE mnxyz  2 LN MSG:
[wxkqr mnxyz][ AIS][ CUS][ RDC][ {UTST jj|ROLL}]\
[ {ONEWAY|BCAST|UASGN[ kk]}][ TLA s] COMPL
```

Usage: If the NPC is involved in test access,

[O.52061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnp TYPE mnxyz  2 LN MSG:
wxkqr ghijk FAD <tmode> <link number>  COMPL
```

Denial Message

Nonhierarchical

[O.52061.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO [s]abc TYPE mnxyz COND cc DNY
```

Hierarchical

[O.52061.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TO uvmnp TYPE mnxyz COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of TO non-channelized NPC

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]ghi - The 3- or 4-digit nonhierarchical number of FROM NPC mapped to TO NPC, or FROM NPC in the test access connection (--- for unassigned NPC)

[u]klm - The 3- or 4-digit nonhierarchical number of TO NPC in the test access connection

----- or ------- for unassigned NPC

wxkqr - Hierarchical number of FROM NPC mapped to TO NPC

ghijk - FROM NPC in the test access connection.

mnxyz - NPC type of TO or FROM NPCs

mn	Explanation
PA	CEPT NPC (75- or 120-ohm)
PB	CEPT NPC (120-ohm twisted pair)
PC	CEPT NPC (75-ohm coaxial)
--	- Unequipped or unassigned NPC

For a listing of the NPC parameters, refer to Chapter 2, Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

Note: xyz values for non-channelized NPC are xCz and xDz only.

AIS - Alarm indication signal

The idle code for non-channelized cross-connection

CUS - Customer-controlled circuit

RDC - Red circuit

UTST - Circuit is under test

jj - is the FAD NPC number.

If MONEF is in use and there are two FADS, then jj reports the lower FAD NPC number.

tmode - Test access mode

FAD - Facility access digroup

TERM - Termination

F - From termination
T - To termination
B - Both terminations

ONEWAY - One-way connection

BCAST - Circuit is part of a broadcast connection

UASGN - Unassigned

TLA s - Connection is terminated in direction s (F-From,T-To,B-Both)

ROLL - Bridged facility from Roll procedure

kk - Hexadecimal completion condition code

kk	*Explanation*
E3	One way circuit. This means that although the receive side of the NPC is unassigned, the transmit side of the NPC is one-way connected. Thus, this NPC cannot be subsequently two-way connected.
E4	Broadcast circuit. This means that although the receive side of the NPC is unassigned, the NPC is the backbone leg of a NTR type broadcast circuit. Thus, this NPC cannot be subsequently cross-connected, either one-way or two-way.

cc - Hexadecimal condition code

cc	*Explanation*
15	NPC is unequipped
B4	NPC is channelized type
E4	Broadcast unassigned channel/NPC in QRY,TO

UTL,QRY,TOD,CFA,MONDAT

RETRIEVE PERFORMANCE MONITORING REPORT SCHEDULE

Explanation Of Command

This command is used to query the scheduled time for the daily report of facility performance parameter threshold alarms (FAC) and carrier failure alarms (CFA). This command is used to query the scheduled time for the daily report of primary rate performance parameter threshold alarms (PRIM) and carrier failure alarms (CFA). On a frame with the GATEWAY feature enabled, the normal output response message format includes both the North American and International parameters.

Command

[I.51071]

UTL:FRM xy,SEQ ww:QRY,TOD[,CFA][,MONDAT]!

Completion Message

[O.51071]

M hh:mm:ss xy,ww n[vv] QRY TOD PRIM ghij[MDNT hrmnsc][MONDAT hrmnsc] COMPL

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

TOD - Time of day

CFA - Carrier Failure Alarm

Used to request the time of day for the daily CFA and FAC/PRIM report for non-PA and non-ANSI type NPCs.

MONDAT - Daily monitor interval starting time

Used to request the time of day for the daily report for PA NPCs.

FAC - Facility

Facility performance alarm report keyword.

PRIM - Primary Alarm/Parameter - count report keyword

Request that reporting of alarms specified by efgh be enabled. This will cause only a subset of the daily facility report to be output.

ghij - Primary Alarm/Parameter-count reports enable.

This field is a 4-digit, hexadecimal number. To enable alarm/ parameter-count reports for a particular facility parameter, set the appropriate bit of efgh to 1. A bit set to 0 will disable the alarm report.

hex digit	*bit*	*PB/PC NPC parameters*
j	0	PBA (Primary Block Alarm)
	1	LOFA (Loss of Frame Alignment)
	2	SLIP
	3	US (Unavailable Seconds)
i	4	ERS (Errored Seconds)
	5	SERS (Severely Errored Seconds)
	6	DM (Degraded Minutes)
	7	CRC (Cyclic Redundancy Checksum)
h	8	MER (Multiframe Alignment Error)
	9	FRER (Frame Errors)
	10	BER (Minor Bit Error Rate; for NPCs with MBER feature)
	11	Not assigned
g	12	Not assigned
	13	Not assigned
	14	Not assigned
	15	Not assigned

hex digit	*bit*	*PA NPC parameters*
j	0	PBA (Primary Block Alarms; Default)
	1	OFS (Out-of-Frame Seconds)
	2	CSS (Controlled Slip Seconds)
	3	UAS (Unavailable Seconds)
i	4	ES (Errored Seconds)
	5	SES (Severely Errored Seconds)
	6	CV (Code Violations)
	7	CRC (CRC4 Block Errors)
h	8	MER (Multiframe Errors)
	9	FRER (Framing Errors)
	10	BER (Minor Bit Error Rate; for NPCs w/ MBER feature)
	11	UATC (Unavailable Time Count)
g	12	FUAS (Far End Unavailable Seconds)
	13	FSES (Far End Severely Errored Seconds)
	14	FES (Far End Errored Seconds)
	15	FEBE (Far End Block Error)

If CFA is specified, the PBA and ERS/ES bits are enabled.

MDNT - Midnight

The MDNT will be shown in the output when the CFA option is entered.

hrmnsc - Time of the scheduled performance parameter report

UTL,QRY,TPS

UTILITY QUERY, TEST PORTS

Explanation Of Command

This command reports the network processing circuits (NPCs) designated for test ports, their designation **n**, and the test modes of each equipped test port. There cannot be any unequipped test ports with numbers less than that of the highest equipped test port **within** an NPCTP since in each NPC they must be grown in numerical order starting with the lowest numbered test port within each NPCTP (01, 13, 25, etc.).

All non-channelized test NPCs or Facility Access Digroups (FADs) will be listed together in one or more segments. Each FAD number is the same as the NPC number, and is given with its test mode.

Even though test ports that are established to a Digital Signal Processing Platform (DSPP) application (such as the DDS Subrate and MJU application, the X.50 International subrate application, or the DMB application) are put into monitor or split mode within the application, this command will always display a Test Port as a split connection as long as it is connected to an application.

Command

[I.53061]

`UTL:FRM xy,SEQ ww:QRY,TPS!`

Completion Message

Nonhierarchical

[O.53061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk  e LN MSG:
NPCTP n NPC [s]abc <md01> <md02> ...  <md12>
NPCTP n NPC [s]abc <md13> <md14> ...  <md24>
NPCTP n NPC [s]abc <md25> <md26> ...  <md36>
NPCTP n NPC [s]abc <md37> <md38> ...  <md48> <EOM|COMPL>

M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk  e LN MSG:
NPCTP n NPC [s]abc <md49> <md50> ...  <md60>
NPCTP n NPC [s]abc <md61> <md62> ...  <md72>
NPCTP n NPC [s]abc <md73> <md74> ...  <md84>
NPCTP n NPC [s]abc <md85> <md86> ...  <md96> <EOM|COMPL>
```

[O.53061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk  e LN MSG:
[s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>
[s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>
[s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>
[s]abc,<tmode>  [s]abc,<tmode> EOM
                        .
                        .
                        .

M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk  e LN MSG:
[s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>
[s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>
[s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>  [s]abc,<tmode>
[s]abc,<tmode>  [s]abc,<tmode> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY TPS COMPL
```

[O.53062]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS 00 NPC [0]000 COMPL
```

Hierarchical

[O.53061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk  p LN MSG:
NPCTP n NPC uvmnp <md01> <md02> ...  <md12>
NPCTP n NPC uvmnp <md13> <md14> ...  <md24>
NPCTP n NPC uvmnp <md25> <md26> ...  <md36>
NPCTP n NPC uvmnp <md37> <md38> ...  <md48> <EOM|COMPL>

M hh:mm:ss xy,ww n[vv] UTL QRY TPS kk  p LN MSG:
NPCTP n NPC uvmnp <md49> <md50> ...  <md60>
NPCTP n NPC uvmnp <md61> <md62> ...  <md72>
NPCTP n NPC uvmnp <md73> <md74> ...  <md84>
NPCTP n NPC uvmnp <md85> <md86> ...  <md96> <EOM|COMPL>
```

[O.53061]

```
M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk  p LN MSG:
uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>
uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>
uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>
uvmnp,<tmode> EOM
                        .
                        .
                        .

M hh:mm:ss xy,ww n[vv] UTL QRY FAD kk  p LN MSG:
uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>
uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>
uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>  uvmnp,<tmode>
uvmnp,<tmode> EOM

M hh:mm:ss xy,ww n[vv] UTL QRY TPS COMPL
```

[O.53062]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TPS 00 NPC 00000 COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

TPS - Test ports

kk - Total number of test ports equipped or total number of equipped non-channelized test NPCs in segment

NPC - Network processing circuit

[s]abc - The 3- or 4-digit nonhierarchical NPC number of test NPC

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical NPC number of test NPC

uv - Unit number
m - Module number
np - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

NPCTP - NPC for test ports

FAD - Facility access digroup

Non-channelized test NPC

n - 64Kbit/s NPCTP number (1 through 8)

md01-md96
- Mode of 64Kbit/s Test Port number nn (01 through 96)

mdnn	*Definition*
TPR	Test Port Released
MON	Monitor
SPL	Split
HUB	Hubbed
LPD	Looped
---	Not equipped

tmode - Test mode of non-channelized test NPC

tmode	*Definition*
MONE	Monitor E (FROM)
MONF	Monitor F (TO)
MONEF	Monitor E and F
SPLTA	Split A
SPLTB	Split B
SPLTAB	Split A and B
SPLTE	Split E
SPLTF	Split F
SPLTEF	Split E and F
LOOPE	Loop E
LOOPF	Loop F
LPBKT	Loopback Test
HUB	Hub

e - Number of lines in message (2 through 5)

UTL,QRY,TS0,NPC

QUERY NPC TIME SLOT ZERO

Explanation Of Command

This message prints out the status of the provisioned transmit or of the actual received spare International, National, and Remote Alarm Indication (A) Bits in time slot 0 of a specified network processing circuit (NPC) or range of NPCs. If an NPC range was specified in the input command, the following floating window rules apply:

— Unequipped NPCs within the requested range will be skipped.

— If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.

— If an endpoint of the requested range is in a CEPT gap, then the NPCs in the portion of the range which is in the gap will be denied.

Command

Nonhierarchical

[I.56321]

```
UTL:FRM xy,SEQ ww:QRY,TS0 s,NPC [s]abc[-[t]def]!
```

Hierarchical

[I.56321]

```
UTL:FRM xy,SEQ ww:QRY,TS0 s,NPC uvmnp[-wxkqr]!
```

Completion Message

Nonhierarchical

[O.56321]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC [s]abc abcdefgh COMPL
                                .
                                .
                                .
[M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC [t]def abcdefgh COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC [s]abc-[t]def COMPL]
```

Hierarchical

[O.56321]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC uvmnp abcdefgh COMPL
                                .
                                .
                                .
[M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC wxkqr abcdefgh COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC uvmnp-wxkqr COMPL]
```

Denial Message

Nonhierarchical

[O.56321.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC [t]ghi COND cc DNY
```

Hierarchical

[O.56321.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0 s NPC edhfg COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

NPC - Network processing circuit

[s]abc - Nonhierarchical NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[t]def - Nonhierarchical NPC number

Values are identical to those for [s]abc.

uvmnp - Hierarchical NPC number
wxkqr - Hierarchical NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uv,wx - Unit number
m,k - Module number
np,qr - NPC number

TS0 - Time slot 0

s - Direction of transmission for time slot 0 bits

s	*Explanation*
T	Provisioned time slot 0 values
R	Received time slot 0 values

[t]ghi - The 3- or 4-digit nonhierarchical NPC number (abc through def)

[t]jkl - The 3- or 4-digit nonhierarchical NPC number (abc through def)

edhfg - Hierarchical NPC number (uvmnp through wxkqr)
opjst - Hierarchical NPC number (uvmnp through wxkqr)

ed,op - Unit number (uv through wx)
h,j - Module number (m through k)
fg,st - NPC number (np through qr)

abcdefgh
- Eight individual variables.

These represent the provisioned or received state of the time slot 0 bits.

For Clear-2Mbit/s NPCs, dashes ("--------") will be shown in place of TS0 bits.

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
10	Unit is not equipped
11	UC is out of service
13	FTMI is not equipped
14	FTMI is out of service
15	NPC is unequipped
25	FTMI type error
26	NPC type error
0B	Invalid CEPT NPC
46	NPC Failed or Out of Service

UTL,QRY,TS0M,NPC

QUERY TIME SLOT ZERO MONITOR

Explanation Of Command

This message checks whether the received spare national and international bits in time slot 0 are provisioned for monitoring. This information may be requested for a single network processing circuit (NPC) or a range of circuits. If an NPC range was specified in the input command, the following floating window rules apply:

— Unequipped NPCs within the requested range will be skipped.

— If a CEPT gap is within the requested range, the NPCs in the gap will be skipped.

— If an endpoint of the requested range is in a CEPT gap, then the NPCs in the portion of the range which is in the gap will be denied.

Command

Nonhierarchical

[I.56323]

```
UTL:FRM xy,SEQ ww:QRY,TS0M,NPC [s]abc[-[t]def]!
```

Hierarchical

[I.56323]

```
UTL:FRM xy,SEQ ww:QRY,TS0M,NPC uvmnp[-wxkqr]!
```

Completion Message

Nonhierarchical

[O.56323]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC [s]abc abcdefgh TS0MBOFL v \
COMPL
                              .
                              .
                              .

[M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC [t]def abcdefgh TS0MBOFL v \
COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC [s]abc-[t]def COMPL]
```

Hierarchical

[O.56323]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC uvmnp abcdefgh TS0MBOFL v \
COMPL
                              .
                              .
                              .

[M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC wxkqr abcdefgh TS0MBOFL v \
COMPL]

[M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC uvmnp-wxkqr COMPL]
```

Denial Message

Nonhierarchical

[O.56323.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC [v]ghi[-[u]jkl] COND cc DNY
```

Hierarchical

[O.56323.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TS0M NPC edhfg[-opjst] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

[s]abc - The 3 or 4 digit nonhierarchical starting NPC number

[t]def - The 3 or 4 digit nonhierarchical ending NPC number

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical starting NPC number
wxkqr - Hierarchical ending NPC number

uv,wx - Unit number
m,k - Module number
np,qr - NPC number within the module

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

[v]ghi - The 3- or 4-digit nonhierarchical NPC number ([s]abc through [u]jkl)

[u]jkl - The 3- or 4-digit nonhierarchical NPC number ([v]ghi through [t]def)

edhfg - Hierarchical NPC number (uvmnp through opjst)
opjst - Hierarchical NPC number (edhfg through wxkqr)

ed,op - Unit number (uv through wx)
h,j - Module number
fg,st - NPC number

TS0M - Time slot 0 monitor
abcdefgh
- Time slot 0 monitor bits

ab - Spare international bits S_i

If the NPC is not provisioned for the CRC multiframe format, bits **a** and **b** shall represent the S_i bits in the Frame Word (FW) and the Non Frame Word (NFW), respectively.

If the NPC is provisioned for the CRC multiframe format, **a** and **b** shall represent the S_i bits in frames 13 and 15 of the CRC multiframe in the NFW, respectively.

c - Remote Alarm Indication must be "-" (hyphen).

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Falure Indicator) bit in the NFW if provisioned for RPSFI otherwise spare national bit.

gh - Two spare national bits S_7 through S_8 in the NFW

Valid values for bits **a** through **h** are described below:

Bit value	*Explanation*
0	Do not monitor and therefore do not send a message if this bit changes state
1	Monitor and therefore send a message if this bit changes state

TS0MBOFL
- Time slot 0 monitor buffer overflow keyword

v - TS0M condition indicator

0	NPC is not in TS0M buffer overflow condition
1	NPC is in TS0M buffer overflow condition

cc - Hexadecimal condition code

cc	*Explanation*
10	Unit is not equipped
15	NPC is unequipped
0B	Invalid CEPT NPC
F1	Parameter only valid with PA, PB, or PC type NPCs

UTL,QRY,TSM,TG

UTILITY QUERY INTEGRATED TEST SIGNAL MONITORING TEST RESULTS

Explanation Of Command

This command is used with the Integrated Test Set feature to query the current status of the Integrated Test Set and display bit error rate test (BERT) results on an Nx64Kbit/s test-access group (TG). The test group NPC (NPCTG) must be provisioned as an Integrated Test Set (type ST1yz) for this command to complete.

The integrated test signal monitoring function is provided by the TG193 circuit pack. No external test sets are required. The integrated test signal monitoring function counts logical bit errors based on discrepancies between the bit stream generated by the test signal generator and the bit stream received by the test signal monitor. The bit errors are used to calculate error performance statistics based on ITU Recommendation G.821. These statistics are displayed as test results in response to this command.

This command will be executed autonomously when test signal monitoring on an Integrated Test Set test group is turned off.

Command

[I.53401]

`UTL:FRM xy,SEQ ww:QRY,TSM,TG mmm!`

Completion Message

[O.53401]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TSM TG mmm  3 LN MSG:
TSG {ON|OFF}[ <pattern> {EAST|WEST}[ SIG abcd]]
TSM {ON|OFF}[ {EAST|WEST}[ TINT nnn]] EOM


M hh:mm:ss xy,ww n[vv] UTL QRY TSM TG mmm  5 LN MSG:
STOTAL   aaaaaa
SOOS     bbbbbb
SAVAIL   cccccc
SUNAVAIL dddddd EOM


M hh:mm:ss xy,ww n[vv] UTL QRY TSM TG mmm  3 LN MSG:
BE       eeeeee
BER      f.fffE-gg EOM


M hh:mm:ss xy,ww n[vv] UTL QRY TSM TG mmm  5 LN MSG:
ES       hhhhhh
ESR      i.iiiE-jj
SES      kkkkkk
SESR     l.lllE-nn COMPL
```

Denial Message

[O.53401.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY TSM TG mmm COND cc DNY
```

Autonomous Message

[O.53401]

```
I hh:mm:ss xy,ww   UTL QRY TSM TG mmm  3 LN MSG:
TSG {ON|OFF}[ <pattern> {EAST|WEST}[ SIG abcd]]
TSM {ON|OFF}[ {EAST|WEST}[ TINT nnn]] EOM
```

```
I hh:mm:ss xy,ww   UTL QRY TSM TG mmm  5 LN MSG:
STOTAL   aaaaaa
SOOS     bbbbbb
SAVAIL   cccccc
SUNAVAIL dddddd EOM
```

```
I hh:mm:ss xy,ww   UTL QRY TSM TG mmm  3 LN MSG:
BE       eeeeee
BER      f.fffE-gg EOM
```

```
I hh:mm:ss xy,ww   UTL QRY TSM TG mmm  5 LN MSG:
ES       hhhhhh
ESR      i.iiiE-jj
SES      kkkkkk
SESR     l.lllE-nn COMPL
```

Explanation Of Parameters

TSM - Test Signal Monitor

TG - Test-access group

mmm - Test-access group number (001 through 400)

TSG - Test Signal Generation

TSM - Test Signal Monitor

ON - Function is currently ON

OFF - Function is currently OFF

<pattern> - Test pattern being transmitted

Test Patterns Supported:

pattern	*Explanation*
PATT X'ef	8 bit user-defined pattern (in hexadecimal notation) Examples of 8 bit user-defined patterns: PATT X'00 all zeroes pattern (permanent space) PATT X'FF all ones pattern (permanent mark) PATT X'55 or PATT X'AA alternating mark/space (1:1 ratio)
511PRBS	511 bit pseudo-random bit sequence
2047PRBS	2047 bit pseudo-random bit sequence

EAST - East bundle of TG being used to generate or monitor test signal

WEST - West bundle of TG being used to generate or monitor test signal

abcd - 4 bit signaling word being transmitted with pattern

TINT - Test interval

nnn - Programmed duration of test in minutes (acceptable range 1-120)

If not specified, the test interval is open-ended.

STOTAL - Elapsed time in seconds

aaaaaa - Total elapsed time of the test in seconds, STOTAL = count of seconds since test signal monitoring mode entered.

SOOS - Out of Synchronization Seconds

bbbbbb - Count of out of synchronization seconds, SOOS = count of seconds during which pattern synchronization was not maintained over the entire second.

SAVAIL - Available seconds

cccccc - Count of available seconds,

SUNAVAIL - Unavailable seconds

dddddd - Count of unavailable seconds,

Explanation of available and unavailable time:
A period of unavailable time begins when the bit error ratio (BER) is $\geq 1 \times 10^{-3}$ for a period of ten consecutive seconds. These ten seconds are all unavailable time. A separate criteria exists for the transition from unavailable time to available time. A new period of available time begins at the onset of a period of ten consecutive seconds each of which has a BER $< 1 \times 10^{-3}$. These ten seconds are all available time.

BE - Bit errors

eeeeee - Count of logical bit errors detected

BER - Bit error ratio

f.fffE-gg - Bit Error Ratio (expressed as f.fff $\times 10^{-gg}$),
BER = Total Bit Errors ÷ (Available Seconds × Data Rate)

ES - Errored Seconds

hhhhhh - Count of errored seconds,
ES = number of seconds in which one or more bits are in error

ESR - Errored second ratio

i.iiiE-jj - Errored Second Ratio (expressed as i.iii $\times 10^{-jj}$),
ESR = Errored Seconds ÷ Available Seconds

SES - Severely Errored Seconds

kkkkkk - Count of severely errored seconds,
SES = number of seconds with BER $\geq 1 \times 10^{-3}$

SESR - Severely errored second ratio

l.lllE-nn - Severely Errored Second Ratio (expressed as l.lll $\times 10^{-nn}$),
SESR = Severely Errored Seconds ÷ Available Seconds

cc - Hexadecimal condition code

cc	*Explanation*
04	Subject entity is out of service
12	Active CCN side not IS or failed or pested or hardware OOS
13	UNIT not equipped, not in service, or failed
15	FTMI not equipped, not in service, or failed
49	test group unequipped
72	TG not in TSG ON mode

UTL,QRY,UNIT,FTMI,IMP

UTILITY QUERY EQUALIZATION, IMPEDANCE

Explanation Of Command

This message requests the system to display the netowrk processing circuit impedance values for a facility terminating module interface (FTMI) in a facility terminating unit (FTU).

Command

[I.53071]

UTL:FRM xy,SEQ ww:QRY,UNIT [q]q,FTMI b[,IMP]!

Completion Message

[O.53071]

M hh:mm:ss xy,ww n[vv] UTL QRY UNIT [q]q FTMI b IMP zzz COMPL

Denial Message

[O.53071.01]

M hh:mm:ss xy,ww n[vv] UTL QRY UNIT [q]q FTMI b IMP COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

UNIT - Unit

[q]q - Unit number (1 through 16)

FTMI - Facility terminating module interface

b - FTMI number (1 through 4)

IMP - Impedance

zzz - Optional impedance value

zzz	*Explanation*
075	CEPT termination with 75-ohm impedance
120	CEPT termination with 120-ohm impedance

cc - Hexadecimal condition code

cc	*Explanation*
02	Subject entity is not equipped
10	Unit is not equipped

UTL,QRY,WHO

UTILITY QUERY WHO

Explanation Of Command

This message requests a display of the unique frame identifier (UFI) of the DACS frame, the software version identifier, and the feature package identification code.

Command

[I.51041]

```
UTL:FRM xy,SEQ ww:QRY,WHO!
```

Completion Message

[O.51041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY WHO <uid>  2 LN MSG:
RELEASE DACSIIgg POINT pp VERSION r FPKG kkttuuvv COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

WHO - Who

With reference to the frame "Who are you?"

uid - Unique (frame) identifier (1 to 20 alphanumeric characters)

The uid is initialized by GRTH::FRAME.
If the uid is not initialized, no characters will appear.

VERSN - Version

DACSII - DACS II

gg - DACS II software release number

pp - DACS II software release point number

r - Version number of the release point

FPKG - Feature package

kkttuuvv
- Feature package identifier

00000001	DS1
00000002	CEPT
00000004	Subrate
00000008	Direct SLC® 96 and Series 5 Carrier Interface
00000010	DS3 Terminations
00000020	Enhanced CEPT
	C-bit
	C-bit filtering
	RPSFI
00000040	Switched Teleconferencing
00000080	CEF
00000100	Enhanced DS1 Performance Monitoring
00000200	DS0/DS1 Roll
00000400	AT&T Security Warning Message
00000800	Nx64kbit Test Access
00001000	Clear 2MB/s Interface
00002000	TS0 to Non-TS0 Cross-connection
00004000	2MB/S Roll
00008000	SPARE
00010000	TRT/FT Features
	Intervention Level
00020000	DS3 Hybrid

In general a feature package identification code is a combination of several individual feature package numbers. To determine the individual features that make up a feature package it is necessary to decode the feature package identification code. This code is an eight digit hexadecimal number. Each hexadecimal number represents a four-bit binary number. Within this binary number each feature is associated with one particular bit. Consequently to determine the feature list from a feature package identification code it is necessary to convert each hexadecimal digit to its binary equivalent and look up the features in the list above. For example the feature package identification code 0000000F can be converted to the following binary number working from left to right one hex digit at a time.

0000 0000 0000 0000 0000 0000 0000 1111

This number contains eight binary numbers each representing one of the hexadecimal numbers in the feature package identification code 0000000F. The rightmost number of the code contains four features since there are four bits set to one. This would be decoded as follows using the table of features above.

	binary	hex	Feature
	0001	1	DS1
	0010	2	CEPT
	0100	4	Subrate
	1000	8	Direct SLC
Total	1111	F	(DS1 + CEPT + Subrate + SLC)

UTL,QRY,XCSB,UNIT

QUERY CROSS-CONNECT STATUS BUS

Explanation Of Command

This command requests a check of the side switch consistency between the hardware entities and the data base. Depending on the result of the cross-connect consistency check, DACS II will respond with different outputs as specified in the following sections.

If the entities of a unit are either all consistent or all inconsistent with the data base, a single line output will be generated. The field "DB s", which indicates the active side recorded in the data base (DB), will always be shown, while the keyword "UM" (Unmatch) will be shown only if all entities of the unit are inconsistent with the data base.

Note: For an FTU, if some but not all of its DDCs are consistent with the data base, four output message segments will be generated. Each segment will report the side status for NPCs in one Facility Terminating Module (FTM). If all NPCs in an FTM have the same status, the segment for the FTM will have only one line; otherwise, it will be a five-line segment.

When this command is entered, the side selection configuration register on each dual digroup circuit of the facility terminating units and each multiplexer or hybrid multiplexer of the DS3 units or Hybrid DS3 units is compared with the information stored in the data base. In addition, the configuration register on each cross-connect network interface or clock and control interface (CCNI/CCI) is also checked against the status of the data base.

This command can be entered to request the status of the whole frame or of a particular unit. If the status of the whole frame is requested, DACS II will output the result for each unit in ascending order from units 01 through 16. Unequipped units or digital signal processing units will not be checked and reported. If the unit number is specified on input, it must be an FTU or DS3U or HDS3U ; otherwise, the command will be denied.

After the unit-related results are reported, DACS II will output the result for the CCNI/CCI.

If all DDCs/MXRs/HMXRs of an FTU/DS3U/HDS3U are marked pass, DACS II will generate the completion output (O.55181) showing the active side indicated in the data base, that is, showing "DB s". If all of them are marked fail, the "UM" keyword will also be shown to indicate that the side selected by the entities does not match the side recorded in the data base.

For a DS3U/HDS3U, if all its MXRs/HMXRs do not have the same marking, output message O.55182 will be generated. This message will give the MXR/HMXR number of the MXR(s)/HMXR(s) marked fail. MXR(s)/HMXR(s) that is (are) pested, out-of-service, or marked pass will show a dash (-) in place of the MXR/HMXR number.

For an FTU, if all its DDCs do not have the same marking, output message O.55183 will be generated. This message will give the NPC number of the NPC(s) marked fail. NPCs that are pested, out-of-service, or marked pass will show dashes (---) in place of the NPC number. Since the two NPCs of a DDC will always have the same status, the two NPC numbers will either both be shown or both be represented by dashes. For the CCNIs/CCIs, if the side status for one or both packs does not agree with the data base, the key word "UM" will be output in the output message O.55184. A pack that has failed is identified by its side number whereas a pack that has passed is identified by a dash "-".

The execution of this command and the output of messages in response to its execution can be aborted by use of the ABT command.

Command

[I.55181]

UTL:FRM xy,SEQ ww:QRY,XCSB[,UNIT [q]q]!

Completion Message

Nonhierarchical

[O.55183]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q UM BD s NPCS [s]abc-[t]def  5 LN MSG:
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl
[s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl [s]ghi-[t]jkl {EOM|COMPL}
```

[O.55183]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q[ UM] DB s \
NPCS [s]abc-[t]def COND kk {EOM|COMPL}
```

Hierarchical

[O.55183]

```
pahh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q UM DB s NPCS uvmnp-uvmqr  5 LN MSG:
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl
uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl uvmhi-uvmkl {EOM|COMPL}
```

[O.55183]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q[ UM] DB s \
NPCS uvmnp-uvmqr COND kk {EOM|COMPL}
```

Common

[O.55181]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q[ UM] DB s ALL COND kk COMPL
```

Note: For a DS3U/HDS3U, if some but not all of its MXRs/HMXRs are consistent with the database, the MXR/HMXR number will be shown for the ones that are inconsistent.

[O.55182]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB UNIT [q]q UM DS s MXR a b c d e f g COMPL
```

[O.55184]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB {CCNI|CCI} h j[ UM] DB s COMPL
```

Denial Message

[O.55181.01]

```
M hh:mm:ss xy,ww n[vv] UTL QRY XCSB[ UNIT [q]q] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

XCSB - Cross-Connect Status Bus

UNIT - Unit

[q]q - Unit number (1 through 16)

[s]abc - The 3- or 4-digit nonhierarchical FTU NPC number of the first NPC in an FTM

[t]def - The 3- or 4-digit nonhierarchical FTU NPC number of the last NPC in an FTM

[s]ghi - The 3- or 4-digit nonhierarchical odd FTU NPC number ([s]abc through [t]def)

[t]jkl - The 3- or 4-digit nonhierarchical even FTU NPC number ([t]jkl = [s]ghi + 1)

For a listing of the non-hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

uvmnp - Hierarchical FTU NPC number of the first NPC in an FTM
uvmqr - Hierarchical FTU NPC number of the last NPC in an FTM
uvmhi - Hierarchical odd FTU NPC number (uvmnp through uvmkl)
uvmkl - Hierarchical even FTU NPC number (uvmkl = uvmhi + 1)

uv - Unit number
m - Module number
np,qr,hi,kl - NPC number

For a listing of the hierarchical numbering scheme, refer to Command and Message Manual, Volume 1, Chapter 2, "NPC Numbering and XYZ Parameters".

UM - Unmatched

This keyword indicates there are entities selecting a side different from the side recorded in the database.

DB - Database

s - Cross-connect side (0 or 1)

MXR - Multiplexer or Hybrid Multiplexer

a,
...,
g - Multiplexer/Hybrid Multiplexer status

The assignment of MXRs/HMXRs to variables a through g is shown below.

a b c d e f g	Variable
P 1 2 3 4 5 6	MXR/HMXR identification

The MXR/HMXR identification appears if the MXR/HMXR has failed. The appearance of a dash (-) in place of a MXR/HMXR identification indicates that the particular MXR/HMXR passed.

CCNI - Cross-connect network interface (NonCEF)

CCI - Clock and control interface (CEF)

h - CCNI/CCI 0 status
j - CCNI/CCI 1 status

The assignment of CCNIs/CCIs to variables h and j is shown below.

h j	Variable
0 1	CCNI/CCI identification

The CCNI/CCI identification appears if the CCI has failed. The appearance of a dash in place of a CCNI/CCI identification indicates that the particular CCNI/CCI passed.

kk - Completion condition code (hexadecimal)

To interpret values of kk use the table of cc values below.

cc - Hexadecimal condition code

cc	*Explanation*
00	No conditions
05	Subject entity is pested
10	Unit is not equipped
11	UC is out of service
12	UC is in service but failed
13	FTMI is not equipped
14	FTMI is out of service
1F	FTMI is in service but failed
24	Unit type error

UTL,RCY,COND,IN,PROGRESS

UTILITY QUERY, ERROR RECOVERY

Explanation Of Command

This message reports that an autonomous error recovery action has been taken to an entity. An in-progress message will be output every 20 seconds until the action is completed or denied.

Command

Not applicable.

Completion Message

Not applicable.

Denial Message

Not applicable.

Autonomous Message

[O.55021]

```
I hh:mm:ss xy,ww   UTL RCY <entity> <action> COND cc COMPL
```

[O.55022]

I hh:mm:ss xy,ww UTL RCY IN PROGRESS

[O.55021.01]

I hh:mm:ss xy,ww UTL RCY <entity> <action> COND cc DNY

Explanation Of Parameters

RCY - Internal recovery error

entity - DACS II entity involved

entity	*Explanation*
MC	Action on Main Controller
MP	Action on Main Processor
CI	Action on Communication Interface
DISK	Action on DISK unit
TAPE	Action on TAPE unit
UNIT [q]q	Action on specific unit (1 through 16)
FRAME	Frame wide action

action - Action that the error recovery takes to the entity

action	*Explanation*
REMOVE	Remove processor from service
HWBOOT	Hardware boot (boot of processor with existing data base)
WMBOOT	Warm boot (boot of processor with disk data base)
CDBOOT	Cold boot (boot of processor programs and data base)
MCOND	Put frame into maintenance condition

cc - Hexadecimal condition code

cc	**Explanation**
00	**No conditions**
04	**Subject entity is out of service**
0B	**BOOT on subject entity failed**
46	**Failed to boot CONF file**
47	**Failed to boot DB**
48	**Failed to boot journal--recurrence indicates database corruption**
49	**Failed to boot unit**
4C	**Failed to boot CI**
51	**General boot failure (vanilla flavor)**
18	**DSPI not equipped, not in service, or failed**

cc	Explanation
4D	MP database not consistent with Configuration file
52	Database is empty
3F	G4 to G4.1 retrofit failed
92	Can’t mount or unmount PMEM
FA	SSC software out of date
2B	Database corrupt

UTL,RCY,PASSWD

UTILITY, RECOVERY,PASSWORD

Explanation Of Command

This command is used to recover the frame administrator password with the password recovery card. Upon successful completion of this command, DACS II will have copied the original frame administrator's password from the password recovery card to the data base in the RAM. To ensure proper security, the administrator should immediately change his or her password using message I.38301. See Operations and Maintenance manual for procedures.

Command

[I.51081]

```
UTL:FRM xy,SEQ ww:RCY,PASSWD!
```

Completion Message

[O.51081]

```
M hh:mm:ss xy,ww n[vv] UTL RCY PASSWD COMPL
```

Denial Message

[O.51081.01]

```
M hh:mm:ss xy,ww n[vv] UTL RCY PASSWD COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

RCY - Recovery

PASSWD - Password

cc - Hexadecimal condition code

cc	*Explanation*
64	File doesn't exist/can't be accessed
8D	DB PMEM error OP-CL-RD-WR-SK
DD	Password recovery card is not READ-only
91	Can't mount or unmount password recovery card

UTL,TOD,CFA,PRIM,X,MONDAT

SET DAILY FACILITY ALARM REPORTING TIME

Explanation Of Command

This command is used for the following purposes:

- To set the DACS II System clock
- To set the time for the daily facility alarms report.
- To set the parameters to be reported in the daily facility alarms report.

SETTING THE DACS II SYSTEM CLOCK

To set the DACS II System clock specify only the time to which the clock is to be set (TOD).

SETTING THE TIME FOR THE DAILY FACILITY ALARMS REPORT

The facility alarms report is output daily at the default time of midnight. To output the report at a different time the user must redefine midnight. This redefined midnight is sometimes referred to as "local midnight". The "local midnight" is set by jointly specifying the time of day and the parameters to be reported. Once a "local midnight" has been set the facility alarms report will be output daily at the new "midnight".

SETTING THE PARAMETERS TO BE REPORTED

The parameters are set by use of the PRIM keyword using the appropriate value of ghij from the tables below.

Note: There are two sets of ghij values; one for NPCs provisioned as PA/TH type NPCs and the other for NPCs provisioned as PB or PC type NPCs.

To disable all reports specify zeros for each digit in the variable abcdef.

To disable all reports specify zeros for each digit in the variable ghij.

The CGA alarms report defaults to midnight if this command is not used to alter the report time or parameters.

The PBA alarms report defaults to midnight if this command is not used to alter the report time or parameters.

Command

[I.51011]

```
UTL:FRM xy,SEQ ww:[TOD hrmnsc][,{CFA|PRIM X'ghij|MONDAT}]!
```

Completion Message

[O.51011]

```
M hh:mm:ss xy,ww n[vv] UTL[ TOD[ MDNT] hrmnsc]\
[ {CFA|PRIM ghij|MONDAT}] COMPL
```

Denial Message

[O.51011.01]

```
M hh:mm:ss xy,ww n[vv] UTL[ TOD[ MDNT] hrmnsc \
[{CFA|PRIM ghij|MONDAT}] COND cc DNY
```

Autonomous Message

Not applicable.

Explanation Of Parameters

TOD - Time of day

hrmnsc - Time specification

hr - hours (00 through 23)
mn - minutes (00 through 59)
sc - seconds (00 through 59)

When the time of day is used with the MONDAT keyword mn and sc are restricted to certain values listed in the explanation of MONDAT.

MONDAT - Daily Monitor Starting Time

When the MONDAT keyword is entered, "hrmnsc" is used to specify the starting time for the daily accumulation interval for PA/TH type NPCs. In this case, "mn" is limited to 00, 15, 30 or 45, and "sc" is limited to 00. The default daily monitor starting time is midnight. At the daily monitor starting time DACS II will report the facility alarms and the counts for all selected daily parameters for the daily interval just ended and clear all current counts and threshold crossing alarms to start a new daily interval. The report time specified with the MONDAT keyword is not applicable to other NPC types. Likewise, the midnight report time entered without the MONDAT keyword is not applicable to PA/TH type NPCs.

MDNT - Midnight

This keyword is output to indicate that midnight, the default time to output facility alarm reports, has been reset to be the time indicated by TOD hrmnsc.

Note: If the MONDAT keyword is entered, the MDNT keyword will not be output.

CFA - Carrier failure alarm

This keyword, when specified with the time of day field, indicates that the daily facility report time rather than the system time of day is being reprogrammed. The daily facility report will be output at the specified time, which defaults to midnight. See below the complete description of facility monitoring alarms that may be included in the daily facility report.

FAC - Facility

Request that the reporting of alarms specified by abcdef be enabled. This will cause only a subset of the daily facility report to be output.

abcdef - Facility performance alarm reports enable (hexadecimal)

This variable represents a six-digit hexadecimal number. Each hexadecimal digit represents 4 bits and each bit corresponds to a particular facility parameter. To enable alarm reports for a facility parameter the bit corresponding to that parameter is set to 1 using the tables below. To disable the alarm report the bit is set to 0.

The following tables should be used to set or interpret the hexadecimal values of digit identifiers a through f.

a - Digit identifier (Unassigned)

b - Digit identifier

b	*Facility parameter alarm report enabled*
F	DS3 ALM, SAFE, SANE
E	DS3 ALM, SAFE
D	DS3 ALM, SANE
C	DS3 ALM
B	SAFE, SANE
A	SAFE
9	SANE
8	Not assigned
7	DS3 ALM, SAFE, SANE
6	DS3 ALM, SAFE
5	DS3 ALM, SANE
4	DS3 ALM
3	SAFE, SANE
2	SAFE
1	SANE
0	DS3 ALM, SAFE, SANE alarm reports disabled

DS3 ALM - DS3 or Hybrid DS3 alarm
SAFE - Shelf alarm far end
SANE - Shelf alarm near end

c - Digit identifier (Unassigned)

d - Digit identifier

d	*Facility parameter alarm report enabled*
F	FRER, BPV
E	FRER
D	BPV
C	Not assigned
B	FRER, BPV
A	FRER
9	BPV
8	Not assigned
7	FRER, BPV
6	FRER
5	BPV
4	Not assigned
3	FRER, BPV
2	FRER
1	BPV
0	FRER, BPV alarm reports disabled

FRER - Frame errors
BPV - Bipolar violations

e - Digit identifier

e *Facility parameter alarm report enabled*

F CRC, COFA, SERS, ERS
E CRC, COFA, SERS
D CRC, COFA, ERS
C CRC, COFA
B CRC, SERS, ERS
A CRC, SERS
9 CRC, ERS
8 CRC
7 COFA, SERS, ERS
6 COFA, SERS
5 COFA, ERS
4 COFA
3 SERS, ERS
2 SERS
1 ERS
0 CRC, COFA, SERS, ERS alarm reports disabled

CRC - Cyclic redundancy code
COFA - Change of frame alignment
SERS - Severely errored seconds
ERS - Errored seconds

f - Digit identifier

f *Facility parameter alarm report enabled*

F BER, SLIP, OOF, CGA, LOS
E BER, SLIP, OOF
D BER, SLIP, CGA, LOS
C BER, SLIP
B BER, OOF, CGA, LOS
A BER, OOF
9 BER, CGA, LOS
8 BER
7 SLIP, OOF, CGA, LOS
6 SLIP, OOF
5 SLIP, CGA, LOS
4 SLIP
3 OOF, CGA, LOS
2 OOF
1 CGA, LOS
0 BER, SLIP, OOF, CGA, LOS alarm reports disabled

BER - Bit error rate
SLIP - Slip
OOF - Out of frame
CGA - Carrier group alarm
LOS - Loss of signal

Some examples of the available choices for X'abcdef are shown below:

X'00000A	BER and OOF alarm reporting enabled
X'000000	alarm reports disabled for all parameters
X'000001	CGA and LOS alarm reporting enabled
X'0C0511	DS3, BPV, ERS, CGA, and LOS alarm reporting enabled

PA/TH NPC parameters

The following tables should be used to set or interpret the hexadecimal values of digit identifiers g through j.

g - Digit identifier

g	*Facility parameter alarm report enabled*
F	FEBE, FES, FSES, FUAS
E	FEBE, FES, FSES
D	FEBE, FES, FUAS
C	FEBE, FES
B	FEBE, FSES, FUAS
A	FEBE, FSES
9	FEBE, FUAS
8	FEBE
7	FES, FSES, FUAS
6	FES, FSES
5	FES, FUAS
4	FES
3	FSES, FUAS
2	FSES
1	FUAS
0	FEBE, FES, FSES, FUAS alarm reports disabled

FEBE - Far end block error
FES - Far end errored seconds
FSES - Far end severley errored seconds
FUAS - Far end unavailable seconds

Note that parameters FEBE, FES, FSES and FUAS are not applicable for the TH type NPCs.

h - Digit identifier

h	*Facility parameter alarm report enabled*
F	UATC, BER, FRER, MER
E	UATC, BER, FRER
D	UATC, BER, MER
C	UATC, BER
B	UATC, FRER, MER
A	UATC, FRER
9	UATC, MER
8	UATC
7	BER, FRER, MER
6	BER, FRER
5	BER, MER
4	BER
3	FRER, MER
2	FRER
1	MER
0	UATC, BER, FRER, MER alarm reports disabled

UATC - Unavailable time count
BER - Minor bit error rate; for NPCs with MBER feature
FRER - Framing errors
MER - Multiframe errors

i - Digit identifier

i	*Facility parameter alarm report enabled*
F	CRC, CV, SES, ES
E	CRC, CV, SES
D	CRC, CV, ES
C	CRC, CV
B	CRC, SES, ES
A	CRC, SES
9	CRC, ES
8	CRC
7	CV, SES, ES
6	CV, SES
5	CV, ES
4	CV
3	SES, ES
2	SES
1	ES
0	CV, SES, ES alarm reports disabled

CRC	- CRC4 check block errors
CV	- Degraded minutes
SES	- Severely errored seconds
ES	- Errored seconds

j - Digit identifier

j	*Facility parameter alarm report enabled*
F	UAS, CSS, OFS, PBA
E	UAS, CSS, OFS
D	UAS, CSS, PBA
C	UAS, CSS
B	UAS, OFS, PBA
A	UAS, OFS
9	UAS, PBA
8	UAS
7	CSS, OFS, PBA
6	CSS, OFS
5	CSS, PBA
4	CSS
3	OFS, PBA
2	OFS
1	PBA
0	UAS, CSS, OFS, PBA alarm reports disabled

UAS - Unavailable seconds
CSS - Controlled slip seconds
OFS - Out-of-frame seconds
PBA - Primary block alarms; default

Note: Enter 0 for an unassigned digit identifier

PB or PC NPC parameters

The following tables should be used to set or interpret the hexadecimal values of digit identifiers g through j.

g - Digit identifier (unassigned)

h - Digit identifier

h	*Facility parameter alarm report enabled*
F	BER, FRER, MER
E	BER, FRER
D	BER, MER
C	BER
B	FRER, MER
A	FRER
9	MER
8	unassigned
7	BER, FRER, MER
6	BER, FRER
5	BER, MER
4	BER
3	FRER, MER
2	FRER
1	MER
0	BER, FRER, MER alarm reports disabled

BER - Bit error rate
FRER - Frame errors
MER - Multiframe alignment errors

i - Digit identifier

i	*Facility parameter alarm report enabled*
F	CRC, DM, SERS, ERS
E	CRC, DM, SERS
D	CRC, DM, ERS
C	CRC, DM
B	CRC, SERS, ERS
A	CRC, SERS
9	CRC, ERS
8	CRC
7	DM, SERS, ERS
6	DM, SERS
5	DM, ERS
4	DM
3	SERS, ERS
2	SERS
1	ERS
0	CRC, DM, SERS, ERS alarm reports disabled

CRC - Cyclic redundancy code
DM - Degraded minutes
SERS - Severely errored seconds
ERS - Errored seconds

j - Digit identifier

j	*Facility parameter alarm report enabled*
F	US, SLIP, LOFA, PBA
E	US, SLIP, LOFA
D	US, SLIP, PBA
C	US, SLIP
B	US, LOFA, PBA
A	US, LOFA
9	US, PBA
8	US
7	SLIP, LOFA, PBA
6	SLIP, LOFA
5	SLIP, PBA
4	SLIP
3	LOFA, PBA
2	LOFA
1	PBA
0	US, SLIP, LOFA, PBA alarm reports disabled

US - Unavailable seconds
SLIP - Slip
LOFA - Loss of frame alignment
PBA - Primary block alarms

cc - Hexadecimal condition code

cc	*Explanation*
48	Bad PRIM X'efgh values
49	FAC keyword is invalid for this feature
D5	Boot in progress, can't service request

UTL,UPGRD

UPGRADE FRAME

Explanation Of Command

This message performs a database upgrade from Release 6.1 to Release 7.0. The database, MACRO and MAP files from the old Secondary Storage Subsystem (SSS) tape will be transferred onto the SMEM card inserted in the SMEM slot on CPU2.

In order for the automated upgrade procedure to successfully complete, the Main Controller (MC) must be in maintenance condition. In addition, the Secondary Storage Controller (SSC) circuit pack must be physically inserted in the slot and the tape drive must be accessible from the MC circuit pack. Initially, the command will power-up the old SSS tape drive and at completion, the SMEM card will contain the Release 6.1 database converted to Release 7.0 form.

Command

[I.55731]

```
UTL:[FRM xy,SEQ ww]:UPGRD!
```

Completion Message

[O.55731]

```
M hh:mm:ss xy,ww n[vv] UTL UPGRD COMPL
```

Denial Message

[O.55731.01]

M hh:mm:ss xy,ww n[vv] UTL UPGRD COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

UPGRD - Upgrade

cc - Hexadecimal condition code

cc	*Explanation*
07	Device failed to initialize
0A	DGN on subject entity failed
84	Problem occurred while accessing SMEM or unformatted SMEM
87	Old_tape is a special install tape
91	Can't mount or unmount SMEM
F0	SSC Diagnostic Failure
F5	Flash Card is not present
F7	Can't mount or unmount old_tape
FA	Bad old_tape DB generic
FB	Old_tape with journal
FD	Problem occurred while accessing old_tape
FE	Fail transfer DB from old_tape to SMEM
01	FPI on old_tape does not match one on SMEM

Glossary

Glossary

A

AAC
ACCULINK Access Controller

ABT
Abort

ACO
Alarm Cutoff

Active
For duplicated entities, the entity is providing service rather than operating in hot standby.

AI
Alarm Interface

AIS
Alarm Indication Signal (also known as all 1s signal)

Alarm Delay
The alarm delay (in seconds) for software-detected alarm conditions. Initial value is 20 seconds.

Alarm Indication Signal (AIS)
A signal transmitted downstream to indicate that network transmission line failures were detected upstream.

All Ones Signal
Another name for DS1 Alarm Indication Signal (AIS). It is defined to contain all ones in the terminal-to-terminal mode.

ALM
Alarm

Alphanumeric Characters
Letters and digits.

Alternate Mark Inversion (AMI)
A DS1 line code in which alternate one bits are positive and negative, but zero substitution is not used.

AMI
Alternate Mark Inversion

ANSI
American National Standards Institute

AS&C
Alarm Surveillance and Control

ASCII Character
Letters, digits, and symbols used in the American Standard Code for Information Interchange.

ATAG
Autonomous Message Tag

ATP
All Tests Passed

Attribute
Alarm indication level: major, minor, or no alarm.

AUD
Audit

Autolock
When the system autolocks and entity, it switches to protection and forbids return to the working entity even if the trouble clears. This is usually caused by multiple protection switches on that entity in a short time period.

Autolock Number of Switches
This parameter is the number of times that the system restores an entity to service (after intermittent failures) in a given autolock switching interval before the entity is autolocked.

Autolock Release Time
The number of hours between times when the system automatically releases autolock.

Autolock Switching Interval
An interval in minutes (see Autolock Number of Switches).

Autonomous
Done automatically by the system without any manual intervention from the user.

Autoprovisioned
Put in the provisioned state automatically by the system.

B

B3Zs
Bipolar with 3-zero substitution, a DS3 line code.

B8ZS
Bipolar Eight Zero Substitution

Baud Rate
Transmission data rate (bits per second) on an administrative link.

BBL
Backbone Leg

BC
Bus Controller

BCON
Broadcast Cross-Connect

BDIS
Broadcast Disconnect

BER
Bit Error Rate

BER Metric
Specifies the metric for calculating bit error rate at a DS3 interface port. Options are bipolar variations (BPV) or parity (PTY). (Initial value is BPV).

Bipolar Violation
A violation of the alternating +1, -1 pattern in a 3-level code.

Bit Error Rate Threshold
3 stands for 0.001, 6 stands for 0.000001.

Blue Code
Same as AIS

BMTR
Back-up Memory Transfer

Boot
To transfer contents of a Memory Card into the system's working memory and system hardware. The contents of a Memory Card can include both system software and database.

BOS
Bit Oriented Signaling

BPV
Bipolar Violation

BRD
Broadcast Leg

Broadcast
Form a bridge connection.

BSRF
Basic Synchronization Reference Facility

BT
Bus Terminator

BX
Bus Extender

Byte
Usually refers to a group of eight consecutive binary digits, but sometimes used for bit groups of other sizes.

C

CAS
Channel Associated Signaling

CATP
Conditional All Tests Passed

CBIT
A DS3 line code in which parity checks on blocks of data are used to detect bits in error.

CCB
Cross-Connect Buffer

CCI
Clock and Control Interface

CCIS
Common Channel Interoffice Signaling

CCITT
International Telephone and Telegraph Consultative Committee

CCN
Cross-Connect Network

CCNI
Cross-Connect Network Interface

CEF
Capacity Expansion Frame

CFA
Carrier Failure Alarm

CFR
Synchronizer Configuration

CGA
Carrier Group Alarm

CHG
Change

CI
Communications Interface

CIU
Craft Interface Unit

Clear (CL)
An alarm condition no longer exists.

CLF
Carrier Line Failure

CMAP
Channel Map

COFA
Change-Of-Frame-Alignment

Condition
The type of alarm indication.

CP
Circuit Pack

CPR
C-Bit Processor

CPU
Central Processing Unit

CRC
Cyclic Redundancy Checking

CRO
Clock Reference Oscillator

Cross-Connect
A piece of hardware used to interconnect line-terminating equipment, multiplexers, and other equipment.

Cross-Connection
An interconnection between two specified NPC channels.

Crosstalk
A signal induced into one transmission line from another transmission line.

CRT
Cathode Ray Tube

CSS
Controlled Slip Seconds

CTAG
Correlation Tag

Current Value
In the dialog mode, it indicates that the current value of a parameter is used by the system unless you direct otherwise.

CV
Coding Violations

D

DACS
Digital Access and Cross-Connect System

Database
A record of the system configuration and status. It contains cross-connections, status of entities and transmission lines, performance monitoring threshold values and collected data.

DATS
Digital Access Test Set

DC
Digroup Circuit or Direct Current

DCC
Disconnect Code

DCLU
Digital Carrier Line Unit

DDC
Dual Digroup Circuit

DDS
Digital Data System

Default
A value the system automatically uses for a parameter if you do not specify a value.

Delimiter
A colon, comma, or space used to separate two parameters in a command or message.

Demultiplexer
A device used with a multiplexed signal for recovering signals contained within it and restoring the distinct individual channels of these signals.

DFB
Dual Fuse Board

Diagnose
Test an entity.

DIF
DACS Interface Module

DL
Data Link

DLC
Digital Loop Carrier

DM
Dual Multiplexer

DMA
Deferred Maintenance Alarm

DMAP
Digroup Map

DMB
Digital Multipoint Bridge

DMI
Digital Multiplex Interface

DMM
Digital Multimeter

DOTS
Digital Office Timing Supply

DPC
Dual Primary Circuit

DPLL
Digital-Phase Locked Loop

Driven
A driven port is being monitored, and a good signal is expected.

DS0
Digital Signal Level 0 (64-kb/s)

DS1
Digital Signal Level 1 (1.544-Mb/s)

DS1 Data Rate
The DS1 Data Rate is calculated as follows:
DS1 = (24 Channels x 8 bit/sample + 1 frame bit) x 8000 samples/sec
DS1 = 193 x 8000 = 1.544 Mb/s

DS1 Port
A DS1 port in either a DS1 interface module or a DS3 interface module.

DS3
Digital Signal Level 3

DS3U
DS3 Unit

DSP
Digital Signal Processor

DSPC
Digital Signal Processor Circuit

DSPI
Digital Signal Processor Interface

DSPU
Digital Signal Processor Unit

DSU
Data Service Unit

DSX
Digital Signal Cross-Connect

DTAC
Digital Test Access Connector

Duplex Entity
A pair of entities in which one is active and the other is in hot standby (clock generators).

Duplicated Entity
A pair of entities in which one is active and the other is in hot standby (for example, the Synchronizer Cross-Connect (SXC) circuit packs).

E

E1 Data Rate
The E1 Data Rate is calculated as follows:
E1 = (32 Channels x 8 bit/sample) x 8000 samples/sec
E1 = 256 x 8000 = 2.048 Mb/s

NOTE:
With this data rate, 30 channels carry traffic and two channels are reserved; one channel contains framing information and the other channel contains signaling information.

E2A
Type of Alarm Telemetry

EBX
Expanded Bus Extender

ECCN
Expanded Cross-Connect Network

Echo
Display of keystrokes entered from a terminal (passwords are not echoed).

ECI
Enhanced Communications Interface

EDDC
Enhanced Dual Digroup Circuit

EDPC
Enhanced Dual Primary Circuit

EER
Excessive Error Rate

EFC
Extended Frame Controller

EIA
Electronic Industries Association

EID
Entity Identification

EMC
Electromagnetic Compatibility

EMIU
Expanded Multiple Interface Unit

EMTC
Expanded Maintenance Circuit

Enter
Provision an entity by a command, not automatically by the system.

Entity
A specific piece of hardware (such as the Main Controller (MC) or Network Processing Circuit (NPC)) that has been assigned a name and is recognized by the system.

Entity Identifier
The name used by the system to refer to an entity.

Equalizer
A circuit adjustment used to maintain signal strength between desired limits.

Equipped
The entity is entered in the system database via a user provisioning command.

ER
Error Rate

ERS
Errored Seconds

ES
Errored Seconds

ESD
Electrostatic Discharge

ESF
Extended Superframe

ESR
Error Source Register

ESR1
Error Source Register 1

ESR2
Error Source Register 2

ETSI
European Telecommunication Standardization Institute

F

FAL
Fuse Alarm Lamp

FAS
Frame Alignment Signal

FC
Format Converter

FDL
Facility Data Link

Fe
Extended Superframe Format

FEBE
Far-End Block Error

FELP
Far End Loopback

FES
Far-End Errored Seconds

FLI
Facility-Line Interface

FMAC
Facility Maintenance and Administration Center

FMT
Formatter

Forced
A traffic-carrying entity (either service or protection) has been deliberately locked into a service providing state by manual command despite being bad.

FPA
Feature Package A

FPB
Feature Package B

FPC
Feature Package C

FRADT
Frame Audit

FRER
Framing Bit Error

Fs
Fx Framing Format

FSES
Far-End Severely Errored Seconds

FTM
Facility Terminating Module

FTU
Facility Terminating Unit

FUAS
Far-End Unavailable Seconds"

FW
Framing Word

G

Grooming
Rearrangement of DS1 signals in DS3 signals.

H

HDB3
High Density Bipolar 3 Zero Substitution

Header
The first line of a message.

Header Date
Specifies the current date as YYMMDD, where YY is the last two digits of the year, MM is the month, and DD is the day of the month.

Header Time
Specifies the current time of day as HHMMSS, where HH is the hour (00 to 23), MM is the minutes, and SS is the seconds.

HECI
High-Speed Enhanced Communications Interface

Hierarchy
An orderly ranking or sequence of elements, such as that of menus presented at a terminal.

Hit
A disruption of service that lasts for less than 1 second. See Outage.

Hot Standby
An entity ready for fast, automatic placement into operation to replace an active entity.

HUBID
Hub Identifier

I

ICLD
Idled

Idle
An output port is idle if it is not cross-connected to an input port.

Idle Channel
A channel on an NPC that has not been cross-connected.

IFTU
Integrated Facility Terminating Unit

In Service
The entity is performing normal service functions, either active or standby.

ISX
Integral Shelf Cross-Connect

ITU-TSS
International Telecommunication Union-Telecommunication Standardization Sector

J

Jitter
Short term variations in the phase of a digital signal.

K

kb/s
Kilobit Per Second

kHz
Kilohertz

L

LAN
Local Area Network

LBO
Line Build-Out

LED
Light-Emitting Diode

LFA
Loss of Frame Alignment

LILB
Line Interface Loopback

Link ID
The location and type of a user interface link.

LLB
Line Loopback

LMA
Loss of Multiframe Alignment

Location
The specific entity involved.

Loopback
A circuit arrangement that causes a received signal to be returned to its source.

LOS
Loss of Signal

M

M13
A standard format used for DS3 signals

Maintenance
The entity has been locked into a non-service providing state by a manual command.

Maintenance Condition (MCOND)
MCOND is a condition in which the Main Controller (MC) is isolated from system hardware in order for the user to perform memory transfer operations. Placing the MC in MCOND is non-service affecting. When the MC is in the MCOND service state, the system software and database are not transferred to the Memory Cards. The Maintenance Condition enables the user to transfer database and/or system software among the Memory Cards and the MC's Random Access Memory (RAM) in a controlled manner via user commands. The MCOND service state is also used to perform system software upgrades.

Mapped
Cross-Connected

Mapped
Cross-connected.

Mb
Megabit

Mb/s
Megabit Per Second

MBER
Minor Bit Error Rate

MC
Main Controller

MCOND
Maintenance Condition

MCP
Main Controller Peripheral

MEMA
Memory Card Slot A

MEMB
Memory Card Slot B

Memory Location
Specifies the equipment, DS1 interface port, or DS3 MUX port location associated with a memory type.

MER
Multiframe Error

MI
Maintenance Information

MIU
Multipoint Interface Unit

MJU
Multipoint Junction Unit

MMFG
Multiplexer-MIU Function Group

MML
HuMan-Machine Language

MP
Main Processor

MPDIS
Multipoint Disconnect

MPM
Multipoint Mode

MTC
Maintenance Circuit

MXR
Multiplexer

N

NA
No Acknowledgement

NDL
No Data Link

NEBS
Network Equipment Building Systems

Network Element
A DACS II ISX system is a network element.

Network Element
A DACS II frame is a network element.

NFW
Not Framing Word

NG
No Good

NOBBL
No Backbone Leg

Notification Code
The notification code for alarm and status conditions, which include: MJ - major alarm; MN - minor alarm.

Notification Code
The notification code for alarm and status condition which include: MJ - major alarm; MN - minor alarm; NA - no alarm (status only); or CL - cleared alarm.

NPC
Network Processing Circuit

NPCTG
Network Processing Circuit Test Group

NPCTP
Network Processing Circuit Test Port

NSA
Nonsignaling Associated

NZCS
No Zero Code Suppression

O

OA&M
Operation, Administration and Maintenance

OCNT
One-Way Cross-Connect, Terminated

ODIS
One-Way Disconnect

OFS
Out-Of-Frame Seconds

One-Way Cross-Connect

OOS
Out-of-service

OS
Operations System

Out Of Service (OOS)
The entity is not providing its normal service function (removed from service) either because of a system problem or because it has been removed from service manually.

Out-of-Service (OOS)
The entity is not providing its normal service function (removed from service or protected) either because of a system problem or because it has been removed from service manually.

Outage
A disruption of service that lasts for more than one second. See Hit.

P

Parity Check
To determine whether a block of digital data has been corrupted in transmission, you can use an even-parity format in which an extra bit is added to the block at the transmitter if necessary so that the block always contain an even number of one bits. A parity-checking circuit at the receiving end can determine whether an error has occurred in transmission. An odd-parity format can also be used for the same purpose.

Parity Check
To determine whether a block of digital data has been corrupted in transmission, you can use an even- or odd-parity format in which an extra bit is added to the block at the transmitter if necessary so that the block always contains an even number of one bits. A parity-checking circuit at the receiving end can determine whether an error has occurred in transmission.

PBA
Primary Block Alarm

PBC
Primary Block Circuit

PBF
Primary Block Failure

PBX
Private Branch Exchange

PCM
Pulse Code Modulation

PCMCIA
Personal Computer Memory Card International Association

PDS
Program Documentation Standards (Language)

PF
Printout Follows

PFW
Pseudo-Frame Word

PLL
Phase-Locked Loop

PMA
Prompt Maintenance Alarm

PNI
Packet Network Interface

POTS
Plain Old Telephone Service

Primary Line
The second line in an output message.

Program
The software that directs the operation of the main controller and other frame elements.

Protocol
Detailed format and procedure used for transmitting data.

Protocol
Detailed format and procedures used for transmitting digital data.

Protocol Type
Indicates the protocol supported on the interface link.

Provisioned
The entity has been configured by the user and entered into the system database and is ready to be restored to service.

Provisioned
The entity is ready to perform its intended function"

PU
Power Unit

Pulse Code Modulation (PCM)
The process by which analog signals are sampled, quantized, and coded into a digital bit stream.

Pulse Code Modulation (PCM)
The process by which analog signals are sampled, quantized, and coded into a digital bit stream.

PVC
Permanent Virtual Circuit

R

R16
Remote Alarm Indication in TS16

RAI
Remote Alarm Indication

RAIS
Remote Alarm Indication Signal

RAM
Random Access Memory

RBER
Remote Bit Error Rate

RDC
Red Circuit

REER
Remote Bit Error

Released
If an input port, it is not under test access; if an output port, it is not cross-connected to an input port under test access.

Released
If an input port, not under test access; if an output port, not cross-connected to an input port under test access.

RL
Retry later

RMS-D
Remote Measurement System - Digital

RMS-I
Remote Measurement System - International

Rollover
Operation used when the transmission facility between the system and an upstream system is to be replaced.

RT
Remote Terminal

RTS
Remote Test System

RTS-5A
Remote Test System 5a

S

SAP
Status and Alarm Panel

SARTS
Switched Access Remote Test System

SCC
Subrate Cross-Connect

SCCSAI Switching Control Center System Asynchronous Interface

SECH
Subrate Establish Command

SERS
Severely Errored Seconds

SID
Source Identifier

SNIDER
Protocol (message format) used on administrative links.

SNIDER
Protocol (message format) used on asynchronous administrative links.

Software ID
Gives the software version information for a system: g - is a one-digit number giving the software release; i - is a two-digit number giving the issue; r- is a one-digit number giving the point release.

Software ID
The software version information for the system.

SPU
Synchronizer Power Unit

SRM
Subrate Multiplexer

SSC
Secondary Storage Controller

SSP
Select Synchronization Port

Standby
Entity is one of a duplicated pair, but not providing service. It is ready to be used to replace a similar entity either by protection or by duplex switching.

Standby
The entity is in service, but is not providing service functions. It is ready to be used to replace a similar entity either by protection or by duplex switching.

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