

Lucent Technologies
Bell Labs Innovations



DACS II
Release 8.0, PDS
2.048-Mb/s Interface
Command and Message Manual

Volume II

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Issue 1
November 1997

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Document Title: DACS II Release 8.0, PDS 2.048-Mb/s Interface Command and Message
Manual Volume II

Document No.: 365-353-142

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About This Document

Purpose

The *DACS II Release 8.0 Command and Message Manual* describes the input commands and output messages of Release 8.0 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 8.0 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 and a glossary. 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

Reason for Issue

The *DACS II Release 8.0 Command and Message Manual* has been issued to include updated and new commands applicable to Release 8.0.

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 — DLT

This section documents the commands **DGRTH** through **DLT**.

DGRTH,NPC

DEGROWTH NPC

Explanation Of Command

This command unequips network processing circuits (NPCs) in DACS II Facility Terminating Units (FTU), 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, a DS3U or a HDS3U. The HDS3U supports type TExyz and THxyz NPCs. The NPC numbers which are divisible by four with remainder zero, are not a 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 Circuits must be individually unequipped. When ranges of NPCs are addressed, the **DISC-EQPT** command will show a completion indication after the last NPC in the range is unequipped or the highest numbered NPC is successfully unequipped. **Before** the completion indication is output, individual denial messages will be output for each NPC **that is denied unequipage**. When ranges of NPCs are addressed, the **DGRTH** command will show a completion indication after the last NPC in the range is unequipped or the highest numbered NPC is successfully unequipped. **Before** the completion indication is output, individual denial messages will be output for each NPC **that is denied unequipage**.

For C-bit processing DSPU circuit packs (**CB**-type NPCs), unequipping an NPC range is not allowed. One output message is printed for each NPC that is successfully unequipped.

When an NPC range degrowth command within a unit crosses a Facility Terminating Module (FTM) boundary, if the FTM is unequipped, or the NPC is unequipped, in-service, designated as NPC test port for test ports, has active terminations or circuits under test, or for other conditions, gaps for such FTMs or two or more such NPCs will be skipped, with a summary message, as noted below.

Specifically:

- (a) Degrowth commands where the range address crosses a unit boundary will be denied.
- (b) For the degrowth NPC range command: output messages for such gaps of two or more NPCs will be denied in a summary command. The denial summary will use a floating window denial:

Floating Window Denial Message

Where a range NPC command is denied for successive NPCs in the range **for the same reason**, a summary denial message will 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.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.

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

PA, PB, and PC 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 and PC 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

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

uvmnp, uvkqr

- Hierarchical NPC numbers

uv - Unit number

m, k - Module number

np, qr - NPC number within the module

The values are:

PA, PB, and PC type numbers listed by unit, module, and NPC Number

Unit Type FT (IFTU2/IFTU/FTU)

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

CB type NPC numbers listed by unit, module, and NPC Number

Unit Type DP (DSPU)

Unit	Module	NPC
01-16	1-8	01

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 message before it can be degrown.

The exceptions are DSPU NPCs. If a cross-connected channel or a channel under test is present on the NPC, the message will be denied.

Degrowth of DMB NPCs results in degrowth of both duplicated NPCs in a DSPU NPC circuit pack. 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.

Additionally, the 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

mnxyz - NPC-type identifier

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)

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

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-serve (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][,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][,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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The values are:

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

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

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

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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The values are:

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

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

NPCTP - NPC test port
n - NPCTP number (1 through 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

<i>n</i>	<i>kk</i>	<i>nn</i>
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 - txyz**), 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 txyz[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

TP-type TLI xyz fields

x	- Frame format
x	<i>Explanation</i>
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
y	<i>Explanation</i>
0, 2	Alternate Mark Inversion (Bipolar)
1, 3	High Density Bipolar (HDB3)
4-9	Invalid
z	- Channel format
z	<i>Explanation</i>
0-9	Unassigned

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	- Timing distributor
p	- Timing distributor identification
	Variable TDpqr equals "-----" if the timing distributor is not equipped.
p	<i>Explanation</i>
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	<i>Explanation</i>
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 unequipping 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

When this request is completed, the two ETSI circuit packs required by the subject unit to cross-connect to other grown units are unequipped.

This message requests the degrowth of a DACS II unit.

When this request is completed, all cross-connect buffer and time slot interchange circuit packs required by the subject unit to cross-connect to other grown units are degrown.

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

For DACS II Non-CEF frames:
[O.32211]

M hh:mm:ss xy,ww n[vv] DGRTH UNIT q 5 LN MSG:
TOTAL TSIS tt 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 EOM

M hh:mm:ss xy,ww n[vv] DGRTH UNIT q 5 LN MSG:
TOTAL TSIS tt 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 EOM

M hh:mm:ss xy,ww n[vv] DGRTH UNIT q e LN MSG:
TOTAL TSIS tt DEGROWN TSIS dd
DEGROWN TSIS sft sft ... sft sft

.
.
.

DEGROWN TSIS sft sft ... sft sft {EOM|COMPL}

For DACS II CEF frames:
[O.32212]

M hh:mm:ss xy,ww n[vv] DGRTH UNIT qq 4 LN MSG:
TOTAL 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 {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)

TOTAL - Total

TSIS - Time slot interchangers

tt - Total number of provisioned TSIs in frame after unit is degrown
(00 through 70)

dd - Number of TSIs deprovisioned by command (00 through 22)

sft - TSI equipped status

s - Service side number (0 or 1)

f - FROM unit number

f *Explanation*

n Unit number n (equals 1 through 6) is equipped

 - Not equipped

t - TO unit number

t *Explanation*

n Unit number n (equals 1 through 6) is equipped

 - Not equipped

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)

ETSI - 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.

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.

- The unit is already degrown (UEQD), or
- The FTU is still equipped with m FTMI (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),

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	<i>Explanation</i>
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 message 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	<i>Explanation</i>
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 is 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	<i>Explanation</i>
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

Message Logging

Alarm Severity

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	
		Message Logging
		Alarm Severity
		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

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

PA, PB, and PC 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 and PC 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

uvmnp,wkxqr,abcde

- Hierarchical NPC number

uv,wk,ab

- Unit number

m,x,c

- Module number

np,qr,de

- NPC number

The values are:

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

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

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

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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.

one to seven characters long.

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.

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

PA, PB, and PC 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 and PC 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

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.

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

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

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!OK
TCON::FROM 00102,TO 00502!OK
TCON::FROM 00103,TO 00503!OK
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!OK
TCON::FROM #0102,TO #0202!OK
TCON::FROM #0103,TO #0203!OK
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!OK
TCON::FROM 02002,TO 04002!OK
TCON::FROM 02003,TO 04003!OK
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
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 I
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.

wdx *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,CI,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
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|CI}] TN dddd COMPL

Explanation Of Parameters

MC - Main controller

MP - Main processor

CI - 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)

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

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)

The values are listed below:

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

Unit	Module	NPC
01-16	1-8	01

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

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	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:

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

uvmnp - Hierarchical NPC number for beginning of range

wxkqr - Hierarchical NPC number for end of range

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

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

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
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

cc *Explanation*

- 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** uvmp][**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

<i>bit</i>	<i>Explanation</i>
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

<i>bits</i>	<i>Explanation</i>
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

<i>bit</i>	<i>Condition</i>
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	<i>Explanation</i>
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 time 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

<i>Name</i>	<i>Explanation</i>
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	<i>Explanation</i>
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

<i>CBaction</i>	<i>Explanation</i>
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 uvmp[-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 I
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

cc *Explanation*

- 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 6)

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.

<i>a0</i>	<i>Explanation</i>
00	Session established on virtual circuit
01	Session closed on virtual circuit

<i>a1</i>	<i>Explanation</i>
00	always set to 00

a2 - Virtual circuit number (hexadecimal)

<i>a2</i>	<i>Virtual circuit number</i>
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,MSG,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

MSG - 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.

ERR,PWR,PMC,PMA,DMA,MI,TN

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 1 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}
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.

<i>bit #</i>	<i>Explanation</i>
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.

[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

[illegible]

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

<i>error type</i>	<i>Explanation</i>
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

<i>action</i>	<i>Explanation</i>
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

<i>entity</i>	<i>Explanation</i>
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	- Synchronizer 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	<i>Explanation</i>

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	<i>Explanation</i>

efP	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	<i>Explanation</i>

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
- 000** 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 OfP

001 TLI 1, SSP 1

010 TLI 2, SSP 0

011 TLI 2, SSP 1

100 TLI 3, SSP OfP

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
00F	- 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 statusfP

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 uvmp] **
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

uvmp - 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

00F - 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	<i>Explanation</i>

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

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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

t t t - Entity name

t t t *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

<i>ttt</i>	<i>eee</i>	<i>Explanation</i>
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 through 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
0qq s	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:
<i>d0</i>	<i>Explanation</i>
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

d5-d0 - Hexadecimal data bytes

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

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.
- 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)
- 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
- 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

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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are:

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

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

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

83 Attention: preceding ccode 83 is an anomaly - see problem list

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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are:

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

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

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

<i>n</i>	<i>kk</i>	<i>mm</i>
1	01	12
2	13	24
3	25	36
4	37	48
5	49	60
6	61	72
7	73	84
8	85	96

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
83	Attention: preceding ccode 83 is an anomaly - see problem list
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 UNIT NPC

Explanation Of Command

This command is used to request the provisioning of a signaling conversion circuit pack in an integrated facility terminating unit. This pack performs signaling conversion between an E1 NPC and T1 NPC. Two time slots are allocated per cross-connected circuit; one for the E1 side and one for the T1 side. A maximum of 32 cross-connections can be processed per signaling conversion circuit pack.

Only odd numbered NPCs may be provisioned. The next higher even numbered NPC is not available for other NPC types and must be unequipped when the SP100 NPC is provisioned. When specifying a range of NPCs to be provisioned the beginning and end of the range must be specified as odd numbers and must not extend into a domestic module.

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.31331.02]

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.31331.02]

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

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

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

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

mnxyz - NPC type

mnxyz *Explanation*

SP100 Signaling Conversion

cc - Hexadecimal condition code

cc *Explanation*

26 NPC type error

38 Deny SP Type NPCs for Alternate Maps

F2 Invalid NPC number specified

A1 The parameter specified does not match with the NPC type

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 uvmpn 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 uvmpn TYPE mnxyz [CBTIMER [t]v] EQD DNY

[O.31351.02]

M hh:mm:ss xy,ww n[vv] GRTH NPC uvmpn 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.

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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid NPC numbers are:

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

Unit	Module	NPC
01-16	1-8	01

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.

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

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,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 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.

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          nnnnnn          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.

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

PA, PB, and PC 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 and PC 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

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

The allowable values are:

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

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

TYPE - Type

mnxyz - NPC-type identifier

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.

PB- and PC-type xyz fields

Table 12-1. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW bit 3=RAI set in < 2 ms,
		001	NFW bit 3=RAI set in time $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8,in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
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 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

* 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.

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 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.

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 ($[s]abc \leq [s]jkl \leq [t]def$)
[t]mno - Nonhierarchical NPC number ($[s]jkl \leq [t]mno \leq [t]def$)

uvjkl - Hierarchical NPC number ($uvmnp \leq uvjkl \leq uvkqr$)
uvmno - Hierarchical NPC number ($uvjkl \leq uvmno \leq uvkqr$)

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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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
- 83** NPC type is inconsistent with FTMI type
- 84** Incompatible types of NPCs in a DDC
- 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,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 bbbbbbbbbb ccccc ddddd eeeee ffffff gggggggggg
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  aaaaaaaaaa bbbbbbbbbb ccccc dddd  eeeee fffff gggggggggg  
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 llll  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  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:  
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.

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

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

The allowable values are:

PA type numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

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

TYPE - Type

mnxyz - NPC-type identifier

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.

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 12-2. 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 12-3. 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 12-4. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)
3. z values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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.

^{*} 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.

- [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 12-5. Combinations of x and y Values

Invalid xyz Combinations	Explanation
8Cz	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.
9Cz	
CCz	
DCz	
0Dz	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.
1Dz	
2Dz	
3Dz	
4Dz	
5Dz	
6Dz	
7Dz	
8Dz	
9Dz	
ADz	
CDz	
DDz	
EDz	

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) enables (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 12-6. 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 12-7. 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 TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.

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.

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 12-8. 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 maintenance 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 ($[s]abc \leq [s]jkl \leq [t]def$)

[t]mno - Nonhierarchical NPC number ($[s]jkl \leq [t]mno \leq [t]def$)

uvjkl - Hierarchical NPC number ($uvmnp \leq uvjkl \leq uvkqr$)
uvmno - Hierarchical NPC number ($uvjkl \leq uvmno \leq uvkqr$)

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)

bbbbbbbbbb

- Daily framing error threshold value.

b

- Daily framing error threshold selection, (0 through 3)

cccccc

- Daily out of frame seconds threshold value.

c

- Daily out of frame seconds threshold selection, (0 through 3)

dddddd

- Daily errored second threshold value.

d

- Daily errored second threshold selection, (0 through 3)

eeeeee

- Daily severely errored second threshold value.

e

- Daily severely errored second threshold selection, (0 through 3)

ffffff

- 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)

jjjj - 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)

mmmm - 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)

bbbbbb - 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)
<u>g g g g g g g</u>	- 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)
<u>j j j</u>	- 15-Minute multiframe alignment error threshold value.
j	- 15-Minute multiframe alignment error threshold selection, (0 through 3)
<u>k k k k k k k</u>	- 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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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 in a DDC
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,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	<i>Time base</i>

0	Stratum 3

1	CEPT Local

2	CEPT Toll

3	Stratum 2

cc - Hexadecimal condition code

cc	<i>Explanation</i>

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

<i>te</i>	<i>Explanation</i>
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.

Valid x, y, and z values for the other timing extractors are:

TP-type TLI xyz fields

x - Frame format

x	<i>Explanation</i>
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

y	<i>Explanation</i>
0, 2	Alternate Mark Inversion (Bipolar)
1, 3	High Density Bipolar (HDB3)
4-9	Invalid

z - Channel format

z	<i>Explanation</i>
0-9	Unassigned

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

The valid values for x, y, and z are:

TD-type TLI xyz fields

x - Timing distributor identification

x	<i>Explanation</i>
1	Composite Clock Timing Distribution
2	Sinusoidal 2.048 MHz Timing Distribution

y - Unassigned

z - Unassigned

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

The valid NPC numbers are:

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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid NPC numbers are:

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

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)

cc *Explanation*

- 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
- 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	<i>Explanation</i>
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

cc *Explanation*

- 95** TG East/West type inconsistent with each other or circuit
- A0** TS16 specified for CAS TG
- 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).

<i>signaling</i>	<i>Explanation</i>
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.

<i>insertion word</i>	<i>Explanation</i>
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 hexadecimal 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	<i>Explanation</i>
75	75-ohm coaxial termination
120	120-ohm twisted pair termination
CEPT	- Conference of European Postal and Telecommunications Administration
COND	- Condition
cc	- Hexadecimal condition code
cc	<i>Explanation</i>
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,CONN

PROVISION A UNIT

Explanation Of Command

This command requests the provisioning of a DACS II unit.

For a NonCEF frame this will result in the provisioning of all cross-connect and time slot interchange circuit packs. For a CEF frame 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, TSI, 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

For DACS II Non-CEF frames:
[I.31211]

GRTH:FRM xy,SEQ ww:UNIT q[,TYPE utxyz]
[,CONN(a[,b[,c[,d[,e [,f]]]]))!]

For DACS II CEF frames:
[I.31211]

GRTH:FRM xy,SEQ ww:UNIT [q]q[,TYPE utxyz]!

Completion Message

For DACS II Non-CEF frames:

[O.31211]

M hh:mm:ss xy,ww n[vv] GRTH UNIT q utxyz
[CONN a b c d e f]
5 LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn
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 EOM

M hh:mm:ss xy,ww n[vv] GRTH UNIT q utxyz
[CONN a b c d e f]
5 LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn
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 EOM

M hh:mm:ss xy,ww n[vv] GRTH UNIT q utxyz
[CONN a b c d e f]
e LN MSG:

CCB 0q 1q TOTAL TSIS tt NEW TSIS nn
NEW TSIS sft sft ... sft sft
NEW TSIS sft sft ... sft sft [COMPL]
[FMT 0 1 FLI S P MXR P COMPL]

For DACS II CEF frames:

[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 <i>uexyz Explanation</i>
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.

For both Non-CEF and CEF frames, if the unit type is not entered, the unit type will default to FT100.

For Non-CEF frames, the optional CONN field is used if only a partial complement of the unit's TSI circuit packs is to be provisioned. If this field is not used, all TSI circuit packs are provisioned and the unit has full connectivity with other provisioned units.

CONN - Connectivity

a, b, c, d, e, f

- Time slot interchange numbers

A partial complement of the unit's TSIs have been provisioned. (If this field is absent, all of the unit's TSIs were provisioned.)

CCB - Cross-connect buffer

0q - CCB number side 0

1q - CCB number side 1

0q and 1q identify the cross-connect buffer(s) provisioned. q is the unit number (see UNIT above).

tt - Total number of provisioned TSIs in frame (02 through 72)

NEW - New

TSIS - Time slot interchangers

nn - Number of TSIs provisioned by command (02 through 22)

sft	- TSI equipped status
s	- Service side number (0 or 1)
f	- Equipped FROM unit number (1 through 6) if equipped
-	- Not equipped
t	- Equipped TO unit number (1 through 6) if equipped
-	- Not equipped
e	- Number of lines in message
	Equals either 4 or 5 depending on the type of the unit provisioned.
ETSI	- Expanded timeslot 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.
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	<i>Explanation</i>
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

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.

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 circuit number is optional. The INCL keyword is also optional. The virtual circuit number and INCL are mutually exclusive. The INCL keyword must be specified to log off all virtual circuits of an X.25 link (5 or 6).

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 6)

mm - Virtual circuit number (01 through 16)

The virtual circuit number must be entered when logging off a single virtual circuit of an X.25 link.

INCL - Inclusive

Include virtual circuits of links 5 and 6. The INCL keyword can only be entered with X.25 links 5 and 6, and no virtual circuit 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 circuits of X.25 link (5 or 6).

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

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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 successfully 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 DACSIgg.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
	Message Logging
	Alarm Severity
	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 equipped, 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

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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

[|.12121]

OCNT:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\
MPM(fmd,tmd)[,<tc>][,NAM][,{CUS|INCL}][,RDC]!

Hierarchical

[|.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

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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)

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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)

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:

<i>tc</i>	<i>Explanation</i>
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 equipped, 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
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

cc	st	<i>Explanation</i>
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	<i>Explanation</i>
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]abcdddd[-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

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

PA, PB, and PC 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 and PC 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

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:

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

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

ddd,
jjj
eee,
kkk

- Channel numbers, denoting the beginning of a range

- Channel numbers, denoting the end of a range

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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:

<i>insertion word</i>	<i>Explanation</i>
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 14-1. 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	<i>Explanation</i>
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
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	<i>Explanation</i>
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}	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

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

uvmnp - Hierarchical FROM NPC number

wxkqr - Hierarchical TO NPC number

uv, wx - Unit number

m, k - Module number

np, qr - NPC number

The valid values are listed below:

PA type numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

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

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

[|.11121]

```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk],\  
MPM(fmd,tmd),<tc>[, {CUS|INCL}][,RDC]!
```

Hierarchical

[|.11121]

```
OCON:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxqrrjjj[-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

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

PA, PB, and PC 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 and PC 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

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:

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

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

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)

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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:

<i>tc</i>	<i>Explanation</i>
TRSP	Transparent, no signaling.

The following insertion word options are allowed:

<i>IW</i>	<i>Explanation</i>
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 ($ddd \leq mmm \leq eee$)

st - Status

d - Direction (F = From, T = To, B = Both)

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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 equipped, 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

cc	st	<i>Explanation</i>
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	<i>Explanation</i>
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

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

[|.11101]

```
OCON:FRM xy,SEQ ww:FROM [s]abcddd[-eee],TO [t]ghijjj[-kkk]\
[,<tc>][,<sc>][,NAM][,RDC][{,CUS|,INCL}][,PRIOUT]!
```

Hierarchical

[|.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

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

PA, PB, and PC 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 and PC 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

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

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

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

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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:

<i>tc_sig</i>	<i>Explanation</i>
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:

<i>tc_iw</i>	<i>Explanation</i>
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 14-3. 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	<i>Explanation</i>
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	<i>Explanation</i>
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}	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-CANNELIZED 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

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

PA, PB, and PC 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 and PC 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

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

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

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

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	<i>Explanation</i>
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	<i>Explanation</i>
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

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

PA, PB, and PC 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 and PC 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

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 valid values are listed below:

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

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

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)

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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	<i>Explanation</i>
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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 command
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

cc	st	<i>Explanation</i>
76	CONFERR	The first channel of VC BRD leg doesn't match that in the input command
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
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	<i>Explanation</i>
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 uvmpddd[-eee], TO wxqrrjjj[-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]abcdddd[-eee],[t]ghijjj[-kkk]\
[mmm,nnn] cc <st> DNY

[O.15101.02]

M hh:mm:ss xy,ww n[vv] ODIS [s]abcdddd[-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

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

PA, PB, and PC 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 and PC 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

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

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

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

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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

<i>d</i>	<i>Explanation</i>
F	From
T	To
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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	<i>Explanation</i>
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, 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

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

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

The values are listed below:

PA type numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

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

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	<i>Explanation</i>
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	<i>Explanation</i>
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

dx *Explanation*

01 user stack pointer (A7)
02-32 dump of stack data (in reverse order)

MEMORY - Memory

MEMORY DATA interpretation

dx *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.

dx	<i>Explanation</i>
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.

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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

None.

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

pa - Priority of action field.

#beginlist

<i>pa</i>	<i>Explanation</i>

I	Information

*	Minor alarm

**	Major alarm

*C	Critical alarm

#endlist

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

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 cc 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

CCI - Clock and control interface

s - Side No. (0 or 1)

cc - Completion condition code (hexadecimal)

To interpret values of cc 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,ETSlS,ECCN,ALL

REMOVE ETSlS 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 (ETSlS) 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:ETSlS,ECCN s,ALL!

Completion Message

[O.33271]

M hh:mm:ss xy,ww n[vv] RMV ETSlS ECCN s ALL 5 LN MSG:

TOTAL ETSlS 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 ETSlS ECCN s ALL **

COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

ET SIS - Expanded time slot interchangers

ECCN - Expanded cross-connect network

s - Side number (0 or 1)

kk - Total number of ET SIs equipped in side s (01 through 16).

r - Indication of the completion or denial of the removal for each individual ET SI pack.

r Explanation

C Completed

D Denied

- ET SI not equipped

nn - Hexadecimal condition code for the particular ET SI.

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 6)

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. 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.

A range of NPCs cannot be specified for Digital Signal Processing Unit NPCs. The NPCs can belong to a Facility Terminating Unit, or a Digital Signal Processing Unit. 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). 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 **CRTE CRS** command). The **INCL** keyword is required for removal of one or more cross-connected Network Processing Circuits with customer or red lined marking.

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 restore command addresses a range of NPCs, the restoral 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) Restore commands where the address range crosses a Unit boundary shall be denied.
- (b) For restore 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 restore 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).

The allowable values are presented below:

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

PA, PB, and PC 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 and PC 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

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

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

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

The allowable values are:

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

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

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

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

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

mnxyz - NPC-type identifier

mn	Explanation
SP	Digital Signal Processing Circuit Pack
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)

SP-type xyz fields

x	- Fixed at 1
y	- Fixed at 0
z	- Fixed at 0

CB-type xyz fields

x	- Fixed at 1
y	- Fixed at 0
z	- Network timer value
z	<i>Value in milliseconds</i>
0	600 to 750
1	1500 to 1650
2	2400 to 2550
3	4650 to 4800

PB- and PC-type xyz fields

Table 15-1. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW bit 3=RAI set in < 2 ms,
		001	NFW bit 3=RAI set in time $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8,in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
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 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 conditions and is set to 1 for alarm conditions.

* 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.

[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.

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 15-2. 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.

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.

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

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 15-3. 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 15-4. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)

3. **z** values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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.

* 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.

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 15-5. 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.
0Dz 1Dz 2Dz 3Dz 4Dz 5Dz 6Dz 7Dz 8Dz 9Dz ADz CDz DDz 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) enables (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 15-6. 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 15-7. Combinations of *x* and *z* Values

Invalid xyz Combinations	Explanation
4yC 5yC 6yC 7yC CyC DyC EyC FyC	Use of NPC as Sync Source (<i>x</i> 4, 5, 6, 7, C, D, E and F) is not valid for TRANSMIC 1G (<i>z</i> value C). This is because the TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.

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
3E DSPI failed
5C NPC providing timing to inservice SSP
9B INCL must be specified for SRDC ckts
F2 Invalid NPC number specified
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

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	<i>Explanation</i>
A	Autonomous
I	Informational
*	Minor
**	Major
*C	Critical

il - Intervention level.

il	<i>Explanation</i>
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.

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 - Synchronizer

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

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
33 Wrong TLI type
A9 Both syncs are out-of-service

RMV,SYNC,TLI,SSP

REMOVE SYNCHRONIZER'S TLI OR SSP

Explanation Of Command

This message requests the removal of the synchronizer's timing link interface from service.

If the timing link interface was configured as a timing extractor, synchronizer sync Port 0 or 1 must also be specified.

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

[O.33121.01]

pa <il> hh:mm:ss xy,ww RMV SYNC a TLI m[SSP b[c]] \
{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

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 autonomous 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 cc 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	<i>Explanation</i>

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	<i>Explanation</i>

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 cc 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 cc 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

MC 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

cc *Explanation*

1F FTMI is in service but failed

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 cc 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 cc 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,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 cc 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

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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 cc 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 cc 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 cc 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,ETISIS,ECCN,ALL

RESTORE ALL ETISIS

Explanation Of Command

This command is applicable only to the capacity expansion frame (CEF).

It requests that all equipped expanded time slot interchangers (ETISIs) in side s of the expanded cross-connect network (ECCN) be restored to service.

Command

[I.34271]

RST:FRM xy,SEQ ww:ETISIS,ECCN s,ALL!

Completion Message

[O.34271]

M hh:mm:ss xy,ww n[vv] RST ETISIS ECCN s ALL 5 LN MSG:

TOTAL ETISIS 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 cc COMPL

Denial Message

[O.34271.01]

M hh:mm:ss xy,ww n[vv] RST ETISIS 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 ETSiSs equipped (01 through 16)

r - Restore status

Indication of the completion or denial of the restoration for each individual ETSiS pack.

r Explanation

C Completed

D Denied

- ETSiS not equipped

nn - Hexadecimal condition code for the particular ETSiS

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

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

cc *Explanation*

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 6)

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,FRC,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,FRC!**

The FRC keyword forces the system to be restored when there is an empty data base in the PMEM. At the completion of the command the MC will be in IS state.

WARNING:

The use of the NOJRNL or FRC keywords 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,FRC!

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,FRC command is entered, DACS II will respond 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 will display the **COMMAND ABORTED** response.

Command

For Normal Operations:
[I.34001]

RST:FRM xy,SEQ ww:MC[, {MCOND|NOJRNLFRC}] !

For Installation and Product Evaluation Only:
(Can be used only if the AT&T security warning feature bit is set)

[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|NOJRNLFRC}] COND cc COMPL

For Installation and Product Evaluation Only:
(Will be available only if the AT&T security warning feature bit is set)
[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|NOJRNLFRC}] COND cc DNY

For Installation and Product Evaluation Only:
(Will be available only if the AT&T security warning feature bit is set)
[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.

FRC - Force

Force the frame to boot when there is an empty data base in the PMEM.

Note that the FRC option is a restricted command.

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 equipped, 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
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
EF	SSC circuit pack is still equipped; pull-out/remove SSC
F1	PMEM and SMEM synchronization fail
F2	Not a DACS II compatible Flash Card

cc *Explanation*

- F3** Flash Card is empty
- F4** PMEM and SMEM are different
- F5** Flash Card is not present
- F6** Flash Card is bad

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
The valid values are listed below:

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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are listed below:

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

Unit	Module	NPC
01-16	1-8	01

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
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), DS3 Unit (DS3U), Hybrid DS3 Unit (HDS3U), or Digital Signal Processing Unit (DSPU) Network Processing Circuits (NPC) to service.

A range of FTU, 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).

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

PA, PB, and PC 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 and PC 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

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

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

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

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

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

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

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

Unit	Module	NPC
01-16	1-8	01

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

mnxyz - NPC-type identifier

<i>mn</i>	<i>Explanation</i>

SP	Digital Signal Processing Circuit Pack

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)

SP-type xyz fields

x - Fixed at 1

y - Fixed at 0

z - Fixed at 0

CB-type xyz fields

x	- Fixed at 1
y	- Fixed at 0
z	- Network timer value
z	<i>Value in milliseconds</i>
0	600 to 750
1	1500 to 1650
2	2400 to 2550
3	4650 to 4800

PB- and PC-type xyz fields

Table 16-1. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW bit 3=RAI set in < 2 ms,
		001	NFW bit 3=RAI set in time $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8,in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
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 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 conditions and is set to 1 for alarm conditions.

* 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.

[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 **abcdefg=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 **abcdefg=00000000**, unless the xyz parameters set them differently, that is, for Transmic 1G the abcdefgh=00111111.

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 16-2. 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.

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.

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

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 16-3. 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 16-4. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)

3. **z** values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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.

* 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.

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 16-5. 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.
0Dz 1Dz 2Dz 3Dz 4Dz 5Dz 6Dz 7Dz 8Dz 9Dz ADz CDz DDz 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) enables (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 16-6. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 16-7. Combinations of *x* and *z* Values

Invalid xyz Combinations	Explanation
4yC	Use of NPC as Sync Source (<i>x</i> 4, 5, 6, 7, C, D, E and F) is not valid for TRANSMIC 1G (<i>z</i> value C). This is because the TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.
5yC	
6yC	
7yC	
CyC	
DyC	
EyC	
FyC	

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
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 Unpestering 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

cc *Explanation*

- 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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

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

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

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 use 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 PMEM and SMEM cards will always be synchronous.

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

If any of the above conditions exist, the frame must 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 proceeds 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
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

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

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    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 cc 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,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 cc 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 cc 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 of the inservice NPCS associated with
FC/FMT

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Lucent Technologies
Bell Labs Innovations



DACS II
Release 8.0, PDS
2.048-Mb/s Interface
Command and Message Manual

Volume III

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About This Document

Purpose

The *DACS II Release 8.0 Command and Message Manual* describes the input commands and output messages of Release 8.0 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 8.0 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 and a glossary. 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

Reason for Issue

The *DACS II Release 8.0 Command and Message Manual* has been issued to include updated and new commands applicable to Release 8.0.

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

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 l[mm]]!

Completion Message

[O.39311]

M hh:mm:ss xy,ww n[vv] STOP MACRO <macro name>[l[mm]] COMPL

Denial Message

[O.39311.01]

**M hh:mm:ss xy,ww n[vv] STOP MACRO <macro name>[l[mm]] \
COND cc DNY**

Autonomous Message

Not applicable.

Explanation Of Parameters

MACRO - Macro

LINK - Link

l[mm] - Administrative link number

l - Physical link number (1 through 6)

mm - Virtual circuit number (01 through 16)

Variable m is the virtual circuit number in the administrative link.
mm may only be specified when l is 5 or 6.

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.)

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

Same as North American

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.

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

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 substrate 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	<i>Explanation</i>
A9		Cross-connect not consistent with feature package
EC	MCOND	Invalid channel 000 cross-connection specified
ED	MCOND	Invalid channel 031 cross-connection specified

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.)

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.

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

INCL - Inclusive

A circuit designated as a customer controlled circuit, a red circuit or a substrate 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*

A9 Cross-connect not consistent with feature package

B6 C-bit operations are enabled

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.

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

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	<i>Explanation</i>

A9		Cross-connect not consistent with feature package

EC	MCOND	Invalid channel 000 cross-connection specified

ED	MCOND	Invalid channel 031 cross-connection specified

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.

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

00S - 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 the denial (ddd through eee).

cc - Hexadecimal condition code

cc *Explanation*

A9 Cross-connect not consistent with feature package

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.

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

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 substrate 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	<i>Explanation</i>
A9		Cross-connect not consistent with feature package
EC	MCOND	Invalid channel 000 cross-connection specified
ED	MCOND	Invalid channel 031 cross-connection specified

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.

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

INCL - Inclusive

A circuit designated as a customer controlled circuit, a red circuit or a substrate 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).

cc - Hexadecimal condition code

cc *Explanation*

A9 Cross-connect not consistent with feature package

B6 C-bit operations are enabled

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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

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

PA, PB, and PC 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 and PC 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

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 list of valid values given below is limited by the equipage of the frame.

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

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

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)

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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)

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	<i>Explanation</i>
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	<i>Explanation</i>
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:

<i>signaling</i>	<i>Explanation</i>
TRSP	Transparent, no signaling

The following insertion word options are allowed:

<i>IW</i>	<i>Explanation</i>
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

<i>m</i>	<i>Explanation</i>
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	<i>Explanation</i>
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 equipped, 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	<i>Explanation</i>
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	<i>Explanation</i>
ASGN	{F T B}	Termination assigned
CUS	{F T B}	Customer-controlled Circuit
FAIL	{F T B}	Failed
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
The values are listed below:

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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

TC(ijkl, mnop), IW X'nn

16-state signaling

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 18-1. 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 18-2. 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	<i>Explanation</i>
F	FROM
T	TO
B	Both

st - Status of denial

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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
EE	INERR	Trunk type is not allowed in the circuit specified
40	MCOND	Not enough DSPPs are equipped
41	MCOND	Not enough DSPPs are in service
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}	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

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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical FROM NPC number

wxkqr - Hierarchical TO NPC number

uv, wx - Unit number

m, k - Module number

np, qr - NPC number

The values are listed below:

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

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

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	<i>Explanation</i>
F	From
T	To
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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	<i>Explanation</i>
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

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

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

The valid values are listed below:

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

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

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	<i>Explanation</i>
F	From
T	To
B	Both

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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	<i>Explanation</i>
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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

Values are listed below:

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

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

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	<i>Explanation</i>
F	FROM
T	TO
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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 equipped, 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	<i>Explanation</i>
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]abcd[ddd[-eee]],TO [t]ghij[ddd[-kkk]],\  
MPM(fmd,tmd)[,<tc>][,<nam>],[NTR m][,<rdc>][,<cus|incl>]!
```

Hierarchical

[I.11021]

```
TCON:FRM xy,SEQ ww:FROM uvmnp[ddd[-eee]],TO wxkqrj[ddd[-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

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

PA, PB, and PC 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 and PC 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

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:

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

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

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)

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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)

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)

BBBL 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:

<i>signaling</i>	<i>Explanation</i>
TRSP	Transparent, no signaling

The following insertion word options are allowed:

<i>IW</i>	<i>Explanation</i>
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 Same explanation as E1 to E1.
DS1 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 equipped, 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	<i>Explanation</i>
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 substrate 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	<i>Explanation</i>
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	<i>Explanation</i>
ASGN	{F T B}	Termination assigned
CUS	{F T B}	Customer-controlled Circuit
FAIL	{F T B}	Failed
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]abcdddd

- 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

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

PA, PB, and PC type numbers listed by unit, module, and NPC Number

Unit Type FT (IFTU2/IFTU/FTU)

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

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)**.

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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

TC(ijkl, mnop), IW X'nn

16-state signaling

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 18-3. 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 18-4. 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	<i>Explanation</i>
F	FROM
T	TO
B	Both

st - Status

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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
EE	INERR	Trunk type is not allowed in the circuit specified
40	MCOND	Not enough DSPPs are equipped
41	MCOND	Not enough DSPPs are in service
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
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

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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical FROM NPC number

wxkqr - Hierarchical TO NPC number

uv, wx - Unit number

m, k - Module number

np, qr - NPC number

The values are listed below:

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

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

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	<i>Explanation</i>
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	<i>Explanation</i>
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
8A	INERR	Mismatch between channel 0 crossconnect and keywords
9D	INERR	NPC containing channel 000 is invalid type.

st	d	<i>Explanation</i>
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-CANNELIZED 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

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

uvmp - 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:

PA type numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

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

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	<i>Explanation</i>
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	<i>Explanation</i>
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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical FROM NPC number

uv - Unit number

m - Module number

np - NPC number

The valid values are listed below:

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

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

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

<i>d</i>	<i>st</i>	<i>Explanation</i>
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	<i>Explanation</i>
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
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

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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)

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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)

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 equipped, 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 command
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 command
77	CONFERR	Tried to disconnect a nonexisting VC

cc	st	<i>Explanation</i>
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	<i>Explanation</i>
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, 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][,PRIOUT]!

Hierarchical

[I.15001]

TDIS:FRM xy,SEQ ww:FROM uvmnpddd[-eee],TO wxkqrjjj[-kkk]\
[,INCL][,OOS][,DCC][,PRIOUT]!

Completion Message

Nonhierarchical

[O.15001]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcddd[-eee],[t]ghijjj[-kkk]\
[OOS][DCC][RDC][PRIOUT] COMPL

Hierarchical

[O.15001]

M hh:mm:ss xy,ww n[vv] TDIS uvmnpddd[-eee],wxkqrjjj[-kkk]\
[OOS][DCC][RDC][PRIOUT] COMPL

Denial Message

Nonhierarchical

[O.15001.01]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcdddd[-eee],[t]ghijjj[-kkk]\
[mmm,nnn] cc <st> DNY

[O.15001.02]

M hh:mm:ss xy,ww n[vv] TDIS [s]abcdddd[-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

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

PA, PB, and PC 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 and PC 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

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:

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

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

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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.

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	<i>Explanation</i>
F	From
T	To
B	Both

st - Status of denial

cc - Hexadecimal condition code

cc	st	<i>Explanation</i>
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	<i>Explanation</i>
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, 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

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

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

The valid values are listed below:

PA type numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

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

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	<i>Explanation</i>
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	<i>Explanation</i>
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** uvmpn **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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

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

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

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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number

m - Module number

np - NPC number

The values are listed below:

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

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

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 \
[jklmnp] 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

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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 equipped, not in service, or failed

cc *Explanation*

- 1A** Required FLI not equipped, not in service, or failed
- 1B** Required MXR not equipped, not in service, or failed
- 1C** Req'd FMT not eq'd, not IS, or failed, or inact side FMT not eq'd, 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
- 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 not in 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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical TO NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are listed below:

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

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

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.

<i>signaling</i>	<i>Explanation</i>
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.

<i>insertion word</i>	<i>Explanation</i>
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	<i>Explanation</i>
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
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,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 override 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:

<i>signaling</i>	<i>Explanation</i>
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	<i>Explanation</i>
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

st	<i>Explanation</i>
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

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

PA, PB, and PC 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 and PC 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

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 valid values are listed below:

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

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

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 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

47 Invalid channel number

49 test group unequipped

5A NPC not in service or failed

5E invalid test access mode

TTST,MON,TO,NAM,TP

TWO-WAY TEST ACCESS, MONITOR

Explanation Of Command

This message 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.

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]ghijj may not be specified.

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical TO NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are listed below:

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

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

jjj - TO Channel number

Channel numbers

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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

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.

<i>signaling</i>	<i>Explanation</i>
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 terminations is nonsignaling associated (NSA) type.

<i>insertion word</i>	<i>Explanation</i>
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 hexadecimal 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 ghijj.

[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	<i>Explanation</i>
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. 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 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]ghipp] 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

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

PA, PB, and PC 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 and PC 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

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 valid values are listed below:

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

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

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

<i>f</i>	<i>Explanation</i>
F	FROM NPC is in CGA or PBA
0	FROM NPC is not in CGA or PBA

t - TO CGA or PBA state

<i>t</i>	<i>Explanation</i>
T	TO NPC is in CGA or PBA
0	TO NPC is not in CGA or PBA

b - TG digroup CGA or PBA state

<i>b</i>	<i>Explanation</i>
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 not in 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

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

PA, PB, and PC 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 and PC 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

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 valid values are listed below:

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

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

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.

TLA - Terminate and leave active

S - Termination state of the circuit

<i>s</i>	<i>Explanation</i>
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	<i>Explanation</i>
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 not in service or failed
5E	invalid test access mode

TTST,SPL,TP

TWO-WAY TEST ACCESS

Explanation Of Command

This message 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.

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,uvmpjjj \
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

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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

NOTE: If the field [s]abcd (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	<i>Explanation</i>
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 {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} 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

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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 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
- 49** test group unequipped
- 58** NPC is OOS for a TGR command and OOS keyword not specified
- 5A** NPC not in service or failed

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:

<i>m</i>	<i>Explanation</i>
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.

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

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)

vvv - Channel or conference number

Channel numbers

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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)

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

<i>s</i>	<i>Explanation</i>
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

<i>st</i>	<i>Explanation</i>
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
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 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

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

PA, PB, and PC 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 and PC 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

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 valid values are listed below:

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

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

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

<i>m</i>	<i>Explanation</i>
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 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

44 Invalid direction specified for NTST TLA/TLR

49 test group unequipped

54 invalid mode for TLA/TLR

55 circuit already terminated

5A NPC not in service or failed

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:

<i>m</i>	<i>Explanation</i>

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.

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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)

vvv - Channel or conference number
Channel numbers

000-030 CEPT type NPCs grown as CAS
000-031 CEPT type NPCs grown as NSA

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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)

[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	<i>Explanation</i>
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
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 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

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

PA, PB, and PC 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 and PC 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

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 valid values are listed below:

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

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

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

<i>m</i>	<i>Explanation</i>
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 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

44 Invalid direction specified for NTST TLA/TLR

49 test group unequipped

56 circuit not terminated

5A NPC not in service or failed

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.

Substrate 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

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.

Command

[I.27001]

TTST:FRM xy,SEQ ww:TPR,TP kk[,OOS]!

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] [NTR] COMPL

Hierarchical

[O.27001]

M hh:mm:ss xy,ww n[vv] TTST TPR wxkqrddd,uvmpjjj \
[RDC][CUS] TP kk[TLA s][OOS] [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,uvmpjjj \
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,uvmpjjj \
[RDC][CUS] TP kk[TLA s][OOS] [NTR] COMPL

[O.27001.02]

I hh:mm:ss xy,ww TTST TPR wxkqrddd,uvmpjjj \
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

[s]abc - The 3- or 4-digit nonhierarchical FROM NPC number

[t]ghi - The 3- or 4-digit nonhierarchical TO NPC number

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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)

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

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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)

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	<i>Explanation</i>
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

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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 inputting 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

BACKUP MEMORY TRANSFER

Explanation Of Command

This message 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.

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:

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

Command

[I.55701]

UTL:FRM xy,SEQ ww:BMTR,FROM <from>,TO <to>[, {EXCT|INCL}]!

Completion Message

[O.55701]

M hh:mm:ss xy,ww n[vv] UTL BMTR FROM <from> TO <to>\
[{EXCT|INCL}] 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}] \
COND cc DNY

Autonomous Message

[O.55701]

A hh:mm:ss xy,ww UTL BMTR FROM <from> TO <to>[{EXCT|INCL}] COMPL

[O.55701.01]

A hh:mm:ss xy,ww UTL BMTR FROM <from> TO <to>[{EXCT|INCL}] \
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 the PMEM be transferred to the 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.

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

cc *Explanation*

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
E6 DB SMEM error OP-CL-RD-WR-SK
E7 PMEM not restored
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.

<i>parameter</i>	<i>Explanation</i>
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
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

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

PA, PB, and PC 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 and PC 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

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

The allowable values are presented below:

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

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

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

cc *Explanation*

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. 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 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

uvmnp - Hierarchical NPC number

wxkqr - Hierarchical NPC number

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

The valid values are:

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

uvmnp - Hierarchical NPC number

wxkqr - Hierarchical NPC number

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

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

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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

PA, PB, and PC type numbers listed by unit, module, and NPC Number

Unit Type FT (IFTU2/IFTU/FTU)

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

CLR - Clear

PARAMS - Parameters

For CEPT NPCs, the parameters which will be cleared with this command are:

<i>Parameter</i>	<i>Explanation</i>
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	<i>Explanation</i>
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

<i>pp</i>	<i>Explanation</i>

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	<i>Explanation</i>

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:

<i>new-date</i>	<i>Date format</i>
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

<i>ii</i>	<i>Meaning</i>
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.

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,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:

<i>entity</i>	<i>Explanation</i>	
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 SYNC 1	Synchronizer
SYNC 0,TB SYNC 1,TB	Synchronizer Time Base
SYNC 0,TLI 1 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	Synchronizer Timing Link Interface
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	Cross-connect network	(SBF/ESBF/Non-CEF)
CCN 1		
CCNI 0	Cross-connect network interface	(SBF/ESBF/Non-CEF)
CCNI 1		
CCB 01	Cross-connect buffer	(SBF/ESBF/Non-CEF)
CCB 02		
CCB 03		
CCB 04		
CCB 05		
CCB 06		
CCB 11		
CCB 12		
CCB 13		
CCB 14		
CCB 15		
CCB 16		
ECCN 0	Expanded cross-connect network	(CEF/ECEF)
ECCN 1		
CCI 0	Clock and control interface	(CEF/ECEF)
CCI 1		
BT 01	Bus terminator	(CEF/ECEF)
BT 02		
BT 11		
BT 12		

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:

<i>entity</i>	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:

<i>entity</i>	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 uvmpnp[-wxkqr]	Hierarchical NPC number
NPC [s]abc[-[t]def]	Nonhierarchical NPC number
NPC uvmpnp[-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.

The valid nonhierarchical FTU NPC numbers are:

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

PA, PB, and PC 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 and PC 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

The valid hierarchical FTU NPC numbers are:

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

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

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.

The valid nonhierarchical DSPU NPC numbers are:

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

The valid hierarchical DSPU NPC numbers are:

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

Unit	Module	NPC
01-16	1-8	01

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:
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 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:
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 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:  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 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	<i>Explanation</i>
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	<i>Explanation</i>
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.

xxxxxx - 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

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

PA, PB, and PC 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 and PC 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

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

The allowable values are presented below:

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

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

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.

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
- 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 a	ofp b	ofp c	ofp d	ofp e	ofp f	ofp g	ofp h	ofp i	ofp j	ofp k	ofp l	ofp m	ofp n	ofp o	ofp 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 message is used to request reports on the out-of-service, fail, or pest status of the entire DACS II frame, 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.

Note: The odd and even DSPU NPCs do not have independent service states. **Note:** DS3U message segment applies to by DS3 unit and Hybrid DS3 unit (HDS3U). The MXR 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 ófp CRO ofp
TLI ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
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 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, 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 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
```

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:

```
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 ofp]
FC ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

The output segment for a DS3U or a HDS3U:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U 3 LN MSG:
UNIT [q]q UC ofp FLI ofp ofp FMT ofp ofp [CCB ofp ofp]
MXR ofp ofp ofp ofp ofp ofp ofp ofp MIU ofp ofp ofp ofp ofp ofp EOM
```

The output segment for a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC aaa DSPI bbb [CCB rfr sss] 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:

```
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 aaa-bbb tt 3 LN MSG:
zzz ofp ofp zzz ofp ofp zzz ofp ofp zzz ofp ofp
zzz ofp ofp zzz ofp ofp zzz ofp ofp zzz ofp ofp EOM
```

For a DS3U MXR or a HDS3U HMXR:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U NPCS [s]aaa-[t]bbb tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp 00S 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 EOM
```

The output segment for an equipped FTM or HDS3U 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:
00S 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 (Facility Terminating Unit):

[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 ófó]
FC ofp ófó ofp ófó ofp ófó ofp ófó EOM
```

The above message is followed by up to 4 of the following segments depending on the CEPT FTM equipage:

```
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 00S 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 aáa DSPI bbb [CCB rfr sss] 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 ofp [z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp
[z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp [z]zzz ofp ofp 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 ofp CRO ofp
TLI ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp ofp
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 ofp 12 ofp ofp 13 ofp ofp 14 ofp ofp 15 ofp ofp 16 ofp ofp
21 ofp ofp 22 ofp ofp 23 ofp ofp 24 ofp ofp 25 ofp ofp 26 ofp ofp
31 ofp ofp 32 ofp ofp 33 ofp ofp 34 ofp ofp 35 ofp ofp 36 ofp ofp
41 ofp ofp 42 ofp ofp 43 ofp ofp 44 ofp ofp 45 ofp ofp 46 ofp ofp EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL TOTAL TSIS tt oo ff pp 3 LN MSG:
51 ofp ofp 52 ofp ofp 53 ofp ofp 54 ofp ofp 55 ofp ofp 56 ofp ofp
61 ofp ofp 62 ofp ofp 63 ofp ofp 64 ofp ofp 65 ofp ofp 66 ofp ofp 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 ofp 02 ofp ofp 03 ofp ofp 04 ofp ofp
05 ofp ofp 06 ofp ofp 07 ofp ofp 08 ofp ofp
09 ofp ofp 10 ofp ofp 11 ofp ofp 12 ofp ofp
13 ofp ofp 14 ofp ofp 15 ofp ofp 16 ofp ofp 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:

```
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 ofp]
FC ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

The output segment for a DS3 or a HDS3 Unit:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U 3 LN MSG:
UNIT [q]q UC ofp FLI ofp ofp FMT ofp ofp [CCB ofp ofp]
MXR ofp ofp ofp ofp ofp ofp ofp ofp MIU ofp ofp ofp ofp ofp ofp EOM
```

The output segment for a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL UNIT [q]q UC aáa DSPI bbb [CCB rfr sss] 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:

```
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 00S 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 NPCs of a DS3U MXR or a HDS3U HMXR:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALL DS3U NPCS uvmnp-uxkqr tt 5 LN MSG:
ofp ofp ofp ofp ofp ofp ofp ofp 00S 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:
zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp
zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp zzzzz ofp ofp EOM
```

The output segment for an equipped CEPT FTM or DS3U MXR or HDS3U HMXR 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:
00S 00 FAIL 00 PEST 00 EOM
```

If an FTM, DS3U MXR, HDS3U HMXR, or DSPU is not equipped, or if it is equipped but has no NPCs, then the message segment for that FTM, DS3U MXR, HDS3U HMXR, 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 (Facility Terminating Unit):

[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 ofp]
FC ofp ofp ofp ofp ofp ofp ofp ofp EOM
```

This output segment will be followed by up to 4 additional segments for each CEPT FTM depending on the FTM equipage:

```
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 aaa DSPI bbb [CCB rfr sss] 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 ofp uvmnp ofp ofp uvmnp ofp ofp uvmnp ofp ofp
uvmnp ofp ofp uvmnp ofp ofp uvmnp ofp ofp uvmnp ofp ofp 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 the line containing the parameters is listed below 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 - 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

As shown above, a hyphen "-" indicates the parameter is 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.

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 ofp CRO ofp (message line for reference)

SYNC - Synchronizer

ofp	- Side 0 sync status
ofp	- Side 1 sync status
o, o	- OOS
f, f	- FAIL
p, p	- PEST

p - PEST

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 NonCEF

ETSIS - Expanded time slot interchangers

- 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 ofp]

FTM number 1 2 3 4

FC ofp ofp ofp ofp ofp ofp ofp ofp 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 NonCEF

FC - Format converter

o, o - OOS

f, f - FAIL

p, p - PEST

The following line is a message line for reference.

UNIT [q]q UC ofp FLI ofp ofp FMT ofp ofp [CCB ofp ofp]

FLI ID.		S	P		
FMT Side No.				0	1

ofp - Service (S) FLI

ofp - Protection (P) FLI

o, o - OOS

f, f - FAIL

p, p - PEST

MXR ofp ofp ofp ofp ofp ofp ofp MIU ofp ofp ofp ofp ofp ofp ofp
No. P 1 2 3 4 5 6 P 1 2 3 4 5 6

MIU - Multiplexer interface unit

MXR - Multiplexer or Hybrid Multiplexer (HMXR)

The MXRs or HMXRs and MIUs are identified below the reference message line. P stands for Protection.

FTU - Facility terminating unit

[s]aaa - The 3- or 4-digit nonhierarchical NPC number

[t]bbb - The 3- or 4-digit nonhierarchical NPC number

DS3U - Digital signal 3 unit or Hybrid DS3U

DSPU - Digital signal processing unit

UC aáa DSPI bbb [CCB rfr sss] (message line for reference)

DSPI - Digital signal processing interface

a, b, r, s

- **OOS**

a, b, r, s

- **FAIL**

a, b, r, s

- **PEST**

[a]aaa - The first 3- or 4-digit nonhierarchical NPC number of an FTM or MXR

[b]bbb - The last 3- or 4-digit nonhierarchical NPC number of an FTM or MXR

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

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

PA, PB, and PC 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 and PC 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

The following lines are message lines for reference.

[z]zzz ofp ófp [z]zzz ofp ófp [z]zzz ofp ófp [z]zzz ofp ófp EOM
 zzzzz ofp ófp zzzzz ofp ófp zzzzz ofp ófp zzzzz ofp ófp EOM
 uvmnp ofp ófp uvmnp ofp ófp uvmnp ofp ófp uvmnp ofp ófp EOM

zzzzz - Hierarchical DSPU NPC number

[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, MXR, or DSPU

uxkqr - The last hierarchical NPC number of an FTM, MXR, or DSPU

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

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

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

Unit	Module	NPC
01-16	1-8	01

- 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, ALMOPT, NPC, AIS

Explanation Of Command

This message requests alarm indication signal (AIS) information for one or more facility terminating unit (FTU), 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 message 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.

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 FT 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 FT 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

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

PA, PB, and PC 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 and PC 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

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

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

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

[t]def - The 3- 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

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 message 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 single 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. The FMT message applies to both FMT and Hybrid FMT.

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:

For NonCEF frames:

[O.53111]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \
MC w PWR z EOM

M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM

	y - - - - y - - - - - y \ z - - - - z - - - - - z \ u - - - - u - - - - - u \ y y y y y y z z z z z z u u u u u u EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS 9 LN MSG:
SYNC x y CRO x

	y y z z 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 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 EOM

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

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

<NPC alarm information per unit type--see description below>

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL

For CEF frames frames:

[O.53111]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \
MC w PWR z EOM

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 w w EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM

y y y y y y	y - - - y - - - - - y \
z z z z z z	z - - - z - - - - - z \
u u u u u u EOM	u - - - u - - - - - u \

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

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

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

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]
[UNIT q y y y y y y ALMS gg]
[UNIT q y y y y y y]
[UNIT q y y y y y y]
[UNIT q y y y y y y EOM]

<NPC alarm information per unit type--see description below>

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL

The following is a detailed description of the output lines shown above.

1) 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

2) Summary line showing alarm status of the various power units within each FTU/IFTU/DSPU/DS3U/HDS3U, 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 EOM

3) Summary line showing status of alarms on the main controller and switch complex (CCN/ECCN).

For DACS II NonCEF frames (CCN),

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM

For DACS II CEF frames (ECCN),

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM

4) Summary line showing synchronizer entities alarm status.

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

5) 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
```

6) Alarm status of the common equipment within each unit, in unit number order
(Only those units which are equipped will show 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

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]

[UNIT q y y y y y y ALMS gg]

[UNIT q y y y y y y]

[UNIT q y y y y y y]

[UNIT q y y y y y y EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]

[UNIT q y y y y y y ALMS gg]

[UNIT q y y y y y y EOM]

Data Lines For Summary Alarm Information On A Unit (FTU, DSPU, DS3U, HDS3U)

Data line for a unit equipped as an FTU:

UNIT [q]q UC a FTMI b c d e FC f g h i j k l m[CCB r s][00S]

Data line for a unit equipped as a DS3U or a HDS3U:

**UNIT [q]q UC a FLI b c FMT l m MXR d e f g h i j MIU n o p q u v w **
DU <aa> [CCB r s][00S]

DS3 facility alarm segment (only shown if DS3 or HDS3 units are equipped and in alarm)

For NonCEF frames:

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]
[UNIT q y y y y y y ALMS gg]
[UNIT q y y y y y y]
[UNIT q y y y y y y]
[UNIT q y y y y y y EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]
[UNIT q y y y y y y ALMS gg]
[UNIT q y y y y y y EOM]

For CEF frames:

Up to 4 five-line output segments can be printed, depending on the number of DS3 Units equipped (1-16).

Data line for a unit equipped as a DSPU:

UNIT [q]q UC a DSPI b [CCB r s][00S]

7) NPC alarm data per unit (FTU/IFTU, DS3U, HDS3U, 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. The two possibilities are:

For a CEPT facility terminating module (FTM):

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS [s]aaa-[t]bbb \
tt[ 00S] 5 LN MSG:
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 EOM
```

For a DS3 or a HDS3 module:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3U NPCS [s]aaa-[t]bbb tt\
[ 00S] 5 LN MSG:
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 EOM
```

For a DSPU:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS UNIT [q]q DSPU NPCS\
[ 00S] 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
```

8) 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:

For NonCEF frames:

[0.53111]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \
MC w PWR z EOM

M hh:mm:ss xy,ww n[vv] UTL QRY PWR w w w w w w w w w w EOM

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM

	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

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
	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 EOM

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

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

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]
[UNIT q y y y y y y ALMS gg]
[UNIT q y y y y y y]
[UNIT q y y y y y y]
[UNIT q y y y y y y EOM]

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]
[UNIT q y y y y y y ALMS gg]
[UNIT q y y y y y y EOM]

<NPC alarm information per unit type--see description below>

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL

For CEF frames:

[0.53111]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS SUMMARY CR t MJ u MN v \
MC w PWR z EOM

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

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM

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

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

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

[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]
[UNIT q y y y y y y ALMS gg]
[UNIT q y y y y y y]
[UNIT q y y y y y y]
[UNIT q y y y y y y EOM]

<NPC alarm information per unit type--see description below>

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS COMPL

The following is a detailed description of the output lines shown above.

1) 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

2) Summary line showing whether or not the various power units within each unit, MC, and CCN/ECCN are in alarm.

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

3) Summary line showing status of alarms on the main controller and switch complex (CCN/ECCN).

For DACS II NonCEF frames (CCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM
```

For DACS II CEF frames (ECCN),

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS a b c d e f g h i j k l m \
n o p q r s EOM
```

4) Summary line showing synchronizer entities alarm status.

```
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
```

5) 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
```


6) Alarm status of the common equipment within each unit, in unit number order
(Only those units which are equipped will show 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, DS3U, HDS3U, DSPU)

Data line for a unit equipped as an FTU:

UNIT [q]q UC a FTMI b c d e FC f g h i j k l m[CCB r s][00S]

Data line for a unit equipped as a DS3U or a HDS3U:

**UNIT [q]q UC a FLI b c FMT l m MXR d e f g h i j MIU n o p q u v w **
DU <aa> [CCB r s][00S]

Data line for a unit equipped as a DSPU:

UNIT [q]q UC a DSPI b [CCB r s][00S]

7) NPC alarm data per unit (FTU/IFTU, DS3U, HDS3U, 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. The two possibilities are:

For a facility terminating module (FTM):

**M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPCS uvmnp-wxkqr **
tt[00S] 5 LN MSG:
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 EOM

DS3 facility alarm segment (only shown if DS3 or HDS3 units are equipped and in alarm)

For NonCEF frames:

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y]  
[UNIT q y y y y y y EOM]
```

```
[M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3 rr e LN MSG:]  
[UNIT q y y y y y y ALMS gg]  
[UNIT q y y y y y y EOM]
```

For a DS3 or HDS3 module:

```
M hh:mm:ss xy,ww n[vv] UTL QRY ALMS DS3U NPCS uvmnp-wxkqr tt\  
[ OOS] 5 LN MSG:  
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 EOM
```

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
```

8) 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, there will be only 32 NPCs per Facility Terminating Module (FTM). Only the information for FTUs and DSPUs will be reported in a CEPT frame.

The DACS II frame alarm state summary is given by the first line 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

<i>w</i>	<i>Power unit status</i>
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 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 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 s 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
- 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.

For AIS (Alarm Indication Signal) within a Hybrid DS3 signal the response is different for E1 and DS1 NPCs. When an AIS signal comes in on an E1 an "I" is shown; but when an AIS comes in on a DS1, then a "-" is shown. In addition, when the entire hybrid DS3 is receiving AIS the embedded E1 signals will show an "I" and the embedded DS1 signals will show a "-".

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	<i>Explanation</i>
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	<i>Explanation</i>
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 06)

CEF (01 through 96)

UNIT [q]q y y y y y ALMS gg

UNIT - Unit

[q]q - Unit number (1 through 16)

y - DS3 facility alarm status.

gg - Total number of alarming DS3 facilities in the frame

NonCEF (01 through 06)

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

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

PA, PB, and PC 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 and PC 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

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

Valid values are listed below:

PA, PB, and PC type numbers listed by unit, module, and NPC Number

Unit Type FT (IFTU2/IFTU/FTU)

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

tt - Total number of equipped NPCs in the FTM

01 through 32

nn - Total number of alarming NPCs in the FTM

01 through 32

FOR DSPU NPC ALARM DATA LINE

[s]zzz - The 3- or 4-digit nonhierarchical DSPU NPC number

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

uvmnp - Hierarchical DSPU NPC number

uv - Unit number
m - Module number
np - NPC number within the module

Valid values are listed below:

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

Unit	Module	NPC
01-16	1-8	01

nn - Total number of alarming DS NPCs per unit (01 through 16)

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 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 A00S 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 A00S 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 EOM]

M hh:mm:ss xy,ww n[vv] UTL QRY ALMS FTU NPC A00S 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 A00S 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

<i>c</i>	<i>Explanation</i>

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 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.

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

[s]abc, [t]def

- The 3- or 4-digit nonhierarchical NPC numbers.

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

PA, PB, and PC 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 and PC 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

edfgh - Hierarchical CB-type NPC number

ed - Unit number
f - Module number
gh - NPC number

The values are:

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

Unit	Module	NPC
01-16	1-8	01

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

The values are:

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

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

BOFL - Buffer overflow

A00S - 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.
- 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 - Loss of Signal type Primary block failure.
- F** LOF - 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.
- 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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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:

<i>Bit value</i>	<i>Explanation</i>
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, 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:]
[wkqrddd {xxxx|zz} wkqrddd {xxxx|zz} wkqrddd {xxxx|zz} \
wkqrddd {xxxx|zz} wkqrddd {xxxx|zz} wkqrddd {xxxx|zz}]
.
.
.
[wkqrddd {xxxx|zz} wkqrddd {xxxx|zz} wkqrddd {xxxx|zz} \
wkqrddd {xxxx|zz} wkqrddd {xxxx|zz} wkqrddd {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

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

PA, PB, and PC 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 and PC 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

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

Valid values are listed below:

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

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

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|Z0|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:

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number(PDS)

uv - Unit number
m - Module number
np - NPC number within the module
Valid values are listed below:

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

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

ddd - Channel number
Valid values are listed below:

000-030	CEPT type NPCs grown as CAS
000-031	CEPT type NPCs grown as NSA

Note: Channel 000 of a CEPT NPC (TS0) can be connected to another channel 000 of a CEPT NPC (TS0).

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:

<i>s</i>	<i>Explanation</i>
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

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

PA, PB, and PC 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 and PC 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

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

The allowable values are presented below:

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

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

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 (**TOs**) connected to a broadcast type circuit with the specified source (**FROM**). Other **TOs** will appear in following lines, with sufficient lines to report all of the **TOs** involved, six per line. The last line of the message will be filled with zeros if there are less than eight **TOs** (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]abcd-dd-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]abcd-dd UEQD DNY

[O.52111.02]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcd-dd NOBBL DNY

[O.52111.03]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abcd-dd 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]abcd-dd 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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical FROM termination number

uv - Unit number
m - Module number
np - NPC number within the module

The allowable values are presented below:

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

Unit	Module	NPC
01-16	1-4	01-32
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 abcd dd 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 UEQD DNY

[O.52121.02]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM [s]abc NOBBL DNY

[O.52121.03]

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 UEQD DNY

[O.52121.02]

M hh:mm:ss xy,ww n[vv] UTL QRY BCAST FROM uvmnp NOBBL DNY

[O.52121.03]

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

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

PA, PB, and PC 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 and PC 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

uvmp - 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

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

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

NOBBL - No backbone leg

UEQD - Unequipped

COND - Condition

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*

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), 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 range includes non-channelized NPCs, only the PAXyz types are mapped and listed. If the NPCs are unmapped, the TO NPC number is omitted.

The output segment has one or two lines.

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.

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 TH 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]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr 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]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr EOM
```

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
```

If the 3-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghi** is the nonhierarchical NPC number.

[O.52017]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP jkl SP100 001-032 5 LN MSG:
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP jkl SP100 033-064 5 LN MSG:
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy
ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy ghiyyy EOM
```

If the 4-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **vghi** is the nonhierarchical NPC number.

[O.52017]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP sjkl SP100 001-032 5 LN MSG:
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP sjkl SP100 033-064 5 LN MSG:
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj
vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj vghiyjj EOM
```

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 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 lll lll lll lll lll lll lll lll lll EOM
```

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
```

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 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.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 TH 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
```

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}] 2 LN MSG:
[t]ghikl[r][ ghikl] EOM
```

Note: The following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghikl** is the hierarchical NPC number.

[O.52017]

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edhfg SP100 001-032 5 LN MSG:
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY CMAP edhfg SP100 033-064 5 LN MSG:
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj
ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj ghikljjj EOM
```

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 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 lll lll lll lll lll lll lll lll lll EOM
```

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
```

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 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.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

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

PA, PB, and PC 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 and PC 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

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

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

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

The valid values are:

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

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

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

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

Unit	Module	NPC
01-16	1-8	01

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)

[s]jkl - Nonhierarchical non-channelized NPC number in range [s]abc-[s]def

edhfg - Hierarchical non-channelized NPC number in range uvmnp-wkxqr

mnxyz - NPC-type identifier

mnxyz Explanation

SP Digital Signal Processing Circuit Pack

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

PB- and PC-type xyz fields

Table 19-1. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW bit 3=RAI set in < 2 ms,
		001	NFW bit 3=RAI set in time $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8,in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
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 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

* 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.

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 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.

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 19-2. 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.

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.

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

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 19-3. 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 19-4. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)

3. **z** values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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.

* 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.

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 19-5. Combinations of x and y Values

Invalid xyz Combinations	Explanation
8Cz	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.
9Cz	
CCz	
DCz	
0Dz	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.
1Dz	
2Dz	
3Dz	
4Dz	
5Dz	
6Dz	
7Dz	
8Dz	
9Dz	
ADz	
CDz	
DDz	
EDz	

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) enables (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 19-6. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 19-7. Combinations of *x* and *z* Values

Invalid

xyz Combinations	Explanation
4yC	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 TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.
5yC	
6yC	
7yC	
CyC	
DyC	
EyC	
FyC	

SP-type xyz fields

x - Fixed at 1
y - Fixed at 0
z - Fixed at 0

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

DPLX - Duplex

Duplex equipped
Conference numbers

jk l m n d d d

- Hierarchical termination number to which the FDL is mapped

[u] l m n - The 3- or 4-digit nonhierarchical NPC number (with the same valid values as
[s] a b c)

t Type of connection

***** One-way

" Two-way (a blank)
B Broadcast (BCON)
R Roll
T Test Access*
S Signaling conversion is being applied

* T will not be displayed for mapped terminations.

NPCTP - Network processing circuit for test port
PBxyz or PCxyz type NPC for DS0 Test Ports

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	<i>xplanation</i>
[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	<i>Explanation</i>
*	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*

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 \
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	<i>Explanation</i>
1	Multibay CCN
2	Single-bay CCN
E	ECCN

- HG** - Height
d - Height of bay

d	<i>Explanation</i>
0	7'0" (2133mm)
1	11'6" (3505mm)
2	7'2.6" (2200mm)

- UNIT** - Unit
a - Unit type

a	<i>Explanation</i>
-	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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

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

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

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 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 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 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 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 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 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 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 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:

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

PA, PB, and PC 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 and PC 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

uvmnp - Starting hierarchical NPC number
wxkqr - Ending hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

values are listed below:

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

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

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. The outputs are similar to the **RTRV-CRS-T1 : : : MAP** output. This command may produce a large volume of output. To terminate the output enter the **ABT-CMD** 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 TH 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]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr 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]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr
t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr t[v]ghijjrr 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
```

If the 3-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghi** is the nonhierarchical NPC number.

[O.52037]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP jkl SP100 001-032 5 LN MSG:
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP jkl SP100 033-064 5 LN MSG:
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj
ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj ghijjj EOM
```

If the 4-digit nonhierarchical NPC number is used, the following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **vghi** is the nonhierarchical NPC number.

[O.52037]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP sjkl SP100 001-032 5 LN MSG:
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP sjkl SP100 033-064 5 LN MSG:
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj
vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj vghijjj 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 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 TH NPC.

[O.52031]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp mnxyz 000-015[ {NPCTP|NPCTG|ROLL}] \
5 LN MSG:
tghikljrr tghikljrr tghikljrr tghikljrr
tghikljrr tghikljrr tghikljrr tghikljrr
tghikljrr tghikljrr tghikljrr tghikljrr
tghikljrr tghikljrr tghikljrr tghikljrr EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP uvmnp mnxyz 016-031[ {NPCTP|NPCTG|ROLL}] \
5 LN MSG:
tghikljrr tghikljrr tghikljrr tghikljrr
tghikljrr tghikljrr tghikljrr tghikljrr
tghikljrr tghikljrr tghikljrr tghikljrr
tghikljrr tghikljrr tghikljrr tghikljrr 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}] \
[t]ghikl[r][ ghikl] EOM
```

Note: The following two message segments will be output for each SP100 NPC. Each segment shall contain eight terminations per line as shown below, where the **ghikl** is the hierarchical NPC number.

[O.52037]

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP edhfg SP100 001-032 5 LN MSG:
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY DMAP edhfg SP100 033-064 5 LN MSG:
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr
ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr ghikljrr 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 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.

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

PA, PB, and PC 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 and PC 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

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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are:

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

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

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

mnxyz - NPC-type identifier

mn	<i>Explanation</i>
SP	Digital Signal Processing Circuit Pack
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

Table 19-8. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW bit 3=RAI set in < 2 ms,
		001	NFW bit 3=RAI set in time $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8,in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 mxyz 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 $jkl \neq 011$ and $jkl \neq 101$
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.

mxyz 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 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 conditions and is set to 1 for alarm conditions.

* 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.

[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.

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 19-9. 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.

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.

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

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 19-10. 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 19-11. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)

3. **z** values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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.

* 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.

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 19-12. Combinations of x and y Values

Invalid xyz Combinations	Explanation
8Cz	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.
9Cz	
CCz	
DCz	
0Dz	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.
1Dz	
2Dz	
3Dz	
4Dz	
5Dz	
6Dz	
7Dz	
8Dz	
9Dz	
ADz	
CDz	
DDz	
EDz	

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) enables (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 19-13. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 19-14. Combinations of *x* and *z* Values

Invalid xyz Combinations	Explanation
4yC 5yC 6yC 7yC CyC DyC EyC FyC	Use of NPC as Sync Source (<i>x</i> 4, 5, 6, 7, C, D, E and F) is not valid for TRANSMIC 1G (<i>z</i> value C). This is because the TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.

SP-type xyz fields

x - Fixed at 1
y - Fixed at 0
z - Fixed at 0

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

ccc - Starting channel or conference number

ddd - Ending channel or conference number

Channel numbers

000-031 CEPT

001-064 Signaling conversion time slot numbers

Conference numbers

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]ghijjr - 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
S Signaling conversion is being applied

[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

tghikljrr - 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

ghikljrr 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

The valid values are:

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

The valid values are:

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)

e - Number of lines in the message segment

t nnn - 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

The valid values are:

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

cbnpq - Hierarchical NPC number

cb - Unit number
n - Module number
pq - NPC number

The valid values are:

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

Unit	Module	NPC
01-16	1-8	01

[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, 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 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
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,ET SIS!

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	0qq	1qq	0qq	1qq

COMPL

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

EQD - Request equipage status

ET SIS - Request information on ETSI circuit packs

t t - 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, 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), DS3 units (DS3U), Hybrid DS3 units (HDS3U) and digital signal processing units (DSPU).

The results of the output message are in fragment sequence starting with the lowest unit number and ending with the highest NPC 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, HDS3U 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 NPCS in one DS3 or HDS3 FTM (NPCS served by one MXR or HMXR):

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS [UNIT [q]q] tt 5 LN MSG:
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz
[d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz [d]dddmnxyz \
[d]dddmnxyz [d]dddmnxyz 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:
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD FTU NPCS [UNIT [q]q] tt 5 LN MSG:
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz EOM
```

Output message fragment for NPCs in one DS3 or HDS3 FTM (NPCs served by one MXR or HMXR):

[O.53041]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS [UNIT [q]q] tt 5 LN MSG:
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U NPCS [UNIT [q]q] tt 5 LN MSG:
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz uvmnpxyz uvmnpxyz
uvmnpxyz uvmnpxyz 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
DS3U hhhh ggg ggg ggg ggg ggg ggg ggg ggg ggg ggg \
ggg ggg ggg ggg
DSPU pppp qqg qqg qqg qqg qqg qqg qqg qqg qqg qqg \
qqg qqg qqg qqg 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]\
[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

xyz - The parameters used to provision the NPC.

See CRTE, EQPT, NPC and CRTE, EQPT, NPC, IW, X, AIS, MI, PMA, DMA for values.

[a]aaa - The 3- or 4-digit nonhierarchical NPC number for DSPU NPCs

Valid values are listed below (or ---).

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

uvmnp - Hierarchical NPC number

On either CEPT FTM, or DSP unit.

uv - Unit number
m - Module number
np - NPC number within the module

Valid values are listed below (or -----, -----).

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

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

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

Unit	Module	NPC
01-16	1-8	01

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 domestic DS1 FTM

Valid values are listed below (or ---).

[d]ddd - The 3- or 4-digit nonhierarchical NPC number for DS3U or HDS3U NPCs

Valid values are listed below (or ---).

hhh - 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.

[e]eee - The 3- or 4-digit nonhierarchical NPC number

Valid values are listed below (or ---).

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

PA, PB, and PC 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 and PC 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

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 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:

<i>ft</i>	<i>Explanation</i>
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 x CRO x
TLI x x x x x x x x x x x x x x 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 DS3U/HDS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w[ 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:

[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 DS3U MXR/HDS3U HMXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U 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 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:

[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 DS3U/HDS3U:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD 2 LN MSG:
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w [ CCB r s] EOM
```

The output message then continues with up to 7 of the following segment; one for each MXR or HMXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT qq DS3U 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 x CRO x
TLI x x x x x x x x x x x x x x 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 DS3U/HDS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w[ 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:

[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 DS3U MXR/HDS3U HMXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD DS3U 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:

[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 DS3U/HDS3U:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD 2 LN MSG:
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w [ CCB r s] EOM
```

The output message then continues with up to seven of the following segment; one for each MXR or HMXR:

[O.53108]

```
M hh:mm:ss xy,ww n[vv] UTL QRY EQD UNIT [q]q DS3U 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/MXR/HMXR/DSPU.

[b]bbb - The last 3- or 4-digit nonhierarchical NPC number of an FTM/MXR/HMXR/DSPU.

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

PA, PB, and PC 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 and PC 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

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

[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/MXR/HMXR/DSPU or a hierarchical DSPU NPC number.

uxkqr - The last hierarchical NPC number of an FTM/MXR/HMXR/DSPU

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

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

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

Unit	Module	NPC
01-16	1-8	01

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 DS3U/HDS3U Entities:

- a** - Status for UC
- l** - Status for FMT/HFMT 0 of specified DS3U/HDS3U
- m** - Status for FMT/HFMT 1 of specified DS3U/HDS3U
- b** - Status for service FLI of specified DS3U/HDS3U
- c** - Status for protection FLI of specified DS3U/HDS3U
- d** - Status for protection MXR of specified DS3U/HDS3U
- e** - Status for MXR/HMXR 1 of specified DS3U/HDS3U
- f** - Status for MXR/HMXR 2 of specified DS3U/HDS3U
- g** - Status for MXR/HMXR 3 of specified DS3U/HDS3U
- h** - Status for MXR/HMXR 4 of specified DS3U/HDS3U
- j** - Status for MXR/HMXR 5 of specified DS3U/HDS3U
- k** - Status for MXR/HMXR 6 of specified DS3U/HDS3U
- n** - Status for protection MIU of specified DS3 Unit
- o** - Status for MIU 1 of specified DS3 Unit
- p** - Status for MIU 2 of specified DS3 Unit
- q** - Status for MIU 3 of specified DS3 Unit
- u** - Status for MIU 4 of specified DS3 Unit
- v** - Status for MIU 5 of specified DS3 Unit
- w** - Status for MIU 6 of specified DS3 Unit

For DSPU Entities:

a - Status for UC

b - Status of DSPI for specified unit

[x]xxx - The 3- or 4-digit nonhierarchical FTU/DS3U/HDS3U NPC number ([a]aaa through [b]bbb)

xxxxx - Hierarchical FTU/DS3U/HDS3U 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 hrmsnc}}\ [,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=xxxxxx RC=xxxxxx 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 ENTxxxx 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> COMMT0=<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 occurring 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

hrmns - 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 - ISPer LAN error count

HOST - Host

xxxx - Error identification

Controller (sub-system) on which the error occurred

<i>xxxx</i>	<i>error</i>

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

<i>xxxx</i>	<i>Explanation</i>
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

COMMT0 - 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.

wdx *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 = bbbbbb 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)

<i>cc</i>	<i>Function</i>
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)

<i>dd</i>	<i>Function</i>
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)

<i>ee</i>	<i>Function</i>
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)

<i>ii</i>	<i>Function</i>
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

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

PA, PB, and PC 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 and PC 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

SIDE - Side

s - Side number (0 or 1)

Substrate 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

The allowable values are presented below:

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

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

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)

<i>Bit</i>	<i>Value</i>	<i>Bit definition</i>
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
7	1	Transceiver B error

bb - Not used

cc - Channel Controller ESR (Hexadecimal)

<i>Bit</i>	<i>Value</i>	<i>Bit definition</i>
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)

<i>Bit</i>	<i>Value</i>	<i>Bit definition</i>
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

ee - Transceiver A ESR (framer alarms) (Hexadecimal)

<i>Bit</i>	<i>Value</i>	<i>Bit definition</i>
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)

<i>Bit</i>	<i>Value</i>	<i>Bit definition</i>
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)

<i>Bit</i>	<i>Value</i>	<i>Bit definition</i>
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)

Values and explanations are the same as ee

ii - Transceiver B ESR (receive sync alarms) (Hexadecimal)

Values and explanations are the same as ff

jj - Transceiver B ESR (transmitter alarms) (Hexadecimal)

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

<i>Bit</i>	<i>Value</i>	<i>Fault</i>
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

<i>Bit</i>	<i>Value</i>	<i>Fault</i>
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

<i>Bit</i>	<i>Value</i>	<i>Fault</i>
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

l m n o p q r s

- Second 8 bits of Substrate circuit pack error source register

<i>Bit</i>	<i>Value</i>	<i>Fault</i>
l	1	Built-in self test on ECD
m-s	0	Unused

cc - Hexadecimal condition code

cc	<i>Explanation</i>
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 substrate 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.

<i>hex</i> 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.

<i>hex</i> 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.

<i>hex</i> 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.

<i>hex</i> 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

<i>Bit Position</i>	<i>Error Interrupt For DSPU Circuit Packs</i>
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)

<i>Bit</i>	<i>Explanation</i>
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)

<i>Bit</i>	<i>Explanation</i>
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)

<i>Bit</i>	<i>Explanation</i>
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)

<i>Bit</i>	<i>Explanation</i>
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)

<i>Bit</i>	<i>Explanation</i>
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	<i>Explanation</i>
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, 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

<i>Bit</i>	<i>Explanation</i>
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

<i>Bit</i>	<i>Explanation</i>
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

<i>Bit</i>	<i>Explanation</i>
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

<i>Bit</i>	<i>Explanation</i>
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

<i>Bit</i>	<i>Explanation</i>
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

<i>Bit</i>	<i>Explanation</i>
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

<i>Bit</i>	<i>Explanation</i>
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	<i>Explanation</i>
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,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 DACSIgg.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 DACSIgg.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 DACSIgg.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 DACSIgg.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 DACSIgg.pp r \\
e LN MSG:]
[ALARM SEVERITY, INTERVENTION LEVEL, MESSAGE LOGGING]
[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
	Message Logging
	Alarm Severity
	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 uvmnpdee 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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are listed below:

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

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

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)

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
001-500 (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

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 19-15. 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.

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.

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

Table 19-16. Provisioning values for *y*

<i>y</i> 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 19-17. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)
3. z values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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

* 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.

[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 19-18. Combinations of x and y Values

Invalid xyz Combinations	Explanation
8Cz	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.
9Cz	
CCz	
DCz	
0Dz	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.
1Dz	
2Dz	
3Dz	
4Dz	
5Dz	
6Dz	
7Dz	
8Dz	
9Dz	
ADz	
CDz	
DDz	
EDz	

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) enables (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 19-19. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 19-20. Combinations of x and z Values

Invalid xyz Combinations	Explanation
4yC	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 TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.
5yC	
6yC	
7yC	
CyC	
DyC	
EyC	
FyC	

PB- and PC-type xyz fields
Table 19-21. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW'bit'3=RAI set in < 2 ms,
		001	NFW'bit'3=RAI set in time $T^{[c']}$
		010	NFW'bit'4=RAIS in time $T^{[c']}$ 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' $ms^{[jkl]}$),
		100	NFW'bit'4=RAIS and RAI in time $T^{[c']}$ (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' $ms^{[jkl]}$),
		110	NFW'bits'3-8, in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
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 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

* 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.

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 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.

[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	<i>Explanation</i>

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 uvmpn 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 uvmpn 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
The valid values are listed below:

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number of non-channelized FROM NPC

uv - Unit number
m - Module number
np - NPC number within the module

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

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

[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,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

<i>ab</i>	<i>Explanation</i>

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 (5 or 6)

mm - Virtual link number (1 through 16)

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

[l.53131]

UTL:FRM xy,SEQ ww:QRY,LPBK,NPC [s]abc[-[t]def]!

Hierarchical

[l.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.

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

PA, PB, and PC 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 and PC 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

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

The valid values are:

PA, PB, and PC type numbers listed by unit, module, and NPC Number

Unit Type FT (IFTU2/IFTU/FTU)

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

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
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.

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.

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.

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 one or more facility terminating unit (FTU), digital signal processing unit NPC(s) or a HDS3 unit for **MARKed** RDC (red circuits) and/or CUS (Customer Controlled) channels or conferences.

The command can be entered for a listing of a range of NPCs or for a single NPC. 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 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 one-way cross-connections, the CUS marking is retained for the two-way cross-connection in 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 t000cccr] xx e LN MSG:
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

.
.
.

[M hh:mm:ss xy,ww n[vv] UTL QRY MARK [t]jkl TYPE mnxyz tccrrr EOM]

.
.
.

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [t]def TYPE mnxyz [FDL t000cccr] xx e LN MSG:
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr 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 t000ccrrr] xx e LN MSG:
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr EOM

.
.
.

[M hh:mm:ss xy,ww n[vv] UTL QRY MARK edhfg TYPE mnxyz tccrrr EOM]

.
.
.

M hh:mm:ss xy,ww n[vv] UTL QRY MARK wxkqr TYPE mnxyz [FDL t000ccrrr] xx e LN MSG:
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
[tnnnccrrr tnnccrrr tnnccrrr tnnccrrr]
tnnnccrrr tnnccrrr tnnccrrr tnnccrrr 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 uvmp TYPE ----- UEQD DNY

[O.52201.02]

M hh:mm:ss xy,ww n[vv] UTL QRY MARK uvmp[-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

The valid values are listed below:

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

PA, PB, and PC 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 and PC 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

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

The valid values are presented below:

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

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

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)

[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)
Vlxyz Virtual circuit

xx - Total number of marked channels in the message segment (01 through 16)

FDL - Facility data link

t - Cross-connection type

<i>t</i>	<i>Explanation</i>
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 **MARKed** 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 tjjjccrrr 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 tnnrrr tnnrrr tnnrrr]
[tnnnrrr tnnrrr tnnrrr tnnrrr]
[tnnnrrr tnnrrr tnnrrr tnnrrr]
tnnnrrr tnnrrr tnnrrr tnnrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx e LN MSG:
[tnnnrrr tnnrrr tnnrrr tnnrrr]
[tnnnrrr tnnrrr tnnrrr tnnrrr]
[tnnnrrr tnnrrr tnnrrr tnnrrr]
tnnnrrr tnnrrr tnnrrr tnnrrr 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 tjjjccrrr 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 tnnrrrr tnnrrrr tnnrrrr]
[tnnnrrr tnnrrrr tnnrrrr tnnrrrr]
[tnnnrrr tnnrrrr tnnrrrr tnnrrrr]
tnnnrrr tnnrrrr tnnrrrr tnnrrrr EOM

M hh:mm:ss xy,ww n[vv] UTL QRY MARK [s]abcjjj-kkk TYPE mnxyz xx e LN MSG:
[tnnnrrr tnnrrrr tnnrrrr tnnrrrr]
[tnnnrrr tnnrrrr tnnrrrr tnnrrrr]
[tnnnrrr tnnrrrr tnnrrrr tnnrrrr]
tnnnrrr tnnrrrr tnnrrrr tnnrrrr 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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module
jjj - Channel or conference point number

The valid values follow:

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

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

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)

kkk - Channel or conference point number

Conference numbers
001-500 (Virtual NPC)

tnnnccrrr
- Channel or conference information

t - Cross-connection type

t	<i>Explanation</i>
*	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)
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

UTL,QRY,MEMSTAT

RETRIEVE MEMORY STATUS

Explanation Of Command

This message identifies the current contents of the system memory devices. A separate line of information is provided for the Main Controller 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.

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

[O.51001]

```
M hh:mm:ss xy,ww n[vv] UTL QRY MEMSTAT 5 LN MSG:
DEV  EXCT  DBASE  DATE    TIME    FID  UID
dddd  gg.pp.r dd.rr.v aa/bb/yr hr:mn:sc fg  <uid>
dddd  gg.pp.r dd.rr.v aa/bb/yr hr:mn:sc fg  <uid>
dddd  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 0000000000 qqqqqqqqqqqqqqqqqqqqqq <state>
nnnnnnnn 0000000000 qqqqqqqqqqqqqqqqqqqqqq <state>
nnnnnnnn 0000000000 qqqqqqqqqqqqqqqqqqqqqq <state>  COMPL
```

Denial Message

Not applicable.

Autonomous Message

Not applicable.

Explanation Of Parameters

MEMSTAT

- Memory Status

DEV - Device

dddd - Device identifier.

This field identifies a system memory device. The data following the memory device describes the current contents of the memory device. The system memory devices are:

dddd *Explanation*

RAM Main Controller Random Access Memory

PMEM Primary Memory Card

SMEM Secondary Memory Card

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. A database is formatted for a particular executable program release; however, it is compatible with not only the shown release but all other executable program releases that have a greater release ID. 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. For 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-year or the day-month-year format, depending on how the user has provisioned it using message 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. For the RAM memory data line, this field shows the current system time. For 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. For the MC RAM memory device, 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. For the MC RAM memory device, 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.

FPKG - Feature Package ID

nnnnnnnn

- Feature package identifier.

This field displays the eight character hexadecimal identifier of the feature package. For the MC RAM memory device, 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, such as an SBF or ESBF, 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 RAM 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 "0038A2" on the PCMCIA cards.

DBSN - Database Serial Number

oooooooo

- Database serial number.

This field displays the ten character numeric identifier of the serial number of the database. For the MC RAM memory device, 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

qqqqqqqqqqqqqqqqqqqqqq

- Flash card serial number.

This field displays the 20 character alpha-numeric serial number of the flash card. For the MC RAM memory device, 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

00S Out Of State

UTL,QRY,NFS,NPC

Explanation Of Command

This message 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 uvmpn 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 uvmpn-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)

Values are listed below:

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

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

Values are listed below:

PA type numbers listed by unit, module, and NPC Number

Unit Type FT (FTU)

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

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 Not Frame Word, National spare bits
- g: Bit 6 of Not Frame Word, RPSFI bit if provisioned for RPSFI
otherwise National spare bit
- h-i: Bits 7-8 of Not 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

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
- 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 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 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 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 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[-uvmq]\
[ 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 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 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[-unmq]\
[ 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 uvmpn[-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

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

PA, PB, and PC 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 and PC 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

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

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

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

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:

<i>parameter</i>	<i>Explanation</i>
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:

<i>parameter</i>	<i>Explanation</i>
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.

xxxxxx - 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	<i>EER/BER state RBER state</i>	
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 (1.38321) command, the RBER values are:

RB ER 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

uvmnp - 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

cc *Explanation*

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 llllllllll][,MONDAT dddd][,MONTIM tttt]!
```

Hierarchical

[I.56091]

```
UTL:FRM xy,SEQ ww:QRY,{NPC uvmnp[-wxkqr]|ALL},<parameter>,AI aaaaa \
[,LV llllllllll][,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:
xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx
xxxxxxxx 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 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 llllllll][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  ccccccccc  dddd   tttt   hhh
.       pppp  ccccccccc  dddd   tttt   hhh
.       pppp  ccccccccc  dddd   tttt   hhh
.       pppp  ccccccccc  dddd   tttt   hhh
.       pppp  ccccccccc  dddd   tttt   hhh
.       pppp  ccccccccc  dddd   tttt   hhh
.       pppp  ccccccccc  dddd   tttt   hhh
.       pppp  ccccccccc  dddd   tttt   hhh
[t]def  pppp  ccccccccc  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:
hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx
hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx
hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx
hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx
hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx hxxxxxxxx
.
.
.
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 llllllllll][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

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

uvmnp - Hierarchical NPC number
uvmqr - Hierarchical NPC number
edhfg - Hierarchical NPC number
opjst - Hierarchical NPC number
wxkqr - Hierarchical NPC number

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

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

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	<i>Explanation</i>
CRC	CRC Block Errors
FRER	Framing Errors
OFFS	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

11111111

- The discriminating level for the requested parameter

If 11111111 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.

11111111

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

cccccccc

- The accumulated value of a monitored parameter (nine digits)

All leading 0's will be output.

cccccccc

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

hxxxxxxxx

- Threshold mode and parameter value

h - PA NPC thresholding mode

xxxxxxxx

- 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

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,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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC Number

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

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

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

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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 bbbbbb ccccc ddddd DM, 1 hour
OPT 32 01440 bbbbbb ccccc ddddd DM, 24 hours
OPT 33 00900 bbbbbb ccccc ddddd SERS, 15 Min.
OPT 34 65535 bbbbbb ccccc ddddd SERS, 24 Hrs.

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 5 LN MSG:
OPT 35 00900 bbbbbb ccccc ddddd ERS, 15 Min.
OPT 36 65535 bbbbbb ccccc ddddd ERS, 24 Hrs.
OPT 37 00900 bbbbbb ccccc ddddd US, 15 Min.
OPT 38 65535 bbbbbb ccccc ddddd US, 24 Hrs.

M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 3 LN MSG:
OPT 39 00900 bbbbbb ccccc ddddd SLIPS, 15 Min.
OPT 40 65535 bbbbbb 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 bbbbbbbbbb cccccccc dddddddd CRC, DAILY
OPT 12 000176947 bbbbbbbbbb cccccccc dddddddd FRER, DAILY
OPT 13 000000004 bbbbbbbbbb cccccccc dddddddd OFS, DAILY
OPT 14 000004320 bbbbbbbbbb cccccccc dddddddd ES, DAILY
OPT 15 000000090 bbbbbbbbbb cccccccc dddddddd SES, DAILY
OPT 16 000000004 bbbbbbbbbb cccccccc dddddddd CSS, DAILY
OPT 17 000176947 bbbbbbbbbb cccccccc dddddddd CV, DAILY EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 8 LN MSG:
OPT 18 000000090 bbbbbbbbbb cccccccc dddddddd UAS, DAILY
OPT 19 000000009 bbbbbbbbbb cccccccc dddddddd UATC, DAILY
OPT 20 000004095 bbbbbbbbbb cccccccc dddddddd MER, DAILY
OPT 21 000176947 bbbbbbbbbb cccccccc dddddddd FEBE, DAILY
OPT 22 000004320 bbbbbbbbbb cccccccc dddddddd FES, DAILY
OPT 23 000000090 bbbbbbbbbb cccccccc dddddddd FSES, DAILY
OPT 24 000000090 bbbbbbbbbb cccccccc dddddddd FUAS, DAILY EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 8 LN MSG:
OPT 81 0018432 bbbbbbbb ccccccc ddddddd CRC, 15MIN
OPT 82 0018432 bbbbbbbb ccccccc ddddddd FRER, 15MIN
OPT 83 0000004 bbbbbbbb ccccccc ddddddd OFS, 15MIN
OPT 84 0000300 bbbbbbbb ccccccc ddddddd ES, 15MIN
OPT 85 0000030 bbbbbbbb ccccccc ddddddd SES, 15MIN
OPT 86 0000001 bbbbbbbb ccccccc ddddddd CSS, 15MIN
OPT 87 0018432 bbbbbbbb ccccccc ddddddd CV, 15MIN EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY OPT TYPE mn 8 LN MSG:
OPT 88 0000030 bbbbbbbb ccccccc ddddddd UAS, 15MIN
OPT 89 0000003 bbbbbbbb ccccccc ddddddd UATC, 15MIN
OPT 90 0000255 bbbbbbbb ccccccc ddddddd MER, 15MIN
OPT 91 0018432 bbbbbbbb ccccccc ddddddd FEBE, 15MIN
OPT 92 0000300 bbbbbbbb ccccccc ddddddd FES, 15MIN
OPT 93 0000030 bbbbbbbb ccccccc ddddddd FSES, 15MIN
OPT 94 0000030 bbbbbbbb 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

<i>mn</i>	<i>Explanation</i>

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
cccccccc - Second
dddddddddd - Third
bbbbbbb - First
ccccccc - Second
ddddddd - 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 m n o p EOM

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 3 LN MSG:
SYNC x x CRO x
TLI x x x x x x x x x x x x \
x x x x 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 x 12 x x 13 x x 14 x x 15 x x 16 x x
21 x x 22 x x 23 x x 24 x x 25 x x 26 x x
31 x x 32 x x 33 x x 34 x x 35 x x 36 x x
41 x x 42 x x 43 x x 44 x x 45 x x 46 x x EOP

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn 3 LN MSG:
51 x x 52 x x 53 x x 54 x x 55 x x 56 x x
61 x x 62 x x 63 x x 64 x x 65 x x 66 x x 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 x 02 x x 03 x x 04 x x 05 x x 06 x x \
07 x x 08 x x
09 x x 10 x x 11 x x 12 x x 13 x x 14 x x \
15 x x 16 x x 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:

<i>Value</i>	<i>OOS</i>	<i>FAIL</i>	<i>PEST</i>
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
- 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 FAIL OOS

These reports may be on the entire DACS II frame or on the common equipment of the 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 m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 3 LN MSG:
SYNC x x CRO x
TLI x x x x x x x x x x x x \
x x x x 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 x 12 x x 13 x x 14 x x 15 x x 16 x x
21 x x 22 x x 23 x x 24 x x 25 x x 26 x x
31 x x 32 x x 33 x x 34 x x 35 x x 36 x x
41 x x 42 x x 43 x x 44 x x 45 x x 46 x x EOP
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn 3 LN MSG:
51 x x 52 x x 53 x x 54 x x 55 x x 56 x x
61 x x 62 x x 63 x x 64 x x 65 x x 66 x x 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 x 02 x x 03 x x 04 x x 05 x x 06 x x \
07 x x 08 x x
09 x x 10 x x 11 x x 12 x x 13 x x 14 x x \
15 x x 16 x x 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 DS3U or HDS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w \
[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 unit in the case of a DSPU), one output message will be printed.

Output message for PEST, FAIL, or OOS status of NPCs on an equipped CEPT FTM:

[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 DS3 MXR or HMXR:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DS3U \
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 x [z]zzz x x [z]zzz x x [z]zzz x x
[z]zzz x x [z]zzz x x [z]zzz x x [z]zzz x x \
{PEST|FAIL|OOS} nn EOM
```

Output message for NPCs on an equipped FTM/MXR/HMXR/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|DS3U|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:

[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 DS3U or HDS3U:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 2 LN MSG:
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k MIU n o p q u v w\
[CCB r s] EOM

The output then continues with up to seven of the following segments depending on the MXR or HMXR equipage:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q DS3U \
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 \
DSPU 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 x [z]zzz x x [z]zzz x x [z]zzz x x
[z]zzz x x [z]zzz x x [z]zzz x x [z]zzz x x \
{PEST|FAIL|OOS} EOM

Output message for NPCs on an equipped FTM/MXR/HMXR/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|DS3U|DSPU} \
NPCS [a]aaa-[b]bbb tt 2 LN MSG:
{PEST|FAIL|OOS} 00 EOM

[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 m n o p EOM
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 3 LN MSG:
SYNC x x CRO x
TLI x x x x x x x x x x x x x x x x x x x x 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 x 12 x x 13 x x 14 x x 15 x x 16 x x
21 x x 22 x x 23 x x 24 x x 25 x x 26 x x
31 x x 32 x x 33 x x 34 x x 35 x x 36 x x
41 x x 42 x x 43 x x 44 x x 45 x x 46 x x EOP
```

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} TOTAL \
TSIS tt nn 3 LN MSG:
51 x x 52 x x 53 x x 54 x x 55 x x 56 x x
61 x x 62 x x 63 x x 64 x x 65 x x 66 x x 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 \
ETISIS tt nn 3 LN MSG:
01 x x 02 x x 03 x x 04 x x 05 x x 06 x x \
07 x x 08 x x
09 x x 10 x x 11 x x 12 x x 13 x x 14 x x \
15 x x 16 x x 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 DS3U or HDS3U:

```
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k \
MIU n o p q u v w[ 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 unit in the case of a DSPU), one output message will be printed.

For PEST, FAIL, or OOS status of NPCs on an equipped CEPT FTM:

[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 DS3 MXR or HMXR:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} DS3U \
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 x uvmnp x x uvmnp x x uvmnp x x
uvmnp x x uvmnp x x uvmnp x x uvmnp x x \
{PEST|FAIL|OOS} nn EOM
```

Output message for an equipped FTM/MXR/HMXR/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:

[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 DS3U or HDS3U:

[O.53103]

M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} 2 LN MSG:
UNIT [q]q UC a FLI b c FMT l m MXR d e f g h j k \
MIU n o p q u v w[CCB r s] EOM

The output then continues with up to seven of the following segment for NPCs in a MXR or HMXR. If an MXR or HMXR is not equipped, the segment for this MXR or HMXR will not be output:

[O.53103]

```
M hh:mm:ss xy,ww n[vv] UTL QRY {PEST|FAIL|OOS} UNIT [q]q \
DS3U NPCS uvmnp-uxkqr tt 5 LN MSG:
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 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 x uvmnp x x uvmnp x x uvmnp x x
uvmnp x x uvmnp x x uvmnp x x uvmnp x x \
{PEST|FAIL|OOS} nn EOM
```

Output message for an equipped FTM/MXR/HMXR/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 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

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:

<i>Value</i>	<i>OOS</i>	<i>FAIL</i>	<i>PEST</i>
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
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
- x** - 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
- FLI** - Facility line interface
- FMT** - Formatter or Hybrid Formatter
- MXR** - Multiplexer or Hybrid Multiplexer
- MIU** - Multiple interface unit

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/MXR/HMXR/DSPU.
- [b]bbb** - The last 3- or 4-digit nonhierarchical NPC number of an FTM/MXR/HMXR/DSPU.

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

PA, PB, and PC 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 and PC 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

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

[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/MXR/HMXR or a hierarchical DSPU NPC number.

uxkqr - The last hierarchical NPC number of an FTM/MXR/HMXR or a hierarchical DSPU NPC number.

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

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

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

Unit	Module	NPC
01-16	1-8	01

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
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```
[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

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[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.

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

PA, PB, and PC 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 and PC 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

If NPC numbers are expressed in hierarchical form, the valid values are:

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

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

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


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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

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      .
      .
      .

```

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 uvmpn 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).

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

PA, PB, and PC 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 and PC 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

If NPC numbers are expressed in hierarchical form, the valid values are:

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

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

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.

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 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}[ COMPL]]
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)

<i>n</i>	<i>Explanation</i>
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 circuit 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 links, not the asynchronous links 1 through 4.

- 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 - Man-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 Scheme ON

CONVOFF
- Mixed Addressing Scheme OFF

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

[1.52601]

UTL:[FRM xy,SEQ ww]:QRY,SIGST abcd

Hierarchical

[1.52601]

UTL:[FRM xy,SEQ ww]:QRY,SIGST uvmpddd

Completion Message

Nonhierarchical

[O.52601]

M hh:mm:ss xy,ww n[vv] UTL QRY SIGST abcd dd 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 uv mnpddd 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 abcd dd COND cc DNY

Hierarchical

[O.52601.01]

M hh:mm:ss xy,ww n[vv] QRY SIGST uv mnpddd COND cc DNY

Autonomous Message

Not applicable.

Explanation Of Parameters

SIGST - Signaling state

abcd - E1/T1 trunk termination

abc - NPC number

ddd - Channel number

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

PA, PB, and PC 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 and PC 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

uvmnpddd

- E1/T1 trunk termination

uv - Unit number
m - Module number
np - NPC number within the module
ddd - Channel number

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

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

Valid values are listed below:

ddd	<i>Explanation</i>
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	<i>Explanation</i>
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	<i>Explanation</i>
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
39	Signaling state of the trunk failed for the channel
40	Signaling processing is not activated for the channel
AA	DSPP pack UC Failed or Out of Service
AB	DSPP pack FTMI Failed or Out of Service
AC	DSPP pack NPC Failed or Out of Service

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

SQL - 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

<i>mode</i>	<i>Explanation</i>
ACTIVE	Alarm cutoff is active
INACT	Alarm cutoff is inactive

UTL, QRY, STATE, NPC

UTILITY QUERY STATE

Explanation Of Command

This message 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[-wxqr]!

Completion Message

Nonhierarchical

Note: The following message segments will be output for each PB, PC, PA and TH 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 hhhh iiii
THRESHOLDS          laaaa lbbbb lcccc ldddd 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 llll mmmm 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
```

Hierarchical

Note: The following message segments will be output for each PB, PC, PA and TH 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 hhhh iiii
THRESHOLDS laaaa lbbbb lcccc ldddd 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 mmmm 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
```

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

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

PA, PB, and PC 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 and PC 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

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

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

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

[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

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)

CB C-bit processor (CPR) NPC

PB, PC-type xyz fields

PB- and PC-type xyz fields

Table 19-22. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW bit 3=RAI set in < 2 ms,
		001	NFW bit 3=RAI set in time $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8,in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
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.

mxyz 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 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

* 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.

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 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.

PA-type xyz fields

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 19-23. 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.

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.

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

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 19-24. 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 19-25. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)

3. **z** values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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.

* 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.

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 19-26. Combinations of *x* and *y* Values

Invalid <i>xyz</i> Combinations	Explanation
8Cz	Framed clear 2Mbit/s (<i>y</i> value C) is valid for all <i>x</i> 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.
9Cz	
CCz	
DCz	
0Dz	Unframed clear 2Mbit/s (<i>y</i> value D) is only valid for <i>x</i> values B and F. These are the only <i>x</i> options which do not require decoding of TS0 content.
1Dz	
2Dz	
3Dz	
4Dz	
5Dz	
6Dz	
7Dz	
8Dz	
9Dz	
ADz	
CDz	
DDz	
EDz	

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) enables (*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 19-27. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 19-28. Combinations of x and z Values

Invalid xyz Combinations	Explanation
4yC	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 TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.
5yC	
6yC	
7yC	
CyC	
DyC	
EyC	
FyC	

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

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

18 Unassigned Multiplex Code (UMC), should only be used with type DE4yz, for a T1DM formatted facility.

FF Per channel all ones code, needed for not connected channels in SLC[®] carrier and CPI applications.

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 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 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

bbbbbb - 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

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)
l1111	- 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)
mmmm	- 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
l	- SERS short interval option selection (0 through C)

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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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

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
- 0B** Invalid CEPT NPC
- 46** NPC Failed or Out of Service

UTL, QRY, STATE, NPC

UTILITY QUERY NPC STATE

Explanation Of Command

This message 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 and TH type NPCs in one or more Facility Terminating Unit(s) (FTUs) or Hybrid DS3 Units (HDS3U).

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
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 bbbbbbbbbb ccccc ddddd eeeee fffff gggggggggg
THRESHOLDS aaaaaaaa bbbbbbbbbb ccccc ddddd eeeee fffff gggggggggg
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 hhhh iiii jjjj kkkkkkkk llll mmmm nnnnn
THRESHOLDS hhhh iiii jjjj kkkkkkkk llll mmmm 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 bbbbbbbb ccc ddd eee fff gggggggg
THRESHOLDS aaaaaa bbbbbbbb ccc ddd eee fff 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:
15MIN UAS UATC MER FEBE FES FSES FUAS
COUNTS hh i j kkkkkk lll mmm hhh
THRESHOLDS hh i j kkkkkk lll mmm hhh
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
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 bbbbbbbbbb ccccc ddddd eeeee fffff gggggggggg
THRESHOLDS aaaaaaaa bbbbbbbbbb ccccc ddddd eeeee fffff gggggggggg
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 mmmm nnnnn
THRESHOLDS hhhhh iiii jjjjj kkkkkkkk lllll mmmm 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 bbbbbbbb ccc ddd eee fff gggggggg
THRESHOLDS aaaaaa bbbbbbbb ccc ddd eee fff 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:
15MIN UAS UATC MER FEBE FES FSES FUAS
COUNTS hhh ii jjj kkkkkk lll rrrr sss
THRESHOLDS hhh ii jjj kkkkkk lll rrrr sss
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

NPC	- Network Processing Circuit
[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 ([s]abc through [t]def)
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 (uvmnp through wxkqr)
uv, wx	- Unit number
m, k	- Module number
np, qr	- NPC number within the module
mnxyz	- NPC type
DAxyz	- FTU ANSI NPC
TAxyz	- DS3U ANSI NPC
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-DS1 NPCs, and is not printed. Although any 2-digit hexadecimal code may be specified, the following are commonly used codes:	
pq	<i>Explanation</i>
7F	UAC (Unassigned Channel code), the default value.
18	UMC (Unassigned Multiplex Code), should only be used with types DA4yz and TA4yz, for a T1DM formatted facility.

OOS - Out-of-Service

q - Out-of-service indicator

q	<i>Explanation</i>
1	NPC is out-of-service
0	NPC is not out-of-service

FAIL - Failed

r - Failed indicator

r	<i>Explanation</i>
1	NPC is failed
0	NPC is not failed

PEST - Pested

s - Pested indicator

s	<i>Explanation</i>
1	NPC is pested
0	NPC is not pested

CGA - Carrier group alarm

t - Carrier group alarm indicator

t	<i>Explanation</i>
A	Alarm Indication Signal (AIS) CGA
L	LMA - Local Multiframe Alarm
M	RMA - Remote Multiframe Alarm
0	No CGA
R	Red CGA
Y	Yellow CGA

LOS - Loss of signal

u - Loss of signal indicator

u	<i>Explanation</i>
1	LOS alarm
0	No LOS alarm
-	Not applicable

Note: The LOS alarm indicator is displayed as a dash for ANSI NPCs which are equipped in a DS3 Unit (TA type NPCs) because the LOS alarm does not apply to

them. TA type NPCs can not monitor DS1 line failures (LOS) because the line signal is at the DS3 rate.

NE-STATUS - Near-end Circuit Status

furyat lo - The bits in the near-end byte identify the following alarm/status conditions:

Field	Explanation
f	f = 1, if u or r or y or a or t or l or o = 1
u	u = 1, if an unavailable signal status exists
r	r = 1, if a Red-CGA exists
y	y = 1, if a Yellow-CGA exists
a	a = 1, if an AIS-CGA exists
t	t = 0, (unused)
l	l = 1, if a payload loopback or test signal is active
o	o = 0, (unused)

FE-STATUS - Far-end Circuit Status

fumcab lo - The bits in the far-end byte identify the following alarm/status conditions:

Field	Explanation
f	f = 1, if u or m or c or a or b or l or o = 1
u	u = 1, if a far-end unavailable signal status exists
m	m = 1, if no ANSI PRMs or RAI has been received for 4.5 seconds
c	c = 1, if loopback retention code is being received
a	a = 1, if a far-end AIS-CGA or Red-CGA exists
b	b = 1, if loopback retention code is being transmitted
l	l = 1, if a far-end payload loopback is active
o	o = 0, (unused)

Parameter	Explanation
CVP	Path Coding Violations
CVL	Line Coding Violations
ESP	Path Errored Seconds
ESL	Line Errored Seconds
SESP	Path Severely Errored Seconds
SESL	Line Severely Errored Seconds
SEFS	Severely Errored Framing Seconds

CSSP	Path Controlled Slip Seconds
UASP	Path Unavailable Seconds

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 to ANSI NPCs depending on whether the NPC is equipped in a Facility Terminating Unit (DA type NPCs) or a DS3 Unit (TA type NPCs) and whether the NPC is using ESF framing or not. 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. Specifically:

For Channelized and Clear-DS1 DA type NPCs with ESF framing, all of the Near-end and Far-end parameters are valid.

For Channelized and Clear-DS1 DA type NPCs with D4 or T1DM framing, all of the Near-end parameters are valid, but the only valid Far-end parameter is Unavailable Seconds.

For Channelized and Clear-DS1 TA type NPCs with ESF framing, all of the Near-end Path parameters are valid, but the Near-End Line parameters are invalid. All of the Far-end parameters are valid.

For Channelized and Clear-DS1 TA type NPCs with D4 or T1DM framing, the Near-end Path parameters are valid, but the Near-End Line parameters are invalid. The only valid Far-end parameter is Unavailable Seconds.

CVP (Path Coding Violations)

aaaaaaa[aa] - CVP NE 15 Minute/Daily interval count
jjjjjjj[jj] - CVP FE 15 Minute/Daily interval count
aaaaaaa[aa] - CVP NE 15 Minute/Daily interval threshold
jjjjjjj[jj] - CVP FE 15 Minute/Daily interval threshold
a - CVP NE 15 Minute/Daily interval threshold option (0 to 3)
j - CVP FE 15 Minute/Daily interval threshold option (0 to 3)

ESP (Path Errored Seconds)

bbb[bb] - ESP NE 15 Minute/Daily interval count
kkk[kk] - ESP FE 15 Minute/Daily interval count
bbb[bb] - ESP NE 15 Minute/Daily interval threshold
kkk[kk] - ESP FE 15 Minute/Daily interval threshold
b - ESP NE 15 Minute/Daily interval threshold option (0 to 3)

k - ESP FE 15 Minute/Daily interval threshold option (0 to 3)

SESP (Path Severely Errored Seconds)

ccc[cc] - SESP NE 15 Minute/Daily interval count
lll[ll] - SESP FE 15 Minute/Daily interval count
ccc[cc] - SESP NE 15 Minute/Daily interval threshold
lll[ll] - SESP FE 15 Minute/Daily interval threshold
c - SESP NE 15 Minute/Daily interval threshold option (0 to 3)
l - SESP FE 15 Minute/Daily interval threshold option (0 to 3)

SEFS (Severely Errored Framing Seconds)

sp 0.3v

ddd[dd] - SEFS NE 15 Minute/Daily interval count
mmm[mm] - SEFS FE 15 Minute/Daily interval count
ddd[dd] - SEFS NE 15 Minute/Daily interval threshold
mmm[mm] - SEFS FE 15 Minute/Daily interval threshold
d - SEFS NE 15 Minute/Daily interval threshold option (0 to 3)
m - SEFS FE 15 Minute/Daily interval threshold option (0 to 3)

CSSP (Path Controlled Slip Seconds)

eee[ee] - CSSP NE 15 Minute/Daily interval count
nnn[nn] - CSSP FE 15 Minute/Daily interval count
eee[ee] - CSSP NE 15 Minute/Daily interval threshold
nnn[nn] - CSSP FE 15 Minute/Daily interval threshold
e - CSSP NE 15 Minute/Daily interval threshold option (0 to 3)
n - CSSP FE 15 Minute/Daily interval threshold option (0 to 3)

UASP (Path Unavailable Seconds)

fff[ff] - UASP NE 15 Minute/Daily interval count
ooo[oo] - UASP FE 15 Minute/Daily interval count
fff[ff] - UASP NE 15 Minute/Daily interval threshold
ooo[oo] - UASP FE 15 Minute/Daily interval threshold
f - UASP NE 15 Minute/Daily interval threshold option (0 to 3)
o - UASP FE 15 Minute/Daily interval threshold option (0 to 3)

CVL (Line Coding Violations)

ggggggg[gg] - CVL NE 15 Minute/Daily interval count
ggggggg[gg] - CVL NE 15 Minute/Daily interval threshold
g - CVL NE 15 Minute/Daily interval threshold option (0 to 3)

ESL (Line Errored Seconds)

hhh[hh] - ESL NE 15 Minute/Daily interval count
ppp[pp] - ESL FE 15 Minute/Daily interval count
hhh[hh] - ESL NE 15 Minute/Daily interval threshold
ppp[pp] - ESL FE 15 Minute/Daily interval threshold
h - ESL NE 15 Minute/Daily interval threshold option (0 to 3)
p - ESL FE 15 Minute/Daily interval threshold option (0 to 3)

SESL (Line Severely Errored Seconds)

iii[ii] - SESL NE 15 Minute/Daily interval count
iii[ii] - SESL NE 15 Minute/Daily interval threshold
i - SESL NE 15 Minute/Daily interval threshold option (0 to 3)

kk - Hexadecimal completion condition code
cc - Hexadecimal denial condition code

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 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)

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

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

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

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

mnxyz - NPC type

PAxyz - Enhanced 2Mbit/s Interface NPC type (120-ohm or 75-ohm)

THxyz - HDS3U CEPT NPC type

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 19-29. 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.

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.

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

Table 19-30. 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 19-31. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)
3. z values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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

^{*} 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.

[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 19-32. 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.
0Dz 1Dz 2Dz 3Dz 4Dz 5Dz 6Dz 7Dz 8Dz 9Dz ADz CDz DDz 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) enables (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 19-33. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 19-34. Combinations of *x* and *z* Values

Invalid xyz Combinations	Explanation
4yC 5yC 6yC 7yC CyC DyC EyC FyC	Use of NPC as Sync Source (<i>x</i> 4, 5, 6, 7, C, D, E and F) is not valid for TRANSMIC 1G (<i>z</i> value C). This is because the TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.

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

uFP *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*

1fP 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*

I Thresholding is inhibited
A 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	<i>Explanation</i>

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.
PFW00F	- 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	<i>Explanation</i>
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 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 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 or TH 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.
bbbbbbbb - Daily framing error current counts.
c c c c c - Daily out of frame seconds current counts.
d d d d d - Daily errored second current counts.
e e e e e - Daily severely errored second current counts.
f f f f f - Daily controlled slip second current counts.
gggggggg - Daily coding violation current counts.
h h h h h - Daily unavailable second current counts.
i i i i i - Daily unavailable time count current counts.
j j j j j - Daily multiframe alignment error current counts.
kkkkkkkk - Daily far-end block error current counts.
l l l l l - Daily far-end errored second current counts.
m m m m m - Daily far-end severely errored second threshold value.
n n n n n - Daily far-end unavailable second current counts.

aaaaaaaa - Daily CRC block error threshold value.
bbbbbbbb - Daily framing error threshold value.
cccccc - 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.
gggggggg - Daily coding violation threshold value.
hhhhh - Daily unavailable second threshold value.
iiii - Daily unavailable time count threshold value.
jjjj - Daily multiframe alignment error threshold value.
kkkkkkkk - Daily far-end block error threshold value.
llll - 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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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:

<i>Bit value</i>	<i>Explanation</i>
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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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:

<i>Bit value</i>	<i>Explanation</i>
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

<i>v</i>	<i>Explanation</i>
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

cc *Explanation*

- 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	<i>Explanation</i>
0	Out of service
1	In service
TB	- Time base
c	- Time Base, side 0
d	- Time Base, side 1
c	
d	<i>Explanation</i>
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.

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.

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
j nn	- Administrative link number
j	- Physical link number (1 through 6)
mm	- First virtual circuit (VC) number of the VC range mm-nn (01 through 16, j must be 5 or 6)
nn	- Last virtual circuit (VC) number of the VC range mm-nn (01 through 16, j must be 5 or 6)
PTCOL	- Protocol
S	- Snider
X	- X.25
M	- Modified Snider
T	- TABS
e	- Number of lines in the message (2, 3, or 4)
STATUS	- Status
bb	- Baud rate. For the physical link j alarm class.
bb	<i>Baud rate</i>
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	<i>Explanation</i>
0	Backspace is echoed (default)
1	Backspace is not echoed

k	- Failure of the X.25 link
k	<i>Explanation</i>
1	Minor alarm (default)
2	Major alarm
q	- ENQ/ACK Protocol Enable/Disable Control
q	<i>ENQ/ACK Protocol State</i>
0	Disabled
1	Enabled (default)
x	- XON/XOFF Protocol Enable/Disable Control
x	<i>XON/XOFF Protocol State</i>
0	Disabled (default)
1	Enabled
m	- Mode
m	<i>Status</i>
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
s	<i>Explanation</i>
0	In service
1	Out-of-service (OOS)

xxxx - Virtual circuit (VC) status (hexadecimal). Range 0000 through FFFF.

This status applies to the X.25 protocol. A four-digit hexadecimal number will be output in the protocol field whenever a specific VC number is not entered. Each digit represents four bits and each bit is associated with a particular VC. The four hexadecimal digits therefore represent 16 VCs. The bits are assigned to VCs from right to left in increasing order of VC number. That is, bit 1 represents VC 1 and bit 16 represents virtual circuit 16. See below where VC16 marks the position of the bit representing virtual circuit 16 and VC01 similarly marks the position of the bit representing VC 1.

hex	binary
xxxx	bbbbbbbbbbbbbbbb
	^ ^
	VC16 <- -VC01

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 in service
0001	0000000000000001	VC 1 OOS, all others in service
0002	0000000000000010	VC 2 OOS, all others in service
8004	1000000000000100	VCs 16 and 3 OOS, all others in service
FFFF	1111111111111111	All VCs are OOS

hh - Hardware status

hh	<i>Explanation</i>
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
$0 \leq nn \leq 48$					
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

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
$0 \leq nn \leq 48$					
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	--
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

"pp"	"ss"	Number of PVCs	Number of SVCs	Starting LCN for first PVC Channel	Starting LCN for first SVC Channel
$0 \leq nn \leq 48$					
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:

<i>ab</i>	<i>Explanation</i>
00	Sync is slave in master-slave system
01	Sync is master in master-slave system

cde - Operational stratum

<i>cde</i>	<i>Explanation</i>
000	Domestic stratum 3
001	CEPT local exchange
010	CEPT toll exchange
011	Domestic stratum 2

fg - PLL locking mode

<i>fg</i>	<i>Explanation</i>
00	Normal
01	Fast
10	Holdover

h - Unused by craft

byte05 - Sync configuration data

ab	- Source of timing to which Sync is presently locking	
	<i>ab</i>	<i>Explanation</i>
	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)	
	<i>cde</i>	<i>Explanation</i>
	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:

<i>fgh</i>	<i>Explanation</i>
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 from 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

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	Unit
1	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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

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

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)

<i>rs</i>	<i>Explanation</i>
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

<i>mnxyz</i>	<i>Explanation</i>
-----	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

<i>pqxyz</i> <i>rsxyz</i>	<i>Explanation</i>
-----	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

<i>p</i>	<i>Explanation</i>
-	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, uvmnpjee, sss, wxkqrwww, NN, <mode>
TG mmm, rrr, uvmnpjee, sss, wxkqrwww, NN, <mode>
TG mmm, rrr, uvmnpjee, sss, wxkqrwww, NN, <mode>
TG nnn, rrr, uvmnpjee, 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

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

PA, PB, and PC 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 and PC 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

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

The valid values are listed below:

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

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

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]ghijj q [t]jklmn  
[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]  
[CUS][ RDC][ {UTST {TP kk|TG mmm}|ROLL}][ TLA s]
```

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 mxyz 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]
[CUS][RDC][{UTST {TP kk|TG mmm}|ROLL}][TLA s]

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

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number

uv - Unit number
m - Module number
np - NPC number within the module

The values are listed below:

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

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

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)

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:

<i>tc</i>	<i>signaling modes</i>
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 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	<i>Explanation</i>

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)

VI	Virtual NPC

xyz - Multiframe, line and signaling, and channel numbering formats

CB-type xyz fields

x - Fixed at 1

y - Fixed at 0

z - Network timer value

z	<i>Value in milliseconds</i>

0	600 to 750

1	1500 to 1650

2	2400 to 2550

3	4650 to 4800

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 19-35. 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.

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.

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

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 19-36. 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 19-37. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)
3. **z** values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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 19-38. Combinations of x and y Values

Invalid xyz Combinations	Explanation
8Cz	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.
9Cz	
CCz	
DCz	
0Dz	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.
1Dz	
2Dz	
3Dz	
4Dz	
5Dz	
6Dz	
7Dz	
8Dz	
9Dz	
ADz	
CDz	
DDz	
EDz	

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) enables (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 19-39. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 19-40. Combinations of x and z Values

Invalid xyz Combinations	Explanation
4yC	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 TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.
5yC	
6yC	
7yC	
CyC	
DyC	
EyC	
FyC	

PB- and PC-type xyz fields

Table 19-41. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[c]
	d	0	Non-signaling associated (NSA)
		1	16-state channel associated signaling (CAS)

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
y	e	0	Telephone channel numbering
		1	Channel timeslot numbering
	f	0	Convert the <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
z	jkl	000	NFW bit 3=RAI set in < 2 ms,
		001	NFW bit 3=RAI set in time $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8, in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
- 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 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

* 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.

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 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.

VI-type xyz fields

x - Fixed at 1

y - Fixed at 0

z - Fixed at 0

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	<i>Explanation</i>
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	<i>Explanation</i>
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)

t sm - Test mode

Values are listed below:

t sm *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	<i>Explanation</i>

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	<i>Explanation</i>

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]jklenn

- 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]jklenn 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-CANNELIZED UTILITY QUERY TO

Explanation Of Command

This message 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|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|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

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

PA 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
001-032	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 type NPC numbers listed by unit number, Unit Type FT (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

uvmnp - Hierarchical NPC number of TO non-channelized NPC

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are:

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

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

[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

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 19-42. 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.

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.

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

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 19-43. 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 19-44. Provisioning values for z

z value	C.A. Timing		RAI Set Time			NFW Bit 4 Use		RAIS Set Time		MBER	RPSFI
	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. (see Section 6.2.1 of)

3. **z** values **8, 9** select TRANSMIC 2G. (see Section 6.2.2 of)
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.
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.

* 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.

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 19-45. Combinations of *x* and *y* Values

Invalid <i>xyz</i> Combinations	Explanation
8Cz 9Cz CCz DCz	Framed clear 2Mbit/s (<i>y</i> value C) is valid for all <i>x</i> 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.
0Dz 1Dz 2Dz 3Dz 4Dz 5Dz 6Dz 7Dz 8Dz 9Dz ADz CDz DDz EDz	Unframed clear 2Mbit/s (<i>y</i> value D) is only valid for <i>x</i> values B and F. These are the only <i>x</i> 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) enables (*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 19-46. 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 (<i>y</i> value C or D) cannot be used with Firmware controlled Consequent Action (<i>z</i> values 1, 3, 5, 7, 9 or B), TRANSMIC 1G (<i>z</i> value C) or TRANSMIC 2G (<i>z</i> value 8).
xD4 xD6	Unframed clear 2Mbit/s (<i>y</i> value D) cannot be used with <i>z</i> value 4 (NFW Bit 4 used for RAIS) or with <i>z</i> value 6 (NFW Bit 4 used for RBER) because unframed clear signals cannot obtain TS0 framing.
x0C x2C x4C x6C	Channel Associated Signaling (<i>y</i> values 0, 2, 4 and 6) is not valid for TRANSMIC 1G (<i>z</i> 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 19-47. Combinations of x and z Values

Invalid xyz Combinations	Explanation
4yC	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 TSO Monitoring scheme used in TRANSMIC 1G prevents incoming SFI indicators from cutting off the signal to the Synchronizer.
5yC	
6yC	
7yC	
CyC	
DyC	
EyC	
FyC	

PB- and PC-type xyz fields

Table 19-48. NPC Provisioning Options

<i>Digit</i>	<i>Bit</i>	<i>Value</i>	<i>Meaning</i>
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 <i>Actions</i> ^[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 <i>abcd</i> bits of TS16 to 1111 if 0000
		1	Transmit the 0000 in the <i>abcd</i> 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 $T^{[c']}$
		010	NFW bit 4=RAIS in time $T^{[c']}$ 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 $ms^{[jkl]}$),
		100	NFW bit 4=RAIS and RAI in time $T^{[c']}$ (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 $ms^{[jkl]}$),
		110	NFW bits 3-8, in time 144ms (TRANSMIC 1G)
		111	Unassigned
	m	0	Unassigned, only m=0 is valid
		1	

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 $jkl \neq 011$ and $jkl \neq 101$
- 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 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

* 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.

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 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 **abcdefg=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 **abcdefg=00000000**, unless the xyz parameters set them differently, that is, for Transmic 1G the abcdefgh=00111111.

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

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 hrnsc][MONDAT hrnsc] 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.

efgh - 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.

hrmns - 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.

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

The valid values are:

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

PA, PB, and PC 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 and PC 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

uvmnp - Hierarchical NPC number of test NPC

uv - Unit number
m - Module number
np - NPC number within the module

The valid values are:

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

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

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
Values are listed below:

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

PA, PB, and PC 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 and PC 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

[t]def - Nonhierarchical NPC number

Values are identical to those for [s]abc.

uvmnp - Hierarchical NPC number

wxkqr - Hierarchical NPC number

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

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

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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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
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 uvmpn 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 uvmpn-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

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

PA, PB, and PC 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 and PC 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

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

The values are listed below:

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

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

[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 Not 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

de - Two spare national bits S_4 through S_5 in the NFW.

f - RPSFI (Remote Power Supply Failure 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:

<i>Bit value</i>	<i>Explanation</i>
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	<i>Explanation</i>
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, UNIT, FTMI, IMP

UTILITY QUERY EQUALIZATION, IMPEDANCE

Explanation Of Command

This message requests the system to display the network 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

<i>zzz</i>	<i>Explanation</i>

075	CEPT termination with 75-ohm impedance

120	CEPT termination with 120-ohm impedance

cc - Hexadecimal condition code

<i>cc</i>	<i>Explanation</i>

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 DACSIgg 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

kkt tuuvv

- 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
	Message Logging
	Alarm Severity
	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/MXR/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-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1
uvmhi-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1
uvmhi-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1
uvmhi-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1 uvmhi-uvmk1 {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)

The valid values are:

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

PA, PB, and PC 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 and PC 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

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

The valid values are:

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

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

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

cc *Explanation*

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

<i>entity</i>	<i>Explanation</i>
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

<i>action</i>	<i>Explanation</i>
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	<i>Explanation</i>
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
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 DACS II SYSTEM CLOCK OR DAILY FACILITY ALARM REPORTING TIME /* pds */

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

hrmns - 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, "hrmns" 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 hrmns.

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 - Multiframing 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	<i>Facility parameter alarm report enabled</i>
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

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