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DMS-100 Family

North American DMS-100

Customer Data Schema Reference Manual Volume 7 of 11

Data Schema LNADMIN-MWDATA

LEC0015 and up Standard 05.02 May 2001

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Data Schema TRKGRP type P2-ZONEORDR

1 Data schema tables

The following pages contain the data schema tables.

LNADMIN

Table name

Line Administration Table

Functional description

Table LNADMIN defines the office administration parameters the off-hook balance test requires. The operating company can enable or disable the test for originating calls in an office.

Note: Before the release of BCS35, the system did not always perform the off-hook balance network test on a line. The system only performed this test if the operating company disabled the new test.

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table LNADMIN.

Table size

1 tuple

Datafill

Datafill for table LNADMIN appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LNADMKEY		0	<i>Line administration key.</i> Enter 0 to set the line administration key to 0.
CCOCC		0 to 50	<i>Central control occupancy.</i> Enter a numeric value to indicate the percentage of threshold central control (CC) occupancy. If the CC occupancy in the switch exceeds the threshold, the system skips off-hook balance test. The default value is 40.

LNADMIN (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
TTUUSE		0 to 15	<i>Number of transmission test units used.</i> Enter the number of transmission test units (TTU) in the switch that the off-hook balance test can use. The default value is 1.
TESTTYPE		DISABLED or ORIG	<i>Test type.</i> Enter DISABLED to disable the off-hook balance test for all the office. Enter ORIG to indicate that the off-hook balance test is active. The system performs the test on originating calls for the whole office. The default value is DISABLED.

Datafill example

Sample datafill for table LNADMIN appears in the following example.

MAP example for table LNADMIN

LNADMKEY	CCOCC	TTUUSE	TESTTYPE
0	40	8	DISABLED

Table history
BCS35

Table LNADMIN was introduced in BCS35.

LNBNV

Table name

Line Balance Network Value Table

Functional description

Table LNBNV allows operating company offices to enable or disable the new off-hook balance test for each line. After the test runs on a line, table LNBNV stores the recommended balance network value (BNV).

Note: Prior to BCS35, the off-hook balance network test can only occur with the new test disabled.

The system automatically adds entries for table LNBNV when you add the tuple to table LNINV. The system deletes entries from table LNBNV when you delete tuples from LNINV. You cannot add or delete tuples from table LNBNV.

Datafill sequence and meaning

Enter data in table LNINV before you enter data in table LNBNV.

Table size

The minimum table size is zero tuples. The number of tuples in table LNINV dynamically allocates the maximum size of the table.

LNBNV (continued)**Datafill**

Datafill for table LNBNV appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LEN		refer to subfields	<i>Line equipment number.</i> This field defines the location of the equipment. The equipment connects to a specified telephone line. Field LEN is common to more than 60 tables. A single section documents this field to avoid a copy of information that is not necessary. Refer to the section "Common entry field LEN" for a complete description of field LEN and associated subfields. Field LEN contains subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT and CIRCUIT.
TESTTYPE		DISABLED or ORIG	<i>Test type disabled.</i> This field indicates the state of the off-hook balance test. Enter DISABLED to indicate that operating company disabled the off-hook balance test for that specified line. Enter ORIG to indicate that the operating company enabled the off-hook balance test. The test runs on the originating calls.

LNBVN (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
BNV		9002, L, NA or N	<i>Balance network value.</i> This field stores the off-hook balance test result for the line specified in field LEN. The following are entry selections: • 9002. This entry indicates that a 9002 balance impedance is recommended for this line. • L. This entry indicates that a loaded impedance is recommended for the specified line. • NA. This entry indicates that the test result is not available. • NL. This entry indicates that a non-loaded impedance is recommended for the specified line.
TESTEX		Y or N	<i>Off-hook balance test executed.</i> Enter Y in this field to indicate that the operating company executes the off-hook balance test on the line. Enter N to indicate that the operating company did not execute the test on the line. Note 1: You cannot overwrite this field. Note 2: The system resets this field.

Datafill example

Sample datafill for table LNBVN appears in the following example.

MAP example for table LNBVN

LEN TESTYPE				BNV TESTEX	
HOST	00	0	00 00	ORIG	NA
					N

LNBV (end)

Table history

BCS35

Table LNBV was introduced in BCS35.

LNINV

Table name

Line Circuit Inventory Table

Functional description

Table LNINV lists the data for each line card slot for various peripheral module (PM) types, including the following:

- asynchronous interface module (AIM)
- digital line module (DLM)
- enhanced line concentrating module (ELCM)
- intelligent peripheral equipment (IPE)
- international line concentrating module (ILCM)
- ISDN line concentrating module (LCMI)
- line concentrating module (LCM)
- line digital trunk (LDT)
- line module (LM)
- Universal Edge 9000 (UE9000 or UEN)
- remote carrier urban (RCU)
- remote concentrator SLC-96 (RCS)
- remote concentrator terminal (RCT)
- remote digital terminal (RDT)
- remote line concentrating module (RLCM)
- remote switching center SONET (RSC-S)
- server service (SVR)
- small remote unit (SRU)
- proprietary phone (P-Phone) data link (V5PPHN)
- virtual line concentrating module (VLCM)

For information on line testing, refer to the *Lines Maintenance Guide*.

Datafill sequence and meaning

The following tables must be datafilled before table LNINV:

- LMINV
- LCMINV

LNINV (continued)

- LCMDRINV
- LDTINV
- LNTDM
- ISGTDM

Field LEN must be datafilled in the PM inventory tables (for example, RDTINV) prior to datafilling table LNINV.

For RLD lines: the RLD site, frame and unit must be datafilled in the RLDNAME field in table LCMDRINV prior to datafilling a RLD line.

Additional datafill information

A remote switching center (RSC) must be provided as the site of an ELCM with ISDN (LCME).

For ISDN and RCU Meridian business set (MBS) lines, the value of field STATUS is set to WORKING.

Remote carrier urban (RCU) special-service, coin, MBS, and ISDN lines use only even-numbered circuits in table LNINV. Before a special-service line can be deleted from this table, the associated nailed-up cross-connection must be deleted from table PSNAILUP.

Special services module (SSM) channel units can be datafilled only if the RCU is equipped with SSMs and fields SSM1, SSM2, or both, are datafilled appropriately in table RCUINV. Circuit numbers 24 to 31 are not used on SSMs, so these must not be datafilled. At least three voice channel units must be datafilled for every SSM, or a carrier group alarm may be caused.

If SSM1 is configured, lines cannot be datafilled for slot 1 of control shelf 1, since a bus extender occupies the slot. If SSM2 is configured, lines cannot be datafilled for slot 2 of control shelf 1, since a bus extender occupies the slot.

Channel units that are part of special-service connections and are datafilled in table SPECCONN cannot be deleted from table LNINV.

If the integrated bit error rate test (IBERT) is datafilled only in table LNINV, the state when it is posted in the line test position (LTP) of the MAP display is installation busy (INB). If the idle (IDL) state is desired, then the IBERT must also be datafilled in table KSETINV with the DATA format.

LNINV (continued)

When datafilling table LNINV for IPE analog lines, fields PADGRP, STATUS, GND, and BNV are datafilled the same as IPE digital lines, with the following exceptions:

- Fields LSG and CIRCUIT must correspond to an IPE analog line card that supports only 16 circuits (numbered 0 to 15).
- Field MNO must be datafilled as N for IPE analog lines.

Global peripheral platform (GPP) PMs use virtual line addressing of lines connected to access nodes (AN). For more information about GPP virtual line addressing, see the “Lines” section in the “Supplementary information” section at the end of this chapter.

Table IPEINV must be datafilled for the IPE before analog lines associated with that IPE can be datafilled in table LNINV. Once tables IPEINV and LNINV are datafilled, table IBNLINES can be datafilled for IPE analog lines.

ATTENTION

ISDN line drawer for remote (ILDR) was first available for RSC-S and RSC configurations in the NA007/XPM08 time frame. ILDR was first available for RLCM, outside plant module (OPM), and outside plant access cabinet (OPAC) configurations in the NA008/XPM81 time frame.



CAUTION

Risk of service interruption or degradation

Do not provision remote ISDN line drawer (RLD) line equipment numbers (LEN) on line concentrating modules (LCM) that directly subtend NTMX77-based line trunk controllers (LTC). This restriction is first required in the NA012/XPM12 time frame.

The restrictions in adding or changing an ILDR line in table LNINV are:

- ILDR drawers must be datafilled in table LCMDRINV before ILDR lines are datafilled in table LNINV.
- Verify that if the respective drawer is defined as ILDR in table LCMDRINV, the line card is suitable for an ILDR, that is, NTB27.
- Verify that the line card number is in the range of 0 through 13. This is because ILDR supports up to 28 lines in a physical drawer (2 lines per line card x 14 slots = 28).

LNINV (continued)

- Set the line state to WORKING, even if operating company personnel write a different state. This is because, unlike an LCME line, the ILDR does not require a special connection to the enhanced D-channel handler (EDCH) to be set up.
- The state of the drawer remains unchanged while the ILDR is defined. Defining the first line of an ILDR or deleting the last line of an ILDR does not change the state of the drawer. The state of the drawer is changed to Unequipped (NILDRWR) only when the ILDR is deleted from table LCMDRINV.

ISDN lines cannot be datafilled in table LNINV unless the access multiplexer capability (AMC) in which they reside has an ISDN C-channel for SAPI0 (ISDD) defined. The opposite direction is also checked. It is not possible to delete a C-channel from an AMC unless there are no ISDN lines defined for that AMC in this table. The same is true for public switched telephone networks (PSTN).

ISDN lines defined using a V5 interface in table LNINV are moved to status WORKING. This is true even if operating company personnel have datafilled the line as HASU.

For P-Phones, operating company personnel must provision a P-Phone data link (DL) on the interface before provisioning the P-Phone. Each interface has one P-Phone DL, and the P-Phone appears as padgroup V5PPHN. The P-Phone is only available on line equipment number (LEN) 0.

Table size

Memory is automatically allocated.

LNINV (continued)**Datafill**

The table that follows lists datafill for table LNINV.

Field descriptions (Sheet 1 of 9)

Field	Subfield	Entry	Explanation and action
LEN		see subfields	<i>Line equipment number</i> This field defines the physical location of the equipment that is connected to a specific telephone line. Note: Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section “Common entry field LEN” for a complete description of field LEN and associated subfields... Field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT. For RLD lines only, the RLD site, frame and unit that are defined in table LCMDRINV in the RLDNAME field are acceptable as the LEN site, frame and unit. For the integrated channel bank (ICB) that connects to the Expanded Subscriber Carrier Module-100 Access (ESMA) (also known as the SMA2), the LEN consists of the following subfields: SITE, FRAME, UNIT, RDTLINK, and CHANNEL. Refer to section “Common entry field LEN” for more information about ICB LENS. For GPPs, field LEN consists of SITE, FRAME, GROUP (CAS) or UNIT (V5), LINE CARRIER (CAS) or LAYER 3 ADDRESS1 (V5), and CHANNEL (CAS) or LAYER 3 ADDRESS 2 (V5). Note: For more information about GPP addressing, see the “Lines” section of the “Supplementary information” section.

LNINV (continued)**Field descriptions (Sheet 2 of 9)**

Field	Subfield	Entry	Explanation and action
CARDCODE		2X03AA	<i>Card code</i>
		2X17AB	Enter the product engineering code (PEC) of the line card. Values other than those listed in this field description can also be valid. Refer to the switch range for a comprehensive list of valid entry values.
		2X17AC	
		2X17AD	
		2X18AC	
		2X18AD	
		2X18AE	
		3A06AA	The 2X-based PECs refer to the LM-based PMs, while the 6X-based PECs refer to the ILCM-based PMs.
		3A06BA	
		3A07AA	
		3A07BA	QPP codes are for RCT; PSAP codes are for E911; and SCD and SSM codes are for RCU. NAILUP also applies to RCS modules. If submitting datafill for final lines, enter (“).
		3A12AB	
		3A13AB	
		3A13AC	
		3A19AB	If field MEMSIZE of the LCM hosting the line card in table LCMINV has a value of 4M 4M, (for Japan only), the only acceptable entries for field CARDCODE are 6X21AA, AB, AC, AD, or BC. All other entries create an error message and the tuple is rejected.
		3A27AA	
		5D11AA	
		5D51AA	
		6X17AA	
		6X17AC	
		6X17AD	Note: In the RLCM-EDC application for Japan only, line card slot 0 of drawer 0 is allowed by table control to support a 6X21 line card and will not impact functions of the RLCM-EDC.
		6X17BA	
		6X18AA	
		6X18AB	
		6X18BA	
		6X19AA	
		6X19AB	
		6X20AA	
		6X21AA	
		6X21AB	
		6X21AC	
		6X21AD	
		6X21BC	
		6X23AA	
		6X33AA	
		6X71AA	
		6X71AB	
		6X71AC	
		6X76AA	
		6X76AC	
		6X87AB	
		6X87BA	

LNINV (continued)**Field descriptions (Sheet 3 of 9)**

Field	Subfield	Entry	Explanation and action
CARDCODE (continued)		6X88AB	Card codes datafilled in table LNINV represent line card carriers, not line cards, for RCU, POTS, frequency selective ringing (FSR), and MPDR. For example, 3A06AA refers to the POTS line card carrier that holds POTS line cards.
		6X88BA	
		6X93AA	
		6X93BA	
		6X93CA	
		6X93DA	
		6X93EA	
		6X93FA	
		6X94AA	
		6X94AB	
		6X94BA	If the entry in field CARDCODE is 3A06BA or 3A07BA, datafill subfield CARDINFO. Enter RCUPOTS (for a POTS card) or RCUEPOTS (for an EPOTS card).
		6X94BB	
		6X94CA	
		6X94DA	
		6X95AA	
		6X95AB	Foreign exchange with battery office end (FXBO) and foreign exchange with battery station end (FXBS) use card codes that represent line cards. Different card codes cannot be datafilled in the same RCU slot. FXBS and FXBO cards are an exception to this rule, and can be mixed in the 6X11AB carrier. All two-wire and four-wire cards can be mixed in the 6X11BA carrier. All two-wire, four-wire, MBS, and ISDN cards can be mixed in the 6X11CA carrier.
		6X98AA	
		6X99AA	
		7A20AA	
		7A21AA	
		7A22AA	
		7A23AA	
		7A25AA	
		7A26AA	
		7A27AA	
		7A31AA	
		7A33AA	
		8X47BA	
		8X73AA	
		8D02AA	
		8D02AB	
		8D02CC	
		8D02EA	
		8D09AA	
		8D03AB	
		8D03AE	
		8D03AH	
		8D03AJ	
		8D09AB	
		8D09AD	
		8D09AG	

LNINV (continued)**Field descriptions (Sheet 4 of 9)**

Field	Subfield	Entry	Explanation and action
CARDCODE (continued)		8D09AH	Only BX04AA is valid on an LCMI.
		8D09AJ	
		BX04AA	CXIPCD = Centrex-IP International line card.
		BX25AA	Entries FX17AA, KX05AA, KX06AA,
		BX25AB	NP43AA, NP44AA, NP45AA, NP46AA, and
		BX26AA	NP47AA apply to the Universal Edge 9000.
		BX27AA	
		CXIPCD	To datafill a world line card (WLC), enter the
		DC5A	template name, which reflects the hardware
		DC5ADD	characteristics rather than the hardware itself.
		EX17AA	Entry values that begin with the characters
		EX17BA	GX (such as GX51AN) are template names
		EX17CA	for German world line cards.
		EX17DA	
		FX17AA	
		GX51AN	
		GX51AS	
		GX52BN	
		GX52BS	
		KX05AA	
		KX06AA	
		LGHG TB	
		LGSGTB	
		MLTCAL	
		MUX15C	
		NAILUP	
		NP43AA	
		NP44AA	
		NP45AA	
		NP46AA	
		NP50AA	
		PSAPNN	
		PSAPWA	
		PSAPWN	
		QPP405	
		QPP407	
		QPP409	
		QPP440	
		QPP445	
		QPP541	
		VLCMCD	
		VLCMPR	
		RDTCON	
		RDTICB	

Field	Subfield	Entry	Explanation and action
CARDCODE (continued)		RDTISD RDTLS RDTLSG RDTEBS RDTLRB SCD203 SCD221 SCD233 SCD271 SCDFSR SHTTYB SSM2WV SSM4WD UKPSTN UKPTN1 UKPTN2 V5BRI V5PPHN WLAUAX WLAUBX WLBEAL WLBEAS WLBEBL WLBEBS WLBRAC WLBRAL WLBRAN WLBRBC WLBRBN WLBRBL WLCHAX WLEGAX WLEGBX WLFRAX WLFRBX WLIRAX WLIRBX WLITAN WLITAX WLITBN WLITBX WLNAL WLNALAS WLNALBL WLNALBS WLNALOX WLNALPEAX	Entry values that begin with the characters UK (such as UKPSTN) are template names for UK-only world line cards. Entries VLCMCD and VLCMPR apply to the VLCM. VLCMCD is the cardcode for the CSV VLCM. VLCMPR is the cardcode for the Proximity-I VLCM. Entry values that begin with the characters WL (such as WL9002 or WL98AA) are template names for world line cards. WL17AC and WL18AA are obsolete and are here only for upgrading purposes. Card types T1LOOP, T1ERTH, and V5LOOP are valid only on access nodes connected to a Global Peripheral Platform (GPP). For more information about this field, and details concerning specific CARDCODE entry values, refer to the “Supplementary information” section in this chapter under the subheading “General line card information.”

LNINV (continued)**Field descriptions (Sheet 6 of 9)**

Field	Subfield	Entry	Explanation and action
CARDCODE (continued)		WLPEBX WLPOAX WLPOBX WLPTAX WLPTBX WLSPAX WLSPBX WL17AC WL18AA WL33AA WL9002 WL902B WL93AA WL93BA WL93CA WL93DA WL93EA WL94AA WL94AB WL94BB WL94CA WL94DA WL01AX WL01BX WL1740 WL98AA WL9A40 W2BRAL or W2BRBL	
PADGRP		alphanumeric	<i>Pad group</i> Enter the name of the pad group that is assigned to the line circuit in table PADDDATA. Field PADGRP contains the name of the pad group in table PADDDATA that lists the value of the pad circuits that can be switched into the line when the line is involved in a call. Different values for the pad circuits can be specified when the circuit connects to an agent with a different pad group.

LNINV (continued)**Field descriptions (Sheet 7 of 9)**

Field	Subfield	Entry	Explanation and action
STATUS		CUTOFF, HASU, RESERVED, UNEQUIP, or WORKING	The name can be one of the predefined names from table PADDDATA or a name specified by the operating company and assigned in table PADDDATA. For digital line modules (DLM) and NT8X47BA, you can assign only NPDGP (no pad group). <i>Line inventory availability status</i> Enter the line inventory availability status. Valid entries are CUTOFF (cutoff), HASU (hardware assigned/software unassigned), RESERVED (reserved), UNEQUIP (unequipped), and WORKING (working). For DLMs and NT8X47BAs, only HASU or RESERVED can be assigned. To disable configuration alarms, ensure that every line datafilled for a line card carrier has the state of UNEQUIP. To return to an alarm status, you can either change field STATUS of a line to HASU through the table editor or add the directory number (DN) and change field STATUS to WORKING through the Service Order system (SERVORD). If the status of a line and the line configuration are correct, a configuration alarm is not raised.
GND		Y or N	<i>Ground</i> If the line is ground start, enter Y (yes). If the line is loop start, enter N (no). Enter loop start (N) for VLCMCD, VLCMPR, DLM, or NT8X47BA. Note: At final line time, the operating company can submit datafill to Nortel Networks for all ground start line equipment in order to change the value of field GND from N to Y.

LNINV (continued)**Field descriptions (Sheet 8 of 9)**

Field	Subfield	Entry	Explanation and action
BNV		L or NL	<i>Balanced network value</i> Enter L if the line circuit is configured for a loaded network. Enter NL for a non-loaded network. Enter NL for VLCMCD, VLCMPR, DLM, or NT8X47BA.
MNO		Y or N	<i>Manual override</i> Enter Y if the on-hook balance network test is to be prevented from updating field BNV in table LNINV. Enter N to allow the off-hook balance network test to update field BNV. Enter N for VLCMCD, VLCMPR, NT8D03AB, or NT8D09AB. Enter Y for DLM or NT8X47BA.
CARDINFO		RDT C, RDT S, or NIL	<i>Card information</i> When RDT is selected, the system presents a subfield prompting for C or S, where RDT C is synonymous with coded ringing, and RDT S is synonymous with superimposed ringing. RDT C or RDT S is permitted if table RDTINV, field VARTYPE is datafilled as GENTMC. The default value is NIL.
	CARDTYPE	FLXA, ISLCC, SSLCC, RCUEPOTS, RCUPOTS, or NIL	<i>Card type</i> The NIL value is the default. If the line card is contained in an RCU and the entry for field CARDCODE is not 3A06AA or 3A07AA, enter the following values: If CARDCODE is FLXA, the NT5D51AA and the NT8D02EA line cards allow voice on odd numbered and data on even numbered LENS for integrated voice and data sets. If CARDCODE is 3A06BA, enter RCUPOTS (for an NT3A10AA/AB card) or RCUEPOTS (for an NT3A10HA card). If CARDCODE is 3A07BA, enter RCUPOTS (for an NT3A10AA/AB card) or RCUEPOTS (for an NT3A10HA card).

LNINV (continued)**Field descriptions (Sheet 9 of 9)**

Field	Subfield	Entry	Explanation and action
	CARDTYPE (continued)		If CARDCODE is 3A12AB, 3A13AB, or 3A13AC, and is contained in a two-wire line card carrier, enter NIL. If CARDCODE is 3A12AB, 3A13AB, 3A13AC, 7A20AA, 7A21AA, 7A22AA, 7A23AA, 7A25AA, 7A26AA, or 7A27AA and is contained in a four-wire special services line card carrier (SSLCC), enter SSLCC and datafill refinements FCN and INSVC. If CARDCODE is 3A12AB, 3A13AB, 3A13AC, 7A20AA, 7A21AA, 7A22AA, 7A23AA, 7A25AA, 7A26AA, or 7A27AA, and is contained in an integrated services line card carrier (ISLCC), enter ISLCC and datafill refinements FCN and INSVC. If CARDCODE is VLCMCD or VLCMPR, enter NIL as the card type. If CARDCODE is RDTICB, and table RDTINV, field VARTYPE is datafilled as ICB, enter ICB. After ICB is entered, the switch prompts for FXS. If RDT is selected, the system prompts for C or S, where C represents coded ringing and S represents superimposed ringing. You can enter RDT C or RDT S if table RDTINV, field VARTYPE contains GENTMC. Although MBS and ISDN lines can only be in an ISLCC, enter NIL as the card type for either of these line types.

LNINV (continued)**CARDTYPE = SSLCC or ISLCC**

If the entry in subfield CARDTYPE is SSLCC or ISLCC, datafill refinements FCN and INSVC as described below.

Field	Subfield	Entry	Explanation and action
	FCN	DPO, DPT, DX, EM, ETO, FXO, FXS, OCU, PLR, SM, TANDEM, or TO	<i>Function</i> This value defines the function of the two-wire and four-wire special service card (in the four-wire line card carrier). For the NT3A12AB card, enter FXS. For the NT3A13AB/AC card, enter FXO. For the NT7A22AA card, enter SM. For the NT7A23AA card, enter OCU. For the NT7A20AA card, enter FXO, FXS, ETO, TO, EM, PLR, or TANDEM. For the NT7A21AA card, enter DX, ETO, TO, EM, PLR, or TANDEM. Note: If EM, PLR, or TANDEM is entered, it is part of a paired configuration with the SM card in the next position. If the value SSLCC or ISLCC is datafilled for field CARDTYPE, or a value for field CARDCODE of 6X12AB, 6X13AB, or 6X13AC is datafilled with a CARDTYPE of NIL, a tuple in table LNINVEXT is automatically created. The value datafilled in field FCN determines the table default values for field FCN in table LNINVEXT.
	INSVC	Y or N	<i>In-service</i> Field INSVC enables or disables configuration alarms. Enter Y to indicate that the card has a special connection established. Alarms are produced if the card fails diagnostics. Enter N to indicate that the special connection is taken down. Trunk conditioning is applied and alarms are not produced if the card fails diagnostics.

LNINV (continued)**Datafill example**

The following example shows sample datafill for table LNINV:

MAP display example for table LNINV

	LEN				CARDCODE	PADGRP	STATUS	GND	BNV	MNO	CARDINFO
HOST	05	0	17	01	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	17	02	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	17	03	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	17	04	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	17	05	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	17	06	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	17	10	6X17AC	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	21	01	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	21	02	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	21	03	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	21	04	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	21	05	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	21	06	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	21	09	6X21AC	PPHON	WORKING	N	NL	Y	NIL
HOST	05	0	22	00	6X71AB	NPDGP	WORKING	N	NL	Y	NIL
HOST	05	0	23	00	6X17AC	NPDGP	WORKING	N	NL	N	NIL
HOST	05	0	23	01	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	23	02	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	23	03	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	23	04	6X17AC	NPDGP	WORKING	N	NL	N	NIL
HOST	05	0	23	05	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	23	06	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	23	07	6X21AC	PPHON	WORKING	N	NL	Y	NIL
HOST	05	0	23	08	6X17AB	STD LN	WORKING	N	NL	N	NIL
HOST	05	0	23	09	6X17AC	NPDGP	WORKING	N	NL	N	NIL
HOST	05	0	23	10	6X21AC	PPHON	WORKING	N	NL	Y	NIL
HOST	00	1	00	01	VLCMCD	STD LN	WORKING	N	NL	N	NIL
HOST	00	1	00	01	VLCMPR	STD LN	WORKING	N	NL	N	NIL

The following example shows datafill for table LNINV when field MEMSIZE of table LCMINV has a value of 4M 4M, for Japan only:

LNINV (continued)**MAP display example for table LNINV in remote with extended distance capability application**

	LEN				CARDCODE	PADGRP	STATUS	GND	BNV	MNO	CARDINFO
REM1	00	0	00	00	6X21AD	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	00	01	6X21AB	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	00	02	6X21AA	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	00	03	6X21AB	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	00	04	6X21AA	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	00	05	6X21AB	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	00	06	6X21AC	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	00	10	6X21AC	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	01	01	6X21AA	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	01	02	6X21AB	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	01	03	6X21AB	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	01	04	6X21AA	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	01	05	6X21AA	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	01	06	6X21AA	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	01	09	6X21AC	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	02	00	6X21AB	STDLN	WORKING	N	NL	Y	NIL
REM1	00	0	02	00	6X21AC	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	02	01	6X21AD	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	02	02	6X21AD	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	02	03	6X21AD	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	02	04	6X21AC	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	02	05	6X21AB	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	03	06	6X21AA	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	03	07	6X21BC	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	03	08	6X21AB	STDLN	WORKING	N	NL	N	NIL
REM1	00	0	03	09	6X21AC	STDLN	WORKING	N	NL	N	NIL

The following example shows sample datafill for table LNINV with 1-Meg Modem Service:

LNINV (continued)**MAP display example for table LNINV with 1-Meg Modem Service**

	LEN	CARDCODE	PADGRP	STATUS	GND	BNV	MNO	CARDINFO
HOST	00 0 00 00	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 01	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 02	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 03	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 04	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 05	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 06	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 07	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 08	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 09	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 10	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 11	6X17AA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 12	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 13	EX17CA	STD LN	WORKING	N	NL	N	NIL
HOST	00 0 00 14	EX17CA	ONS	WORKING	N	NL	Y	NIL
HOST	00 0 00 15	6X17AA	NPDGP	WORKING	N	NL	Y	NIL

The following example shows sample datafill for UEN:

MAP display example for table LNINV for UEN

	LEN	CARDCODE	PADGRP	STATUS	GND	BNV	MNO	CARDINFO
HOST	05 0 00 00	NP44AA	STD LN	HASU	N	NL	N	NIL
HOST	05 0 00 01	NP44AA	STD LN	WORKING	N	NL	N	NIL
HOST	05 0 00 03	NP44AA	STD LN	WORKING	N	NL	N	NIL
HOST	05 0 01 00	NP44AA	STD LN	WORKING	N	NL	N	NIL
HOST	05 0 01 01	NP44AA	STD LN	WORKING	N	NL	N	NIL
HOST	05 0 01 02	NP44AA	STD LN	WORKING	N	NL	N	NIL
Host	05 0 01 03	NP44AA	STD LN	WORKING	N	NL	N	NIL
Host	05 0 02 00	NP44AA	STD LN	HASU	N	NL	N	NIL
Host	05 0 02 01	NP44AA	STD LN	HASU	N	NL	N	NIL
Host	05 0 02 02	NP44AA	STD LN	HASU	N	NL	N	NIL
Host	05 0 03 00	NP50AA	STD LN	WORKING	N	NL	N	NIL
Host	05 0 03 01	NP50AA	STD LN	WORKING	N	NL	N	NIL
Host	05 0 03 02	NP50AA	STD LN	WORKING	N	NL	N	NIL
Host	05 0 03 03	NP50AA	STD LN	WORKING	N	NL	N	NIL
Host	05 0 03 04	NP50AA	STD LN	WORKING	N	NL	N	NIL
Host	05 0 03 05	NP50AA	STD LN	WORKING	N	NL	N	NIL
...								
Host	05 0 03 31	NP50AA	STD LN	WORKING	N	NL	N	NIL

LNINV (continued)

Supplementary information

This section provides additional information on datafilling table LNINV.

General line card information**1-Meg Modem Service**

The xDSL line card (xLC) is the line card that supports the 1-Meg Modem Service. The xLC is a two-slot card that supports voice and data services. The xLC has three types of cards: NTEX17AA, NTEX17BA, NTEX17CA, and NTEX17DA. The cards support different transmission rates and drawer fill requirements.

An LCM line drawer can support most combinations of xLCs and POTS line cards. Refer to *1-Meg Modem Service Network Implementation Manual* (297-8063-200) for the engineering rules for the card fill in an LCM line drawer that supports 1-Meg Modem Service.

If an LCM line drawer has an xLC, the drawer must have a data-enhanced bus interface card (DBIC). The DBIC has three types of cards: NTEX54AA, NTEX54AB, NTEX54BA, and NTEX54CA. The cards support different transmission rates and interface requirements.

AIM line cards

The NT6X76AA (asynchronous interface line card) interfaces with the asynchronous interface module (AIM) using an RS422 protocol 5 volt link, and does not support ringing voltages or loop voltages of -48V. The link is intended for internal use within a building; maximum distance of 1219.2 m (4000 ft). The AIM communicates with data equipment through an RS232 link.

The NT6X76AC (DMS/SL-100 asynchronous interface line card) has a four-wire RS422 interface. Data terminal equipment (DTE) devices that are RS422 compatible can connect directly to the four-wire loop. RS232 compatible DTE can interface by an asynchronous interface line unit (AILU) or an AIM that performs the RS422 to RS232 conversion. The NT6X76AC card allows users access to simultaneous voice and low speed data communications over a two-wire facility provided through the use of integrated voice and data modems (IVDM) located in the DMS switch and on the customer premises.

DLM line cards

The NT8X47BA digital port card is used with the digital line module for M2000 digital telephones and the M3000 digital telephones. The NT8X47BA is a 32-channel port card equivalent to a line drawer that supports 16 M2000

LNINV (continued)

digital telephones or M3000 digital telephones, each capable of simultaneous voice and data transmission.

GPP line cards

Unlike DMS switch physical line cards that are identified by product codes, cards datafilled on generic access nodes (AN) are represented by the following equivalent virtual types:

- DC5A
- DC5ADD
- T1ERTH
- T1LOOP
- V5LOOP (for ANs with V5.2 interfaces)

In general, MDC station features are applicable only to GPP lines that serve subscriber stations using line card (LC) signaling (card code T1LOOP), not to GPP lines that serve PBXs using EC signaling (card code T1ERTH). The exceptions are routing features, such as Hunting.

E911 line cards (LDT)

The following card codes are used for Enhanced 911 Emergency Service (E911) LDTs to designate that the LEN belongs to a public safety answering point (PSAP). An LDT card code, along with field ANISPILL in the LDTPSAP option data of table HUNTGRP, defines the automatic number identification (ANI) protocol between the E911 tandem and an LDT PSAP. Field ANISPILL must correspond to the appropriate LDT card code datafilled for each LDT line assigned to a PSAP hunt group, as outlined below.

- PSAPNN is used for PSAPs that do not send a wink and do not expect ANI.
- PSAPWA is used for PSAPs that send a wink and expect ANI.
- PSAPWN is used for PSAPs that send a wink but do not expect ANI.

International line cards

The NT6X21BC (A-law international proprietary business set (P-phone) line card) is used in the international line concentrating module (ILCM), international remote line concentrating module (IRLCM), and very small remote (VSR).

Line card NT6X33AA (General use line card SMD type A, Japan) provides a single party voice and signaling interface between a two-wire analog subscriber line and the DMS-100 switch.

LNINV (continued)

NT6X93CA (line card type A China) and NT6X93EA (line card type A - Australia) POTS lines can be datafilled on LCMEs.

The NT6X93BA international type A line card provides the signaling and transmission interface required between BT700 series telephone sets and DMS-100/Caribbean local offices. It can be datafilled in any slot in any line drawer of the ILCM.

The NT6X94AB (international type B line card) is used by single-party PBX and coin subscribers on the ILCMs. The international type B diagnostic consists of the following:

- International type A line card diagnostic NT6X93AA (line card type A Turkey)
- Metering pulse test for the 12-kHz metering signal
- Reversal relay test as used for the North American type B line cards

The major differences between the NT6X94AA and NT6X94AB cards are:

- A third relay has been added. This is the isolation relay for the NT6X94AB card.
- The NT6X94AB card uses less power.

The international line cards NT6X93BA, NT6X94BA, NT6X94BB, and NT6X95AB are used for the Caribbean expansion program.

The NT6X94BA international type B line card provides the signaling and transmission interface between the GEC-5600 coin box and the DMS-100 MMP switch. It can be datafilled for any slot in any line drawer of the ILCM.

The NT6X94BB (international type B line card), like the NT6X94AB, is used by single-party PBX and coin subscribers on the ILCMs and IRLCMs. The current international type B diagnostic consists of the following:

- International type A line card diagnostic NT6X93AA (line card type A Turkey)
- Metering pulse test for the 12-kHz metering signal
- Reversal relay test as used for the North American type B line cards

LNINV (continued)

The major differences between the NT6X94BA and NT6X94BB, identical to differences between the NT6X94AA and NT6X94AB, are:

- A third relay has been added. This is the isolation relay for the NT6X94BB card.
- The NT6X94BB card has a lower power consumption.

The NT6X95AB metering tone generator (MTG) card provides a 12- or 16-kHz sinusoidal tone for use with the NT6X94BA line card with metering. The MTG provides the metering tone for each physical ILCM drawer, and occupies slot 0 of the odd numbered ILCM drawer.

The international line cards NT6X93CA and NT6X94CA are for China. They have functionality that is identical to the NT6X93AA and NT6X94AA. The NT6X94CA has the capabilities of the NT6X93CA plus the following additional capabilities:

- battery reversal
- 16-kHz meter pulse generation for coin, PBX, and subscriber premise meter (SPM)

The NT6X93EA (line card type A - Australia) is for POTS and IBN lines.

The NT6X93DA type A and NT6X94DA type B cards are for use in Morocco. Diagnostics for the NT6X94DA type B are the same as those run for the NT6X93DA type A line card with the addition of a metering pulse test, an isolation relay test, and a battery reverse relay test.

The NT6X95AA (international metering tone card) provides the metering tone for an entire physical international LCM (ILCM) drawer. It is datafillable only in slot 0 of the odd numbered logical ILCM drawer. This ensures separation from the +48V power card.

IPE line cards

The intelligent peripheral equipment (IPE) supports the following cards for analog lines: NT8D03AB and NT8D09AB. The NT8D03AB (extended analog line card) supports 500/2500 sets without message waiting lamps. The NT8D09AB (extended message waiting line card) supports 500/2500 sets with message waiting lamps.

The NT5D11AA line card allows the IPE to interface a T1 with voicemail and voice response equipment. The operator must ensure that ports 8-15 of the second card slot are not used.

LNINV (continued)

Defining CARDTYPE as FLXA, allows assignment of voice on odd numbered LEN and data on even numbered LENs of IPE digital line cards. The NT5D51AA provides virtual ports for conference bridging.

LCM line cards

For the LCM peripheral module line card, the following PECs apply:

- NT6X17AA (standard line circuit type A with cutover)
- NT6X17AD (current limiting POTS type A line card)
- NT6X18AA and NT6X18AB (line cards type B)

The NT6X18AB card gets the +48 V supply from the NT6X23AA power converter card, which is also used to provide the +48 V for Digitone fraud prevention. The NT6X23AA card can be datafilled only for slot 0 of the odd numbered drawer. The card takes up two slots and occupies slot 16 as well as slot 0. Both slots must be vacant before the NT6X23AA card can be datafilled.

The NT6X18AA line card is the LCM version of the LM POTS type B (NT2X18AE) line card and the NT6X18AB is the LCM version of the LM POTS type B (NT2X18AD) line card. The NT6X18AB differs from NT6X18AA in that it has an additional relay to handle the +48 V used for Digitone fraud prevention.

Card NT6X93FA (extended range line card) takes up three vertical slots in an LCM drawer. The primary slot for this card is the topmost of the three slots.

The following rules must be followed when assigning an NT6X93FA card:

- The primary ERLC slot can be placed only in the odd-numbered LCM drawers. The following message is displayed at the MAP terminal if an attempt is made to datafill an ERLC in an even LCM drawer:

ERROR - CAN ONLY ASSIGN 6X93FA IN ODD DRAWERS

- The two physical slots directly below the primary NT6X93FA slot must be empty. The following message is displayed at the MAP terminal if an attempt is made to datafill an NT6X93FA card and a card occupies one or both of the two slots physically below the primary ERLC slot:

ERROR - ERROR - THE 3 SLOTS REQUIRED ARE NOT ALL FREE

- If the ERLC primary slot is in the range 0 to 15 of an odd numbered drawer, then the card in the slot directly above must not be an NT6X93FA. The following message is displayed if an attempt is made to datafill an

LNINV (continued)

NT6X93FA card in slots 0 to 15 when the slot above is occupied by an NT6X93FA card:

ERROR - OCCUPIED BY A 3-SLOT 6X93FA CARD

The following restriction applies when assigning a non-NT6X93FA card if NT6X93FA cards are available in the DMS-100 switch:

- A non-N6X93FA card cannot be datafilled in the two slots directly below the primary NT6X93FA slot. The following message is displayed when attempting to datafill a non-NT6X93FA card in a slot one or two rows directly below an NT6X93FA card:

ERROR - OCCUPIED BY A 3-SLOT 6X93FA CARD

The NT6X99AA (datapath bit error rate tester - two-slot) line card is used for the integrated bit error rate test (IBERT) for testing of datapaths (data units) and is not used for network or speech links in the DMS switch. An IBERT test measures the transmission quality of a data loop. A known stream of data is sent over a given loop and the reflected data received is compared with the sent data, thereby giving a measure of the transmission quality. By looping back the data at different points in the loop and measuring the transmission quality at different points, faults that exist on the loop can be isolated. The IBERT can be used to test any type of line card that supports the TLINK protocol. This includes data units, data above voice, AIM, coax eliminator data units, and loop extender data units. The IBERT must be located in an LCM or RLCM.

If an NT6X71AA (data line card DMS-100/SL-100) is added to table LNINV, field PADGRP is forced to entry value NPDGP and field MNO is forced to entry value Y.

The NT6X71AC (CSA/UL compliant line card) has enhanced front-end loop interface protection circuitry to support 600-V power cross safety.

LCM with world line cards

The NT6X17BA type A world line card (WLC) and NT6X18BA type B WLC are software programmable POTS line cards for LCMs. The WLC parameters, such as the card's transmission and signaling characteristics, loop current limit, and automatic loss equalization, are controlled by software in the central control (CC) module. Each software template has a unique name that can be datafilled against any WLC line in table LNINV. The data contained in each template is sent to the LCM at static data download when an LCM is returned to service (RTS) or when WLC-specific datafill is changed while the LCM is in service. The template data is also used to program the WLC when the LCM line card audit detects parameter loss (card reseated) and during diagnostics.

LNINV (continued)

The WLC template requires the NT6X17BA and NT6X18BA WLCs and the Extended Memory LCM processor card (6X51AB). When card code entries 6X17BA and 6X18BA are datafilled in field CARDCODE, the WLC operates as an NT6X17AC card and NT6X18AA card respectively.

The WLC Type B WLC inherently supports metering and does not require the NT6X95 Metering Tone Generator Card.

The following WLC templates are suggested for use in North America. The Template Name identifies the Cardcode entered in table LNINV, and the Line Card identifies the physical card:

Template name	When to use	Line card
MLTCAL	Calibration target for AT&Ts MLT	NT6X17BA
WL1740	POTS with 40 mA current loop limit	NT6X17BA
WL9A40	Type A DLC interface - 40 mA limit	NT6X17BA
WL9002	Type A interface to DLCs	NT6X17BA
WL902B	Type B interface to DLCs	NT6X18BA
6X17BA	POTS	NT6X17BA
6X18BA	POTS Ground/Loop Start, coin.	NT6X18BA

The characteristics of each world line card template are as follows:

6X17BA template details (Sheet 1 of 2)

Characteristics	6X17BA
Input impedance	900 ohms (0 ohms + 2.16 uF)
Balance impedance	NL: 88.9 ohms (711.1 ohms + 63.3 nF) LD: 94.3 ohms (1555.7 ohms + 5.6 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law

LNINV (continued)**6X17BA template details (Sheet 2 of 2)**

Characteristics	6X17BA
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

6X18BA template details

Characteristics	6X18BA
Input impedance	900 ohms (0 ohms + 2.16 uF)
Balance impedance	NL: 88.9 ohms (711.1 ohms + 63.3 nF) LD: 94.3ohms (1555.7 ohms 5.6 nF) NL (GND): 88.9 ohms (711.1 ohms + 63.3 nF) LD (GND): 94.3 ohms (1555.7 ohms + 5.6 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	50 mA (NL & LD) 40 mA (NL GND & L GND)
Equalization loss	no
Metering level, duration, frequency	not applicable

LGHGTB (long-line heavy gauge) template details (Sheet 1 of 2)

Characteristics	LGHGTB (long-line heavy gauge)
Input impedance	298 ohms (1055 ohms + 2.16 uF)
Balance impedance	164 ohms (1227 ohms + 350 nF) (162 ohms + 363 nF)
A-D gain at 1004Hz	-1 dB

LNINV (continued)**LGHGTB (long-line heavy gauge) template details (Sheet 2 of 2)**

Characteristics	LGHGTB (long-line heavy gauge)
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	40 mA
Equalization loss	yes
Metering level	0.5 Vrms
Metering duration	200 ms
Metering frequency	16 kHz

LGSGTB (long-line small gauge) template details

Characteristics	LGSGTB (long-line small gauge)
Input impedance	298 ohms (1055 ohms + 2.16 uF)
Balance impedance	270 ohms (1434 ohms + 265 nF) (263 ohms + 358 nF)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	40 mA
Equalization loss	yes
Metering level	0.5 Vrms
Metering duration	200 ms
Metering frequency	16 kHz

LNINV (continued)

MLTCAL template details

Characteristics	MLTCAL
Input impedance	900 ohms (0 ohms + 2.16 nF)
Balance impedance	88.9 ohms (711.1 ohms + 63.3 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	none
Equalization loss	no
Metering level, duration, frequency	not applicable

MUX15C template details

Characteristics	MUX15C
Input impedance	300 ohms (696 ohms + 223 nF)
Balance impedance	300 ohms (696 ohms + 223 nF)
A-D gain at 1004Hz	-6 dB
D-A gain at 1004Hz	-1 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	40 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

LNINV (continued)**SHTTYB (short-line) template details**

Characteristics	SHTTYB (short-line)
Input impedance	298 ohms (1055 ohms + 2.16 uF)
Balance impedance	259 ohms (676.8 ohms + 400 nF) (194.3 ohms + 246 nF)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	40 mA
Equalization loss	yes
Metering level	0.5 Vrms
Metering duration	200 ms
Metering frequency	16 kHz

UKPSTN (short-line) template details

Characteristics	UKPSTN (short-line)
Input impedance	298 ohms (1055 ohms + 2.16 uF)
Balance impedance	259 ohms (676.8 ohms + 400 nF) (194.3 ohms + 246 nF)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	40 mA
Equalization loss	yes
Metering level, duration, frequency	not applicable

LNINV (continued)**UKPTN1 (long-line heavy gauge) template details**

Characteristics	UKPTN1 (long-line heavy gauge)
Input impedance	298 ohms (1055 ohms + 2.16 uF)
Balance impedance	164 ohms (1227 ohms + 350 nF) (162 ohms + 363 nF)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	40 mA
Equalization loss	yes
Metering level, duration, frequency	not applicable

UKPTN2 (long-line small gauge) template details

Characteristics	UKPTN2 (long-line small gauge)
Input impedance	298 ohms (1055 ohms + 2.16 uF)
Balance impedance	270 ohms (1434 ohms + 265 nF) (263 ohms + 358 nF)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	40 mA
Equalization loss	yes
Metering level, duration, frequency	not applicable

LNINV (continued)**W2BRAL (loaded) template details**

Characteristics	W2BRAL (loaded)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	0 ohms (1650 ohms + 5 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

W2BRBL (loaded) template details

Characteristics	W2BRBL (loaded)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	0 ohms (1650 ohms + 5 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	148 ms
Metering frequency	12 kHz

LNINV (continued)

WL01AX template details

Characteristics	WL01AX
Input impedance	220 ohms (820 ohms + 120 nF)
Balance impedance	220 ohms (820 ohms + 120 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-2 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL01BX template details

Characteristics	WL01BX
Input impedance	220 ohms (820 ohms + 120 nF)
Balance impedance	220 ohms (820 ohms + 120 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-2 dB
Off-hook supervision threshold	6 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

LNINV (continued)**WL1740 template details**

Characteristics	WL1740
Input impedance	900 ohms (0 ohms + 2.16 uF)
Balance impedance	88.9 ohms (711.1 ohms + 63.3 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	40 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL9002 (9 + 2 balanced) template details

Characteristics	WL9002 (9 + 2 balanced)
Input impedance	900 ohms (0 ohms + 2.16 uF)
Balance impedance	900 ohms (0 ohms + 2.16 uF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

LNINV (continued)**WL902B (9 + 2 balanced) template details**

Characteristics	WL902B (9 + 2 balanced)
Input impedance	900 ohms (0 ohms + 2.16 uF)
Balance impedance	900 ohms (0 ohms + 2.16 uF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL902B (9 + 2 ground) template details

Characteristics	WL902B (9 + 2 ground)
Input impedance	900 ohms (0 ohms + 2.16 uF)
Balance impedance	900 ohms (0 ohms + 2.16 uF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	40 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL33AA template details (Sheet 1 of 2)

Characteristics	WL33AA
Input impedance	600 ohms (0 ohms + 1.0 uF)
Balance impedance	150 ohms (830 ohms + 72 nF)

LNINV (continued)**WL33AA template details (Sheet 2 of 2)**

Characteristics	WL33AA
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	85 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	148 ms
Metering frequency	12 kHz

WL93AA template details

Characteristics	WL93AA
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	85.7 ohms (514.3 ohms + 68.1nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL93BA template details (Sheet 1 of 2)

Characteristics	WL93BA
Input impedance	300 ohms (1000 ohms + 220 nF)
Balance impedance	370 ohms (620 ohms + 310 nF)

LNINV (continued)**WL93BA template details (Sheet 2 of 2)**

Characteristics	WL93BA
A-D gain at 1004Hz	-4 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL93CA template details

Characteristics	WL93CA
Input impedance	200 ohms (680 ohms + 100 nF)
Balance impedance	160 ohms (780 ohms + 115 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL93DA template details (Sheet 1 of 2)

Characteristics	WL93DA
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	210 ohms (880 ohms + 150 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB

LNINV (continued)**WL93DA template details (Sheet 2 of 2)**

Characteristics	WL93DA
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL93EA template details

Characteristics	WL93EA
Input impedance	220 ohms (820 ohms + 120 nF)
Balance impedance	220 ohms (820 ohms + 120 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-2 dB
Off-hook supervision threshold	6 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL94AB template details (Sheet 1 of 2)

Characteristics	WL94AB
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	85.7 ohms (514.3 ohms + 68.1 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law

LNINV (continued)**WL94AB template details (Sheet 2 of 2)**

Characteristics	WL94AB
Current limit	50 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	148 ms
Metering frequency	12 kHz

WL94BB template details

Characteristics	WL94BB
Input impedance	300 ohms (1 k ohms + 220 nF)
Balance impedance	370 ohms (620 ohms + 310 nF)
A-D gain at 1004Hz	-4 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	100 ms
Metering frequency	12 kHz

WL94CA template details (Sheet 1 of 2)

Characteristics	WL94CA
Input impedance	200 ohms (680 ohms + 100 nF)
Balance impedance	160 ohms (780 ohms + 115 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB

LNINV (continued)**WL94CA template details (Sheet 2 of 2)**

Characteristics	WL94CA
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	50 mA
Equalization loss	no
Metering level	2.0 Vrms
Metering duration	148 ms
Metering frequency	16 kHz

WL94DA template details

Characteristics	WL94DA
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	210 ohms (880 ohms + 150 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level	2.0 Vrms
Metering duration	100 ms
Metering frequency	12 kHz

WL98AA (scope dial) template details (Sheet 1 of 2)

Characteristics	WL98AA (scope dial)
Input impedance	300 ohms (1 k ohms + 220 nF)
Balance impedance	370 ohms (620 ohms + 310 nF)

LNINV (continued)**WL98AA (scope dial) template details (Sheet 2 of 2)**

Characteristics	WL98AA (scope dial)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WL9A40 (9 + 2) template details

Characteristics	WL9A40 (9 + 2)
Input impedance	900 ohms (0 ohms + 2.16 uF)
Balance impedance	900 ohms (0 ohms + 2.16 uF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	u-law
Current limit	40 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLAUAX and WLAUBX template details (Sheet 1 of 2)

Characteristics	WLAUAX	WLAUBX
Input impedance	220 ohms (820 ohms + 120 nF)	220 ohms (820 ohms + 120 nF)
Balance impedance	220 ohms (820 ohms + 120 nF)	220 ohms (820 ohms + 120 nF)

LNINV (continued)**WLAUAX and WLAUBX template details (Sheet 2 of 2)**

Characteristics	WLAUAX	WLAUBX
A-D gain at 1004 Hz	0 dB	0dB
D-A gain at 1004 Hz	-7 dB	-7 dB
On/Off hook threshold	12 mA	12 mA
PCM encoding	A-Law	A-Law
Current limiting	50 mA	50 mA
Equalization loss	no	no
Loop resistance	2 k ohms	2 k ohms
Battery voltage	44.5 - 53 V	44.5 - 53 V
Metering level	not applicable	2.0 Vrms
Metering duration	not applicable	100 ms
Metering frequency	not applicable	12 kHz

WLBEAL (long-line) template details

Characteristics	WLBEAL (long-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	150 ohms (830 ohms + 72 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	2 k ohms
Battery voltage	44.5 - 53 V
Metering level, duration, frequency	not applicable

LNINV (continued)**WLBEAS (short-line) template details**

Characteristics	WLBEAS (short-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	600 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	2 k ohms
Battery voltage	44.5 - 53 V
Metering level, duration, frequency	not applicable

WLBEBL (long-line) template details (Sheet 1 of 2)

Characteristics	WLBEBL (long-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	150 ohms (830 ohms + 72 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	2 k ohms
Battery voltage	44.5 - 53 V
Metering level	2.3 Vrms

LNINV (continued)**WLBEBL (long-line) template details (Sheet 2 of 2)**

Characteristics	WLBEBL (long-line)
Metering duration	150 ms
Metering frequency	16 kHz

WLBEBS (short-line) template details

Characteristics	WLBEBS (short-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	600 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	2 k ohms
Battery voltage	44.5 - 53 V
Metering level	2.3 Vrms
Metering duration	150 ms
Metering frequency	16 kHz

WLBRAC (carrier) template details (Sheet 1 of 2)

Characteristics	WLBRAC (carrier)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	900 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA

LNINV (continued)

WLBRAC (carrier) template details (Sheet 2 of 2)

Characteristics	WLBRAC (carrier)
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLBRAL (loaded) template details

Characteristics	WLBRAL (loaded)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	300 ohms (1650 ohms + 50 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLBRAN (not loaded) template details (Sheet 1 of 2)

Characteristics	WLBRAN (not loaded)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	800 ohms (0 ohms + 5 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA

LNINV (continued)**WLBRAN (not loaded) template details (Sheet 2 of 2)**

Characteristics	WLBRAN (not loaded)
Equalization loss	no
Metering level, duration, frequency	not applicable

WLBRCB (carrier) template details

Characteristics	WLBRCB (carrier)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	900 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	148 ms
Metering frequency	12 kHz

WLBRL (loaded) template details (Sheet 1 of 2)

Characteristics	WLBRL (loaded)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	300 ohms (1650 ohms + 50 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA

LNINV (continued)**WLBRBL (loaded) template details (Sheet 2 of 2)**

Characteristics	WLBRBL (loaded)
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	148 ms
Metering frequency	12 kHz

WLBRBN (not loaded) template details

Characteristics	WLBRBN (not loaded)
Input impedance	900 ohms (0 ohms + 0 F)
Balance impedance	800 ohms (0 ohms + 5 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	148 ms
Metering frequency	12 kHz

WLCHAX template details (Sheet 1 of 2)

Characteristics	WLCHAX
Input impedance	220 ohms (820 ohms + 115 nF)
Balance impedance	220 ohms (820 ohms + 115 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004 Hz	-6.5 dB
On/Off hook threshold	12 mA

LNINV (continued)**WLCHAX template details (Sheet 2 of 2)**

Characteristics	WLCHAX
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop Resistance	600 - 2200 ohms
Battery Voltage	43 - 57 V
Metering level, duration, frequency	not applicable

WLEGAX template details

Characteristics	WLEGAX
Input impedance	600 ohms (0 ohms + 0 F)
Balance impedance	600 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	40 mA
Equalization loss	yes
Loop resistance	0 - 2 k ohms
Battery voltage	-52 V (nominal)
Metering level, duration, frequency	not applicable

WLEGBX template details (Sheet 1 of 2)

Characteristics	WLEGBX
Input impedance	600 ohms (0 ohms + 0 F)
Balance impedance	600 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	-1 dB

LNINV (continued)**WLEGBX template details (Sheet 2 of 2)**

Characteristics	WLEGBX
D-A gain at 1004Hz	-6 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	40 mA
Equalization loss	yes
Loop resistance	0 - 2 k ohms
Battery voltage	-52 V (nominal)
Metering level	2.3 Vrms
Metering duration	150 ms
Metering frequency	16 kHz

WLFRAx template details

Characteristics	WLFRAx
Input impedance	215 ohms (1 k ohms + 137 nF)
Balance impedance	0 ohms (600 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	65 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

LNINV (continued)**WLFRBX template details**

Characteristics	WLFRBX
Input impedance	215 ohms (1 k ohms + 137 nF)
Balance impedance	0 ohms (600 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	65 mA
Equalization loss	no
Metering level	2.2 Vrms
Metering duration	125 ms
Metering frequency	12 kHz

WLIRAX template details

Characteristics	WLIRAX
Input impedance	298 ohms (1055 ohms + 216 nF)
Balance impedance	259 ohms (677 ohms + 400 nF) (194 ohms + 246 nF)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	0 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	40 mA
Equalization loss	yes
Loop resistance	0 - 2 k ohms
Battery voltage	48 V (nominal)
Metering level, duration, frequency	not applicable

LNINV (continued)**WLIRBX template details**

Characteristics	WLIRBX
Input impedance	298 ohms (1055 ohms + 216 nF)
Balance impedance	259 ohms (677 ohms + 400 nF) (194 ohms + 246 nF)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	0 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	40 mA
Equalization loss	yes
Loop resistance	0 - 2 k ohms
Battery voltage	48 V (nominal)
Metering level	2.6 Vrms
Metering duration	120 ms
Metering frequency	12 kHz

WLITAN template details (Sheet 1 of 2)

Characteristics	WLITAN
Input impedance	600 ohms (0 ohms + 0 F)
Balance impedance	600 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	1880 ohms

LNINV (continued)**WLITAN template details (Sheet 2 of 2)**

Characteristics	WLITAN
Battery voltage	44 - 52 V
Metering level, duration, frequency	not applicable

WLITBN template details

Characteristics	WLITBN
Input impedance	600 ohms (0 ohms + 0 F)
Balance impedance	600 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	1880 ohms
Battery voltage	44 - 52 V
Metering level	2.3 Vrms
Metering duration	125 ms
Metering frequency	12 kHz

WLITAX template details (Sheet 1 of 2)

Characteristics	WLITAX
Input impedance	180 ohms (630 ohms + 60 nF)
Balance impedance	0 ohms (750 ohms + 18 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA

LNINV (continued)

WLITAX template details (Sheet 2 of 2)

Characteristics	WLITAX
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	1880 ohms
Battery voltage	44 - 52 V
Metering level, duration, frequency	not applicable

WLITBX template details

Characteristics	WLITBX
Input impedance	180 ohms (630 ohms + 60 nF)
Balance impedance	0 ohms (750 ohms + 18 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Equalization loss	no
Loop resistance	1880 ohms
Battery voltage	44 - 52 V
Metering level	2.3 Vrms
Metering duration	125 ms
Metering frequency	12 kHz

LNINV (continued)**WLNLAL (long-line) template details**

Characteristics	WLNLAL (long-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	150 ohms (830 ohms + 72 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Eualization loss	no
Loop resistance	2 k ohms
Battery voltage	44.5 - 53 V
Metering level, duration, frequency	not applicable

WLNLAS (short-line) template details

Characteristics	WLNLAS (short-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	0 ohms (600 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Eualization loss	no
Loop resistance	2 k ohms
Battery voltage	44.5 - 53 V
Metering level, duration, frequency	not applicable

LNINV (continued)**WLNLBL (long-line) template details**

Characteristics	WLNLBL (long-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	150 ohms (830 ohms + 72 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Eualization loss	no
Metering level	2.3 Vrms
Metering duration	150 ms
Metering frequency	16 kHz

WLNLBS (short-line) template details

Characteristics	WLNLBS (short-line)
Input impedance	150 ohms (830 ohms + 72 nF)
Balance impedance	0 ohms (600 ohms + 0 F)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
On/Off hook threshold	12 mA
PCM encoding	A-Law
Current limiting	55 mA
Eualization loss	no
Metering level	2.3 Vrms
Metering duration	150 ms
Metering frequency	16 kHz

LNINV (continued)**WLNOAX template details**

Characteristics	WLNOAX
Input impedance	120 ohms (820 ohms + 110 nF)
Balance impedance	120 ohms (820 ohms + 110 nF)
A-D gain at 1004Hz	2 dB
D-A gain at 1004Hz	- 5dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	55 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLPEAX template details

Characteristics	WLPEAX
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	85.7 ohms (514.3 ohms + 68.1 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLPEBX template details (Sheet 1 of 2)

Characteristics	WLPEBX
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	85.7 ohms (514.3 ohms + 68.1 nF)

LNINV (continued)**WLPEBX template details (Sheet 2 of 2)**

Characteristics	WLPEBX
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	75 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	148 ms
Metering frequency	12 kHz

WLPOAX template details

Characteristics	WLPOAX
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	85.7 ohms (514.3 ohms + 68.1 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	55 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLPOBX template details (Sheet 1 of 2)

Characteristics	WLPOBX
Input impedance	600 ohms (0 ohms + 2.16 uF)
Balance impedance	85.7 ohms (514.3 ohms + 68.1 nF)

LNINV (continued)**WLPOBX template details (Sheet 2 of 2)**

Characteristics	WLPOBX
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	0 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	55 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	125 ms
Metering frequency	16 kHz

WLPTAX template details

Characteristics	WLPTAX
Input impedance	600 ohms (0 ohms + 0 F)
Balance impedance	600 ohms (0 ohms + 0 F)
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLPTBX template details (Sheet 1 of 2)

Characteristics	WLPTBX
Input impedance	600 ohms (0 ohms + 0 F)
Balance impedance	600 ohms (0 ohms + 0 F)

LNINV (continued)**WLPTBX template details (Sheet 2 of 2)**

Characteristics	WLPTBX
A-D gain at 1004Hz	-1 dB
D-A gain at 1004Hz	-6 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLSPAX template details

Characteristics	WLSPAX
Input impedance	220 ohms (820 ohms + 120 nF)
Balance impedance	220 ohms (820 ohms + 120 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	50 mA
Equalization loss	no
Metering level, duration, frequency	not applicable

WLSPBX template details (Sheet 1 of 2)

Characteristics	WLSPBX
Input impedance	220 ohms (820 ohms + 120 nF)
Balance impedance	220 ohms (820 ohms + 120 nF)
A-D gain at 1004Hz	0 dB
D-A gain at 1004Hz	-7 dB

LNINV (continued)**WLSPBX template details (Sheet 2 of 2)**

Characteristics	WLSPBX
Off-hook supervision threshold	12 mA
PCM encoding	A-law
Current limit	50 mA
Equalization loss	no
Metering level	2.3 Vrms
Metering duration	150 ms
Metering frequency	12 kHz

LCM with ISDN line cards

The NTB04AA is the optical ISDN line card (OISLC) that is used in the LCMI equipped with optical line drawers. Due to power supply and heat dissipation requirements, each optical line drawer can support a maximum of eight OISLCs. Therefore, each LCMI can support a maximum of 64 OISLCs.

Only the card code BX04AA is valid on an LCMI. All other card codes are blocked from datafill. When going to release NA002, delete all existing tuples created prior to NA002 relating to the LCMI and not having entry BX04AA in field CARDCODE.

The NTB25AB is the ISDN ISLC-1C line card used in the LCMI drawer. The ISLC-1C can be mixed with the ISLC-1B line cards in the same drawer. When used in the LCMI drawer, a maximum of 20 ISLC-1C cards can be put into each physical drawer because of heat dissipation requirements, even though the drawer can house 24 ISLC-1C cards.

The NTB26AA (ISDN S/T line card) provides the ISDN basic rate access (2B+D) S/T-bus network interface. It is used in the LCMI and LCME drawer and occupies two slots.

The BX26AA card can be datafilled for lines on LCMIs that connect to a PRCC with an ISP.

The NTB27AA (2B1Q U-interface ISDN line card) is used in the LCME drawer as well as the LCM, RLCM, OPM, or OPAC's ILDR.

The coin line card is a large card supporting four subscribers.

LNINV (continued)

Line module line cards

Line card 0 in line drawer 0 on each line module must be equipped with an NT2X17AB, AC, or AD line card. This card is required for diagnostics and cannot be assigned to a station.

PBX line cards

Coin first ground start lines must have a card with product engineering code (PEC) NT2X18AD or AE. Private branch exchange (PBX) ground start lines must have a card with a PEC of NT2X18AC, AD, or AE. If subscriber telephones are sensitive to ringing voltage polarity, a type B line card must be used (for example, PEC NT2X18).

For PBXs equipped with the Message Center feature, use PEC NT6X19AA message waiting line cards and PEC NT6X20AA message waiting converter cards. The NT6X20AA card occupies two card slots, slot 0 and 16 of the odd numbered drawers. The NT6X20AA card is assigned to slot 0 of the odd numbered drawers. Both slots 0 and 16 must be vacant before they can be datafilled.

The NT6X98AA line card provides the transmission and signaling interface required between BT700 series telephone sets and the SL-100 digital PBX.

P-phone line cards

For P-phone integrated line cards, use PECs NT6X21AA (replaces NT6X58AA) and NT6X21AD.

The NT6X21BC (A-law international P-phone line card) is used in the international line concentrating module (ILCM), international remote line concentrating module (IRLCM), and very small remote (VSR).

RCS line cards

The remote concentrator SLC-96 (RCS) supports the following cards:

- single-party (SCD203)
- multiparty (SCD221)
- coin (SCD233)
- frequency selective ringing (SCDFSR)
- special plain ordinary telephone service, SPOTS (SCD271)
- special-service (NAILUP)

Datafill SCD222 900- Ω and SCD252 1500- Ω FSR cards as SCDFSR for frequency selective ringing. Multiparty cards cannot be used in an RCS that is set up for frequency selective ringing.

LNINV (continued)

The SPOTS card can be used for single-party or special services. If used for special services, it must be datafilled as NAILUP. Prior to BCS35, both circuits in the SPOTS card were required to be datafilled as either loop start or ground start. SPOTS cards may now be datafilled with split service (for example, field GND can be set to Y for one circuit and to N for the other).

Datafilling SPOTS cards in a mode III RCS is not recommended because equipment in mode III multiplexes 48 time slots onto two DS-1 lines and expects only single-circuit cards. If SPOTS cards are datafilled, only even-numbered circuits for the cards can be used.

RCT line cards

The remote concentrator terminal (RCT) supports the following cards (the card code datafill appears in parentheses):

- single-party remote (QPP405)
- universal remote (QPP407)
- frequency selective remote (QPP440 and QPP541)
- superimposed remote, four lines per card (QPP445)
- universal coin remote (QPP409)

RCU line cards

The remote carrier urban (RCU) supports the line cards and special-service channel units listed below. The card code datafill appears in parentheses:

- POTS (3A06AA)
- EPOTS (3A06BA)
- FSR (3A07AA)
- EFSR (3A07BA)
- MPDR (3A19AB)
- FXBS (3A12AB)
- FXBO (3A13AB/AC)
- coin (3A27AA)
- FXB voice frequency (7A20AA, 7A25AA, 7A26AA, 7A27AA)
- duplex voice frequency (7A21AA)
- signaling module (7A22AA)
- office channel unit data port (7A23AA)
- ISDN (7A31AA)

LNINV (continued)

- RCU MBS (7A33AA)
- dial pulse originating with extended range, QPP354E1 (SSM2WV)
- dial pulse terminating with extended range, QPP356G1 (SSM2WV)
- two-wire foreign exchange station end with gain transfer, QPP501B (SSM2WV)
- two-wire foreign exchange office end with gain transfer, QPP502B, (SSM2WV)
- four-wire E&M with pulse link repeater, QPP537B (SSM4WV)
- two-wire E&M 600, QPP538C (SSM2WV)
- four-wire FXS, QPP473A (SSM4WV)
- four-wire FXO, QPP474A (SSM4WV)
- four-wire ETO, QPP475A (SSM4WV)
- four-wire DX, QPP476B (SSM4WV)
- two-wire DX, QPP477A (SSM2WV)
- 2.4 kbit/s OCU, QPP550A (SSM4WD)
- 4.8 kbit/s OCU, QPP551A (SSM4WD)
- 9.6 kbit/s OCU, QPP552A (SSM4WD)
- 56 kbit/s OCU, QPP553A (SSM4WD)
- DS-0/DP D50 level dataport, QPP554A (SSM4WD)
- 56 kbit/s OCU without error correction, QPP575A (SSM4WD)
- datapath extension (QPP628)

RCU special-service line cards

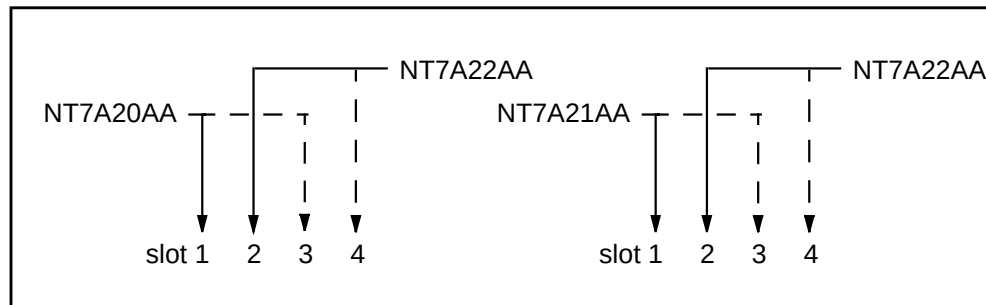
Special services for the RCU can be provided using the NT7A20AA, NT7A21AA, NT7A22AA, and NT7A23AA cards, and the NT3A11BA (special services line card carrier). By using this configuration, the special services module (SSM) is not required.

The existing FXB line card carrier (NT3A11AB) can house only the existing two-wire FXB line cards (NT3A12 and NT3A13), while the BCS30 special services line card carrier (NT3A11BA) can house both the BCS30 four-wire special service line cards and the existing two-wire special service line cards.

The NT7A20AA card provides FX and equalized transmission services. The NT7A21AA card provides three services: duplex, transmission only, and equalized transmission only.

LNINV (continued)

The NT7A22AA card must be paired with an NT7A20AA or NT7A21AA card. When paired with one of these cards, E&M, PLR, and tandem signaling is provided. To configure these combinations, an NT7A20AA or NT7A21AA card is inserted in positions 1, 3, or both of the carrier, and a companion NT7A22AA card is inserted in positions 2, 4, or both of the carrier.



The NT7A23AA card provides digital data services.

The NT7A20AA card is for four-wire FXS, FXO, ETO, TO, EM, PLR, or TANDEM. The NT7A21AA card is for four-wire DX, ETO, TO, EM, PLR, or TANDEM. The NT7A22AA card is for four-wire signaling. The NT7A23AA card is for four-wire OCU.

The NT7A33AA card is used for RCU MBS lines using D-channel signaling. The NT7A31AA card is used for ISDN lines.

For more information on special service line cards for the RCU, refer to the *Subscriber Carrier Module-100 Urban Maintenance Manual*, 297-8241-550.

RDT line cards

Card codes RDTLS and RDTLSG are used for POTS lines. RDT line tuples datafilled in table LNINV with either RDTLS or RDTLSG in field CARDCODE cannot have any corresponding tuples datafilled in the KSET tables. Corresponding tuples can be datafilled in tables IBNLINES and LENLINES.

Card code RDTISD is used for an RDT ISDN line. Card code RDTCON is used for an RDT coin line. Table line assignment for coin lines is made in table LENLINES. Field LNATTIDX in table LENLINES must correspond to the line class code (LCC) value of either CCF, CDF, or CSP that is datafilled in table LINEATTR.

Card code RDTEBS is used for an RDT EBS. The VARTYPE field in table RDTINV must be NTPROP for a tuple datafilled in table LNINV with card code equal to RDTEBS.

LNINV (continued)

Card codes RDTLS, RDTLSG, RDTCON, RDTEBS, RDTISD, and RDTLRB are only valid for an RFTRDT.

Card code RDTICB is used for an IDT of type ICB.

RSCS line cards

The DAV line cards, NT6X87AB, NT6X87BA, NT6X88AB, and NT6X88BA, incorporate voice (POTS or EBS) and data transmission circuits on a single card. Cards NT6X87AB and NT6X88AB (four-slot) can only be assigned to lower slots (0 to 15) of even-numbered drawers and upper slots (16 to 31) of odd-numbered drawers.

The four-slot DAV card cannot be assigned to the first vertical set of drawers 0 to 1 because slot 0 of drawer 0 is reserved for special use. Cards NT6X87BA and NT6X88BA (two-slot) can be assigned to any slot, but both slots of a vertical set in a logical drawer must be free. A two-slot DAV card cannot be assigned to the first vertical set of drawer 0 because slot 0 of drawer 0 is reserved for special use.

VLCM line cards

The CSV VLCMs and Proximity-I VLCMs do not use the existing LCM line cards. Therefore, card codes VLCMCD and VLCMPR are used to differentiate a VLCM line. The CSV VLCM uses card code VLCMCD and the Proximity-I VLCM uses card code VLCMPR.

Universal edge 9000

The UE9000 uses multi-circuit line cards (MCLC). Each line circuit must be treated as a world line card. The UE9000 MCLC cannot be used in any other LCM variance.

The UE9000 is a type of LCM variance peripheral for the DMS-100. The UE9000 provides voice and dataservice as:

- plain ordinary telephone service (POTS)
- asymmetric digital subscriber loop service (ADSL)

The ADSL DMT combination line card can terminate a maximum of four two-wire loops. Each loop carries a data service component and a voice service component. The voice and data are separated at the line card by a passive splitter circuit. The separated voice and data is terminated by either a Codec or a Modem interface circuit on the line card.

LNINV (continued)

Lines

The ISDN line concentrating module (LCMI) supports both POTS and MDC lines. LCMIs can support ISDN, data unit, IBERT, Meridian business set (MBS), and POTS/MDC lines.

Note: ISDN and non-ISDN lines types cannot share the same drawer.

Each physical line drawer has three logical drawers. Each logical drawer can be equipped with a maximum of 16 POTS/MDC lines or 8 ISDN lines. Therefore, each physical drawer can house 24 ISDN lines. Due to heat dissipation requirements, the number of ISDN line cards must be limited to a maximum of 20.

MPDR lines cannot be datafilled on an RCU that employs FSR, nor can FSR lines be datafilled on an RCU that employs coded ringing.

On an RCU, line subgroup 11, circuits 16 to 31 must stay unequipped.

You can datafill lines that are not two- or four-wire lines for an RCU in table LNINV if field STATUS is set to UNEQUIP. This ensures that alarms are not raised. You can also use field UNEQUIP to indicate that actual line hardware is not present in the RCU.

When you decide to add line hardware and assign a directory number, the Service Order system (SERVORD) must be used and the line must be immediately set to WORKING. You can also use the table editor and change field STATUS to hardware assigned/software unequipped (HASU).

Coin lines sharing the same slot must have the same value for field GND.

The maximum population of each shared slot may contain one of the following combinations:

- four coin, two-wire (6X12 or 6X13) lines
- four four-wire, ISDN lines
- four MBSB lines

The circuit number of LENs for coin line cards, 2WFXB LCs, and 4WSSLCS can assume the values of 0, 2, 4, and 6, as of BCS34.

Line shelves 1 and 2, and control shelf 2 are optional on an RCU. These shelves can support subscriber lines. For these lines to be datafilled in table LNINV, the associated shelf must be datafilled as equipped in table RCUINV.

LNINV (continued)

When provisioning remote fiber terminal (RFT) lines, line datafill in table LNINV are automatically added or deleted through SERVORD. If line datafill does not exist, the SERVORD transaction adds the datafill based on user input, office parameter values, and default values. If line datafill exists, the SERVORD transaction alters the data to conform to the service requested. This “auto-create” capability is an option that is enabled or disabled through parameter RDT_SO_AUTOCREATE_LNINV.

Note: The RFT is also known as the remote digital terminal (RDT).

From the time that an ILDR line is defined in table LCMDRINV, its state is set to WORKING.

Lines on generic access nodes (AN) connected to the Global Peripheral Platform (GPP)

If a channel associated (CAS) AN is datafilled in table GPPTRNSL, the GPP P-side links to that AN are allocated when a line on the AN is datafilled in table LININV. On GPPs with CAS interfaces, a dedicated P-side channel exists for each line attached to the AN. The non-concentrating channels are mapped one to one to a physical line on the AN. P-side time slot 1 is mapped to card slot 1.

The location of the PCM30 channel in CAS interfaces is identified by the following values:

- group number
- line carrier number
- channel number

For CAS non-concentrating interfaces, the line equipment number (LEN) field represents the following three subfields:

- Subfield GRP represents one of six PCM30 quad carrier cards (NTMX87) the line is assigned to.
- Subfield LINE CARRIER represents one of eight carriers on dual carrier packets (NTMX82) that are located on the NTMX87 card.
- Subfield CHANNEL represents 1 of 32 channels on a PCM30 carrier.

CAS line card codes are datafilled only on slots 1-15 and 17-31 of each PCM30 carrier. Slot 0 is reserved for maintenance, and slot 16 is reserved for ABCD signaling on each carrier. Different types of line card codes can be defined on the same carrier.

On V5.2 interfaces the number of lines datafilled in table LININV must not exceed field MAXLINES in table GPPTRNSL.

LNINV (continued)

V5.2 interfaces use bearer channel control (BCC) to allocate the PCM30 carrier channels as needed. There is no direct relationship of lines to physical PCM30 channels. During BCC allocation, the LAPV5 virtual address of a line is sent to the AN on the BCC C-channel. The AN must be datafilled with the same line information as the DMS switch for correct call processing.

For V5.2 concentrating interfaces, field LEN represents the following three subfields:

- Subfield UNIT represents one of ten possible ANs connected to the GPP.
- Subfield LAYER 3 ADDRESS1 represents the link access protocol for V5.2 (LAPV5) virtual upper address (thousands and hundreds digits) assigned to the line (range is 0 to 20).
- Subfield LAYER 3 ADDRESS2 represents LAPV5 virtual lower address (tens and units) assigned to the line (range is 0 to 99).

For P-Phones on a V5 interface, provision the P-Phone DL first. Provision the P-Phone on LEN 0 as padgroup V5PPHN. An example of the input follows:

MAP example: provisioning a P-Phone on a V5 interface

```
V5_2 00 3 00 00 V5BRI PPHONE WORKING N NL Y NIL
V5_2 00 3 00 01 V5PPHONE NPDGP WORKING N NL Y NIL
```

POTS lines on a AN are datafilled from 0 to a maximum of 2047. Table control insures that adding a V5.2 line in table LNINV does not exceed the value in field MAXLINES in table GPPTRNSL. Table control checks when adding a CAS line to insure the number of lines on the GPP does not exceed 6400.

Error messages

ISDN lines on an LCMI and an LCME connect to PRCCs equipped with an ISDN signaling preprocessor (ISP). Only the LEN is used to determine the location of the line card. Using the LEN, table control determines the extended multiprocessor system (XMS)-based PM (XPM) onto which the LCM is attached.

If the following reply appears when a new TDM connection is either added or deleted, this is due to the tuple change on a line of an LCME or LCMI under reconfiguration:

```
NO CHANGE TO TDM CONNECTION IS ALLOWED DURING RECONFIGURATION
OF LCME/LCMI #
```

LNINV (continued)

The tuple change must be attempted again when the reconfiguration is finished.

If an attempt is made to delete a LEN that is assigned as a DRTU call back path, the following error message is displayed:

THIS LEN HAS BEEN ASSIGNED AS THE DRTU CALL BACK LEN

If the LEN of the tuple is an RDT LEN and the card code is not RDTCON, RDTLS, RDTLSG, RDTISD, or RDTEBS, the following error message is displayed:

LINE CARD SPECIFIED NOT VALID FOR AN IDT

If the card code is RDTCON, RDTLS, RDTLSG, RDTISD, or RDTEBS and the LEN is not an RDT LEN, the following error message is displayed:

LINE CARD SPECIFIED NOT VALID FOR AN <peripheral name>

If the card code is RDTEBS and the RDT is not NT proprietary, the following error message is displayed:

INVALID CARD CODE CARD CODE MUST BE {RDTCON, RDTLS, RDTLSG, RDTISD}.

The LEN help prompt is displayed for the following errors:

- The value entered for field SHELF is smaller than 2.
- The value entered for field SHELF is larger than the range set in table RDTINV.
- The value entered for field SLOT is smaller than 1.
- The value for entered for field SLOT is larger than the range set in table RDTINV.

If an attempt is made to assign a LEN in table LENLINES that is already assigned to card type of SSLCC and a field FCN value of TN, the following error message is displayed:

Note: This is not true for 3A12AB cards.

SPECIAL SERVICES UNITS CANNOT BE DATAFILLED IN LENLINES

LNINV (continued)

If the card code is other than 7A20AA, 7A21AA, 7A22AA, 7A23AA, 3A12AB, 3A13AB, or 3A13AC and the card type is SSLCC, the following error message is displayed:

THE CARDCODE CANNOT HAVE A CARDTYPE OF SSLCC

If the card code does not support the indicated field FCN value, the following error message is displayed:

THE CARDCODE CANNOT HAVE THE SPECIFIED FCN

If the card code is 7A23AA and entry in field FCN is not SM, the following error message is displayed:

THE CARDCODE CAN ONLY HAVE A FCN OF SM

If the entry in field FCN is EM, PLR, or TANDEM and the LEN is on an odd numbered circuit, the following error message is displayed:

THE LEN MUST BE ON AN EVEN CIRCUIT FOR THIS CARDCODE

If the entry in field FCN is EM, PLR, or TANDEM and the LEN-1 does not have a entry in field FCN equal to SM, the following error message is displayed:

THE NEXT LEN MUST HAVE A FCN OF SM

If the card code is 7A22AA and the LEN is on an even circuit, the following error message is displayed:

THE LEN MUST BE ON AN ODD CIRCUIT FOR THIS CARDCODE

If the entry in field FCN is SM and the preceding entry is still EM, PLR, or TANDEM, the following error message is displayed:

THE PRECEDING EM, PLR, OR TANDEM CARD MUST BE DELETED FIRST OR PROVISIONED AS OUT OF SERVICE (INSVC = N)

If the card code is 7A23AA and the entry in field FCN is not OCUDP, the following error message is displayed:

THE CARDCODE CAN ONLY HAVE A FCN OF OCUDP

If the card code is 3A12AB and the entry for field FCN is not 2WFXS, the following error message is displayed:

THE CARDCODE CAN ONLY HAVE A FCN OF FXS

LNINV (continued)

If the card code is 3A13AB or 3A13AC and the entry for field FCN is not 2WFXO, the following error message is displayed:

THE CARDCODE CAN ONLY HAVE A FCN OF FX0

If an attempt is made to change field FCN through a change (CHA) command, the following error message is displayed:

THE FCN CANNOT BE CHANGED

If the card code is 7A20AA, 7A21AA, 7A22AA, or 7A23AA and card type is not SSLCC, the following error message is displayed:

THE CARDCODE MUST HAVE A CARDTYPE OF SSLCC

If the card code is not 7A20AA, 7A21AA, 7A22AA, 7A23AA, 3A12AB, 3A13AB, or 3A13AC and the card type is ISLCC, the following error message is displayed:

THE CARDCODE CANNOT HAVE A CARDTYPE OF ISLCC

If the card code is 7A20AA, 7A21AA, 7A22AA, or 7A23AA and the card type is not SSLCC or ISLCC, the following error message is displayed:

THE CARDCODE MUST HAVE A CARDTYPE OF SSLCC OR ISLCC

If the card code is 7A33AA or 7A31AA and the SMU does not have an ISP provisioned in table LTCINV, the following error message is displayed:

THE CARDCODE REQUIRES AN ISP ON THE SMU

If the card code is 7A31AA or 7A33AA and the card type is not NIL, the following error message is displayed:

THE CARDCODE MUST HAVE A CARDTYPE OF NIL

The ISDN and RCU MBS card codes cannot be changed. An attempt to do this results in the following error message:

RCU 7A31AA OR 7A33AA CARDCODES CANNOT BE CHANGED

With a card code entry value of 3A12AB, 3A13AB, or 3A13AC, the card type cannot be changed from SSLCC or ISLCC to NIL. Any attempt to do this results in the following error message:

THE CARDTYPE CANNOT BE CHANGED FROM SSLCC OR ISLCC TO NIL

LNINV (continued)

An MBS line cannot be changed to HASU from WORKING unless the line state is LMB or INB. An attempt to do so results in the following error message:

LINE CANNOT BE CHANGED TO HASU IF THE LINE IS NOT INB OR LMB

An MBS line cannot be deleted from WORKING unless the line state is LMB or INB. An attempt to do so results in the following error message:

LINE CANNOT BE DELETED IF THE LINE IS NOT INB OR LMB

The card type cannot be changed from ISLCC to any other card type. An attempt to do this results in the following error message:

CANNOT CHANGE CARDTYPE

If an ISDN or MBS line is datafilled, then only an ISDN, MBS, or SM (7A22AA) card can be provisioned in the last card position in the same ISLCC. An attempt to do otherwise results in the following error message:

ONLY ISDN/MBS/SM/E2W LINE CARDS CAN BE IN THE LAST CARD POSITION AND THE LAST CIRCUIT IN THE LINE CARD CARRIER CANNOT BE ASSIGNED IF AN ISDN OR MBS LINE IS PROVISIONED ON THE LINE CARD CARRIER

If an ISDN or MBS line is datafilled on an ISLCC, where a two-wire or four-wire card (other than 7A22AA) is provisioned in the last card position in the same ISLCC, the following error message is displayed:

ISDN OR MBS CANNOT BE ADDED IF THE LAST CARD POSITION OF THE LINE CARD CARRIER HAS A NON-SM/E2W SPECIAL SERVICES CARD PROVISIONED OR LAST CIRCUIT IN THE LINE CARD CARRIER IS ASSIGNED

The card type check error message is:

CARDCODE/CARDTYPE IS NOT COMPATIBLE WITH CARDCODE/CARDTYPE OF EXISTING LINES IN LINE CARD CARRIER

The LEN check error message is:

ISDN, MBS, FX, SS, OR COIN LINES MUST BE EVEN LENS

The GND check error message is:

GND IS NOT SUPPORTED BY THIS CARDCODE/FUNC

LNINV (continued)

If the entry in field CARDCODE is one of 7A25AA, 7A26AA, or 7A27AA, then field CARDTYPE must be datafilled as either SSLCC or ISLCC.

Otherwise, the following error message is displayed:

THE CARDCODE CANNOT HAVE THE SPECIFIED FCN

If the odd and even number of the circuit is not contained within the same card code, the following error message is displayed:

EVEN AND ODD LEN MUST HAVE THE SAME CARDCODE

If the entry in field CARDCODE is one of 7A20AA or 7A21AA, the value for field FCN is either EM, PLR, or TANDEM, and the card is not placed as the first or third card in the carrier, then the following error message is displayed:

THE LEN MUST BE THE 1ST OR 3RD CARD IN THE CARRIER

The error message below will be displayed if the following three conditions are met:

- the entry in field CARDCODE is 7A22AA
- the entry in field FCN is SM
- the card is not the second or fourth card in the carrier

THE LEN MUST BE THE 2ND OR 4TH CARD IN THE CARRIER

If an attempt is made to change field GND to Y when the entry in field CARDCODE is 7A25AA and the COD is datafilled for the line, the following error message is displayed:

MUST REMOVE COD OPTION FROM THIS LINE BEFORE CHANGING GND FIELD TO Y

If a new TDM connection is required to be added or deleted due to a tuple change on a line of an RCU under reconfiguration, the following error message is displayed:

NO CHANGE TO TDM CONNECTION IS ALLOWED DURING RECONFIGURATION OF RCU.

If an attempt is made to datafill a LEN with an invalid line card code on an LCMI, the following error message is displayed:

LINE CARD SPECIFIED NOT VALID FOR AN LCMI THE LCMI ONLY SUPPORTS BX04AA LINE CARD

LNINV (continued)

If the Talk Battery Alarm feature is enabled, the following warning message is displayed prior to the regular confirmation prompt when one of the following occurs:

- the last available WLC on an LCM shelf is deleted from table LNINV using the DEL command
- the last available WLC is changed to a non-WLC pack code using the CHA command

Deleting the last available WLC from the LCM shelf. Loss of Talk Battery cannot be detected on the LCM shelf. A minor alarm and ISTb reason will be raised for the LCM shelf

In the above warning message, **available WLC** refers to a WLC in either the HASU or InSv state that can be used to perform the talk battery audit/test.

If the Talk Battery Alarm feature is enabled and one of the following conditions applies, the following notification message is displayed:

- the first available WLC is added to an LCM shelf using the ADD command
- the first available WLC is created by changing an existing non-WLC to a WLC pack code using the CHA command

Adding the first available WLC to the LCM shelf.
Loss of Talk Battery can now be detected on the LCM shelf.
The minor alarm and ISTb reason will be cleared for the LCM shelf.

When attempting to add or change a line to an ILDR with cardcode other than BX27, the following error message is displayed:

Line card specified not valid for an ILDR.

When attempting to add a line to an ILDR with the card number not within the range of 0 through 13, the following error message is displayed:

Line card number must be 0 - 13 for an ILDR.

When attempting to define an ILDR line with status other than WORKING, the following warning message is displayed:

WARNING line status changed to WORKING.

LNINV (continued)

When attempting to provision an ISDN LEN on an remote ISDN line drawer, the following error message is displayed:

Error: <LEN> is not supported by C-side host of UREM. Can no longer datafill RLD ISDN LENS on LTC/LGC with MX77 processor. Must first upgrade to SX05 processor, or move LEN(s) to a supported peripheral.

If more than eight templates are assigned to an LCM, the following error message is displayed:

Can not assign more than 8 templates per LCM.
Current supported templates are: WL93AA, WL93BA,
WL93CA, WL93DA, WL93EA, WL98AA, WL33AA, and WL17AC.

If you attempt to delete an RSDT IN_EFFECT or UNDEFINED line, the deletion is blocked and the following error message is displayed:

LEN: HOST 02 01 03 06 MUST BE DELETED FROM RSDTLIN FIRST

Miscellaneous

Use of table LNINV must be restricted for some UK telephone companies, because it details the pad group that each line belongs to.

Table history

MMP15

Added card codes WLITAN and WLITBN to field CARDCODE, and added template details for feature Italian WLC Modifications. Also updated and added numerous template details.

Added card code CXIPCD entry to field CARDCODE for feature DMS Datafill for Centrex-IP Peripheral and Centrex-IP Lines.

NA015

For RLD lines associated with the Star Remote, added the possibility to datafill a RLD line using the RLD site, frame number and unit number in the LEN.

With general availability initially scheduled for the NA015-based software release, this feature is planned for patch-back into NA011, NA012, NA013 and NA014-based software releases.

NA014

Added cardcode NP50AA for the UE9000. Updated datafill example to include NP50AA in UE9000.

LNINV (continued)

MMP14

Added templates WLEGAX and WLEGBX to field CARDCODE for Egyptian world line cards.

MMP13

Added templates WLPTAX and WLPTBX to field CARDCODE for Portugal world line cards.

Added cardcode V5PPHN. Added description and example of provisioning a P-Phone on a V5 line.

MMP12

Added templates WLIRAX and WLIRBX to field CARDCODE for Irish WLC templates.

NA012

Added information for integrated channel banks with more than one DS-1 link for 59008509.

Added precaution and error message about ISDN line drawers off NTMX77-based LTCs for 50123558.

Added cardcodes KX05AA, KX05AA, NP43AA, NP44AA, NP45AA, and NP46AA for the UE9000. Added datafill example for UE9000.

EUR010

Added WLNOAX (Norwegian WLC template) for AU3379.

NA010

Error message added for RSDT.

EUR009

Added WLCHAX (Swiss WLC template) for AJ5150.

Added WLAUAX and WLAUBX (Austrian WLC templates) for AJ5210.

APC009

Added the VLCMPR and VLCMCD cardcodes.

Added restrictions to datafill for cardcodes VLCMPR and VLCMCD.

LNINV (continued)

EUR008

Added the following templates to field CARDCODE for Belgium, Netherlands, and Italian WLC:

- WLBEAL
- WLBEAS
- WLBEBL
- WLBEBS
- WLITAX
- WLITBX
- WLNAL
- WLNLAS
- WLNLBL
- WLNLBS

NA008

Removed information in the “Additional datafill information” section that directed operating company personnel to not set the STATUS field to WORKING for ISDN lines served from an RDT with card code of RDTISD. The RDT ISDN line must be set to WORKING to operate properly.

Added information to support the integrated channel bank in fields LEN, CARDCODE, and CARDINFO.

Added cardcode for 1-Meg Modem Service line cards NTEX17CA and NTEX17DA.

NA007

Added cardcode for the 1-Meg Modem Service on LCM line cards EX17AA and EX17BA.

Added datafill sequence information for table LCMDRINV.

Added new restrictions as a result of the introduction of the ILDR.

EUR006

Added cardcode entries MUX15C and V5BRI.

APC07

Added cardcode WL94AB.

LNINV (continued)

APC06

Added restrictions to datafill when field MEMSIZE in table LCMINV has a value of 4M 4M and example datafill, for Japan only. The only acceptable cardcodes supported are 6X21AA, AB, AC, AD, and BC; all other cardcodes are rejected with appropriate error messages.

APC05.1

Added the following line card types which are only valid for lines connected to generic access nodes (AN) attached to the Global Peripheral Platform (GPP):

- T1ERTH
- T1LOOP
- V5LOOP

NA005

Added cardcode 6X93AA.

The following changes were made for feature AD7656. These changes apply to MSL100 software loads only:

- Added a description of a new line-side interface card for the IPE under “Supplementary information.” Reorganized table LNINV.
- Added the following PECs as options in field CARDCODE:
 - 8D02CC
 - 8D02EA
 - 5D11AA

NA004

Added error message information in accordance with feature AF5912, Talk Battery Alarm.

UK002

The following changes were made:

- Added cardcodes DC5A, DC5ADD, and WL98AA.
- Added error message Can not assign more than 8 templates per LCM. Currently supported templates are: WL93AA, WL93BA, WL93CA, WL93DA, WL93EA, WL98AA, and WL17AC.

LNINV (continued)

NA002

The following changes were made:

- Added a datafill explanation for the BX04AA entry in field CARDCODE.
- Added WLC templates WL01AX, WL01BX, WL1740, and WL9A40 to field CARDCODE.
- Added Type B's WLC support of metering, which explains why it does not require the NT6X95 Metering Tone Generator card.
- Added LCMI-related card code (BX04AA) datafill information for field CARDCODE. Added LCMI-related card code restriction for existing LNINV tuples.
- Added error code message LCMI supports only BX0rAA line card.
- Added a note to the “Lines” section describing how to use SERVORD to add or delete datafill in table LNINV when provisioning remote fiber terminal (RFT) lines.
- Deleted values WL17AC and WL18AA from field CARDCODE. These values are replaced by values 6X17BA and 6X18BA, respectively. This change was made in accordance with PRS BX26823.

BCS36

The following changes were made:

- Revised reference to SPOTS cards to specify that the DMS switch allows these cards to have split service.
- Added error code message (for changes to TDM connections during RCU configuration).
- Added the following WLC template names to field CARDCODE:
 - WL33AA
 - WLBRAN
 - WLBRAL
 - WLBRAC
 - WLBRBN
 - WLBRBL
 - WLBRBC
 - WLPEAX
 - WLPEBX
 - WLPOAX
 - WLPOBX

LNINVEXT

Table name

Line Inventory Extension Table

Functional description

Table LNINVEXT is datafilled when special service line cards 3A12AB, 3A13AB, 3A13AC, 7A20AA, 7A21AA, 7A22AA, 7A23AA, 7A25AA, 7A26AA, and 7A27AA have been datafilled for a remote carrier urban (RCU) line in table LNINV. If field CARDTYPE in table LNINV is datafilled with ISLCC or SSLCC, subfields FCN and INSVC can be datafilled. For 6X12 and 6X13 cards with a CARDTYPE of NIL, field FCN is set to FXS or FXO. The value of field FCN determines the data values that are placed in table LNINVEXT.

Tuples in table LNINVEXT can be modified, but not added or deleted. The default values are determined by the value input for subfield FCN in table LNINV.

To change the values in table LNINVEXT, position on the line equipment number (LEN). The LEN is the key for the table. The values that are placed in table LNINVEXT after the FCN subfield of table LNINV is datafilled can be modified in table LNINVEXT (as long as these values are valid).

Note: Fields LEN and FCN cannot be changed.

For more information on table LNINVEXT, refer to *Translations Guide*.

Datafill sequence and implications

Table LNINV must be datafilled before table LNINVEXT.

Table size

0 to 16 363 tuples

LNINVEXT (continued)**Datafill**

The following table lists datafill for table LNINVEXT.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LEN		see subfields	<i>Line equipment number</i> This field defines the physical location of the equipment that is connected to a specific telephone line. Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. Field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT. LEN subfield entry values for line types other than RCU are not valid.
FUNC		see subfield	<i>Function</i> This field consists of subfield FCN and refinements.
	FCN	DPO, DPT, DX, EM, ETO, FXO, FXS, OCU, PLR, SM, TANDEM, or TO	<i>Function</i> This subfield cannot be changed and is dependent upon the value datafilled for field FCN in table LNINV. It is used to determine which refinements can be datafilled. The correlation between the card codes and the functions that are supported by these cards is shown below. Refer to table LNINV for additional information. DPO - 7A25AA DPT - 7A26AA, 7A27AA DX - 7A21AA EM - 7A20AA, 7A21AA ETO - 7A20AA, 7A21AA FXS - 3A12AB, 7A20AA, 7A25AA FXO - 3A13AB, 3A13AC, 7A20AA, 7A26AA, 7A27AA OCU - 7A23AA PLR - 7A20AA, 7A21AA SM - 7A22AA

LNINVEXT (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	FCN (continued)		TANDEM - 7A20AA, 7A21AA TO - 7A20AA, 7A21AA, 7A25AA 7A26AA, 7A27AA

FCN = DPO

If the entry in field FCN is DPO, datafill the following refinements.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 120	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 12.0 dB. The default value is 50, which corresponds to 5.0 dB.
	RCV	0 to 100	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 10.0 dB. The default value is 0, which corresponds to 0.0 dB.
	IMP	600 or 900	<i>Impedance</i> Enter the required impedance in ohms. The default value is 600.
	CODEC	DYN or PERM	<i>CODEC power control status</i> Enter DYN if the power control status is dynamic. Enter PERM if the power control status is permanent.
	HYBRD	0 to 3	<i>Hybrid balance value</i> Enter the hybrid balance value required.

LNINVEST (continued)**FCN = DPT**

If the entry is field FCN is DPT, datafill the following refinements.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 120	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 12.0 dB. The default value is 50, which corresponds to 5.0 dB.
	RCV	0 to 100	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 10.0 dB. The default value is 0, which corresponds to 0.0 dB.
	IMP	600 or 900	<i>Impedance</i> Enter the required impedance in ohms. The default is value 600.
	CODEC	DYN or PERM	<i>CODEC power control status</i> Enter DYN if the power control status is dynamic. Enter PERM if the power control status is permanent.
	HYBRD	0 to 3	<i>Hybrid balance value</i> Enter the hybrid balance value required.

LNINVEXT (continued)**FCN = DX**

If the entry in field FCN is DX, datafill the following refinements.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 319	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 31.9 dB. The default value is 180, which corresponds to 18.0 dB.
	RCV	0 to 319	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 31.9 dB. The default value is 90, which corresponds to 9.0 dB.
	IMP	150, 600, or 1200	<i>Impedance</i> Enter the required impedance in ohms. The default value is 600.
	PREE	Y or N	<i>Pre-equalization</i> Enter Y if pre-equalization is required. The default value is N.
	SL	0 to 15	<i>Slope equalization</i> Enter the slope equalization required. The default value is 0 (zero).
	HT	0 to 15	<i>Height equalization</i> Enter the degree of height equalization required. The default value is 0.
	BW	0 to 15	<i>Equalization bandwidth</i> Enter the degree of equalization bandwidth required.

LNINVEST (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	LOADTYP	N or L	The default value is 0. <i>Cable load type</i> Enter the cable load type required (N for non-loaded, L for loaded). The default value is N.
	RBAL	0, 162, 364, 486, 649, 811, 973, 1135, 1300, 1462, 1624, 1949, 2111, 2273, or 2435	<i>DX resistor value</i> Enter the required DX resistance in ohms. The default value is 0.
	BATTERY	NOR or REV	<i>Battery</i> Enter the type of battery required: NOR (normal) or REV (reverse). The default value is NOR.

FCN = ETO

If the entry for field FCN is ETO, datafill the following refinements.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 319	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 31.9 dB. The default value is 180, which corresponds to 18.0 dB.
	RCV	0 to 319	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 31.9 dB.

LNINVEXT (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
			The default value is 90, which corresponds to 9.0 dB.
	IMP	150, 600, or 1200	<i>Impedance</i> Enter the required impedance in ohms.
			The default value is 600.
	PREE	Y or N	<i>Pre-equalization</i> Enter Y if pre-equalization is required.
			The default value is N.
	SL	0 to 15	<i>Slope equalization</i> Enter the slope equalization required.
			The default value is 0 (zero).
	HT	0 to 15	<i>Height equalization</i> Enter the degree of height equalization required.
			The default value is 0.
	BW	0 to 15	<i>Equalization bandwidth</i> Enter the degree of equalization bandwidth required.
			The default value is 0.
	SC	OFF, NOR, REV, or SINK	<i>Sealing current</i> Enter the type of sealing current required (OFF for none, NOR for source normal, REV for source reverse, and SINK for sink).
			The default value is OFF.
	LOADTYP	N or L	<i>Cable load type</i> Enter the required cable load type (N for non-loaded, L for loaded).
			The default value is N.

LNINVEST (continued)**FCN = FXO and CARDCODE = 7A20AA, 7A26AA, or 7A27AA**

If the entry in field FCN is FXO, and the entry in field CARDCODE of table LNINV is 7A20AA, 7A26AA, or 7A27AA, datafill the following refinements.

Field descriptions for conditional datafill (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 120 (two-wirecards) 0 to 319 (four-wire cards)	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. For four-wire cards (7A20AA), the attenuation range is 0.0 to 31.9 dB. For two-wire cards, the attenuation range is 0.0 to 12.0 dB. The default value is 50, which corresponds to 5.0 dB.
	RCV	0 to 100 (two-wirecards) 0 to 319 (two-wire cards)	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. For four-wire cards (7A20AA), the attenuation range is 0.0 to 31.9 dB. For two-wire cards, the attenuation range is 0.0 to 10.0 dB. The default value is 0, which corresponds to 0 dB.
	IMP	150, 600, 900, or 1200	<i>Impedance</i> Enter the required impedance in ohms. The only valid entry values for a CARDCODE of 7A26AA and 7A27AA are 600 and 900. The only valid entry values for a CARDCODE of 7A20AA are 150, 600, or 1200. The default value is 600.
	PREE	Y or N	<i>Pre-equalization</i> Enter Y if pre-equalization is required. For a CARDCODE of 7A26AA or 7A27AA, the only valid entry value is N. The default value is N.
	SL	0 to 15	<i>Slope equalization</i> Enter the slope equalization required. For a CARDCODE of 7A26AA or 7A27AA, the only valid entry value is 0 (zero).

LNINVEXT (continued)**Field descriptions for conditional datafill (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	HT	0 to 15	The default value is 0. <i>Height equalization</i> Enter the degree of height equalization required. For a CARDCODE of 7A26AA or 7A27AA, the only valid entry value is 0.
	BW	0 to 15	The default value is 0. <i>Equalization bandwidth</i> Enter the degree of equalization bandwidth required. For a CARDCODE of 7A26AA or 7A27AA, the only valid entry value is 0.
	LOADTYP	N or L	The default value is 0. <i>Cable load type</i> Enter the required cable load type (N for non-loaded, L for loaded). For a CARDCODE of 7A26AA or 7A27AA, the only valid entry value is N.
	BATTERY	NOR or REV	The default value is N. <i>Battery</i> Enter the type of battery required, normal or reverse. For a CARDCODE of 7A26AA or 7A27AA, the only valid entry value is NOR.
	REVBAT	ON or OFF	The default value is NOR. <i>Battery reverse signaling</i> Enter ON if reverse battery signaling is required. Otherwise, enter OFF. For a CARDCODE of 7A26AA or 7A27AA, the only valid entry value is OFF.
	CODEC	DYN or PERM	<i>CODEC power control status</i> Enter DYN if the power control status is dynamic. Enter PERM if the power control status is permanent. For a CARDCODE of 7A20AA, the only valid entry value is DYN.

LNINVEST (continued)**Field descriptions for conditional datafill (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	HYBRD	0 to 3	<i>Hybrid balance value</i> Enter the hybrid balance value required. For a CARDCODE of 7A20AA, the only valid entry value is 0.

FCN = FXS and CARDCODE = 7A20AA or 7A25AA

If the entry in field FCN is FXS, and the entry in field CARDCODE of table LNINV is 7A20AA or 7A25AA, datafill the following refinements.

Field descriptions for conditional datafill (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 120 (two-wirecards) 0 to 319 (four-wire cards)	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. For four-wire cards (7A20AA), the attenuation range is 0.0 to 31.9 dB. For two-wire cards (7A25AA), the attenuation range is 0.0 to 12.0 dB. The default value is 50, which corresponds to 5.0 dB.
	RCV	0 to 100 (two-wirecards) 0 to 319 (four-wire cards)	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. For four-wire cards (7A20AA), the attenuation range is 0.0 to 31.9 dB. For two-wire cards (7A25AA), the attenuation range is 0.0 to 10.0 dB. The default value is 0, which corresponds to 0.0 dB.
	IMP	150, 600, 900, or 1200	<i>Impedance</i> Enter the required impedance in ohms. The only valid entry values for a CARDCODE of 7A25AA are 600 and 900. The only valid entry values for a CARDCODE of 7A20AA are 150, 600, or 1200. The default value is 600.

LNINVEXT (continued)**Field descriptions for conditional datafill (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	PREE	Y or N	<i>Pre-equalization</i> Enter Y if pre-equalization is required. For a CARDCODE of 7A25AA, the only valid entry value is N. The default value is N.
	SL	0 to 15	<i>Slope equalization</i> Enter the slope equalization required. For a CARDCODE of 7A25AA, the only valid entry value is 0 (zero). The default value is 0.
	HT	0 to 15	<i>Height equalization</i> Enter the degree of height equalization required. For a CARDCODE of 7A25AA, the only valid entry value is 0. The default value is 0.
	BW	0 to 15	<i>Equalization bandwidth</i> Enter the degree of equalization bandwidth required. For a CARDCODE of 7A25AA, the only valid entry value is 0. The default value is 0.
	LOADTYP	N or L	<i>Cable load type</i> Enter the required cable load type (N for non-loaded, L for loaded). For a CARDCODE of 7A25AA, the only valid entry value is N. The default value is N.
	BATTERY	NOR or REV	<i>Battery</i> Enter the type of battery required, normal or reverse. For a CARDCODE of 7A25AA, the only valid entry value is NOR. The default value is NOR.

LNINVEST (continued)**Field descriptions for conditional datafill (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	REVBAT	ON or OFF	<i>Battery reverse signaling</i> Enter ON if reverse battery signaling is required. Otherwise, enter OFF. For a CARDCODE of 7A25AA, the only valid entry value is OFF.
	CODEC	DYN or PERM	<i>CODEC power control status</i> Enter DYN if the power control status is dynamic. Enter PERM if the power control status is permanent. For a CARDCODE of 7A20AA, the only valid entry value is DYN.
	HYBRD	0 to 3	<i>Hybrid balance value</i> Enter the hybrid balance value required. For a CARDCODE of 7A20AA, the only valid entry value is 0.

FCN = TANDEM, PLR, or EM

If the entry in field FCN is TANDEM, PLR, or EM, datafill the following refinements.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 319	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 31.9 dB. The default value is 180, which corresponds to 18.0 dB.
	RCV	0 to 319	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. The attenuation range is 0.0 to 31.9 dB. The default value is 90, which corresponds to 9.0 dB.

LNINVEST (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	IMP	150, 600, or 1200	<i>Impedance</i> Enter the required impedance in ohms. The default value is 600.
	SIG	EM1, EM2, PLR1, PLR2, T60, T80, T6S, T8S, T62, or T82	<i>Signaling configuration</i> Enter the type of signaling required: • For FCN = EM: • EM2 (E&M Type II) • For FCN = PLR: • PLR1 (PLR Type I) (see note) • PLR2 (PLR Type II) • For FCN = TANDEM: • T6O (six-wire tandem office) (see note) • T8O (eight-wire tandem office) • T6S (six-wire tandem station) • T8S (eight-wire tandem station) • T62 (six-wire tandem two-state) • T82 (eight-wire tandem two-state) Note: This is the default value.

LNINVEST (continued)**FCN = TO**

If the entry in field FCN is TO, datafill the following refinements.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	TRMT	0 to 120 (two-wirecards) 0 to 319 (four-wire cards)	<i>Transmission attenuation</i> Enter the required transmission attenuation in multiples of tenths of a decibel. For four-wire cards, the attenuation range is 0.0 to 31.9 dB. For two-wire cards, the attenuation range is 0.0 to 12.0 dB. The default value is 50, which corresponds to 5.0 dB.
	RCV	0 to 100 (two-wirecards) 0 to 319 (four-wire cards)	<i>Receive attenuation</i> Enter the required receive attenuation in multiples of tenths of a decibel. For four-wire cards, the attenuation range is 0.0 to 31.9 dB. For two-wire cards, the attenuation range is 0.0 to 10.0 dB. The default value is 0, which corresponds to 0.0 dB.
	SC	OFF, NOR, REV, or SINK	<i>Sealing current</i> Enter the type of sealing current required (OFF for none, NOR for source normal, REV for source reverse, and SINK for sink). For a CARDCODE of 7A25AA, 7A26AA, or 7A27AA, the only valid entry value is OFF. The default value is OFF.
	IMP	600 or 900	<i>Impedance</i> Enter the required impedance in ohms. The default value is 600.
	HYBRD	0 to 3	<i>Hybrid balance value</i> Enter the hybrid balance value required. For a CARDCODE of 7A20AA or 7A21AA, the only valid entry value is 0 (zero).

LNINVEXT (end)**FCN = OCU**

If the entry in field FCN is OCU, datafill the following refinements.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	RATE	2400, 4800, 9600, 19200, or 56000	<i>Data rate</i> Enter the data rate required (in bits per second). The default value is 56000.
	SCC	Y or N	<i>Secondary channel</i> Enter Y if a secondary channel is required. Enter N if no secondary channel is required. The default value is N.
	ZCS	Y or N	<i>Zero code suppression</i> Enter Y if zero-code suppression is required. Enter N if zero-code suppression is not required. If RATE is 56000, ZCS must be set to Y. The default value is N.
	ERRCTL	Y or N	<i>Error control</i> Enter Y if error control is required. Enter N if error control is not required. If RATE is 56000, ERRCTL must be set to N. The default value is N.

Datafill example

The following example shows sample datafill for table LNINVEXT.

MAP display example for table LNINVEXT

LEN										FUNC			
HOST	00	0	00	00	ETO	180	0	600	Y	4	5	5	NOR L

LNMP EOC**Table name**

Line Multipoint Embedded Operations Channel Table

Functional description

Table LNMP EOC facilitates the storing of 2B1Q lines that have multipoint EOC line units. This table is datafilled automatically by unsolicited messages from the extended line concentrating module (LCME) and is read only.

Datafill sequence and implications

For normal table operations, table LNMP EOC is read only. During dump and restore, this table must be dumped after table LNINV.

Table size

1000 to 10000 tuples

Datafill

The following table lists datafill for table LNMP EOC.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
LEN		see subfields	<i>Line equipment number</i> This field defines the physical location of the equipment that is connected to a specific telephone line. Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. Field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.
MPEOCLU		0 to 6	<i>Multipoint embedded operations channel line units</i> Enter the number of multipoint EOC line units on the loop.

LNMP EOC (end)

Datafill example

The following example shows sample datafill for table LNMP EOC.

MAP display example for table LNMP EOC

LN MP EOC LU						
HOST	67	0	08	14		4

Table history

BCS36

The following changes were made:

- a new table size range of 1000 to 10000 tuples
- text indicates this is now a read only table

BCS35

Table LNMP EOC was introduced.

LNPCODE

Table name

Local Number Portability Code Table

Functional description

Table LNPCODE enables the operating company to specify special routing to a virtual facility group (VFG) for directory numbers that port into a switch.

Datafill for table LNPCODE applies only to incoming LNP calls to ported-in DNs. This feature enables special routing such as to a VFG or a trunk loop-around. Each tuple in the table corresponds to a range of digits. For directory numbers (DN) in each range, specify one of the following:

- treatment to apply when an LNP call to a ported-in DN arrives on the switch
- routing table to use when an LNP call to a ported-in DN arrives on the switch

Datafill sequence and implications

When using the T selector in table RTESEL, datafill the corresponding routing table, for example, to specify routing through table

- OFRT, datafill table OFRT
- IBNRTE, datafill table IBNRTE

Table size

The system dynamically allocates table size according to datafill.

LNPCODE (continued)**Datafill**

The following table lists datafill for table LNPCODE. The key consists of the serving translation scheme (STS) and the terminating digits.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
STS		3 digits	Serving translation scheme. This field corresponds to the current STS of the call.
FROMDIGS		1 to 10 digits	From digits. Datafill the start of the range of the terminating NPANXXXXXX that uses the routing information in this table. Note: Datafill field FROMDIGS using the format (N, NP, NPA, NPAX, NPAXX ... NPANXXXXXX).
TODIGS		1 to 10 digits	To digits. Datafill the end of the range of the terminating NPANXXXXXX that uses the routing information in this table. Note: Datafill field TODIGS using the format (N, NP, NPA, NPAX, NPAXX ... NPANXXXXXX).
RTE		see subfields	Route. This field contains routing information for the LNP translation and consists of subfields RTESEL, EXTRTEID, TABID, KEY, and RTETRMT.
	RTESEL	T or TRMT	Route selector. This field gives the ported-in routing information for the calls made to the DNS that fall in the range of the FROMDIGS to TODIGS field. The datafill in the STS field matches the STS of the originating call. Datafill this field with either a T selector or TRMT selector. Enter T to datafill routing information. Enter TRMT to datafill a call treatment.
	EXTRTEID		External route identification. This field contains routing information for LNP translations. Fields EXTRTEID contains subfields TABID and KEY.

LNPCODE (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	TABID	OFRT OFR2 OFR3 OFR4 IBNRTE IBNRT2 IBNRT3 IBNRT4 RRTETTL4	Table identification. Datafill the name of the routing table.
	KEY	1 to 1023	Key. Datafill the key for the routing table.
	RTETRMT	4 characters	Route treatment. Enter a treatment name from the office treatment subtable, TMTCNTL.TREAT.

Datafill example

The following example shows sample datafill for table LNPCODE.

MAP display example for table LNPCODE

STS	FROMDIGS	TODIGS	RTE
416	514663	514663	T IBNRTE 5
416	5142265432	5142265432	TRMT ANCT

Tuple 1 applies to calls with an STS of 416 that terminate to a ported-in DN with digits in the range 514 663 0000 to 514 663 9999. This tuple routes calls through table IBNRTE with ID 5

Tuple 2 applies to calls with an STS of 416 that terminate to the ported-in DN 514 226 5432. This tuple applies treatment ANCT.

Table history**NA009**

Feature AU2546 introduces table LNPCODE for local number portability (LNP).

LNPCODE (end)

Supplementary information

None

LNPOPTS

Table name

Local Number Portability Options

Functional description

Table LNPOPTS implements the options that the operating company applies to Local Number Portability (LNP).

Datafill sequence and implications

There is no requirement to datafill other tables before table LNPOPTS.

Datafill three options to activate LNP query parameters:

1. LNPTCT. This option allows AIN and LNP trigger criteria type (TCT) to toggle.
2. QPARMS. This option reduces the query parameter set present in an LNP query.
3. BLOCKLNP. This option blocks internetwork calls that did not query prior, but could query at this switch.

Note: Operating companies cannot change LNPOPTS tuples with SOC option LNP00200 in the IDLE state. Refer to *Location Routing Number-Local Number Portability Service Implementation Guide*, 297-8981-021.

Table size

Eight tuples

LNPOPTS (continued)**Datafill**

The following table lists datafill for table LNPOPTS.

Field descriptions (Sheet 1 of 4)

Field	Subfield	Entry	Explanation and action
KEY		see subfields	Key This field consists of subfields BLOCKLNP, LNPTCT, and QPARMS.
	BLOCKLNP		BLOCKLNP This subfield blocks calls when the previous switch did not perform a necessary LNP query.
	LNPTCT		LNPTCT This subfield applies the LNP trigger criteria type to Info Analyzed messages.
	QPARMS		QPARMS This subfield specifies query parameters.
	ACG_10D_TRMT		ACG_10D_TRMT This subfield specifies the treatment for LNP calls encountering 10-digit Automatic Call Gapping (10D ACG). The default treatment is AIN Final (AINF).
OPTIONS		see subfields	<i>Options</i> This field consists of options BLOCKLNP, LNPTCT, and QPARMS.
	ACG_10D_TRMT AINF		This is the default for the Key ACG_10D_TRMT. LNP calls encountering 10D ACG will be routed to AINF if no entry is made here. Otherwise, enter the same treatment as entered in the field EXTENDED_TREATMENT.
Note: DMS software always sends user identification, bearer capability and called party identification (UserID, BC and CalledParty) in an LNP query.			

LNPOPTS (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield	Entry	Explanation and action
		BLOCKLNP	BLOCKLNP Enter BLOCKLNP to activate the BLOCKLNP feature. The option consists of values ACTIVE and INACTIVE. The default is INACTIVE. INACTIVE applies normal call processing. Note: Datafill table TRKOPTS to block calls.
		ACTIVE,INACTIVE	Enter ACTIVE to specify a treatment. Value ACTIVE consists of option TREATMENT.
	TREATMENT	EXTENDED_TREATMENT	Enter the treatment for the call. The treatment must match the treatment in table TMTMAP or table TMTCNTL. The operating company decides how to apply the treatment to the call through these tables. Note: The system prints a warning message when the operating company selects value ACTIVE and option TREATMENT. The message states that this option can prevent completion of some LNP calls.
	LNPTCT	LNP,PODP	Local Number Portability Trigger Criteria Type. Option LNPTCT consists of values LNP and PODP. The default is PODP.
Note: DMS software always sends user identification, bearer capability and called party identification (UserID, BC and CalledParty) in an LNP query.			

LNPOPTS (continued)**Field descriptions (Sheet 3 of 4)**

Field	Subfield	Entry	Explanation and action
			Enter LNP to apply the Local Number Portability Trigger Criteria Type to Info analyzed messages for LNP calls. Note: Default value PODP uses the normal trigger criteria type. For example: NPA, NPAXXX, and NPAXXXXXX.
	QPARMS	see subfields	Query Parameter. Enter QPARMS to specify query parameters and their subfields. Subfields consist of LATA, CHARGNUM, CLGPTYID, CLGPBGID, CHGPTYST, PRIMCARR, TCM, OCLDPTID, REDIRPID, REDIRINF.
	LATA	Y or N	Local access and transport area. Enter Y to include the parameter or N to ignore it. The default value is N.
	CHARGNUM	Y or N	Charge number. Enter Y to include the parameter or N to ignore it. The default value is Y.
	CLGPTYID	Y or N	Calling party ID. Enter Y to include the parameter or N to ignore it. The default value is Y.
	CLGPBGID	Y or N	Calling party business group ID. Enter Y to include the parameter or N to ignore it. The default value is N.
	CHGPTYST	Y or N	Charge party station type. Enter Y to include the parameter or N to ignore it. The default value is Y.
	PRIMCARR	Y or N	Primary carrier. Enter Y to include the parameter or N to ignore it. The default value is N.
Note: DMS software always sends user identification, bearer capability and called party identification (UserID, BC and CalledParty) in an LNP query.			

LNPOPTS (continued)**Field descriptions (Sheet 4 of 4)**

Field	Subfield	Entry	Explanation and action
	TCM	Y or N	Trigger criteria model, Enter Y to include the parameter or N to ignore it. The default value is N.
	OCLDPTID	Y or N	Original called party ID, Enter Y to include the parameter or N to ignore it. The default value is N.
	REDIRPID	Y or N	Redirecting party ID. Enter Y to include the parameter or N to ignore it. The default value is N.
	REDIRINF	Y or N	Redirection information. Enter Y to include the parameter or N to ignore it. The default value is N.
Note: DMS software always sends user identification, bearer capability and called party identification (UserID, BC and CalledParty) in an LNP query.			

Datafill example

The following examples show sample datafill for table LNPOPTS.

MAP display example for table LNPOPTS option QPARMS

KEY	OPTIONS

QPARMS	
QPARMS (LATA N)(CHARGNUM Y)(CLGPTYID Y)(CLGPBGID N)	
(CHGPTYST Y)(PRIMCARR N)(TCM N)(OCLDPTID N)(REDIRPID N)	
(REDIRINF N) \$	

LNPOPTS (continued)**MAP display example for table LNPOPTS option LNPTCT**

KEY	OPTIONS	
LNPTCT	LNPTCT	PODP

MAP display example for table LNPOPTS option BLOCKLNP

KEY	OPTIONS		

BLOCKLNP	BLOCKLNP	ACTIVE	BLDN

The following table explains error messages that can occur when you attempt to datafill table LNPOPTS.

Error messages for table LNPOPTS (Sheet 1 of 2)

Message	Explanation	User action
ERROR: BLOCKLNP tuple may not be changed while Software Optionality Control option LNP00200 is IDLE	SOC option LNP00200 is in IDLE state.	Activate SOC option LNP00200. Enter the tuple again.

LNPOPTS (end)**Error messages for table LNPOPTS (Sheet 2 of 2)**

Message	Explanation	User action
ERROR: QPARMS tuple may not be changed while Software Optionality Control option LNP00200 is IDLE	SOC option LNP00200 is in IDLE state.	Activate SOC option LNP00200. Enter the tuple again.
ERROR: LNPTCT tuple may not be changed while Software Optionality Control option LNP00200 is IDLE	SOC option LNP00200 is in IDLE state.	Activate SOC option LNP00200. Enter the tuple again.

Table history**NA015**

Added option ACG_10D_TRMT.

NA010

Added options LNPTCT and BLOCKLNP. Added error messages.

NA009

Introduced table LNPOPTS.

LNP RTE

Table name

Local Number Portability Route

Functional description

Table LNP RTE enables triggering criteria checking for local number portability (LNP) calls that route from

- pretranslation by table STDPRTCT
- class of service screening by table CLSVSCRC

When a call routes directly out of tables STDPRTCT or CLSVSCRC

- the call translates to table LNP RTE
- the route through table LNP RTE activates LNP criteria checking for the call.

Datafill sequence and implications

LNP recommends that the following tables be datafilled after table LNP RTE:

- office route tables OFRT, OFR2, OFR3, and OFRT4
- integrated business network tables IBNRTE, IBNRT2, IBNRT3, and IBNRT4

Table size

The maximum size is 8184 route tuples.

LNP RTE (continued)**Datafill**

The following table lists datafill for table LNP RTE.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
RTETABID			Routing table identification. This field contains routing information for the LNP translation. This field consists of subfields TABID, FROMIDX, TOIDX, and their refinements.
	TABID	OFRT OFR2O FR3 OFR4 IBNRTE IBNRT2 IBNRT3 IBNRT4	Table identification. Datafill the name of the routing table.
	FROMIDX	Integer from 1 to 1023	<i>From index</i> Datafill the pointer to the first tuple in the desired range in the route table named by TABID.
	TOIDX	Integer from 1 to 1023	<i>To index</i> Datafill the pointer to the last tuple in the desired range in the route table named by TABID.

Datafill example

The following example shows sample datafill for table LNP RTE.

MAP display example for table LNP RTE

RTETABID		
OFRT	1	3
OFRT	5	5
IBNRT2	16	20

LNPRTE (end)

Table history

NA009

Feature AU 2525 introduces table LNPRTE.

LNSIGSYS

Table name

Line Signaling System Table

Functional description

In the North American version of the DMS-100 switch, many tables contain signaling system data. These tables include OFCSTD, OFCENG, TRKGRP, TRKSGRP, and TRKMEM. In the international version of the DMS-100 switch, the operating company can define some signaling data. Table LNSIGSYS contains the defined signaling data. This data allows operating companies to modify signaling parameters by trunk subgroup instead of by office.

Table TRKSGRP contains field LNICSSI (incoming line signaling system index) and field LNOGSSI (outgoing line signaling system index). These fields reference an entry in table LNSIGSYS.

Each tuple in table LNSIGSYS describes an instance of a signaling system. Different instances of signaling systems of the same signaling system type can be present. Examples of different instances of signaling systems are incoming, outgoing, and two-way. Examples of signaling system types include NTLS07, NTLS20, and CCITT no.5 signaling (N5).

For example, an administrative agency or operating company can have trunks that use a wink as a proceed-to-send (PTS) signal. The administrative agency or operating company can have trunks that use a delay-dial seize acknowledge signal (SZA) followed by PTS.

A wink-type signaling system differs from a delay-dial type signaling system. A wink-type signaling system requires that table LNSIGSYS contain data for a minimum of two signaling system instances. Some wink trunks in an office can have wink time periods of 150 ms. Other wink trunks can have wink time periods of 100 ms. Two tuples in the table LNSIGSYS have the same signaling system type. A specified office can support 16 entries in field LNSIGIDX.

Each type of entry in table LNSIGSYS has the following design:

LNSIGIDX	SIGTYPE	LSSINFO

The customer can add a new tuple to table LNSIGSYS to define the name of a signaling system index. The key field is LNSIGSYS. Each signaling system type entered in field SIGTYPE can support a generic signaling system. The fields that appear in field LSSINFO depend on the entries in field SIGTYPE for that tuple. The fields that require datafill are different type. Descriptions of these fields appear separately.

LNSIGSYS (continued)

All the signaling types appear in the following table. See the appropriate section of this table for the datafill of each signaling type. For example, see table LNSIGSYS type DELDIAL to find the datafill of the delay-dial (DELDIAL) signaling system.

Signaling types (Sheet 1 of 2)

Signaling type	Explanation
DELDIAL	Delay-dial signaling
N5	CCITT No.5 signaling (N5)
NTLS03	NTLS03 signaling
NTLS04	NTLS04 signaling
NTLS05	NTLS05 signaling
NTLS06 incoming	NTLS06 incoming signaling
NTLS06 outgoing	NTLS06 outgoing signaling
NTLS07 incoming	NTLS07 incoming signaling
NTLS07 outgoing	NTLS07 outgoing signaling
NTLS08 incoming	NTLS08 incoming signaling
NTLS08 outgoing	NTLS08 outgoing signaling
NTLS09 incoming	NTLS09 incoming signaling
NTLS09 outgoing	NTLS09 outgoing signaling
NTLS10	NTLS10 signaling
NTLS11 incoming	NTLS11 incoming signaling
NTLS11 outgoing	NTLS11 outgoing signaling
NTLS14	NTLS14 signaling
NTLS15 incoming	NTLS15 incoming signaling
NTLS15 outgoing	NTLS15 outgoing signaling
NTLS16 incoming	NTLS16 incoming signaling
NTLS16 outgoing	NTLS16 outgoing signaling
NTLS16 two-way	NTLS16 two-way signaling

LNSIGSYS (continued)**Signaling types (Sheet 2 of 2)**

Signaling type	Explanation
NTLS20 incoming	NTLS20 incoming signaling
NTLS20 outgoing	NTLS20 outgoing signaling
NTLS22 incoming	NTLS22 incoming signaling
NTLS22 outgoing	NTLS22 outgoing signaling
NTLS24 incoming/outgoing	NTLS24 incoming/outgoing signaling
WINKSIG	Wink (wink-start) signaling

Updating of signaling system data in the peripheral modules

The international digital trunk controller (IDTC) peripheral module (PM) holds the contents of table LNSIGSYS. When the return to service (RTS) of each PM occurs the system downloads the contents of table LNSIGSYS to the PM. If data changes while a PM is in service, the system downloads the data on the next RTS. The RTS can be manual from the PM level of the MAP display. The system can start the RTS on a system-busy PM. If a unit is manually busy, enter the LOADPM CC DATA command to download the data. Perform this command at the PM level of the MAP display.

Making changes to table LNSIGSYS

Some reasons for changing signaling system data are the following:

- to add new trunks with a new signaling system occurs to the switch
- to separate one trunk from the trunk group to experiment with the signaling parameters of the trunk
- to change one or more of the timing parameters for all trunks that use a signaling system
- to change all trunks of a specified signaling system to a new signaling system type

The first two conditions described above, require datafill for the new trunks. You must enter data in table LNSIGSYS before you enter data in table TRKSGRP. For example, table TRKSGRP can require a new entry to support a trunk that requires a new line signaling index. In this event, you must enter data for the index in table LNSIGSYS first. Enter this data in table LNSIGSYS before you enter data for the trunk in table TRKSGRP.

LNSIGSYS (continued)

In the third condition, you do not need change the data in table TRKSGRP. Make the correct changes to the parameters in table LNSIGSYS.

In the fourth condition, the signaling used on a set of trunks requires a large change. The change of signaling used on a set of trunks requires an arrangement with the switching center at the far end of the trunks. Busy all the trunks in the affected trunk group before you change the signaling index in table TRKSGRP. This action makes sure that all data and call processing actions are compatible.

Adding a new tuple to table LNSIGSYS from the MAP terminal

In the first two conditions described before, table LNSIGSYS requires the addition of a new signaling system.

Use the ADD command at the MAP terminal to add a new line signaling index to table LNSIGSYS. See example 1 following. When the prompt SIGTYPE appears, enter the required line signaling type. Prompts appear for any changes from the displayed default values. Enter a blank line to keep the default values. Table DEFDATA defines the default values.

Examples of the procedures appear below. User actions appear in lower case.

Example 1**Adding a new tuple to table LNSIGSYS**

```
>table lnsigsys
>add
LNSIGIDX:
>mylnsigidx
SIGTYPE:
>deldial
RCMNSZG: 100
<cr>
SDPRESZA: 100
<cr>
SMNPRPTS: 180
>200
RMNPRSZA: 100
. . . (etc.)

TUPLE TO BE CHANGED:
MYLNSIGIDX DELDIAL 100 100 200 .....etc
ENTER Y TO CHANGE, N TO ABORT, OR E TO EDIT
>y
```

LNSIGSYS (continued)

Example 2**Datafilling table TRKSGRP**

Enter data for the new trunks. See example 2. The value entered for the new subgroup must refer to the new value in field LNSIGIDX in table LNSIGSYS. The new subgroup is in field LNICSSI or field LNOGSSI in table TRKSGRP. The system does not download data at this point in the procedure.

```
>table trksgrp
>position mytrunk 0
MYTRUNK 0 P30CAS SIGSYS N N DELDIAL IC MYSIGIDX MYRGSIGIDX 0
```

Example 3**Busy and return to service**

Busy and RTS each trunk in the subgroup to activate the change. Perform this action from the trunk test position (TTP) level of the MAP display. See example 3. If a trunk is already busy for any reason, the RTS procedure activates the change.

```
>mapci nodisp;mtc;trks;ttp
>post g mytrunk
>bsy all
>rts all
```

In the examples, the addition of a new line signaling index MYLNSIGIDX with signaling type DELDIAL occurs. The values are the same as the default values for signaling type DELDIAL. The value in field SMNPRPTS changes from 180 ms to 200 ms.

Deleting a line signaling index

Delete the entries in field LNICSSI or field LNOGSSI in table TRKSGRP that refer to the tuple. Delete these entries before you delete a tuple from table LNSIGSYS.

Making changes to existing tuples in table LNSIGSYS

The value of any field except the key field LNSIGIDX or the selector field LNSIGTYP can change through the normal method. See example 1. If the change involves large numbers of trunks, test the new signaling values on a small subgroup first. Perform this action after you define a new line signaling index.

Make sure the values are correct for the test subgroup. Change the original tuple for the subgroup. Busy the members of the test subgroup before you enter data for these members. Enter the data to change the members of the test subgroup to members of the original subgroup.

LNSIGSYS (continued)

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table LNSIGSYS.

Table size

0 to 26 tuples

Datafill

Descriptions of field names, subfield names, and correct data ranges for table LNSIGSYS appear in the following pages.

Datafill example

Sample datafill for table LNSIGSYS appears in the following example.

MAP example for table LNSIGSYS

LNSIGIDX																SIGTYPE															
LSSINFO																															
N5																N5 15 15 15 15 9 9 9 9 9 10 80 5 30															

Table history

MMP12

Changed the maximum number of tuples to 26.

BCS36

The removal of field RWNKDEL for signaling type NTLS09 outgoing occurred in BCS36. The signaling type NTLS22 was added in BCS36.

BCS35

Fields RMINSSF and RMINSSB were added to NTLS20 outgoing in BCS35. Fields OPTION and Q33TIMER to N5 were added in BCS35.

Additional information

Error messages that can occur when you enter data in table LNSIGSYS appear in this section.

LNSIGSYS (end)

Error messages

Delete the entries in field LNICSSI or field LNOGSSI in table TRKSGRP that refer to the tuple in table LNSIGSYS. If you do not delete the tuples in table TRKSGRP, the following error message appears:

```
UNEXPECTED ERROR CONDITION  
CANNOT DELETE THIS TUPLE; IT IS USED BY YTRKSGRP|CLLI
```

LNSIGSYS type DELDIAL

Signaling type DELDIAL

This section describes the datafill that the operating company defines for the delay-dial signaling system.

Datafill

Datafill for table LNSIGSYS type DELDIAL appears in the following table.

Field descriptions (Sheet 1 of 6)

Field	Subfield	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The table can contain a maximum of 25 line signaling indexes.
SIGTYPE		DELDIAL	<i>Signaling type</i> Enter DELDIAL for delay-dial signaling.
LSSINFO		see subfields	<i>Line signaling system information</i> This field contains the subfields that follow.
	FILTERTM	20	<i>Filter time</i> Enter 20 as the minimum signal duration time for the detection of a line signal. The duration time is in units of 2 ms. The system does not recognize a line signal that continues for less than 40 ms. If you do not enter 20, the tuple is invalid and table control displays the following warning message: FLTR must be 20 (40 ms) for this SIGTYPE The recommended setting is 20 (40 ms). The default value is 20 (40 ms).
	RCMNSZG	3 to 1000	<i>Received minimum seize signal</i> Enter the minimum time in 2 ms intervals, for the system to detect a seize signal. The recommended range is 50 to 120 (100 to 240 ms).

LNSIGSYS type DELDIAL (continued)**Field descriptions (Sheet 2 of 6)**

Field	Subfield	Entry	Explanation and action
	SDPRESZA	3 to 6000	<i>Send pre-seizure</i> Enter the time that an incoming trunk waits: • following the detection of seizure • before a response of the transmission of a seize acknowledge signal toward the calling office Enter the time in 2 ms intervals. The recommended range is 1 to 300 (2 to 600 ms).
	SMNPRPTS	5 to 32767	<i>Send minimum pre-PTS</i> Enter the guaranteed minimum time between the transmission of a seizure signal and a proceed-to-send (PTS) signal. Enter the minimum time in 2 ms intervals. For example, if a receiver can receive digits at the time the system sends the seizure signal. When this condition occurs, the system delays the transmission of the PTS signal by the amount of time you specify. This procedure allows the originating office to detect the signals. The recommended range is 50 to 175 (100 to 350 ms).
	RMXPRSZA	3 to 32767	<i>Receive maximum pre-seize acknowledge</i> Enter the maximum time that an outgoing trunk waits for a seize acknowledge signal. Enter the maximum time in 2 ms intervals. The recommended range is 100 to 110 (200 ms to 220 ms).
	RMNPRPTS	3 to 32767	<i>Receive minimum pre-PTS</i> Enter the shortest time that the system accepts as seize acknowledge (SZA) following a PTS signal. Enter the shortest time in 2 ms intervals. The recommended range is 45 to 200 (90 to 400 ms).
	RMXPRPTS	9 to 32767	<i>Receive maximum pre-PTS</i> Enter the maximum time that a seized trunk waits for a PTS signal before the trunk times out. Enter the maximum time in 2 ms intervals. The recommended range is 1000 to 10000 (2 to 20 s).

LNSIGSYS type DELDIAL (continued)

Field descriptions (Sheet 3 of 6)

Field	Subfield	Entry	Explanation and action
	SDPTPTS	2 to 10000	<i>Send post PTS</i> Enter the minimum time that the trailing edge of a PTS signal continues. Enter the minimum time in 2 ms intervals. The recommended range is 2 to 200 (2 to 400 ms).
	RCMAXFAN	1 to 200	<i>Receive maximum false answer signal</i> Enter the time to delay the start of scanning for the answer signal that follows outpulsing. Enter the time in 10 ms intervals. The delay avoids problems with the temporary loop-open. Problems occur when a crossbar switch detaches the register of that crossbar switch from an incoming trunk. This temporary open is 200 to 1000 ms in time. The temporary open normally occurs to a maximum of 800 ms following completion of multifrequency (MF) digit outpulsing or reception. This action does not normally occur on E&M trunks. The delay-dial signaling system is normally for use on E&M trunks. The recommended value is 0. Note: The type of channel bank equipment in use can cause a false answer to not appear on the A-bit. If a false answer does not appear on the A-bit, you can use a value of 0. The recommended range is 1 to 200 (10 ms to 2 s).
	CLBTIMER	1 to 327 670	<i>Time-out after clear back signal</i> Enter the time that an incoming trunk waits following propagation of a clear back signal. The incoming trunk waits for two signals: • a clear forward signal from the calling end • a reanswer signal from the called end Enter the time in 10 ms intervals. Enter -1 to indicate timing does not occur. Entries out of this range are not correct. The recommended range is 1000 to 6400 (10 to 64 s).

LNSIGSYS type DELDIAL (continued)**Field descriptions (Sheet 4 of 6)**

Field	Subfield	Entry	Explanation and action
	RCMNCLF	1 to 10000	<i>Receive minimum clear forward signal</i> Enter the minimum time required before the system recognizes a clear forward signal. Enter the minimum amount of time in 2 ms intervals. The recommended range is 50 to 200 (100 to 400 ms).
	SDMNCLF	1 to 10000	<i>Send minimum clear forward signal.</i> Enter the time that an outgoing trunk maintains the idle state following the transmission of a clear forward signal. Enter the time in 2 ms intervals. The recommended range is 50 to 500 (100 to 1000 ms).
	RCMNCLB	1 to 10000	<i>Receive minimum clear back signal</i> Enter the minimum time before the system recognizes a clear back signal. Enter the minimum time in 2 ms intervals. The recommended range is 50 to 200 (100 to 400 ms).
	RCMNRLG	50 to 1000	<i>Receive minimum release guard signal</i> Enter the minimum time before the system recognizes a release guard signal. Enter the minimum time in 2 ms intervals. The recommended range is 50 to 500 (100 to 1000 ms).
	RANITMO	500 to 3000	<i>Receive automatic number identification time</i> Enter the time that the outgoing end waits for an automatic number identification (ANI) request signal. The ANI request signal is a wink-type signal. Enter the time in 10 ms intervals. The outgoing end can time out before the end receives the ANI request signal. When this condition occurs, the system gives the calling party a treatment. You can enter the type of ANI request failure treatment. The system applies for each route. You can specify a tone or announcement treatment for each route. The recommended range is 500 to 3000 (5 to 30 s).

LNSIGSYS type DELDIAL (continued)**Field descriptions (Sheet 5 of 6)**

Field	Subfield	Entry	Explanation and action
	RANIWMIN	50 to 80	<i>Receive automatic number identification wink minimum</i> Enter the minimum time that a received ANI wink signal maintains. The system requires this time to recognize the wink signal. Enter the minimum time in 2 ms intervals The recommended range is 50 to 80 (100 to 160 ms).
	RANIWMAX	100 to 175	<i>Receive automatic number identification wink maximum</i> Enter the maximum time that a received ANI wink signal maintains. The system requires this time to recognize the wink signal. Enter the maximum time in 2 ms intervals. The recommended range is 100 to 175 (200 to 350 ms).
	RANISETL	25 to 2500	<i>Post-automatic number identification receive delay</i> Enter the time that the outgoing end delays before the end sends the digits of the called number. Enter the time in 2 ms intervals. This delay allows analog facility transients to settle. The recommended range is 25 to 2500 (50 ms to 5 s).
	SANIWK	70 to 150	<i>Send automatic number identification wink</i> Enter the time of the ANI request wink the system sends. Enter the time in 2 ms intervals. The recommended range is 70 to 150 (140 to 3000 ms).
	SANISETL	20 to 50	<i>Post-automatic number identification send delay</i> Enter minimum time after the end of the ANI wink that the incoming end delays before the end sends the answer signal. Enter the minimum time in 2 ms intervals. This delay allows analog facility transients to settle. The recommended range is 20 to 50 (40 to 100 ms).

LNSIGSYS type DELDIAL (end)**Field descriptions (Sheet 6 of 6)**

Field	Subfield	Entry	Explanation and action
	GUARDTM	40 to 2000	<i>Release guard time</i> Enter the time that an outgoing trunk remains busy: • after the transmission of a clear forward signal • before a search for a release guard signal Enter the time in 10 ms intervals. Entries out of this range are not correct. The recommended range is 40 to 1000 (40 ms to 10 s).
	IDLEPOL	0 or 1	<i>Idle polarity</i> Enter the value of the A-bit that the system sends and receives when idle. A value of 0 means that the clear forward signal is a change to 0 and the seizure signal is a 1. A value of 1 means the clear forward signal is 1 and the seizure signal is 0. Normally, channel bank units that interface with E&M signaling require a polarity of 0. Many loop signaling channel banks expect an idle polarity of 1.

LNSIGSYS type N5

Signaling type N5

This section describes the datafill that the operating company defines for the CCITT No.5 signaling (N5) system.

Datafill

Datafill for table LNSIGSYS type N5 appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	Indicates <i>Line signaling index</i> . Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The table can contain a maximum of 16 line signaling indexes.
SIGTYPE		N5	Indicates <i>Signaling type</i> . Enter N5 for the N5 signaling type.
LSSINFO		see refinements	Indicates <i>Line signaling system information</i> . This field contains the refinements that follow.
	BSFTXTTO	10 to 20	Indicates <i>N5 busy flash line signal maximum transmit time</i> . Enter the maximum transmit time that the busy flash signal transmits. Enter the time in intervals of 1 s. The system can transmit the busy flash signal for a period greater than the time you specify. When this condition occurs, the system terminates the signal. The system generates the appropriate log report. The recommended range is 10 s to 20 s. The default value is 15 s.
	ANSTXTTO	10 to 20	<i>N5 answer line signal maximum transmit time</i> . Enter the maximum transmit time that the answer line signal transmits. Enter the time in intervals of 1 s. If the system transmits an answer line signal for a period greater than the specified time, the system terminates the signal. The system generates the appropriate log. The recommended range is 10 to 20 s. The default value is 15 s.

LNSIGSYS type N5 (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	CBKXTTTO	10 to 20	<i>N5 clear back line signal maximum transmit time.</i> Enter the maximum transmit time that the clear back line signal transmits. Enter the time in intervals of 1 s. If the system transmits the clear back signal for a period greater than the specified time, the system terminates the signal. The system generates the appropriate log. The recommended range is 10 to 20 s. The default value is 15 s.
	CLFTXTTO	10 to 20	<i>N5 clear forward line signal maximum transmit time.</i> Enter the maximum transmit time that the clear forward line signal transmits. Enter the time in intervals of 1 s. If the system transmits the clear forward signal for a period greater than the specified time, the system terminates the signal. The system generates an appropriate log. The recommended range is 10 s to 20 s. The default value is 15 s.
	PTSTXTTO	4 to 9	<i>N5 proceed-to-send line signal maximum transmit time.</i> Enter the maximum transmit time that the proceed-to-send (PTS) line signal transmits. Enter the time in intervals of 1 s. If the system transmits the PTS signal for a period greater than the specified time, the system terminates the signal. The system generates the appropriate log. The recommended range is 4 to 9 s. The default value is 9 s.
	RLGXTTTO	4 to 9	<i>N5 release guard line signal maximum transmit time.</i> Enter the maximum transmit time that the release guard line signal transmits. Enter the time in intervals of 1 s. If the system transmits the release guard signal for a period greater than the specified time, the system terminates the signal. The system generates an appropriate log. The recommended range is 4 to 9 s. The default value is 9 s.

LNSIGSYS type N5 (continued)**Field descriptions (Sheet 3 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	BFATXTTO	4 to 9	<i>N5 busy flash acknowledge line signal maximum transmit time.</i> Enter the maximum transmit time that the busy flash acknowledge line signal transmits. Enter the time in intervals of 1 s. The system can transmit the busy flash acknowledge signal for a period greater than the specified time. When this condition occurs, the system terminates the signal. The system generates an appropriate log. The recommended range is 4 to 9 s. The default value is 9 s.
	ANATXTTO	4 to 9	<i>N5 answer acknowledge line signal maximum transmit time.</i> Enter the maximum transmit time that the answer acknowledge line signal transmits. Enter the time in intervals of 1 s. If the system transmits an answer acknowledge signal for a period greater than the specified time, the system terminates the signal. The system generates an appropriate log. The recommended range is 4 to 9 s. The default value is 9 s.
	CBATXTTO	4 to 9	<i>N5 clear back acknowledge line signal maximum transmit time.</i> Enter the maximum transmit time that the clear back acknowledge line signal transmits. Enter the time in intervals of 1 s. The system can transmit the clear back acknowledge signal for a period greater than the specified time. When this condition occurs, the system terminates the signal. The system generates an appropriate log. The recommended range is 4 to 9 s. The default value is 9 s.

LNSIGSYS type N5 (continued)**Field descriptions (Sheet 4 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	CLFRLGTO	2 to 20	<i>N5 clear forward release guard time-out time.</i> Enter the maximum time to wait for an outgoing or two-way trunk to release a guard. The trunk releases a guard after the system sends a clear forward signal. The system sends this signal when the trunk is in use for an outgoing call. Enter the time in intervals of 1 s. The system can transmit the clear forward release guard time-out signal for a period greater than the specified time. When this condition occurs, the system places the trunk in a trunk lockout state. To start the automatic system recovery, repeat the clear forward sequence. The recommended range is 2 to 20 s. The default value is 2 s.
	CLFRLGRI	20 to 180	<i>N5 clear forward release guard sequence repeat interval.</i> Enter the maximum time between each clear forward release guard sequence. Enter time in intervals of 1 s. If a clear forward signaling sequence fails, the DMS automatically repeats the clear forward sequence. The recommended range is 20 to 180 s. The default value is 80 s.
	CLFRGRCY	1 to 25	<i>N5 clear forward release guard sequence repeat cycles.</i> Enter the maximum number of cycles that a clear forward sequence attempts. Enter the numbers of cycles in intervals of 1 cycle. If the attempted clear forward sequences exceed the specified number, the system generates a log entry. The system can correlate the number of clear forward repeat cycles with the time elapsed before the generation of a log entry. The system uses the following formula: Time interval between log entries = (CLFTXTTO + CLFRLGRI) x (CLFRGRCY - 1)

LNSIGSYS type N5 (end)**Field descriptions (Sheet 5 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	TRKAVTO	20 to 60	The formula is accurate to 30 s of the desired time. The accuracy depends on the failure mode of the clear forward sequence. The recommended range is 1 to 25 cycles. The default value is 5 cycles. <i>N5 trunk availability time-out time unit.</i> Enter the maximum transmit time before the trunk returns to idle after a release guard signal stops. Enter the time in intervals of 10 ms. Outgoing access to the incoming end of a two-way trunk can return to idle. Outgoing access can return to idle for the duration of the trunk availability time-out time. This condition can only occur when the release of a guard signal transmission stops. The recommended range is 20 to 60 ms. The default value is 30 ms.
	OPTION (BCS35-)	Q33 or \$	<i>Option.</i> Enter Q33 to activate the Q33 timer. Enter the timer setting in refinement Q33TIMER. Perform this procedure if feature NC0321 (Circuit Supervision/Transmission Failure Actions Q33) is available. Default value: \$
	Q33TIMER (BCS35-)	10 to 30	<i>Q33 timer setting.</i> Enter the Q33 timer setting in increments of 1 s. The Q33 timer specifies the length of time to wait for a CCITT Q33 trunk supervision alarm to clear. Enter data in this field when the system activates feature NC0321. The user can enter the Q33 timer for all trunks. The Q33 timer only operates for incoming and two-way trunks. The default value is 10 s.

LNSIGSYS type NTLS03

Signaling type NTLS03

This section describes the customer variable data for the NTLS03 signaling system.

The NTLS03 signaling system is for use in one-way outgoing applications. An example of these applications is terminating trunks from a DMS-200 to an operator switchboard. Call processing operation is seize only, without outpulsing. This line signaling system uses A-bit signaling for all standard telephony signals and includes B-bit blocking and unblocking signals.

Datafill

Datafill for table LNSIGSYS type NTLS03 appears in the following table.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of additions of line signaling indexes that can occur to the table is 16.
SIGTYPE		NTLS03	<i>Signaling type.</i> Enter NTLS03 for the NTLS03 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal time for the detection of any line signal. Enter the value in units of 2 ms. The system does not recognize any line signal that occurs for less than 40 ms. If the value that you enter is not 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20 (40 ms). The default value is 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. The default value is 1.

LNSIGSYS type NTLS03 (continued)

Field descriptions (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. The default value is 1.
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time that the idle signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 5 (50 ms).
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that the forward seizure signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time that the forward clear forward signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RANSDEL	0 to 6000	<i>Receive answer delay.</i> Enter the maximum delay that follows outpulsing, before scanning for the answer signal. Enter the delay in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time that the backward release guard signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 3 (30 ms).

LNSIGSYS type NTL503 (end)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	RMINLCKO	0 to 6000	<i>Receive minimum lockout signal.</i> Enter the minimum time that a received backward off-hook signal must occur for the system to recognize the signal as a lockout signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 50 (500 ms).
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time that a received B-bit blocking signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 50 (500 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time that a received forward or backward on-hook (idle) signal must occur for the system to recognize the signal as a recovery signal. Enter the minimum time in 10 ms intervals. This procedure allows the trunk to return to the idle state. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RMINUBL	0 to 6000	<i>Receive minimum unblocking signal.</i> Enter the minimum time that a received B-bit unblocking signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 50 (500 ms).
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time that a sent clear forward signal or a received release guard signal. Enter the time in 10 ms intervals. This procedure guarantees disconnection at the far end. The recommended range is 10 to 200 (100 ms to 2 s). The default value is 50 (500 ms).

LNSIGSYS type NTLS04

Signaling type NTLS04

This section describes the NTLS04 signaling system datafill that the operating company can define.

The NTLS04 signaling system is for use in one-way incoming applications. An example of these applications is junctor trunking from an operator switchboard to a DMS-200. The operation includes:

- a single A-bit state transition for a proceed-to-send signal
- a restoration to the original state when the stop transmission (ST) signal is received at the end of the digit string

This line signaling system uses only A-bit signaling for all standard telephony signals.

Datafill

Datafill for table LNSIGSYS type NTLS04 appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of additions of line signaling indexes that can occur to table LNSIGSYS is 16.
SIGTYPE		NTLS04	<i>Signaling type.</i> Enter NTLS04 for the NTLS04 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.

LNSIGSYS type NTLS04 (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	20	<i>Filter time.</i> Enter 20 for the minimum signal duration for detection of any line signal. Enter 20 in units of 2 ms. The system does not recognize any line signal that continues for less than 40 ms. If the value that you enter is not 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20 (40 ms). The default value is 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 0
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time that an idle signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 5 (50 ms).
	SMINPTS	0 to 6000	<i>Send minimum backward PTS.</i> Enter the minimum time that a backward proceed-to-send (PTS) signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	SMINEOD	0 to 6000	<i>Send minimum backward end-of-digits.</i> Enter the minimum time that a backward end-of-digits (EOD) signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 5 (50 ms).

LNSIGSYS type NTLS04 (continued)**Field descriptions (Sheet 3 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time to maintain the backward answer signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time to maintain the backward clear back signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	SMINRLG	0 to 6000	<i>Send minimum release guard signal.</i> Enter the minimum time to maintain the backward release guard signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	SMINRMB	0 to 6000	<i>Send minimum remote make busy.</i> Enter the minimum time of the sent remote make busy signal. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RMINSZG	0 to 200	<i>Receive minimum seize signal.</i> Enter the minimum time a received forward seize signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 200 (0 to 2 s). The default value is 20 (200 ms).
	RMINCLF	1 to 1000	<i>Receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 1 to 1000 (10 ms to 10 s). The default value is 20 (200 ms).

LNSIGSYS type NTLS04 (end)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	RCLFTMO	0 to 6000	<i>Receive clear forward time-out.</i> Enter the maximum time that the trunk waits for a received clear forward (CLF) signal or a reanswer (RAN) signal that follows the sending of a clear back (CLB) signal. Enter the maximum time in 10 ms intervals. This value is the incoming lockout time if the originator receives a CLB signal. A CLF signal is not received in return and a RAN signal is not received from the terminator. A value of 0 indicates that timing is not present and the maximum wait time is without limit. The recommended range is 0 to 6000 (0 to 60 s). The default value is 3000 (30 s).
	RANSTIMR	0 to 6000	<i>Receive answer timer.</i> Enter the minimum time that the answer signal occurs before the system recognizes the signal. Enter time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).

LNSIGSYS type NTLS05

Signaling type NTLS05

This section describes the datafill that the operating company can define for the NTLS05 signaling system.

One-way incoming applications use the NTLS05 signaling system. The specialized junctor trunking from an operator switchboard to a DMS-200 is an example of a one-way incoming application. The operation has the same signaling as NTLS04. The operation includes an end-of-selection (EOS), start ringing (SRG), and break-in-request (BIR) signals. The line signaling system uses the A-bit for all standard telephony signals. The line signaling system does not use SRG and BIR signals recognized on the B-bit. The B-bit also blocks and unblocks signals.

Datafill

Datafill for table LNSIGSYS type NTLS05 appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSI. GIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS05	<i>Signaling type.</i> Enter NTLS05 for the NTLS05 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements described below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal time period for the detection of any line signal. Enter the time in 2-ms intervals. The system does not recognize any line signal that continues for less than 40 ms. When the value entered is not 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms) Default value: 20 (40 ms).

LNSIGSYS type NTLS05 (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 1
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. Default value: 1
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time to maintain an idle signal for recognition. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s) Default value: 5 (50 ms).
	SMINPTS	0 to 6000	<i>Send minimum backward PTS.</i> Enter the minimum time to maintain a backward proceed-to-send (PTS) signal for recognition. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINEOD	0 to 6000	<i>Send minimum backward end-of-digits.</i> Enter the minimum time to maintain a backward end-of-digits (EOD) signal for recognition. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINEOS	0 to 6000	<i>Send minimum end-of-selection signal.</i> Enter the minimum time to maintain the backward end-of-selection (EOS) signal for recognition. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINSSF	0 to 6000	<i>Send minimum subscriber free signal.</i> Enter the minimum time to maintain the backward subscriber free signal for recognition. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS05 (continued)**Field descriptions (Sheet 3 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time to maintain the backward answer signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time to maintain the backward clear back signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINRLG	0 to 6000	<i>Send minimum release guard signal.</i> Enter the minimum time to maintain the backward release guard signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINRMB	0 to 6000	<i>Send minimum remote make busy.</i> Enter the minimum timeperiod of the sent remote make busy signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RMINSZG	0 to 200	<i>Receive minimum seize signal.</i> Enter the minimum time to maintain a received forward seizure signal for recognition. Enter the time in 10-ms intervals. Recommended range: 0 to 200 (0 to 2 s). Default value: 10 (100 ms).
	RMINFOT	1 to 20	<i>Receive minimum forward transfer signal.</i> Enter the minimum time to maintain a received forward transfer signal for recognition. Enter the time in 10-ms intervals. This signal is synonymous with start ringing (SRG) and break-in-request (BIR) signals. Recommended range: 1 to 20 (10 to 200 ms). Default value: 20 (200 ms)

LNSIGSYS type NTLS05 (end)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	RMINCLF	1 to 1000	<i>Receive minimum clear forward signal.</i> Enter the minimum time to maintain a received clear forward signal for recognition. Enter the time in 10-ms intervals. Recommended range: 1 to 1000 (10 ms to 10 s). Default value: 20 (200 ms)
	RCLFTMO	0 to 6000	<i>Receive clear forward time-out.</i> Enter the maximum time to indicate that the trunk waits for a received clear forward (CLF) signal or a reanswer (RAN) signal. Enter the time in 10-ms intervals. This RAN signal follows the sending of a clear back (CLB) signal. This value is the incoming lockout time if the following conditions occur: - the system sends a CLB signal to the originator - the system does not receive a CLF signal - the terminator does not send an RAN signal A value of 0 indicates timing is not present. The maximum wait time becomes infinite. Recommended range: 0 to 6000 (0 to 60 s). Default value: 3000 (30 s)
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time to maintain a received B-bit blocking signal for recognition. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms)
	RMINUBL	0 to 6000	<i>Receive minimum unblocking signal.</i> Enter the minimum time to maintain a received B-bit unblocking signal for recognition. Enter this time in 1--ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms)
	RANSTIMR	0 to 6000	<i>Receive answer timer.</i> Enter the minimum time to maintain the answer signal for recognition. Recommended range: 0 to 6000 (0 to 60 s). Default value: 20 (200 ms)

LNSIGSYS type NTLS06 incoming

Signaling type NTLS06 incoming

This section describes the datafill that the operating company defines for the NTLS06 incoming signaling system.

The system uses NTLS06 incoming signaling system in one-way incoming E&M applications. These applications are from a DMS-200 to end offices that carry BA-1 switchboard traffic. The switchboard traffic originates on trunks with NTLS05 signaling. The operation is the same as delay-dial signaling. The operation includes the end-of-selection (EOS), start ringing (SRG), and break-in-request (BIR) signals. The line signaling system uses A-bit signaling for all standard telephony signals. The line signaling system uses A-bit signaling for EOS, SRG, and BIR signals.

Datafill

The following table lists the datafill for table LNSIGSYS type NTLS06 incoming.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of additions of line signaling indexes to the table is 16.
SIGTYPE		NTLS06	<i>Signaling type.</i> Enter NTLS06 for the NTLS06 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains refinements. Descriptions of these refinements appear below.

LNSIGSYS type NTLS06 incoming (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time, in units of 2 ms. This entry indicates the detection of any line signal. The system does not recognize any line signal that continues for less than 40 ms. If the value entered is not 20, table control sets the field to 20 and gives the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms. Default value: 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 0
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC (incoming) for the signaling direction value. Default value: OG
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time in 10 ms intervals to maintain an idle signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	SMINSZA	0 to 6000	<i>Send minimum backward seizure signal.</i> Enter the minimum time in 10 ms intervals to maintain a backward seize acknowledge signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 20 (200 ms).
	SMINPTS	0 to 6000	<i>Send minimum backward PTS.</i> Enter the minimum time, in 10 ms intervals. This entry indicates the maintenance of a backward proceed-to-send (PTS) signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 20 (100 ms).

LNSIGSYS type NTLS06 incoming (continued)

Field descriptions (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SMINEOS	0 to 6000	<i>Send minimum end-of-selection signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward end-of-selection (EOS) signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 5 (50 ms).
	SMINSSF	0 to 6000	<i>Send minimum subscriber free signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward subscriber free signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward answer signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	SMINRAN	0 to 6000	<i>Send minimum reanswer signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward reanswer signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward clear back signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	SMINRLG	0 to 6000	<i>Send minimum release guard signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward release guard signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	SMINBLO	0 to 6000	<i>Send minimum blocking signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward A-bit blocking signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS06 incoming (end)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	RMINSZG	0 to 200	<i>Receive minimum seize signal.</i> Enter the minimum time in 10 ms intervals to maintain received forward seize signal for recognition. Recommended range: 0 to 200 (0 to 2 s). Default value: 10 (100 ms).
	RMINCLF	1 to 1000	<i>Receive minimum clear forward signal.</i> Enter the minimum time in 10 ms intervals to maintain a received clear forward signal for recognition. Recommended range: 1 to 1000 (10 ms to 10 s). Default value: 21 (210 ms).
	RMINFOT	1 to 20	<i>Receive minimum forward transfer signal.</i> Enter the minimum time in 10 ms intervals to maintain a received forward transfer signal for recognition. This signal is identified with the start ringing (SRG) and break-in-request (BIR) signals. Recommended range: 1 to 20 (10 ms to 200 ms). Default value: 8 (80 ms).
	RMAXFOT	10 to 50	<i>Receive maximum forward transfer signal.</i> Enter the maximum time in 10 ms intervals to maintain a received forward signal for recognition. This signal is identified with the SRG and BIR signals. Use of this field occurs in applications in which the ring forward signal takes the form of a pulse. The entry in this field defines the upper time limit for the pulse. Recommended range: 10 to 50 (100 ms to 500 ms). Default value: 20 (200 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time in 10 ms intervals to maintain a received forward or backward on-hook signal as a recovery signal. An on-hook signal is idle. The received forward or backward on-hook signals allow the trunk to return to the idle state. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS06 outgoing

Signaling type NTLS06 outgoing

This section describes the datafill that the operating company defines for the NTLS06 outgoing signaling system.

The system uses the NTLS06 outgoing signaling system in one-way outgoing E&M applications. These outgoing applications are from a DMS-200 to end offices. The end offices carry BA-1 switchboard traffic that originates on trunks with NTLS05 signaling. The operation is the same as delay-dial signaling. The operation includes the end-of-selection (EOS), start ringing (SRG), and break-in-request (BIR) signals. The line signaling system uses A-bit signaling for all standard telephony signals and for EOS, SRG, and BIR signals.

Datafill

Datafill for table LNSIGSYS type NTLS06 outgoing appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of additions of line signaling indexes to the table is 16.
SIGTYPE		NTLS06	<i>Signaling type.</i> Enter NTLS06 for the NTLS06 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains refinements. Descriptions of these refinements appear below.

LNSIGSYS type NTLS06 outgoing (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time, in units of 2 ms, for the detection of any line signal. The system does not recognize any line signal that persists for less than 40 ms. If you do not enter the value 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 0
	SIGDIR	OG	<i>Signaling direction.</i> Enter OG for the outgoing signaling direction. Default value: OG
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time in 10 ms intervals to maintain an idle signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time in 10 ms intervals to maintain the forward seize signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 20 (200 ms).
	SFOTTM	5 to 50	<i>Send forward transfer pulse time.</i> Enter the length in 10 ms intervals of the forward transfer pulse signal. This signal is synonymous with the SRG and BIR signals. Recommended range: 5 to 50 (50 ms to 500 ms). Default value: 10 (100 ms).

LNSIGSYS type NTLS06 outgoing (continued)

Field descriptions (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	SFOTTM2	5 to 50	<i>Send forward transfer time.</i> Enter the length in 10 ms intervals to maintain the trailing edge of the forward transfer signal. Recommended range: 5 to 50 (50 ms to 500 ms). Default value: 10 (100 ms).
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time in 10 ms intervals to maintain the forward clear forward signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	RSZADEL	0 to 6000	<i>Receive seize acknowledge delay.</i> Enter the delay time in 10 ms intervals first that must occur before the scan for the seize acknowledge signal begins. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	RMINSZA	0 to 6000	<i>Receive minimum seize acknowledge signal.</i> Enter the minimum time in 10 ms intervals to maintain a received backward seize acknowledge signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	RSZATMO	0 to 6000	<i>Receive seize acknowledge time-out.</i> Enter the maximum time in 10 ms intervals to allow for the reception of a seize acknowledge signal. The seize acknowledge signal follows a seize signal that the system sends. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 500 (5 s).
	RPTSTMO	0 to 6000	<i>Receive PTS time-out.</i> Enter the maximum time in 10 ms intervals to wait for reception of a proceed-to-send (PTS) signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 500 (5 s).

LNSIGSYS type NTLS06 outgoing (continued)

Field descriptions (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	OUTPDEL	0 to 6000	<i>Outpulse pulse delay.</i> Enter the delay in 10 ms intervals that must occur before outpulsing starts. This outpulsing occurs after the system receives the wink PTS signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 7 (70 ms).
	RANSDEL	0 to 6000	<i>Receive answer delay.</i> Enter the maximum delay in 10 ms intervals that must follow outpulsing before a scan for the answer signal. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 20 (200 ms).
	RMINRAN	0 to 6000	<i>Receive minimum reanswer signal.</i> Enter the minimum time in 10 ms intervals to maintain a received backward reanswer signal for recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 3 (30 ms).
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time in 10 ms intervals to maintain the backward release guard signal recognition. Recommended range: 0 to 6000 (0 to 60 s). Default value: 3 (30 ms).
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time in 10 ms intervals to maintain a sent clear forward or a received release guard signal. This maintenance of this signal is to guarantee the far-end disconnection. Recommended range: 10 to 200 (100 ms to 2 s). Default value: 70 (700 ms).

LNSIGSYS type NTLS06 outgoing (end)

Field descriptions (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMINLCKO	0 to 6000	<i>Receive minimum lockout signal.</i> Enter the minimum time in 10 ms intervals to maintain a received backward off-hook signal for lockout recognition. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time in 10 ms intervals to maintain a received forward or backward on-hook signal for recognition as a recovery signal. The on-hook signal is idle. This process allows the trunk to return to the idle state. Recommended range: 0 to 6000 (0 s to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS07 incoming

Signaling type NTLS07 incoming

This section describes the datafill that the operating company can define for the NTLS07 incoming signaling system.

One-way incoming applications from toll exchanges to a DMS-100 use the NTLS07 incoming signaling system. The operation is the same as wink signaling. The operation includes the end-of-selection (EOS), start ringing (SRG), and break-in-request (BIR) signals. This signaling system uses A-bit signaling for standard telephony signals except SRG and BIR signals. The SRG and BIR signals use B-bit signaling. The EOS, SRG and BIR signals make this signaling system compatible with NTLS05. The B-bit signaling blocks and unblocks signals.

Datafill

The datafill for table LNSIGSYS type NTLS07 incoming appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The table can contain a maximum number of 16 line signaling indexes.
SIGTYPE		NTLS07	<i>Signaling type.</i> Enter NTLS07 for the NTLS07 signaling type.
LSSINFO		refer to refinements	<i>Line signaling system information.</i> This field has the refinements that follow.

LNSIGSYS type NTLS07 incoming (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	20	<i>Filter time.</i> Enter 20 for the minimum signal duration time for the detection of a line signal. The duration time must be in units of 2 ms. The system does not recognize a line signal that continues for less than 40 ms. When the entry value is not 20, table control sets the field to 20. The following warning message appears: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 1
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. Default value: 1
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC for the incoming signaling direction.
	RMINSZG	0 to 200	<i>Receive minimum seize signal.</i> Enter the minimum time that a received forward seize signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 200 (0 to 2 s). Default value: 20 (200 ms).
	RMINCLF	1 to 1000	<i>Receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal continues for detection. Recommended range: 1 to 1000 (10 ms to 10 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS07 incoming (continued)

Field descriptions (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time a sent clear forward or a received release guard signal continues to guarantee the far-end disconnection. Enter the time in 10-ms intervals. Recommended range: 10 to 200 (100 ms to 2 s). Default value: 70 (700 ms).
	SPTSTM	10 to 35	<i>Send PTS off-hook timing.</i> Enter the time to maintain the sent backwards proceed to send (PTS) signal pulse (the off-hook pulse). Enter the time in 10-ms intervals. Recommended range: 10 to 35 (100 to 350 ms). Default value: 20 (200 ms).
	SPTSTM2	0 to 6000	<i>Send PTS on-hook timing.</i> Enter the time to maintain the end of the sent backwards PTS signal pulse. Enter the time in 10-ms intervals. This entry defines the time to maintain the on-hook signal after the off-hook pulse.
	SMINEOS	0 to 6000	<i>Send minimum end-of-selection signal.</i> Enter the minimum time to maintain the backward end-of-selection (EOS) signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 5 (50 ms).
	SMINSSF	0 to 6000	<i>Send minimum subscriber free signal.</i> Enter the minimum time to maintain the backward subscriber free signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time to maintain the backward answer signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS07 incoming (continued)**Field descriptions (Sheet 4 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	SMINRAN	0 to 6000	<i>Send minimum reanswer signal</i> . Enter the minimum time to maintain the backward reanswer signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINCLB	0 to 6000	<i>Send minimum clear back signal</i> . Enter the minimum time to maintain the backward clear back signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINRLG	0 to 6000	<i>Send minimum release guard signal</i> . Enter the minimum time to maintain the backward release guard signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RMINFOT	1 to 20	<i>Receive minimum forward transfer signal</i> . Enter the minimum time that a received forward transfer signal maintains for detection. Enter the time in 10-ms intervals. This signal is like the start ringing (SRG) and break-in-request (BIR) signals. Recommended range: 1 to 20 (10 to 200 ms). Default value: 8 (80 ms).
	RMAXFOT	10 to 50	<i>Receive maximum forward transfer signal</i> . Enter the maximum time that a received forward signal continues for detection. Enter the time in 10-ms intervals. This signal is like the SRG and BIR signals. Applications where the ring forward signal is a pulse use this field. The entry in this field defines the upper time limit for the pulse. Recommended range: 10 to 50 (100 to 500 ms). Default value: 20 (200 ms).

LNSIGSYS type NTLS07 incoming (end)

Field descriptions (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time that a received forward or backward blocking signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time that a received forward or backward on-hook (idle) signal continues for detection as a recovery signal. Enter the time in 10-ms intervals. This signal allows the trunk to return to the idle state. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RMINUBL	0 to 6000	<i>Receive minimum unblocking signal.</i> Enter the minimum time that a received forward or backward unblocking signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	SMINBLO	0 to 6000	<i>Send minimum blocking signal.</i> Enter the minimum time that a backward blocking signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time that a backward idle signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 5 (50 ms).

LNSIGSYS type NTLS07 outgoing

Signaling type NTLS07 outgoing

This section describes the datafill that the operating company can define for the NTLS07 outgoing signaling system.

One-way outgoing applications from a DMS-200 to end offices use outgoing NTLS07 signaling systems. The operation is the same as wink signaling. This operation includes the end-of-selection (EOS), start ringing (SRG) and break-in-request (BIR) signals. This line signaling system uses A-bit signaling for all standard telephony signals except SRG and BIR signals. The SRG and BIR signals use B-bit signaling. The EOS, SRG and BIR signals make this line signaling system compatible with NTLS05. The B-bit also blocks and unblocks signals.

Datafill

The datafill for table LNSIGSYS type NTLS07 outgoing appear in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The table can contain a maximum number of 16 line signaling indexes.
SIGTYPE		NTLS07	<i>Signaling type.</i> Enter NTLS07 for the NTLS07 signaling type.
LSSINFO		refer to refinements	<i>Line signaling system information.</i> Descriptions of the refinements that this field has follows.

LNSIGSYS type NTLS07 outgoing (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time for the detection of any line signal. Enter the time in units of 2 ms. The system does not recognize a line signal that continues for less than 40 ms. When the entry value is not 20, table control sets the field to 20. The following warning message appears: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 1
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. Default value: 1
	SIGDIR	OG	<i>Signaling direction.</i> Enter OG for the outgoing signaling direction.
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that the forward seize signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 20 (200 ms).
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time that the clear forward signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS07 outgoing (continued)

Field descriptions (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time that a sent clear forward or a received release guard signal continues to guarantee the far-end disconnection. Enter the time in 10-ms intervals. Recommended range: 10 to 200 (100 ms to 2 s). Default value: 70 (700 ms).
	RPTSDEL	0 to 6000	<i>Receive PTS delay.</i> Enter the delay time before the start of a scan for the proceed-to-send (PTS) signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RPTSTMO	0 to 6000	<i>Receive PTS time-out.</i> Enter the maximum time to wait for the reception of a PTS signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 500 (5 s).
	RMINPTS	8 to 20	<i>Receive minimum PTS signal.</i> Enter the minimum length of a received backward PTS signal pulse (wink). Enter the time in 10-ms intervals. Recommended range: 8 to 20 (80 to 200 ms) . Default value: 10 (100 ms).
	RMAXPTS	20 to 35	<i>Receive maximum PTS signal.</i> Enter the maximum length of a received backward PTS signal pulse (wink). Enter the time in 10-ms intervals. Recommended range: 20 to 35 (200 to 350 ms). Default value: 35 (350 ms).
	OUTPDEL	0 to 6000	<i>Outpulse delay.</i> Enter the time to delay before outpulsing begins. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 7 (70 ms).

LNSIGSYS type NTLS07 outgoing (continued)**Field descriptions (Sheet 4 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	RANDEL	0 to 6000	<i>Receive answer delay.</i> Enter the maximum delay that follows an outpulse before the scan for the answer signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 20 (200 ms).
	SFOTTM	5 to 50	<i>Send forward transfer pulse time.</i> Enter the length of the ring forward wink signal sent forward. Enter the time in 10-ms intervals. This signal is like the start ringing (SRG) and break-in-request (BIR) signals. Recommended range: 5 to 50 (50 to 500 ms). Default value: 12 (120 ms).
	SFOTTM2	5 to 50	<i>Send forward transfer time.</i> Enter the length that the trailing edge of the ring forward wink signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 5 to 50 (50 to 500 ms). Default value: 10 (100 ms).
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time that the backward release guard signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 3 (30 ms).
	RMINLCKO	0 to 6000	<i>Receive minimum lockout signal.</i> Enter the minimum time that a received backward off-hook signal continues for detection as a lockout signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS07 outgoing (end)

Field descriptions (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal</i>. Enter the minimum time that a received forward or backward on-hook (idle) signal continues for detection as a recovery signal. Enter the time in 10-ms intervals. Enter the time. This signal allows the trunk to return to the idle state. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms)
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal</i>. Enter the minimum time that a received forward or backward blocking signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms)
	RMINUBL	0 to 6000	<i>Receive minimum unblocking signal</i>. Enter the minimum time that a received forward or backward unblocking signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	SMINIDL	0 to 6000	<i>Send minimum idle signal</i>. Enter the minimum time that a backward idle signal continues for detection. Enter in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 5 (50 ms).

LNSIGSYS type NTLS08 incoming

Signaling type NTLS08 incoming

This section describes the datafill that the operating company can define for the NTLS08 incoming signaling system.

The NTLS08 incoming signaling system is for the use of one-way incoming applications that use E&M signaling. These applications are from VISA to DMS-200. The operation of the NTLS08 and the NTLS04 for incoming signals is similar. The operation uses a wink for the proceed-to-send (PTS) and does not have end-of-digits (EOD) signal. Telephony signals in the protocol of this line signaling system use A-bit signaling.

Datafill

The datafill for table LNSIGSYS type NTLS08 incoming appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index defined by the operating company. This field is the key to table LNSIGSYS. The table can contain a maximum number of 16 line signaling indexes.
SIGTYPE		NTLS08	<i>Signaling type .</i> Enter NTLS08 for the NTLS08 signaling type.
LSSINFO		refer to refinements	<i>Line signaling system information.</i> Descriptions of the refinements that this field has follow.
	FILTERTM	20	<i>Filter time.</i> Enter 20 for the minimum signal duration time for the detection of a line signal. Enter the time in units of 2 ms. The system does not recognize a line signal that continues for less than 40 ms. When the entry value is not 20, table control sets the field to 20. The following warning message appears: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).

LNSIGSYS type NTLS08 incoming (continued)

Field descriptions (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 0
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time that an idle signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	LSSDIR	IC, OG, or 2W	<i>Line signaling system direction.</i> Enter the signaling direction of the trunk. Enter IC for incoming, OG for outgoing or 2W for two-way.
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC for the incoming signaling direction. Default value: IC
	SPTSTM	10 to 35	<i>Send PTS off-hook timing.</i> Enter the time to maintain the sent backwards proceed-to-send (PTS) signal (the off-hook wink start pulse). Enter the time in 10-ms intervals. Recommended range: 10 to 35 (100 to 350 ms) . Default value: 20 (200 ms).
	SPTSTM2	0 to 6000	<i>Send PTS on-hook timing.</i> Enter the time to maintain the end of the sent backwards PTS signal pulse. Enter the time in 10-ms intervals. This is the time to maintain on-hook after the off-hook wink start pulse. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time to continue the backward answer (ANS) signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS08 incoming (continued)

Field descriptions (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time to maintain the backward clear back signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 16 (160 ms).
	SMINRLG	0 to 6000	<i>Send minimum release guard signal.</i> Enter the minimum time to maintain the backward release guard signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 16 (160 ms).
	SMINRMB	0 to 6000	<i>Send minimum remote make busy.</i> Enter the minimum duration of the sent remote make busy signal. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RMINSZG	0 to 200	<i>Receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 200 (0 to 2 s). Default value: 10 (200 ms).
	RMINCLF	1 to 1000	<i>Receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal continues for detection. Enter in 10-ms intervals. Recommended range: 1 to 1000 (10 ms to 10 s). Default value: 16 (160 ms).

LNSIGSYS type NTLS08 incoming (end)

Field descriptions (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RCLFTMO	0 to 6000	<i>Receive clear forward time-out.</i> Enter the maximum time that the trunk waits for a received clear forward (CLF) signal or a reanswer (RAN) signal. Enter the time in 10-ms intervals. These signals follow a sent clear back (CLB) signal. This value is the incoming lockout time when the following occurs: - the originator receives the CLB - the receipt of a CLF in return does not occur - the reception of a RAN from the terminator does not occur An entry of 0 indicates timing is not present and the maximum wait time is without limit. Recommended range: 0 to 6000 (0 to 60 s). Default value: 3000 (30 s).
	RANSTIMR	0 to 6000	<i>Receive answer timer.</i> Enter the minimum time that the answer signal continues for detection. Enter the time in 10-ms intervals. Recommended range: 0 to 6000 (0 to 60 s). Default value: 20 (200 ms).

LNSIGSYS type NTLS08 outgoing

Signaling type NTLS08 outgoing

Datafill the operating company can define for the NTLS08 outgoing signaling system appears in this section.

The NTLS08 outgoing signaling system is for one-way outgoing applications where E&M signaling is in use. This one-way outgoing is from a DMS-200 to VISA. This system is like NTLS03 for outgoing signals. This system does not have B-bit signals. Telephony signals in the protocol of this line signaling system use A-bit signaling only.

Datafill

Datafill for table LNSIGSYS type NTLS08 outgoing appears in the following table.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS08	<i>Signalingtype.</i> Enter NTLS08 for the NTLS08 line signaling type.
LSSINFO		refer to refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time, in units of 2 ms, to detect a line signal. The system does not recognize a line signal that persists for less than 40 ms. If the value you enter is not 20, table control sets the field to 20. The following warning message appears: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).

LNSIGSYS type NTLS08 outgoing (continued)

Field descriptions (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 0
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time, in 10 ms intervals, to maintain an idle signal. The time must allow the system to recognize the signal Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	LSSDIR	IC, OG, or 2W	<i>Line signaling system direction.</i> Enter the signaling direction of the trunk. Enter IC for incoming, OG for outgoing or 2W for two-way.
	SIGDIR	OG	<i>Signaling direction.</i> Enter OG for the outgoing signaling direction. Default value: IC
	SMINSZG	0 to 6000	<i>Send minimum seize signal .</i> Enter the minimum time, in 10 ms intervals, to maintain the forward seize signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time, in 10 ms intervals, to maintain the forward clear forward signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 16 (160 ms).
	RANDEL	0 to 6000	<i>Receive answer delay.</i> Enter the maximum delay after outpulsing, in 10 ms intervals, before the system scans for the answer signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 20 (200 ms).

LNSIGSYS type NTLS08 outgoing (end)

Field descriptions (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time, in 10 ms intervals, to maintain the backward release guard signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 16 (160 ms).
	RMINLCKO	0 to 6000	<i>Receive minimum lockout signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received backward off-hook signal. The time must allow the system to recognize the signal as a lockout signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received forward on-hook, idle, signal. The time must allow the system to recognize the signal. This action allows the trunk to return to an idle state. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time, in 10 ms intervals, to wait before you return the line to an idle state after the call clears. Recommended range: 10 to 200 (100 ms to 2 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS09 incoming

Signaling type NTLS09 incoming

Datafill the operating company defines for the NTLS09 incoming signaling system appears in this section.

The NTLS09 incoming signaling system is for one-way incoming direct current (dc) loop signaling trunks. These trunks support malicious call trace for the Turkish network. The signaling system is in use between the DMS-100 local offices and the DMS-100 offices that connect to non-DMS-100 local offices. Telephony signals in the protocol of this line signaling system use A-bit and B-bit signaling.

Datafill

Datafill for table LNSIGSYS type NTLS09 incoming appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric 1 to 16 characters	<i>Line signaling index.</i> Enter the signaling system index the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS09	<i>Signaling type.</i> Enter NTLS09 for the NTLS09 signaling type.
LSSINFO		refer to refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time, in units of 2 ms, to detect a line signal. The system does not recognize a line signal that persists for less than 40 ms. If the value you enter is not 20, table control sets the field to 20. The following warning message appears: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).

LNSIGSYS type NTLS09 incoming (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 1
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. Default value: 1
	LSSDIR	IC, OG, or 2W	<i>Line signaling system direction.</i> Enter the signaling direction of the trunk. Enter IC for incoming, OG for outgoing or 2W for two-way.
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC for the incoming signaling direction. Default value: OG
	SIDLTM	0 to 6000	<i>Send minimum backward idle signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a backward idle signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s) Default value: 10 (10 ms).
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received blocking signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received forward or backward on-hook (idle) signal. The time must allow the system to recognize the signal. This action allows the trunk to return to the idle state. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS09 incoming (continued)

Field descriptions (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RMINUBL	0 to 6000	<i>Receive minimum unblocking signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received backward unblocking signal, for the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	SWNKTM	0 to 6000	<i>Send wink off-hook time.</i> Enter the minimum time, in 10 ms intervals, to maintain the off-hook allocation of the wink signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 15 (150 ms).
	SWNKTM2	0 to 6000	<i>Send wink on-hook time.</i> Enter the minimum time, in 10 ms intervals, to maintain the on-hook part of the wink signal. Recommended range: 0 to 6000 (0 to 60). Default value: 1 (10 ms).
	SDCRTM	0 to 6000	<i>Send destination control request pulse time.</i> Enter the minimum time, in 10 ms intervals, to maintain the off-hook part of the destination control request signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SANSTM	0 to 6000	<i>Send answer time.</i> Enter the minimum time, in 10 ms intervals, to maintain the sent answer signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SMCTTM	0 to 6000	<i>Send malicious call trace time.</i> Enter the minimum time, in 10 ms intervals, to maintain the sent malicious call trace signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS09 incoming (end)

Field descriptions (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SCLBTM	0 to 6000	<i>Send clear back time.</i> Enter the minimum time, in 10 ms intervals, to maintain the backward clear back signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SRLGTM	0 to 6000	<i>Send release guard time.</i> Enter the minimum time, in 10 ms intervals, to maintain the backward release guard signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	SBLOTM	0 to 6000	<i>Send blocking signal time.</i> Enter the minimum time, in 10 ms intervals, to maintain the backward blocking signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RMINSZG	0 to 200	<i>Receive minimum seize signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received forward seize signal. The time must allow the system to recognize the signal. Recommended range: 0 to 200 (0 to 2 s). Default value: 20 (200 ms).
	RMINCLF	1 to 1000	<i>Receive minimum clear forward signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received clear forward signal. The time must allow the system to recognize the signal. Recommended range: 1 to 1000 (10 ms to 10 s). Default value: 21 (210 ms).

LNSIGSYS type NTLS09 outgoing

Signaling type NTLS09 outgoing

Datafill the operating company defines for the NTLS09 outgoing signaling system appears in this section.

The NTLS09 outgoing signaling system is for one-way outgoing direct current (dc) loop signaling trunks. These trunks support malicious call trace for the Turkish network. This signaling system is in use between DMS-100 local offices and DMS-100 offices. These offices connect to non-DMS-100 local offices. Telephony signals in the protocol of this line signaling system use A-bit and B-bit signaling.

Datafill

Datafill for table LNSIGSYS type NTLS09 outgoing appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric 1 to 16 characters	<i>Line signaling index.</i> Enter the signaling system index the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS09	<i>Signaling type.</i> Enter NTLS09 for the NTLS09 signaling type.
LSSINFO		refer to refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time, in units of 2 ms, to detect a line signal. The system does not recognize a line signal that persists for less than 40 ms. If the value you enter is not 20, table control sets the field to 20. The following warning message appears: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).

LNSIGSYS type NTL09 outgoing (continued)

Field descriptions (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. Default value: 1
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. Default value: 1
	LSSDIR	IC, OG, or 2W	<i>Line signaling system direction.</i> Enter the signaling direction of the trunk. Enter IC for incoming, OG for outgoing, or 2W for two-way.
	SIGDIR	OG	<i>Signaling direction.</i> Enter OG for the outgoing signaling direction. Default value: OG
	SIDLTM	0 to 6000	<i>Send minimum backward idle signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a backward idle signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (10 ms).
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received B-bit blocking signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received forward or backward on-hook (idle signal). The time must allow the system to recognize the signal. This action allow the trunk to return to the idle state. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS09 outgoing (continued)

Field descriptions (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMINUBL	0 to 6000	<i>Receive minimum unblocking signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received B-bit unblocking signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms).
	SSZGTM	0 to 6000	<i>Send seize signal time.</i> Enter the minimum time, in 10 ms intervals, to maintain the forward seize signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 1 (10 ms).
	SCLFTM	0 to 6000	<i>Send clear forward signal time.</i> Enter the minimum time, in 10 ms intervals, to maintain the clear forward signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RMINWNK	8 to 20	<i>Receive minimum wink signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received backward wink (proceed-to-send) signal. The time must allow the system to recognize the signal. Recommended range: 8 to 20 (80 to 200 ms). Default value: 10 (100 ms).
	RMAXWNK	20 to 35	<i>Receive maximum wink.</i> Enter the maximum time, in 10 ms intervals, to maintain a received backward wink signal. The time must allow the system to recognize the signal. Recommended range: 20 to 35 (200 to 350 ms). Default value: 35 (350 ms).
	RWNKTMO	0 to 6000	<i>Receive wink time-out.</i> Enter the maximum time, in 10 ms intervals, to wait for receipt of a backward wink signal. This action occurs after a seizure signal transmits and after the time field RWNKDEL specifies. Recommended range: 0 to 6000 (0 to 60 s). Default value: 500 (5 s).

LNSIGSYS type NTLS09 outgoing (continued)

Field descriptions (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMINDCR	8 to 20	<i>Receive minimum destination control request.</i> Enter the minimum length, in 10 ms intervals, of a received backward destination control request pulse. Recommended range: 8 to 20 (80 to 200 ms). Default value: 8 (80 ms).
	RMAXDCR	20 to 35	<i>Receive maximum destination control request.</i> Enter the maximum length, in 10 ms intervals, of a received backward destination control request pulse. Recommended range: 20 to 35 (200 to 350 ms). Default value: 20 (200 ms).
	OUTPDEL	0 to 6000	<i>Outpulse pulse delay.</i> Enter the delay, in 10 ms intervals, before you start outpulsing after the wink, proceed-to-send, signal is received. Recommended range: 0 to 6000 (0 to 60 s). Default value: 7 (70 ms).
	RANSDEL	0 to 6000	<i>Receive answer delay.</i> Enter the maximum delay following outpulsing, in 10 ms intervals, before the system scans for the answer signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 20 (200 ms).
	RMINRAN	0 to 6000	<i>Receive minimum reanswer signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received backward reanswer signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 3 (30 ms).
	RMINMCT	0 to 6000	<i>Receive minimum malicious call trace signal.</i> Enter the minimum time, in 10 ms intervals, to maintain the malicious call trace signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS09 outgoing (end)

Field descriptions (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMCTRLS	0 to 6000	<i>Receive minimum malicious call trace release signal.</i> Enter the minimum time, in 10 ms intervals, to maintain the malicious call trace release signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 50 (500 ms)
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time, in 10 ms intervals, to maintain the backward release guard signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 3 (30 ms).
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time, in 10 ms intervals, to maintain a sent clear forward or a received release guard signal. This time guarantees the far-end disconnection. Recommended range: 10 to 200 (100 ms to 2 s). Default value: 70 (700 ms).
	RMINLCKO	0 to 6000	<i>Receive minimum lockout signal.</i> Enter the minimum time, in 10 ms intervals, to maintain a received backward off-hook signal. The time must allow the system to recognize the signal. Recommended range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).

LNSIGSYS type NTLS10

Signaling type NTLS10

This section describes the datafill that the operating company can define for the NTLS10 signaling system.

The outgoing and incoming trunks that use loop disconnect signaling use the NTLS10 signaling system. The interworking on the Caribbean expansion project (CEP) requires this signaling system.

Loop disconnect signaling is a way to transmit supervisory and address information on a trunk circuit. The interworking process uses NTLS20 signaling system. Use of this signaling system occurs between step-by-step (SXS) equipment and the DMS-100 central office through an Ericsson channel bank.

Loop disconnect signaling is a two-wire direct current (dc) continuous signaling system of the immediate-start type.

The system derives signals from the on-hook and off-hook conditions of the subscriber telephone set. This action results in a series of loops and disconnections. When the customer picks up the receiver, an off-hook condition results. This process forms a loop that allows current to flow. Each dialed digit results in on-hook pulses that represent the digit. On-hook pulses are break pulses.

An interdigit pause (IDP) indicates the end of a train of pulses. The end of a train of pulses can be the end of a digit. An example of an IDP is an off-hook signal of greater time than the make time between pulses.

The originator is the controlling party in this application. A clear-back signal from the terminator has a time-out value on reanswer. If the originator remains off-hook after the clear-back signal, the terminating party can establish the call again. To establish the call again, the terminating party must go off-hook before the time-out value expires. The off-hook condition results when the terminating party answers the call again. If the time-out limit expires, the system force-clears the call.

This digital application uses A-bits and B-bits to receive and transmit digital codes. The A-bits and B-bits are part of an ABCD-bit facility in time slot 16 of a PCM30 system. A primary multiplexer converts the outgoing digital codes to three-wire analog signals. The primary multiplexer also converts the incoming signals to three-wire analog signals. A primary multiplexer is a channel bank.

LNSIGSYS type NTLS10 (continued)

This digital installation does not use the C-bits and D-bits to receive and transmit digital codes. These C-bits and D-bits are set to 11.

Note: Manual hold (MHD) uses the C-bit.

The primary multiplexer performs analog and digital conversion as follows:

- digital code → analog signal
- analog signal → διγital code

For example, the digital code for a line seizure can transmit over the A-bits and B-bits. When this digital code transmits over these bits, a signal from circuit idle to circuit seized occurs. The signal changes from on-hook to off-hook.

Line signals normally continue because this signaling system is continuous signaling system. Outgoing and incoming circuits require only minimum timing.

Datafill

Datafill for table LNSIGSYS type NTLS10 appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index. The operating company defines this index. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS10	<i>Signaling type.</i> Enter NTLS10 for the NTLS10 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements. Descriptions of these refinements follow.

LNSIGSYS type NTLS10 (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time for the detection of any line signal. The time is in units of 2 ms. The system does not recognize any line signal that persists for less than 40 ms. If you do not enter the value 20, table control sets the field to 20. Table control generates the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms) Default value: 20 (40 ms)
	DIRECTION	see subfields	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	IC or OG	<i>Signaling direction.</i> Enter IC for the incoming signaling direction. You do not need to enter data in any refinements. Enter OG for the outgoing signaling direction. Enter data in the following refinements: • ORMNANS • ORMNCLB • ORMNBLK • ORMNUBK • ORMXCLB • ORMNSZA • ORMXSZA • ORMXRAN • ORMNMHD A description of this process follows. Default value: OG

LNSIGSYS type NTLS10 (continued)**Field descriptions (Sheet 3 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	ORMNANS	50 to 1000	<i>Outgoing receive minimum answer signal recognition time.</i> Enter the minimum maintenance time in which the recognition of an answer signal can occur. This time is in 2-ms intervals Recommended range: 50 to 1000 (100 ms to 2 s). Default value: 50 (100 ms)
	ORMNCLB	50 to 1000	<i>Outgoing receive minimum clear back signal.</i> Enter the minimum maintenance time in which the recognition of a received clear-back signal can occur. This time is in 2-ms intervals. Recommended range: 50 to 1000 (100 ms to 2 s). Default value: 50 (100 ms)
	ORMNBLK	250 to 2500	<i>Outgoing receive minimum blocking signal.</i> Enter the minimum time of maintenance in which the recognition of a received blocking signal can occur. This time is in 2-ms intervals Recommended range: 250 to 2500 (500 ms to 5 s). Default value: 500 (1 s)
	ORMNUBK	250 to 2500	<i>Outgoing receive minimum unblocking signal .</i> Enter the minimum maintenance time in which the recognition of a received unblocking signal can occur. This time is in 2-ms intervals. Recommended range: 250 to 2500 (500 ms to 5 s) . Default value: 500 (1 s)
	ORMXCLB	50 to 1000	<i>Outgoing receive maximum clear back signal .</i> Enter a maximum wait time. This time is in 2-ms intervals. This time is the time that the system must wait between the transmission of a clear-forward signal and the clear back signal. If the time expires and the system does not receive a clear back signal, the system assumes the circuit has faults. Recommended range: 50 to 1000 (100 ms to 2 s) . Default value: 350 (700 ms)

LNSIGSYS type NTLS10 (end)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	ORMNSZA	50 to 1000	<i>Outgoing receive minimum seize acknowledge.</i> Enter the minimum maintenance time in which the recognition of a seize-acknowledge signal can occur. This time is in 2-ms intervals Recommended values: 50 to 100 (100 to 200 ms) . Default value: 50 (100 ms)
	ORMXSZA	50 to 1000	<i>Outgoing receive maximum seize-acknowledge.</i> Enter the maximum time that the system must wait for the reception of a seize-acknowledge signal. This time is in 2-ms intervals. Recommended range: 50 to 1000 (100 ms to 2 s) . Default value: 350 (700 ms)
	ORMXRAN	500 to 30000	<i>Outgoing receive maximum reanswer.</i> Enter the maximum time that the system must wait for a reanswer. This time is in 2-ms intervals. If the reanswer does not occur before this time expires, the system force-clears the call. Recommended range: 500 to 30000 (1 to 60 s) . Default value: 5000 (10 s)
	ORMNHLD	50 to 1000	<i>Outgoing receive minimum manual hold.</i> Enter the minimum maintenance time in which the recognition of a manual hold signal can occur. This time is in 2-ms intervals. Recommended range: 50 to 1000 (100 ms to 2 s) . Default value: 50 (100 ms)

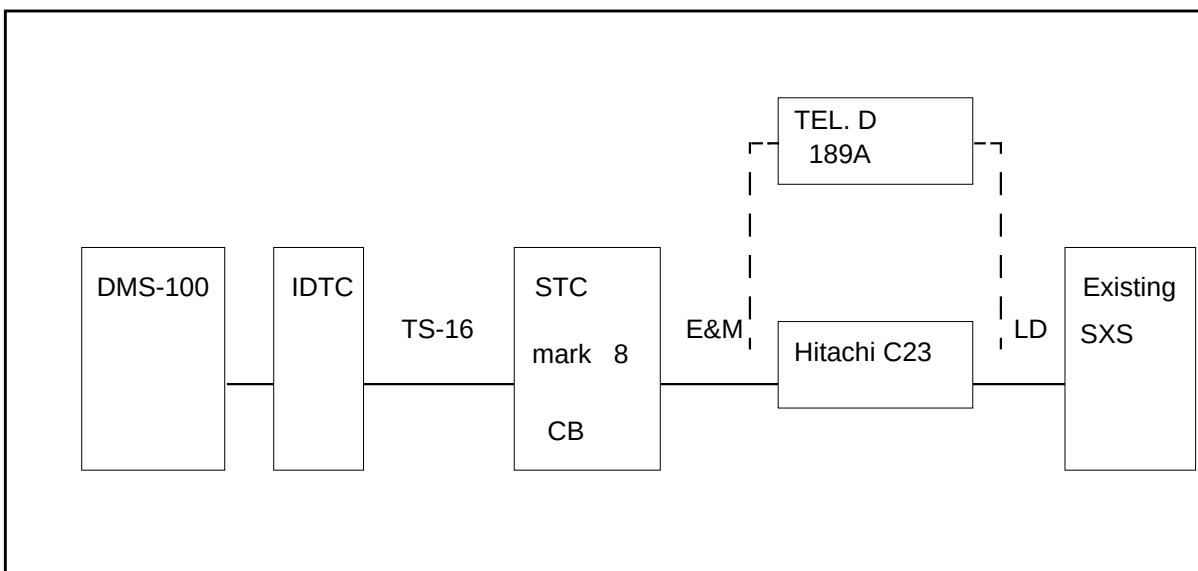
LNSIGSYS type NTLS11 incoming

Signaling type NTLS11 incoming

Datafill that the operating company defines for the NTLS11 incoming signaling system appears in this section.

The NTLS11 signaling system is for incoming and outgoing trunks that use E&M signaling. The NTLS11 signaling system does not support two-way E&M trunks. Interworking in the Caribbean expansion project requires E&M signaling. The E&M signaling functions first with a signaling terminal controller (STC) mark 8 channel bank (CB). The interworking in the Caribbean expansion project appears in the following figure.

Interworking in the Caribbean expansion project



The system converts the digital codes in time slot 16 (TS-16) of the PCM30 international digital trunk controller (IDTC) system to E&M signals. This conversion occurs in the channel bank. The TEL.D or Hitachi converters convert the E&M signals to loop disconnect signals for the step-by-step (SXS) exchange.

The line signals are digitized E&M type encoded in time slot 16 of the PCM30 system. The register signals are dial pulses. The system transmits and receives these dial pulses in time slot 16.

The analog interface is a four-wire E&M channel unit in the STC mark 8 channel bank. The system conveys the dial pulses on the M (transmit) lead for

LNSIGSYS type NTLS11 incoming (continued)

outpulsing from the DMS. The system conveys the dial pulses on the E (receive) lead for reception from the SXS.

The system derives the signals the on-hook and off-hook conditions of the telephone set of the subscriber. The conditions on the E&M leads for on-hook and off-hook conditions appear in the following table. The E&M leads are on the analog side of the multiplexer.

On- and off-hook E&M signaling conditions

Conditions	M lead	E lead
On-hook	Open	Open
Off-hook	Earth	Earth

A TEL.D 189A or a Hitachi C23 SA-2BWT converter converts the E&M signals to loop disconnect signals. The system sends these signals to the SXS exchange.

In this digital implementation, the system only transmits and receives the codes on the A-bit of the ABCD-bit facility. This ABCD-bit facility is in time slot 16 of the PCM30 system. The channel bank converts the outgoing digital codes to M lead analog signals. The channel bank converts the incoming E lead signals to the digital codes for the DMS. The value of the B-bits, C-bits, and D-bits are always 1, 0, and 1, in this order. The digital codes the STC mark 8 channel bank uses, appear in the following table.

Codes used by the STC mark 8

Conditions	Transmit ABCD	Receive ABCD
On-hook	1101	1101
Off-hook	0101	0101

LNSIGSYS type NTLS11 incoming (continued)

Datafill

Datafill for table LNSIGSYS type NTLS11 incoming appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric 1 to 16 characters	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. You can add a maximum number of 16 line signaling indexes to this table.
SIGTYPE		NTLS11	<i>Signaling type.</i> Enter NTLS11 for the NTLS11 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that follow.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time to detect any line signal. This signal duration time is in units of 2 ms. The system does not recognize a line signal that continues for less than 40 ms. If you do not enter a value of 20, table control sets the field to 20. The following warning message appears: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. Recommended setting: 20 (40 ms). Default value: 20 (40 ms).
	IDLEPOL	0 or 1	<i>Idle A-bit polarity.</i> Enter the polarity of the idle A-bit. Default value: 1
	DIRECTION	see subfields	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	IC	<i>Signal direction.</i> Enter IC for the incoming signaling direction.

LNSIGSYS type NTLS11 incoming (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	IRMNSZG	50 to 1000	<i>Incoming receive minimum seize signal.</i> Enter the minimum time that a received forward seize signal must occur for the system to recognize the signal. This time is in 2 ms intervals. Recommended range: 50 to 1000 (100 ms to 2 s). Default value: 100 (200 ms).
	IRMNCLF	50 to 1000	<i>Incoming receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal must occur for the system to recognize the signal. This time is in 2 ms intervals. Recommended range: 50 to 1000 (100 ms to 2 s). Default value: 100 (200 ms).

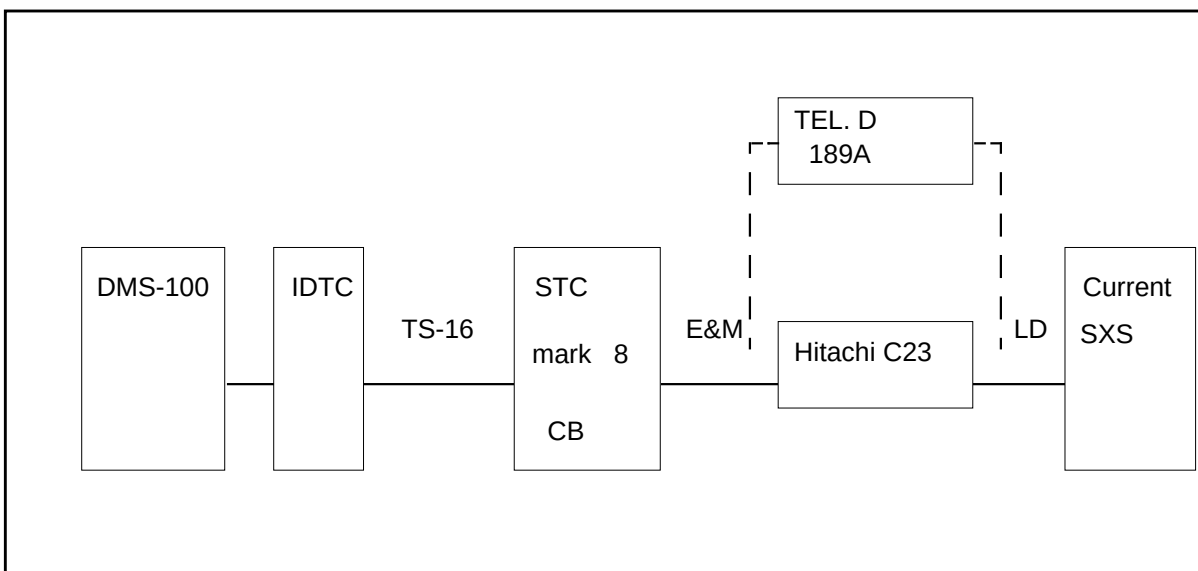
LNSIGSYS type NTLS11 outgoing

Signaling type NTLS11 outgoing

Datafill the operating company can define for the NTLS11 outgoing signaling system appears in this section.

The NTLS11 signaling system is for incoming and outgoing trunks that use E&M signaling. The system does not support two-way E&M trunks. The E&M signaling is a requirement for interworking in the Caribbean expansion project. The E&M signaling is in use with an signaling terminal controller (STC) mark 8 channel bank (CB) first. The interworking appears in the following figure.

Interworking in the Carribean expansion project



The digital codes in time slot 16 (TS-16) of the PCM30 international digital trunk controller (IDTC) system convert to E&M signals in the channel bank. The TEL.D or Hitachi converters convert the E&M signals to loop disconnect signals for the step-by-step (SXS) exchange.

The line signals are digitized E&M type that are coded in time slot 16 of the PCM30 system. The register signals are dial pulses that time slot 16 transmits and receives.

The analog interface is a four-wire E&M channel unit in the STC mark 8 channel bank. The dial pulses are conveyed on the M, transmit, lead for

LNSIGSYS type NTLS11 outgoing (continued)

outpulsing from the DMS. The dial pulses are conveyed on the E, receive, lead for reception from the SXS.

The signals come from the on-hook and off-hook conditions of the telephone set of the subscriber. The conditions of the E&M leads appear in table 1. The E&M leads are on the analog side of the multiplexer, for on-hook and off-hook conditions.

On-hook and off-hook E&M signaling conditions

Conditions	M lead	E lead
On-hook	Open	Open
Off-hook	Earth	Earth

A TEL.D 189A or a Hitachi C23 SA-2BWT converter converts the E&M signals. The converters convert the E&M signals to loop disconnect signals that go to the SXS exchange.

In this digital application, the A-bit of the ABCD-bit facility transmits and receives the codes. The ABCD facility is in time slot 16 of the PCM30 system. The channel bank converts the outgoing digital codes into M lead analog signals. The channel bank converts the incoming E lead signals to the digital codes for the DMS. The B-bits, C-bits and D-bits are set to 1, 0 and 1, in that order. The digital codes that the STC mark 8 channel bank uses appear in the following table.

Codes used by the STC mark 8

Conditions	Transmit ABCD	Receive ABCD
On-hook	1101	1101
Off-hook	0101	0101

LNSIGSYS type NTLS11 outgoing (continued)

Datafill

Datafill for table LNSIGSYS type NTLS11 outgoing appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric 1 to 16 characters	<i>Line signaling index.</i> Enter the signaling system index the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS11	<i>Signaling type.</i> Enter NTLS11 for the NTLS11 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time to detect any line signal. The time is in units of 2 ms. The system does not recognize a line signal that occurs for less than 40 ms. If the value you enter is not 20, table control sets the field to 20 and gives the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20, 40 ms. The default value is 20, 40 ms.
	IDLEPOL	0 or 1	<i>Idle A-bit polarity.</i> Enter the polarity of the A-bit when idle. Default value: 1
	DIRECTION	see subfields	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	OG	<i>Signal direction.</i> Enter OG for the outgoing signaling direction.

LNSIGSYS type NTLS11 outgoing (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	ORMNANS	50 to 1000	<i>Outgoing receive minimum answer signal recognition time.</i> Enter the minimum time the answer signal must occur. The time is in 2-ms intervals for the system to recognize the signal. The recommended range is 50 to 1000, 100 ms to 2 s. The default value is 100, 200 ms.
	ORMNCLB	50 to 1000	<i>Outgoing receive minimum clear back signal.</i> Enter the minimum duration time before the system recognizes a clear back signal. The time is in 2-ms intervals. The recommended range is 50 to 1000, 100 ms to 2 s. The default value is 100, 200 ms.
	ORMNBLK	50 to 1000	<i>Outgoing receive minimum blocking signal.</i> Enter the minimum time a received blocking signal must occur for the system to recognize the signal. The time is in 2-ms intervals. The recommended range is 50 to 1000, 100 ms to 2 s. The default value is 500, 1 s.
	ORMNUBK	50 to 1000	<i>Outgoing receive minimum unblocking signal .</i> Enter the minimum time a received unblocking signal must occur for the system to recognize the signal. The time is in 2-ms intervals. The recommended range is 50 to 1000, 100 ms to 2 s. The default value is 500, 1 s.
	ORMNPSP	25 to 500	<i>Outgoing receive minimum presending pause .</i> Enter the minimum presending pause to allow for the operating delay of the SXS exchange. This action occurs after the system signals the seizure. The recommended value is 25 to 500, 50 ms to 1 s. The default value is 150, 300 ms.

LNSIGSYS type NTLS14

Signaling type NTLS14

The description of the datafill that the operating company can define for the NTLS14 signaling system appears in this section.

The semi-permanent connection trunks use the NTLS14 signaling system. The Caribbean expansion project and international switching units use this signaling system. This signaling type ignores the signaling parameters.

Datafill

Datafill for table LNSIGSYS type NTLS14 appears in the following table.

xxxField descriptions

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS15	<i>Signaling type.</i> Enter NTLS15 for the NTLS15 signaling type.
LSSINFO		see to refinement	<i>Line signaling system information.</i> This field contains refinement FILTERTM.
	FILTERTM	20	<i>Filter time.</i> Enter 20 for the minimum signal period time to detect any line signal. The value is in units of 2 ms. The system does not recognize a line signal that occurs for less than 40 ms. If the value you enter is not 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20 (40 ms). The default value is 20 (40 ms).

LNSIGSYS type NTLS15 incoming

Signaling type NTLS15 incoming

The description of the datafill that the operating company can define for the NTLS15 incoming signaling system appears in this section.

The one-way incoming international traffic operator position (ITOPS) or metering (MTR) trunks use the NTLS15 incoming signaling system. The MTR trunks support operator control of disconnect, and not originator control. The MTR trunks support operator ringback and operator ring forward. International DMS-100 and international DMS-200 switching units use this signaling to implement international TOPS applications. This signaling system can support delay-dial start or wink start signals.

Datafill

Datafill for table LNSIGSYS type NTLS15 incoming appears in the following table.

Field descriptions (Sheet 1 of 6)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS15	<i>Signaling type.</i> Enter NTLS15 for the NTLS15 signaling type.
LSSINFO		see to refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal period time to detect a line signal. Enter the signal period time in units of 2 ms. The system does not recognize line signal that occurs for less than 40 ms. If the value you enter is not 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20 (40 ms). The default value is 20 (40 ms).

LNSIGSYS type NTLS15 incoming (continued)

Field descriptions (Sheet 2 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when the trunk is in the defined idle state. The default value is 1.
	DIRECTION	see to subfield	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC for the incoming signaling direction. Default value: IC
	SIDLTM	0 to 6000	<i>Send minimum backward idle signal.</i> Enter the minimum time that a backward idle signal must continue for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	SFOTTM	5 to 50	<i>Send forward transfer pulse time.</i> Enter the length of the ring forward wink signal the system sends forward. Enter the length in 10 ms intervals. This signal has the same meaning as the start ringing and break in request signals. The recommended range is 5 to 50 (50 to 500 ms). The default value is 12 (120 ms).
	SFOTTM2	0 to 6000	<i>Send forward transfer time.</i> Enter the length that the ring-forward end of the wink signal the system sends forward occurs. Enter the length in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINFOT	0 to 6000	<i>Receive minimum forward transfer signal.</i> Enter the minimum time that a received forward transfer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. This signal has the same meaning as the start ringing and break-in-request signals. The recommended range is 1 to 20 (10 to 200 ms). The default value is 8 (80 ms).

LNSIGSYS type NTLS15 incoming (continued)

Field descriptions (Sheet 3 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	RMAXFOT	0 to 6000	<i>Receive maximum forward transfer signal.</i> Enter the maximum time that a received forward signal must occur for the system to recognize the signal. Enter the maximum time in 10 ms intervals. This signal is the same as the start ringing and break-in-request signals. This field is for use in applications where the ring forward signal is a pulse. The entry in this field defines the upper time limit for the pulse. The recommended range is 10 to 50 (100 to 500 ms). The default value is 20 (200 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal.</i> Enter the minimum time a received forward or backward on-hook (idle) signal must occur to be recognized as a recovery signal. The recovery signal allows the trunk to return to the idle state. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time a sent clear forward or a received release guard signal must occur to guarantee the far-end disconnection. Enter the minimum time in 10 ms intervals. This value makes sure that the system does not idle the outgoing trunk before the incoming end completes the release sequence. The recommended range is 10 to 200 (100 ms to 2 s). The default value is 70 (700 ms).
	RMINRAN	0 to 6000	<i>Receive minimum reanswer signal.</i> Enter the minimum time that a received backward reanswer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 3 (30 ms).

LNSIGSYS type NTLS15 incoming (continued)

Field descriptions (Sheet 4 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	SMINSZA	0 to 6000	<i>Send minimum backward seizure signal.</i> Enter the minimum time that a backward seize acknowledge signal, or delay-dial start, must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 3 (30 ms).
	SMINPTS	0 to 6000	<i>Send minimum backward PTS.</i> Enter the minimum time that a backward proceed-to-send (PTS) signal (delay-dial start) must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SPTSTM	10 to 35	<i>Send PTS off-hook timing.</i> Enter the time to maintain the sent backwards PTS signal, the off-hook wink start pulse. Enter the time in 10 ms intervals. The recommended range is 10 to 35 (100 to 350 ms). The default value is 15 (150 ms).
	SPTSTM2	0 to 6000	<i>Send PTS on-hook timing.</i> Enter the time to maintain the end of the sent backwards PTS signal pulse. The sent backwards PTS signal pulse is the time to maintain on-hook after the off-hook wink start pulse. Enter the time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time to maintain the backward answer signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS15 incoming (continued)

Field descriptions (Sheet 5 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time to maintain the backward clear back signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINRLG	0 to 6000	<i>Send minimum release guard signal.</i> Enter the minimum time to maintain the backward release guard signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SANIWK	14 to 30	<i>Send automatic number identification wink.</i> Enter the duration of the backward sent automatic number identification (ANI) request wink. Enter the duration in 10 ms intervals. The recommended range is 14 to 30 (140 to 3000 ms). The default value is 20 (200 ms).
	SANISETL	0 to 6000	<i>Post-automatic number identification send delay.</i> Enter the minimum time after the end of the ANI wink that the incoming end delays before the end sends the answer signal. The delay is a requirement. The delay allows analog facility transients to settle. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINRMB	0 to 6000	<i>Send minimum remote make busy.</i> Enter the minimum time of the sent remote make busy signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).

LNSIGSYS type NTLS15 incoming (end)

Field descriptions (Sheet 6 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	RMINSZG	0 to 200	<i>Receive minimum seize signal.</i> Enter the minimum time that a received forward seize signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 200 (0 to 2 s). The default value is 20 (200 ms).
	RMINCLF	1 to 1000	<i>Receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 1 to 1000 (10 ms to 10 s). The default value is 21 (210 ms).

LNSIGSYS type NTLS15 outgoing

Signaling type NTLS15 outgoing

The description for the datafill that the operating company can define for the NTLS15 outgoing signaling system appears in this section.

One-way outgoing international traffic operator position systems (ITOPS) or metering (MTR) trunks use the NTLS15 outgoing signaling system. The MTR trunks support operator control of disconnect, operator ringback, and operator ring forward. The MTR trunks do not support originator control. International DMS-100 and international DMS-200 switching units use this signaling system to implement ITOPS applications. This signaling system can support delay-dial start or wink start signals.

Datafill

Datafill for table LNSIGSYS type NTLS15 outgoing appears in the following table.

Field descriptions (Sheet 1 of 7)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS15	<i>Signaling type.</i> Enter NTLS15 for the NTLS15 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time for the detection of any line signal. Enter the minimum signal duration time in units of 2 ms. The system does not recognize a line signal that occurs for less than 40 ms. If the value you enter is not 20, table control sets the field to 20. Table control gives the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20 (40 ms). The default value is 20 (40 ms).

LNSIGSYS type NTLS15 outgoing (continued)

Field descriptions (Sheet 2 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when the trunk is in the defined idle state. The default value is 1.
	DIRECTION	see subfields	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	OG	<i>Signaling direction.</i> Enter OG for the outgoing signaling direction. The default value is IC.
	SIDLTM	0 to 6000	<i>Send minimum backward idle signal.</i> Enter the minimum time that a backward idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (10 ms).
	SFOTTM	5 to 50	<i>Send forward transfer pulse time.</i> Enter the length of the ring forward wink signal the system sends forward. Enter the length in 10 ms intervals. This signal is the same as the start ringing and break-in-request signals. The recommended range is 5 to 50 (50 to 500 ms). The default value is: 12 (120 ms)
	SFOTTM2	0 to 6000	<i>Send forward transfer time .</i> Enter the time that the system maintains the ring forward end of a wink signal the system sends forward. Enter the length in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINFOT	0 to 6000	<i>Receive minimum forward transfer signal.</i> Enter the minimum time that a received forward transfer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. This signal is the same as the start ringing and break-in-request signals. The recommended range is 1 to 20 (10 to 200 ms). The default value is 8 (80 ms).

LNSIGSYS type NTLS15 outgoing (continued)

Field descriptions (Sheet 3 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	RMAXFOT	0 to 6000	<i>Receive maximum forward transfer signal.</i> Enter the maximum time that a received forward signal must occur for the system to recognize the signal. Enter the maximum time in 10 ms intervals. This signal is the same as the start ringing and break-in-request signals. This field is for use in applications where the ring forward signal is a pulse. The entry in this field defines the upper time limit for the pulse. The recommended range is 10 to 50 (100 to 500 ms). The default value is: 20 (200 ms).
	RMINRCVY	0 to 6000	<i>Receive minimum recovery signal .</i> Enter the minimum time that a received forward or backward on-hook (idle) signal must occur for the system to recognize the signal as a recovery signal. The recovery signal allows the trunk to return to the idle state. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	GUARDTM	10 to 200	<i>Guard time.</i> Enter the minimum time that the system maintains a sent clear forward or a received release guard signal. This action guarantees the far-end disconnection. Enter the minimum time in 10 ms intervals. This value makes sure that the outgoing trunk is not idle before the incoming end completes the release sequence. The recommended range is 10 to 200 (100 ms to 2 s). The default value is 70 (700 ms).
	RMINRAN	0 to 6000	<i>Receive minimum reanswer signal.</i> Enter the minimum time that a received backward reanswer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals The recommended range is 0 to 6000 (0 to 60 s). The default value is 3 (30 ms).

LNSIGSYS type NTLS15 outgoing (continued)

Field descriptions (Sheet 4 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that the forward seize signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms)
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time that the forward clear forward signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINPTS	0 to 6000	<i>Receive minimum PTS signal.</i> Enter the minimum time that a received backward proceed-to-send (PTS) signal pulse must occur for the system to recognize the signal. This event occurs after the PTS signal pulse receives a seize acknowledge (SZA) signal. Enter the minimum time in 10 ms intervals. This time allows the line transients to settle. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RMINSZA	0 to 6000	<i>Receive minimum seize acknowledge signal.</i> Enter the minimum time that the system must maintain a received backward SZA signal for recognition. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RSZATMO	0 to 6000	<i>Receive seize acknowledge time-out.</i> Enter the maximum time allowed to receive a backward SZA signal. This event follows the transmission of a seize signal. Enter the maximum time in 10 ms intervals. This value defines the time-out interval for a no-delay-dial or a no-integrity failure. The recommended range is 0 to 6000 (0 to 60 s). The default value is 500 (5 s).

LNSIGSYS type NTLS15 outgoing (continued)

Field descriptions (Sheet 5 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	RPTSTMO	0 to 6000	<i>Receive PTS time-out.</i> Enter the maximum time allowed to receive a backward PTS signal. Enter the maximum time in 10 ms intervals. This value defines the time-out interval for a no-start-dial fail condition. The recommended range is 0 to 6000 (0 to 60 s). The default value is 500 (5 s).
	RMINANS	0 to 6000	<i>Receive minimum answer.</i> Enter the minimum time that a received backward answer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 3 (30 ms). <i>Receive minimum clear back signal.</i> Enter the minimum time that a received backward clear back must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 30 (300 ms).
	RMINCLB	0 to 6000	
	RMINWNK	8 to 20	<i>Receive minimum wink signal.</i> Enter the minimum time that a received backward wink signal (PTS) must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 8 to 20 (80 to 200 ms). The default value is 10 (100 ms).
	RMAXWNK	20 to 35	<i>Receive maximum wink signal.</i> Enter the maximum time that a received backward wink signal (PTS) must occur for the system to recognize the signal. Enter the maximum time in 10 ms intervals. The recommended range: 20 to 35 (200 to 350 ms). The default value is 35 (350 ms).

LNSIGSYS type NTLS15 outgoing (continued)

Field descriptions (Sheet 6 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time that the backward release guard signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 30 (300 ms).
	RMINLCKO	0 to 6000	<i>Receive minimum lockout signal.</i> Enter the minimum time that a received backward off-hook signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RANIWMIN	10 to 16	<i>Receive automatic number identification wink minimum.</i> Enter the minimum time that a received Automatic Number Identification (ANI) wink signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 10 to 16 (100 to 160 ms). The default value is 14 (140 ms).
	RANIWMAX	20 to 35	<i>Receive automatic number identification wink maximum.</i> Enter the maximum time that a received ANI wink signal must occur for the system to recognize the signal. Enter the maximum time in 10 ms intervals. The recommended range is 20 to 35 (200 to 350 ms). The default value is 30 (300 ms).

LNSIGSYS type NTLS15 outgoing (end)**Field descriptions (Sheet 7 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
	RANITMO	500 to 3000	<i>Receive automatic number identification time.</i> Enter the time that the outgoing end waits for an ANI request signal after the end outputs the called digits. The ANI request signal is a wink-type signal. Enter the time in 10 ms intervals. If the outgoing end times out before the end receives the ANI request signal, the calling party routes to a treatment. Each route has datafill that defines the type of ANI request failure treatment the system. The datafill can be tone or announcement for each route. The recommended range is 500 to 3000 (5 to 30 s). The default value is 3000 (30 s).
	RANISETL	5 to 500	<i>Post-automatic number identification receive delay.</i> Enter the time that the outgoing end delays before the end sends the digits of the called number. Enter the time in 2 ms intervals. The delay is a requirement. The delay allows analog facility transients to settle. The recommended range is 25 to 2500 (50 ms to 5 s). The default value is 25 (50 ms).

LNSIGSYS type NTLS16 incoming

Signaling type NTLS16 incoming

The description of the datafill that the operating company defines for the NTLS16 incoming signaling system appears in this section.

The digital CCITT signaling system R2 (R2) trunk call processing uses the NTLS16 incoming signaling system on international DMS-100/200 switches in Morocco and Brazil. The NTLS16 uses both the A-bits and B-bits to support one-way operation. The NTLS16 does not use the C-bits and D-bits. The C-bit has a value of 0. The D-bit has a value of 1.

One-way operation

The NTLS16 signaling system operates on one-way trunks only. Table control prevents the entry of data in two-way trunks.

Meter pulses

The NTLS16 signaling system recognizes meter pulses during the conversation part of the call sequence. The DMS does not count the meter pulses. The DMS does not make the meter pulses available through a metering or billing system. The NTLS16 signaling system does not tandem the meter pulses across the switch. The NTLS16 signaling system does not generate metering pulses.

Datafill

Datafill for table LNSIGSYS type NTLS16 incoming appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS16	<i>Signaling type.</i> Enter NTLS16 for the NTLS16 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.

LNSIGSYS type NTLS16 incoming (continued)

Field descriptions (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	5 to 63	<i>Filter time.</i> Enter the minimum signal duration time for the system to detect a line signal. Enter the minimum signal duration time in units of 2 ms. Any line signal that occurs for less than the datafilled filter time is not recognized. The recommended range is 5 to 63 (10 to 126 ms). The default value is 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. The default value is 1.
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. The default value is 0.
	DIRECTION	see subfield	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC for the incoming signaling direction. The default value is IC.
	SMINIDLE	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time for the system to maintain an idle signal for recognition. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINIDLE	0 to 6000	<i>Receive minimum idle signal.</i> Enter the minimum time that an idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).

LNSIGSYS type NTLS16 incoming (continued)

Field descriptions (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SMINSZA	0 to 6000	<i>Send minimum backward seizure signal.</i> Enter the minimum time that a backward seize acknowledge signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time, in 10 ms intervals, that a backward answer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time to maintain the backward clear back signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	SMINBLO	0 to 6000	<i>Send minimum blocking signal.</i> Enter the minimum time for the system to maintain a backward blocking signal for recognition. Enter the minimum value in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time for the system to maintain a received forward seize signal for recognition. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).

LNSIGSYS type NTLS16 incoming (end)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	RMINCLF	0 to 6000	<i>Receive minimum clear forward signal.</i> Enter the minimum time for the system to maintain a received clear forward signal for recognition. Enter the minimum time in 10 ms intervals. The recommended range is 1 to 6000 (10 ms to 60 s). The default value is 30 (300 ms).
	RMINFLT	0 to 6000	<i>Received minimum fault signal.</i> Enter the minimum time for the system to maintain a received fault signal for recognition. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (zero).

LNSIGSYS type NTLS16 outgoing

Signaling type NTLS16 outgoing

The description of the datafill that the operating company can define for the NTLS16 outgoing signaling system appears in this section.

Digital CCITT signaling system R2 (R2) trunk call processing uses the NTLS16 outgoing signaling system on international DMS-100/200 switches in Morocco and Brazil. The NTLS16 line signaling uses the A-bits and B-bits to support one-way operation. The NTLS16 does not use the C-bit and the D-bits. The C-bit has a value of 0. The D-bit has a value of 1.

One-way operation

The NTLS16 signaling system operates on one-way trunks only. Table control prevents the entry of data in two-way trunks.

Meter pulses

The NTLS16 signaling system recognizes meter pulses during the conversation part of the call sequence. The DMS does not count the meter pulses. The DMS does not make the meter pulses available through a metering or billing system. The NTLS16 signaling system does not tandem the meter pulses across the switch. The NTLS16 does not generate metering pulses.

Datafill

Datafill for table LNSIGSYS type NTLS16 outgoing appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS16	<i>Signaling type.</i> Enter NTLS16 for the NTLS16 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.

LNSIGSYS type NTLS16 outgoing (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	5 to 63	<i>Filter time.</i> Enter the minimum signal duration time for the detection of any line signal. Enter the minimum signal duration time in units of 2 ms. The system does not recognize a line signal that occurs for less than the filter time entry. The recommended range is 5 to 63 (10 to 126 ms). The default value is 20 (40 ms).
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. The default value is 1.
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. The default value is 0 (zero).
	DIRECTION	see subfield	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	OG	<i>Signaling direction.</i> Enter OG for the outgoing signaling direction. The default value is IC.
	SMINIDLE	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time that an idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINIDLE	0 to 6000	<i>Receive minimum idle signal.</i> Enter the minimum time that a received idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).

LNSIGSYS type NTLS16 outgoing (continued)

Field descriptions (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that the forward seize signal must occur for the system to recognize the signal. Enter the minimum value in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal .</i> Enter the minimum time that a clear forward signal must occur for the signal to recognize the signal. Enter the minimum value in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINSZA	0 to 6000	<i>Receive minimum seize acknowledge signal.</i> Enter the minimum time that a received backward seize acknowledge signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RSZATMO	0 to 6000	<i>Receive seize acknowledge time-out.</i> Enter the maximum time to wait for the reception of a seize acknowledge signal. This signal follows the transmission of a seize signal. Enter the maximum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 300 (3 s).
	RMINANS	0 to 6000	<i>Receive minimum answer.</i> Enter the minimum time that a received backward answer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).

LNSIGSYS type NTLS16 outgoing (continued)

Field descriptions (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMINCLB	0 to 6000	<i>Receive minimum clear back signal.</i> Enter the minimum time that a received clear back signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time that a received blocking signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 50 (500 ms).
	RRLGTMO	0 to 6000	<i>Receive release guard time-out.</i> Enter the maximum time to wait before the system starts a repeat clear forward signal. This event occurs if reception of a release guard signal does not occur after transmission of a clear forward signal. Enter the maximum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 1000 (10 s).
	RMINFRLS	0 to 6000	<i>Receive minimum force release signal.</i> Enter the minimum time that a received force release signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms units. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS16 outgoing (end)

Field descriptions (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	SMINFRLA	0 to 6000	<i>Send minimum force release acknowledge signal.</i> Enter the minimum time that a sent force release acknowledge signal must occur for the system to recognize the signal. Enter the minimum value in 10 ms units. The recommended range is 0 to 600 (0 to 60 s). The default value is 0 (0 ms).
	SMINFLT	0 to 6000	<i>Send minimum fault signal.</i> Enter the minimum time that a sent fault signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms units. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS16 two-way

Signaling type NTLS16 two-way

The description of the datafill that the operating company can define for the NTLS16 two-way signaling system appears in this section.

Digital CCITT signaling system R2 (R2) trunk call processing uses the NTLS16 two-way signaling system on international DMS-100/200 switches. The NTLS16 two-way signaling uses the A-bits and B-bits to support two-way operation. The NTLS16 does not use the C-bits and the D-bits. The C-bit has a value of 0. The D-bit has a value of 1.

Meter pulses

The NTLS16 signaling system recognizes meter pulses during the conversation part of the call sequence. The DMS does not count the meter pulses. The DMS does not make the meter pulses available through a metering or billing system. The NTLS16 signaling system does not tandem the meter pulses across the switch. The NTLS16 does not generate metering pulses.

Datafill

Datafill for table LNSIGSYS type NTLS16 two-way appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS16	<i>Signaling type.</i> Enter NTLS16 for the NTLS16 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	5 to 63	<i>Filter time.</i> Enter the minimum signal time for the detection of any line signal. Enter the minimum time in units of 2 ms. The system does not recognize a line signal that occurs for less than the filter time. The recommended range is 5 to 63 (10 to 126 ms). The default value is 20 (40 ms).

LNSIGSYS type NTLS16 two-way (continued)

Field descriptions (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle polarity.</i> Enter the polarity of the A-bit when idle. The default value is 1.
	BIDLPOL	0 or 1	<i>B-bit idle polarity.</i> Enter the polarity of the B-bit when idle. The default value is 0 (zero).
	DIRECTION	see subfield	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	2W	<i>Signaling direction.</i> Enter 2W for the two-way signaling direction. The default value is 2W.
	SMINIDLE	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time that an idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINIDLE	0 to 6000	<i>Receive minimum idle signal.</i> Enter the minimum time that an idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	SMINSZA	0 to 6000	<i>Send minimum backward seizure signal.</i> Enter the minimum time that a backward seize acknowledge signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time that a backward answer signal must occur for the system to recognize the signal. Enter the minimum value in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).

LNSIGSYS type NTL16 two-way (continued)

Field descriptions (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time to maintain the backward clear back signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	SMINBLO	0 to 6000	<i>Send minimum blocking signal.</i> Enter the minimum time that a backward blocking signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that a received forward seize signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).
	RMINCLF	0 to 6000	<i>Receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 1 to 6000 (10 ms to 60 s). The default value is 30 (300 ms).
	RMINFLT	0 to 6000	<i>Received minimum fault signal.</i> Enter the minimum time that a received fault signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms units. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that the forward seize signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS16 two-way (continued)

Field descriptions (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time that a clear forward signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	RMINSZA	0 to 6000	<i>Receive minimum seize acknowledge signal.</i> Enter the minimum time that a received backward seize acknowledge signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RSZATMO	0 to 6000	<i>Receive seize acknowledge time-out.</i> Enter the maximum time to wait for the system to receive a seize acknowledge signal. The reception of the signal occurs after the transmission of a seize signal. Enter the maximum time to wait in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 300 (3 s).
	RMINANS	0 to 6000	<i>Receive minimum answer.</i> Enter the minimum time that a received backward answer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).
	RMINCLB	0 to 6000	<i>Receive minimum clear back signal.</i> Enter the minimum time that a received clear back signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).

LNSIGSYS type NTLS16 two-way (end)**Field descriptions (Sheet 5 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time that a received blocking signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 50 (500 ms).
	RRLGTMO	0 to 6000	<i>Receive release guard time-out.</i> Enter the maximum time to wait before the transmission of a repeat clear forward signal occurs. The transmission occurs if the system does not receive a release guard signal after the transmission of a clear forward signal. Enter the maximum time to wait in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 1000 (10 s).
	RMINFRLS	0 to 6000	<i>Received minimum force release signal.</i> Enter the minimum time that a received force release signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINFRLA	0 to 6000	<i>Send minimum force release acknowledge signal.</i> Enter the minimum time that a sent force release acknowledge signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS20 incoming

Signaling type NTLS20 incoming

The description of the datafill that the operating company defines for the NTLS20 incoming signaling system appears in this section.

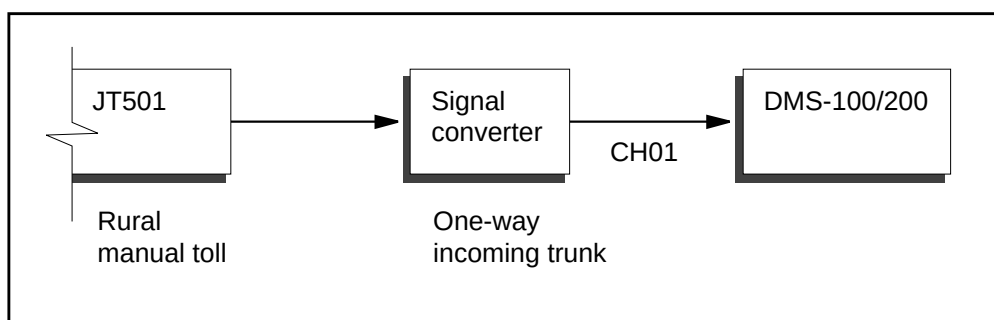
The trunk call processing in China uses the NTLS20 incoming signaling system on international DMS-100/200 switches. Chinese digital line signaling uses three signaling bits, A, B, and C, in the signaling channel of the PCM30 message signaling carrier. The A-bit indicates the hook state of the originating and the terminating agents. The B-bit is for seizure acknowledgment, terminating only, and blocking. The C-bit provides operator events signaling and meter signaling.

The NTLS20 signaling system provides line signals for eight trunk interfaces CH01 to CH07, and CH09.

Trunks are entered with data as NTLS20 incoming support CH01, CH03, CH04, CH05, incoming CH06, incoming CH07, and CH09 trunk interfaces. The name CH08 is not in use.

The CH01 is a one-way incoming trunk that originates from a Chinese JT501 operator switchboard, the rural manual toll. This trunk is a direct current (dc) dial pulse (DC/DP) trunk. Only local call completion uses this trunk. The CH01 trunk appears in the following figure.

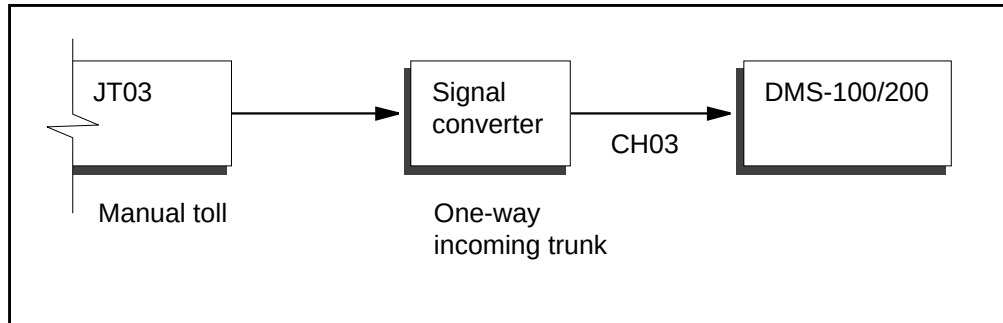
CH01 trunk interface



The CH03 is a one-way incoming trunk that originates from a Chinese JT03 manual operator switchboard, the manual toll. This trunk type completes local calls for suburban subscribers. This trunk is a DC/DP dial type like the CH01. The trunk appears in the following figure.

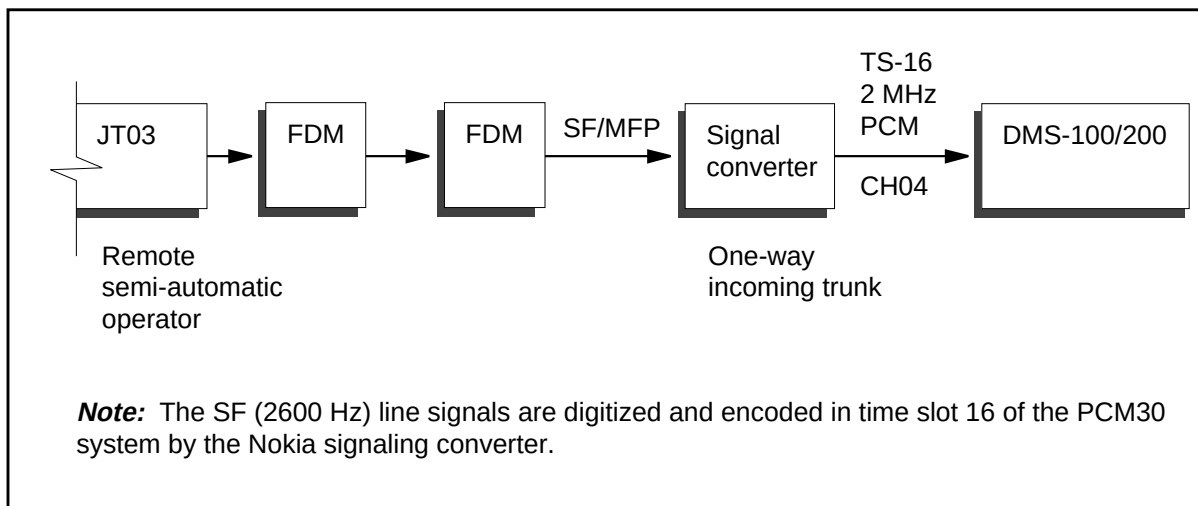
LNSIGSYS type NTLS20 incoming (continued)

CH03 trunk interface



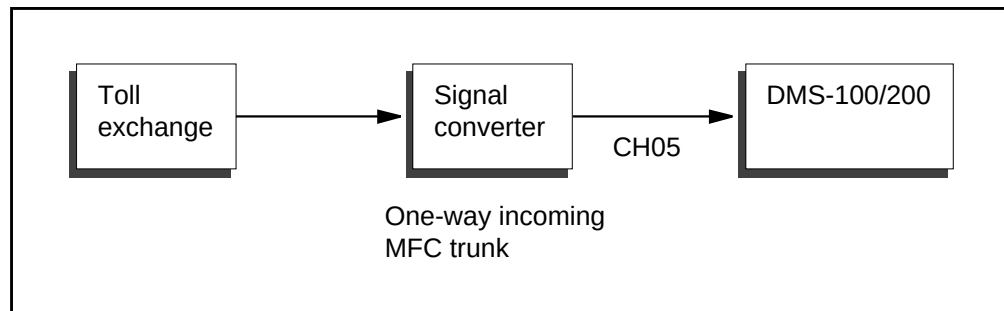
The CH04 is a one-way incoming trunk that originates from a remote semi-automatic toll operator through a JT03 operator switchboard. The CH04 uses single frequency (SF) line signaling and multifrequency pulsed (MFP) register signaling. This trunk type is in use for incoming semiautomatic toll call completion on a frequency division multiplex (FDM) route. This trunk type can carry operator signals. The CH04 trunk appears in the following figure.

CH04 trunk interface

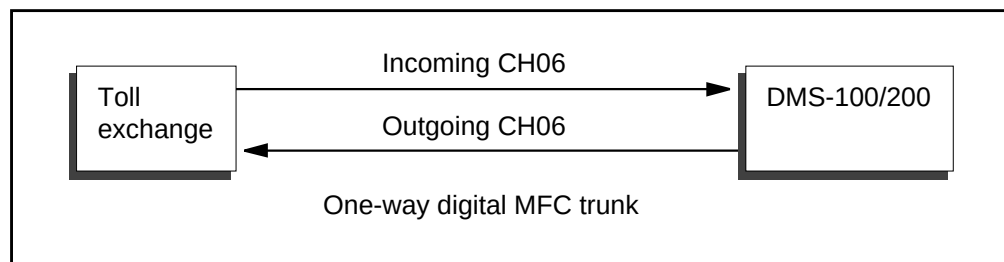


The CH05 is a one-way incoming multifrequency compelled (MFC) trunk that originates from a toll exchange. This trunk type is in use for automatic toll calls. This trunk types can carry operator signals. The CH05 trunk appears in the following figure.

LNSIGSYS type NTLS20 incoming (continued)

CH05 trunk interface

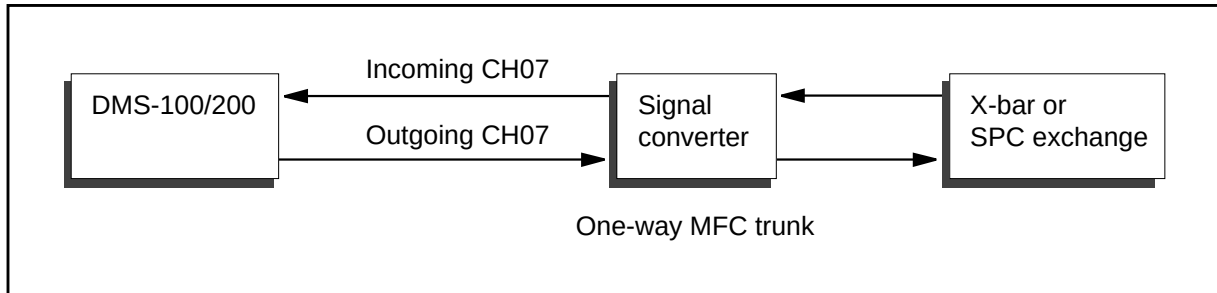
The CH06 is a one-way, incoming or outgoing, digital MFC trunk between a DMS-100/200 and a toll exchange. This trunk type is used for automatic toll calls. This trunk type can carry operator signals. The CH06 trunk appears in the following figure.

CH06 trunk interface

The CH07 is a one-way, outgoing or incoming, MFC trunk. The trunk is between a DMS-100/200 and a crossbar (X-bar) or stored program control (SPC) exchange. This trunk type is in use for automatic toll calls. This trunk type can carry operator signals. The CH07 trunk appears in the following figure.

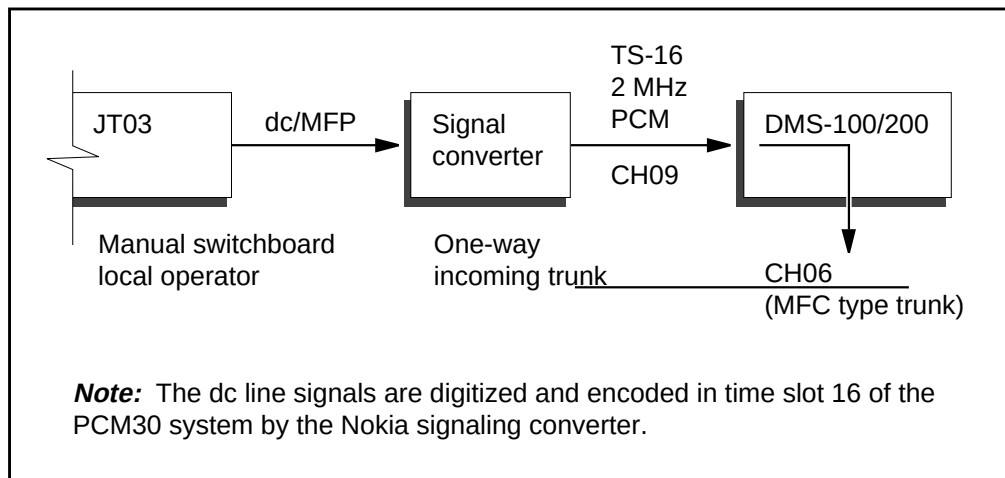
LNSIGSYS type NTLS20 incoming (continued)

CH07 trunk interface



The CH09 is a one-way incoming trunk that originates from a local manual toll operator through a JT03 operator switchboard. The CH09 uses dc line signaling and MFP register signaling. This trunk type establishes outgoing trunks on pulse code modulation links to other digital switches. This trunk type can carry operator signals. The lines are CHO6 or MFC type trunks. The CH09 trunk appears in the following figure.

CH09 trunk interface



LNSIGSYS type NTLS20 incoming (continued)

Datafill

Datafill for table LNSIGSYS type NTLS20 incoming appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS20	<i>Signaling type.</i> Enter NTLS20 for the NTLS20 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time to detect a line signal. Enter the minimum signal duration time in units of 2 ms. The system does not recognize a line signal that occurs for less than 40 ms. If the value you enter is not 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20 (40 ms). The default value is 20 (40 ms).
	DIRECTION	see subfield	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC for the incoming signaling direction.
	SMINIDLE	0 to 500	<i>Send minimum idle signal.</i> Enter the minimum time that a backward idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS20 incoming (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	RMINIDLE	0 to 6000	<i>Receive minimum idle signal.</i> Enter the minimum time that a backward idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	RMINSZG	0 to 6000	<i>Receive minimum seize signal.</i> Enter the minimum time that a received forward seize signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).
	RMINCLF	0 to 6000	<i>Receive minimum clear forward signal.</i> Enter the minimum time that a received clear forward signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 30 (300 ms).
	RMINFOT	0 to 6000	<i>Receive minimum forward transfer signal.</i> Enter the minimum time that a received forward transfer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 ms). The default value is 12 (120 ms).
	RFOTSETL	0 to 6000	<i>Receive forward transfer settling time.</i> Enter the delay, after the system receives the forward transfer signal. The delay is the setting time. Enter the delay in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 ms). The default value is 10 (100 ms).
	SMINSZA	0 to 6000	<i>Send minimum backward seizure signal.</i> Enter the minimum time that a backward seize acknowledge signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS20 incoming (continued)

Field descriptions (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SMINSSF	0 to 6000	<i>Send minimum subscriber free signal.</i> Enter the minimum time to maintain the backward subscriber free signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINSSB	0 to 6000	<i>Send minimum subscriber busy signal.</i> Enter the minimum time to maintain the backward subscriber busy signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time to maintain the backward answer signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	SMINBLO	0 to 6000	<i>Send minimum blocking signal.</i> Enter the minimum time that a backward B-bit blocking signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time to maintain the backward clear back signal. Enter the minimum value in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	SMINRLG	0 to 6000	<i>Send minimum release guard signal.</i> Enter the minimum time to maintain the backward release guard signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS20 incoming (end)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	SMINUBLO	0 to 6000	<i>Send minimum unblocking signal.</i> Enter the minimum time to maintain an unblocking signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINRGB	0 to 6000	<i>Send minimum ring back signal.</i> Enter the minimum time to maintain a ringback signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 12 (120 ms).

LNSIGSYS type NTLS20 outgoing

Signaling type NTLS20 outgoing

The description of the datafill that the operating company defines for the NTLS20 outgoing signaling system appears in this section.

China uses the NTLS20 outgoing signaling system for trunk call processing that international DMS-100/200 switches perform. Chinese digital line signaling uses three signaling bits in the signaling channel of the PCM30 carrier. These signaling bits are A-bit, B-bit and C-bit. The A-bit indicates the hook state of the originating and terminating agents. The B-bit is for seizure acknowledgment, terminating only, and blocking. The C-bit provides operator event signaling and meter signaling.

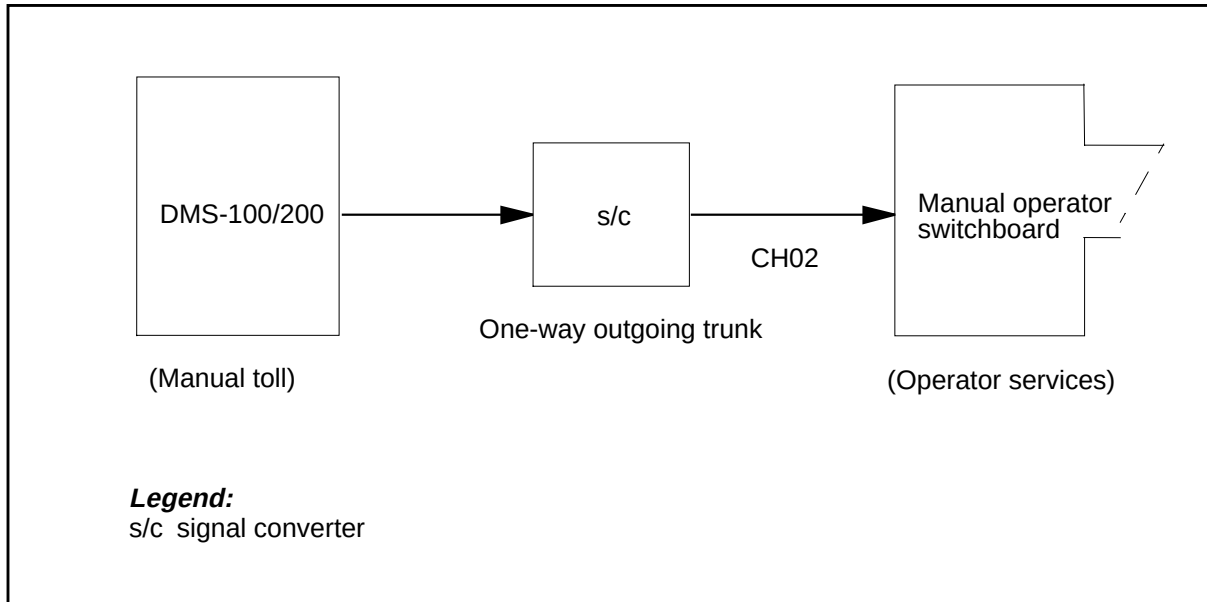
The NTLS20 signaling system provides line signals for the eight trunk interfaces CH01 to CH07, and CH09.

The NTLS20 outgoing trunks support CH02, outgoing CH06, and outgoing CH07 trunk interfaces. The name CH08 is not in use.

The CH02 is a one-way outgoing trunk that originates at a DMS-100/200. The CH02 terminates at a manual operator services switchboard. The CH02 is a seize-only trunk without digit outpulsing. This trunk supplies inquiry and call booking services for subscribers. The CH02 trunk appears in the following figure.

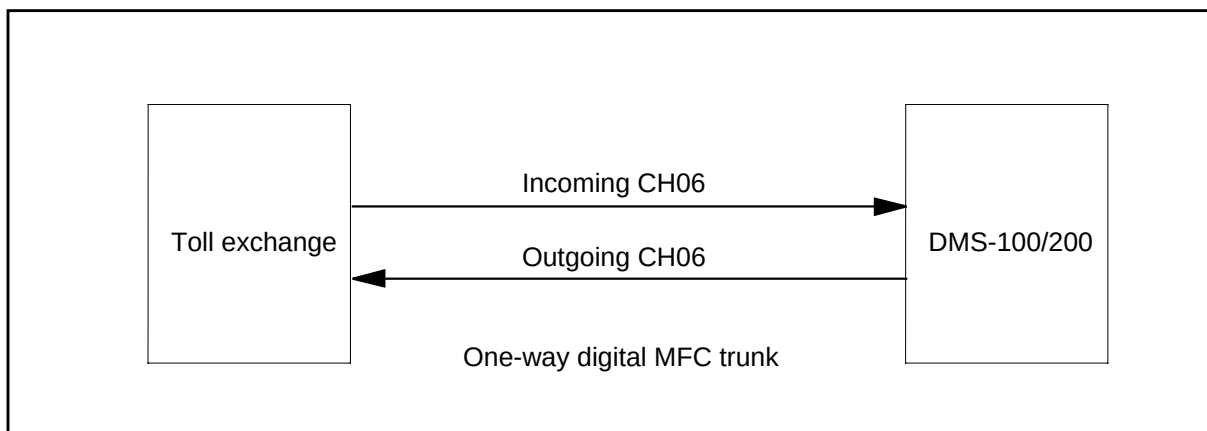
LNSIGSYS type NTLS20 outgoing (continued)

CH02 trunk interface



The CH06 is a one-way, incoming or outgoing, digital multifrequency compelled (MFC) trunk between a DMS-100/200 and a toll exchange. This trunk type is in use for automatic toll calls. This trunk type can carry operator signals. The CH06 trunk appears in the following figure.

CH06 trunk interface

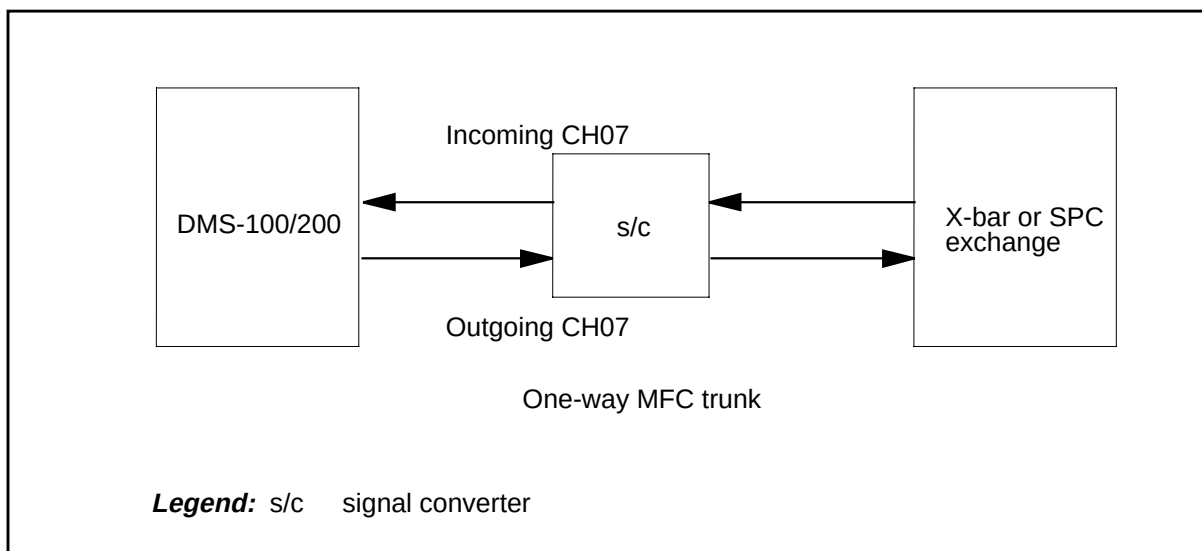


The CH07 is a one-way, outgoing or incoming, MFC trunk. The CH07 is between a DMS-100/200 and a crossbar (X-bar) or stored program control (SPC) exchange. This trunk type is in use for automatic toll calls. This trunk

LNSIGSYS type NTLS20 outgoing (continued)

type can carry operator signals. The CH06 trunk appears in the following figure.

CH07 trunk interface



Datafill

Datafill for table LNSIGSYS type NTLS20 outgoing appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS20	<i>Signaling type.</i> Enter NTLS20 for the NTLS20 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.

LNSIGSYS type NTLS20 outgoing (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	FILTERTM	20	<i>Filter time.</i> Enter 20 as the minimum signal duration time for the detection of any line signal. Enter the minimum signal duration time in units of 2 ms. A line signal that occurs for less than 40 ms is not recognized. If the value you enter is not 20, table control sets the field to 20. Table control provides the following warning message: FILTERTM PARAMETER SET TO 20. THIS PARAMETER CANNOT BE MODIFIED. The recommended setting is 20 (40 ms). The default value is 20 (40 ms).
	DIRECTION	see subfield	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	OG	<i>Signaling direction.</i> Enter OG for the outgoing signaling direction.
	SMINIDLE	0 to 500	<i>Send minimum idle signal.</i> Enter the minimum time that a backward idle signal must occur for the system to recognize the signal. Enter the time in 10 ms intervals. The recommended range is 0 to 500 (0 to 5 s). The default value is 0 (0 ms).
	RMINIDLE	0 to 6000	<i>Receive minimum idle signal.</i> Enter the minimum time that a backward idle signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 20 (200 ms).
	RMINANS	0 to 6000	<i>Receive minimum answer.</i> Enter the minimum time that a received backward answer signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).

LNSIGSYS type NTLS20 outgoing (continued)

Field descriptions (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time that a received backward blocking signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 50 (500 ms).
	RMINUBLO	0 to 6000	<i>Receive minimum unblocking signal.</i> Enter the minimum time that a received backward unblocking signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RMINCLB	0 to 6000	<i>Receive minimum clear back signal.</i> Enter the minimum time that a received clear back signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time that a received release guard signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 30 (300 ms).
	RSZATMO	0 to 12000	<i>Receive seize acknowledge time-out.</i> Enter the maximum time to wait for the reception of a seize acknowledge signal. This event occurs after the transmission of a seize signal. Enter the maximum time to wait in 10 ms intervals. The recommended range is 0 to 12000 (0 to 120 s). The default value is 300 (3 s).

LNSIGSYS type NTLS20 outgoing (continued)**Field descriptions (Sheet 4 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	RMINSZA	0 to 6000	<i>Receive minimum seize acknowledge signal.</i> Enter the minimum time that a received backward seize acknowledge signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	RRLGTMO	0 to 6000	<i>Receive release guard time-out.</i> Enter the maximum time to wait before the transmission of a repeat clear forward signal. This event occurs if the system does not receive a release guard signal after the transmission to a clear forward signal. Enter the maximum time to wait in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 500 (5 s).
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time that a clear forward signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).
	SMINRCLF	0 to 6000	<i>Send minimum repeat clear forward signal.</i> Enter the minimum time that a repeat clear forward signal must occur for the system to recognize the signal. Enter the minimum in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 10 (100 ms).
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that a seizure signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 0 (0 ms).

LNSIGSYS type NTLS20 outgoing (end)

Field descriptions (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	SMINFOT	0 to 6000	<i>Send minimum forward transfer signal.</i> Enter the minimum time that a sent forward transfer signal must occur for the system to recognize the signal. Enter minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 15 (150 ms).
	RMINRGB	0 to 6000	<i>Receive minimum ringback signal.</i> Enter the minimum time that a received ringback signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 8 (80 ms).
	RRGBSETL	0 to 6000	<i>Receive ringback settling time.</i> Enter the delay after the system receives the ringback signal. The delay is the setting time. Enter the delay in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 ms). The default value is 10 (100 ms).
	RMINSSF (BCS35-)	0 to 6000	<i>Receive minimum subscriber status free signal.</i> Enter the minimum time that a received subscriber status free signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 5 (50 ms).
	RMINSSB (BCS35-)	0 to 6000	<i>Receive minimum subscriber status busy signal.</i> Enter the minimum time that a received subscriber status busy signal must occur for the system to recognize the signal. Enter the minimum time in 10 ms intervals. The recommended range is 0 to 6000 (0 to 60 s). The default value is 5 (50 ms).

LNSIGSYS type NTLS22 incoming

Signaling type NTLS22 incoming

The datafill that the operating company defines for the NTLS22 incoming signaling system appears in this section.

The NTLS22 signaling system uses T2 signaling. The T2 line signaling in the telephony network in the Commonwealth of Independent States (CIS) is for incoming toll calls. The toll calls include toll to tandem, tandem to tandem, tandem to local, and toll to local calls.

The NTLS22 signaling system is based on A-bits and B-bits in the signaling channel of the PCM30 carrier. This condition occurs to support one-way operation. The signaling system does not use C-bits and D-bits. The values of the C-bits and D-bits are 0 and 1.

Datafill

Datafill for table LNSIGSYS type NTLS22 incoming appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum addition of line signaling indexes to the table is 16.
SIGTYPE		NTLS22	<i>Signaling type.</i> Enter NTLS22 for the NTLS22 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	DIRECTION	refer to the subfield	<i>Direction.</i> This field contains subfield SIGDIR.
	SIGDIR	IC	<i>Signaling direction.</i> Enter IC for the incoming signaling direction. Default value: IC

LNSIGSYS type NTLS22 incoming (continued)

Field descriptions (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SMINIDL	0 to 6000	<i>Send minimum idle signal.</i> Enter the minimum time that the system maintains a sent idle signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 20 (200 ms).
	RMINSZG	0 to 6000	<i>Receive minimum seize signal.</i> Enter the minimum time that the system maintains a received seize signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 15 (150 ms).
	RMINCLF	0 to 6000	<i>Receive minimum clear forward signal.</i> Enter the minimum time that the system maintains a received clear forward signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 30 (300 ms).
	RMINDRNG	0 to 6000	<i>Receive minimum decadic ringing signal.</i> Enter the minimum time that the system maintains a received decadic ring signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 30 (300 ms).
	SMINSZA	0 to 6000	<i>Send minimum backward seizure signal.</i> Enter the minimum time that the system maintains a sent backward seize acknowledge signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).
	SMINBLO	0 to 6000	<i>Send minimum blocking signal.</i> Enter the minimum time that the system maintains a sent backward B-bit blocking signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).

LNSIGSYS type NTLS22 incoming (continued)

Field descriptions (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SMINBIDL	0 to 6000	<i>Send minimum blocking signal.</i> Enter the minimum time that the system maintains a sent backward idle signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).
	SMINSSB	0 to 6000	<i>Send minimum subscriber busy or blocked signal.</i> Enter the minimum time that the system maintains a sent subscriber busy or blocked signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).
	SMINCLB	0 to 6000	<i>Send minimum clear back signal.</i> Enter the minimum time that the system maintains a sent clear back signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 20 (200 ms).
	SMINANS	0 to 6000	<i>Send minimum answer signal.</i> Enter the minimum time that the system maintains a sent answer signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 20 (200 ms).
	RCLFTMO	0 to 30000	<i>Receive clear forward signal time-out.</i> Enter the maximum time to wait for a received clear forward signal after a backward subscriber busy or blocked signal. Enter the time in 10 ms intervals. Recommended range is 0 to 30000 (0 to 300 s). Default value is 180 (1800 ms).

LNSIGSYS type NTLS22 incoming (end)

Field descriptions (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RDRNGTMO	0 to 30000	<i>Receive decadic ring signal time-out.</i> Enter the maximum time to wait for a received decadic ring signal after a backward idle signal. Enter the time in 10 ms intervals. Recommended range is 0 to 30000 (0 to 300 s). Default value is 180 (18 000 ms).
	SANSTMO	0 to 30000	<i>Send answer signal time-out.</i> Enter the maximum time to wait for a sent answer signal after the ringing starts. Enter the time in 10 ms intervals. Recommended range is 0 to 18000 (0 to 1800 s). Default value is 9000 (90 000 ms).

LNSIGSYS type NTLS22 outgoing

Signaling type NTLS22 outgoing

The datafill that the operating system defines for the NTLS22 outgoing signaling system appears in this section.

The NTLS22 signaling system is based on T2 signaling. The T2 line signaling in the telephony network in the Commonwealth of Independent States (CIS) is for incoming toll calls. These calls include toll to tandem, tandem to tandem, tandem to local, and toll to local calls.

The NTLS22 signaling system is based on the A-bit and B-bits in the signaling channel of the PCM30 carrier. This condition allows support for one-way operation. The signaling system does not use C-bits and D-bits. The values of these bits are 0 and 1.

Datafill

Datafill for table LNSIGSYS type NTLS22 outgoing appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum addition of line signaling indexes to the table is 16.
SIGTYPE		NTLS22	<i>Signaling type.</i> Enter NTLS22 for the NTLS22 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements that appear below.
	DIRECTION	see subfield	<i>Direction.</i> This field contains the subfield SIGDIR.
	SIGDIR	OG	<i>Signaling direction.</i> The entry of OG is only for test purposes. Enter OG for the outgoing signaling direction. Default value: IC

LNSIGSYS type NTLS22 outgoing (continued)

Field descriptions (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RMINIDL	0 to 6000	<i>Receive minimum idle signal.</i> Enter the minimum time that the system maintains a received idle signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 20 (20 ms).
	SMINSZG	0 to 6000	<i>Send minimum seize signal.</i> Enter the minimum time that the system maintains a sent seize signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).
	SMINCLF	0 to 6000	<i>Send minimum clear forward signal.</i> Enter the minimum time that the system maintains a sent clear forward signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).
	SMINDRNGS	0 to 6000	<i>Send minimum decadic ringing signals.</i> Enter the minimum time that the system maintains a sent decadic ring stop signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 0 (0 ms).
	RMINSZA	0 to 6000	<i>Receive minimum backward seizure signal.</i> Enter the minimum time that the system maintains a received backward seize acknowledge signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 10 (100 ms).
	RMINBLO	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time that the system maintains a received backward B-bit blocking signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 50 (500 ms).

LNSIGSYS type NTLS22 outgoing (continued)

Field descriptions (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RMINBIDL	0 to 6000	<i>Receive minimum blocking signal.</i> Enter the minimum time that the system maintains a received backward idle signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 15 (150 ms).
	RMINSSB	0 to 6000	<i>Receive minimum subscriber busy or blocked signal.</i> Enter the minimum time that the system maintains a received subscriber busy or blocked signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 10 (100 ms).
	RMINCLB	0 to 6000	<i>Receive minimum clear back signal.</i> Enter the minimum time that the system maintains a received clear back signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 15 (150 ms).
	RMINANS	0 to 6000	<i>Receive minimum answer signal.</i> Enter the minimum time that the system maintains a received answer signal for recognition. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 15 (150 ms).
	RIDLTMO	0 to 30000	<i>Receive maximum idle signal time-out.</i> Enter the maximum time to wait for a received idle signal after the system sends a clear forward signal. Enter the time in 10 ms intervals. Recommended range is 0 to 30000 (0 to 300 s). Default value: 180 (1800 ms).

LNSIGSYS type NTLS22 outgoing (end)

Field descriptions (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RSZATMO	0 to 6000	<i>Receive maximum seize acknowledge signal.</i> Enter the maximum time to wait for a received seize acknowledge signal after the system sends a seize signal. Enter the time in 10 ms intervals. Recommended range is 0 to 6000 (0 to 60 s). Default value is 70 (700 ms)
	RBIDLTMO	0 to 30000	<i>Receive maximum backward idle signal time-out.</i> Enter the maximum time to wait for a received backward idle signal or a subscriber busy or blocked signal after the end of register signaling. Enter the time in 10 ms intervals. Recommended range is 0 to 30000 (0 to 300 s). Default value is 180 (1800 ms).
	RANSTMO	0 to 18000	<i>Receive maximum backward answer signal time-out.</i> Enter the maximum time to wait for a received backward answer signal after the reception of a subscriber free signal. Enter the time in 10 ms intervals. Recommended range is 0 to 18000 (0 to 180 s). Default value is 7200 (72 000 ms)
	SDRNGON	0 to 6000	<i>Send decadic ringing on.</i> Enter the pulse duration for decadic ringing pulses. Recommended range: 0 to 6000 (60 s) Default value: 1200 (1.2 s)
	SDRNGOFF	0 to 6000	<i>Send decadic ringing off.</i> Enter the pause duration for decadic ringing pulses. Recommended range: 0 to 6000 (60 s) Default value: 200 (2 s)
	RMINRLG	0 to 6000	<i>Receive minimum release guard signal.</i> Enter the minimum time that the system maintains a received release guard signal for recognition. Enter the time in 10 ms intervals. Recommended range: 0 to 6000 (0 to 60 s) Default value: 10 (100 ms).

LNSIGSYS type NTLS24 incoming/outgoing

Signaling type NTLS24 incoming/outgoing

This section describes the datafill that the operating company can define for the NTLS24 incoming/outgoing signaling system. The NTLS24 is the digital A-bit pulsed line signaling protocol for the DMS-100i and DMS-200i switches. The NTLS24 specifies the generic line signaling requirements and interactions for originating and terminating trunk traffic.

The NTLS24 incoming/outgoing signaling system is a one-bit pulsed line signaling protocol for the PCM30 carrier. The NTLS24 only uses the A-bit from the PCM30 carrier. The default values for the B-, C-, and D-bits that remain are CCITT recommended values. The CCITT recommended values are 1, 0, and 1.

Datafill

Datafill for table LNSIGSYS type NTLS24 incoming/outgoing appears in the following table.

Field descriptions (Sheet 1 of 6)

Field	Subfield or refinement	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index.</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum number of line signaling indexes that you can add to the table is 16.
SIGTYPE		NTLS24	<i>Signaling type.</i> Enter NTLS24 for the NTLS24 signaling type.
LSSINFO		see refinements	<i>Line signaling system information.</i> This field contains the refinements described below.
	FILTERTM	5 to 63	<i>Filter time.</i> Enter the minimum signal time period in which recognition of a signal can occur. Enter the time in 2-ms intervals. Range: 5 to 63 (10 to 126 ms). Default value: 20 (40 ms).

LNSIGSYS type NTLS24 incoming/outgoing (continued)

Field descriptions (Sheet 2 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	AIDLPOL	0 or 1	<i>A-bit idle state.</i> Enter the polarity of the A-bit if the trunk is in the defined idle state. Range: 0 or 1. Default value: 1. <i>B-bit idle state.</i> Enter the polarity of the B-bit if the trunk is in the defined idle state. Range: 0 or 1. Default value: 1.
	BIDLPOL	0 or 1	
	CIDLPOL	0 or 1	<i>C-bit idle state.</i> Enter the polarity of the C-bit if the trunk is in the defined idle state. Range: 0 or 1. Default value: 0.
	DIDLPOL	0 or 1	<i>D-bit idle state.</i> Enter the polarity of the D-bit if the trunk is in the defined idle state. Range: 0 or 1. Default value: 1.
	SIGDIR	IC, OG, or 2W	<i>Signaling direction.</i> Enter the signaling direction of the trunk in relation to the end that can seize the trunk. Range: IC, OG, 2W. Default value: IC.
	RMINSPLS	0 to 6000	<i>Minimum recognition time - short pulse.</i> Enter the minimum recognition time in which the system can receive a short pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RMAXSPLS	0 to 6000	<i>Maximum recognition time - short pulse.</i> Enter the maximum recognition time in which the system can receive a short pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 20 (200 ms).

LNSIGSYS type NTL524 incoming/outgoing (continued)

Field descriptions (Sheet 3 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	RMINLPLS	0 to 6000	<i>Minimum recognition time - long pulse.</i> Enter the minimum recognition time in which the system can receive a long pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 40 (400 ms).
	RMAXLPLS	0 to 6000	<i>Maximum recognition time - long pulse.</i> Enter the maximum recognition time in which the system can receive a long pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 80 (800 ms).
	RMINEPLS	0 to 6000	<i>Minimum recognition time - extended pulse</i> Enter the minimum recognition time in which the system can receive an extended pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 0 (0 ms).
	RMAXEPLS	0 to 6000	<i>Maximum recognition time - extended pulse.</i> Enter the maximum recognition time in which the system can receive an extended pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 0 (0 ms).
	SSPLSDUR	0 to 6000	<i>Sending duration - short pulse.</i> Enter the time period in which the system can send a short pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 15 (150 ms)
	SLPLSDUR	0 to 6000	<i>Sending duration - long pulse.</i> Enter the time period in which the system can send a long pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 60 (600 ms).

LNSIGSYS type NTLS24 incoming/outgoing (continued)

Field descriptions (Sheet 4 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	SEPLSDUR	0 to 6000	<i>Sending duration - extended pulse.</i> Enter the duration in which the system can send an extended pulse. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 0 (0 ms).
	RPLSOFF	0 to 6000	<i>Minimum receive idle time.</i> Enter the minimum time that a pulse must continue after the change to the idle state. Enter the time in 10-ms intervals. This value completes the recognition of a pulse. This value must be less than the value in field SMINIDL. Range: 0 to 6000 (0 to 60 s). Default value: 24 (240 ms).
	SMINIDL	0 to 6000	<i>Minimum idle time between signals.</i> Enter the minimum time between two signals that follow one after the other. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 30 (300 ms).
	SMINBLO	0 to 6000	<i>Minimum duration - send blocking signal.</i> Enter the minimum time in which the system can send a blocking signal. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 250 (2500 ms).
	RMINBLO	0 to 6000	<i>Minimum duration - receive blocking signal.</i> Enter the minimum time in which the recognition of a signal as a blocking signal must continue. Enter the time in 10-ms intervals. This value must be greater than the longest possible pulse received. Recommended range: 0 to 6000 (0 to 60 s). Default value: 250 (2500 ms).

LNSIGSYS type NTLS24 incoming/outgoing (continued)

Field descriptions (Sheet 5 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	REPCLFM	0 to 6000	<i>Repeat clear forward time-out.</i> Enter the delay that occurs before the system sends a seize and clear forward (CLF) signal. Enter the time in 10-ms intervals. The system sends a seize and CLF signal if the system does not receive a release guard (RLG) signal. This value must be 10 s, or the greater value of the sum of RLG and CLF send signal durations. The default value 0 (zero) suppresses the functionality of this field. Recommended range: 0 to 6000 (0 to 60 s). Default value: 0 (zero).
	SIDLTM	0 to 6000	<i>Signaling idle time.</i> Enter the line signaling idle time. Enter the time in 10-ms intervals. Range: 0 to 500 (0 to 5 s). Default value: 10 (100 ms).
	RMINRCVY	0 to 6000	<i>Recovery idle time.</i> Enter the minimum idle time before the system recovers the trunk. Enter the time in 10-ms intervals. Range: 0 to 6000 (0 to 60 s). Default value: 10 (100 ms).
	RANITMO	500 to 3000	<i>Automatic number identification time.</i> Enter the minimum time required before an automatic number identification (ANI) time-out occurs. Enter the minimum time in 10-ms intervals. Range: 500 to 3000 (0.5 to 30 s). Default value: 3000 (30 s).
	SZG	EXTENDED, LONG, NIL, or SHORT	<i>Seizure signal.</i> Enter the definition for the seizure signal pulse. Default value: SHORT
	ANS	EXTENDED, LONG, NIL, or SHORT	<i>Answer signal.</i> Enter the definition for the answer signal pulse. Default value: SHORT

LNSIGSYS type NTLS24 incoming/outgoing (end)

Field descriptions (Sheet 6 of 6)

Field	Subfield or refinement	Entry	Explanation and action
	CLB	EXTENDED, LONG, NIL, or SHORT	<i>Clear back signal.</i> Enter the definition for the clear back signal pulse. Default value: LONG
	CLF	EXTENDED, LONG, NIL, or SHORT	<i>Clear forward signal.</i> Enter the definition for the clear forward signal pulse. Default value: LONG
	RLG	EXTENDED, LONG, NIL, or SHORT	<i>Release guard signal.</i> Enter the definition for the release guard signal pulse. Default value: LONG
	FRLS	EXTENDED, LONG, NIL, or SHORT	<i>Force release signal.</i> Enter the definition for the force release signal pulse. Default value: NIL
	FOT	EXTENDED, LONG, NIL, or SHORT	<i>Forward transfer signal.</i> Enter the definition for the forward transfer signal pulse. Default value: NIL
	SZA	EXTENDED, LONG, NIL, or SHORT	<i>Seize acknowledge signal.</i> Enter the definition for the seize-acknowledgesignal pulse. Default value: NIL
	PTS	EXTENDED, LONG, NIL, or SHORT	<i>Proceed to send signal.</i> Enter the definition for the proceed to send signal pulse. Default value: NIL
	ANI	EXTENDED, LONG, NIL, or SHORT	<i>Automatic number identification signal.</i> Enter the definition for the ANI signal pulse. Default value: NIL

LNSIGSYS type WINKSIG

Signaling type WINKSIG

Datafill that the operating company can define for the wink (wink-start) signaling system appears in this section.

Datafill

Field names, subfield names, and correct data ranges for table LNSIGSYS appear in the following table.

Field descriptions (Sheet 1 of 9)

Field	Subfield	Entry	Explanation and action
LNSIGIDX		alphanumeric (1 to 16 characters)	<i>Line signaling index</i> Enter the signaling system index that the operating company defines. This field is the key to table LNSIGSYS. The maximum addition of line signaling indexes to the table is 25.
SIGTYPE		WINKSIG	<i>Signaling type</i> Enter WINKSIG for wink signaling.
LSSINFO		see subfields	<i>Line signaling system information</i> This field contains the subfields that appear below.
	FILTERTM	20	<i>Filter time</i> Enter 20 as the minimum signal duration time for the detection of a line signal. Enter the time in 2 ms intervals. The system does not recognize a line signal that lasts for less than 40 ms. If you do not enter 20, the tuple is invalid and table control displays the following warning message: FLTR must be 20 (40 ms) for this SIGTYPE Recommended setting is 20 (40 ms). Default value is 20 (40 ms). Note: For MMP loads, operating company personnel have the option of a range from 5 to 63. Operating company personnel can enter the time in 2-ms increments.

LNSIGSYS type WINKSIG (continued)

Field descriptions (Sheet 2 of 9)

Field	Subfield	Entry	Explanation and action
	RCMNSZG	3 to 1000	<i>Received minimum seize signal</i> Enter the minimum time necessary to detect a seize signal. Enter the time in 2 ms intervals. Recommended range is 40 to 250 (80 to 500 ms). Note: For MMP loads, the range is 0 to 6000.
	SENDPTS	2 to 10000	<i>Send PTS (wink) signal</i> Enter the duration of the transmitted proceed-to-send (PTS) signal (wink) in 2 ms intervals. Recommended range is 45 to 250 (90 to 500 ms).
	SDPTPTS	1 to 100	<i>Send post-PTS</i> Enter the minimum amount of time that the trailing edge of a PTS (wink) signal lasts. Enter the time in 2 ms intervals. Recommended range is 1 to 100 (2 to 200 ms). Note: For MMP loads, the range is 0 to 6000.
	SENDIDL	0 to 6000	<i>Send idle signal</i> Enter the minimum amount of time for the idle signal to last. Enter the time in ms.
	RMNPRPTS	25 to 25000	<i>Receive minimum Post-PTS</i> Enter the time that a seized trunk must return to idle before the recognition of the PTS signal. Enter the time in 2 ms intervals. Recommended range is 25 to 50 (50 to 100 ms). Note: For MMP loads, the range is 0 to 6000.

LNSIGSYS type WINKSIG (continued)**Field descriptions (Sheet 3 of 9)**

Field	Subfield	Entry	Explanation and action
	RMXPRPTS	250 to 30000	<i>Receive maximum pre-PTS</i> Enter the maximum time that a seized trunk waits for a PTS signal before timing out. Enter the time in 2 ms intervals. Recommended range is 2000 to 10000 (4 to 20 s). Note: The range for MMP loads is 0 to 6000.
	RMINPTS	20 to 100	<i>Minimum received PTS signal</i> Enter the minimum time that the system accepts as a PTS (wink) signal. Enter the time in 2 ms intervals. Recommended range is 45 to 250 (90 to 500 ms). Note: For MMP loads, the range is 0 to 6000.
	RMAXPTS	50 to 500	<i>Maximum received PTS signal</i> Enter the maximum time that the system accepts as a PTS (wink) signal. Enter the time in 2 ms intervals. Recommended range is 100 to 250 (200 to 500 ms). Note: For MMP loads, the range is 0 to 6000.
	RCMAXFAN	1 to 200	<i>Receive maximum false answer</i> Enter the time to delay the start of scanning for the answer signal that follows outpulsing. Enter the time in 10 ms intervals. The insertion of this delay prevents confusion of the momentary loop open. The momentary loop open occurs when a crossbar switch detaches the register of the crossbar switch from an incoming trunk. This momentary open lasts from 200 to 800 ms. The momentary open occurs up to 800 ms after the completion of multifrequency (MF) digit outpulsing or reception, or both. Recommended range is 0 to 200 (0 to 2000 ms). Note: This field is not available for MMP.

LNSIGSYS type WINKSIG (continued)

Field descriptions (Sheet 4 of 9)

Field	Subfield	Entry	Explanation and action
	CLBTIMER	1 to 6553 5	<i>Time-out after clear back signal</i> Enter the time that an incoming trunk waits after the propagation of a clear back signal. Enter the time in 10 ms intervals. The incoming trunks waits for a clear forward signal from the calling end or a reanswer signal from the called end. Enter -1 to indicate that timing does not occur. Entries outside this range are not correct. Recommended range is 500 to 6400 (5 to 64 s) or -1 (to indicate timing does not occur). Note: This field is not available for MMP.
	RCMNRANS	0 to 6000	<i>Receive minimum RAN signal</i> Enter the minimum amount of time the outgoing trunk must identify the reanswer (RAN) signal. Enter the time in ms.
	RCMNANS	0 to 6000	<i>Receive minimum ANS signal</i> Enter the minimum amount of time the outgoing trunk must identify the answer (ANS) signal. Enter the time in ms.
	RCMNBLO	0 to 6000	<i>Receive minimum BLO signal</i> Enter the minimum time the block (BLO) signal must last. Enter the time in ms.
	RCMNUBL	0 to 6000	<i>Receive minimum UBL signal</i> Enter the minimum amount of time required before the outgoing trunk identifies the unblock (UBL) signal. Enter the minimum time required
	SDMNUBL	0 to 6000	<i>Send minimum UBL signal</i> Enter the time that an outgoing trunk maintains the idle state after the transmission of an unblock (UBL) signal.

LNSIGSYS type WINKSIG (continued)**Field descriptions (Sheet 5 of 9)**

Field	Subfield	Entry	Explanation and action
	RCMNCLF	1 to 10000	<i>Receive minimum clear forward signal</i> Enter the minimum amount of time required before the recognition of a clear forward signal. Enter the time in 2 ms intervals. Recommended range is 45 to 500 (90 to 1000 ms). Note: For MMP loads, the range is 0 to 6000.
	SDMNCLF	1 to 10000	<i>Send minimum clear forward signal</i> Enter the time that an outgoing trunk maintains the idle state after the transmission of a clear forward signal. Enter the time in 2 ms intervals. Recommended range is 45 to 500 (90 to 1000 ms). Note: This field is not available for MMP.
	RCMNCLB	1 to 10000	<i>Receive minimum clear back signal</i> Enter the minimum time before the recognition of a clear back signal. Enter the time in 2 ms intervals. Recommended range is 45 to 500 (90 to 1000 ms). Note: For MMP loads, the range is 0 to 6000.
	SDMNCLB	0 to 10000	<i>Send minimum clear back signal</i> Enter the time that an outgoing trunk maintains the idle state after the transmission of a clear back signal. Recommended range is 45 to 500 (90 to 1000 ms). Note: For MMP loads, the range is 0 to 6000.
	RCMNRLG	50 to 1000	<i>Receive minimum release guard signal</i> Enter the minimum time before the recognition of a release guard. Enter the time in 2 ms intervals. Recommended range is 50 to 500 (100 to 1000 ms) Note: For MMP loads, the range is 0 to 6000.

LNSIGSYS type WINKSIG (continued)

Field descriptions (Sheet 6 of 9)

Field	Subfield	Entry	Explanation and action
	SDMNRLG		<i>Send minimum release guard signal</i> Enter the minimum time after the recognition of a release guard. Enter the time in 2 ms intervals. Recommended range is 50 to 500 (100 to 1000 ms) Note: For MMP loads, the range is 0 to 6000.
	RANITMO	500 to 3000	<i>Receive automatic number identification time</i> Enter the time that the outgoing end waits for an automatic number identification (ANI) request signal (a wink-type signal). Enter the time in 10 ms intervals. If the outgoing end times out before receiving the ANI request signal, the calling party receives a treatment. The type of ANI request failure treatment can be a tone or announcement entry for each route. Recommended range is 500 to 3000 (5 to 30 s). Note: For MMP loads, the range is 0 to 6000.
	RANIWMIN	50 to 80	<i>Receive automatic number identification wink minimum</i> Enter the minimum amount of time that the system maintains a received ANI wink signal for recognition. Enter the time in 2 ms intervals. Recommended range is 50 to 80 (100 to 160 ms). Note: For MMP loads, the range is 0 to 6000.
	RANIWMAX	100 to 175	<i>Receive automatic number identification wink maximum</i> Enter the maximum amount of time that the system maintains a received ANI wink signal for recognition. Enter the time in 2 ms intervals. Recommended range is 100 to 175 (200 to 350 ms). Note: For MMP loads, the range is 0 to 6000.

LNSIGSYS type WINKSIG (continued)**Field descriptions (Sheet 7 of 9)**

Field	Subfield	Entry	Explanation and action
	RANISLTL	25 to 2500	<i>Post-automatic number identification receive delay</i> Enter the time that the outgoing end delays before the outgoing end sends the digits of the called number. Enter the time in 2 ms intervals. The delay is necessary to allow analog facility transients to settle. Recommended range is 25 to 2500 (50 ms to 5 s). Note: For MMP loads, the range is 0 to 6000.
	SANLWK	70 to 150	<i>Send automatic number identification wink</i> Enter the time of the ANI request wink that the system sends. Enter the time in 2 ms intervals. Recommended range is 70 to 150 (140 to 3000 ms). Note: For MMP loads, the range is 0 to 6000.
	SANLSETL	20 to 50	<i>Post-automatic number identification send delay</i> Enter the minimum time that the incoming end delays after the end of the ANI wink. Enter the minimum time before the incoming end sends the answer signal. Enter the time in 2 ms intervals. The delay is necessary to allow analog facility transients to settle. Recommended range is 20 to 50 (40 to 100 ms). Note: For MMP loads, the range is 0 to 6000.
	GUARDTM	50 to 1000	<i>Release guard time</i> Enter the time that an outgoing trunk remains busy after the system sends a clear forward signal. Enter the time the trunk remains busy before the outgoing trunk looks for a release guard signal. Enter the time in 10 ms intervals. Recommended range is 50 to 2000 (500 ms to 20 s). Note: This field is not available for MMP.

LNSIGSYS type WINKSIG (continued)

Field descriptions (Sheet 8 of 9)

Field	Subfield	Entry	Explanation and action
	IDLEPOL	0 or 1	<i>Idle polarity</i> Enter the value of the A-bit sent and received when idle. A value of 0 means that a clear forward signal is a transition to 0. A seizing signal is a 1. A value of 1 means a clear forward signal is 1. A seizing signal is 0. Channel units that interface to E&M signaling require a polarity of 0. Many loop signaling channel banks expect an idle polarity of 1. Note: This field is not available for MMP.
	BLKBIT	A or B	<i>Blocking bit</i> This field indicates if A-bit or B-bit blocking is necessary. Note: This field is not available for MMP. Enter A if the switching office is in the Caribbean. Enter B if the switching office is in Turkey.
	RTWPRSZG	0 to 6000	<i>Route two-way SZG signal</i> Enter the maximum amount of time the two-way trunk waits after sending the seize (SZG) signal from the incoming side. Enter the time in ms.
	RMXPTSDD	0 to 6000	Maximum timer signal for delay dial Enter the maximum value for delay dial. Enter the time in ms.
	RMXTSO	0 to 6000	<i>Maximum signal for two-stage outpulsing</i> Enter the maximum value for two-stage outpulsing wink duration.
	KPDELAY	0 to 6000	<i>Kick pulse delay</i> Enter the amount of time the outgoing trunk waits before sending the kick pulse digit for the calling number.

LNSIGSYS type WINKSIG (end)

Field descriptions (Sheet 9 of 9)

Field	Subfield	Entry	Explanation and action
	SENDANI	0 to 6000	<i>Send automatic number identification (ANI)</i> Enter the time between the ic_reg_complete and ani_wink signals.
	SENDPTS	0 to 6000	<i>Send PTS</i> Enter the length of time for the proceed to send (PTS) signal to last.
	SNDEXPTS	0 to 6000	<i>Send extended PTS</i> Enter the length of time to extend the duration of the PTS signal.

LNSMTCE

Table name

Line Maintenance Table

Functional description

Table LNSMTCE is part of a MAP-oriented approach to the maintenance of lines as an alternative to the existing logs system. This table provides line maintenance capabilities through two main functions: thresholding and alarm generation on line troubles, and buffering of line trouble information.

The generation of alarms is caused by line troubles that reach or exceed the operating company defined thresholds. A failure count is pegged on all software failure paths. This failure count is measured against the operating company-defined levels to determine which alarm, if any, is generated. The operating company datafills table LNSMTCE for minor, major, and critical alarms as percentages of the datafilled value in field ATMP CNT (the number of call attempts). The datafilled value in field ATMP CNT represents the number of call attempts that must take place before the failure count for the line concentrating device (LCD) on which the line exists is decremented by one. In other words, an LCD is given a credit of one for every n (the value in field ATMP CNT) attempts that take place on lines on that LCD. This credit is provided by decrementing the failure count on that LCD by one if it is non-zero.

Alarm generation is implemented by a thresholding process running once every 60 s. The thresholding process is established if the failure count of an LCD reaches or exceeds the operating company defined alarm thresholds. The thresholding process generates the appropriate alarm based on the current trouble count and the alarm threshold levels datafilled for the specific LCD. On generation of an alarm, a 15-min wakeup is initiated during which the alarm level may not decrease except when manually cleared. If a higher priority alarm is generated, it is set with a refreshed 15-min wakeup. The thresholding process calculates and generates alarm levels for each LCD according to the following algorithm:

1. Compare the adjusted failure count to the critical alarm threshold level. If the count is greater than or equal to critical, go to 5.
2. Compare the adjusted failure count to the major alarm threshold level. If the count is greater than or equal to major, go to 5.
3. Compare the adjusted failure count to the minor alarm threshold level. If the count is greater than or equal to minor, go to 5.

LNSMTCE (continued)

4. Get the next LCD adjusted failure count since no alarm condition exists; go to 1.
5. If an alarm exists on the specific LCD of a higher priority currently activated, go to 1. If an alarm exists of the same priority currently activated, refresh the 15-min wakeup, then go to 1. If no alarm is presently activated, generate the appropriate alarm level with a 15-min wakeup, then go to 1.

The alarm level thresholds entered by the operating company represent a percentage of the value in field ATMP CNT (call attempts). The values entered by the operating company are translated to an absolute trouble count dependent on the datafilled value in field ATMP CNT before being compared to the adjusted failure count. For example, if the value in field ATMP CNT is 200 and the value in field CPMINALM is 10, the absolute trouble count is 20.

Call attempts are pegged in the same place as the corresponding operational measurements (OM). This attempt count is used to adjust the failure count to represent more accurately the failure level on each LCD.

The buffering capability places line trouble information in buffers for each LCD, and lines are identified by their line equipment number (LEN) within the buffer. The operating company has the capability to allocate buffers for each LCD in the office.

For each LCD, a pair of buffers exists to identify the lines with problems. One of these buffers is a trouble buffer that can contain up to 10 entries representing the 10 lines on the LCD that are experiencing the most trouble (this buffer is referred to as the upper buffer for the remainder of this description). The other buffer can contain up to five entries and is used to screen out lines with only one occurrence of a problem (this buffer is referred to as the lower buffer).

Store for the buffers can be allocated selectively by the table control of table LNSMTCE. The buffers to contain the trouble information generated by call processing can be allocated or de-allocated by changing field CPBUFRQD in table LNSMTCE. If the buffer pair is desired, the store for the upper and lower buffers is allocated in the following manner. The upper buffer contains the 10 most recent lines on an LCD experiencing the most trouble, that is, the lines that have the highest failure count (greater than one) and had these failures most recently. The lower buffer (up to five entries) is used to screen out members with fewer than two troubles. Field CPBUFRQD is used to allocate or de-allocate the buffers. This field takes the value Y or N. Buffers cannot be de-allocated while a continuous buffer display is in progress in the LNSTRBL sublevel of the LNS subsystem at any MAP.

LNSMTCE (continued)

The contents of the upper buffer structure are as follows:

- identification of the line (LEN)
- time of the last line trouble (yr/mon/day/hr/min/sec)
- count of the troubles on that line (integer)
- brief text trouble description

The contents of the lower buffer structure are as follows:

- identification of the line (LEN)
- time of the last line trouble (yr/mon/day/hr/min/sec)

Only the contents of the upper buffer are accessible through the LTP and MAP level LNSTRBL. The MAP level LNSTRBL is below the LNS subsystem, parallel to the LTP sublevel, and enhancements have been made to the POST command in the LTP sublevel.

If trouble occurs on a line during call processing where a log report is presently being generated, a buffering procedure is called to update the trouble buffers associated with the LCD on which that line exists. This procedure searches the upper buffer of the LCD for an instance of the line with the problem. If the line is found in the upper buffer, the last trouble time and the trouble description fields of the entry are updated. In addition, the trouble count field of the entry is incremented by one. If the line is not found in the upper buffer, the procedure searches the lower buffer for the line. If the line is found, the entry in the lower buffer is moved into the upper buffer. The entry being moved either fills an empty spot in the upper buffer, if one is available, or overwrites the oldest entry. If the line is not found in the lower buffer, it is placed there by filling an empty spot or overwriting the oldest entry if no empty spot is available.

An example of a line experiencing two troubles and the resulting buffer entries is shown in the following tables. The table "1st trouble, lower buffer" shows the resulting lower buffer entry for the first trouble. The table "2nd trouble" shows that the entry from the 1st trouble, lower buffer table has moved from

LNSMTCE (continued)

the lower buffer to the upper buffer. The table "2nd trouble, lower buffer" shows that the lower buffer entry is removed.

1st trouble

Upper buffer	ID	Count	Time stamp	Trouble description
0			.	
			.	
9				

1st trouble, lower buffer

Lower buffer	ID	Time stamp
0	219	1984/05/09 04:33:21
		.
		.
4		

2nd trouble

Upper buffer	ID	Count	Time stamp	Trouble description
0	219		1984/05/09 04:34:19	7. perm signal
			.	
			.	
9				

LNSMTCE (continued)

2nd trouble, lower buffer

Lower buffer	ID	Time stamp
0		.
		.
4		

A list of all text descriptions that can be seen in a buffer entry when it is displayed at the LNSTRBL level is shown below.

1. VACANT CODE ANNOUNCEMENT
2. NO CKT AVAILABLE : OG TRK
3. MISDIRECTED CAMA ANN.
4. UNAUTHORIZED CODE ANN.
5. EMERGENCY ANNOUNCEMENT
6. INWATS OUTSIDE VALID ZONE
7. PERMANENT SIGNAL
8. PARTIAL DIAL
9. EXTRA PULSE
10. FALSE START
11. MUTILATED PULSE
12. MUTILATED DIGIT
13. INVALID ST DIGIT RECEIVED
14. ANI OFFICE FAILURE
15. ANI NUMBER FAILURE
16. ANI TIME OUT
17. NO START DIAL : OG TRK
18. INTEGRITY FAILURE
19. INTEGRITY LOST
20. FALSE KP

LNSMTCE (continued)

- 21. REVERSED TRUNK : OG TRK
- 22. UNEXPECTED STOPDIAL:OG TRK
- 23. EXPECTED STOP TIMEOUT: TRK
- 24. CAMA POSITION FAULT
- 25. CAMA POSITION TROUBLE
- 26. ANNOUNCEMENT MACH TROUBLE
- 27. TRUNK RESET FAILED: OG TRK
- 28. TRUNK RESET : OG TRK
- 29. HIT DETECTED
- 30. PRE-ROUTE ABANDON
- 31. NO5 SIG VIOLATION: OG TRK
- 32. DIG RCVR NOISE HIGH
- 33. DIG RCVR NOISE MARGINAL
- 34. NO INTERDIGIT PAUSE
- 35. LARGE TWIST
- 36. MORE THAN TWO FREQUENCIES
- 37. FLUCTUATION ON MF RECEIVER
- 38. RINGING FAILED
- 39. COIN COLLECT FAILED
- 40. COIN RETURN FAILED
- 41. ANI TEST FAILED
- 42. COIN PRESENT TEST FAILED
- 43. CP IOMSG LOST
- 44. BAD CP IOMSG
- 45. ANI FAILED, ONI SUCCEEDED
- 46. INVALID ANI REQUEST
- 47. BAD KEYSET
- 48. LINE CARD FAULT
- 49. DU SYNC LOST
- 50. GROUND LOOP FAIL
- 51. ABANDON ON RP INC TRK

LNSMTCE (continued)

- 52. OVERALL RP TIMEOUT
- 53. INVALID RP DIGIT
- 54. UNDETERMINED RP ERROR
- 55. EXCESS DIGITS
- 56. DP PERMANENT SIGNAL
- 57. MF PERMANENT SIGNAL
- 58. DGT PERMANENT SIGNAL
- 59. DP RECEPTION TROUBLE
- 60. MF RECEPTION TROUBLE
- 61. DGT RECEPTION TROUBLE
- 62. ANI RECEPTION TROUBLE
- 63. ONI RECEPTION TROUBLE
- 64. LOCKOUT ON
- 65. LOCKOUT OFF
- 66. OUTPULSING TROUBLE: OG TRK
- 67. ROUTING TROUBLE
- 68. BIPOLAR VIOLATION
- 69. FOREIGN EMF DETECTED
- 70. FOREIGN EMF REMOVED
- 71. NO 3WC EXTENSION BLOCKS
- 72. NO PERM EXTENSION BLOCKS
- 73. NO TEMP EXTENSION BLOCKS
- 74. NO CONF CIRCUIT AVAILABLE
- 75. NO MULTIBLKS OR CCBS AVAIL
- 76. NO NETWORK CONN AVAILABLE

Table LNSMTCE is part of an optional feature available to the operating company. If this feature is present, the line logs that it replaces are automatically suppressed. These logs are still available to the operating company and can be generated by selectively unsuppressing the required logs.

LNSMTCE (continued)

The following logs are suppressed if this feature is purchased:

- LINE102 : line lockout on report
- LINE103 : line lockout off report
- LINE104 : line trouble report
- LINE105 : permanent signal
- LINE106 : line trouble (extra pulse, perm signal)
- LINE108 : dgt reception trbl report
- LINE109 : nostart dial/integrity fail/reversed trk
- LINE110 : foreign EMF detected report
- LINE111 : foreign EMF removed report
- LINE120 : 3wc failure
- LINE204 : line trouble

Datafill sequence and implications

The suppression of the above logs is accomplished by datafilling table LOGCLASS. Field SUPPRESS of table LOGCLASS is used to suppress the log. The default class for these logs is 31; the operating company purchasing this feature must check the present datafill for table LOGCLASS. These logs may be resumed by setting the suppress value back to N (no).

Table size

Table size is statically allocated for a maximum of 256 tuples.

LNSMTCE (continued)**Datafill**

The following table lists datafill for table LNSMTCE.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LMNM		see subfields	<i>Line module key</i> This field defines the physical location of the equipment that is connected to a specific telephone line. This field appears as the LEN field in some other tables. Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. Field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.
CPMINALM		0 to 101	<i>Call processing troubles minor alarm</i> Enter the percentage of failures, based on the call attempt value, that must be reached before a minor alarm is activated. If no alarm is required, enter 101. Entries outside this range are not valid. The default value is 101.
CPMAJALM		0 to 101	<i>Call processing troubles major alarm</i> Enter the percentage of failures, based on the call attempt value, that must be reached before a major alarm is activated. If no alarm is required, enter 101. Entries outside this range are not valid. The default value is 101.

LNSMTCE (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
CPCRTALM		0 to 101	<i>Call processing troubles critical alarm</i> Enter the percentage of failures, based on the successful call attempt value, that must be reached before a major alarm is activated. If no alarm is required, enter 101. Entries outside this range are not valid. The default value is 101.
ATMPCNT		1 to 32767	<i>Attempts counter</i> Enter the number of attempts that must be reached before decrementing the failure count by one. An entry outside this range is invalid. The default value is 100.
CPBUFRQD		Y or N	<i>Call processing trouble buffer required</i> Enter Y (yes) if a call processing trouble buffer is required. Otherwise, enter N (no).

Datafill example

The following example shows sample datafill for table LNSMTCE.

The example consists of a line on the host switching unit and one line on a remote site. If 10% of the attempts are failures, a minor alarm is activated. If 20% of the attempts are failures, a major alarm is activated. If 30% of the attempts are failures, a critical alarm is activated. For each 100 attempts the failure counter is decremented by 1. A call processing trouble buffer is required.

LNSMTCE (end)

MAP display example for table LNSMTCE

	LMNM	CPMINALM	CPMAJALM	CPCRTALM	ATMPCNT	CPBUFRQD
HOST	00 0	10	20	30	100	Y
REM1	02 0	10	20	30	100	Y

LNTDM**Table name**

Line Time Division Multiplex Table

Functional description

Table LNTDM contains ISDN loop to time division multiplexed (TDM) mappings. Entries in table LNTDM are automatically created whenever an ISDN line in table LNINV is entered with a status of WORKING or an existing ISDN line is changed from status HASU to status WORKING.

Table LNTDM can only be changed manually, with the table editor, during dump and restore. The Service Order System (SERVORD) command CISC (change ISDN service group), updates this table.

Datafill sequence and implications

The following tables must be datafilled before table LNTDM:

- LCMINV
- ISGTDM

Table size

0 to 32,767 tuples

Datafill

The following table lists datafill for table LNTDM.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
LINE		0 to 127	<i>Line equipment number</i> This field specifies the external LEN.
ISGNO		0 to 255	<i>ISDN service group number</i> This field displays the ISG number.
CHNLNO		1 to 31	<i>Channel number</i> This field displays the channel number on the ISG.
TDMGROUP		1 to 120	<i>Time division multiplex group</i> This field displays which TDM group is using the channel specified in field CHNLNO.
TDMSLOT		0 to 3	<i>Time division multiplexed slot</i> This field indicates which timeslot in field TDMGROUP is used by the LEN indicated in field LINE.

LNTDM (end)

Datafill example

The following example shows sample datafill for table LNTDM.

MAP display example for table LNTDM

	LINE	ISGNO	CHNLNO	TDMGROUP	TDMSLOT
HOST 01 0 09 15		2	16	63	1
HOST 01 0 00 08		0	1	1	1
HOST 01 0 00 09		0	1	1	1

LNTHRSH

Table name

Lines and Thresholds Management

Functional description

Table LNTHRSH functions as a look-up table to preserve the correspondence between lines and threshold values during dump and restore. Layer 1 basic line monitoring (BLM) threshold values for integrated services digital network (ISDN) two binary one quaternary (2B1Q) and S/T ISDN line card (S/T-ISLC) subscriber U-loops are datafilled in table BLMTHRSH. Table LNTHRSH uses the key field BLMIDX in table BLMTHRSH to relate the threshold values to the line equipment number (LEN). LEN is the key field to table LNTHRSH.

Table LNTHRSH preserves the threshold index information for 2B1Q and S/T-ISLC loops over dump and restore, and it restores the threshold index information for loops datafilled following an image dump.

Entries are valid only for 2B1Q and S/T-ISLC loops residing on enhanced ISDN line concentrating modules (LCME) and small remote units (SRU).

Datafill sequence and implications

The following tables must be datafilled before table LNTHRSH:

- BLMTHRSH
- LNINV

Table size

0 to (the number of LCMEs or SRUs datafilled × 448) tuples

LNTHRSH (continued)**Datafill**

The following table lists datafill for table LNTHRSH.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
LEN		see subfields	Line equipment number This field defines the physical location of the equipment that is connected to a specific telephone line. Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. Field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.
BLMIDX		0 to 15	Basic line monitoring index Enter the index into table BLMTHRSH.
LOSW		ON or OFF	Loss of synchronous word Enter ON to enable loss of synchronous word (LOSW) reporting. Enter OFF to disable LOSW reporting. If the LEN is an S/T-ISLC, LOSW must to be set to ON.
LOS		ON or OFF	Loss of signal Enter ON to enable loss of signal (LOS) reporting. Enter OFF to disable LOS reporting. If the LEN is an S/T-ISLC, LOS must be set to ON.

LNTHRSH (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
LOSDG		ON or OFF	Loss of signal with dying gasp Enter ON to enable loss of signal with dying gasp (LOSDG) reporting. Enter OFF to disable LOSDG reporting. If the LEN is an S/T-ISLC, LOSDG must be set to ON.
NTM		ON or OFF	Nt1 tst mode Enter ON to enable NT1 test mode (NTM) reporting. Enter OFF to disable NTM reporting. If the LEN is an S/T-ISLC, NTM must be set to OFF.
TSYNC		ON or OFF	T interface synchronization Enter ON to enable T-interface synchronization (TSYNC) reporting. Enter OFF to disable TSYNC reporting.
PERF		ON or OFF	Performance this field controls whether a LINE131 log is generated on a line basis when a linecard or sub-tending line unit exceeds a provisioned threshold. This field also controls whether a LINE148 PM node mismatch is generated on a per line basis. A log is generated only if both the PERF filed and the PFCVAR tuple ISDN_PERFORMANCE_MON_ALARM are set to ON. Enter ON to enable performance monitoring (PM). Enter OFF to disable PM.

LNTHRSH (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
PMODE		PATH, SEG	Performance Monitoring Mode The PMODE field determines the type of data being stored on the line units. The two types are PATH and SEG (segmented). PATH is the default value. PATH is entered when the cyclic redundancy check (CRC) is initially calculated at the source terminal (ISLC or NT1) of the digital subscriber line (DSL). SEG is entered when each segment of the loop is independently monitored (CRC are corrected at each sub-tending line unit) and there is a threshold for each direction of transmission. The QLayer command (LTPISDN level) can be used to view the PM error counts.
MPLUFAIL		ON, OFF	mp-eoc Line Unit Failure The values for this field are ON (log failure) or OFF (do not log failure). The default is ON. This field controls whether a Line145 mp-eoc node failure log is generated when a line unit reports an internal failure (node failure) on an individual loop basis. An mp-eoc node failure log is generated only if both the MPLUFAIL field and the OFCVAR ISDN_MPLU_NODE_FAILURE_ALARM parameter are set to ON.

Datafill example

The following example shows sample datafill for table LNTHRSH.

LNTHRSH (end)**MAP display example for table LNTHRSH**

LEN	BLMIDX	LOSW	LOS	LOSDG	NTM	TSYNC	PERF	PMODE	MPLUFAIL
SITE 67 0 08 14 3	ON	OFF	ON	ON	OFF	ON	SEG	ON	

Table history**NA008**

Field PMODE and MPLUFAIL was added.

LEC002, CDN002, LET002

SRU references were added.

BCS35

Table LNTHRSH was introduced.

LOGCLASS

Table name

Log Class Table

Functional description

The following information for each report name (REPNAME) appears in table LOGCLASS:

- the class assignment of the log name and report number
- the threshold that specifies which messages the terminal prints or displays
- if the system generates log messages
- the time, in minutes, when the register count associated with a threshold report resets to 0 (zero)
- if a log is a system log (SYSLOG)

Note: Field SYSLOG allows this characteristic to remain during a dump and restore. Field SYSLOG does not require the use of SYSLOG command in the LOGUTIL facility at the maintenance and administration position (MAP) terminal. All SYSLOGs appear in table LOGCLASS with field SYSLOG = Y from the external (EXT) files at loadbuild time.

For any log name that does not appear in table LOGCLASS, the values in fields CLASS and THRESHLD are 0.

Table LOGCLASS allows a maximum of 100 different time units (TUNITS). If the field THRESHLD is 0 (print all reports), field TUNITS must be 0 or <0.

The following office parameters can affect the production of the log reports:

- LOG_CENTRAL_BUFFER_SIZE in table OFCVAR
- LOG_DEVICE_BUFFER_SIZE in table OFCVAR
- LOG_CENTRAL_POLLING_MILLI_SECOND in table OFCSTD
- SYSLOG_ACCESS in table OFCVAR

Refer to the *Input/Output System Reference Manual*, 297-1001-129 for additional information on log systems.

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table LOGCLASS.

LOGCLASS (continued)**Table size**

The system automatically allocates memory for a maximum of 512 tuples.

Datafill

Datafill for table LOGCLASS appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
REPNAME		see subfields	<i>Report name.</i> This field contains subfields LOGNAME and REPNUM.
	LOGNAME	alphabetical (up to 4)	<i>Log name.</i> Enter the log name. Refer to the <i>Log Report Reference Manual</i> for a list of log names in the logs system.
	REPNUM	000 to 999 or -1	<i>Report number.</i> Enter the report number. If all report numbers are necessary, enter -1. Note: If a specified report name uses the report number of -1 you must enter data in the report. Enter data in the report before you enter data in the other logs with the same report name. Any entry outside the range of indicated values for this field is not correct.
CLASS		0 to 31	<i>Class.</i> Enter the class number associated with the report name.
THRESHLD		0 to 255	<i>Threshold.</i> Enter the number to specify which messages the system prints or displays. Enter 0 to generate all messages. If threshold is 1 to 255, office parameter THRESHOLD_IS_SAMPLING in table OFCVAR controls the action for log thresholding.
SUPPRESS		Y or N	<i>Suppress.</i> Enter Y (yes) if the system does not print or display a report or log. Enter N (no) if the system generates a report or log. The office parameter BUFFER_THRESHOLDDED_REPORTS in table OFCVAR can control the disposal of reports that the system does not print. The system does not print the reports because of log thresholding. This condition occurs if the entry in field THRESHLD is 1 to 255 and if the system generates a report.

LOGCLASS (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
TUNITS		-32768 to 32767	<i>Time units.</i> Enter the time, in minutes, when the register count associated with a threshold report resets to 0. This table allows a maximum of 100 unique TUNITS. Enter 0 or a negative value to generate all reports. Enter 0 or a negative value (<0) if TUNITS = 0 if a reset is not necessary.
SYSLOG		Y or N	<i>System log.</i> Enter Y (yes) if log is a system log. Enter N (no) if the log is not a system log. Note: All SYSLOG that are Y appear in table LOGCLASS from the external (EXT) files at loadbuild.

Datafill example

Sample datafill for table LOGCLASS appears in the following example.

MAP example for table LOGCLASS

REPNAME	CLASS	THRESHLD	SUPPRESS	TUNITS	SYSLOG
SWCT -1	0	0	N	-1	Y
OMPR 200	22	0	N	0	N
SYNC 103	0	0	N	0	Y

LOGDEV

Table name

Log Device Table

Functional description

Table LOGDEV lists the log classes the system can print or appear at each terminal or data device. A log is an output message.

Table LOGDEV defines the alternate terminal or data device to which the system sends messages. The system sends these messages if the main terminal device is not operational.

Refer to table LOGCLASS for related information.

Datafill sequence and meaning

Enter data in table TERMDEV before you enter data in table LOGDEV.

The office parameters that table LOGDEV interacts with appear in the following list:

- SCC2_LOGS in table OFCOPT
- LOG_PRIORITIZATION in table OFCENG for feature BR0536 [Critical Message Prioritization]

Table size

The system allocates memory for 32 terminal devices.

Datafill

Datafill for table LOGDEV appears in the following table.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
DEV		alphanumeric (a maximum of 12 characters)	<i>Device.</i> Enter the name in table TERMDEV for the terminal device. Note: This field can be SCC2 if the office parameter SCC2_LOGS in table OFCOPT is Y (yes) and field PRIORITY is Y. This field can be SCC2 if field FORMAT is STD and field PRIORITY is N (no).

LOGDEV (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
ALT		alphanumeric (a maximum of 12 characters) or NIL	<i>Alternate.</i> Enter the name in table TERMDEV for the terminal device that receives logs. The system sends logs to this terminal device if the main terminal device is not in operation. If an alternate device is not necessary, enter NIL.
CLASSES		vector of numeric values (0 to 31) with delimiter characters (, , -, and +	<i>Classes.</i> Enter the class numbers the system assigns to the terminal device. Enter ((open bracket) if the entry is the first record for the terminal device. If the entry is a block of classes in sequence, enter the first and last class in the block. Separate the first and last class with a - (dash). For example, if classes are 1, 2, 3, 4 and 5, enter 1-5. Separate each log or block of log classes with a blank space. Enter + if additional information for this field appears in the next record. If this condition does not apply, enter) (close bracket) to indicate the end of the tuple. You can use the table editor of the switch to add a separate entry. A single quotation mark must precede the open bracket. A single quotation mark must follow the close bracket. An example of the use of the quotation marks is '(22 24)'.
FORMAT		SCC2 or STD	<i>Format.</i> Enter SCC2 for the AT&T #2 Switching Control Center format. Enter STD for the standard format. Note: This field can only be SCC2 if office parameter SCC2_LOGS in table OFCOPT is Y.
PRIORITY		Y or N	<i>Critical message prioritization.</i> Enter Y if the alarm level sets the prioritization of the reports. The system generates the report with the highest alarm level. Enter N if prioritization is not necessary and the system generates the reports in order. Note: This field can only be Y if office parameter LOG_PRIORITIZATION in table OFCENG is Y.

LOGDEV (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
GUAR		Y or N	<i>Guaranteed device.</i> Enter Y if the system guarantees the device. For example, the device continues to run with the call processing or maintenance load. If the condition is not for Y, enter N. The default value for this field is N.

Datafill example

Sample datafill for table LOGDEV appears in the following example. In the example, the system guarantees device NWMPRT. The datafill a CMAP device requires appears in the third tuple.

MAP example for table LOGDEV

DEV	ALT	CLASSES
FORMAT PRIORITY GUAR		
NWMPRT	MAPPRT	(22-24)
STD Y Y		
TTPPRT	NIL	(10)
STD Y N		
CMAP	NIL	(0-31)
SCC2 Y N		

Table history**BCS36**

During BCS36, the system corrects entry NONE in field ALT to NIL.

LOGDEV (end)

Additional information

This section provides information on how to enter data in table LOGDEV for specified applications. This section provides information on product descriptions related to table LOGDEV.

Critical Message Prioritization

Feature BR0536 (Critical Message Prioritization) provides an optional method of report prioritization in the log system. The alarm levels of the log system form the base for prioritization. The system can turn message prioritization on or off for each specified log device.

If prioritization is on for a specified device, the system generates the report with the highest alarm level. The system outputs logs with the same alarm level in order.

If the system did not enable the feature for a specified device, the system generates reports in order. If the system did not install the feature, the system generates reports in order.

The SAVELOG is a non-optional log and is a part of this feature. A SAVELOG prevents the loss of critical data during restarts.

To enable Critical Message Prioritization, office parameter LOG_PRIORITIZATION in table OFCENG must be Y.

Guaranteed background tasks

If the DMS is under a heavy load, one log device must continue to run with the call processing or maintenance load. Guaranteed background tasks accomplish this functionality. The guaranteed background tasks are limited in number. These tasks run more than other background tasks.

In table LOGDEV, the system can guarantee one device. The operating company assigns this device through datafill in table LOGDEV. The system routes critical logs to this device.

Log device CMAP

The system enters log device CMAP in table LOGDEV. This device permits a CMAP user to open a DMS Dynamic Network Control (DNC) log channel. This log channel resumes after all communication link failures. These link failures include restarts. The system starts logs to this device after a reload restart.

LOGINFO

Table name

Log control information

Functional description

Use this table to transfer temporary log control information during a software upgrade. Use this table to maintain temporary log control information during a MTSWACT. The table contains a snapshot of temporary log control information. For example, the settings the LOGUTIL commands display: LISTREPS SPECIAL, and LISTREPS CLASS n, where n is 0 to 31.

Datafill sequence and meaning

Table LOGCLASS must contain data before table LOGINFO.

Table size

The table size is 0 to 16384 tuples.

The size of table LOGINFO depends on the amount of data the system stores in the log data structure. The system hides table LOGINFO during normal operation. Table LOGINFO is empty during normal operation.

Datafill

Datafill for table LOGINFO appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		0 to 32767	The numeric key to the table in the range 0 to 32767.
LOGNAME		a maximum of four characters	The name of the log that this tuple represents.
REPNUM		-32768 to 32767	The report number that this tuple represents.
CLASS		0 to 31	Identifies the class of the report that this tuple represents.
THRESHLD		0 to 255	Indicates the threshold value of the report.

LOGINFO (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
SUPPRESS		Y or N	Indicates if the system suppresses (Y) the report that this tuple represents, or not (N).
TUNITS		-32768 to 32767	Indicates the threshold timing value of the report that this tuple represents.

Datafill example

Sample datafill for table LOGINFO appears in the following example.

MAP example for table LOGINFO

KEY	LOGNAME	REPNUM	CLASS	THRESHLD	SUPPRESS	TUNITS
0	LOGT	900	2	0	N	-1
1	SOS	100	0	0	Y	-1
2	SOS	101	0	50	N	-1

Table history
BASE08

The introduction of this table occurred in CSP07, BASE08.

Additional information

During a software upgrade, the system takes a snapshot of the log data. The system puts this snapshot in table LOGINFO in the load that is present. The system transfers table LOGINFO to the new load. The system holds this table for processing until the POSTSWACT time frame. During this time, the system applies the temporary log control data held in table LOGINFO to the new load. The system clears the table. The system hides table LOGINFO when the software upgrade completes. Table LOGINFO is empty at the completion of the software upgrade.

LPBKMEM

Table name

Loopback Trunk Member Table

Functional description

Table LPBKMEM identifies the location of both ends of each loopback trunk defined in a DMS office. Each tuple in table LPBKMEM specifies the common language location identifier (CLLI) and external trunk number of both the outgoing end and the incoming end of a loopback trunk. Each trunk member identified in this table must be of group type LPBK.

The key to tuples in table LPBKMEM consists of the CLLI and external trunk name of the outgoing end of loopback trunks. The information contained in the other fields for each tuple consists of the incoming end of the trunk identified in the key field.

Datafill sequence and implications

Table TRKMEM must be datafilled before table LPBKMEM.

Both the incoming and outgoing ends of loopback (LPBK) trunks must be datafilled in table TRKMEM before they can be entered in table LPBKMEM. Also, LPBK trunks cannot be deleted from table TRKMEM as long as these trunks still appear in table LPBKMEM.

Table size

0 to 20 tuples

In order to limit the size of the internal loopback trunk route list, the number of different outgoing loopback trunk groups that can be datafilled in this table is restricted to a maximum of 20.

LPBKMEM (continued)**Datafill**

The following table lists datafill for table LPBKMEM.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OGTRKID		see subfields	<i>Outgoing loopback trunk identifier</i>
			This field is the key to the table. It identifies the location of the outgoing end of a loopback trunk. Members specified in this field must be of group type LPBK and have a direction of OG (outgoing). This field consists of subfields CLLI and MEMNAME.
	CLLI	alphanumeric (1 to 16 characters)	<i>Common language location identifier</i> Enter the code assigned in table CLLI that identifies the trunk group of which the outgoing end of the loopback trunk is a member.
	MEMNAME	numeric (0 to 9999)	<i>Member name</i> Enter the external trunk number assigned to the outgoing loopback trunk.
ICTRKID		see subfields	<i>Incoming loopback trunk identifier</i>
			Members specified in this field must be of group type LPBK and have a direction of IC (incoming). This field consists of subfields CLLI and EXTRKNM.

LPBKMEM (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	CLLI	alphanumeric (1 to 16 characters)	<i>Common language location identifier</i> Enter the code assigned in table CLLI that identifies the trunk group of which the incoming end of the loopback trunk is a member.
	EXTRKNM	numeric (0 to 9999)	<i>External trunk number</i> Enter the external trunk number assigned to the outgoing loopback trunk.

Datafill example

The following example shows sample datafill for table LPBKMEM.

MAP display example for table LPBKMEM

OGTRKID	ICTRKID
OTWAONLPOG01 0	OTWAONLPIC02 0

LSCFLAGS

Table name

Line Screening Code Flag Table

Functional description

Table LSCFLAGS is required in a local switching unit with the Integrated Business Network (IBN) feature.

The line screening code flag number indexes this table.

Each line screening code flag number specifies whether each of the 32 line screening codes has access to the line screening code flag number. The line screening code flag numbers are assigned to the outgoing or the outgoing side of a two-way IBN trunk group and to the virtual facility group (VFG).

The line screening codes are assigned to IBN lines, incoming IBN trunk groups, and the incoming side of two-way IBN trunk groups.

If a line screening code is not permitted access to a specified line screening code flag number, the treatment or incoming call identification code to which the originator is routed is specified in the outgoing trunk group, or the outgoing side of a two-way IBN trunk group that is assigned to the digit or digits dialed.

Partitioned Table Editor feature

In DMS offices with feature BC1459, Partitioned Table Editor (PTE), the operating company can authorize a non operating company user to edit specified tuples of table LSCFLAGS using PTE. To access a tuple in table LSCFLAGS, the line screening code flag number (LSC_NO) must be owned by the user. For example, if the datafill for table DATAOWNER is:

KEY OWNER: *LSCFLAGS 3 CARLING*

the non operating company, CARLING, has access to the tuple that has an LSC_NO (the key) of 3. No other tuple can be viewed by user CARLING unless tuples owned by other users are classified as public in table OWNER. The PTE feature enables the operating company to limit edit-access to a table for a specified user to read-only, change-only, or add and delete tuples.

Refer to table OWNER for a more complete description of PTE.

Datafill sequence and implications

There is no requirement to datafill other tables prior to table LSCFLAGS.

LSCFLAGS (continued)**Table size**

Memory is automatically allocated for the maximum number of line screening code flag numbers, 256.

Datafill

The following table lists datafill for table LSCFLAGS.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfield	<i>Key</i> This field consists of subfield LSC_NO.
	LSC_NO	0 to 255or blank	<i>Line screening code flag number</i> For the first entry in field LSC_NO, enter the line screening code flag number. Otherwise, leave this field blank.
LSCFLAGL		B0 to B31	<i>Line screening code flag list</i> Enter each line screening code that has access to the line screening code flag number. Each of the line screening codes must be prefixed with a B (for example, line screening code 1 is entered as B1). Each line screening code must be separated by a blank space.

Datafill example

The following example shows sample datafill for table LSCFLAGS.

In the example, lines and incoming on two-way IBN trunk group with line screening codes 1 or 2 are allowed to terminate to outgoing or two-way trunk groups with line screening flag number 3.

LSCFLAGS (end)

MAP display example for table LSCFLAGS

KEY	LSCFLAGL
3	(B1) (B2)\$

LSPINFO

Table name

Local Service Provider Information

Functional description

Table LSPINFO provides the capability to inventory local service providers and their attributes. The Local Service Provider (LSP) must be in this table before account ownership of a line, trunk, or customer group can be established.

Table LSPINFO allows for the administration and provisioning of the following:

- LSP name: 1 to 16 character string defining the name of the LSP
- LSP identification code: a four character alphanumeric identification code
- LSP context identifier AMA options

Note: For information on activating automatic message accounting (AMA) for LSPs, refer to the feature “AMA Support for TRA”.

Datafill sequence and implications

There is no requirement to datafill other tables before table LSPINFO.

Table size

0 through 16127 tuples

Datafill

The following table lists datafill for table LSPINFO.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
LSPNAME		1 to 16 characters	<i>Local Service Provider name.</i> This name is used in provisioning the LSP with lines or trunks.

LSPINFO (continued)**Field descriptions (Sheet 2 of 3)**

LSPI	four alphanumeric characters in the range of 0-9 and A-Z	<i>Local Service Provider identifier.</i> A four digit alphanumeric identifier of the LSP. Each LSPI must be unique.
OPTION	UNBUNDLED, NATIVE, RESOLD	<i>Option.</i> UNBUNDLED controls AMA records for calls that originate or terminate on unbundled lines for an LSP. NATIVE controls AMA records for calls that originate or terminate on native lines for an LSP. RESOLD controls AMA records for calls that originate or terminate on resold lines for an LSP. Datafill refinements APPEND_338, ORIG_AMA, TERM_AMA, CIRC_USAGE, ORIG_UNANS, and TERM_UNANS.
APPEND_338	Y, N	This field provides control to append MC338 to AMA records, independent of the forced LSPI recording controls (for example, a single field provides control to append MC338 to existing and forced records).
ORIG_AMA	Y, N	<i>Originating AMA.</i> This field controls originating AMA for lines with calls that are not normally billable.
TERM_AMA	Y, N	<i>Terminating AMA.</i> This field controls terminating AMA for lines with calls that are not normally billable.
CIRC_USAGE	Y, N	<i>Circuit usage.</i> his field generates the circuit usage module with the AMA record lines.

LSPINFO (end)**Field descriptions (Sheet 3 of 3)**

ORIG_UNANS	Y, N	<i>Original Unanswered.</i> This field provides independent control for unanswered originating call attempts on a per-context identifier basis.
TERM_UNANS	Y, N	<i>Terminating Unanswered.</i> This field provides independent control for unanswered terminating call attempts on a per-context identifier basis.

Datafill example

The following example shows sample datafill for table LSPINFO.

MAP display for table LSPINFO

LSPINFO			
LSPNAME	LSPI	OPTION	
LEC1	AA01	(NATIVE N N N N)	
LEC2	AA02	(UNBUNDLED Y Y Y Y) (RESOLD Y Y Y Y)	
LEC3	AA03	(RESOLD Y Y Y N N N)	
LEC4	AA04	(RESOLD Y Y Y N N N) (UNBUNDLED Y Y Y Y Y Y)	

Table history**NA010**

Removed subfield UNANSWERED and replaced it with subfields ORIG_UNANS and TERM_UNANS. Also added subfield APPEND_338.

NA009

Added table LSPINFO.

LTCALLS

Table name

Logical Terminal Calls

Functional description

Table LTCALLS stores service-related data, such as translations, that the DMS switch associates with the call type. The DMS switch uses a key and logical terminal identifier (LTID) in field LTID to access table LTCALLS. There are three parts to an LTID. The following lists the parts:

- logical terminal group (field LTGRP)
- logical terminal number (field LTNUM)
- call type (field CALLTYPE)

Datafill sequence and implications

The following tables must be datafilled before table LTCALLS:

- LINEATTR
- OFRT
- IBNRTE
- LTDEF

Note 1: When the option is SIDXLA, enter data in table ISAXLA before table LTCALLS.

Note 2: If the option in field LTCOPT is EA, first enter the carrier name in tables OCCNAME and OCCINFO before you enter the carrier name in refinement PIC. If the option in field LTCOPT is LPIC, enter the carrier name in tables OCCNAME and OCCINFO before you enter the carrier name in refinement LCARRIER.

Table size

0 to 196 224 tuples

LTCALLS (continued)**Datafill**

The following table lists datafill for table LTCALLS.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
LTID		see subfields	Logical terminal identifier. This field consists of subfields LTGRP, LTNUM, and CALLTYPE.
	LTGRP	alphanumeric (up to 8 characters)	Logical terminal group. Enter the logical terminal group.
	LTNUM	1 to 1022	Logical terminal number. Enter the logical terminal number within the group.
	CALLTYPE	ASDS, LDS, FX, INWATS, PUB, TIE, WATS, PVT, HM, SCOCS	Call type. Enter the call type associated with the LTID. The DMS switch can associate more than one call type with the same identifier. ASDS (Accunet Switched Digital Service) is an integrated services access (ISA) route selector used to route AT&T Accunet calls. LDS (long distance service) is an ISA route selector used to route AT&T World Connect (international) calls. FX (foreign exchange) provides a customer's location with the equivalent of local service from a distant exchange. INWATS (Inward Wide Area Telecommunications Service) is a form of long distance service that allows a subscriber to receive calls originating within specified service areas, without a charge to the caller.
Note 1: NIPRI supports only CALLTYPEs HM, PUB, SCOCS, TIE, FX, INWATS, and WATS. Note 2: NIPRI on MSL-100 system supports CALLTYPEs PUB, TIE, FX, INWATS, and WATS. Note 3: Table LTCALLS accepts CALLTYPE PVT as a valid entry but it is not supported by the NI-2 standard, and an error message is generated.			

LTCALLS (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	CALLTYPE (continued)		PUB (public). A carrier can provide this call type for many customers. TIE is a type of call that occurs on private lines between private branch exchanges (PBXs). WATS (Wide Area Telecommunications Service) is provided by telephone companies to permit customers to make calls over an access line to telephones in a specific zone. Note: Only, HM, SCOCS, PUB, TIE, FX, INWATS, and WATS are valid CALLTYPES for Call-by-CALL (CBC) features on NIPRI interfaces. The following message is generated if in the corresponding tuple in table LTDEF, field LTCLASS = PRA, subfield VARIANT = NIPRI, and a change to CALLTYPE = PVT is attempted. ERROR: Private service type is not supported nor defined for NI Call-by-Call.
	CALLTYPE (continued)		PVT (private) provides private telephone services to a particular organization. Note: See the preceding note before attempting to change field CALLTYPE to PVT if the corresponding tuple in table LTDEF field LTCLASS = PRA and VARIANT = NIPRI. HM (Hotel/Motel) provides for hotel and motel services. SCOCS (Selective Class of Call Screening) is an originating-only service that allows several distinct classes of service to be associated with a single PRI.
Note 1: NIPRI supports only CALLTYPES HM, PUB, SCOCS, TIE, FX, INWATS, and WATS. Note 2: NIPRI on MSL-100 system supports CALLTYPES PUB, TIE, FX, INWATS, and WATS. Note 3: Table LTCALLS accepts CALLTYPE PVT as a valid entry but it is not supported by the NI-2 standard, and an error message is generated.			

LTCALLS (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
XLARTSEL		see subfield	Translation route selector This field consists of subfield XLARTE.
	XLARTE	RTEREF, IBNRTE, XLAIBN, XLALEC	Translation route Enter the translation route selector as follows: • Enter RTEREF if translation is done by a specific table and index, such as OFRT, IBNRTE, and other routing tables. • Enter IBNRTE to indicate the IBN route. • Enter XLAIBN for integrated business network (IBN) translations. This selection is used only in PBX or Centrex offices. • Enter XLALEC for local exchange carrier translations, such as POTS (plain ordinary telephone service), or in PBX or Centrex type offices. If the entry in this field is XLALEC, and the entry in subfield CALLTYPE is PVT, INWATS, or TIE, the switch requires no other datafill.
Note 1: NIPRI supports only CALLTYPEs HM, PUB, SCOCs, TIE, FX, INWATS, and WATS. Note 2: NIPRI on MSL-100 system supports CALLTYPEs PUB, TIE, FX, INWATS, and WATS. Note 3: Table LTCALLS accepts CALLTYPE PVT as a valid entry but it is not supported by the NI-2 standard, and an error message is generated.			

LTCALLS (continued)**XLARTE = RTEREF**

If the entry in subfield XLARTE is RTEREF, datafill refinements RTEID and INDEX as described in the following table.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	RTEID	IBNRTE, IBNRT2, IBNRT3, IBNRT4, OFR2, OFR3, OFR4, OFRT, SERVICE, TOPS	Route index. Enter the routing table. Any entry outside the range indicated for this field is invalid.
	INDEX	0 to 1023 or alphanumeric (up to 6 digits)	Index. Enter the number that is assigned to the route list in the table or tables to which translations routes. If the entry in refinement RTEID is SERVICE, enter a value between 1 and 99. If the entry in refinement RTEID is TOPS, enter the call origination. Refer to table TOPS.

XLARTE = XLAIBN

If the entry in subfield XLARTE is XLAIBN, datafill refinements LINEATTR, CUSTGRP, SUBGRP, and NCOS as described in the following table.

Field descriptions for conditional datafil (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	LINEATTR	alphanumeric (up to 16 characters)	Line attributes index. Enter the index into table LINEATTR for service-related data.
	CUSTGRP	alphanumeric (up to 16 characters)	Customer group name. Enter the customer name that is associated with an IBN station.

LTCALLS (continued)**Field descriptions for conditional datafil (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	SUBGRP	0 to 7	Subgroup number. Enter the subgroup number that further defines the selection of the CUSTGRP.
	NCOS	0 to 511	Network class of service. Enter the network class of service (NCOS) that determines the facilities to which each network user has access.

XLARTE = XLALEC

If the entry in subfield XLARTE is XLALEC, datafill refinement LINEATTR as described in the following table.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	LINEATTR	alphanumeric (1 to 16 characters)	Line attributes index. Enter the index into table LINEATTR for service-related data.

LTCALLS (continued)**XLARTE = all entries**

For all entries in subfield XLARTE, datafill refinement OPTIONS as described in the following table.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	OPTIONS	see subfield	Option. This field consists of subfield LTCOPT.
	LTCOPT	EA, INCLID, LPIC, SIDXLA	Logical terminal option. Enter EA to allow equal access for all connected inter-LATA and international carriers, and datafill refinements PIC and CHOICE. EA is valid if the entry in field CALLTYP is PUB. Enter INCLID to allow ISDN primary rate interface (PRI) calling number delivery (CND) screening capabilities. Enter LPIC, and datafill refinements LCARRIER and LCHOICE, to implement the enhancement Intra-LATA Competition. LTCOPT = LPIC allows equal access for all connected intra-LATA calls. LPIC is valid if the entry in field CALLTYP is PUB and the entry in field XLARTE is XLALEC or XLAIBN. Enter SIDXLA to allow service identifier (SID) routing on a specific PRI ISA call type. Any entry outside the range indicated for this field is invalid.

LTCALLS (continued)

LTCOPT = EA

If the entry in subfield LTCOPT is EA, datafill refinements PIC and CHOICE as described in the following table.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	PIC	IC_INC_CAR RIER_NAME	Primary inter-LATA carrier. Enter the primary inter-LATA carrier name, which must first be datafilled in tables OCCNAME and OCCINFO.
	CHOICE	Y or N	Choice. Enter Y (yes) to indicate whether a 10XXX equal access plan (EAP) prefix can be used to specify an alternate other common carrier (OCC). Otherwise, enter N (no).
Note: See LTCOPT = LPIC for more information about LCHOICE for LTCOPT = EA. If SOC EQA00015 is IDLE and LTCOPT = EA, the CHOICE data option will reference the PIC not the correct option LCHOICE.			

LTCALLS (continued)**LTCOPT = INCLID**

If the entry in subfield LTCOPT is INCLID, datafill refinement CLIDFEAT as described in the following table.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CLIDFEAT	NTWKOVRD or SUPPRESS	Calling line identifier display feature. This field specifies which CND service enhancement is activated. Enter NTWKOVRD to override calling line identifier (CLID) restrictions imposed by table CUSTNTWK. This capability only applies if the PRI trunk terminates directly to a line agent with display capability. The following options are not affected: - option SUPPRESS in tables DNATTRS, DNGRPS, and NETNAMES - option CNDBO (calling number delivery blocking override) in table CUSTSTN - the PRI CND screening through option CGNDELV in table LTDATA The entry SUPPRESS restricts the presentation of the calling party number. Note: This capability does not affect presentation of the calling party name. Note 1: The presentation indicator (PI) for the calling party number (CGN) is set to presentation restricted. The switch does not discard the digits from the CGN information element (IE). Note 2: The SUPPRESS capability is active only if the call is incoming on the PRI. To prevent CND for the outgoing direction, see option CGNDELV in table LTDATA.

LTCALLS (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	CLIDFEAT continued)		Note: The NTWKOVRD and SUPPRESS capabilities are not compatible with the following options: attendant console interworking non-call-associative options, such as network executive message waiting (NEMW) Note: SUPPRESS and NTWKOVRD cannot both be present in the same tuple because option INCLID can only be specified once for each key.

LTCOPT = LPIC

If the entry in subfield LTCOPT is LPIC, datafill refinements LCARRIER and LCHOICE as described in the following table.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	LCARRIER	alphanumeric carrier name	Primary intraLATA carrier name. Enter the prescribed carrier name. The carrier name must be datafilled in table OCCNAME and OCCINFO.
	LCHOICE	Y or N	IntraLATA choice. Enter Y (yes) to indicate if the prescribed carrier can be overridden by the specified carrier. Otherwise, enter N (no).
Note 1: If subfield CALLTYPE=WATS (OUTWATS) the LPIC option is invoked through Virtual Terminal Group (VTG). Note 2: Option LPIC is SOC controlled (EQA00015). See the following table for more information about route selection controlled by this feature.			

LTCALLS (continued)**SOC control for LTCOPT=LPIC**

SOC #	STATE	Option data referenced
EQA00015	ON	LCHOICE of LPIC
EQA00015	IDLE	CHOICE of PIC (see LTCOPT = EA)

LTCOPT=SIDXLA

If the entry in subfield LTCOPT is SIDXLA, datafill refinements RTRNAME, TREAT_NO_SID, NO_CALL_SCREEN, and ROUTE_ON_XLARTE as described in the following table.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	RTRNAME	alphanumeric (vector of up to 8 characters)	Router name. This field is the first part of the key that indexes table ISAXLA. Enter the router name.
	TREAT_NO_SID	Y or N	Treatment with no service identifier. This field determines whether calls that do not have an associated SID are sent to treatment. Enter Y (yes) to indicate that the call is sent to treatment. Enter N (no) to route the call using the numbering plan indicator (NPI), network specific facility (NSF), and the called digits.
	NO_CALL_SCREEN	Y or N	No call screen. This field allows the operating company to avoid call screening on the line attribute index. Enter Y to indicate that validation is not done on the directory number. Enter N to indicate that call screening is done using the line attribute index defined in field LINEATTR.

LTCALLS (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	ROUTE_ ON_ XLARTE	Y or N	Route on translations route. This field determines whether a call is routed through public or private translations based on the entry in field XLARTE (XLALEC for public and XLAIBN for private) rather than the NPI in the setup message. Enter Y to indicate that the XLARTE overrides the NPI. Enter N to indicate that the NPI determines the type of translation.

Datafill example

The following example shows sample datafill for table LTCALLS.

MAP display example for table LTCALLS

LTID					XLARTSEL			OPTIONS	
ISDN	556	HM	XLAIBN	600	COMKODAK	0	0	\$	
ISDN	557	SCOCS	XLAIBN	600	COMKODAK	0	0	(SIDXLA SCOCS Y Y N)	\$
ISDN	558	PUB	XLAIBN	600	COMKODAK	0	0	\$	
ISDN	559	PUB	XLAIBN	600	COMKODAK	0	0	\$	
PRAIC	18	PUB	XLALEC	42	(EA CAR1 Y)	(LPIC	CAR1 Y)	\$	
PRAIC	11	PUB	XLAIBN	49	EA CAR1 Y)	(LPIC	CAR2 Y)	\$	

Table history**NA012**

Development activity 59007050 introduces changes to field LINEATTR. This field now accepts an alphanumeric string instead of an integer string.

LTCALLS (end)

NA009

Added call types HM (Hotel/Motel) and SOCOS (Selective Class of Call Screening).

NA008

The following changes were made to table LTCALLS:

- Added option LPIC to subfield LTCOPT, added refinements LCARRIER and LCHOICE to option LPIC to support feature PRI NA008 call processing (AF6862).
- Increased the size of subfield LINEATTR index to 31999.
- Added warning when datafilling field CALLTYPE = PVT to support feature Call by Call (CBC) (AF6864) on NIPRI interfaces.

NA007

Increased the range of field LINEATTR to 4095.

BCS36

The following changes were made to table LTCALLS:

- corrected values in field RTEID
- added option EA to field LTCOPT, and added new fields PIC and CHOICE

LTCINV

Table name

Line Trunk Controller Inventory

Functional description

Table LTCINV contains the inventory data, except P-side link assignments, for various host peripheral module (PM) types. The host Line Trunk Controller (LTC) PMs datafilled in table LTCINV support a maximum of 63 remote and local peripheral nodes.

The MSG MX76 card needs to be datafilled in the DTCI if that DTCI has the integrated gateway card NT7X07.

Table LTCINV lists the following data assignment for each bay associated with a PM:

- the PM type and number
- the frame type and number in which the PM is physically mounted
- the floor, row, and bay position of each PM
- the equipment product engineering code (PEC) of the PM
- the load name of the PM software
- the terminal type required for the type of telephone or data lines, or both, and the executive programs required for the PM specified in the terminal type entry
- the C-side links on which the PM is assigned
- the optional cards equipped in the PM
- the tone set used for the PM
- the processor card for each unit of the PM
- the EEPROM load name
- the optional attribute for the PM
- the PEC for processor cards (PROCPEC field)
- extension shelf information for Common Peripheral Modules (CPM)-based host peripherals equipped with an extension shelf. An extension shelf is available on the CMVI (cabinetized multi-vendor interface) and the MVIE (multi-vendor interface equipment frame). The MVDD (multi-vendor double density) version does not support an extension shelf.

LTCINV (continued)**Peripheral module types**

The following table lists the PM types that are supported by table LTCINV.

PM type (Sheet 1 of 2)

PM	Meaning
ADTC	Austrian digital trunk controller
DFI	direct fiber interface
DTC	digital trunk controller
DTC7	digital trunk controller for CCS7 ISUP call processing (datafilled as DTC)
DTCI	ISDN digital trunk controller
DTCO	offshore digital trunk controller (datafilled as PDTC)
DTCO+	XPM PLUS offshore digital trunk controller (DTCO) equipped with card NTMX77 (unified processor) datafilled as PDTC
DTCO2	based on CPM datafilled as PDTC EQPEC MX85AA
GPP	General Peripheral Platform, CPM-based host peripheral for generic access nodes
IDTC	international digital trunk controller (pulse code modulation [PCM] 30 trunks)
ILGC	international line group controller
ILTC	international line trunk controller
LGC	line group controller
LGCI	ISDN line group controller (datafilled as LGC with ISP OPTCARD)
LGCO	line group controller offshore (datafilled as PLGC)
LGCOi+	line group controller offshore (datafilled as PLGC) with ISDN functionality and an NTMX77 unified processor
LTC	line trunk controller
LTCI	ISDN line trunk controller (datafilled as LGC with ISP OPTCARD)
LTC+	line trunk controller PLUS (LTC equipped with an NTMX77 [unified processor] card, datafilled as LTC)

LTCINV (continued)**PM type (Sheet 2 of 2)**

PM	Meaning
P2LGC	two-processor PCM30 line group controller (datafilled as PLGC)
P2LGCI	ISDN two-processor PCM30 line group controller (datafilled as PLGC)
P3LGC	three-processor PCM30 line group controller (datafilled as PLGC)
PDTC	PCM30 digital trunk controller (datafilled as PDTC)
PDTC+	XPM PLUS PCM30 digital trunk controller (PDTC equipped with card NTMX77 [unified processor] datafilled as PDTC)
PLGC	PCM30 line group controller
SMA	subscriber carrier module-100 access
SMA2	expanded subscriber module-100 access
SMS	subscriber carrier module-100S (SLC-96) (controls subscriber loop carrier [SLC] remote)
SMU	subscriber carrier module-100 Urban (controls remote concentrator terminal [RCT] of the DMS-1U system)
TMS	Traffic Operator Position System (TOPS) message switch

The following table lists the combinations of PM types that are supported by table LTCINV.

Combination of PM types (Sheet 1 of 2)

Module	Compatibles	Compatibles
LTC_LTC	LTC_LGC	LTC_DTC
LTC_ILTC	LTC_ILGC	LTC_IDTC
	LTC_ALGC	LTC_ADTC
	LTC_PLGC	LTC_PDTC
LTC_TLTC	LTC_TLGC	LTC_TDTC
		LTC_DFI

LTCINV (continued)

Combination of PM types (Sheet 2 of 2)

Module	Compatibles	Compatibles
LTC_SMU	LTC_SMS	LTC_SMA
	LTC_ICP	LTC_TMS

When a PM is added to table LTCINV, an entry is automatically added to table LTCPSINV. All the corresponding P-side links in table LTCPSINV initially default to NILTYPE. P-side links that do not have hardware assigned must remain as NILTYPE. Unequipped software-assigned P-side links in an inventory table cause service-affecting problems.

For more information, refer to the description of table LTCPSINV.

Datafill sequence and implications

The following tables must be datafilled before table LTCINV:

- PMLOADS
- NETWORK
- ECHINV (if an echo canceler [EC] optional card is required)

Note: Changes to fields with multiple entries must be made in the PROMPT mode only.

Table size

Memory is allocated as required to allow a maximum of 210 tuples in tables LTCINV and LTCRINV combined.

LTCINV (continued)**Datafill**

The following table lists the datafill for table LTCINV.

Field descriptions (Sheet 1 of 10)

Field	Subfield	Entry	Explanation and action
LTCNAME		see subfields	<i>Link trunk controller name</i> This field consists of subfields XPMTYPE and XPMNO.
	XPMTYPE	ADTC, DFI, DTC, DTCI, GPP, IDTC, ILGC, ILTC, LGC, LTC, PDTC, PLGC, SMA, SMA2, SMS, SMU or TMS	<i>68K peripheral module type</i> Enter the extended multiprocessor system PM type. See previous tables for descriptions of PM types. Note: Entry PDTC is not valid if 8-bit SLS load balancing is active or if CCS7 routing tables exist in the XPM. Deactivate 8-bit SLS and activate LIU7 routing before entering PDTC.
	XPMNO	0 to 255	<i>68K peripheral module number</i> Enter the PM number. A maximum of 210 series II peripherals are supported. When used with external routers (table C7ROUTERS), any type of series II peripheral can be entered. Without external routers, a maximum of 140 DTC7s is supported. Note: Operating company personnel can number the XPMs from 0 to 255 but the total number of tuples in tables LTCINV and LTCRINV combined cannot exceed 210 XPMs. The XPM types can be any combination of types accepted by the two tables.

LTCINV (continued)**Field descriptions (Sheet 2 of 10)**

Field	Subfield	Entry	Explanation and action
ADNUM		0 to 4095	<i>External administrative number</i> Enter a unique external administrative number associated with the PM. The ADNUM value is used as the index into operational measurements (OM) data for OM groups line traffic (LMD) and universal tone receivers (UTR). Field ADNUM cannot be changed if the OM counts for that PM are included in an engineering and administrative data acquisition system/data collection (EADAS/DC) section associated with LMD or UTR. Any entry outside the range indicated for this field is invalid.
FRTYPE		CMVI, DTE, IDTE, LGE, LTE, LTEI, MCTM, MLNK, MNET, SME, MVDD,	<i>Frame type</i> Enter the frame type on which the PM equipment is mounted. Enter LTEI for an SMA XPM DTCO2 type or a GPP. Enter MCTM for a cabinetized Meridian SL-100 switch. Enter MLNK for a Meridian CCS7 link module. Enter MNET for a Meridian network controller module. Enter CMVI for SMA2 (includes the MVIE version of the CMVI). Enter MVDD for a multi-vendor double density frame (four SMA2 shelves, no extension shelf). Any entries outside the range indicated for this field are invalid.
FRNO		0 to 511	<i>Frame number</i> Enter the frame number of the frame type on which the PM is mounted.

LTCINV (continued)**Field descriptions (Sheet 3 of 10)**

Field	Subfield	Entry	Explanation and action
SHPOS		18, 32, 51, or 65	<i>Shelf position</i> Position numbers given are for example only. Check the hardware specifications of your PM to determine the correct numbers. Enter the shelf position where the PM is located. Any entry outside the range of indicated values for this field is invalid.
FLOOR		0 to 99	<i>Floor</i> Enter the floor on which the PM frame is located.
ROW		A to Z, AA to ZZ, except I, II, O, and OO	<i>Row</i> Enter the row on the floor where the PM equipment frame is located.
FRPOS		0 to 99	<i>Frame position</i> Enter the bay position of the PM equipment frame.

LTCINV (continued)**Field descriptions (Sheet 4 of 10)**

Field	Subfield	Entry	Explanation and action
EQPEC		2P_PEC	<i>Equipment product engineering code</i>
		3P_PEC	
		6R02AK	Enter the product engineering code (PEC) of the appropriate piece of equipment as described in the following paragraphs.
		6R02AR	
		6R81AC	
		6R81AD	For Telrad PLGC or PDTC with the ISRL69AD toneset and the MSG6X69 message card, enter 6R61AC or 6R61AD.
		6R81IC	
		6R81ID	
		6T02AA	
		6X02AA	For Telrad PLGC or PDTC with the ISP card in slot 15, enter 6R81IC or 6R81ID.
		6X02AC	
		6X02AD	For Telrad PLGC with the CMR card in slot 11, enter 6R02AK.
		6X02AE	
		6X02AF	If the entry in field XPMTYPE is ADTC, enter 6102SA, 6102SE, or 6102UA.
		6X02AG	
		6X02AH	
		6X02AQ	If the entry in field XPMTYPE is an ALGC_ADTC combination, enter 6102SG, 6102SI, or 6102UG.
		6X02BA	
		6X02BC	
		6X02BD	
		6X02BE	If the entry in field XPMTYPE is ALGC, enter 6102NA, 6102SB, 6102SF, or 6102UB.
		6X02BF	
		6X02BG	
		6X02BK	If the entry in field XPMTYPE is BDTC, enter 6X02BC.
		6X02BS	
		6X02BT	
		6X02DG	
		6X02EB	
		6X02EE	
		6X02EL	
		6X02FA	
		6X02GA	

LTCINV (continued)**Field descriptions (Sheet 5 of 10)**

Field	Subfield	Entry	Explanation and action
EQPEC (continued)		6X02HA	If the entry in field XPMTYPE is DFI or GPP, enter MX85AA.
		6X02IA	
		6X02IE	
		6X02IF	If the entry in field XPMTYPE is SMA2, enter MX85AB.
		6X02JA	
		6X02KA	
		6X02KB	If the entry in field XPMTYPE is DTC, enter 6X02AF, 6X02AQ, 6X02BS, 6X02BT, 6X02IA, 6X02IE, or 6X02IF.
		6X02LA	
		6X02LD	
		6X02MA	If the entry in field XPMTYPE is DTC7 or DTCI, enter NX33GC or FX33CB to provide tones for PMs used in Japan. NX33GC or FX33CB must be datafilled in this field to allow the datafilling of RAM6X69 as an optional card.
		6X02MD	
		6X02NA	
		6X02P2	
		6X02P3	
		6X02UA	
		6X02UC	If the entry in field XPMTYPE is IDTC, enter 6X02BA, 6X02HA, or 6X02KA.
		6X02UI	
		6X0201	
		6X0211	For single-card new message IDTC/Caribbean expansion program (IDTC/CEP), enter 6X02HA. For tone card 6X69KA for China, enter 6X02KA.
		6X0215	
		6102NA	
		6102SA	If the entry in field XPMTYPE is ILGC, enter 6X02BF, 6X02BK, 6X02FA, 6X02GA, 6X02KB, or 6X0211.
		6102SB	
		6102SE	
		6102SF	For dual-card messaging ILGC for Turkey, enter 6X02BF.
		6102SG	
		6102SI	
		6102UA	For single-card messaging ILGC for Turkey, enter 6X02BK.
		6102UB	
		6102UG	
		7X3304	For single-card new message ILGC/CEP, enter 6X02FA or 6X02GA.
		FX33CB	
		FX3304	
		AK31AA	
		AK31AT	
		AK81AD	
		AK81AT	
		MX85AA	
		MX85AB	
		NX33GC	

LTCINV (continued)**Field descriptions (Sheet 6 of 10)**

Field	Subfield	Entry	Explanation and action
EQPEC (continued)			For tone card 6X69KA for China, enter 6X02KB. If the entry in field XPMTYPE is LGC, enter FX33CB, NX33GC, 6X02AA, 6X02AC, 6X02AE, 6X02AH, 6X02LA, 6X02LD, 6X02NA, 6X0201, or 6X0215. For LGC using the North American RAM-based tone set, enter 6X02P2. If the entry in field FRTYPE is LTEI, enter 6X02NA. If the entry in field XPMTYPE is LTC, enter 2P_PEC for a two-processor LTC, 3P_PEC for a three-processor LTC; 6X02AD, 6X02AG, 6X02MA, 6X02MD, or 7X3304. For LTC using the North American RAM-based tone set, enter 6X02P2. To provide tones for PMs used in Japan, enter NX33GC or FX33CB. NX33GC or FX33CB cards must be datafilled in this field to allow the datafilling of RAM6X69 as an optional card. If the entry in field FRTYPE is MCTM enter FX3304. If the entry in field XPMTYPE is PDTC, enter 6X02BD, 6X03BE, or 6X02JA. For Turkish tones with R2 signaling, enter 6X02JA.

LTCINV (continued)**Field descriptions (Sheet 7 of 10)**

Field	Subfield	Entry	Explanation and action
EQPEC (continued)			For two-processor PDTC with frame type LTEI, enter 6X02UA. For PDTC with frame type LTEI, if the PDTC is XPM-based (DTCO+) enter 6X02UC; if the PDTC is CPM-based (DTCO2), enter MX85AA. For PDTC with frame type IDTC, enter 6X02UI If the entry in field XPMTYPE is PLGC, enter 6X02BG. For two-processor PLGC with frame type LTEI, enter 6X02UA. For PLGC with frame type LTEI, enter 6X02UC. If the entry in field XPMTYPE is PDTC or PDTC+, enter 6X02UC (XPM-based frame) or MX85AA (CPM-based) or 6X02UI (XPM-based frame IDTC). If the entry in field XPMTYPE is P2LGC, enter 6X02UA. If the entry in field XPMTYPE is P3LGC, enter 6X02UI. If the entry in field XPMTYPE is SMA, enter 6X02AA. If the entry in field XPMTYPE is SMS, enter 6X02DG. If the entry in field XPMTYPE is SMU, enter 6X02DG, 6X02EB, 6X02EE, or 6X02EL. If the entry in field XPMTYPE is TMS and the entry in field FRTYPE is LTEI, enter 6X02UA. This enables the TMS to use PCM30 signaling. For a two-processor XPM equipped with NT6X69LA, enter 6X02P2. For Israeli DTCO, enter AK81AD or AK81AT. For Israeli ICPO, enter AK31AA or AK31AT.

LTCINV (continued)**Field descriptions (Sheet 8 of 10)**

Field	Subfield	Entry	Explanation and action
LOAD		alphanumeric (eight characters maximum)	<i>Load</i> Enter the name of the load required for the PM. Note: Enter the load file name in table PMLOADS before datafilling field LOAD in table LTCINV.
EXECTAB		see subfields	<i>Executive table</i> This field consists of subfields TRMTYPE and EXEC. This field is a vector of one to eight programs. Note: There must be at least one entry in subfields TRMTYPE and EXEC for a given PM, except for IDTC (frame type IDTE), which has none. The maximum number of executive programs is eight, but due to memory constraints of a particular load, the number can be less than eight. The exact number depends on the size of the executive programs and the memory load.

LTCINV (continued)**Field descriptions (Sheet 9 of 10)**

Field	Subfield	Entry	Explanation and action
EXECTAB (continued)	TRMTYPE	ABTRK, AB250, CCIS, ISDN_UP, KEYSET, MAINT, M200, N5_TERM, N6_TERM, POTS, PRAB, P2018, P2112, RMM_TERM, R1_TERM, R2_TERM, or UNEQUUD	<i>Terminal type</i> Enter the type of PM terminal. For regular, FX, and DS1FXSLS trunks, enter ABTRK. The ABTRK terminal uses the DTCEX set of executive programs to adapt existing nailed-up connections between a DMS-200 and a DMS-300 on digital PMs. ABTRK (DTCEX) is required for Integrated Business Network (IBN) outgoing trunks supporting BT3J type II/IV and DC5/AC15 loop disconnect signaling, and for foreign exchange signaling trunks with loop start (DS1FXSLS). Enter AB250 for DMS-250 trunks. AB250 is required for SOCPEX and UKPDTC executive programs. For CCIS digital trunks, enter CCIS. For P-phone/data lines, enter KEYSET. Prior to BCS35, enter M200 for voice and data lines. This entry is not valid for BCS35 and later. Enter N5_TERM for digital N5 trunks on a PDTC. For DTC-300 trunks, enter N6_TERM and R1_TERM. For R2 trunks in a DMS-300, enter R2_TERM. For regular lines, enter POTS (plain old telephone service). For an ISDN ADTC, enter PRAB.

LTCINV (continued)**Field descriptions (Sheet 10 of 10)**

Field	Subfield	Entry	Explanation and action
EXECTAB (continued)	EXEC	ADTCIX DCM250 DTC300 DTCEX DTCFX FXODCM FXODTC JDTCEX KSADTC KSETEX N5DEX POTSEX RSMEX R2GWEX SOCPEX or UKPDTC	<i>Executive programs</i> Enter the set of executive programs that are required for the PM specified in the TRMTYPE entry. To support the DLYFWDXMT option in table TRKOPTS the Executive Program for the PM must be specified as DTCEX, DTCFX, or FXODTC. For Japan, enter JDTCEX instead of DTCEX. Use the KSETEX executable for ETSI ISDN V5.2 access to the GPP. For the N5 digital executive program line, enter N5DEX. N5DEX is valid only in table LTCINV. To support the BT3J types III and IV loop disconnect trunks, enter UKPDTC. The valid executive programs for ISDN LTC are also valid for the SMA PM.
CSLNKTAB		see subfields	<i>C-side link table</i> The subfields for this field depend on whether switches are equipped with the junctored network (JNET) or the enhanced network (ENET). If the switch is equipped with JNET, datafill subfields NMPAIR and NMPORT, then go to field OPTCARD. If the switch is equipped with ENET, datafill subfields ENSHELF, ENSLOT, ENLINK, and ENDS30, then go to field OPTCARD.

LTCINV (continued)**JNET switches**

If the office is equipped with JNET, datafill subfields NMPAIR and NMPORT as described in the following table, then go to field OPTCARD.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	NMPAIR	0 to 31	<i>Network module pair number</i> Enter the network link to which the PM is assigned, corresponding to C-side links zero to 15 of the PM.
	NMPORT	0 to 63	<i>Network port</i> Enter the network port corresponding to the network link. Go to field OPTCARD.

ENET switches

If the office is equipped with ENET, datafill subfields ENSHELF, ENSLOT, ENLINK, and ENDS30 as described in the following table, then go to field OPTCARD.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	ENSHELF	0 to 7	<i>Enhanced network shelf number</i> Enter the shelf number to which the PM is assigned.
	ENSLOT	10 to 16, 25 to 32, or 13 to 19	<i>Enhanced network slot number</i> Enter the crosspoint slot number to which the PM is assigned, corresponding to C-side links. Enter a value between 10 and 16, or between 25 and 32. For a SuperNode SE switching unit, enter a value between 13 and 19.

LTCINV (continued)

Field descriptions for conditional datafill (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	ENLINK	0 to 18	<i>Enhanced network link number</i> Enter the link on the crosspoint to which the PM is assigned, corresponding to C-side links 0 (zero) to 18 of the PM.
	ENDS30	0 to 15	<i>Enhanced network DS30</i> All entries must be contiguous from 0 (zero). No entry can be duplicated. If the link is a DS30, this field defaults to 0 (zero).

LTCINV (continued)**All switches**

For all offices, continue datafill as described in the following table.

Field descriptions (Sheet 1 of 9)

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD		AX69AA	<i>Optional card</i>
		CMR5	This field is a vector that can have up to ten entries.
		CMR6	
		CMR7	
		CMR8	
		CMR9	Unless otherwise directed, when all optional cards are entered, go to field tone set (see Table 10) to continue datafill for table LTCINV.
		CMR11	
		CMR13	
		CMR15	
		CMR16	Note: Changes to fields with multiple entries must be made in the PROMPT mode only.
		CMR17	
		CMR18	
		CMR19	
			For PDTC+ (PEC 6X02UC in field EQPEC), optional cards include the CONTINUITY cards (NT6X70), UTR15, UTR16, and UTR17 (NT6X92 in slots 15, 16, and 17), NT6X69 RAM card, MX76_MSG, NT6X79 tone card, NT6X44EA, and NT6X28 signaling interface card. The NT6X69 MSG card (ROM tone card (TONE6X69)) is not supported. Therefore, if the entry in field EQPEC is 6X02UC, the required optional cards are the STR16IC and STR17IC (NT6X62 in slots 16 and 17), and ECC300, ECC600, ECC1200, ECC2400, ECC4800, or ECC9600.

LTCINV (continued)**Field descriptions (Sheet 2 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)		CONTINUITY	For PDTC+ (PEC MX85AA in field EQPEC), optional cards include STR5IC (NT6X62AB in slots 5 and 23), UTR6 (NT6X92CA or NT6X92EA in slot 6 and 21) and UTR7 (NT6X92CA or NT6X92EA in slot 7 and 22), NT6X70CA continuity tone detector card, NTCX50BA external echo canceller in slots 6 and 22 behind UTR card, and NTB01BA enhanced ISDN signaling processor.
		CPA17	
		DCTAX78	
		ECC300	
		ECC600	
		ECC1200	
		ECC2400	
		ECC4800	
		ECC9600	
		ETSBX69	
		FDLAX69	The NT6X69 RAM card, NT6X44EA and NT6X28 signaling cards are not compatible with DTCO2 (MX85AA EQPEC).
		ISP	
		MSG6X69	To enable DTCO+ (6X02UI) to be datafilled the same as a PDTC+, the same optional cards as listed for PDTC+ are valid, as well as NT6X69 MSG card (ROM), STR8, UTR8, UTR9, UTR11 (NT6X92 in slot 8, 9 or 11) and STR11 (NT6X62 in slots 8 and 11), and the baud echo canceler controllers NTCX50 (ECC) cards.
		MSGMX76	
		NE2X10AA	
		NT6X28BA	
		NT6X69AA	
		NTAX78AB	
		NTAX78BA	
		NTCS50	
		NT6X28	
		NT6X28BA	
		NT6X44CA	The MSG MX76 card can be datafilled for a DTCL. Datafill the MX76 card in the DTCL if the DTCL has integrated gateway card NT7X07.
		NT6X44EA	
		NT6X62	For LGC, LTC, SMA, SMS, and SMU PMs, datafill the CMR cards. CMR (Custom Local Area Signaling Services [CLASS] modem resource) cards handle the monitoring of the ringing line and the insertion of the modem transmission to provide the Calling Number Delivery (CND) feature for CLASS. CMR can be equipped in one of the spare slots in the LTC frame (slot 13, 16, or 17).
		NT6X69	
		NT6X79	
		NT6X92	
		NT7X05AA	
		RAM6X69	
		STR5IC	
		STR8	
		STR11	
		STR16IC	
		STR16OG	Note: A maximum combination of two UTR and/or STR line cards are permitted at any one time. For example, a combination of UTR15 and UTR17 or STR15 and UTR16 is permissible.
		STR17IC	
		STR17OG	
		TONE6X79	

LTCINV (continued)**Field descriptions (Sheet 3 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)		UTR6	Note: CMR cards are not allowed in slots 15 and 19.
		UTR7	
		UTR8	
		UTR9	The CMR load name must be datafilled in table PMLOADS before being datafilled in field LOAD of table LTCINV.
		UTR10	
		UTR11	
		UTR12	If a CMR card is entered, datafill refinement CMRLOAD.
		UTR14	
		UTR15	For C6, N6, or CCS7 applications, datafill the CONTINUITY (NT6X70) cards. The CONTINUITY card, NT6X70, is used for CCIS (common channel interoffice signaling).
		UTR16	
		UTR17	
		UTR18	
			For DTCs or LTCs that are datafilled with the C6, N6, or CCS7 applications, table LTCINV must be datafilled with the optional CONTINUITY card to allow diagnostics testing on the NT6X70 card. The datafill of this option does not affect the continuity functionality performed by the card during in-service operation.
			A PDTC with German 1TR7 ISDN user part (ISUP) trunks must be datafilled with the CONTINUITY optional card.
			DCTAX78 is the required value for the NTAX78AA time switch card in the ISUP DTC (DTC7) and the ISDN DTC (DTCL).
			For ADTCs and PDTCs that control echo canceler (EC) modules, datafill the optional baud echo canceler cards (ECC). Echo canceler modules provide echo cancellation for calls using international trunks.

LTCINV (continued)**Field descriptions (Sheet 4 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)			Note: Table ECHINV must be datafilled before datafilling an ECC optional card in table LTCINV. All optional cards that are valid for ISDN LTC are valid for the SMA PM type (except NTAX78BA). For ISDN/MBS SMU, the ISDN signaling processor (ISP) card is required. On a PLGC PM with a frame type of LTEI and an EQPEC of 6X02UA, the ISP optional card can be datafilled. If the entry in field OPTCARD is ISP, datafill subfield SLOT_NUMBER as described below, then go to field TONESET to continue datafill for table LTCINV. For all Global Peripheral Platform (GPP) types, the MSGMX76 card must be datafilled in field OPTCARD. For GPPs with V5.2 interfaces, the ISP card must also be datafilled in field OPTCARD. ISP can be datafilled on PMs LTC, LGC, PLGC, and PDTC if the central control (CC) is equipped with the ISDN subsystem. If the operating company personnel are required to configure an ISDN LTC, LGC, PLGC, or PDTC, PEC and frame type checking are enforced. In this case, field EQPEC must be 6X02NA, 6X02UC or MX85AA (DTCO2) and field FRTYPE must be LTEI.

LTCINV (continued)**Field descriptions (Sheet 5 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)			NTAX78AB is an optional enhanced time switch (ETS) card used only with the SMU XPM using the ISP optional card. NTAX78AB replaces NT6X44CA and is required to provide digital test access (DTA) on the enhanced subscriber module urban (ESMU). The ESMU is a SMU equipped with the ISP optional card, which supports ISDN and Meridian business set (MBS) capabilities. LTC ISDN and LGC ISDN peripherals that use the NT6X44AA time switch require no entry in field OPTCARD. If you datafill these peripherals with the NTAX78BA time switch, the ISDN capacity will be expanded. The NTAX78BA doubles the P-side ports (from 20 to 40) and removes C-side channel usage for TDM hairpin connections. (The NTAX78BA makes TDM hairpin connections on the P-side of the peripheral.) Table LTCINV only allows operating company personnel to specify NTAX78BA in field OPTCARD through the ADD command (that is, the initial assignment of the peripheral). To add or remove NTAX78BA to or from an existing peripheral requires the use of a CM software tool. For information about the tool, refer to Installation Method, IM 65-0261 or your next level of support. Note: NT6X44CA is the default time switch for the ESMU and does not require an entry in field OPTCARD. NTAX78AB operates in NT6X44CA mode until it is datafilled as an optional card and the ESMU is initialized.

LTCINV (continued)**Field descriptions (Sheet 6 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)			To provide ISDN BRI services on an LTC or LGC, the PM must be datafilled with an ISP optional card. To provide ISDN PRI services on a PDTC or PLGC, the PDTC or PLGC must be datafilled with an ISP optional card. NT7X05AA is a peripheral remote loader (PRL) card. Refer to subfield SLOT_NUMBER. Card MSGMX76AA replaces the NT6X69 message card in CPM and XPM Plus shelves. If MSGMX76AA is entered, datafill refinement MX76LOC. Card MSGMX76BA replaces the MSGMX76AA message card, for Japan only, in LTC+ shelves supporting high data link controller (HDLC), protocol and link access protocol on the D channel (LAPD) messaging. If NTMX76BA is entered, the datafill refinement MX76LOC must be set to HOST. Note: MSGMX76 messaging interface card is used for HDLC protocol and EDC. MSG6X69 is used for DMS-X protocol and does not allow EDC. The PLGC and PDTC PMs (XPM-based) require the NT6X28 card for PCM30 signaling. This card is not supported for DTCO2 (CPM-based). To enable the TMS to use PCM30, enter NT6X28, RAM6X69, and NT6X44EA. Either NT6X28AA or NT6X28AB must be datafilled in field OPTCARD for PMs P2LGC, P2LGCI, and P2DTC.

LTCINV (continued)**Field descriptions (Sheet 7 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)			Card NT6X28 replaces NT6X28AB when either the NT6X28AA or NT6X28AB version is in the PM. Datafilling NT6X28AB changes the default trunk mapping to that outlined by the PCM30 time slot flexibility feature. The PCM30 time slot flexibility feature is implemented only if one of the following software packages is present: NTXB58AA, NTX472AA, NTX913AA, NTXK56AA, NTXK05AA, or NTX937AA. The NT6X28AB card is functional in table LTCINV even if it is not datafilled in field OPTCARD. Therefore, unless the PCM30 time slot flexibility feature is required, NT6X28AB must not be datafilled in field OPTCARD. Card NT6X28 must not be added for IDTC PMs in table LTCINV. If it is added, trunks cannot be assigned to the PM in table TRKMEM. For any PLGC hosting a RC02, the NT6X44 card must be datafilled as NT6X28 to prevent the generation of PM189 logs. For DTC, IDTC, PDTC (XPM-based) LGC, ILGC, and PLGC PMs, as well as TMS, enter NT6X44EA to apply conversions to both voice and data in the connections that are made across the NT6X44EA time switch. Card 6X44EA is not supported for DTCO2 (CPM-based).

LTCINV (continued)**Field descriptions (Sheet 8 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)			The universal message protocol and tones card, RAM6X69, cannot be added unless PEC 6X02P2, 6X02P3, 6X12AA, NX33GC, or FX33CB has been added to field EQPEC. This card is also used for TMS. If a special tone receiver is situated in PM slots 16 or 17, enter STR16 and STR17. If a special tone receiver is situated in slots 5, 8, 9, 11 or in a PDTC, enter STR5IC, STR8, STR9, and STR11. The TONE6X79 tone card cannot be added unless the MSG6X69 messaging card has already been added. The presence of tone card NT6X79 is not a valid configuration without a MSG6X69 messaging card. If an NT6X92 universal tone receiver card (UTR_n) is datafilled, it means that a universal tone receiver card is equipped in slot <i>n</i>, where <i>n</i> = 8 to 11, and 14 to 18. For example, if field OPTCARD contains UTR8, the UTR card is located in slot 8. To indicate that a UTR is installed on a PDTC UTR6, UTR7, UTR8, UTR9, UTR11, UTR15, UTR16, and UTR17 or a combination of these can be datafilled. For Telrad PLGC with the CMR card, there is a maximum of two UTR cards, one in slot 8 and one in slot 12.

LTCINV (continued)**Field descriptions (Sheet 9 of 9)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD (continued)			The ISDN/MBS SMU is supported by UTR15 and UTR17. If two UTRs are required, both UTR15 and UTR17 must be datafilled. If only one UTR is required, either card can be datafilled as long as the same slot is populated in both units of the ISDN/MBS SMU. UTR17 supports the UTR card on a subscriber carrier module-100S (SMS). If an SMS is equipped with a UTR, the message card must be NT6X69AC (ASIC version), the MP memory card must be NT6X47AC, and the CLASS modem resource card must be NT6X78AB (ASIC). If other cards are used, the SMS can exceed the power rating of the shelf.

OPTCARD = CMR

If the entry in field OPTCARD contains any of the CMR values CMR5, CMR13, CMR15, CMR16, CMR17, or CMR19, datafill refinement CMRLOAD as described in the following table, then go to field TONE SET to continue datafill for table LTCINV.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	CMRLOAD	alphanumeric (vector of maximum eight characters)	<i>Custom local area signaling service modem resource load</i> Enter the appropriate CMR software load name. Go to field TONE SET.

LTCINV (continued)

OPTCARD = ISP

If the entry in field OPTCARD is ISP, datafill subfield SLOT_NUMBER as described in the following table, then go to field TONESET to continue the datafill.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	SLOT_NUMBER	3 to 19	<i>Slot number</i> The recommended optional slot number for most North American XPMs is 16. SMA2 is the exception, and uses slot number 4. On international XPMs, PDTCs, and PLGCs, with ISDN capability and an entry of 6R81IC or 6R81ID, the slot number is 15. On PDTC (MX85AA) the slot number is 4.

OPTCARD = MSGMX76

If the entry in field OPTCARD is MSGMX76, datafill refinements MX76LOC and PROTOCOL as described in the following table, then go to field tone set to continue datafill for table LTCINV.

Note 1: This card is not optional for GPP, even though it appears in the OPTCARD list.

Note 2: This card is not optional for LTC+ when it supports HDLC protocol, even though it appears in the OPTCARD list.

LTCINV (continued)

Note 3: This card is not optional for PDTC (MX85AA EQPEC).

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	MX76LOC	HOST or REM	<i>NTMX76 location</i> If the card is located on a host PM, enter HOST. REM is not a valid entry. Any attempt to enter REM generates an error message on the screen and the system returns to the default of HOST.
	PROTOCOL	DMSX or HDLC	<i>Host remote communication protocol</i> If the entry in refinement MX76LOC is HOST, datafill this refinement. Go to field TONE SET.

LTCINV (continued)**OPTCARD = NT7X05AA**

If the entry in field OPTCARD is NT7X05AA, datafill subfield SLOT_NUMBER as described in the following table, then go to field tone set to continue datafill for table LTCINV.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	SLOT_NUMBER	3 to 19	<i>Slot number</i> The recommended optional slot number for most North American XPMs is slot 16. SMS is an exception using slot 15. The full range of supported slot numbers for North American XPMs is 13, 15, 16, 17, and 19. The default value is 17. On international XPMs with three-processor backplanes and an EQPEC field entry of 6X02BA, 6X02BC, 6X02BD, 6X02BE, 6X02BG, 6X02BF, 6X02BK, 6X02BS, 6X02BT, 6X02GA, 6X02HA, 6X02JA, 6X02KA, 6X02KB, or 6X02UI, the full range of supported slot numbers is 8, 9, and 11. On international XPMs PDTCs and PLGCs, with ISDN capability and an EQPEC field entry of 6R81IC or 6R81ID, the slot number is 15.

LTCINV (continued)

All cards

For all optional cards, continue datafill for table LTCINV as described in the following table. NT6X69LX refers to any version L option card.

LTCINV (continued)**Field descriptions (Sheet 1 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
TONESET		AUSTRIA	<i>Tone set</i>
		AUS100	Enter the name of the tone set for the switch that is being datafilled.
		AUS300	
		AUTMF	
		AUTMFC	
		BELMF	Enter AUSTRIA, AUS100, and AUS300 for Austrian tone sets. AUS100 and AUS300 are used with a PDTC PM. The NT6X69LA MPDT card or the MSGMX76 (for GPP) must be equipped.
		BELMFC	
		BOLIVMF	
		BOLIVMFC	
		BRASMF	Note: GPP uses MSGMX76 instead of NT6X69LA.
		BRASMFC	
		CEP	
		CEP100	
		CHILEMF	Enter AUTMF for Austrian toneset with Dual-tone Multi-frequency (DTMF), Multi-frequency (MF), supervisory, test and diagnostic, and Continuity Tone (COT) tones.
		CHILEMFC	
		CHINA	
		CHINA100	
		CLMDTC	Enter AUTMFC for Austrian toneset with DTMF, Multi Frequency Compelled (MFC), supervisory, test and diagnostic, and COT tones.
		CLMLG	
		CWAPCLGC	
		CWAPCDTC	
		CWCHILGC	Enter BELMF for the Belgium tone set on the DMS-100E switch. The tone set includes the DTMF, MF, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be installed.
		CWCHIDTC	
		CZECHMF	
		CZECHMFC	
		DENMARKM	
		F	
		DENMARKM	
		FC	
		DUTCHMF	
		DUTCHMFC	
		EGMF	
		EGMFC	
		HUNGARY	
		HUNDTC	
		HUNLGC	
		INDIA	
		IRISHMF	
		ITALYMF	
		ITALYMFC	
		JAPAN1	
		JAPAN3	

LTCINV (continued)**Field descriptions (Sheet 2 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
		MALAYSIA, MALYADSI MCL MEXDTMF MEXMF MOROCCO NA_RAM NORTHAA NORTHAM NORWMF NORWMFC NZLGC PERUDTC PERULGC PHILADSI PHILTONE NZDTC PLDDTC PLDLGC POLDTC POLLGC SAUDIDTC SAUDILGC SINGMF SINGMFC SPAIN SPAINMF SPAINMFC SRILADSI SRILANKA SWDDTC SWDLGC SWISSMF SWISSMFC TONFRMF TONFRMFC TURKEY TURK100 TURK300 UK UK100 UK300 or UKADSI	<i>Tone set</i> Enter the name of the tone set for the switch that is being datafilled. Enter BELMFC for the Belgium tone set on the DMS-100E switch. The tone set includes the Multi Frequency Compelled (MFC), supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be installed. Enter BOLIVMF for Bolivian tone set Multi Frequency. Enter BOLIVMFC for Bolivian tone set Multi Frequency Compelled. Enter BRASMF for Brazilian tone set Multi Frequency. Enter BRASMFC for Brazilian tone set Multi Frequency Compelled. Enter CEP and CEP100 for Caribbean expansion program tone set. Enter CHILEMF for Chilean tone set Multi Frequency. Enter CHILEMFC for Chilean tone set Multi Frequency Compelled. Enter CHINA and CHINA100 for Chinese tone sets. Enter CLMDTC for Colombia trunk peripherals.

LTCINV (continued)**Field descriptions (Sheet 3 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter CLMLGC for Colombia line peripherals. Enter CWAPCLGC for a customer specific tone set for LGCO and LGCI type peripherals. The tone set includes DTMF, supervisory, and test and diagnostic tones. Enter CWAPCDTC for a customer specific tone set for DTCO type peripherals. The tone set includes R2 MFC tones for Voice Mail connectivity, R1 MF, audible, COT, MBS Distinctive Ringing Tones, and test and diagnostic tones. Enter CWCHILGC for Modified China tone set for LGCO and LGCI type peripherals. The Caribbean and Belize markets use the tone set. The tone set includes DTMF, R1MF, warble, Audible, MBS Distinctive Ringing, and test and diagnostic tones. Enter CWCHDTC for Modified China tone set for the DTCO type peripheral. The Caribbean and Belize markets use the tone set. The tone set includes R2 MFC tones for Voice Mail connectivity, R1 MF, audible, COT, and test and diagnostic tones. Enter CZECHMF for Czech Multi Frequency toneset, or CZECHMFC for Czech Multi Frequency Compelled toneset. Enter DENMARKMF for the Danish tone set. that includes; Simple Supervisory Tones, Test and Diagnostic Tones, MF Tones, DTMF Tones, ADSI Tones and Periodic Supervisory Tones. The NT6X69LX Tone Card must be installed. Enter DENMARKMFC for the Danish tone set that includes; Simple Supervisory Tones, Test and Diagnostic Tones, MFC Tones, DTMF Tones and Periodic Supervisory Tones. The NT6C69LX Tone Card must be installed.

LTCINV (continued)**Field descriptions (Sheet 4 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter DUTCHMF for the Dutch tone set on the DMS-100E switch. The tone set includes the DTMF, MF, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be installed.
			Enter DUTCHMF for the Dutch tone set on the DMS-100E switch. The tone set includes the DTMF, MF, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be installed.
			Enter DUTCHMF for the Dutch tone set on the DMS-100E switch. The tone set includes the DTMF, MF, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be installed.
			Enter DUTCHMFC for the Dutch tone set on the DMS-100E switch. The tone set includes the MFC, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be installed.
			Enter EGMF for the Egyptian tone set that includes; DTMF Tones, MF Tones, Supervisory Tones, Test and Diagnostic Tones, and COT Tones.
			Enter EGMFC for the Egyptian tone set that includes; MFC Tones, Supervisory Tones, Test and Diagnostic Tones, and COT Tones.
			Enter HUNGARY for the Hungarian toneset. Enter HUNDTC for Hungarian supervisory, diagnostic, and MFC tones. Enter HUNLGC for the Hungarian supervisory, diagnostic, and DTMT tones.
			Enter INDIA for the Indian tone set. The tone set includes DTMF, MFC, supervisory, subscriber services, and test tones.

LTCINV (continued)**Field descriptions (Sheet 5 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter IRISHMF for Irish tone set. The tone set includes MF, DTMF, Supervisory, and Test and Diagnostic tones. The NT6X69LX MPDT card must be installed. Enter ITALYMF for the Italian tone set on the DMS-100E switch. The tone set includes the DTMF, MF, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be present. Enter ITALYMFC for the Italian tone set on the DMS-100E switch. The tone set includes the MFC, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be present. Enter JAPAN1 for the Japan tone set used with a PDTC PM. This tone set requires the operating company to have the following cards installed: • an NT6X69LA MPDT card, or a later version of the NT6X69 MPDT card • an NT6X92CA card (tone receiver) or a later version of the NT6X92 tone receiver card Enter JAPAN3 for the Japan tone set used with a PLGC PM. This tone set requires the operating company to have the following cards installed: • an NT6X69LA MPDT card, or a later version of the NT6X69 MPDT card • an NT6X92CA card (tone receiver), or a later version of the NT6X92 tone receiver card

LTCINV (continued)**Field descriptions (Sheet 6 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter MALAYSIA for the Malaysian tone set. Enter MALYADSI for the MALAYSIA tone set and the analog display services interface (ADSI) tone set. This tone parameter is used to generate the tones for CLASS ADSI applications. MEXDTMF contains standard supervisory, DTMF, MF, and continuity tones. R1 signaling is supported. MEXMF contains standard supervisory, MF, MFC, and continuity tones. R1 and R2 signaling are supported by the MF and MFC tones respectively. MOROCCO is used with an IDTC PM. The NT6X69LA MPDT card must be equipped. Enter NORTHAA for North American analog display services interface (ADSI) tone set. Enter NORTHAM for North American tone set. Enter NORWMF for Norway tone set with Dual-Tone Multi Frequency (DTMF), Multi Frequency (MF), supervisory, test and diagnostic, and Continuity Tone (COT) tones. The NT6X69 tone card must be installed. Enter NORWMFC for Norway tone set with Multi Frequency Compelled (MFC), supervisory, test and diagnostic, and COT tones. The NT6X69 tone card must be installed. Enter NZDTC or NZLGC for New Zealand tone sets. NZLGC and NZDTC require the NT6X69LA card. Enter NA_RAM for North American RAM based tone set. Tones that can be downloaded with this tone set are only supported on LGCs, LTCs, and RCCs.

LTCINV (continued)**Field descriptions (Sheet 7 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter PERUDTC for the Peruvian tone set that includes; Simple supervisory Tones, Test and Diagnostic Tones, MFC Tones, and Periodic Supervisory Tones. Enter PERULGC for the Peruvian tone set that includes; Simple Supervisory Tones, Test and Diagnostic Tones, DTMF Tones, and Periodic Supervisory Tones. Enter PHILADSI for the PHILTONE tone set and the ADSI tone set. This tone parameter is used to generate the tone for CLASS ADSI applications. Enter PLDDTC for the IDTC and PLDLGC for the ILGC Polish tone sets on the DMS-100I switch. Note: The SMA unit must be off-line (Offl) or manual busy (ManB) to remove the NTAX69 from table LTCINV. Enter POLDTC or POLLGC for Polish tone sets. POLDTC and POLLGC require the NT6X69LX card. Enter SAUDIDTC for the Saudi Arabian R2 Multi Frequency Code (MFC) tones, or SAUDILGC for the Saudi Arabian Dual-Tone Multi Frequency (DTMF) and line tones. Enter SINGMF for Singapore Multi Frequency tone set, or SINGMFC for Singapore Multi Frequency Compelled tone set. Enter SPAIN for Spanish tone set. Enter SPAINMF for the Spanish tone set on the DMS-100E switch. The tone set includes the DTMF, MF, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be present.

LTCINV (continued)**Field descriptions (Sheet 8 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter SPAINMFC for the Spanish tone set on the DMS-100E switch. The tone set includes the MFC, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be present. Enter SRILADSI for the SRILANKA tone set and the ADSI tone set. This tone parameter is used to generate the tone for CLASS ADSI applications. Enter SRILANKA for the Sri Lankan tone set. Enter SWDDTC for the Swedish tone set that includes; DTMF Tones, Simple Supervisory Tones, Periodic Supervisory Tones, and Test and Diagnostic Tones. The NTX6X69LX Tone Card must be present. Enter SWDLGC for the Swedish tone set that includes; MFC Tones, Simple Supervisory Tones, Periodic Tones, and Test and Diagnostic Tones. The NTX669LX Tones card must be present. Enter SWISSMF for Swiss toneset. The tone set includes the DTMF, MF, supervisory, test and diagnostic, and COT tones. Enter SWISSMFC for Swiss toneset with DTMF, Multi Frequency Compelled (MFC), supervisory, test and diagnostic, and COT tones. Enter TONFRMF for the French tone set on the DMS-100E switch. The tone set includes the DTMF, MF, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be present. Enter TONFRMFC for the French tone set on the DMS-100E switch. The tone set includes the MFC, supervisory, and test and diagnostic tones. The NT6X69LX Tone Card must be present.

LTCINV (continued)**Field descriptions (Sheet 9 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter TURKEY and TURK100 for Turkish tone sets TURK300 (Turkish international tone set) is used with a PDTC PM. The NT6X69LA MPDT card must be equipped. Enter UK for tone set used in the United Kingdom. Enter UK100 for United Kingdom DMS-100 tone set Enter UK300 for United Kingdom DMS-300 tone set used in PMs equipped with the NT6X69LA MPDT card. Enter UKADSI for the UK100 and the ADSI tone set. This tone parameter is used to generate the tones for CLASS ADSI applications. Enter PHILTONE for the Philippine tone set.
PROCPEC		6X45AA 6X45AB 6X45AC 6X45AD 6X45AE 6X45AF 6X45BA 6X45BB 6X45CA 6X45AD AX74AA MX77AA SX05AA	<i>Processor equipment product engineering codes</i> Enter the two PECs of the processor card. One PEC is required for each unit of the XPM. This field has the PEC corresponding to the processor card provided in the XPM unit. For the DFI unified processor (UP), enter MX77AA or AX74AA. For DTC7 with UP and DTCL with UP, enter MX77AA or AX74AA. For compact PMs (CPM), ADTC and DTCL, enter MX77AA or AX74AA. To support the UP on an ISDN/MBS SMU, field PROCPEC must be datafilled with MX77AA.
PROCPEC (continued)			To support the NTMX76AA/BA HDLC messaging card, field PROCPEC must be datafilled with MX77AA.

LTCINV (continued)**Field descriptions (Sheet 10 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter SX05AA to replace MX77AA or AX7AA after first removing the NT7X05 circuit pack. The NT7X05 is not compatible with the SX05AA card and therefore it must not be datafilled in the OPTCARD field. Mount the SX05AA processor card in the same slot as the MX77AA/AX74AA. If the frame type is GX02UI, you must remove the backplane strap used for the old 6X45 as the SX05AA processor is not compatible with the 6X45 processor. Enter data into subfield PACKLET when you enter SX05AA. Subfield PACKLET is the SX05AA packetlet functionality. PACKLET is a vector of up to four entries: PRL, SPAREA, SPAREB, and SPAREC. PRL is currently the only valid entry if PRL functionality is required. Otherwise the entry is \$ to indicate no PRL functionality. Note: The values SPAREA, SPAREB, SPAREC are for future use and currently have no functionality. The following are data entry examples for the SX05AA and subfield PACKLET: - SX05AA \$ SX05AA \$ - no PRL functionality - SX05AA PRL \$ SX05AA PRL \$-when one or two SX06BA (60 Mbyte PRL packetlet) or SX06CA (120 Mbyte PRL packetlet) are installed in each SX05AA Note: If an SX05AA processor is datafilled in both units, an NT7X05AA is not allowed in the OPTCARD field.
EXTLINKS		0 to 6	<i>Number of extended links</i> Enter the number of pairs of extended links.

LTCINV (continued)

Field descriptions (Sheet 11 of 15)

Field	Subfield or refinement	Entry	Explanation and action
E2LOAD		alphanumeric (maximum eight characters)	<i>Electrically erasable PROM load name</i> Enter the EEPROM load name. If the shelf is equipped with a processor that is different from NTMX77, field E2LOAD is automatically datafilled with NILLOAD. Note: Datafill the PMLOAD file name in table PMLOADS before datafilling field E2LOAD in table LTCINV.

LTCINV (continued)**Field descriptions (Sheet 12 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
OPTATTR		CCS7 FSTR2 NX64 OC PCM30 STRBBF STRDTRE STRN5 FDCP or \$	<i>Optional attribute</i> This field is a vector of up to ten optional attributes. CCS7: - If the DTC is used for CCS7 ISUP call processing and the value in field XPMTYPE is DTC, enter CCS7. Do not enter the CCS7 option for DTCs not associated with CCS7. - The CCS7 attribute cannot be deleted from a DTC if ISUP trunks are datafilled and assigned to that PM. The ISUP trunks must be deleted before proceeding with the table LTCINV change. - Each ISUP DTC7 must be identified by this attribute whether the Multi-MSB7 feature (MMSB) is enabled or disabled. FSTR2: To identify a PDTC that supports generic R2 signaling, enter FSTR2. This value is valid only for the three-processor version of the PDTC. It is not supported on the two-processor version of the DTCO. NX64: To indicate that the PM can be used for NX64 kbit/s semi permanent connections on a PDTC, enter NX64. The NX64 optional attribute means that a new channel mapping is used across the PM providing uniform delay for all time slots. The NX64 optional attribute is valid only for PDTCs and can be used only if field OPTCARD contains card NT6X28.

LTCINV (continued)**Field descriptions (Sheet 13 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
OPTATTR (continued)			<i>OC:</i> This value is only permitted under the following conditions: - Field PMTYPE is datafilled as TMS. - Field PROCPEC is datafilled as MX77AA. - There are no EDCHs (BX02BA) defined in a corresponding tuple of table LTCPSINV. - The SOC for ETMS OC (ENSV0008) is in the IDLE or ON state. - There are no carriers of type REMOTE defined on the TMS. This is determined by tables TPCINV and TMSPSDEV where this restriction is automatically enforced. Refer to these tables in this section for further information. Also, the OC OPTATTR cannot be added nor removed from an existing tuple. If a TMS is to be converted from an OC TMS to a position server TMS, or vice versa, the TMS tuple in table LTCINV must be deleted and re-added. <i>PCM30:</i> - To indicate that a PCM30 type carrier can be assigned to the PM node, enter PCM30. - For TMSs that use PCM30 as their carrier, enter PCM30. <i>STRDTRE:</i> This option defines the STR card to be used with DTMF “#” and “*” tone detection. \$: For SMA or GPP, enter \$. <i>FDCP:</i> Used to flag a peripheral as being capable of supporting FDCP trunks and so requiring download of FDCP data.

LTCINV (continued)**Field descriptions (Sheet 14 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
PEC6X40		6X40AA	<i>6X40 equipment product engineering code</i>
		6X40AB	This field ensures that the correct 6X40 card version is sent as static data to the PM.
		6X40AC	Enter the version of the 6X40 card in the PM.
		6X40AD	For ISDN, enter 6X40AC.
		6X40BA	
		6X40CA	
		6X40FA	
		6X40FB or 6X40FC	Note: NT6X40AD, NT6X40FB, and NT6X40FC cards provide enhanced diagnostic capabilities. If PEC6X40 datafill is set to the NT6X40AC or NT6X40FA version of the card, the new diagnostics capabilities are not initiated. The CM treats the interface as NT6X40AC/NT6X40FA regardless of the card installed.
EXTINFO (CSP02-)		see subfield	<i>Extension shelf information</i> An extension shelf is available in a CMVI and MVIE frame or cabinet. The MVDD frame does not contain an extension shelf. This field consists of subfield EXTSHELF.
	EXTSHELF (CSP02-)	Y or N	<i>Extension shelf</i> If the PM is a CPM-based host peripheral (for example GPP), and is equipped with an extension shelf, enter Y (yes) and datafill the fields below; otherwise, enter N (no). No other datafill is required. DTCO2 does not support EXTSHELF. For DTCO2, enter N (no). The default value for this field is N.
	EXTFRTYP (CSP02-)	MVIE, CEXT or NIL	<i>Extension frame type</i> Enter the type of frame in which the extension shelf is housed. For GPP, enter CEXT. For SMA2, enter MVIE.

LTCINV (continued)**Field descriptions (Sheet 15 of 15)**

Field	Subfield or refinement	Entry	Explanation and action
	EXTFRNO (CSP02-)	0 to 511	<i>Extension frame number</i> Enter the number of the frame in which the extension shelf is housed.
	EXTSHPOS (CSP02-)	0 to 77	<i>Extension shelf position number</i> Enter the extension shelf position number.
	EXTFLOOR (CSP02-)	0 to 99	<i>Extension shelf floor number</i> Enter the number of the floor on which the extension shelf is located.
	EXTROW (CSP02-)	0 to 39,A to Z, AA to ZZ; except I, II, O, and OO	<i>Extension shelf row number</i> Enter the number of the row in which the extension shelf is located.
	EXTFRPOS (CSP02-)	0 to 99	<i>Extension shelf frame number</i> Enter the number indicating the frame position in which the shelf is housed.
	EXTEQPEC (CSP02-)	MX86AA, MX86AB	<i>Extension shelf equipment PEC</i> Enter the extension shelf equipment PEC. For SMA2, enter MX86AB. For GPP, enter MX86AA.
	EXTSIDE (CSP02-)	L or R	<i>Extension shelf side</i> Enter the extension side of the shelf: L (left) or R (right).

Datafill example

The following example shows sample datafill for table LTCINV.

LTCINV (continued)**MAP display example for table LTCINV**

```

LTCNAME
  ADNUM   FRTYPE  FRNO    SHPOS   FL00R   ROW  FRPOS   EQPEC  LOAD
EXECTAB
CSLNKTAB
OPTCARD
  TONESET      PROCPEC      EXTLINKS
                   E2LOAD

                   OPTATTR

  PEC6X40                      EXTINFO
-----
  LTC  1
    1004  LTE    18        1    1      C    9      6X02AA ECL06BD
(POTS POTSEX) (KEYSET KSETEX) (ABTRK  DTCEX) (RMM_TERM RSMEX)$
( 0 34) ( 1  2) ( 1 34) (2  2) (2 34) (0  2) (1 17) (1 49) (2 17)
(2 49) (0 18) (0 50) (1 18) (1 50) (2 18) (2 50)$
(UTR16 ) (NT7X05AA 17) (CMR18 CMR03A) (MSG6X69)$

NORTHAM MX77AA MX77AA      0
                   NILLOAD                      $

6X40AA      N

```

The following example shows sample datafill for table LTCINV, supporting HDLC messaging protocol. It is provisioned for Japan only.

LTCINV (continued)**MAP display example for table LTCINV**

```

LTCNAME
  ADNUM   FRTYPE  FRNO    SHPOS   FL00R   ROW  FRPOS   EQPEC  LOAD
EXECTAB
CSLNKTAB
OPTCARD
  TONESET      PROCPEC      EXTLINKS
                        E2LOAD
OPTATTR
  PEC6X40                        EXTINFO

```

```

  LTC   1
  1004   LTE      0      18      1      C   9 NX33GC ECL06BD
(KEYSET KSETEX) (RMM_TERM RSMEX)$
( 0 34) ( 1  2) ( 1 34) (2  2) (2 34) (0  2) (1 17) (1 49) (2 17) (2 49)
(0 18) (0 50) (1 18) (1 50) (2 18) (2 50)$
(UTR16 ) (CMR18 CMR03A) (MSGMX76  HOST  HDLC)$

JAPAN1 MX77AA MX77AA      0
                        NILLOAD                        $

6X40FA      N

```

The following example shows sample datafill for an LTC with an SX05AA processor and a PRL memory packetlet datafilled in field PROCPEC.

LTCINV (continued)**MAP display example for table LTCINV**

```

LTCNAME
  ADNUM   FRTYPE  FRNO    SHPOS   FL00R   ROW  FRPOS   EQPEC  LOAD
EXECTAB
CSLNKTAB
OPTCARD
  TONESET      PROCPEC      EXTLINKS
                  E2LOAD
OPTATTR
  PEC6X40                      EXTINFO

```

```

  LTC   0
  1      LTE      0      32      2      A   18 6X02NA QLI10BQ
(POTS POTSEX) (KEYSET KSETEX) (ABTRK DTCEX) (RMM_TERM RSMEX)$
(1 48) (1 49) (1 50) (1 51) (1 52) (1 53) (1 54) (1 55) (1 56) (1 57)
(1 58) (1 59)$
(UTR17 ) (MSGMX76 HOST) ( ISP 16) $
NORTHAM SX05AA PRL $ SX05AA PRL $ 0
                  SPPCSA01                      $
6X40AC                      N

```

Note: For ISDN capabilities, the ISP card must be packfilled.

The following example shows datafill for an LGCO+ without ISDN or extended distance capability for China.

LTCINV (continued)**MAP display example for table LTCINV**

```

      LTCNAME  FRTYPE FRNO SHPOS  FLOOR  ROW FRPOS  EQPEC      LOAD
EXECTAB
CSLNKTAB
OPTCARD
  TONESET      PROCPEC
                E2LOAD
OPTATTR
  PEC6X40                                EXTINFO
-----
      PLGC    1      LTEI    1    51      1  AA    18 6X02UC 0LG07GBL
      (      POTS POTSEX) (      KEYSET KSETEX) (  RMM_TERM
RSMEX)$
(0 10 1 0) (0 10 1 1) (0 10 1 2) (0 10 1 3) (0 10 1 4) (0 10 1 5)
(0 10 1 6) (0 10 1 7) (0 10 1 8) (0 10 1 9) (0 10 1 10) (0 10 1 11)
(0 10 1 12) (0 10 1 13) (0 10 1 14) (0 10 1 15) $
      (UTR15 ) (MSG6X69) (CMR13 CMR03A) (NT6X44EA ) (NT6X28 ) $
CHINA100    MX77AA MX77AA
                MX77NH04
                $
      6X40FA      N

```

The following example shows datafill for table LTCINV supporting FDCP.

LTCINV (continued)**MAP display example for table LTCINV**

LTCNAME	ADNUM	FRTYPE	FRNO	SHPOS	FLOOR	ROW	FRPOS	EQPEC	LOAD
								EXECTAB	
								CSLNKTAB	
								OPTCARD	
TONESSET				PROCPEC					
				E2LOAD					
								OPTATTR	
PEC6X40						EXTINFO			
PDTC 40	LTEI	1	5	9	A	10	6X02UC	ODT09BA	
			(	ABTRK DTCEX)		(	PRAB DTCEX)	\$	
(0 14 1 0)	(0 14 1 1)	(0 14 1 2)	(0 14 1 3)	(0 14 1 4)	(0 14 1 5)	(0 14 1 6)	(0 14 1 7)	(0 14 1 8)	(0 14 1 9)
(0 14 1 10)	(0 14 1 11)	(0 14 1 12)	(0 14 1 13)	(0 14 1 14)	(0 14 1 15)	\$			
			(	UTR15)	(	RAM6X69)	(	NT6X44EA)	(
ITALYMFC			MX77AA	MX77AA					
			UPFWNK01						
						(	CCS7)	(	FDCP)
6X40AC					N				

The following example shows SX05 based DTCO2i tuple with PRL.

LTCINV (continued)**MAP display example for table LTCINV**

LTCNAME	FRTYPE	FRNO	SHPOS	FLOOR	ROW	FRPOS	EQPEC	LOAD
EXECTAB								
CSLNKTAB								
OPTCARD								
TONESET	PROCPEC		EXTLINKS					
	E2LOAD							
OPTATTR								
PEC6X40						EXTINFO		

PDTC	5	LTEI 1	0	2	C	0	MX85AA	QCI12AT
(ABTRK UKPDTC) (PRAB DTCEX) \$								
(0 31 18 0)	(0 31 18 1)	(0 31 18 2)	(0 31 18 3)	(0 31 18 4)	(0 31 18 5)			
(0 31 18 6)	(0 31 18 7)	(0 31 18 8)	(0 31 18 9)	(0 31 18 10)	(0 31 18 11)			
(0 31 18 12)	(0 31 18 13)	(0 31 18 14)	(0 31 18 15)	\$				
(UTR6) (MSGMX76 HOST) (ISP 4) \$								
INDIA	SX05AA	(PRL) \$ SX05AA	(PRL) \$					
		SXFWAE08						\$
6X40AC	N							

Table history**MMP15**

Added entries HUNLGC and HUNDTC to field TONESET to allow datafill of Hungarian tonesets for activity 59022137.

Added entries CZECHMF and CZECHMFC to field TONESET to allow datafill of Czech tonesets for activity 59022144.

Added entries SINGMF and SINGMFC to field TONESET. Tone sets for Singapore.

Added entries POLDTC and POLLGC to the TONESET field. The additional options allow datafill of Polish tone sets.

MMP14

Added entries DENMARK, DENMARKMFC, PERUDTC, PERULGC, SWDLGC, SWDDTC to the TONESET field. The additional options will allow datafill of Danish, Peruvian and Swedish tone sets.

NA014

Added the MVDD (multi-vendor double density) frame type to field FRTYPE.

LTCINV (continued)

MMP13

Added downloadable analog display services interface (ADSI) tone sets for Malaysia (MALYADSI), the Philippines (PHILADSI) and Sri Lanka (SRILADSI).

NA012

Added the MSGMX76 card to the OPTCARD field for DTCL.

MMP12

Added the options CWAPCDTC, CWAPCLGC, CWCHILGC and CWCHIDTC to the TONESET field. The additional options allow the datafill of Caribbean tone sets for the PLGC and PDTC.

Added the option IRISHMF to the TONESET field for Irish tones (59008116). Removed the options EIREDTCL and EIRELGC.

Added a description for replacing the MX77AA or AX7AA processor with the SX05AA processor in the PROCPEC field.

Added datafill example for SX05 based DTCL02i tuple with PRL.

EUR010

Added the options NORWMF and NORWMFC to the TONESET field for AU3311.

Added description for XPM-based and CPM-based PDTC in field EQPEC.

Added description for PDTC+ (PEC MX85AA in field EQPEC) for optional cards in field OPTCARD.

Added Note 3 for OPTCARD = MSGMX76.

WT11

Added value JDTCEX to field EXEC for Japan.

NA010

Added the NTAX78BA time switch card to the field OPTCARD options list. Added error messages that can be generated during attempts to add or delete NTAX78BA from the OPTCARD list.

Added new subfield PACKLET under field PROCPEC for use when PRL functionality is required with an SX05AA processor.

LTCINV (continued)

NA009

Changed table size to 210 tuples. Added note to subfield XPMNO. Table LTCINV has been updated for the NA011 release of this document. This update was made in response to a Problem Resolution System (PRS) request for the NA009 time frame.

APC009.1

Added values CWAPCLGC and CWAPCDTC to field TONESET.

APC009

Added the INDIA, JAPAN3, and SRILANKA values to the TONESET field.

CSP09

Added note to subfield XPMTYPE and error message to section Adding, changing, or removing links in table LTCINV regarding restrictions on entry PDTCT.

EUR009

FDCP is a new value and is introduced to the existing Optional Attribute field.

The options AUTMF and AUTMFC are added to the TONSET field for AJ5185.

The options SWISSMF and SWISSMFC are added to the TONSET field for AJ5134.

NA008

Removed references to AML from table 6. Table LTCINV has been updated for the NA011 release of this document. This update was made in response to a Problem Resolution System (PRS) request for the NA008 time frame.

EUR007

Added downloadable tones for Spain (SPAINMF and SPAINMFC), France (TONFRMF and TONFRMFC), Italy (ITALYMF and ITALYMFC), Dutch (DUTCHMF and DUTCHMFC), and Belgium (BELMF and BELMFC) markets to the TONESET field.

TL08

Information on the NTAX74 XPM processor card was added. The name of field PEC6X45 was changed to PROCPEC. Removed restrictions on support for the NT7X05 PRL card when the NTAX74 card is datafilled in PROCPEC. Information on the NTSX05AA processor was added to the description of field PROCPEC.

LTCINV (continued)

EUR006

Added options SAUDIDTC and SAUDILGC in field tone set to meet the tones specification for the Saudi Arabian market.

Added provisioning for STR Tone Detection on DMS-100E enabling tone detection throughout the active phase of a call. New options STR16IC and STR17IC are added to OPTCARD field and range value STRDTRE added to OPTATTR field.

Added support for ETSI V5.2 accesses using the KSETEX executable for UK Phase 2 ISDN BRI.

GL03.1

Added datafill example for a PLGC (LGCO+) without ISDN or extended distance capability hosting an RCO2.

APC07

Values PHILTONE and MALAYSIA added to field tone set.

APC06

Added required card MSGMX76, in field OPTCARD, for all LTCs supporting HDLC protocol feature XL0011. Added information on 6X40AD and 6X40FB cards in field PEC6X40.

APC05.1

Added required card MSGMX76 in field OPTCARD, for all FPPs, and added ISP card in field OPTCARD, for GPPs with V5.2 interfaces.

NA005

Added AK31AA, AK31AT, AK81AD, and AK81AT to field EQPEC.

Added description for DCTAX78AA entry in field OPTCARD.

Added restrictions for a GPP equipped with an EISP ISP optional card with a V5.2 attachment.

TOPS04

Value OC added to field OPTATTR.

APC04

Value JAPANSMS added to field tone set.

LTCINV (continued)

NA004

The following changes were made to table LTCINV:

- added value NT7X05AA with subfield SLOT_NUMBER to field OPTCARD
- updated datafill example
- removed references to PRCC PM type that is no longer supported

CSP03

The following entries were added to table LTCINV:

- SMA2 to field XPMTYPE
- MX85AB to field EQPEC
- CMVI to field FRTYPE
- MVIE to subfield EXTFRTYP
- MX86AB to subfield EXTEQPEC

APC02

Added PM type LGCO for line group controller offshore (datafilled as PLGC).

NA002

The following additions were made to table LTCINV:

- value NTAX78AB, with an explanation and action to field OPTCARD
- three error messages for value NTAX78AB
- the value NORTHAA for North American ADSI in field tone set

CSP02

The following changes were made to table LTCINV:

- removed all references to PM type HS12
- added reference to new extension shelf to section “Functional description”
- added value GPP to field XPMTYPE
- added field EXTINFO and its refinements

BCS36

The following changes were made to table LTCINV:

- deleted values RCC and RCC2 from field XPMTYPE; moved values to table RCCPSINV
- deleted entry M200 from field TRMTYPE for BCS35 and up

LTCINV (continued)

- corrected entry in field tone set (changed NZLG to NZLC)
- corrected value in field OPTCARD (changed NT6X28AB to NT6X28BA)

Supplementary information

Much of the information previously described in the general section of table LTCINV is now contained in the section “Field descriptions”.

PLGC is the XPM used to datafill line group controllers with PCM30 running North American call processing software. This applies whether the PM is a P3LGC, a P2LGC, or a P2LGCI. PM types P3LGC, P2LGC, P2LGCI, and PLGC are differentiated by frame type, equipment PEC (shelf code), and the presence of an ISP optional card.

The following table shows the values used in fields FRTYPE and EQPEC for PLGC and PDTC. It also contains the format of the software load for that type of peripheral. Field OPTCARD shows possible UTR, ISP, and NT6X28 cards.

PLGC/PDTC datafill

Field name	PM type				
	P3LGC	P2LGC	P2LGCI	P3DTC	P2DTC
XPMTYPE	PLGC	PLGC	PLGC	PDTC	PDTC
FRTYPE	ILGE	LTEI	LTEI	IDTE	LTEI
EQPEC	6X02P3	6X02UA	6X02UA	6X02P3	6X02UA
OPTCARD	UTR8	UTR15	UTR15	UTR8	UTR15
	UTR9	UTR16	UTR17	UTR9	UTR16
	UTR10	UTR17		UTR10	UTR17
	UTR11		ISP	UTR11	
	NT6X28	NT6X28	NT6X28	NT6X28	NT6X28
	NT6X28AB	NT6X28AB	NT6X28AB	NT6X28AB	NT6X28AB
LOAD	NPLxxyy	ULGxxyy	ULIxxyy	NPDxxyy	UDTxxyy

Adding, changing, or removing links in table LTCINV

Dynamic C-side link reconfiguration of a PDTC and a PLGC is not supported if table SPECCONN has connections throughout the network. If a user attempts to alter a C-side link in table LTCINV when at least one network

LTCINV (continued)

SPECCONN connection uses that XPM, the tuple change is not permitted and the following error message is displayed:

ERROR: DELETE NETWORK SPECCONN CONNECTIONS BEFORE CHANGING CSLINKS

If a time-division multiplex (TDM) connection uses an equipped C-side port off a PLGC, a tuple change is not allowed on that C-side link in table LTCINV. The corresponding ISDN line must be deleted before altering the related C-side link. The following error message is displayed:

ERROR: TDM CONNECTIONS ON THIS LINK. CANNOT CHANGE CSLINKS. USE QSCONN TO FIND THE ISDN LINES TO BE REMOVED. RE-DATFILL THESE LINES ONCE CSLINKS CHANGE IS OVER.

Adding the value NTAX78AB to field OPTCARD for an SMU without the ISP1 optional card is not valid. An SMU without ISDN and MBS does not support the NTAX78AB time switch. The following error message is displayed:

ERROR: MUST HAVE ISP TO PROVISION NTAX78AB on SMU.

Deleting the value ISP from field OPTCARD for an SMU that has the NTAX78AB optional card datafilled is not valid. An SMU without ISDN and MBS does not support the NTAX78AB time switch. The following error message is displayed:

ERROR: MUST REMOVE NTAX78AB OPTCARD BEFORE REMOVING ISP.

If an ISP card is already datafilled for a specific GPP and a V5.2 interface is attached, the operating company personnel cannot delete the card from the list of optional cards. The following error message appears:

ERROR: The ISP OPTCARD cannot be removed, since there is a V5.2 AN attached.

Conversely, operating company personnel cannot attach a V5.2 interface to a specific GPP if the GPP is not datafilled with an ISP card in field OPTCARD.

Adding the value NTAX78AB to field OPTCARD for an SMU that cannot support it, is not valid. Feature package NTX387AE is not present in the CC load. The following error message is displayed:

ERROR: NTAX78AB IS NOT A VALID OPTCARD FOR THIS TYPE OF PERIPHERAL.

LTCINV (end)

Mapping of links from an RCO2 through the PLGC takes precedence over any requirements for channels for call processing in the PLGC.

If the data change affects link information to a PLGC hosting an RCO2, the result can be static data changes to the PLGC. Such changes affect call processing to both the PLGC and the RCO2, and must be done during low traffic periods. If a static data mismatch condition occurs on the PLGC, two WARMSWACTS must be done to update the static data in both units of the PLGC. Care must be taken when making any changes in the C-side or P-side links. The user must ensure that enough call processing C-side capacity remains in the PLGC.

PDTCs cannot be added to table LTCINV if 8-bit SLS load balancing is active and CCS7 routing tables exist in the XPM. If PDTCs are not allowed, the following error message appears:

ERROR: PDTC type peripherals are not allowed in table LTCINV when 8 bit SLS load balancing is enabled and routing tables are downloaded in the XPMs. Please activate LIU7 routing and remove the routing tables before adding a PDTC to the LTCINV table.

A value of ECL12 or later in field LOAD produces an error under the following conditions.

- the PM is an NTMX77 based LTC/LGC
- the PM has subtending ILD drawers and/or RLD ISDN LENS.

The error message produced from the above conditions is as follows.

Warning: ECL12/13/14 load will cause ILD Drawers and RLD ISDN LENS to stop working on MX77-based LTC/LGC peripheral.
(Note: RLD POTS and P-phone will be OK) User should upgrade the LTC/LGC to SX05 processor, or delete the ILD/ RLD datafill, or move ILD/RLD to a supporting peripheral.

Note: If operating company personnel continue with this datafill but do not delete or move the ILD/RLD lines, an E1 outage can occur.

Dump and restore

If the load is for Japan, replace all occurrences of DTCEX with JDTCEX.

If the load is not for Japan, transfer the LTCINV tuple without changes.

LTCPSINV

Table name

Line Trunk Controller P-Side Link Inventory Table

Functional description

Table LTCPSINV contains the assignment of the peripheral side (P-side) links for the peripheral modules (PM). The key for this table is the same as the key for table LTCINV.

An entry in table LTCPSINV is added automatically when an extended multiprocessor system (XMS)-based PM (XPM) or a common peripheral module (CPM) is datafilled in table LTCINV. All the P-side link types initially default to NILTYPE. P-side links that do not have hardware assigned must remain NILTYPE. Unequipped software assigned P-side links generate service-affecting problems.

Feature AN0543 (P-side port and static data—TL) supports P-side port expansion for the Global Peripheral Platform (GPP), which is a common peripheral module (CPM)-based host peripheral, supporting time-division multiplexing (TDM). GPP supports up to 48 PCM30 links connected to generic access nodes (AN); therefore, up to 6000 lines are supported.

ATTENTION

ISDN line drawer for remotes (ILDR) is first available for remote switching center-SONET (RSC-S) and remote switching center (RSC) configurations in the NA007/XPM08 time frame. ILDR is first available for remote line concentrating module (RLCM), outside plant module (OPM), and outside plant access cabinet (OPAC) configurations in the NA008/XPM81 time frame.

When changing the carrier of a link connected to an ILDR-equipped RLCM, the new carrier must allow 64 kbit/s clear channel.

For related information, refer to table LTCINV.

LTCPSINV (continued)**Peripheral module types**

Table Table , "PM types" on page -367 shows the PM types that are supported by table LTCPSINV.

PM types

PM	Meaning
ADTC	Austrian digital trunk controller
BDTC	British digital trunk controller
DFI	Direct fiber interface
DTC	Digital trunk controller
DTCI	ISDN digital trunk controller
GPP	Global Peripheral Platform
IDTC	International digital trunk controller (pulse code modulation 30 [PCM30] trunks)
ILGC	International line group controller
ILTC	International line trunk controller
LGC	Line group controller/line group controller ISDN
LTC	Line trunk controller/line trunk controller ISDN
PDTC	PCM30 digital trunk controller
PLGC	PCM30 line group controller
RCC	Remote cluster controller
RCC2	Remote cluster controller 2
SMA	Subscriber carrier module-100S access
SMA2	Subscriber carrier access 2
SMR	Subscriber carrier module-100 rural
SMS	Subscriber carrier module-100S (SLC-96) (controls subscriber loop carrier [SLC] remote)
SMU	Subscriber carrier module-100 urban (controls remote concentrator terminal [RCT] of the DMS-1U system)
TMS	Traffic Operator Position System (TOPS) message switch

LTCPSINV (continued)**Datafill sequence and implications**

The following tables must be datafilled before table LTCPSINV:

- LTCINV
- CARRMTC

Table size

Memory is automatically allocated for a maximum of 256 tuples for table LTCPSINV.

Datafill

Field names, subfield names, and valid data ranges for table LTCPSINV are described in the following table:

Field descriptions (Sheet 1 of 6)

Field	Subfield or refinement	Entry	Explanation and action
LTCNAME		see subfields	<i>Link trunk controller name</i> This field consists of subfields XPMTYPE and XPMNO.
	XPMTYPE	ADTC, BDTC, DFI, DTC, DTCI, GPP, IDTC, ILGC, ILTC, LGC, LTC, PDTC, PLGC, RCC, RCC2, SMA, SMA2, SMR, SMS, SMU, or TMS	<i>XPM type</i> Enter the extended multiprocessor system (XMS)-based peripheral module (XPM) or common peripheral module (CPM) type. See table Table , "PM types" on page -367 for a definition of the PMS.
	XPMNO	0 to 255	<i>XPM number</i> Enter the XPM number.
PSLNKTAB		see subfield	<i>P-side link table</i> This field consists of subfield EXP_SIDES.

LTCPSINV (continued)**Field descriptions (Sheet 2 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
PSLINK	EXP_PSIDES(CSP02-)	Y or N	<i>Expanded P-sides platform indicator</i> If the entry in field XPMTYPE is a Common peripheral module (CPM), host-based peripheral, for example a GPP, and it is equipped with an extension shelf, enter Y (yes) and datafill field EXP_TAB. Otherwise, enter N (no) and datafill field LTC_TAB. Enter a Y for an ISDN LTC/LGC equipped with an NTAX78BA time switch.
	LTC_TAB(CSP02-)	see subfields (vector of up to 20 multiples)	<i>Line trunk controller table</i> This field consists of subfields PSLINK and PSDATA.
	EXP_TAB(CSP02-)	see subfields (vector of up to 48 multiples)	<i>Expansion table</i> This field consists of subfields PSLINK and PSDATA.
		0-190 to 39, 0 to 15, 0 to 47	<i>P-side link</i> Enter the P-side port number. For DCH, enter an odd-numbered port. A D-channel handler (DCH) can occupy any of the odd-numbered ports on the P-side. For DS-0, enter any even-numbered port. For DS30A, enter any port 0-19 (if equipped with an NT6X44AA time switch) or port 0-39 (if equipped with an NTAX78BA time switch). For IDTC, enter 0 to 15. For GPP, enter 0 to 47. For PLGC, enter 0 to 19. For DS1, enter any port 0-19. Any entry outside the ranges indicated for this field is invalid.

LTCPSINV (continued)**Field descriptions (Sheet 3 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
PSDATA		see subfield	<i>P-side data</i> This subfield consists of subfield AREASELCT.
	AREASELCT	DCH, DS0, DS1, DS1PRA, DS30A, D30, M20, NDS0, P30PRA, NILTYPE, SONET, TTC, or VT1H	<i>Area select</i> Enter the applicable link type as follows: Enter DCH for interface with ISDN loops for LGC, LTC, and PLGCs with ISDN signaling processor 16 (ISP) in the OPTCARD field in table LTCINV. Note: On an SMU, P-side ports can be assigned to DCHs if the SMU has enhanced ISDN signaling processor (EISP) as an optional card. Enter DCH or DS1 for SMA. Enter DCH, DS1 or NILTYPE for SMA2. Enter DCH or D30 for PCM30 TMS. Note 1: If the entry in this field is DCH, no other datafill is required. Note 2: Only the first 16 ports are allowed for PCM30 TMS, but all 20 ports are displayed. Entry of DCH ports is prohibited for an ETMS OC (field OPTATTR = OC in table LTCINV). This is because an ETMS can be utilized as an ETMS OC or a terminal server, but not both. Also, DS1/PCM30 ports cannot be removed if an ETMS OC data link is defined on that ETMS in table TMSOCDL. Then, all ETMS OC data links defined on the given port must first be removed from table TMSOCDL.

LTCPSINV (continued)**Field descriptions (Sheet 4 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
			Enter DS0 - for interface with a signaling transfer point (STP) node - for ADTCs without ISP DS0 is a valid link type for PDTCs only if the referenced template in table CARRMTC has been datafilled with card option NT6X55BA (64-kbit access) or NTX6X55AB (DS-0 interface). DS0 links can only be specified on even ports. Enter NILTYPE for odd ports. Note: DS0 is valid only for North American DTCs. Enter DS1 - for DS-1 type interface card for trunks and remote line concentrating modules (LCM) - for LTCs and LGCs with or without ISP Enter DS1PRA for interface with ISDN trunks. Enter DS30A - for P-side interface to local LCMs or for PLGCs - for LGCs and LTCs with or without ISP Note: DS30A can only be datafilled in links 0 to 19 (if equipped with an NT6X44AA time switch) or 0-39 (if equipped with an NTAX78BA time switch).

LTCPSINV (continued)**Field descriptions (Sheet 5 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
			Note: If the entry in this field is DS30A, no other datafill is required. Enter D30 for an interface to PCM30 trunks and to PCM30 remote line concentrating modules (PRLCM). D30 is a valid P-side link for GPP, PDTCs, and PLGCs with or without ISP. Note: D30 carriers are allowed on ILGCs. Enter M20 for a Japan M20-type carrier. For NDS0 links, enter NDS0, starting with an even-numbered link. NDS0 links are datafilled in two consecutive P-side links. Enter TTC for Japan trunk test center (TTC)-type carrier. Enter NILTYPE for PLGC. Note 1: If the entry in this field is NILTYPE, no other datafill is required. Note 2: NILTYPE must not be datafilled as initial input. If field LTCNAME is datafilled with a PDTC, enter P30PRA. P30PRA is a valid link type for ADTCs, PDTCs, and PLGCs with ISP. Any entry outside the range indicated for this field is invalid. Enter VT1H for direct fiber interface (DFI) peripheral types. If the entry in subfield AREASELCT is NDS0, up to 4 multiples of CARRIDX, ACTION, and EQUIP can be datafilled. The default value for this field is NILTYPE. Note: For Gateways, PSDATA is DSI GWIP.

LTCPSINV (continued)**Field descriptions (Sheet 6 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
CARRIDX		alphanumeric (1 to 16 characters) or DEFAULT	<i>Carrier index</i> Enter a valid template name from table CARRMTC. Otherwise, enter DEFAULT for the default template name in table CARRMTC. Note 1: If the entry in CARRIDX is ESFB8ZS for high data link controller (HDLC) and link access protocol on the D-channel (LAPD) then datafill subfield AREASELECT with DS1. Note 2: If the entry in subfield AREASELECT is DS1, this field must contain NT6X50AB as the carrier card for configuration of clear channel (64kb/s), provisioned for Japan only. Note 3: If the entry in subfield AREASELECT is DS0, this field must contain NT6X55BA or NT6X55AB as the carrier card to allow specification of the DS-0 link type on a PDTC. DS-0 links can only be specified on even-numbered ports. Odd-numbered ports must be specified as NILTYPE.
ACTION		Y or N	<i>Action</i> Enter Y (yes) if the carrier is removed from service when a hit-state alarm exceeds its out-of-service threshold or when the out-of-service limit for frame, slip, errored-second, or severe-errored-second is exceeded. Otherwise, enter N (no).

LTCPSINV (continued)

AREASELCT = NDSO

If the entry in subfield AREASELCT is NDSO, datafill refinement EQUIP as described in the following table:

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	EQUIP	EQ or NEQ	<i>Carrier equipped</i> Enter EQ to indicate that the NDSO carrier is equipped. Otherwise, enter NEQ (not equipped).

AREASELCT = P30PRA

If the entry in subfield AREASELCT is P30PRA, datafill refinement IID as described in the following table:

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	IID	0 to 31	<i>Interface identifier</i> Enter an interface identifier (IID) that is datafilled in the equipment that terminates the DS-1. Each DS-1 has a different IID. The identifiers are used to identify primary rate access (PRA) interfaces. They are used by offices at either end of the PRA interface to identify the channel associated with the out-of-bank signaling information.

LTCPSINV (continued)**AREASELCT = DS1PRA**

If the entry in subfield AREASELCT is DS1PRA, datafill refinements IID and LINEEQ as described in the following table:

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	IID	0 to 31	<i>Interface identifier</i> Enter an interface identifier (IID) that is datafilled in the equipment that terminates the DS-1. Each DS-1 has a different IID. The identifiers are used to identify primary rate access (PRA) interfaces. They are used by offices at either end of the PRA interface to identify the channel associated with the out-of-band signaling information. Note: Nortel Networks recommends that if there are several P-side links in a trunk group, the datafilled IID values be in ascending consecutive order. For example, if there are four P-side links in a trunk group, datafill IID values as 0, 1, 2, and 3. Nortel Networks recommends that the links be datafilled in ascending order. For example, a trunk group in table LTCPINV can be datafilled with P-side link values 3, 6, 8, 11, and 15 - but the associated IIDs must be datafilled as 0, 1, 2, 3, and 4.
	LINEEQ	110, 220, 330, 440, 550, 660, or NIL	<i>Line length from DS-1 circuit to first DS-1 office repeater</i> If the DS-1 carrier is equipped with NT6X50EC (integrated echo canceller card) tuple in table CARRMTC, enter the line length value that is used on the dual inline package (DIP) switch. Otherwise, enter NIL.

Datafill example

The following example shows sample datafill for table LTCPSINV.

LTCPSINV (continued)**MAP display example for table LTCPSINV**

LTCNAME	PSLNKTAB
LTC 4	(0 DS1PRA PRA64K N 1 NIL) (1 DS1 DEFAULT N) (2 DS1 DEFAULT N) (3 DS1PRA PRA64K N 1 NIL) (4 DS1 DEFAULT N) (5 DS1 DEFAULT N) (6 DS1 DEFAULT N) (7 DS1 DEFAULT N) (8 DS1 DEFAULT N) (9 DS1 DEFAULT N) (10 DS1 DEFAULT N) (11 DS1PRA PRA64K N 1 NIL) (12 DS30A) (13 DS1PRA PRA64K N 1 NIL) (14 DS30A) (15 NILTYPE) (16 DS30A) (17 DCH) (18 DS30A) (19 DCH) \$

The following example shows sample datafill for table LTCPSINV when the LTC is equipped with an NTAX78BA time switch.

MAP display example for table LTCPSINV -LTC equipped with NTAX78BA time switch

LTCNAME	PSLNKTAB
LTC 3	(0 DS1 DEFAULT N) (1 DS1 DEFAULT N) (2 DS1 DEFAULT N) (3 DS1 DEFAULT N) (4 DS1 DEFAULT N) (5 DS1 DEFAULT N) (6 DS30A) (7 DCH) (8 NILTYPE) (9 NILTYPE) (10 DS30A) (11 DS30A) (12 NILTYPE) (13 DCH) (14 NILTYPE) (15 NILTYPE) (16 NILTYPE) (17 NILTYPE) (18 NILTYPE) (19 NILTYPE) (20 DS30A) (21 DS30A) (22DS30A) (23 DS30A) (24 DS30A) (25 DS30A) (26 NILTYPE) (27 DS30A) (28 DS30A) (29 DCH) (30 NILTYPE) (31 DCH) (32 NILTYPE) (33 NILTYPE) (34 NILTYPE) (35 DCH) (36 NILTYPE) (37 NILTYPE) (38 NILTYPE) (39 NILTYPE) \$

The following example shows sample datafill of table LTCPSINV for Japan only, with links 0, and 2 datafilled with a carrier index value of ESFB8ZS clear channel signalling (64 kbit/s), using a tuple datafilled in table CARRMTC to support HDLC LAPD messaging on these links. Links 1 and 3 have the value of DEFAULT for speech only. Links 4 through 19 are unequipped.

LTCPSINV (continued)**MAP display example for table LTCPSINV**

LTCNAME	PSLNKTAB
LTC 4	(0 DS1 ESFB8ZS N)(1 DS1 DEFAULT N)(2 DS1 ESFB8ZS N) (3 DS1 DEFAULT N)(4 NILTYPE)(5 NILTYPE) (6 NILTYPE) (7 NILTYPE)(8 NILTYPE) (9 NILTYPE)(10 NILTYPE) (11 NILTYPE) (12 NILTYPE)(13 NILTYPE)(14 NILTYPE) (15 NILTYPE)(16 NILTYPE) (17 NILTYPE) (18 NILTYPE) (19 NILTYPE) \$

The following example shows sample datafill for table LTCPSINV for Gateways. For Gateways, PSDATA is DSI GWIP.

MAP display example for table LTCPSINV

LTCNAME	PSLNKTAB
LTC 0	N (0 DS1 GWIP N) (1 DS1 GWIP N) (2 DS1 GWIP N) (3 DS1 GWIP N) (4 NILTYPE) (5 NILTYPE) (6 DS30A) (7 DS30A) (8 DS30A) (9 DS30A) (10 DS30A) (11 DS30A) (12 DS30A) (13 DS1 DEFAULT N) (14 NILTYPE) (15 DCH) (16 NILTYPE) (17 DCH) (18 NILTYPE) (19 DCH) \$

Error messages

The following table control error messages apply to tuple changes for the NTAX78BA equipped ISDN line group controller (LGCI) and ISDN line/trunk controller (LTCI).

- The MAP display shows an error message if a DS30A is already provisioned in the lower (0-19) port range and you attempt to assign a DS30A in the matching upper (20-39) port range. Matching means the lower port number plus 20. For example, lower port 2 has a matching

LTCPSINV (continued)

upper port of 22 ($2+20=22$). The following is an example (using ports 19 and 39 as examples) of the error message display.

An attempt has been made to assign 2 DS30As to the same physical port. A DS30A in physical port 19 can only be assigned as port 19 or port 39, but not both.

- The MAP display shows an error message if a DS1 is already provisioned on an even numbered port in the 0-19 port range (for example, 18) and you attempt to assign a D-channel handler (DCH) in the matching + 1 upper (20-39) port range (for example, $18+20+1=39$). The error message is generated in this example because a DS1 and DCH cannot both be assigned to the same physical port. The following is an example of the error message display.

An attempt has been made to assign a DS1 and a DCH to the same physical port. If a DS1 is assigned to physical port 18 or 19, a DCH cannot be assigned to port 39 (or if a DCH is assigned to port 39, a DS1 cannot be assigned to port 18 or 19).

- The MAP display shows an error message if a DS1 is already provisioned on an odd numbered port in the 0-19 port range (for example, 19) and you attempt to assign a DCH in the matching 20-39 port range (for example, $19+20=39$). The error message is generated in this example because a DS1 and a DCH cannot be assigned to the same physical port. The following is an example of the error message display.

An attempt has been made to assign a DS1 and a DCH to the same physical port. If a DS1 is assigned to physical port 18 or 19, a DCH cannot be assigned to port 39 (or if a DCH is assigned to port 39, a DS1 cannot be assigned to port 18 or 19).

- The MAP display shows an error message if a DCH is provisioned on an odd port in the lower (0-19) port range (for example, 1) and you attempt to assign a DCH to the matching upper (20-39) port range (for example, $1+20=21$). An error message is generated because you cannot assign two DCHs to the same physical port. The following is an example of the error message display.

An attempt has been made to assign 2 DCHs to the same physical port. A DCH in physical port 1 can only be assigned as port 1 or port 21, but not both..

- The MAP display shows an error message if the user attempts to change the field EXP_PSIDES from Y to N. The following is an example of the error message display.

This field cannot be changed.

LTCPSINV (continued)

Note: This restriction is there for any tuple/any XPM in this table. The user is not allowed to change this field with a manual operation.

- The MAP display shows an error message if you attempt to datafill more than 40 P-side ports. The following is an example of the error message display.

P-side link is out of valid range of 0...39 for NTAX78BA equipped XPM.

- The switch does not allow you to provision DS1s on the upper 20 (20-39) P-side ports. You can only provision them on the lower 20 (0-19) P-side ports. The following is an example of the error message display.

Cannot datafill DS1s on ports 20 to 39 of an NTX78BA equipped XPM. DS1s can only be located on ports 0 to 19.

Table history**NA013**

Added a MAP example for GWIP.

NA010

Added error message information for the NTAX78BA universal time switch card.

NA007

New restrictions have been added as a result of the introduction of the ILDR.

APC06

Added carrier index template ESFB8ZS for LTCs supporting an RLCM with extended distance capability, for Japan only.

APC05.1

Change GPP maximum line capability to 6000 lines and add CPM extension shelf information.

TOPS04

Added DCH and DS1 restrictions for ETMS OC in subfield AREASELECT.

CSP03

The following changes were made to table LTCPSINV:

- added SMA2 to field XPMTYPE
- added SMA2 information to PSLINK field

LTCPSINV (end)

CSP02

The following changes were made to table LTCPSINV:

- added information about P-side port expansion to section “Functional description”
- added value GPP to field XPMTYPE
- added fields EXP_SIDES, LTC_TAB, and EXP_TAB
- revised range of values in field PSLINK
- removed all references to PM type HS12

BCS36

Added value VT1H to field AREASELCT to accept VT1.5 links for DFI peripheral types.

LTCRINV

Table name

Line Trunk Controller Remote Inventory

Overview

Table LTCRINV contains the inventory data (except the P-side link assignment, which is in table LTCRPINV) for the subscriber carrier module-100S remote (SMS-R) peripheral module (PM).

Tables LTCRINV and LTCRPINV maintain the inventory for the SMS-R in a DMS-100 switch. Although the concentration is on the SMS-R, both the names and functionality of these two tables are made general so that future remote PMs can also use them to maintain their inventory.

SMS-R

The SMS-R uses SLC-96, a product of AT&T designed to extend telephone service from a central office (CO) to remote residential or business communities. When the SLC-96 is used at a remote switching center (RSC), the SMS-R provides an interface between the remote cluster controller (RCC) and the SLC-96. The SMS-R is able to interface with multiple SLC-96 remote terminals (RT) as shown in the following figure.

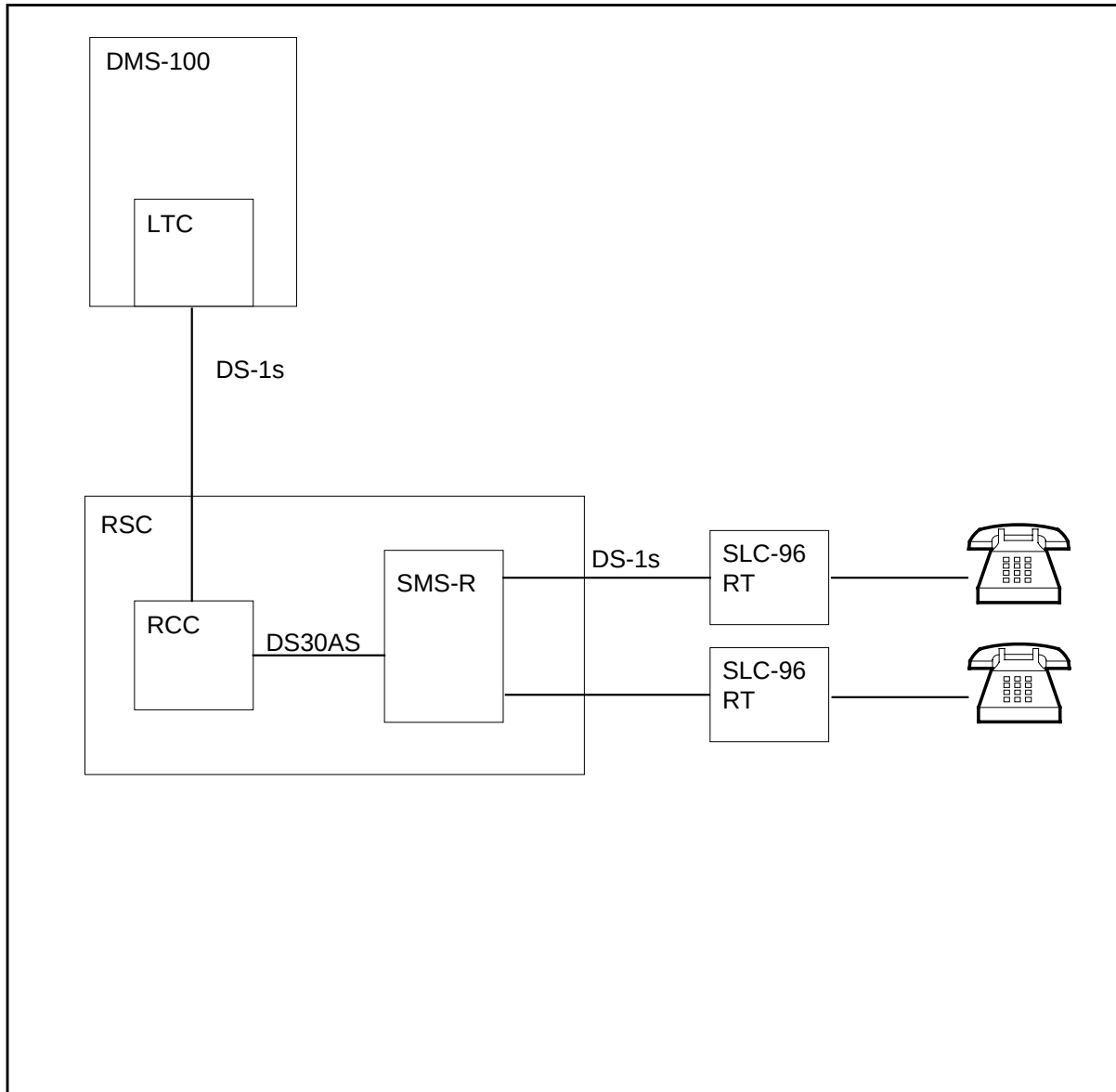
LTCRINV (continued)**SMS-R interface with multiple SLC-96 RT****Tables LTCRINV and LTCRPINV**

Table LTCRINV is used to datafill information about the remote node, its host node, and the connectivity of the communication links between the C-side links of the remote extended multiprocessor system (XMS)-based peripheral module (XPM).

Table LTCRPINV is used to datafill information about the connectivity of the communication links between the remote XPM and its P-side nodes.

LTCRINV (continued)

Tables LTCRINV and LTCRPINV dynamically store data for up to 210 remote XPMs. These two tables are similar to tables RCCINV and RCCPSINV.

Datafill rules

The sequence and rules for datafilling a remote XPM are as follows:

- The host node must be equipped, that is, it must exist in its inventory tables.
- The host node must have P-side links equipped in its inventory. With these links, the following conditions must be met to satisfy the C-side connectivity requirements of the remote XPM datafilled in table LTCRINV:
 - Enough P-side links must be equipped and available for use to satisfy the minimum C-side link requirement of the remote XPM.
 - The P-side links that satisfy the above requirement must also be of the link type required by the remote XPM.
- The remote XPM must be datafilled in table LTCRINV.
- The remote XPM must be positioned in table LTCRPINV and equipped with P-side links using the table editor command CHANGE. Note that the table editor command ADD is not used for this table.

Rules specific to SMS-R in table LTCRINV are as follows:

- The product engineering code (PEC) for the SMS-R is NT6X02PA.
- The host node (field CSPM) of the SMS-R must be an equipped RCC.
- A minimum of two to a maximum of four C-side links (field CSLNKTAB) must be entered. These links must be DS30A links.
- If the minimum of two C-side links is entered, they must be for C-side ports 0 and 2, the message ports. If C-side port 1 is not configured, NILPORT must be entered. C-side port 0 is the message port for unit 0, while C-side port 2 is the message port for unit 1.

A rule specific to SMS-R in table LTCRPINV is that equipped P-side links must be type DS-1.

Inventory operations

Table LTCRINV supports the table editor commands ADD, CHANGE, LIST, POSITION, DELETE, and others. Table LTCRPINV does not support the ADD and DELETE commands.

When a PM is added to table LTCRINV, it also becomes defined in table LTCRPINV with the same entry number. All the links in the entry are of NILTYPE, meaning the PM has no P-side links equipped. Because the table

LTCRINV (continued)

control system does not allow adding an already defined item, a CHANGE command is used to equip (datafill) the PM with P-side links in table LTCRPINV. The DELETE command on an entry in table LTCRINV also deletes the corresponding entry from table LTCRPINV provided all the links in field PSLINKTAB are set to NILTYPE.

Restrictions and limitations

Table LTCRINV has the following restrictions and limitations:

- The maximum number of SMS-Rs that can be datafilled on a DMS switch depends on the number of XPMs datafilled in table LTCRINV as well as the number datafilled in table LTCINV (the sum of the totals in both tables cannot exceed 210). The maximum number of SMS-Rs that can be datafilled on a DMS switch also depends on the RCC and link resources that the switch has available to support SMS-Rs.
- The total number of SMS-Rs that are assigned to a single RCC cannot exceed nine. This is assuming that the minimum number of C-side links are used on each SMS-R, and that two RCC P-side links are dedicated to the remote maintenance module (RMM) interface.
- The total number of RCSs that are assigned to a single SMS-R cannot exceed six.

Functional description

Table LTCRINV contains information on XPMs, their C-side links, and their connectivity to the host PM.

Table LTCRINV provides the following data assignments for each bay associated with a PM:

- PM type and number
- frame type and number on which the PM is physically mounted
- floor, row on the floor, and bay position on the row of each PM
- PEC of the PM
- the issue name of the PM software
- the C-side PM type and number
- the network links on which the PM is assigned corresponding C-side links
- the two types of NT6X45 (LTC/DTC/LGC processor) cards in each peripheral unit

LTCRINV (continued)

DS30 interface

This cost-reduced version of the DS-30 network interface card, NT6X40BA (DS30 C-side interface), is used with an SMS and provides four network ports. Master processor and signaling processor card, NT6X45CA, is used with the NT6X40BA card.

The NT6X45CA processors cannot be used on PMs other than SMS. With the NT6X40BA card, only four network links can be datafilled for an SMS. Attempting to datafill more than four links results in a message that only four C-side links are permitted on an SMS.

Datafill sequence and implications

The following tables must be datafilled before table LTCRINV:

- RCCINV
- RCCPSINV

The PM that is the host node for this remote XPM must be datafilled in its inventory table or tables (for example, RCC2 [remote cluster controller 2] must be datafilled in tables RCCINV and RCCPSINV [with links datafilled] prior to the SMS-R being datafilled in table LTCRINV).

The SITE is datafilled as part of field LTCRNAME. This is the part of the key that is used to uniquely identify the PM. Until SITE is fully supported, the PM number must be unique for each office. For example, the following information does not uniquely identify two SMS-Rs in an office because the SITE is not fully supported and the PM number is not unique:

SITE1 SMSR 5

SITE2 SMSR 5

The following information does uniquely identify two SMS-Rs:

SITE1 SMSR 5

SITE2 SMSR 4

Once the SITE is fully supported, the first example will be valid.

Note: Changes to fields with multiple entries should be made in the PROMPT mode only.

LTCRINV (continued)

Table size

0 to 210 tuples

Memory is allocated as required to allow a maximum sum of 210 tuples in tables LTCINV and LTCRINV combined.

Datafill

The following table lists datafill for table LTCRINV.

Field descriptions (Sheet 1 of 7)

Field	Subfield or refinement	Entry	Explanation and action
LTCRNAME		see subfields	Line trunk controller remote name. This field consists of subfields SITENM, PMTYPE, and XPMNO.
	SITENM	alphanumeric (1 to 16 characters)	Site name. Enter the site name assigned to the remote location. The first character must be alphabetic. This entry must also appear in table SITE.
	PMTYPE	RCC2 , SMSR, SRCC	Peripheral module type . Enter the type of peripheral module (PM) as follows: • SMSR (subscriber carrier module-100S remote) • SRCC (SONET remote cluster controller) • RCC2 (remote cluster controller 2)
Note: When datafilling field CSLNKTAB, ensure message links are not assigned to the same physical interface card. When the interface card supports two or more links, separate the message links by the number of links on the interface cards. This applies to all interface link types; DS-1, DS30, DS30A, or PCM-30. Table control will issue a warning if an attempt is made to assign message links on the same interface card. Assigning message links to the same interface card can cause an E1 outage (failure of all message links) if the card fails.			

LTCRINV (continued)**Field descriptions (Sheet 2 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
	XPMNO	0 to 255	Peripheral module number. Enter the PM number. Note: Operating company personnel can number the XPMs from 0 to 255 but the total number of tuples in tables LTCINV and LTCRINV combined cannot exceed 210 XPMs. The XPM types can be any combination of types accepted by the two tables.
FRTYPE		DTE, IDTE, LGE, LTE, MCTM, SME	Frame type. Enter the frame type on which the PM equipment is mounted. • DTE (digital terminal equipment) • IDTE (international DTE) • LGE (line group equipment) • LTE (line terminating equipment) • MCTM (Meridian cabinet trunk module) (for a cabinetized Meridian SL-100) • SME (subscriber module equipment) Any other entries are invalid.
FRNO		numeric (0 to 511)	Frame number. Enter the frame number of the frame type on which the PM is mounted.
SHPOS		numeric (18, 32, 51, or 65)	Shelf position. Enter the position of the shelves on the frame, in inches, above the floor level. Any entries outside the range indicated for this field are invalid.
FLOOR		numeric (0 to 99)	Floor. Enter the floor on which the PM frame is located.
Note: When datafilling field CSLNKTAB, ensure message links are not assigned to the same physical interface card. When the interface card supports two or more links, separate the message links by the number of links on the interface cards. This applies to all interface link types; DS-1, DS30, DS30A, or PCM-30. Table control will issue a warning if an attempt is made to assign message links on the same interface card. Assigning message links to the same interface card can cause an E1 outage (failure of all message links) if the card fails.			

LTCRINV (continued)**Field descriptions (Sheet 3 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
ROW		A to Z, AA to ZZ, except I, II, O, OO	Row. Enter the row on the floor, in which the PM equipment frame is located.
FRPOS		numeric (0 to 99)	Frame position. Enter the bay position in the row, of the PM equipment frame.
EQPEC		6X02AA, 6X02BA, 6X02BC, 6X02BD, 6X02BE, 6X02BF, 6X02BG, 6X02BK, 6X02AE, 6X02FA, 6X02GA, 6X02HA, 6X02JA, 6X02KA, 6X02KB, 6X02P2, 6X02P3, 6X02PA, 7X3304, MX85AA	Equipment product engineering code. Enter the product engineering code (PEC) of the PM as follows: Enter 6X02AA (line trunk controller common circuit pack fill) card to specify line trunk controllers (LTC), line group controllers (LGC), and digital trunk controllers (DTC). Enter 6X02BA (international digital trunk controller shelf). Enter 6X02BC (international common peripheral controller CP [scopedial UK]). Enter 6X02BD (international common peripheral controller CP Mercury) card to specify SL-100s in the UK market. Enter 6X02BE (international common peripheral controller CP [Spain]). Enter 6X02BF (ILGC common circuit pack [Turkey]) if the dual cards new messaging international LGCs (ILGC) for Turkey is being used.
Note: When datafilling field CSLNKTAB, ensure message links are not assigned to the same physical interface card. When the interface card supports two or more links, separate the message links by the number of links on the interface cards. This applies to all interface link types; DS-1, DS30, DS30A, or PCM-30. Table control will issue a warning if an attempt is made to assign message links on the same interface card. Assigning message links to the same interface card can cause an E1 outage (failure of all message links) if the card fails.			

LTCRINV (continued)**Field descriptions (Sheet 4 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
EQPEC (continued)			Enter 6X02BG (ILGC common circuit pack [Mercury]) to specify the PCM30 LGC (PLGC). Enter 6X02BK (ILGC common circuit pack [Turkey]) for the single card version of 6X02BF. Enter 6X02AE (SMU common circuit pack), which interfaces a subscriber carrier module-100 urban (SMU) to a DMS-1 remote carrier urban (RCU). Enter 6X02FA (SMSR common circuit pack) for single card message ILGC/CEP.
EQPEC (continued)			Enter 6X02GA (international DTC common circuit pack [CEP]) to provide maintenance support for the international line group controller/Caribbean expansion program (ILGC/CEP). Enter 6X02HA (international LGC common circuit pack [CEP]), which is required for the international digital trunk controller/Caribbean expansion program (IDTC/CEP). Enter 6X02JA (international common peripheral controller circuit pack [Turkey DMS-300]) to provide Turkish tones for R2 signaling in the PCM30 DTC (PDTC). Enter 6X02KA (IDTC common circuit pack [China]).
Note: When datafilling field CSLNKTAB, ensure message links are not assigned to the same physical interface card. When the interface card supports two or more links, separate the message links by the number of links on the interface cards. This applies to all interface link types; DS-1, DS30, DS30A, or PCM-30. Table control will issue a warning if an attempt is made to assign message links on the same interface card. Assigning message links to the same interface card can cause an E1 outage (failure of all message links) if the card fails.			

LTCRINV (continued)**Field descriptions (Sheet 5 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
EQPEC (continued)			Enter 6X02P2 (2-processor PDTC) for a 2-processor PM equipped with NT6X69LA (CPP message protocol and downloadable tones circuit pack). 6X02P3 (3-processor PDTC) for a 3-processor PM equipped with NT6X69LA. Enter 6X02PA (SMSR common circuit pack fill kit [SCM-100s]). 6X69KA (new messaging [China]) is provided for China. The shelf code is 6X02KA for an international DTC (IDTC) and 6X02KB for an ILGC with the tones card 6X69KA. Enter 7X3304 (peripheral controller array shelf assembly) to specify the MCTM. Enter MX85AA for the RCC2.
LOAD		alphanumeric (vector of up to eight characters)	Load. Enter the name given to the issue of PM software. Note: The loadfile name must first be entered in table PMLOADS.
CSPM		see subfields	C-side peripheral module. This field consists of subfields SITETYPE and XPMNO.
	SITETYPE	see subfields	Site type. This field consists of subfields SITE and PMT.
	SITE	alphanumeric (1 to 16 characters)	Site. Enter the site name datafilled in table SITE.
	PMT	SMSR or RCC2	Peripheral module type. Enter the name of the C-side host PM type.
Note: When datafilling field CSLNKTAB, ensure message links are not assigned to the same physical interface card. When the interface card supports two or more links, separate the message links by the number of links on the interface cards. This applies to all interface link types; DS-1, DS30, DS30A, or PCM-30. Table control will issue a warning if an attempt is made to assign message links on the same interface card. Assigning message links to the same interface card can cause an E1 outage (failure of all message links) if the card fails.			

LTCRINV (continued)**Field descriptions (Sheet 6 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
	XPMNO	numeric (0 to 255)	External peripheral module number. Enter the number of the node within the PM type. Note: Operating company personnel can number the XPMs from 0 to 255 but the total number of tuples in tables LTCINV and LTCRINV combined cannot exceed 210 XPMs. The XPM types can be any combination of types accepted by the two tables.
CSLNKTAB		numeric	C-side link table. Enter the C-side port number of the PM. This field is a vector that can have up to 16 CSPM port entries.
OPTCARD		NT7X05AA MSG6X69	Optional card. This field is a vector that can have up to two entries. NT7X05AA is an XPM peripheral and remote loader (PRL) card. If NT7X05AA is entered in field OPTCARD, datafill subfield SLOT_NUMBER.
Note: When datafilling field CSLNKTAB, ensure message links are not assigned to the same physical interface card. When the interface card supports two or more links, separate the message links by the number of links on the interface cards. This applies to all interface link types; DS-1, DS30, DS30A, or PCM-30. Table control will issue a warning if an attempt is made to assign message links on the same interface card. Assigning message links to the same interface card can cause an E1 outage (failure of all message links) if the card fails.			

LTCRINV (continued)**Field descriptions (Sheet 7 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
PECS6X45	SLOT_NUMBER	numeric (3 to 19)	Slot number. The recommended optional slot number is 17. Slot numbers 15 and 16 are viable alternatives depending on their availability. The default value is 17.
		alphanumeric (up to six characters)	6X45 equipment PECs. Each extended multiprocessor system (XMS)-based PM (XPM) unit contains one or more NT6X45 processor cards. Enter the two PECs of the 6X45 card. One PEC is required for each unit of the XPM. Enter the PEC for unit 0 first. The PEC corresponding to the 6X45 with the minimum firmware capabilities must be entered for each unit. The string type is initially set to contain the following values: 6X45AA, 6X45AB, 6X45AC, 6X45CA, 6X45AD, 6X45AE, 6X45AF, 6X45BA, and 6X45BB. For example, if the master processor (MP) has a 6X45CA (SMS processor circuit pack) card, the signaling processor (SP) has a 6X45AD (LGC/DTC processor circuit pack) card, and the file processor (FP) has a 6X45AE (LGC/DTC processor) card, the PEC that must be entered in field PECS6X45 is 6X45CA.
Note: When datafilling field CSLNKTAB, ensure message links are not assigned to the same physical interface card. When the interface card supports two or more links, separate the message links by the number of links on the interface cards. This applies to all interface link types; DS-1, DS30, DS30A, or PCM-30. Table control will issue a warning if an attempt is made to assign message links on the same interface card. Assigning message links to the same interface card can cause an E1 outage (failure of all message links) if the card fails.			

Datafill example

The following example shows sample datafill for table LTCRINV.

LTCRINV (continued)**MAP display example for table LTCRINV**

LTCRNAME	FRTYPE	FRNO	SHPOS	FLOOR	ROW	FRPOS	EQPEC	LOAD	CSLNKTAB
	CSPM								OPTCARD
PECS6X45	E2LOAD								
JRCC	SMSR	0	SME	0	51	1	0	26 6X02PA	MX77NG02
JRCC	RCC	1							
					(10)	(11)	(18)	(19)\$	
						(MSG6X69)	(NT7X05AA	17)\$	
MX77AA	MX77AA	NILLOAD							

Table history**NA009**

Changed the number of tuples in table LTCRINV to 210. Added note for subfield XPMNO. Table LTCRINV has been updated for the NA011 release of this document. This update was made in response to a Problem Resolution System (PRS) request for the NA009 time frame.

NA008

Removed restriction on the use of the NT7X05 PRL card with only the NTMX77 processor card.

NA007

Added a warning note to table LTCRINV on datafilling field CSLNKTAB. A message is displayed by table control if an attempt is made to datafill multiple message links that are assigned to the same interface card.

NA004

The following changes were made to table LTCRINV:

- added value NT7X05AA with subfield SLOT_NUMBER to field OPTCARD
- updated MAP display example for table LTCRINV

BCS36

Field PMTYPE was corrected.

Supplementary information

The following errors and warnings can occur in table LTCRINV when datafill protocol is violated.

LTCRINV (end)

Both c-side message links assigned to the same XPM interface card. If this card becomes disabled it WILL cause an *** OUTAGE ***. One message link should be one of: {0 1 4 5 8 9 12 13 16 17} and the other message link one of: {2 3 6 7 10 11 14 15 18 19}.

LTCRPINV

Table name

Line Trunk Controller Remote P-Side Link Inventory Table

Functional description

Table LTCRPINV is the companion to table LTCRINV. Each entry in table LTCRPINV corresponds to an entry in table LTCRINV.

Table LTCRPINV provides the following data assignments for a peripheral module (PM):

- a three-part key composed of site name (also datafilled in table SITE), PM type, and PM number
- port assignments for equipped P-side links that are limited to DS-1

For related information, refer to table LTCRINV.

Datafill sequence and implications

Table LTCRINV must be datafilled before table LTCRPINV.

Note: The PM must first be datafilled in table LTCRINV. When that is done, an entry for that PM is automatically entered in this table.

Table size

0 to 256 tuples

Individual tuples are added dynamically to table LTCRPINV when tuples are entered in table LTCRINV. P-side link values are set to NILTYPE by default.

LTCRPINV (continued)**Datafill**

The following table lists datafill for table LTCRPINV.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LTCRNAME		see subfields	<i>Line trunk controller remote name</i> This field consists of subfields SITENM, PMTYPE, and XPMNO.
	SITENM	HOST, REM1, REM2, REM3, or REM4	<i>Site name</i> Enter the site name assigned to the remote location. This entry must also appear in table SITE.
	PMTYPE	RCC2SRCC or SMSR	<i>Peripheral module type</i> Enter the PM type as follows: • Enter RCC2 to specify remote cluster controller 2. • Enter SRCC to specify SONET remote cluster controller. • Enter SMSR to specify subscriber carrier module-100S remote.
	XMPNO	0 to 255	<i>Peripheral module number</i> Enter the number of the node within the PM type.
PSLNKTAB		see subfields	<i>P-side link table</i> This field is made up of subfields PSLINK and PSDATA for each of the 20 P-side links that can be configured on an SMSR.
	PSLINK	0 to 19	<i>P-side link</i> Enter the P-side port number of the PM. Indicated values outside this range are invalid.

LTCRPINV (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	PSDATA	DS1 or NILTYPE	<i>P-side data</i> For each P-side link number, enter the link type. For DS-1, additional information is placed in subfields CARRIDX and ACTION. Indicated values outside this range are invalid.
	CARRIDX	alphanumeric (vector of up to 16 characters)	<i>Carrier index</i> Enter the name used to index into table CARRMTC, field TMPLTNM, for carrier maintenance information. The name must be datafilled in field TMPLTNM of table CARRMTC. Enter DEFAULT for the default template in table CARRMTC. Otherwise, enter NILTYPE.
	ACTION	Y or N	<i>Action</i> Enter Y (yes) if the carrier is removed from service when the out-of-service frame, slip, errored second, or severe-errored- second threshold is exceeded. Otherwise, enter N (no).

Datafill example

The following example shows sample datafill for table LTCRPINV.

LTCRPINV (continued)**MAP display example for table LTCRPINV**

LTCRNAME			PSLNKTAB			
SITENM	PMTYPE	XPMNO	PSLINK	PSDATA	CARRIDX	ACTION
LTCR1	SMSR	1	0	NILTYPE		
			1	NILTYPE		
			2	DS1	DEFAULT	N
			3	DS1	DEFAULT	N
			4	DS1	DEFAULT	Y
			5	DS1	DEFAULT	N
			6	DS1	DEFAULT	N
			7	DS1	DEFAULT	Y
			8	DS1	DEFAULT	N
			9	DS1	DEFAULT	Y
			10	DS1	DEFAULT	N
			11	NILTYPE		
			12	NILTYPE		
			13	NILTYPE		
			14	NILTYPE		
			15	NILTYPE		
			16	NILTYPE		
			17	NILTYPE		
			18	NILTYPE		
			19	NILTYPE		

Supplementary information

This section provides information on datafilling table LTCRPINV for specific applications.

Datafill responses

The following message accompanies the datafill responses discussed below for this table:

```
PROCESSING ERROR
UNEXPECTED ERROR CONDITION
```

The following are the possible responses that can be seen while in this table. The values shown have no significance other than to show format.

```
'Nonexistent CARRMTC index.'
```

Reason: The CARRMTC value specified for at least one of the P-side links is invalid.

LTCRPINV (continued)

Action: Check table CARRMTC for the valid CARRMTC values available. Use one of these values for the P-side link. If none of these values are wanted, add the desired value to table CARRMTC, then use that value.

'Pslink must be MANBSY or OFFL for link type change, link no = 13'

Reason: An attempt was made to change the link type of one or more of the P-side links when the links was not in a proper state to be changed.

Action: Post the PM at the CARRIER level of the MAP and put the link in either the MANBSY or the OFFL state, then make the link type change.

'Port 11 specified more than once.'

Reason: Duplication of ports was specified in field PSLNKTAB.

Action: Correct this duplication and try the table operation again.

'PM unequipped in Table LTCRINV.'

Reason: An attempt was made to add in this table, which is not allowed.

Action: Add entry in table LTCRINV first, then attempt the table operation again.

'Must change all pslinks to NILTYPE and then delete the corresponding XPM in Table LTCRINV.'

Reason: An attempt was made to delete in this table, which is not allowed.

Action: Message explains action.

'CARRMTC tuple for DS1 contains NT6X55'

Reason: The carrier index specified for one or more of the DS-1 links datafilled in this table is itself datafilled in table CARRMTC with interface card NT6X55. This card is for DS-0 links, not for DS-1 links. The correct interface card is NT6X85.

Action: Either use a different carrier index or change the current one in table CARRMTC.

'Link type not supported by this PM'

LTCRPINV (end)

Reason: A link type specified for one or more of the P-side links datafilled is not one of the types supported by this PM.

Action: Use a link type that is valid for the PM.

'Pside node or facilities attached'

Reason: One or more of the P-side ports specified that will be deleted is being used by a P-side node.

Action: Delete the P-side node from this port before deleting it.

'Add carriers failed'

Reason: A problem occurred when creating carrier records for the DS-1 links being defined.

Action: Retry the table operation. If the problem continues, contact Northern Telecom maintenance support personnel. See logs.

'Update carriers failed'

Reason: A problem occurred when updating carrier records for the DS-1 links being changed.

Action: Retry the table operation. If the problem continues, contact NT maintenance support personnel. See logs.

Other comments

The ADD and DELETE operations cannot be done in this table because of the automatic addition or deletion of tuples in this table. The CHANGE operation is used to input the desired data in the tuples of this table.

LTDATA

Table name

Logical Terminal Data

Functional description

Table LTDATA stores service-related data associated with the logical terminal identifier (LTID). This is equivalent to field LTDKEY, which is the key to this table. In addition to field LTDKEY, the other primary field of the table is LTDRSLT.

Subscription parameters related to ISDN primary rate access (PRI) services such as calling number delivery, are supported in this table.

Field LTDKEY

Field LTDKEY consists of two parts: the logical terminal index (subfield LTINDEX) and logical terminal datatype (subfield DATATYPE).

Subfield LTINDEX itself consists of subfields logical terminal group (subfield LTGRP) and logical terminal number (subfield LTNUM).

Subfield DATATYPE contains logical terminal datatypes. These correspond to the datatypes in field LTDRSLT

Field LTDRSLT

Field LTDRSLT contains the single subfield DATATYPE, and options associated with the specified datatypes.

Datafill sequence and implications

The following tables must be datafilled before table LTDATA:

- LTGRP
- LTDEF

Table size

0 to 65 408 tuples

LTDATA (continued)

Datafill

The following table lists datafill for table LTDATA.

Field descriptions (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
LTDKEY		see subfields	The Logical Terminal Datakey field consists of subfields LTINDEX and DATATYPE.
	LTINDEX		Subfield LTINDEX itself consists of subfields LTGRP and LTNUM.
	LTGRP	alphanumeric (maximum 8 characters)	Enter the logical terminal group (LTG) name.
	LTNUM	1 to 1022	Enter the logical terminal number within the group. The quantity of group numbers is restricted. A maximum of 31 entries is allowed.
	DATATYPE	CLI, DN, SERV, or RN	Enter the logical terminal data type as follows: • Enter CLI to identify a calling line identifier (CLI) subscription parameter. • Enter DN for directory number. • Enter SERV for service-related data associated with a logical terminal identifier (LTID) or PRI interface. • Enter RN for redirected number Note 1: The entry in this field must agree with that for the DATATYPE subfield of LTDRSLT. Note 2: Data type CLI may not be available with all PCLs.

LTDATA (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield	Entry	Explanation and action
LTDRSLT		see subfield	The Logical Terminal Result field consists of the single subfield DATATYPE.
	DATATYPE	CLI, DN, SERV, or RN	Enter the logical terminal data type as follows: • Enter CLI to identify a calling line identifier (CLI) subscription parameter. Enter datafill for subfield OPTION. • Enter DN for directory number. Enter datafill for subfields DFLTCGN and OPTIONS. • Enter SERV for service-related data associated with a logical terminal identifier (LTID) or PRI interface. Enter datafill for subfields AUDTRMT, CGNREQD, CGNDELV, CDNDELV, and OPTION. • Enter RN for redirected number. Enter datafill for subfield OPTION Note 1: The entry in this field must agree with that for the DATATYPE subfield of LTDKEY. Note 2: Data type CLI may not be available with all PCLs.

LTDATA (continued)**DATATYPE = CLI**

If the entry in field DATATYPE is CLI, enter datafill for subfield LTCLI_OPTIONS.?

Field descriptions for conditional datafill (Sheet 1 of 3)

Field	Subfield	Entry	Explanation and action
	LTCLI_OPTIONS	BILL_FROM_CP N, POP, EDITCLI, SIGCLI, CLIVD, EDITALLTON, SCRNLTIID, DDI, NOSCRN, SCRN_CNN_PN, CNN_NOSCRN, DFLTPI, DFLT_CNN_PN, BI_UNAVAIL, SCRNPN, DEFLTPN, SCRNDFLT, 2CLI	Enter BILL_FROM_CPN to activate ETSI or INS1500 primary rate interface (PRI) billing. This activity bills PRI calls to the station making the call. If you do not activate ETSI PRI billing, the DMS-100 switch bills a single number for the whole PRI. Note 1: This option is valid only in European (CEU), APC, and Japan markets. Enter POP for the point of presence option. This option is part of the CLI selector and is datafilled for all PRI trunks incoming to the DMS switch from a multimedia carrier switch (MMCS). Note 2: The POP option is valid only in European (CEU) and APC markets. Enter EDITCLI to provide a means for completing a partial CLI. Also enter datafill for subfields OVLYCLI, NPI, TON, and OVLYCNT. Note: .Refer to section DATATYPE = CLI, OPTION = EDITCLI for detailed entries. Enter SIGCLI to specify a CLI that replaces a received, edited, or default CLI. Enter a range of 1 to 15 digits. Enter CLIVD to specify a numerical index that matches attribute CLIVD in table DNSCRN. The valid range is from 0 to 2047. Note: The CLIVD option cannot function at the same time as the SCRNLTIID option. Enter EDITALLTON to modify option EDITCLI. EDITALLTON can be datafilled when EDITCLI is specified as an option.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 2 of 3)**

Field	Subfield	Entry	Explanation and action
			Enter SCRNLTIID to allow calling number screening with the direct dial in (DDI) feature. Also enter datafill for subfields NDC, DN, and DNBLKS. Note 1: The SCRNLTIID option cannot function at the same time as the EDITCLI option. Note 2: The SCRNLTIID option cannot function at the same time as the CLIVD option. Note 3: For the SCRNLTIID option to operate, parameter NATIONAL_COUNTRY_CODE in table OFCENG must have the correct entry. Note 4: .Refer to section DATATYPE = CLI, OPTION = SCRNLTIID for detailed entries. Enter DDI for the direct dialing in option enabling subscribing users to dial a private ISDN number using the public ISDN network. Enter NOSCRN to prevent the system from screening the CLI. NOSCRN indicates the end of datafill for subfield OPTION. Note: Option NOSCRN is valid only for ETSI and TS14 trunk groups. Enter SCRNN_CNN_PN to indicate that the connected number (CNN) information element (IE) sent by the terminating agent contains a CNN presentation number, not a CNN. Enter CNN_NOSCRN to stop the CNN PN from being displayed or edited. Enter DFLTPI to specify a default presentation indicator. Also enter datafill for subfields PI and MODE. Note: Refer to section DATATYPE = CLI, OPTION = DFLTPI for detailed entries. Enter DFLT_CNN_PN to specify the default connected presentation number. Enter the DFLT_CNN_PN as a decimal number of no more than 13 digits.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 3 of 3)**

Field	Subfield	Entry	Explanation and action
		,	Enter BI_UNAVAIL N or Y to indicate to the network the availability of the originator's network number (NN) for display purposes. This option is only available for PRI trunks. If this option is datafilled, it indicates to the network that the NN is not available for display. Note: This option is valid only in European (CEU) and APC markets. Enter SCRNP (screen PN) to cause the switch to interpret the incoming CLI as a PN. Enter DEFLTPN (default PN) for PRI and QSIG trunks. Enter the DEFLTPN as a decimal number of no more than 13 digits. Enter SCRNDFLT to specify the default calling number and/or the default customer group. You are prompted for a default calling number (DFLTSN) and a default customer group (DFLTGRP) Refer to section DATATYPE = CLI, OPTION = SCRNDFLT for detailed entries. Note: SCRNDFLT must be used with SCRNLID. The SCRNLID/SCRNDFLT are separate from the DN selector and EDITCLI. To enter the SCRNLID/SCRNDFLT option, delete tuples that have the DN selector and EDITCLI options under the CLI selector Enter 2CLI to give ETSI PRI the ability to send two CLIs

LTDATA (continued)**DATATYPE = CLI, OPTION = EDITCLI**

If the entry in subfield OPTION is EDITCLI, enter datafill for subfields OVLYCLI, NPI, TON, and OVLYCNT.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
EDITCLI	OVLYCLI	0 to 9 (maximum 18 digits)	This field converts a partial calling line identification (CLI) to a complete number by associating a partial CLI with an overlying CLI. Note: Automatic Message Accounting (AMA) only supports calling party numbers of up to 12 digits.
	NPI	E164 or PVT	Enter the numbering plan identifier associated with field OVLYCLI. The default value for this field is E164.
	TON	INTL, NATL, or UNKNOWN	Enter the type of number associated with field OVLYCLI. The default value for this field is UNKNOWN. Note: TON must be set to UNKNOWN to enable EDITCLI.
	OVLYCNT	0 to 18	Enter the number of least significant digits from a partial CLI that are overlaid on top of the least significant digits of field OVLYCLI. A value of 0 (zero) indicates that all the digits from the partial CLI are overlaid. Note: Automatic Message Accounting (AMA) only supports calling party numbers of up to 12 digits.

LTDATA (continued)**DATATYPE = CLI, OPTION = SCRNLTIID**

If the entry in subfield OPTION is SCRNLTIID, enter datafill for subfields NDC, DN, and DNBLKS.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
SCRNLTIID	NDC	0 to 7 digits	This is internally represented as a serving numbering plan area (SNPA).
	DN	0 to 11 digits	This subfield contains either the complete subscriber number or the DDI root, depending on whether DDI is subscribed or not.
	DNBLKS	0 to 9 digits	Each digit in this subfield represents the first digit of the DDI extension and is used under economic usage of DN conditions. Note: This option is for primary rate interface accesses only.

DATATYPE = CLI, OPTION = DFLTPI

If the entry in subfield OPTION is DFLTPI, enter datafill for subfields PI and MODE.

Note: Option DFLTPI is only valid in international loads.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
DFLTPI	PI	ALLOW or RESTRICT	Enter ALLOW to indicate that the CLI is presented. Enter RESTRICT to indicate that the CLI is not presented. The default value for this field is ALLOW.
	MODE	TEMP or PERM	TEMP indicates that the default presentation indicator (PI) is active for each call. PERM indicates that the default presentation indicator is active for all calls. If the entry in this field is TEMP, the PI is used only if a PI was not received in the incoming SETUP message. If the entry in this field is PERM, the PI is used regardless of whether a PI was received in the SETUP message. The default value for this field is TEMP. Note: If subfield PI is datafilled with ALLOW, subfield MODE must be datafilled with TEMP.

LTDATA (continued)**DATATYPE = CLI, OPTION = SCRNDFLT**

If the entry in subfield OPTION is SCRNDFLT, enter datafill for subfields DFLTSN and DFLTCGRP.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
SCRNDFLT	DFLTSN	0 to 11 digits	This subfield (which performs the same function as subfield DFLTCGN under the DATATYPE=DN option but for the European numbering plan) contains the default CGN that is required under the following circumstances: - the user-provided CGN failed screening - the CGN information element (IE) is not part of the SETUP message - if the NOSCRN option is subscribed and the type of number (TON) in the SETUP message is unknown, the network provides this default number as the valid number
	DFLTCGRP	alphanumeric (1 to 16 characters)	This is the default customer group. This field is not concerned with screening. This field replaces the same field under the DN selector. Use of this field cannot occur with SCRNLTD/SCRNDFLT.

LTDATA (continued)**DATATYPE = DN**

If the entry in field DATATYPE is DN, enter datafill for subfields DFLTCGN and OPTIONS.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
	DFLTCGN	see subfields	The default calling party number (CGN) is a ten-digit directory number (DN) to which the call defaults if no CGN is supplied on originations. If CGN screening is enabled, this DN is the only DN that can originate calls on this interface. The default CGN consists of the values entered in subfields SNPA, NXX, and STATION. Note 1: A log generates when a default CGN is not properly datafilled. Note 2: This field performs the same function as field DFLTSTN under the SCRNLTD option but for the North American DN style.
	SNPA	numeric (maximum 3 digits)	Enter the area code.
	NXX	0 to 9, N, B, C, D, E, or F	Enter the first three characters of the DN.
	STATION	0 to 9, N, B, C, D, E, or F	Enter the last four characters of the DN.
	OPTIONS	see subfield	This field consists of the single subfield OPTION, and options CUSTGRP and E911DN.
		CUSTGRP	Enter CUSTGRP and customer group name(s) (of 16 alphanumeric characters) to specify the customer group(s) to which the DN belongs.
		E911DN	Enter E911DN and set a value of calling number (CGN) to indicate to the switch to send incoming CGN digits for 911 calls only. Set the value to default to indicate to the switch to send the default DN as the CGN.

LTDATA (continued)**DATATYPE = SERV**

If the entry in field DATATYPE is SERV, enter datafill for subfields AUDTRMT, CGNREQD, CGNDELV, CDNDELV, and OPTION.

Field descriptions for conditional datafill (Sheet 1 of 8)

Field	Subfield	Entry	Explanation and action
SERV	AUDTRMT	Y or N	This field determines whether in-band tones and announcements are provided instead of disconnect with cause when treatments are applied to calls from this LTID. Enter Y (yes) to enable in-band treatment procedures for originating PRI calls with bearer capability (BC) of speech or 3.1-kHz audio. Note: To make two bearer capabilities compatible with TBCT, datafill bearer capabilities in table BCCOMPAT before you datafill table LTDATA. Enter N (no) to disable in-band treatment procedures and handle call clearing as it was originally handled.
	CGNREQD	Y or N	Enter Y to indicate that the CGN must be provided by the calling user equipment. Otherwise, enter N. Note: Set the LTID of a PRI public safety answering point (PSAP) to CGNREQD = Y to ensure the delivery of the CGN.
	CGNDELV	ALWAYS, NEVER, or SCREENED	This field indicates when the CGN is delivered to the called interface. ALWAYS indicates that the actual CGN with the PI is sent. NEVER indicates that the CGN with the PI is not sent. SCREENED indicates that if the PI is private, the CGN is not sent (it is replaced by asterisks).

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 2 of 8)**

Field	Subfield	Entry	Explanation and action
			The default value for this field is SCREENED. Note: Set the LTID of a PRI PSAP to CGNDELV = ALWAYS to ensure the delivery of the CGN.
	CDNDELV	ALWAYS or NEVER	This field determines whether the called party number is delivered to the called interface. ALWAYS indicates that the called party number is always delivered to the called interface. NEVER indicates that the called party number is never delivered to the called interface.
	OPTION	AIN_IPI_STR, BI_UNAVAIL, BNS, CCBS, CCNR, CGNCALC, CHG, CLIPREFX, COLP, COLR, CUG, DAS, DDI, DFLTCNN, ECMA226_CHNL_MAP, ECT, ETSIDIV, INSNAC, LSPAO, LSPSO, MCID, MWIC, NET_CALLFAIL_ON, NET_DIALTONE_ON, NET_NORMDISC_ON, NET_RINGBACK_ON, NO_BCH_SERV, PCOS, PRIPSAP, RNDELV, RNID, RST_ACK_MULT_CID, SHPRN, TBCT, TBO, TCAP_CNAM, UUS1, UUS1EXP.	This field contains options for PRI services. One or more options are assigned. In NA007, all intelligent peripheral (IP) connections use the PRI NI-2 protocol variant. The NI-2 variant is used only for IP connections. During the NA007 to NA008 one-night process (ONP), this is used as the criterion to decide whether or not to assign the AIN_IPI_STR option to a tuple. When table LTDATA is dumped and restored during the ONP, the AIN_IPI_STR option is added to the tuples when the corresponding primary rate interface (PRI) B-channel is attached to an IP.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 3 of 8)**

Field	Subfield	Entry	Explanation and action
			Enter BI_UNAVAIL N or Y to indicate to the network the availability of the originator's network number (NN) for display purposes. This option is only available for PRI trunks. If this option is datafilled, it indicates to the network that the NN is not available for display. Note: This option is valid only in European (CEU) and APC markets. Enter BNS (billing number selection) to specify the billing number used for AMA recording. Enter datafill for subfield BNS. Enter CCBS to activate the Call Complete Busy Subscriber feature. This feature enables a subscriber originating a call to a busy destination to be recalled by the network when the busy destination becomes idle. The CCBS may be added for QSIG agents. If CCBS is not datafilled against an incoming QSIG trunk, any CCBS request received for a public call is rejected. If CCBS is not datafilled against an outgoing QSIG trunk, the CCBS service is not offered to the originator for a public call. Enter CCNR to activate the Call Completion on No Reply feature. This feature allows an unanswered call to be completed after the called subscriber has performed an activity. The network recalls the called subscriber and alerts the calling subscriber. The CCNR may be added for QSIG agents. If CCNR is not datafilled against an incoming QSIG trunk, any CCNR request received for a public call is rejected. If CCNR is not datafilled against an outgoing QSIG trunk, the CCNR service is not offered to the originator for a public call. Enter CGNCALC to allow the PRI trunk to control the presentation indicator and CGN in the outgoing setup message. Enter datafill for subfield CGN_PRES_IND.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 4 of 8)**

Field	Subfield	Entry	Explanation and action
			Enter CHG for the charge number in calling number digits when no calling number is available. If the entry in this field is CHG, no other datafill is required. Enter CLIPREFX to add the calling line identity (CLI) prefix to a line and to allow Expression 1 for Japan primary rate interface (PRI) trunks. Note: This option is available for Japanese PRI trunks. Enter COLP to enable connected line identification presentation for the specified incoming PRI trunk. Enter COLR to enable connected line identification restriction for the specified outgoing PRI trunk. Enter datafill for subfield MODE. Enter CUG to activate the closed user group feature. Enter DAS for flexible digit analysis and enter datafill for subfield DGNAME. Enter DDI to enable the Direct Dialing In feature, which enables subscribers to dial into a private ISDN using the public ISDN numbering system. Enter datafill for subfield DEFAULT_DN in subfield KVAR. Enter DFLTCNN to provision the default connected number used by Connected Line Identification Presentation/Restriction COLP/COLR. Then enter the default connected number. Enter ECMA226_CHNL_MAP to enable channel mapping. If enabled, the signaling channel is mapped to timeslot 16. The user channels 1 to 15 are mapped to timeslots 1 to 15, and channels 16 to 30 are mapped to timeslots 17 to 31. If this option is not entered, channel mapping defaults to the PRI standard.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 5 of 8)**

Field	Subfield	Entry	Explanation and action
			Enter ECT to activate network-side explicit call transfer (ECT) on ETSI PRI trunks. ECT is only available for ETSI PRI 1990. ECT enables a user (user A) to convert two calls (either incoming or outgoing) into one new call between user B and user C. Enter ETSIDIV to enable partial re-routing on ETSI PRI trunks. ETSIDIV is only available on NETWORK mode ETSI PRI trunks. Other PRI variants cannot use this option. Enter INSNAC to trigger the modification of the outgoing CLI to a full national number. This option has no sub-parameters and is only allowed on ETSI PRI variants, for example, base ETSI PRI, Belgian PRI, Italian PRI, French PRI-Numeris/VN4, and QSIG protocol versions. It is rejected on all other protocol versions. Enter LSPAO to associate an LSPAO for PRI private trunk types that have a Northern Telecom North America (NTNA) or NI protocol variant. Enter LSPSO to associate an LSPSO for PRI private trunk types that have an NTNA or NI protocol variant. Enter MCID to activate the Malicious Call ID (MCID) feature, which informs a receiving subscriber of the calling party's identity. The call information remains available until a response to the DISConnect message (Release or Release Complete) is received. Enter MWIC to provide the DMS-100 switch with the capability of accepting an MWI control request over an ISDN NI-PRI trunk group. Enter NET_CALLFAIL_ON to provision network provided call failure tones on a PRI trunk. Only network mode PRI trunks support the option.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 6 of 8)**

Field	Subfield	Entry	Explanation and action
			Enter NET_DIALTONE_ON to provision network provided dial tones on a PRI trunk. Only network mode PRI trunks support the option. Enter NET_NORMDISC_ON to provision busy tone during normal call release. This option applies to the network side of INS1500 PRI trunks. Note: When NET_NORMDISC_ON is on, enter Y to enable the network sends Progress Message and plays network normal fast busy tone, enter N to enable the network sends Disconnect message. Enter NET_RINGBACK_ON to provision network provided ringback tones on a PRI or QSIG trunk. Only network mode PRI trunks or QSIG trunks support the option. Enter NO_BCH_SERV to disable the exchange of the Q931 SERVICE and SERVICE ACK messages used by B-channel service messaging. Note: B-channel messaging is enabled when NO_BCH_SERV is not datafilled. Enter PCOS to enable the PRI trunk to originate priority class of service calls even when NETPROT is activated. Enter datafill for subfield LTDATA_PCOS_OPTION. Note: The PCOS option allows high-priority users privileged access to the telephone system during catastrophic or emergency situations. Other users are denied access to the network. Do not datafill the PCOS option or use the NETPROT or ESP commands unless your network can accommodate high-priority users. Enter PRIPSAP to provision the PRI PSAP.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 7 of 8)**

Field	Subfield	Entry	Explanation and action
			Enter RNDELV to enable outgoing Redirecting Number Screening and datafill one of the subfields ALWAYS, SCREENED, or NEVER. Enter RNID to activate the PRI Redirecting Number Identification suppression feature. Enter datafill for subfield SUPPRESS. Enter RST_ACK_MULT_CID to enable multiple Channel Identification Information Elements (CIDs) in one RESTART ACK message on receipt of a Global Restart when some B channels are in MB or INB state. Enter SHPRN to provide the DMS-100 switch with the ability to override the delivery of presentation restricted numbers. Enter TBCT to enable two B-channel transfer option for NI-2 PRI trunks. TBCT allows a controller to request the SSP connect two independent callers on the controller's interface. TBCT allows the SSP to release the two links to the controller after connecting the users. If you enter TBCT, also enter datafill for subfields PARM and STATUS. Table control verifies the following datafill for the corresponding LTID tuple in table LTDEF when option TBCT is added to an LTID provisioned in table LTDATA. - The trunk agent datafilled in table LTDEF has field LTCLASS = PRI. - The PRI protocol variant datafilled in table LTDEF has subfield VARIANT = NIPRI. Enter TBO for the terminating billing option for ISDN, PRI, or common language location identifier (CLLI). Enter datafill for subfields CALLCODE and SFPRSNT.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 8 of 8)**

Field	Subfield	Entry	Explanation and action
			Enter TCAP_CNAM to enable PRI calling name delivery, and enter datafill for subfield CNAM_SUSP. Enter UUS1 for User-to-User Signaling, which allows an ISDN user to send to or receive from another ISDN user a limited amount of information over the signaling channel in association with a call to the other ISDN user. Enter UUS1EXP for User-to-User Signalling Service 1, Explicit. For UUS1 explicit service activation, UUS1(implicit) and UUS1EXP(explicit) options should be entered together. Removing only UUS1EXP option disables the explicit UUS1 functionality.

DATATYPE = SERV, OPTION = BNS

If the entry in subfield OPTION is BNS, enter datafill for subfield BNS.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
BNS	BNS	RN_CPN, SBN, UPNS_RN_CPN, or NIL_BNS_PARM	Enter the type of billing number to use for AMA recording, as follows: • Enter RN_CPN to use a user-provided redirecting number that passed screening. • Enter SBN to use the special billing number from table TRKGRP. • Enter UPNS_RN_CPN to use a user-provided redirecting number that is not screened. The default entry is RN_CPN. Note: The NIL_BNS_PARM entry applies only to non-NTNA variants. It does not apply to the National ISDN PRI (NI-PRI) variant.
Note: LTMAP table control verifies datafill of SBN in table TRKGRP.			

LTDATA (continued)**DATATYPE = SERV, OPTION = CGNCALC**

If the entry in subfield OPTION is CGNCALC, enter datafill for subfield CGN_PRES_IND.

Note: Option CGNCALC is not available in North American loads.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
CGNCALC	CGN_PRES_IND	ALLOW, RESTRICT, or TRANSPARENT	Enter ALLOW if the outgoing presentation indicator is always set to PRESENT. Enter RESTRICT if the outgoing presentation indicator is always set to RESTRICT. Enter TRANSPARENT to match the outgoing presentation indicator of the last call forwarding party.

DATATYPE = SERV, OPTION = COLR

If the entry in subfield OPTION is COLR, enter datafill for subfield MODE.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
COLR	MODE	PERM, TEMP	Enter PERM for PERMANENT mode. In PERMANENT mode the COLR supplementary service is invoked automatically by the network on all calls. Enter TEMP for TEMPORARY mode. In this mode the COLR supplementary service is invoked on a per-call basis. This means that one of the following scenarios occurs, according to the default value set in the network: - default value RESTRICTED - COLR is automatically invoked for each incoming call unless the default value is overridden by subscriber request at the time of answer - default value NOT RESTRICTED - COLR is invoked only if requested by the subscriber at the time of answer

LTDATA (continued)

DATATYPE = SERV, OPTION = DAS

If the entry in subfield OPTION is DAS, enter datafill for subfield DGNAME.

Note: Option DAS is not available in North American loads.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
DAS	DGNAME	alphanumeric (maximum 8 characters) or NIL	The Digit Name field contains the value NIL until an entry is added to field DGNAME in table DGHEAD. Then the entry in field DGNAME in table DGHEAD is added to field DGNAME in table LTDATA.

DATATYPE = SERV, OPTION = DDI

If the entry in subfield OPTION is DDI, enter datafill for subfield DEFAULT_DN in field KVAR.

Note: Option DDI is not available in North American loads.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
KVAR	DEFAULT_DN	1 to 11 digits	This field contains the default DN.

DATATYPE = SERV, OPTION = DFLTCNN

If the entry in field OPTION is DFLTCNN, enter the default connected number (CNN).

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
DFLTCNN	CNN	1 to 10 digits	Enter the default CNN.

LTDATA (continued)**DATATYPE = SERV, OPTION = LSPAO**

If the entry in field OPTION is LSPAO, enter datafill for subfields PROVIDER and CONTEXT.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
LSPAO	PROVIDER	alphanumeric (1 to 16 characters)	Enter a provider name to choose an assigned local service provider. The provider name must exist in table LSPINFO before you make entries in LSPAO.
	CONTEXT	U = unbundled N = native R = resold	Enter a context such as ILEC or CLEC. The context identifier indicates the leasing arrangement between LSPAO and the switch owner.

DATATYPE = SERV, OPTION = LSPSO

If the entry in field OPTION is LSPSO, enter PROVIDER data.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
LSPSO	OPTION	LSPSO	Enter the name assigned to the option, LSPSO and enter the subfield PROVIDER.
	PROVIDER	alphanumeric (1 to 16 characters)	Enter a provider name to choose an assigned local service provider. The provider name must exist in table LSPINFO before you make entries in LSPSO.

DATATYPE = SERV, OPTION = MWIC

If the entry in field OPTION is MWIC, enter datafill for subfields MWIMAX, SPLITNNX, and DMSRID.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
MWIC	MWIMAX	8 to 2000	Maximum number of outstanding MWI Control requests that are supported on the NI-PRI. The default value is 200.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield	Entry	Explanation and action
	SPLITNNX	Y or N	Used only if the host DMS-100 switch shares the client user's office code with another switch. This parameter indicates whether to consider the MWI control request received by the host DMS-100 switch as a remote MWI control request. Y indicates a remote request. N indicates a local request. The default is N.
	DMSRID	10 (0, 1, 2, 3, 4, 5, 6, 7, 8, 9)	Default MSRID when no MSRID is supplied by the ISDN MSR System. There is no default value.

DATATYPE = SERV, OPTION = PCOS**CAUTION****Risk of service interruption**

The PCOS option gives high-priority users privileged access to the telephone system during catastrophic or emergency situations. Other users are denied access to the network. Do not use the PCOS option or use commands NETPROT or ESP unless high-priority users must have exclusive access to the network.

If the entry in subfield OPTION is PCOS, enter datafill for subfield LTDATA_PCOS_OPTION.

Note: Option PCOS is not available in North American loads.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
PCOS	LTDATA_PCOS_OPTION	TRUE (set) or FALSE (not set)	The Priority Class of Service field contains a default value of FALSE. Set the field entry to TRUE to enable priority status under Essential Service Protection (ESP) or Network Protection (NETPROT) conditions.

LTDATA (continued)**DATATYPE = SERV, OPTION = PRI_CALL_CONTROL**

If the entry in subfield OPTION is PRI_CALL_CONTROL, enter datafill for subfields MAX_IN_CALLS and MAX_OUT_CALLS.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
PRI_CALL_CONTROL	MAX_IN_CALLS	numeric (0 to 30)	Enter the maximum number of incoming calls allowed on the ETSI PRI link. Note: If the MAX_IN_CALLS datafill is zero, the following warning message is displayed: All incoming PRI calls will be rejected!!!
	MAX_OUT_CALLS	numeric (0 to 30)	Enter the maximum number of outgoing calls allowed on the ETSI PRI link. Note: If the MAX_OUT_CALLS datafill is zero, the following warning message is displayed: All outgoing PRI calls will be rejected!!!
Note: The PRI_CALL_CONTROL datafill must be performed during a very low traffic period when the number of calls active on any PRI is a minimum.			
Note: If the sum of the MAX_IN_CALLS and MAX_OUT_CALLS datafills is less than 30, the following warning message is displayed: Sum of the max_in_calls and max_out_calls is less than 30. Link will not be fully utilized!!!			

DATATYPE = SERV, OPTION = PRIPSAP

If the entry in subfield OPTION is PRIPSAP, enter datafill for subfields ANONCALL, DIRECT, SNPA, PSAPDN and NATLXLA.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
PRIPSAP	ANONCALL	Y or N	Enter Y if the PSAP can receive anonymous calls. Otherwise, enter N. The default is N. Note: If the ANONCALL field is set to Y, you will be prompted to enter datafill for the DIRECT field.
	DIRECT	Y or N	Enter Y to add the PRIPSAP option. The default is N.

LTDATA (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield	Entry	Explanation and action
	SNPA	3 digits	Enter the three-digit serving numbering plan area for the PSAP. The default is 0.
	PSAPDN	7 or 10 digits	Enter 7 or 10-digit directory number of the PSAP. The default is 0.
	NATLXLA	Y or N	If the entry is 'Y', call translations to this PSAP are based on 10 digits (with NPA). The PSAPDN field in table E911PSAP is datafilled with 10 digits. If the entry is 'N', call translations are based on 7 digits (without NPA). The PSAPDN field is datafilled with 7 digits.

DATATYPE = SERV, OPTION = RNDELV

If the entry in subfield OPTION is RNDELV, enter datafill for subfield DELIVER.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
RNDELV	DELIVER	ALWAYS, SCREENED, or NEVER	Enter ALWAYS if the RN digits are included in the outgoing SETUP message regardless of the presentation indicator value associated with the RN. Enter SCREENED if the RN digits are included in the outgoing message based on the PI. If the PI is set to presentation restricted, the RN digits will not be included. Enter NEVER if none of the RN information is included in the outgoing message. The RNDELV OPTION default setting is SCREENED.

DATATYPE = SERV, OPTION = RNID

If the entry in subfield OPTION is RNID, enter datafill for subfield SUPPRESS.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
RNID	SUPPRESS	Y or N	Enter Y to suppress Redirecting Number Identification. The default is N.

LTDATA (continued)**DATATYPE = SERV, OPTION = SHPRN**

If the entry in subfield OPTION is SHPRN, enter datafill for subfield SHPRN_PARM.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
SHPRN	SHPRN_PARM	NNNN, YYYY, YNNY, NNNY, YNNY, NNYY	The first letter represents Direct calls-Calling Party Number. The second letter represents Forwarded Calls-Calling Party Number. The third letter represents Forwarded Calls-Original Number on Calls Forwarded Multiple Times. The fourth letter represents Forwarded Calls-Last (or Only) Forwarding Number. The default is NNNN.

Note: CGNDELV and RNDELV must be set to screened for SHPRN to be provisioned.

DATATYPE = SERV, OPTION = TBCT

If the entry in subfield OPTION is TBCT, enter datafill for subfields PARM and STATUS.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
TBCT	PARM	NTC	Enter NTC to identify subscription to the Notification to Controller feature. The STATUS subfield indicates if the subscription is ON or OFF. NTC is the only value for this subfield.
	STATUS	ON or OFF	Enter ON to turn the TBCT notification to controller feature (AF7322) on. Enter OFF to turn this feature off. The default is ON.

LTDATA (continued)**DATATYPE = SERV, OPTION = TBO**

If the entry in subfield OPTION is TBO, enter datafill for subfields CALLCODE and SFPRSNT. If the entry in subfield SFPRSNT is Y, enter datafill for subfield SFEATVAL.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
TBO	CALLCODE	800 to 999	Enter a generic call code.
	SFPRSNT	Y or N	Enter Y to indicate that the service feature is present and enter datafill for subfield SFEATVAL. Enter N to indicate that the service feature is not present.
	SFEATVAL	800 to 999	Enter a service feature value.

DATATYPE = SERV, OPTION = TCAP_CNAM

If the entry in subfield OPTION is TCAP_CNAM, enter datafill for subfield CNAM_SUSP.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
TCAP_CNAM	CNAM_SUSP	Y or N	Enter Y to enable subscriber usage-sensitive pricing (SUSP) billing for the PRI LTID. Enter N to disable SUSP billing for the PRI LTID. The default is N. Note: Before setting subfield CNAM_SUSP to Y for a PRI LTID, the operating company must assign the billing DN in table TRKGRP (subfield BILLDN).

DATATYPE = RN

If the entry in field DATATYPE is RN, enter datafill for subfield OPTION.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
RN	OPTION	EDITRN	Enter EDITRN to provide a means for completing a partial RN and enter datafill for subfields OVLYRN, NPI, TON, and OVLYCNT.

LTDATA (continued)**DATATYPE = RN, OPTION = EDITRN**

If the entry in subfield OPTION is EDITRN, enter datafill for subfields OVLYRN, NPI, TON, and OVLYCNT.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
EDITRN	OVLYRN	0 to 9 (maximum 18 digits)	The Overlying Redirected Number field converts a partial Redirected Number (RN) to a complete number by associating a partial RN with an overlying RN. Note: Automatic Message Accounting (AMA) only supports RNs of up to 12 digits.
	NPI	E164	Enter the numbering plan identifier associated with field OVLYRN.
	TON	NATL or LOCAL	Enter the type of number associated with field OVLYCLI. Note: TON must be set to LOCAL to enable EDITCLI.
	OVLYCNT	0 to 18	Enter the number of least significant digits from a partial CLI that are overlaid on top of the least significant digits of field OVLYRN. A value of 0 (zero) indicates that all the digits from the partial RN are overlaid. Note: Automatic Message Accounting (AMA) only supports RNs of up to 12 digits.

Datafill example

The following figure shows an example of datafill for table LTDATA with datatype SERV and CGNDELV, RNDELV, and SHPRN.

MAP display example for table LTDATA with datatype SERV and CGNDELV, RNDELV, and SHPRN

LTDKEY LTDRSLT

ISDN 502 SERV SERV Y SCREENED ALWAYS (RNDELV SCREENED) (SHPRN YYYY)

The following figure shows an example of datafill for table LTDATA with datatype DN and option CUSTGRP.

LTDATA (continued)

MAP display example for table LTDATA with datatype DN and option CUSTGRP

LTDKEY	LTDRSLT
ISDN 999 DN	DN 613 726 1234 (CUSTGRP CENTESN)\$
PIEDMONT 2 DN	DN 416 555 4321 (CUSTGRP CENTESN)\$

The following figure shows an example of datafill for table LTDATA with datatype SERV option LSPAO.

MAP display example for table LTDATA with datatype SERV option LSPAO

LTDKEY	LTDRSLT
ISDN 600 SERV	SERV N N NEVER NEVER (LSPAO CLEC1 U) \$

The following figure shows an example of datafill for table LTDATA with datatype SERV option LSPSO.

MAP display example for table LTDATA with datatype SERV option LSPSO

LTDKEY	LTDRSLT
ISDN 600 SERV	SERV N N NEVER NEVER (LSPSO CLEC1) \$

The following figure shows an example of datafill for table LTDATA with datatype SERV option MCID.

MAP display example for table LTDATA with datatype SERV option MCID

LTDKEY	LTDRSLT
ISDN 5 SERV	SERV N N ALWAYS ALWAYS (MCID) \$

LTDATA (continued)

The following figure shows an example of datafill for table LTDATA with datatype SERV and option PRIPSAP.

MAP display example for table LTDATA with datatype SERV and option PRIPSAP

LTDKEY	LTDRLT
ISDN 1 SERV	
SERV N N ALWAYS ALWAYS (PRIPSAP Y Y 613 6211234) \$	

The following figure shows an example of datafill for table LTDATA with datatype SERV and option RST_ACK_MULT_CID.

MAP display example for table LTDATA with datatype SERV and option RST_ACK_MULT_CID

LTDKEY	LTDRLT
ETSI 24 SERV	
SERV Y Y ALWAYS ALWAYS (RST_ACK_MULT_CID) \$	

The following figure shows an example of datafill for table LTDATA with datatype SERV and option TBCT.

MAP display example for table LTDATA with datatype SERV and option TBCT

LTDKEY	LTDRLT
ISDN 381 SERV	
SERV Y Y ALWAYS ALWAYS (TBCT) \$	
ISDN 383 SERV	
SERV Y Y ALWAYS ALWAYS (TBCT) \$	
ISDN 385 SERV	
SERV Y Y ALWAYS ALWAYS (TBCT (NTC ON) \$) \$	
ISDN 387 SERV	
SERV Y Y ALWAYS ALWAYS (TBCT (NTC OFF) \$) \$	

LTDATA (continued)

The following figure shows an example of datafill for table LTDATA with datatype SERV and option TBO.

MAP display example for table LTDATA with datatype SERV and option TBO

LTDKEY	LTDRSLT
ISDN 240 SERV	SERV N N ALWAYS ALWAYS (TBO 805 N RNID Y) \$

The following figure shows an example of datafill for table LTDATA with datatype SERV and option TCAP_CNAM. Both tuples have subfield CNAM_SUSP for option TCAP_CNAM set to N (SUSP billing disabled).

MAP display example for table LTDATA with datatype SERV and option TCAP_CNAM

LTDKEY	LTDRSLT
ISDN 381 SERV	SERV Y Y ALWAYS ALWAYS (TCAP_CNAM N)\$
ISDN 383 SERV	SERV Y Y ALWAYS ALWAYS (TCAP_CNAM N)\$

The following figure shows an example of datafill for table LTDATA with datatype SERV and option UUS1EXP.

MAP display example for table LTDATA with datatype SERV and option UUS1EXP

LTDKEY	LTDRSLT
ISDN 241 SERV	SERV N N ALWAYS ALWAYS (UUS1) (UUS1EXP) \$

The following figure shows an example of datafill for table LTDATA with datatype OPTION and option INSNA.

LTDATA (continued)**MAP display example for table LTDATA with datatype OPTION and option INSNA**

LTDKEY	LTDRSLT
ISDNPRA 244 SERV	SERV Y Y ALWAYS ALWAYS (INSNAC)\$

The following figure shows an example of datafill for table LTDATA with datatype DN and option E911DN.

MAP display example for table LTDATA with datatype DN and option E911DN

LTDKEY	LTDRSLT
ISDN 108 DN DN 613 722 9999 E911DN DEFAULT \$	
ISDN 108 DN DN 613 722 9999 E911DN CGN \$	

The following figure shows an example of datafill for table LTDATA with datatype SERV and options CCBS and CCNR.

MAP display example showing sample datafill for table LTDATA

LTDKEY	LTDRSLT
QSIG 5 SERV SERV N N ALWAYS ALWAYS (DAS RUAOVLP) CCBS CCNR\$	

LTDATA (continued)

Table history

MMP15

Adds option PRI_CALL_CONTROL under the SERV selector to allow activation of the ETSI PRI Incoming and Outgoing Call Control Enhancements feature (A59022390).

Explanatory text and note added that BILL_FROM_CPN conditional datafill as well as supporting ETSI PRI billing, now supports INS1500 PRI billing for the Per Extension Billing feature (A59022582).

Adds existing options CCBS and CCNR to QSIG agents for activity A59022215. Previous to this activity, options CCBS and CCNR were for PRI only.

Adds option RST_ACK_MULT_CID under the SERV selector to enable multiple CIDs in one RESTART ACK message on receipt of a Global Restart when some B channels are in MB or INB state (A59022616).

Adds option UUS1EXP under the SERV selector (A59022169).

MMP14

Use of option NET_RINGBACK_ON is extended to QSIG trunks.

Adds option CCNR under the SERV selector to allow activation of the Call Completion on No Reply feature.

MMP13

Adds subfields SCR_NN_PN and CNN_NOSCRN to the CLI option.

Adds option CLIPREFX to field SERV OPTION.

MMP12

Adds 2CLI option which gives ETSI PRI the ability to send two CLI.

Adds option BI_UNAVAIL to indicate to the network if the originator's Network Number is available for display.

Removed AOC provisioning for PRI and QSIG subscribers from table LTDATA. The AOC option is now available in table TRKOPTS.

NA012

Adds option E911DN to field LTDKEY, subfield DATATYPE=DN.

LTDATA (continued)

Adds field NATLXLA to option PRIPSAP to support seven- and ten-digit call translations.

NA011

Adds option PRIPSAP to field LTDKEY, subfield DATATYPE = SERV. This option allows the user to provision the PRI PSAP.

Adds options SHPRN and MWIC. SHPRN provides the switch with the ability to override the delivery of presentation restricted numbers. MWIC provides the capability of accepting an MWI control request over an ISDN NI-PRI trunk group.

EUR010

Note added that option SCRNLTD requires correct entry for NATIONAL_COUNTRY_CODE in table OFCENG.

Adds option ETSIDIV to allow partial rerouting on ETSI PRI trunks for AU3401.

Adds option BILL_FROM_CPN to allow ETSI PRI DN billing for activity AU3273.

Adds option ECT to allow explicit call transfer on ETSI PRI for activity AU3346.

EUR009

Adds option INSNAC to trigger modification of the outgoing CLI to a full national number.

APC010

Adds the NET_NORMDISC_ON option to provision a busy tone during normal call release. This option applies to the network side of INS1500 PRI trunks.

NA010

Adds options LSPAO and LSPSO to associate LSPAO and LSPSO for PRI private trunk types that have NTNA or NI protocol variant.

PRI SUSP for CNAME (AF7570) adds subfield CNAM_SUSP to option TCAP_CNAM for DATATYPE SERV. This feature also adds the error and warning messages listed in “Supplementary information.”

LTDATA (continued)

EUR008

Adds values AOCS, PROTOCOL, REQUEST, and UNITS to the AOC option field.

Adds options NET_CALLFAIL_ON, NET_DIALTONE_ON, and NET_RINGBACK_ON to provision network tones on the network side of PRI trunks.

Adds option ECMA226_CHNL_MAP to permit channel mapping functionality.

APC009

Tones Over PRI (AU2501) adds entries NET_CALLFAIL_ON, NET_DIALTONE_ON, and NET_RINGBACK_ON to subfield OPTION.

Original and Redirection Number on TS14 PRI and ETSI PRI (AU2578) adds entry CGNCALC to subfield OPTION.

LTDATA NOSCRN Option (AU2579) allows entry NOSCRN to subfield OPTION for TS14 trunk groups.

PBX CLI Management (AU2580) adds options CLIVD, EDITALLTON, and SIGCLI to subfield OPTION of field DATATYPE=CLI.

NA009

The following changes were made:

- Added subfields PARM and STATUS for TBCT.
- Added LSPAO option with subfields PROVIDER and CONTEXT.

ISDN PRI calling name delivery (I-CNAM) feature AF7209 adds TCAP_CNAM as a subfield of the service data (SERV) selector OPTION field.

NA008

The following changes are made:

- PRI Option for AIN IPI (AJ4594) adds AIN_IPI_STR to subfield OPTION.
- Two B-Channel Transfer option (AR2401) adds TBCT to subfield OPTION if field DATATYPE = SERV. Adds table control warnings for dependencies in table LTDEF when using option TBCT.
- PRI Call Screening (AF6863) adds entry RN to field DATATYPE and subfield OPTION = EDITRN.

LTDATA (continued)

- PRI Call Screening (AF6863) adds entry RNID suppression to subfield OPTION if field DATATYPE = SERV.
- PRI Call Screening (AF6863) adds entry RNDELV screening to subfield OPTION and subfields ALWAYS, SCREENED, or NEVER if field DATATYPE = SERV.
- PRI Call Screening (AF6863) adds entry BNS to subfield OPTION if field DATATYPE = SERV.

NA007

Added a note for option DFLTPI in response to a customer request.

EUR006

The point of presence (POP) option is added to the CLI selector.

The priority class of service (PCOS) option is added to enable priority class calls to originate on ISDN BRI and PRI trunks under essential service protection (ESP) and network protection (NETPROT) conditions. PCOS prevents non-priority traffic in the case of a catastrophe.

Added AOC in the OPTION field. Option AOC has the following subfields: AOCD, AOCE, DSCNT, AOCREL, and AOCCHGOV.

Note: Option AOC is available only for PRI trunks.

Added supplementary service features Closed User Group (CUG), Call Complete Busy Subscriber (CCBS), and Malicious Call ID (MCID).

Added the Direct Dialing In (DDI) feature.

XPM08

Added a note for option DFLTPI in response to a customer request.

Added NO_BCH_SERV in the OPTION field. Changed default value in field CGNDELV.

CCM07

Added an option to turn B-channel messaging ON or OFF and to allow CGN-related information to be datafilled for the originating PRI.

LTDATA (continued)

BCS36

The following changes were made:

- added new functionality to field AUDTRMT
- added value UUS1 to subfield OPTION

Supplementary information

The AOC option contents of table LTDATA are transferred to table TRKOPTS during ONP, where the new AOC provisioning for PRI and QSIG subscribers are available.

The ECT option is only supported for ETSI PRI 1990. If an ECT option is added to a non-ETSI 1990 entry, the following error message appears:

The ECT option is only supported for ETSI PRI issue 1990.

The following error and warning messages are associated with the PRI Calling Name Delivery (I-CNAM) and PRI SUSP for CNAME features.

- The following warning message displays if the operating company attempts to provision the TCAP_CNAM option against a non-NI-PRI variant:
THE OPTION IS ONLY VALID FOR NI-PRI VARIANT
- The following error message displays if parameter ISDNCIRCUIT in table AMAOPTS is not enabled:
TABLE AMAOPTS OFFICE PARM ISDNCIRCUIT MUST BE ENABLED
- The following error message displays if parameter AMA_FORMAT in table AMAOPTS is not set to ATT_AMA_FORMAT to indicate Bellcore billing:
SUSP ONLY ALLOWED IN BELLCORE AMA FORMAT OFFICES
- The following warning message displays if the operating company has not assigned a billing DN in table TRKGRP:
Billing DN not assigned in table TRKGRP
- The following warning message indicates that the billing DN in table TRKGRP is outside the range of 3 to 10 digits:
Number of Billing DN digits not in range

LTDATA (end)

- The following warning message displays if an attempt is made to provision SHPRN and the corresponding LTID in table LDEF is not defined as NI-PRI:

The SHPRN option is only supported by the NI-PRI variant defined in table LTDEF

- The following warning message displays if an attempt is made to change the variant from NI-PRI to any other variant while the SHPRN option is provisioned:

INVALID CHANGE: Delete the SHPRN option entry from table LTDATA for this interface before changing the PRI variant

- The following warning message displays if an attempt is made to provision SHPRN and the option RNDELV is not present:

The RNDELV option of table LTDATA must be provisioned to datafill SHPRN

- The following warning message displays if an attempt is made to provision SHPRN and CGNDELV is not set to screened:

The SHPRN option requires CGNDELV and RNDELV to be set to screened before adding the SHPRN option

- The following warning message displays if the NCAS option does not exist:

MWIC option is only valid with NCAS option. Ensure that NCAS option is assigned to the NI PRI LTID with PUBLIC service type in table LTCALLS

- The following warning message displays if the MWIC option is being added to a non-NI-PRI LTID:

MWIC option is only valid on NI-PRI LTID

- The following warning message displays if parameter MAX_NUM_PRI_MWIC_CONTROL is exceeded by the optional parameter MWIMAX of option MWIC:

The total MWIMAX must not exceed OFCENG office parm MAX_NUM_PRI_MWIC_CONTROL. The current total is <total_mwimax>. The allowable MWIMAX value must be less than or equal to <allowable_mwimax>

LTDEF

Table name

Logical Terminal Definition

Functional description

The logical terminal tables identify logical terminals and both the associated line equipment number (LEN) and the associated terminal equipment identifier (TEI). The logical terminal tables consist of tables TAKGAP, LTCALLS, LTDATA, LTDEF, LTGRP, and LTMAP.

Table LTDEF defines the service profile of an ISDN logical terminal identifier (LTID). The key to this table is an LTID. An LTID consists of a logical terminal group (LTGRP) from table LTGRP and a logical terminal number (LTNUM) in the range of 1 to 1022.

This table must be datafilled to provision ISDN primary rate interface (PRI) and basic rate interface (BRI) services. The type of service requested is distinguished by the LTCLASS field, for example, BRAFS, PRA, and BRAMFT. Based on the type of service, datafill logical terminal-specific options against a particular LTID.

The option supports the RES Translations Simplification feature.

Datafill sequence and implications

Datafill tables SVPRIGRP and LTGRP before table LTDEF.

Table size

0 to 32 704 tuples

Datafill

The following table lists datafill for table LTDEF.

Field descriptions (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
LTKEY		see subfields	Logical terminal key. This field consists of subfields LTGRP and LTNUM.
	LTGRP	alphanumeric (up to 8 characters)	Logical terminal group. Enter the name of a group of logical terminals. Valid group names are in field GROUP of table LTGRP.

LTDEF (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield	Entry	Explanation and action
LTAP	LTNUM	1 to 1022	This is the logical terminal number. Enter a number to identify the logical terminal within the group.
		B, D, PB, BD, 2B, 2BD	This is the logical terminal access privilege. Enter the access privilege of the logical terminal. For circuit switching or for ISDN MFT terminals, enter B. For D-channel packet switching, enter D. For provisioned B-channel packet switching, enter PB. For combined circuit switching, enter BD. For two B-channel circuit switching, enter 2B. For D-channel packet switching and circuit switching on the same NI-2 terminal, enter 2BD. A terminal with the 2BD option must also have CLASSREF subfield LTCLASS = BRAFS, BRAFS subfield OPTION = PVC, DTEI, and PVC subfields VERSION = FUNCTIONAL and ISSUE = 2. The NITYPE option must be specified with a value of NI2. Note 1: If the PVC option is not specified, it will be added by default as PVC FUNCTIONAL 2. Note 2: You cannot change an existing access privilege to 2BD.
CLASSREF		see subfield	The class reference field consists of subfield LTCLASS.
	LTCLASS	BRAFS, BRAMFT, PRA	The logical terminal class field identifies the set of services that are allowed for a logical terminal. For basic rate access (BRA) functional sets, enter BRAFS. For BRA Meridian feature transparency (MFT) terminals, enter BRAMFT. For primary rate access, enter PRA.

LTDEF (continued)**LTCLASS = BRAFS**

If the entry in subfield LTCLASS is BRAFS, datafill subfield OPTION as described in the following table.

Field descriptions for conditional datafill (Sheet 1 of 3)

Field	Subfield	Entry	Explanation and action
BRAFS	OPTION	AGA, CACH, CMD, DEFLTERM, DTEI, EKTS, ELN, NITYPE, NOCMD, NOPMD, NOVBD, NOVOICE, NO OCT, OML, PMD, PVC, SCAI, SLBRI, SPIDSFX, TERML, TSPID, UATEI, UNATEI, VBD, VOICE	Enter up to 18 options. Enter AGA to enable the associated group feature. Datafill subfields AG_GROUP and AG_CT. Enter CACH to enable the call appearance handling feature on a terminal. This option cannot be assigned without option EKTS. Enter CMD to indicate that circuit mode data calls are allowed (ISDN BRI only). Enter DEFLTERM (for example, non-initializing terminal) to indicate that the option defines a default logical terminal and thus, a default service profile for the loop.

LTDEF (continued)**Field descriptions for conditional datafill (Sheet 2 of 3)**

Field	Subfield	Entry	Explanation and action
			Enter DTEI for a dynamic TEI. DTEI must be entered if SPIDSFX or EKTS is required. Enter EKTS to indicate electronic key telephone service. Enter ELN to indicate that the BRA is handled as an essential access. Enter NITYPE to specify whether the terminal is National ISDN 1 (NI-1) or National ISDN 2 (NI-2) compliant. Datafill subfield NITYPE. Enter NOCMD to indicate that circuit mode data calls are not allowed for ISDN PRI. Enter NOPMD to indicate that packet mode data calls are not allowed for ISDN PRI. Enter NOVBD to indicate that voice band data calls are not allowed for ISDN PRI. Enter NOVOICE to indicate that voice calls are not allowed for ISDN PRI. Enter OCT to indicate an overload condition treatment. OCT dictates the type of control applied to terminals in a rapid messaging (RM) state. Valid values are REONLY (report only) or REPCTRL (report and control). Enter OML to indicate an overload messaging limit for D-channel messages allowed on an LTID before activating RM controls. OML is valid for BRAFS circuit-switched (CS) LTIDs. Valid values are 0 to 150 messages per minute with increments of 15. If OML is set to zero, RM is turned off for the LTID. If OML is assigned a value other than zero, the OML overrides the DEFOML value. Enter PMD to indicate that packet mode data calls are allowed (ISDN BRI only). Enter PVC to indicate that the terminal has protocol selectivity through protocol version control. Datafill subfields VERSION and ISSUE.

LTDEF (continued)**Field descriptions for conditional datafill (Sheet 3 of 3)**

Field	Subfield	Entry	Explanation and action
			Enter SCAI to indicate that the logical terminal has access to the switch computer application signaling interface. Note: Option SCAI is not a valid entry for table LTDEF for BCS34 and up. Enter SLBRI for ISDN single line BRI. Enter SPIDSFX for a service profile identifier suffix. Datafill subfield SPID_SUFFIX. Enter TERML to specify the number of non-initializing terminals (NIT) that the LTID can support. Datafill subfield TERML. Enter TSPID to define the Free Format Terminal Service Profile Identifier (TSPID) value. TSPID is required for datafilling new BRAFS sets and for initializing Basic Rate Interface Functional Signaling (BRIFS) LTIDs. Enter UATEI to indicate user-assigned dynamic TEI terminals. Enter UNATEI to indicate a user- or network-assigned TEI. Enter VBD to indicate that voiceband data calls are allowed (ISDN BRI only). Enter VOICE to indicate that voice calls are allowed (ISDN BRI only). Note: Options DTEI, UATEI, UNATEI, EKTS, SPIDSFX, and TSPID are incompatible with option DEFLTERM. By default, NITs use UNATEI TEI assignment procedures.

LTDEF (continued)**LTCLASS = BRAFS, OPTION = AGA**

If the entry in subfield OPTION is AGA, datafill subfields AG_GROUP and AG_CT as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
AGA	AG_GROUP	1 to 9	This is the associated group number. Enter the number of the associated group.
	AG_CT	AG_VI, AG_CMD, AG_ALL, AG_UNASSIGNED	This is the associated group call type. Enter AG_VI (voiceband information) for voice call type. Enter AG_CMD (circuit mode digital information) for data call type. Enter AG_ALL for all call types. Enter AG_UNASSIGNED to indicate that no call types are assigned.

LTCLASS = BRAFS, OPTION = NITYPE

If the entry in subfield OPTION is NITYPE, datafill subfield NITYPE as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
OPTION	NITYPE	NI1, NI2, or NIL_TERM	This is the terminal type. Enter NI1 or NI2 to specify whether the terminal is National ISDN 1 (NI-1) or National ISDN 2 (NI-2) compliant. The default value for this field is NIL_TERM. Note: Entry NI3 for this field is reserved for future use.

LTDEF (continued)**LTCLASS = BRAFS, OPTION = PVC**

If the entry in subfield OPTION is PVC, datafill subfields VERSION and ISSUE as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
PVC	VERSION	AUSTEL, ETSI, FUNCTIONAL, MFT, VN4	Enter the protocol version. Enter AUSTEL for the signaling protocol for Australian BRA. AUSTEL can only be datafilled for ISDN loops subtending peripheral module (PM) types PRCC or PLGC. AUSTEL cannot be datafilled for ISDN loops subtending other types of PMs that are ISDN equipped. Enter ETSI (European Telecommunications Standards Institute ISDN) for the signaling protocol for European basic rate interface (BRI). Enter FUNCTIONAL for the signaling protocol based on Q.931 messaging protocol or 2BD service. For further information, refer to <i>Integrated Services Digital Network Service Orders for ISDN Terminals Reference Manual</i>. Enter MFT using the SLT prompt in the Service Order System (SERVORD). For more information on SERVORD, refer to <i>SERVORD Reference Manual</i>. The default value for this field is MFT. Enter VN4 (French ISDN protocol variant) for the possible selection of VN4 for the logical terminal.
	ISSUE	0 to 2	Enter the protocol issue designated for the particular logical terminal. Enter 0 (zero) for stimulus and MFT protocols. Enter 0 (zero) to support the ETSI BRI protocol. Enter 0 (zero) if the protocol version specified is AUSTEL or VN4 Enter 1 for BellCore functional protocol. Enter 2 if feature Protocol Variant Control is provisioned.

LTDEF (continued)**LTCLASS = BRAFS, OPTION = SCAI**

If the entry in subfield OPTION is SCAI, datafill subfield SCAIGRP as described in the following table.

Note: Option SCAI is not a valid entry for table LTDEF for BCS34 and up.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
SCAI	SCAIGRP	alphanumeric (up to 8 characters)	This is the switch computer application interface group. Enter a valid SCAI group name.

LTCLASS = BRAFS, OPTION = SPIDSFX

If the entry in subfield OPTION is SPIDSFX, datafill subfield SPID_SUFFIX as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
SPIDSFX	SPID_SUFFIX	numeric (up to 8 digits)	This is the service profile identifier suffix. Enter the name that uniquely identifies a particular subscriber on a dynamic TEI terminal. Note: Prior to BCS35, the entry for field SUFFIX was up to eight alphanumeric characters.

LTDEF (continued)

LTCLASS = BRAFS, OPTION = TERML

If the entry in subfield OPTION is TERML, datafill subfield TERML as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
OPTION	TERML	1 to 8	This is the number of NITs. Enter the number of NITs that can be associated with an NI-2 default LTID. A maximum of eight terminals can be associated with an NI-2 default LTID. Note 1: The TERML value is the number of terminals that can associate with the LTID and that can therefore receive service. The TERML parameter does not restrict the number of TEIs that can exist on the loop in a layer 2 mode. Note 2: For a D-channel packet-only NIT, a value of 1 is enforced. The default value for this field is 1.

LTCLASS = BRAFS, OPTION = TSPID

If the entry in subfield OPTION is TSPID, datafill subfield TSPID as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
OPTION	TSPID	1 to 18 digits	This is the TSPID value for initializing BRAFS LTIDs. Enter a value from 1 to 18 digits to specify the Free Format SPID value to be used for layer 3 provisioning. The SPID value is composed of the TSPID plus a 2-digit TID.

LTCLASS = BRAMFT

If the entry in subfield LTCLASS is BRAMFT, datafill subfield OPTION as described in the following table. This selector enables datafilling of ISDN

LTDEF (continued)

MFT terminals. PVC enables specification of the layer 3 protocol that is used for a given ISDN BRI terminal.

Note: Enter the PVC version MFT using the SLT prompt in SERVORD.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
BRAMF	OPTION	DTEI, PVC, SPIDSFX, UATEI	Enter up to four options. Enter DTEI for a dynamic TEI. Note: DTEI must be entered if SPIDSFX is required. Enter PVC for protocol version control. Note: This option allows operating company personnel to datafill the protocol version and issue that the ISDN BRI terminals support. Enter SPIDSFX for a service profile identifier suffix. Enter UATEI for a user-assigned, dynamic TEI.

LTCLASS = BRAMFT, OPTION = PVC

If the entry in subfield OPTION is PVC, datafill subfield ISSUE as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
PVC	ISSUE	0 or 1	Enter the valid issue for PVC.

LTDEF (continued)**LTCLASS = BRAMFT, OPTION = SPIDSFX**

If the entry in subfield OPTION is SPIDSFX, datafill subfield SPID_SUFFIX as described in the following table.

Field descriptions for conditional datafill

Field	Subfield	Entry	Explanation and action
SPIDSFX	SPID_SUFFIX	numeric (1 to 8 digits)	Enter the service profile identifier suffix. This is the name that uniquely identifies a particular subscriber on a dynamic TEI terminal. Note: Prior to BCS35, the entry for field SPID_SUFFIX was up to eight alphanumeric characters.

LTCLASS = PRA

If the entry in subfield LTCLASS is PRA, datafill subfields NUMBCHNL, NUMCALLS, INCCALLS, OUTCALLS, and OPTION as described in the following table.

Note: Fields NUMBCHNL and NUMCALLS must contain the same value.

Field descriptions for conditional datafill (Sheet 1 of 5)

Field	Subfield	Entry	Explanation and action
PRA	NUMBCHNL	1 to 479	Enter the number of B-channels that this logical terminal is allowed to use at any time. The sum of this field over all logical terminal identifier (LTID) on an interface must not exceed the number of B-channels on the interface. Note: Fields NUMBCHNL, NUMCALLS, INCCALLS, and OUTCALLS are not used at this time and are reserved for future use.
	NUMCALLS	1 to 479	Enter the number of calls that are allowed on this logical interface at any one time. The sum of the incoming calls (field INCCALLS) and outgoing calls (field OUTCALLS) must be less than or equal to the number of calls allowed (field NUMCALLS). Note: Fields NUMBCHNL, NUMCALLS, INCCALLS, and OUTCALLS are not used at this time and are reserved for future use.

LTDEF (continued)**Field descriptions for conditional datafill (Sheet 2 of 5)**

Field	Subfield	Entry	Explanation and action
	INCCALLS	0 to 479	Enter the number of reserved incoming-only calls that are allowed on this logical terminal at any time. Note: Fields NUMBCHNL, NUMCALLS, INCALLS, and OUTCALLS are not used at this time and are reserved for future use. In order to satisfy the editor function, it is recommended to split the total number of B-channels by 2, enter that number in the INCALLS field, and the other half in the OUTCALLS field.
	OUTCALLS	0 to 479	Enter the number of reserved outgoing-only calls that are allowed on this logical terminal at any time. Note: Fields NUMBCHNL, NUMCALLS, INCALLS, and OUTCALLS are not used at this time and are reserved for future use. In order to satisfy the editor function, it is recommended to split the total number of B-channels by 2, enter that number in the INCALLS field, and the other half in the OUTCALLS field.
	VARISSUE	see subfields	This field consists of subfields VARIANT and ISSUE.

LTDEF (continued)**Field descriptions for conditional datafill (Sheet 3 of 5)**

Field	Subfield	Entry	Explanation and action
	VARIANT	AUSTPRI, ETSIPRI, EVN4PRI, INSPRI, NTNAPRI, NIPRI, N449PRI, QSIGPRI U449PRI, or U459PRI	This is the variant type. Enter the PRI protocol being used for the LTID as follows: • AUSTPRI - Australian PRI • ETSIPRI - ETSI PRI (Europe) • EVN4PRI - French PRI (Numeris VN4) • INSPRI-Japan INS-1500 PRI • NTNAPRI-Northern Telecom (Nortel) PRI • NIPRI-NI-2 PRI Note: If the corresponding LTID tuple in table LTDATA has field DATATYPE = SERV and subfield OPTION =TBCT, attempts to change VARIANT from NIPRI are rejected with the following error message: Cannot change VARIANT: TBCT provisioned on LTID in Table LTDATA. Delete TBCT from the tuple in LTDATA first. Note: If the corresponding tuple in table LTCALLS has field CALLTYPE = PVT, an attempt to change the PRA VARIANT to NIPRI fails with the following message: ERROR: delete Private service type ENTRY from table LTCALLS for this INTERFACE BEFORE changing the LTDEF variant to NIPRI. • N449PRI-AT&T SYS85 • QSIGPRI-QSIG PRI • U449PRI-AT&T 4ESS • U459PRI-AT&T 5ESS

LTDEF (continued)**Field descriptions for conditional datafill (Sheet 4 of 5)**

Field	Subfield	Entry	Explanation and action
	ISSUE	1990, ETSI1993, EVN4V1, FR_VN6, HOLLAND1, ISO1996, NET3, NI2V1, SPAIN1, SWISS3, TS141990, V1, X11	Enter the issue of the PRI variant used as follows: - If ECT is provisioned in table LTDATA, an attempt to change ISSUE to any other value except 1990 displays the message: The ECT option is only supported for ETSI PRI issue 1990 - If the entry in field VARIANT is ETSIPRI, enter 1990, FR_VN6, HOLLAND1, ISRAEL, NET3, SPAIN1, SPAP_PRI, SWISS3, STDETS11, STDETS12, STDETS13, STDETS14, STDETS15 or X11. - If the entry in field VARIANT is AUSTPRI, enter TS141990. - If the entry in field VARIANT is INSPRI, N449PRI, NTNAPRI, U449PRI, or U459PRI, enter V1 or V2 - If the entry in field VARIANT is NIPRI, enter NI2V1 and datafill subfield PGRPID. - If the entry in field VARIANT is EVN4PRI, enter EVN4V1 or FR_VN6. - If the entry in field VARIANT is QSIGPRI, enter ETSI1993 or ISO1996. This value is dependent on the choice of the VARIANT.
	PROFNAME	alphanumeric to 8 characters), NIL	The profile name field is the key to table PRIPROF. Enter a profile name linking a profile (set of function switches) to an interface. This name must first be datafilled in table PRIPROF. The default for this field is NIL and disables all available function switches. Entries correspond with entries for VARIANT and ISSUE in table PRIPROF.
	OPTION	CMD, PGRPID, PMD, VBD, VOICE	Enter up to four options.

LTDEF (continued)**Field descriptions for conditional datafill (Sheet 5 of 5)**

Field	Subfield	Entry	Explanation and action
			Enter CMD to indicate that circuit mode data calls are allowed.
			Enter PGRPID followed by the name of the Serving PRI group, to indicate a Serving PRI group. This name is the key to table SVPRIGRP, and must first be datafilled in table SVPRIGRP. The default for this field is NIL. If the value is NIL, then PGRPID does not appear in the options list for the tuple.
			Enter PMD to indicate that packet mode data calls are allowed.
			Enter VBD to indicate that voiceband calls are allowed.
			Enter VOICE to indicate that voice calls are allowed.

Datafill example

The following example shows sample datafill for table LTDEF. ISDN 820 is an integrated NIT with dynamic TEI, and ISDN 830 is a packet-only NIT with dynamic TEI.

MAP display example for table LTDEF

LTKEY	LTAP	CLASSREF
NI1 282	2B	
BRAFS (PVC FUNCTIONAL 2)	(DTEI)	(TSPID 613723512307) (EKTS) \$
NI1 19	B	
BRAFS (VOICE) (VBD) (CMD) (PVC FUNCTIONAL 2)	(DTEI)	(TSPID 55555) \$
NI1 283	2B	
BRAFS (PVC FUNCTIONAL 2)	(DTEI)	(TSPID 613723512308) (EKTS) (CACH) \$
ISDN 820	2BD	
BRAFS (DEFLTERM) (NITYPE NI2)	(PVC FUNCTIONAL 2)	(TERML 4)\$
ISDN 830	D	
BRAFS (DEFLTERM)	(TERML 1)	\$
ISDN 383	B	
PRA 10 10 5 5 NIPRI NI2V1 NIL (NOPMD) (PGRPID PRI_TO_MTRL)		\$

LTDEF (continued)**Table history****NA015**

Feature A59023416 added subfield N449PRI to option VARIANT.

MMP15

Added value FR_VN6 to subfield VARIANT entry EVN4PRI for activity 59022564.

MMP13

Added value FR_VN6 to subfield ISSUE for MMP13.

MMP12

Added option ETSI1993, and deleted obsolete options ISO1990 and ISO1994 from subfield ISSUE

NA011

Deleted BRAKS as an LTCLASS subfield entry. The NA011 release removes obsolete BRAKS types of ISDN BRI and changes obsolete BRAKS LTIDs to default BRAFS LTIDs.

EUR010

Added options SPAIN1, HOLLAND1 to subfield ISSUE for activities AU3208 and AU3209 (Spanish PRI and Dutch PRI).

EUR009

Added option SWISS3 to subfield ISSUE for activity AU2826.

A new value VN4 is added for the PVC entry in table LTDEF.

APC010

Added value QSIGPRI to subfield VARIANT and values ISO1990, ISO1994, and ISO1996 to subfield ISSUE.

NA009

The following changes were made to table LTDEF:

- Table is updated to include a new OPTION entry for PRA to identify the serving PRI group with an associated LTID. The serving PRI group is the key in table SVPRIGRP.
- Increased the range of subfield AG_GROUP of option AGA to support Associated Groups on a TSP Basis, AF7326.
- Added examples of an integrated and a packet-only NIT with TEI to the datafill example to include ISDN Packet NIT Support, AF6788.

LTDEF (continued)

- Added SLBRI to OPTION subfield BRAFS.
- Replaced NOVOICE, NOCMD, NOVBD, and NOPMD in OPTION subfield BRAFS with VOICE, CMD, VBD, and PMD. This applies to ISDN BRI only. ISDN PRI continues to use NOVOICE, NOCMD, NOVBD, and NOPMD in OPTION subfield BRAFS.
- Added subfield TSPID to field OPTION for defining the Free Format SPID value during Layer three provisioning, AF7240.

NA008

The following changes have been made to table LTDEF:

- Added option AGA for the Associated Group Assignment capability.
- Added subfields AG_GROUP and AG_CT to option AGA for associated group number and associated group call type to support Associated Group for LTIDs feature (AF6642).
- Made the following changes to support NI-1/NI-2 Interface Identification feature (AF6641):
 - added entries NITYPE and TERML to subfield OPTION for LTCLASS = BRAFS
 - added two tuples to MAP display example
- Added warning note to field LTCLASS = PRA, subfield VARIANT = NIPRI when option TBCT is datafilled in table LTDATA to support Two B-Channel Transfer feature (AR2401).
- Added warning note when changing the PRI VARIANT from any type to NIPRI if CALLTYPE = PVT in table LTCALLS to support Call by Call (CBC) feature (AF6864).
- Added entry 2BD to field LTAP to support ISDN Packet Single DN feature (AF6782).
- Added entries X11, NET3 and EVN4PRI to the VARIANT field and EVN4V1 to the ISSUE field.

NA007

Table LTDEF has been updated with a note for subfields NUMBCHNL, NUMCALLS, INCALLS, and OUTCALLS.

EUR006

Feature AR2189 adds the Essential Access (ELN) setting to option BRAFS enabling BRA to be handled as essential lines.

LTDEF (end)

Feature AJ4356 added the protocol variant, QSIGPRI and three new values, ISO1990, ISO1994, and ISO1996, to the range in subfield ISSUE as part of the ISO QSIG base for the DMS-100E Phase 1.

XPM08

Modify LTDEF table for feature AJ4141. Change defaults.

CCM07

Table LTDEF was modified to include 2B as a valid entry in field LTAP. Table LTDEF was modified to include NIPRI as a valid entry in field VARIANT.

BCS36

The following changes have been made to table LTDEF:

- deleted value NONINIT in field OPTION and replaced it with value DEFLTERM
- deleted value PVC in field OPTION for the PRA subfield of LTCLASS
- added fields VARIANT, ISSUE, and PROFNAME for the PRA subfield of LTCLASS

LTDSD

Table name

Line Test Desk Signal Distribution Table

Functional description

Table LTDSD identifies the signal distribution (SD) points used to drive the applique circuit during mechanized loop testing. The applique circuit, used in conjunction with a 2X90AD test trunk, reports line card diagnostic results to mechanized loop testing equipment, like a mechanized loop tester or line test desk.

The applique circuit uses four SD points. These points belong to one or more SD groups that are defined in table SDGRP.

Datafill sequence and implications

The following tables must be datafilled before table LTDSD:

- SDGRP
 - SD points need not belong to the same SD group
- TRKMEM
 - the trunk member is used as a key identification into table LTDSD. Valid trunk group members belong to trunk groups of the type, test desk (TD), VERSION MLT, or TSTDK

Table size

Memory is allocated for up to 16 tuples in this table. Of the 16 tuples, there can be no more than 16 different trunk group names. The memory size for the table depends on field SIZE in table SYSDATA.

Should there be a need to add entries with more than 16 different trunk group names, there is 1 alternative.

One could generalize the CLLINAME for the trunk group and add up to 32 entries per trunk group name, with a different member number for each entry, provided the current size limit for table LTDSD in table SYSDATA is not exceeded.

LTDSD (continued)**Datafill**

The following table lists datafill for table LTDSD.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
TDMEM		see subfields	<i>Trunk member</i> This field consists of subfields CLLI AND MEMNAME.
	CLLI	alphanumeric (1 to 16 characters)	<i>Common language location identifier</i> Enter the code that is assigned in the CLLI table.
	MEMNAME	0 to 9999	<i>Trunk member name</i> Enter the trunk member that uses the SD circuit pack.
TDSDGRP1		0 to 511	<i>Test desk signal distribution group 1</i> Enter the SD group to which the first SD point belongs.
TDSDPT1		0 to 6	<i>Test desk signal distribution point 1</i> Enter the number of the first SD point, which drives relay DS-1 in the applique circuit.
TDSDGRP2		0 to 511	<i>Test desk signal distribution group 2</i> Enter the SD group to which the second SD point belongs.
TDSDPT2		0 to 6	<i>Test desk signal distribution point 2</i> Enter the number of the second SD point, which drives relay DS-2 in the applique circuit.
TDSDGRP3		0 to 511	<i>Test desk signal distribution group 3</i> Enter the SD group to which the third SD point belongs.
TDSDPT3		0 to 6	<i>Test desk signal distribution point 3</i> Enter the number of the third SD point, which drives relay DS-3 in the applique circuit.

LTDSD (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
TDSDGRP4		0 to 511	<i>Test desk signal distribution group 4</i> Enter the SD group to which the fourth SD point belongs.
TDSDPT4		0 to 6	<i>Test desk signal distribution point 4</i> Enter the number of the fourth SD point, which drives relay DS-4 in the applique circuit.

Datafill example

The following example shows sample datafill for table LTDSD.

The example shows trunk member MLTTRK 1 as the key into the table LTDSD.

MAP display example for table LTDSD

TDMEM							
TDSDGRP1		TDSDPT1	TDSDGRP2	TDSDPT2	TDSDGRP3	TDSDPT3	
TDSDGRP4		TDSDPT4					
MLTTRK	1						
		6	5	6	6	7	0
		7	1				

LTGRP

Table name

Logical Terminal Group Table

Functional description

Table LTGRP associates a logical terminal group name with terminal types that can be datafilled in that group. The key to this table is the name of a group of logical terminals. The options field describes what type of terminals are allowed in a group. The group ISDN is a permanent entry in table LTGRP. It does not need to be manually datafilled and cannot be deleted.

Datafill sequence and implications

The following tables must be datafilled after table LTGRP:

- LTDEF
- LTMAP
- LTCALLS
- KSETLINE
- KSETFEAT
- KSETINV

Table size

Memory is allocated dynamically for this table.

LTGRP (end)**Datafill**

The following table lists datafill for table LTGRP.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
GROUP		alphanumeric (vector of up to 8 characters)	<i>Logical terminal group name</i> Enter the name of the group of logical terminals.
GROUPNO		0 to 31	<i>Logical terminal group number</i> Enter the group number associated with the group name. Non-SAPI16 groups can be assigned any value from 0 to 31, but SAPI16 groups must be assigned a value between 0 and 15. Default group ISDN is automatically assigned group number 0.
OPTIONS		SAPI16 or \$	<i>Logical terminal options</i> Enter the type of terminals allowed in a group. The only option currently allowed is SAPI16. If this is specified, both packet and circuit switching terminals can be datafilled for the group. If SAPI16 is not specified, no packet switching terminals can be datafilled for the group. The default group ISDN is specified as SAPI16.

Datafill example

The following example shows sample datafill for table LTGRP.

MAP display example for table LTGRP

GROUP	GROUPNO	OPTIONS
ISDN	0 (SAPI16)\$	

LTMAP

Table name

Logical Terminal Mapping

Functional description

This table maps logical terminals to a line equipment number (LEN) or trunk span DS-0 location and the terminal equipment interface, depending on the logical terminal access privilege (LTAP).

The key to this table is LTKEY (LTGRP, LTNUM).

Datafill sequence and implications

The following tables must be datafilled before table LTMAP:

- LTGRP (Logical Terminal Group)
- LNINV (Line Circuit Inventory)
- LTDEF (Logical Terminal Definition)
- SPECCONN (P-side to P-side Special Connection)
- TRKGRP (Trunk Group)
- TRKSGRP (Trunk Subgroup)
- TRKMEM (Trunk Member)
- DCHINV (D-Channel Handler Inventory)
- DNCTINFO (Directory Number Call Type Information)
- DNCHNL (Directory Number Channel Type)
- LIDINFO (

Datafill sequence and implications for PRI with Semipermanent Packet

The following tables must be datafilled in the following sequence:

- LTGRP, LTDEF, KSETINV, KSETLINE, DNCTINFO, DNCHNL
- LTCINV, LTCPSINV
- CLLI, TRKGRP, TRKSGRP, TRKMEM
- XSGDEF, SPECCONN
- LTMAP

Table size

No data store is required for this table. It uses the data store of table LTDEF.

LTMAP (continued)**Datafill**

The following table lists datafill for table LTMAP.

Field descriptions for table LTMAP (Sheet 1 of 4)

Field	Subfield	Entry	Explanation and action
LTKEY		see subfields	<i>Logical terminal key</i> This field consists of subfields LTGRP and LTNUM.
	LTGRP	alphanumeric (maximum 8 characters)	<i>Logical terminal group</i> Enter the group of the logical terminal.
	LTNUM	1 to 1022	<i>Logical terminal number</i> Enter the logical terminal number within the group.
MAPPING		see subfield	<i>Logical terminal mapping</i> This field consists of subfield MAPTYPE.
	MAPTYPE	CLLI, LEN or XSG	<i>Logical terminal mapping type</i> Enter the type of mapping being used. Enter CLLI and datafill refinement CLLI. Enter LEN and datafill refinement LEN. Enter XSG and datafill refinement XSG. For primary rate access (PRA), the logical terminal identifier must be mapped to a CLLI.
	CLLI	alphanumeric (maximum 16 characters)	<i>Common language location identifier</i> Enter the CLLI of the PRA trunk to which the logical terminal is assigned. Note: If the mapped CLLI has the IP option provisioned in table TRKGRP, then the variant of the LTID must be NI2.

LTMAP (continued)**Field descriptions for table LTMAP (Sheet 2 of 4)**

Field	Subfield	Entry	Explanation and action
OPTION	LEN	see subfields	<i>Line equipment number</i> This field defines the physical location of the equipment that is connected to a specific telephone line. Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. For integrated services data network (ISDN) lines, field LEN consists of subfield logical terminal identifier (LTID). For non-ISDN lines, field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.
	XSG	0 to 749	<i>X.25/X.75 service group</i> This field associates an echo station LTID to an XSG for user loop back testing. Identify the XSG by an X.25 link interface unit (XLIU) in the range of 0 through 749.
		BCH, DCHCHNL, ILDCHNL, LTBYTE, MEM, PHI, TEI, or XSG	<i>Option</i> This field is a vector of maximum two entries. If less than two entries are required, end the list with a \$(dollar sign). Enter the option that is based on the terminal access privilege chosen. Option B-channel (BCH) is used for BRI packet data (that is, for PB [high-speed packet-switched data] type terminals only). Datafill refinement BCH. Note: TEI is disallowed for packet-only and integrated NITs with dynamic TEI. If the member (MEM) option is checked, then the specified LTID is packet on PRI LTID and a member number must be provided which corresponds to the member number in table TRKMEM.

LTMAP (continued)**Field descriptions for table LTMAP (Sheet 3 of 4)**

Field	Subfield	Entry	Explanation and action
	BCH	B1 or B2	<i>BRI B-channel</i> Enter the B-channel that is selected for packet data. This is specified for PB type terminals only. Option D-channel (DCHCHNL) is valid for D (low-speed packet data), BD circuit-switched (CS) voice, or 2BD (two B-channel voice and and low-speed packet mode data) LTIDs that are associated with loops on an ISDN LTC or LGC. This option is also valid for all V5.2 ISDN lines.
	DCHCHNL	0 to 31	<i>D-channel handler (DCH) channel</i> Enter the DCH to which the loop is connected. NI-2 D-channels can only be datafilled on the 24th channel of a carrier. This option is also valid for all V5.2 ISDN lines. DCHCHNL must be specified for 2BD type terminals. Option ISDN line drawer channel (ILDCHNL) is defined for D-packet switching on ISDN line drawer for remote (ILDR) terminals. Datafill refinement ILDCHNL.
	ILDCHNL	BD1 or BD2	<i>ILD channel.</i> Enter the Bd-channel number to identify the channel for D-packet switching Option logical terminal byte (LTBYTE) is used to examine or set the internal LTID BYTE value. Datafill refinement LTBYTE.
	LTBYTE	0 to 255	<i>Logical terminal identifier type</i> Enter the value used internally to identify the terminal on the loop. This option is required during a batch change supplement (BCS) switch of activity (SWACT) to ensure the LTID BYTE does not change. Any entry outside the range indicated for this field is invalid.

LTMAP (continued)**Field descriptions for table LTMAP (Sheet 4 of 4)**

Field	Subfield	Entry	Explanation and action
			Option packet handler interface (PHI) is used for D and BD type terminals. Datafill refinement PHI.
	MEM	0 to 32767	<i>Member</i> Enter the member number of the trunk group for PRI with Semipermanent Packet.
	PHI	0 to 1023	<i>Packet handler interface</i> Enter the PHI that is selected for D and DB type terminals.
	TEI	0 to 63	Option terminal endpoint identifier (TEI) is used for static TEI terminals to indicate the value of the static TEI. Datafill refinement TEI. <i>Terminal endpoint identifier</i> Enter the terminal endpoint identifier that is specified for static TEI terminals.
	XSG	0 to 749	<i>X.25/X.75 service group</i> Enter the number of the X.25 or X.75 XSG to which the provisioned LTID with D-channel packet service is being assigned.

Datafill example

The following example shows sample datafill for table LTMAP.

Note: In software release NA014 and up, the mapping of an LTID provisioned with ODB service to a LEN requires the provisioning of the LTID with the XSG option in table LTMAP. See LTKEY entries PKT 100 and PKT 101 in the following example.

LTMAP (continued)**MAP display example for table LTMAP**

LTKEY		MAPPING	OPTION
ISDN	320 CLLI	K2KLTi64LP1	(TEI 0)\$
ISDN	321 CLLI	K2KLTi64LP2	(TEI 0)\$
ISDN	323 CLLI	LD64CL	(TEI 0)\$
ISDN	326 CLLI	K2KLTC264CLLP1	(TEI 0)\$
ISDN	327 CLLI	K2KLTC264CLLP2	(TEI 0)\$
ISDN	327	LEN HOST 01 0 01 04	(DCHCHNL 0)\$
PKRPRA	40 CLLI	PKTPRI	(MEM 1)\$
PKT	100 LEN ISDN	00 0 00 00	(XSG 100) (DCHCHNL 31)\$
PKT	101 LEN ISDN	00 0 00 02	(XSG 110)

Supplementary information

This section explains the error messages that can occur if you incorrectly datafill table LTMAP.

Error messages specific to PRI with Semipermanent Packet

Reason: Primary Rate Interface (PRI) with Semipermanent Packet LTID supports option MEM only.

Only MEM option should be present for Packet on PRI.

Action: Perform the LTMAP datafill with only option MEM present.

Reason: The following error message displays if the MAP type is not CLLI for PRI with Semipermanent Packet.

The map type should be CLLI for Packet on PRI LTIDs.

Action: Use CLLI instead of LEN as the datafill for MAP types.

Reason: The following error message displays if table TRKMEM does not datafill to map the CLLI and MEMBER to DS-0 datafill in table SPECCONN.

Table TRKMEM should be datafilled before LTMAP.

LTMAP (continued)

Action: Datafill table TRKMEM for a member other than 24.

Reason: The following error message displays if the trunk group type is not PRA.

The trunk group should be PRA for Packet on PRI trunk.

Action: Use CLLI. CLLI has a PRA trunk group type.

Reason: The following error message displays if the signaling type of the subgroup is not X.25 for Packet on PRI CLLI MEM.

The signaling type of subgroup should be X25 for Packet on PRI CLLI MEM.

Action: Enter X25. X25 is the signaling type of subgroup for the packet on PRI CLLI MEM.

Reason: The following error message displays if CLLI and MEMBER already map in table LTMAP.

The CLLI & MEMBER are already in use.

Action: The same CLLI and MEMBER cannot map to another LTID.

Reason: The following error message displays if the terminal class of an LTID is not a basic rate access functional set (BRAFS).

The terminal class of the LTID is not BRAFS.

Action: The terminal class of an LTID is BRAFS for PRI with Semipermanent Packet.

Reason: The following error message displays if the access privilege for the LTID is D.

The access privilege of LTID must be PB.

Action: The access privileges for the LTID is PB for PRI with Semipermanent Packet.

Reason: The following error message displays if table KSETINV does not datafill for the correct LTID.

The LTID is not datafilled in KSETINV.

LTMAP (continued)

Action: The LTID datafills in table KSETINV.

Reason: The following error message displays if table KSETLINE does not datafill.

Table KSETLINE not datafilled.

Action: The LTID datafills in table KSETLINE.

Reason: The following error message displays if the LTID does not datafill in table DNCHNL.

Table DNCHNL not datafilled.

Action: The LTID datafills in table DNCHNL.

Reason: The following error message displays if the LTID does not datafill in table DNCTINFO.

Table DNCTINFO not datafilled.

Action: The LTID datafills in table DNCTINFO.

Reason: The following error message displays if the LTID maps to a LEN and operating company personnel try to map the LTID to CLLI with MEM option using the CHANGE command.

Cannot change map type. Please delete and add the tuple.

Action: Detach the LEN from the LTID and then map this LTID to CLLI.

Reason: The following error message displays if the trunk member to change is not in the installation busy (INB) state.

The trunk member must be INB.

Action: Change the trunk member to the INB state.

Reason: The following error message displays if operating company personnel use the table control CHANGE command for a PRI with semipermanent packet LTID and try to assign the LTID to a BRI LEN.

Cannot change Packet PRI to Packet BRI. Please delete & add the tuple.

Action: Delete and then re-add the tuple.

LTMAP (continued)

Error message specific to PRI Location Indicators

The following error message appears on the MAP display if the protocol variant in table LTDEF is non-Northern Telecom North America (NTNA) or non-Northern Telecom National ISDN (NTNI), and its corresponding LTID attempts to map to a common language location identifier (CLLI) whose location datafill in table TRKSGRP is LOC_MAP.

LOCATION LOC_MAP is only supported for NTNA and NTNI protocol variants. Change the protocol variant in table LTDEF.

The following error message appears on the MAP display if operating company personnel attempt to delete a tuple that table AINPRI references.

*** Delete the AINPRI entry before deleting LTMAP ***

The following error message appears if an attempt to MAP an NI-2 LTID to a CLLI datafilled as user side in Table TRKSGRP (subfield IFCLASS).

*** User IFCLASS is not supported on NIPRI ***

The following error message appears on the MAP display if a B2-channel is assigned to the last card in an integrated services line card carrier (ISLCC) and it is an ISDN line.

Only the B1-channel can be assigned on the last card in the line card carrier.

The following error message appears on the MAP display if a 2B non-initializing terminal (NIT) or fully initializing terminal (FIT) is assigned to an ISDN interface while the NI000050_SOC_state = IDLE.

ERROR: 2B terminals cannot be assigned to an ISDN interface.
Option NI000050 must be turned ON.

For North American offices, the following error message appears on the MAP display if a 1B NIT is assigned to an ISDN interface while the NI000050_SOC_state = IDLE.

ERROR: Default terminals cannot be assigned to an ISDN interface. Option NI000050 must be turned ON.

LTMAP (continued)

ATTENTION

ILDR is first available for remote switching center SONET (RSC-S) and remote switching center (RSC) configurations in the NA007 release and the XPM08 stream. ILDR is first available for remote line concentrating module (RLCM), outside plant module (OPM), and outside plant access cabinet (OPAC) configurations in the NA008 release and the XPM81 stream.

The following error message appears on the MAP display if an attempt is made to define a DCHCHNL option for an ILDR terminal.

ERROR: Dchchnl option not valid for terminals on an ILD.

The following error message appears on the MAP display if the LTID is a B-type terminal (a B access privilege is defined for this LTID in table LTDEF). The LTID cannot be used for packet switching.

ERROR: Ildchnl option not allowed for a B type terminal.

The following error message appears on the MAP display if the LTID is a D-type terminal (a D access privilege is defined for this LTID in table LTDEF). An ILDCHNL option must be defined.

ERROR: Must specify ildchnl option for a D type terminal.

The following error message appears on the MAP display if the LTID is a PB-type terminal (a PB access privilege is defined for this LTID in table LTDEF). The LTID cannot be used for D-packet switching, only for B-packet switching.

ERROR: Ildchnl option not allowed for a PB type terminal.

The following error message appears on the MAP display if the LTID is a BD-type terminal (a BD access privilege is defined for this LTID in table LTDEF). An ILDCHNL option must be defined.

ERROR: Must specify ildchnl option for a BD type terminal.

The following error message appears on the MAP display if the ILDCHNL option has been assigned to a non-ILDR terminal.

ERROR: Ildchnl option valid only for terminals on an ILD.

LTMAP (continued)

The following error message appears on the MAP display if the LTID is a 2B-type terminal (a 2B access privilege is defined for this LTID in table LTDEF). The LTID cannot be attached to the ILD LEN.

ERROR: A 2B type terminal cannot be attached to the ILD LEN.

Feature ISDN Packet Single DN (AF6782) provides the following warnings when you datafill an LTID that is assigned option 2BD in table LTDEF. The 2BD option is assigned to NI-2 integrated terminals (IT). Feature ISDN Packet Single DN is controlled by SOC NI000051.

The following error message appears if option TEI is assigned to an LTID that was datafilled as 2BD in table LTDEF.

ERROR:TEI option not allowed for a 2BD type terminal.

The following error message appears if option PHI is assigned to an LTID that was datafilled as 2BD in table LTDEF.

ERROR:PHI option not allowed for a 2BD type terminal.

The following error message appears if option BCH is assigned to an LTID that was datafilled as 2BD in table LTDEF.

ERROR:BCH option not allowed for a 2BD type terminal.

The following error message appears if option DCHCHNL is not assigned to an LTID that was datafilled as 2BD in table LTDEF.

ERROR: MUST SPECIFY DCHCHNL FOR A 2BD TYPE TERMINAL.

The following error message appears if the NI000051_SOC_state = IDLE and the SERVORD SLT ATT command or the ADD or CHANGE command is used to attach an NI-2 interface to an ISDN terminal.

Terminal cannot be assigned to an ISDN interface. Option NI000051 must be turned ON.

Error message specific to the PRI -PRI Over Multiple XPMs feature

An error message appears under the following conditions:

If a distributed PRI is mapped in table LTMAP and the protocol variant is other than NTNI the following error message is displayed:

Error: <CLLI> is a Distributed PRI Interface. Distributed PRI is supported only for NTNI protocol variant

LTMAP (continued)

Operating company personnel can take one of the following actions:

- Change the protocol variant to NTNI in table LTDEF.
- If a protocol variant other than NTNI is required to be datafilled, delete or change the B-channels (datafilled in table TRKMEM) and assign all of the B-channels for that trunk group to the same XPM as the D-channel. (Use the CLLIREF command to get all the related TRKMEM tuples.)

Error message specific to the Echo Station X.25 Loopback Testing feature

The following error message appears if you try to assign more than five echo station LTIDS to one XSG.

Error: Maximum 5 ECHO STATION LTID CAN BE ASSIGNED TO A XSG.

The following error message appears if you try to map an echo station LTID to a line equipment number (LEN).

Error: ECHO STATION LTID CANNOT BE MAPPED TO A LEN.

The following error message appears if you try to map a non-echo station LTID to an XSG. Or the user tried to map an LTID that is provisioned only in table LTDEF to an XSG in table LTMAP.

Error: NON ECHO STATION LTID CANNOT BE MAPPED TO XSG.

The following error message appears if you try to map an echo station LTID to a common language location identifier (CLLI) instead of an XSG.

Error: ECHO STATION LTID CANNOT BE MAPPED TO A CLLI.

The following error message appears if you try to datafill options for an echo station LTID.

Error: NO OPTIONS ARE ALLOWED TO BE PROVISIONED TO AN ECHO STATION LTID.

The following error message appears if you try to map an XSG defined in table XSGDEF without an XLIU assignment to an echo station LTID.

Error: XSG IS NOT DEFINED IN TABLE XSGDEF.

LTMAP (continued)

The following error message appears if you try to change the XSG assigned to an echo station LTID to an XSG without an XLIU assignment in table XSGDEF.

Error: NO XLIU IS ASSIGNED TO THE XSG DEFINED IN TABLE XSGDEF.

The following error message appears if you try to use the table editor CHA command to change the XSG number assigned to an echo station LTID.

Error: CHANGE OPERATION IS NOT ALLOWED FOR ECHO STATION LTID. DELETE THE TUPLE AND ADD NEW TUPLE.

The following error message appears if you try to add an echo station LTID to table LTMAP when no corresponding DN tuple existed in table DNCTINFO.

Error: Table DNCTINFO is not datafilled for this LTID.

The following error message appears if you try to add an echo station LTID in table LTMAP when no corresponding DN tuple existed in table DNCHNL. Message occurs even if an entry exists in table DNCTINFO for the echo station DN.

Error: Table DNCHNL is not datafilled for this LTID.

Error messages specific to the On-demand B-channel X.25 Packet Mode Data—Provisioning, Data Distribution Manager, and XLIU feature

The following error messages display and the DMS operating system rejects the table LTMAP operation:

- If the user attempts to datafill an XSG not defined in table XSGDEF for an ODB LTID, the following error message displays:

XSG xx IS NOT DATAFILLED IN TABLE XSGDEF

- If the user attempts to datafill an XSG defined in table XSGDEF without an XLIU assignment for an ODB LTID, the following error message displays:

NO XLIU IS ASSIGNED TO THE XSG DEFINED IN TABLE XSGDEF

- If the user attempts to datafill an XSG that has no free channels for an ODB LTID, the following error message displays:

NO FREE CHANNELS IN THIS XSG

LTMAP (continued)

- If the user attempts to datafill an XSG for an ODB LTID and the creation of the channel object fails, the following error message displays:

FAILED TO CREATE CHANNEL

- If the user attempts to datafill an XSG for an ODB LTID and the association of the link and channel objects fails, the following error message displays:

COULD NOT ASSOCIATE CHANNEL AND LINK OBJECTS

Table history

NA014

Added option XSG to the field OPTION description for table LTMAP for feature 59013267, On-demand B-channel X.25 Packet Mode Data— Provisioning, Data Distribution Manager, and XLIU for NI-2 BRI integrated terminals.

Added error messages for feature 59013267, On-demand B-channel X.25— Packet Mode Data— Provisioning, Data Distribution Manager, and XLIU.

NA012

Added error messages and MAPTYPE option XSG for feature 59006435, Echo Station X.25 Loopback Testing.

Added error message for the PRI-PRI Over Multiple XPMs feature.

Added note to CLLI. If the CLLI mapped has the IP option provisioned in table TRKGRP, then the variant of the LTID must be NI2.

NA011

Added note to the supplementary information about an error message that generates when trying to map a non-NTNA or non-NTNI protocol variant and its corresponding LTID to a CLLI whose location datafill is LOC_MAP.

Added option MEM to the field OPTION description for table LTMAP for X.25 packet on PRI.

Added notes to the supplementary information about the error messages that display for the PRI with Semipermanent Packet feature. This information includes the reason the error messages display and the corrective action.

NA010

Added note to the supplementary information about error message that is generated when attempting to delete a tuple referenced by table AINPRI.

NA009

Added note that option TEI is disallowed for packet-only and integrated NITs with dynamic TEI.

NA008

Added warnings to restrict datafill for field OPTION = DCHCHNL to support integrated terminals (IT) with 2BD feature (AF6782).

Added warning to restrict assignment of a terminal to an ISDN interface without option NI000051.

NA007

New restrictions have been added as a result of the introduction of the ILDR.

EUR006

Added enhancements to the TEI and DCHCHNL options within the OPTION field describing ISDN V5.2 B-channel control. This option is also valid for all V5.2 ISDN lines. The access network (AN) has the capability to define a B-channel as a permanent line (which is defined as a connection from the AN, bypassing the local exchange [LE]) so that the global peripheral platform (GPP) does not have access to this B-channel. The B1/B2 parameter specifies on which B-channel the call is set up.

LTPAUX

Table name

Line Test Position Auxiliary Commands Table

Functional description

Table LTPAUX contains entries for user-defined levels. Operating companies can create user-defined sublevels containing a subset of commands from other existing sublevels. Available commands in these sublevels can be displayed or hidden in the command menu. Each user-defined LTP sublevel is independent.

Limitations

User-defined levels are only implemented as sublevels to the LTP, not as sublevels to other existing default or user-defined sublevels. Command names in the user-defined levels must be unique. Two commands cannot have the same command string.

Datafill sequence and implications

The following tables must be datafilled before table LTPAUX:

- LNINV
- LTPDEF

Table size

0 to 512 tuples

A maximum of 16 user-defined sublevels can be defined by the operating companies. A maximum of 32 commands can be defined for each sublevel. Because this table is datafilled at the user's discretion, the number of tuples can range between 0 and 512 tuples.

LTPAUX (continued)**Datafill**

The following table lists datafill for table LTPAUX.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
KEYAUX		see subfields	<i>Auxiliary key</i> The KEYAUX field contains the key value that identifies each tuple in table LTPAUX. It consists of subfields SUBLEVEL and CMDINDEX.
	SUBLEVEL	LTPDATA LTPISDN LTPLTA or LTPMAN	<i>Sublevel name</i> Enter the default sublevel name that identifies a MAP maintenance and administration position) LTP (line test position) sublevel in the switch. Enter LTPDATA (LTP data), LTPLTA (LTP line test access), LTPISDN (LTP ISDN), or LTPMAN (LTP manual test).
	CMDINDEX	0 to 31	<i>Command index</i> Enter a number to uniquely identify each tuple.
COMMAND		see subfield	<i>Command</i> This field identifies command strings. It consists of subfield CMDSRC and refinement CMD.
	CMDSRC	LTPDATA LTPISDN LTPLTA or LTPMAN	<i>Command source</i> Enter the sublevel name identified in subfield SUBLEVEL. Field CMDSRC is used as a flag to assign valid commands into the table. This field and field SUBLEVEL must contain the same information.
	CMD	alphanumeric (up to 8 characters)	<i>Command</i> Enter the command identifier for a particular sublevel. If the entry in field CMDSRC is LTPDATA, valid entries are as follows: BERT (bit error rate test) BERTIME (duration of a BERT) BPVO (bipolar violations) CONNECT (connect) EQUIP (equipment) LOOPBK (loopback) QL1PERF (layer 1 performance monitoring from a two binary one quaternary [2B1Q] line card)

LTPAUX (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	CMD (continued)		RLAYER2 (use QLAYER command in the LTPISDN menu) SUSTATE (loop status) If the entry in field CMDSRC is LTPISDN, valid entries are as follows: ALM (ability to detect loss of signal) BCHCON (Bb channel continuity test) COLDST (cold start on ISDN line card) DCHCON (D-channel handler continuity test) DCSIG (DC signature measurement) DET (balance loss measurement [BLM] test to detect counts) ILOSS (insertion loss measurement) IMP (impulse noise measurement) L1BLMALM (modify reports of posted loop to various anomalous layer 1 conditions) L1THRSH (layer 1 performance monitoring threshold information on posted ISDN 2B1Q loop) LTLOOPBK (logical terminal loopback) NSE (wideband noise measurement) QLAYER (query layer 2 peg counts) QLOOP (query posted ISDN line) QPHINFO (query terminating directory numbers [DN] for posted DN served by a DMS package handler) RLAYER (reset transmission peg counts of D-channel for posted ISDN line) SCUR (sealing current measurement test on ISDN line card) SUSTATE (status of ISDN U-line card [ISLC], network termination 1 [NT1], or terminal endpoint identifier [TEI]) TEI (terminal endpoint identifier management)

LTPAUX (continued)**Field descriptions (Sheet 3 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	CMD (continued)		TEST (layer 1 behavior tests on a 2B1Q loop) THR (BLM test on thresholding of counts) TSTSGNL (96-kHz test tone in the S/T-chip) If the entry in subfield CMDSRC is LTPLTA, valid entries are as follows: BALNET (balance network test) CAP (capacitance measurement) COIN (send volt pulse to operate coin collect or coin return mechanism in the coin station) DGTTST (test Digitone pad or dial) LNTST (capacitance, resistance, and voltage tests) LTA (connect line test access [LTA] to or release LTA from a line card) MONLTA (connect headset circuit to monitor line) ORIG (configure loop side of line circuit) RES (resistance measurement) RING (place ringing voltage on loop) TALKLTA (connect talk circuit and talk battery to subscriber) VAC (ac voltage) VDC (dc voltage) If the entry in subfield CMDSRC is LTPMAN, valid entries are as follows: BAL (balance network test) CKTTST (send test messages) DCHCON (D-channel handler continuity test) JACK (jack-ended trunk) LOSS (measure insertion loss of test tone)

LTPAUX (continued)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	CMD (continued)		NOISE (measure C-message weighted circuit noise) RLSCONN (release connected test equipment) SETLPBK (setup specified loopback on remote carrier urban [RCU] line) SUSTATE (subscriber state: status of electronic business set [EBS] connected business set line) TONEGEN (transmit tone) TSTDTMF (test dual tone multifrequency transmission) TSTMTR (test metering trunk) TSTRING (test ringing relay in line card)
POSITION		0 to 31	<i>Command position</i> Enter the menu position occupied by this command. Only menu positions 0 to 18 can be displayed, with the following exceptions that cannot be altered: • 0: Quit • 1: Undefined • 2: Post • 10: Hold • 11: Next Positions 19 to 31 hide the command string.

Datafill example

The following example shows sample datafill for table LTPAUX.

The example shows command NOISE assigned to menu position 6 at the LTPMAN sublevel of the MAP terminal. The LTPMAN tuple is identified as index 0.

LTPAUX (end)

MAP display example for table LTPAUX

KEYAUX		COMMAND POSITION		
KURT	0	LTPMAN	NOISE	6

Table history
BCS36

Entry TSTDMTF was added to field CMD for sublevel LTPMAN. All entries in field CMD were verified.

LTPDEF

Table name

Line Test Position Default Commands Table

Functional description

Table LTPDEF contains entries for the following maintenance sublevels of the LNS (lines) subsystem at a MAP (maintenance and administration position) terminal:

- LTPMAN
- LTPLTA
- LTPDATA
- LTPISDN

Table LTPDEF allows operating companies to customize existing line test position (LTP) default sublevels on the MAP display. Commands can be re-organized within the sublevels (commands can be moved or hidden—not displayed—in different menu positions).

In this table, tuples identify the displayed and available commands in each LTP sublevel and the sublevel name that is displayed on the MAP terminal.

Limitations

Adding and deleting tuples in table LTPDEF is not allowed. Changing the tuples in table LTPDEF to hide a command is allowed. Commands are hidden by assigning the command to PF key 19 or above in the command menu. Each MAP terminal can only display a maximum of 17 commands. Tuples are replaced during dump and restore.

In data modification procedures (DMOPRO), the user creating the update file for table LTPDEF must ensure that a tuple change request does not duplicate an established menu position. If the menu position is not unique, the tuple change request is rejected.

Default commands names are fixed and cannot be changed by the operating companies.

Commands in existing sublevels can only be hidden if they are not required. They are still available by typing the command string name at the MAP terminal. Existing default commands cannot be deleted.

Datafill sequence and implications

Table LNINV must be datafilled before table LTPDEF.

LTPDEF (continued)**Table size**

22 to 256 tuples

This table can only be datafilled with default tuples after initial program load (IPL). Restart code exists to datafill these tuples if the table is empty. Currently, minimum table size is determined by the combined number of tuples for sublevels LTPLTA and LTPMAN (22 tuples). LTPDATA and LTPISDN are optional sublevels. The maximum table size for table LTPDEF (512 tuples) is based on a maximum of eight default sublevels, each of which has a maximum of 64 tuples.

Datafill

The following table lists datafill for table LTPDEF.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
KEYDEF		see subfields	<i>Key default</i> This field is the key to the table and consists of subfields SUBLEVEL and CMDINDEX.
	SUBLEVEL	LTPDATA LTPISDN LTPLTA or LTPMAN	<i>Sublevel name</i> Enter the default sublevel name that identifies a MAP maintenance and administration position) LTP (line test position) sublevel in the switch. Enter LTPDATA (LTP data), LTPLTA (LTP line test access), LTPISDN (LTP ISDN), or LTPMAN (LTP manual test).
	CMDINDEX	0 to 63	<i>Command index</i> Enter a unique value to identify each tuple.
COMMAND		see subfield	<i>Command name</i> This field identifies command strings and consists of subfield CMDSRC and refinement CMD.
	CMDSRC	LTPDATA LTPISDN LTPLTA or LTPMAN	<i>Command source</i> Enter the sublevel name identified in subfield SUBLEVEL. Field CMDSRC is used as a flag to assign valid commands into the table. This field and field SUBLEVEL must contain the same information.

LTPDEF (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	CMD	alphanumeric (up to 8 characters)	<i>Command</i> Enter the command identifier for a particular sublevel. If the entry in field CMDSRC is LTPDATA, valid entries are: BERT (bit error rate test) BERTIME (duration of a BERT) BPVO (bipolar violations) CONNECT (connect) EQUIP (equipment) LOOPBK (loopback) QL1PERF (layer 1 performance monitoring from a two binary one quaternary [2B1Q] line card) QLAYER2 (use QLAYER command in the LTPISDN menu) RLAYER2 (use QLAYER command in the LTPISDN menu) SUSTATE (loop status) If the entry in field CMDSRC is LTPISDN, valid entries are: ALM (ability to detect loss of signal) BCHCON (Bb channel continuity test) COLDST (cold start on ISDN line card) DCHCON (D-channel handler continuity test) DCSIG (DC signature measurement) DET (balance loss measurement [BLM] test to detect counts) ILOSS (insertion loss measurement)

LTPDEF (continued)**Field descriptions (Sheet 3 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
			IMP (impulse noise measurement)
			L1BLMALM (modify reports of posted loop to various anomalous layer 1 conditions)
			L1THRSH (layer 1 performance monitoring threshold information on posted ISDN 2B1Q loop)
			L2LOGCTL (layer 2 log control)
			L3LOGCTL (layer 3 log control)
			LTLOOPBK (logical terminal loopback)
			NSE (wideband noise measurement)
			QLAYER (query layer 2 peg counts)
			QLOOP (query posted ISDN line)
			QPHINFO (query terminating directory numbers [DN] for posted DN served by a DMS package handler)
			RLAYER (reset transmission peg counts of D-channel for posted ISDN line)
			SCUR (sealing current measurement test on ISDN line card)
			SUSTATE (status of ISDN U-line card [ISLC], network termination 1 [NT1], or terminal endpoint identifier [TEI])
			TEI (terminal endpoint identifier management)
			TERMCHK (terminal check)
			TEST (layer 1 behavior tests on a 2B1Q loop)
			THR (BLM test on thresholding of counts)
			TSTSGNL (96-kHz test tone in the S/T-chip)
			If the entry in subfield CMDSRC is LTPLTA, valid entries are:

LTPDEF (continued)**Field descriptions (Sheet 4 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
			BALNET (balance network test)
			CAP (capacitance measurement)
			COIN (send volt pulse to operate coin collect or coin return mechanism in the coin station)
			DGTTST (test Digitone pad or dial)
			LNTST (capacitance, resistance, and voltage tests)
			LTA (connect line test access [LTA] to or release LTA from a line card)
			MONLTA (connect headset circuit to monitor line)
			ORIG (configure loop side of line circuit)
			RES (resistance measurement)
			RING (place ringing voltage on loop)
			TALKLTA (connect talk circuit and talk battery to subscriber)
			VAC (ac voltage)
			VDC (dc voltage)
			If the entry in subfield CMDSRC is LTPMAN, valid entries are:
			BAL (balance network test)
			CKTTST (send test messages)
			DCHCON (D-channel handler continuity test)
			JACK (jack-ended trunk)
			LOSS (measure insertion loss of test tone)
			NOISE (measure C-message weighted circuit noise)
			RLSCONN (release connected test equipment)

LTPDEF (continued)**Field descriptions (Sheet 5 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
POSITION		0 to 63	SETLPBK (setup specified loopback on remote carrier urban [RCU] line) SUSTATE (subscriber state: status of electronic business set [EBS] connected business set line) TOGEN (transmit tone) TSTDTRF (test dual tone multifrequency transmission) TSTMTR (test metering trunk) TSTRNG (test ringing relay in line card) <i>Command position</i> Enter the menu position occupied by this command. Only menu positions 0 to 18 can be displayed, with the following exceptions that cannot be altered: • 0: Quit • 1: Undefined • 2: Post • 10: Hold • 11: Next Positions 19 to 31 hide the command string.

Datafill example

The following example shows sample datafill for table LTPDEF.

The first tuple in the example shows command TSTMTR assigned to menu position 3 at the LTPMAN sublevel of the MAP terminal. The LTPMAN tuple is identified as index 3.

The second tuple in the example shows command LOSS assigned to menu position 4 at the LTPMAN sublevel of the MAP terminal. The LTPMAN tuple is identified as index 4.

LTPDEF (end)

MAP display example for table LTPDEF

KEYDEF		COMMAND POSITION		
LTPMAN	3	LTPMAN	TSTMTR	3
LTPMAN	4	LTPMAN	LOSS	4

Table history**NA009**

The following changes were made to table LTPDEF:

- new tuple entry added to accommodate TERMCHK command
- LTPDEF tuples for L2LOGCTL and L3LOGCTL commands moved to new nonmenu LTPISDN MAP display index
- range of values for CMDINDEX and POSITION fields expanded from 0-31 to 0-63

BCS36

Entry TSTDMTF was added to field CMD for sublevel LTPMAN. All entries in field CMD were verified.

MDNGRP

Table name

Multiple Appearance Directory Number Group

Overview

The multiple appearance directory number (MADN) tables (tables MDNGRP and MDNMEM) contain information associated with each MADN group and for each member of a MADN group respectively.

These are change-only tables. Tuples cannot be added to or deleted from these tables. Each call appearance (CA) of a Call Appearance Call Handling (CACH) directory number (DN) appears as a separate tuple in table MDNGRP.

Note: For ISDN MADN groups only, the particular logical terminal (as defined in table LTDEF) to which the MADN directory number is assigned, must have the ISDN electronic key telephone service (EKTS) and dynamic terminal end-point identifier (DTEI) option.

Functional description

Table MDNGRP contains one tuple for each MADN group or MADN CACH CA that has at least one member datafilled. The tuple contains a list of options, attributes, or both assigned to the MADN group.

Use the Service Order System (SERVORD) to make changes to table MDNGRP. For more information on SERVORD, refer to the *SERVORD Reference Manual*.

If a system error occurs from data corruption, while processing table control commands with DN call type (DNCT), the following error message will be issued:

ERROR: FAILED TO READ FROM DNCT PROTECTED DATA.

The recommended action is to reissue the command.

If option MADN ring forward (MRF) is assigned to an MADN group in table MDNGRP, the following ring alerting options can be assigned to the individual appearances of the MADN in table MDNMEM:

Privacy release (PRL) is an option that applies to all single call arrangement(SCA), including call appearance call handling (CACH) lines with bridging capability and an initial privacy status of PRIVATE.

MDNGRP (continued)

The privacy (PRV) SCA or CACH lines with bridging capability and an initial privacy status of NONPRIVATE.

MADN group types CACH, EXB and SCA

The following information is required for MDNTYPEs extension bridging (EXB), SCA and CACH:

- The denial treatment type (DENTRMT) defines the type of audible treatment that is given to a member when the member is not successful in accessing the MADN line, when bridging is not allowed or is not possible.
- If the value in field DENTRMT is TONE, reorder tone is heard for a period of 5 s.
- If the value in field DENTRMT is SILENCE, there is no sound for an indefinite period of time.
- Bridging allowed (BRIDGING) indicates if the MADN group has bridging capability.
- Conference bridge size (CONFSIZE) expresses the maximum conference bridge size in terms of parties (including the external party and the member who originally answered the call). For example, a conference bridge size of 6 implies that a maximum of four idle members can bridge into the call.
- All MADN lines with bridging capability, datafilled with a conference bridge size of 3, can potentially make use of one three-port conference circuit for every call.
- All MADN lines with bridging capability, datafilled with a conference bridge size of 4 or more, can potentially make use of at least one six-port conference circuit for every call.
- Bridge tone required (BRGTONE) indicates whether a tone is heard by the external party and all active MADN members if a new member bridges into the call.
- Initial privacy status (INITSTAT) indicates whether a call is normally private.
- A value of PRIVATE implies that all SCA and CACH calls are initially private (normal SCA functionality). Bridging cannot occur unless an active MADN member explicitly releases privacy on the call (using the PRL option).
- A value of NONPRIVATE implies that all SCA and CACH calls are initially not private. Bridging can occur any time unless an active MADN member explicitly enforces privacy on the call (using the PRV option).
- Privacy release mode (PRLMODE) is only applicable to groups whose initial privacy status is PRIVATE.

MDNGRP (continued)

- The MANUAL mode allows only one member to bridge into the call after privacy has been explicitly released. Privacy is immediately reinstated as soon as a member bridges into the call. Privacy must be explicitly released every time a new member is added to the call. This is the usual operating mode for privacy release.
- The AUTO mode allows any number of members to bridge into the call after privacy has been explicitly released. Privacy is restored by user control only. Privacy is released if a conference bridge of arbitrary size is established.

The following table shows the fields that are automatically set to the values shown if the MDNTYPE in tables IBNLINES or KSETLINE is set to EXB, CACH, or SCA.

EXB or SCA automatic datafill

MDNTYPE			
Field name	SCA	CACH	EXB
DENTRMT	SILENCE	SILENCE	TONE
BRIDGING	Y (yes)	Y (yes)	Y (yes)
CONFSIZE	30	30	3
BRGTONE	N (no)	N (no)	Y (yes)
INISTAT	PRIVATE	PRIVATE	NONPRIVATE
PRLMODE	MANUAL	MANUAL	not applicable

Datafill sequence and implications

The following table must be datafilled before table MDNGRP:

- IBNLINES
- KSETLINE

Table MDNGRP is datafilled internally when a tuple is added to tables IBNLINES or KESTLINE.

A tuple is automatically added to table MDNGRP by the DMS switch if an entry is made in tables IBNLINES or KSETLINE with format MDN, or if a new directory number (DN) of type MDN is created by SERVORD, if an entry for that MADN group does not already exist.

MDNGRP (continued)

If all members of a MADN group are deleted from tables IBNLINES and KSETLINE, the corresponding entries in tables MDNGRP and MDNMEM are deleted automatically.

Default group attribute settings that are functionally identical to the Privacy Release feature, are automatically entered in table MDNGRP for every SCA group and for the first CACH PCA for a PN. Additional CA's will default to the value of the PCA.

Table size

Data store is segmented into areas of store based on the number of members in a MADN group. The smaller the size of the MADN groups, the larger the number of groups allowed. Up to 64,000 one- to two-member MADN groups can be allowed in the switch. Each CA is considered an individual MADN group.

Datafill

The following table lists datafill for table MDNGRP.

Field descriptions (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
MDNKEY		see subfields	MADN key This field consists of subfields AREACODE, OFCCODE, STNCODE, and CA is equal to fields SNPA and DN in tables IBNLINES or KSETLINE.
	AREACODE	0 to 9 (up to 7 digits)	Area code This field is equal to the entry in field SNPA in table IBNLINES or KSETLINE.
	OFCCODE	0 to 9 up to 7 digits)	Office code This field is equal to the first part of the entry in field DN in table IBNLINES or KSETLINE.
	STNCODE	0 to 9 (up to 8 digits)	Station code This field is equal to the last part of the entry in field DN in table IBNLINES or KSETLINE.
	CA	0 to 16	Call appearance This field contains the CA group number. The default value is 0 for non-CACH and 1 for CACH.

MDNGRP (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
GRPSIZE		1 to 32	Group size This field is equal to the number of members assigned in table IBNLINES or KSETLINE to the multiple appearance directory number (MADN) group. This field cannot be changed.
RESULT		see subfields	Result This field consists of subfield MDNTYPE, DENTRMT, CARES, PCA, BRIDGING, CONFSIZE, BRGTONE, INITSTAT, and PRLMODE.
	MDNTYPE	EXB or SCA, MCA,CACH	MADN group type Enter the type of call arrangement. Enter EXB (extension bridging) or SCA (single call arrangement) and datafill refinements DENTRMT and BRIDGING. Enter MCA (multiple call arrangement) and datafill no refinements. Go to field OPTLIST. Enter CACH (call appearance call handling) and datafill DENTRMT. This field is equal to field MDNTYPE in table KSETLINE.
	DENTRMT	SILENCE or TONE	Denial treatment If the entry in subfield MDNTYPE is EXB or SCA, datafill this refinement. This refinement specifies whether a tone is heard by a member who is not allowed to bridge into a call. If a tone is allowed, enter TONE. If a tone is not allowed, enter SILENCE.
	CARES	DOR, DTM, DTMEPI, NULL	Call Appearance Reservation type for the Call Appearance Group. This field can be assigned the following values: • DOR-Terminating Only • DTM-Originating Only • DTMEPI-Originating and Priority Incoming • NULL-Non-reserved (default)

MDNGRP (continued)**Field descriptions (Sheet 3 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	PCA	Y, N	Primary Call Appearance Enter Y to designate that this is the primary call appearance for the DN.
	BRIDGING	Y or N	Bridging allowed If the entry in subfield MDNTYPE is EXB or SCA, datafill this refinement. Enter Y (yes) if the MADN SCA group has bridging capability and datafill refinements CONFSIZE, BRGTONE, and INITSTAT. Otherwise, enter N (no) and go to field OPTLIST.
	CONFSIZE	3 to 30	Conference bridge size If the entry in refinement BRIDGING is Y, datafill this refinement. This refinement specifies the maximum conference bridge size in terms of parties (including the external party and the member who answered the call).
	BRGTONE	Y or N	Bridging tone If the entry in refinement BRIDGING is Y, datafill this refinement. This refinement specifies whether a tone is heard by the external party and all active MADN members if a new member bridges into the call. To hear a tone enter Y. Otherwise, enter N and go to field OPTLIST.
	INITSTAT	PRIVATE or NON-PRIVATE	Initial privacy status If the entry in refinement BRIDGING is Y, datafill this refinement. If the entry in field MDNTYPE is EXB, enter NONPRIVATE. No refinements are datafilled. Go to field OPTLIST. If the entry in field MDNTYPE is SCA, enter PRIVATE. Datafill refinement PRLMODE.

MDNGRP (continued)**Field descriptions (Sheet 4 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
OPTLIST	PRLMODE	MANUAL or AUTO	Privacy release mode If the entry in refinement INITSTAT is PRIVATE, datafill this refinement. This refinement specifies the privacy release mode. The MANUAL mode allows only one member to bridge into the call after privacy has been explicitly released. The AUTO mode allows any members to bridge into the call after privacy is explicitly released.
		see subfields	Option list This field is a vector of up to four options and their refinements. Each option and each refinement must be separated from the next by a blank space. This field consists of subfield OPTION.
	OPTION	MRF,EHLD, MREL, MLAMP, or \$	Option Enter the following options: • MRF for Meridian Digital Centrex MADN Hold and datafill refinements AUTO and MRFTIMER. • EHLD for ISDN Hold. This indicates that EKTS mode is in use. This mode emulates the Meridian Digital Centrex (MDC) implementation of MADN Hold. No further datafill is necessary. • MREL and MLAMP to provide take down functionality and lamp updates to the MADN group. No further datafill is required. The MREL and MLAMP values are only valid if assigned to MADN SCA groups (including CACH) with bridging. If bridging is removed from the MADN group, or if the group type changes, an error message appears and the tuple change is rejected. MLAMP cannot be assigned to CACH MADN groups due to BRAFS restrictions with this feature. Enter \$ if no option is specified.

MDNGRP (continued)**Field descriptions (Sheet 5 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	AUTO	Y or N	Automatic If the entry in field OPTION is MRF and if HOLD is automatic, enter Y and datafill refinement MRFTRIMER. Otherwise, enter N for manual.
	MRFTIMER	0 to 60	MRF timer If the entry in refinement AUTO is Y, enter the time, in 1-s intervals, that incoming calls ring the members of the MADN group with ring type ABBR assigned in table MDNMEM, before forwarding ringing to the DELAY ring MADN members.

Datafill example

The following example shows sample datafill for table MDNGRP.

If an MADN SCA group with two members is created by tables IBNLINES or KSETLINE, the following entry is automatically added to table MDNGRP.

MAP display example for table MDNGRP

MDNKEY	GRPSIZE	RESULT	OPTLIST
613 722 4396 1 2 CACH SILENCE NULL Y Y 30 N PRIVATE MANUAL \$			

Use the CHF SERVORD command to modify the fields.

Table history
NA008

The following entries are added or changed for NA008:

- modified MDNKEY to include subfield CA
- added MDNTYPE CACH
- added RESULT field refinements CARES and PCA

MDNGRP (continued)

- Added warning information for table control data corruption errors (feature AF6777).
- Added supplementary information; modification of MADN member attributes of CS ISDN terminals with DN sharing feature (AF6782).

BCS36

Added subfields AREACODE, OFCCODE, and STNCODE

Supplementary information

This section provides information on datafilling table MDNGRP for MADN ring forward.

MADN ring forward (MRF)

This feature provides increased flexibility in the ringing options available to SCA and CACH MADN.

The capability is provided for MADN SCA/CACH group appearances to ring on a delayed or abbreviated basis, for a total of four ringing options: always ring, never ring, ring from call termination until MRF activation (abbreviated), or ring after MRF activation (delayed).

The activation of this feature can be automatic or manual.

If the activation is automatic, a time must be datafilled. This is the time that the incoming calls ring the members of the MADN group with ring type ABBR assigned in table MDNMEM before forwarding ringing to the DELAY ring MADN members, unless ringing is forwarded manually by an electronic business set (EBS) user with an MRFM key.

Manual activation provides the capability for the EBS user to manually push the ringing for an incoming call to the appearances of the MADN designated for delayed ringing, by pressing a button on the EBS designated for the MRF Manual (MRFM) feature.

If a MADN group has MRF and Call Forward Don't Answer (CFD) features, the timers for those features must not be set to identical values. If the timers are set to the same value, the operation of the two features can appear erratic to the end users.

For example, if MRF is activated first, then the DELAY ringing members can get a very brief ring splash, truncated by subsequent CFD activation. Alternatively, if CFD is activated first, the DELAY ringing members never receive ringing.

MDNGRP (end)

The EBS Make Set Busy (MSB) feature, when active for a set, blocks any ringing of that EBS. Therefore, if MSB is active on an EBS, no calls terminating on the EBS receive ring alerting regardless of the ring option assigned to any MADN members on the set.

The MRF option cannot be deleted from table MDNGRP until all members have been assigned ring types of ALWAYS or NEVER.

The MRF option can only be added as an option to MADN groups of type SCA and CACH. It is not applicable to MADN groups of the extension bridging (EXB) type, nor to MADN multiple call arrangement (MCA) groups.

The MRF manual activation is supported only for key access, and therefore is not supported for a 500/2500 set even though it may give an appearance of a MADN group that has the MRF feature assigned.

Table MDNGRP will allow modification of MADN group attributes of a circuit switched (CS) ISDN terminal with DN shared CALLTYPE.

Note: For more information about DN CALLTYPE sharing, see subfield OPTION in table HUNTGRP and feature AF6782 in the Feature Description Manual.

MDNMEM

Table name

Multiple Appearance Directory Number Member Table

Functional description

Entries in table MDNMEM are added automatically after multiple appearance directory number (MADN) members are created in table IBNLINES or KSETLINE or using the Service Order System (SERVORD). For further information on SERVORD, refer to the *SERVORD Reference Manual*.

It is recommended that the operating company use SERVORD to make changes to table MDNMEM.

If a system error occurs from data corruption, while processing table control commands with DN call type (DNCT), the following error message will be issued:

ERROR: FAILED TO READ FROM DNCT PROTECTED DATA.

The recommended action is to reissue the command.

If option MADN ring forward (MRF) is assigned to an MADN group in table MDNGRP, the following ring alerting options can be assigned to the individual appearances of the MADN in table MDNMEM:

- **ALWAYS**

The MADN appearance rings from the time the call completes to the MADN group until it is answered or abandoned.

- **NEVER**

Calls completing on the MADN group never cause ring alerting for this appearance of the MADN.

- **ABBReviated**

The MADN appearance rings from the time the call completes on the MADN group until it is answered or abandoned, or until option MRF takes effect either automatically or manually.

- **DELAYed**

The MADN appearance begins ringing when option MRF takes effect on the incoming call.

If Y (yes) is entered into field RING in table IBNLINES or KSETLINE for a MADN member, the ringing type ALWAYS is automatically datafilled in field RING in table MDNMEM.

MDNMEM (continued)

If N (no) is entered into field RING in table IBNLINES or KSETLINE for a MADN member, the ringing type NEVER is automatically datafilled in field RING in table MDNMEM.

Option MRF cannot be deleted in table MDNGRP until all members have been assigned ring types of ALWAYS or NEVER.

Option MRF can also be added to electronic key telephone service (EKTS) users on ISDN functional terminals. This feature is functional as of BCS32. If a new EKTS group is created, all entries are automatically added to table MDMMEM. For an EKTS group with option MRF, the valid ringing values are ALWAYS, NEVER, ABBR, and DELAY.

Feature AF1274 (Secondary MADN Call Forwarding) can be assigned to secondary MADN members of a multiple call arrangement (MCA) or single call arrangement (SCA) MADN group.

Secondary MADN Call Forwarding (CFMDN)

A secondary MADN member with feature CFMDN can activate or deactivate feature Call Forward Universal (CFU), Call Forward Intergroup (CFI), or Call Forwarding Fix (CFF) on the whole MADN group by using feature access code only.

Feature CFMDN can be added to a secondary EKTS user, without the primary user having the CFMDN feature. The secondary user also has control of the activation and cancellation of the feature CFMDN for the secondary MADN.

If the primary member is served by an electronic business set (EBS), the primary set (including all the directory numbers [DN] on the set with Call Forwarding feature) is forwarded.

Feature CFMDN can be added to any secondary MADN member even if the primary member of the group does not have any kind of call forwarding. However the feature cannot be used unless the primary member has one of CFU, CFI, or CFF features.

If a secondary MADN member with feature CFMDN is changed to the primary member of the group, feature CFMDN is automatically deleted.

CFMDN cannot be deleted from a MADN secondary member with a SERVORD DEO command while that member is using call forward programming. CFMDN cannot be deleted from a MADN secondary member with a table control CHA command while that member is using call forward programming.

MDNMEM (continued)

If the Call Forwarding feature is activated by a secondary MADN member, the call forwarding operation is the same as if it was forwarded by the primary member. The primary MADN member set (including all the DNs on the set in the call forward key list) is forwarded.

Ring splash and visual lamp indication of forwarding are provided only to the primary member of the MADN if applicable.

Note: All members of extension bridging (EXB) group can program the Call Forwarding feature even if feature CFMDN is unavailable. Adding the CFMDN feature to a secondary member of an EXB group is not blocked since it already has the capability.

Feature CFMDN only shows up on a QLEN of an EBS if feature CFMDN is assigned to the primary DN key set.

To eliminate duplicate messages sent from the central control complex (CCC) to the extended multiprocessor system (XMS)-based peripheral module (XPM), the order of basic rate interface functional sets (BRIFS) MADN members must be in the same sorted order as Meridian business sets (MBS) MADN members.

For BRIFS MADN call processing, a signaling control protocol (SCP) message is sent for each XPM and also for each ring or no-ring group that refers to all the MADN associate members in the group through MADN message bundling. The central control (CC) sends an SCP message with a list of terminal identifiers that corresponds to all the associate BRIFS MADN members in the group. The XPM unbundles this message and broadcasts the Q.931 messages to the appropriate BRIFS MADN associate members in the group according to the list of terminal identifiers sent by the CC.

For related information, refer to table MDNGRP.

Datafill sequence and implications

The following tables must be datafilled before table MDNMEM.

- IBNLINES
- KSETLINE
- MDNGRP

Table size

The size of table MDNMEM is always equal to the number of MADN members assigned in the switching unit.

MDNMEM (continued)**Datafill**

The following table lists datafill for table MDNMEM.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
MDNKEY		see subfields	<i>Multiple appearance directory number key</i> This field consists of subfields LEN and KEY.
	LEN	see subfields	<i>Line equipment number</i> This field defines the physical location of the equipment that is connected to a specific telephone line. Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. For ISDN lines, field LEN consists of subfield LTID. For non-ISDN lines, field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.
	KEY	0 to 69	<i>Key</i> Enter a key number that is used as a feature key on the set. In the case of 500 or 2500 type sets 0 (zero) is used for key. This field is equal to field KEY in table KSETLINE.
DN		numeric (7 to 15 digits)	<i>Directory number</i> Enter a directory number (DN). This field is equal to field DN in table KSETLINE.
PRIMARY		Y or N	<i>Primary</i> Enter Y (yes) if the multiple appearance directory number (MADN) member is the primary member in the MADN group. Otherwise, enter N (no). This field is equal to field PRIMARY in table IBNLINES or KSETLINE.

MDNMEM (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
RING		ABBR ALWAYS DELAY or NEVER	<i>Ring</i> Enter the type of ringing on the set: • ABBR (abbreviated) • ALWAYS (always) • DELAY (delayed) • NEVER (never)
NAME		alphanumeric (1 to 15 characters or \$)	<i>Name</i> Enter a unique name assigned to the MADN member. Initially this field has a value of \$. Table MDNMEM must be changed by service order CHA in order to associate a name with the MADN member.
OPTION		CFMDN or \$	<i>Option</i> Datafill up to four multiples of options. The only option currently available is CFMDN. Enter CFMDN (Secondary MADN Call Forwarding) if a secondary MADN member of an MCA or SCA MADN group is used to activate or deactivate the Call Forwarding feature. Enter \$ for no options or the end of the option list.

Datafill example

The following example shows sample datafill for table MDNMEM.

MAP display example for table MDNMEM

MEMKEY						DN PRIMARY	RING	NAME
OPTLIS								
HOST	00	1	02	03	5	9670000 (CFMDN)\$	Y ALWAYS	\$

MDNMEM (end)

Table history

NA008

The following entries are added or changed for NA008:

- Added warning information for table control data corruption errors feature AF6777.
- Added supplementary information; modification of MADN member attributes of CS ISDN terminals with DN sharing feature AF6782.

BCS35

The order of BRIF functional members was changed.

Supplementary information

Table MDNMEM will allow modification of MADN member attributes of a circuit switched (CS) ISDN terminal with DN shared CALLTYPE.

Note: For more information about DN CALLTYPE sharing, see subfield OPTION in table HUNTGRP and feature AF6782 in the Feature Description Manual.

MFCACT

Table name

Multifrequency Compelled Signal to Activity Translation Table

Functional description

The logical multifrequency compelled (MFC) activity for each MFC signal appears in table MFCACT. Each tuple defines activities for one phase.

Note: Table MFCACT is protected. The operating company cannot update the table.

Field MFCACT is a vector of pairs of MFC_signal + MFC_activity. The signals and the activities are for the specified phase. An field remains undefined if a signal does not occur.

In field CONTEXT, the value N is for signal conversions that are different for this phase. Each context of this phase must receive a tuple if the value is not N.

For additional information, refer to table MFCPROT.

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table MFCACT.

Table size

The system automatically allocates memory for a maximum of 15 tuples.

Datafill

Datafill for table MFCACT appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
INDX		1 to 15	<i>Index.</i> This field contains a number from 1 to 15 as the index to the tuple. The field PROTINDX in table RGSIGSYS references this field.
PHASE		I, II, A, B, C, D	<i>Protocol phase.</i> This field contains the protocol phase for this tuple.

MFCACT (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
CONTEXT		DATA DIGITS FIRST or N	<i>Protocol context</i> This field contains the protocol context for this tuple. Specified incoming signals can have different meanings when different parts of the protocol receive the signals. The entry in this field allows for specification of this meaning. If the signal conversion is different for this phase, use the value N. Each context of this phase must receive a tuple if the conversion is not different.
MFCACT		alphanumeric (a pair of a maximum of 16 characters each)	<i>Vector pairs of MFC signal and MFC activity.</i> This field contains a mapping between the incoming signals and the activities for a specified phase and context. The first part of the vector element pair is phase together with one of the 15 tones. Examples of tones are I1 and I15. The second part of the vector element pair is the MFC activity. An example is DIGIT1 and ICPOPR. The vector contains a maximum of 15 pairs of MFC_signal and MFC activity. An activity can appear a maximum of one time in any one vector.

Datafill example

Sample datafill for table MFCACT appears in the following example.

MAP example for table MFCACT

INDX	PHASE	CONTEXT	MFCACT
1	1	FIRST	(I1 TERMTEST) (I2 DIGIT2)

MFCPROT

Table name

Multifrequency Compelled Protocol Tuples List Table

Overview

Register signaling system MFC-R2 has several types. The central control (CC) tables provide time-out values and table control support for different types of MFC-R2 signaling systems.

Most of the tables involved in the protocol definition are write-protected. The operating company cannot modify the tables.

Protocol tables

Four tables contain the data required to define a variant of the multifrequency compelled (MFC) protocol. The four tables are MFCACT, ACTMFC, ACTGEN, and MFCPROT. These tables define the connection between MFC signals and logical activities.

Protocol levels

The MFC protocol has four levels:

- Physical tones. Physical tones mean the physical tone pairs. In MFC-R2 each direction contains 15 tone pairs.
- Logical tones. Logical tones are the tone numbers of the MFC type used. These numbers are 1 to 15.
- MFC signals. The MFC signals contain groups of phase and logical tone. The signals normally contain two to four phases.
- MFC activities. The MFC activities are the logical activities of the MFC protocol. Most of the software uses this level to provide flexibility.

Universal tone receiver (UTR) firmware translates physical tones to logical tones. Tone generator read-only memory (ROM) generates physical tones. The system uses tone identification (tone id) (0..63) to access physical tones. Translation progresses from logical tones to the tone ids. The system reports logical tones according to the tone set used.

The logical tone translates to MFC signal translation directly. The system keeps the current phase to maintain the logical tone.

Signal-to-activity translation is different in different MFC types. The translation uses tables that define every MFC signal.

MFCPROT (continued)

The MFC systems use 15-forward and 15-backward signals to communicate information over an R2 trunk. Each of these 15 signals has two frequency groups.

During each phase of a call, each of the 15-forward and 15-backward signals have a different meaning. The type of R2 used for a call determines the meaning of the call. The type of R2 also determines the points in a call where the meaning changes.

The DMS uses four tables to define R2 protocols. The four tables are: MFCPROT, ACTGEN, MFCACT and ACTMFC.

Signals and internal activities map to each other through the use of the R2 tables MFCACT and ACTMFC. These tables contain tuples that define a signal meaning during each phase of a call.

The DMS uses the table ACTGEN to control signal mapping changes. Table ACTGEN can change the call phase, or signal mappings, based on a received signal. Table ACTGEN provides a method to implement most R2 types.

MFC signals

The MFC signaling uses 15 tones in the incoming and outgoing directions. The signaling supports more activities. This condition occurs in phases. Each tone has a different meaning in each phase.

Phases I and II apply to outgoing phases. Phases A, B, C, and D apply to incoming phases. Each direction contains two phases. Phase exchange is part of the protocol. Two phases allow a maximum of 30 MFC signals. Four phases allow a maximum of 60 signals. Phase and tone indicate these MFC signals. The phases and tones appear in the following table.

MFC signals (Sheet 1 of 2)

Signal	Phase and tone
I_SIGNAL	I1, I2, ... I15
II_SIGNAL	II1, II2, ... II15
A_SIGNAL	A1, A2, ... A15
B_SIGNAL	B1, B2, ... B15

MFCPROT (continued)

MFC signals (Sheet 2 of 2)

Signal	Phase and tone
C_SIGNAL	C1, C2, ... C15
D_SIGNAL	D1, D2, ... D15

MFC activities

According to CCITT requirements, each MFC signal has a fixed logical description. The MFC signals can have different descriptions in different countries and in international protocol. To support these descriptions, this feature includes lists of activities in most of the MFC protocols. These lists are phase-oriented, because most of the differences are interphase. These lists do not include some activities of some protocols. You can add these activities.

Outgoing MFC Activities

A description of how to use phases I and II appear in the following tables..

The outgoing phase I activities for the following digits and for domestic and international markets appear in the following table:

- digit1
- digit2
- digit3
- digit4
- digit5
- digit6
- digit7
- digit8
- digit9
- digit0

MFCPROT (continued)

The system can map the I signal to different activities in different stages of the same protocol. For example, activities are different during the collection of digits or data or in the first digit of an international protocol.

Phase I MFC activities

Phase	Explanation
icp opr	Intercept operator access request
toll opr	Toll operator access request
req fault	Request not accepted
maint req	Maintenance equipment request
ecsup req	Half echo suppressor request
end dgts	End of digits and end of identification
disc dgt	International discrimination digit
cci oes	International country code indicator, outgoing echo suppression required
cci nes	International country code indicator, echo suppression not required
cci ies	International country code indicator, incoming echo suppression required
sat	International satellite link
no sat	International no satellite link
ies req	International incoming echo suppressor required
Note: International use includes French, English, German, Russian, and Spanish.	

The outgoing phase II MFC activities, caller category, for CCITT appears in the following table.

Phase II MFC activities (caller category) for CCITT (Sheet 1 of 2)

Phase	Explanation
ord subsc	Normal subscriber
prio subs	Priority subscriber
maint eq	Maintenance equipment

MFCPROT (continued)**Phase II MFC activities (caller category) for CCITT (Sheet 2 of 2)**

Phase	Explanation
operator	Operator
data tran	Data transmit
oper xfer	Operator with forward transfer facility
oper nxfer	Operator without forward transfer facility

The outgoing phase II MFC activities, caller category, for non-CCITT appear in the following table.

Phase II MFC activities (caller category) for non-CCITT (Sheet 1 of 2)

Phase	Explanation
dial phon	Dial telephone
trk opr	Trunk operator
sprio subs	Semi-priority subscriber
dtmf phon	Dual tone multifrequency (DTMF) telephone
coin box	Coin box (unit fee local)
coin fee	Coin box (unit fee local)
pub stat	Public station
test line	Test line desk
test eq	Test equipment
dial pabx	Dial private automatic branch exchange (PABX)
bar msg rt	Barred message rate
dial coin	Coin dial
dtmf coin	DTMF coin dial
inf chg	Information service immediate charge
dtmf pabx	DTMF PABX
prio spm	Priority subscriber with home meter

MFCPROT (continued)**Phase II MFC activities (caller category) for non-CCITT (Sheet 2 of 2)**

Phase	Explanation
multparty	Multiparty line
pabx opr	PABX operator
hotel call	Hotel call
ord spm	Normal subscriber with home meter
icp opr	Intercept service operator

Incoming MFC Activities

Incoming MFC activities use the four phases A, B, C, and D.

The incoming phase II MFC activities, caller category, for CCITT appear in the following table.

Incoming MFC A activities (Sheet 1 of 2)

Activity	Explanation
Next Dig	Send next digit (n + 1)
Prev Dig	Send previous digit (n - 1)
Prev2 Dig	Send n-2 digit
Prev3 Dig	Send n-3 digit
First Dig	Send first digit
Curr Dig	Send current digit (n)
Category	Send caller category
Call Trace	Send caller category or next digit of calling number
Spch Path	Install speech path, charge
B Category	Change to phase B and send caller category
C Category	Change to phase C and send caller category
D Category	Change to phase D and send caller category
Orig DN	Send next calling directory number (DN) digit
C Next Dig	Change to phase C, send next digit

MFCPROT (continued)**Incoming MFC A activities (Sheet 2 of 2)**

Activity	Explanation
Congestion	National congestion
Undefreq	Undefined request (for legal undefined signals)
Cc code	International send country code indicator
Lng dig	International send language digit
Ckt type	International send circuit type
Esup req	International, is echo suppressor required?
Intl cong	International congestion

The logical activities for incoming MFC A activities appear in the following table. The system does not translate these activities to signals. Table ACTGEN uses these activities to define the activity sequence.

Incoming MFC A logical activities

Activity	Explanation
Term req	Executed in international terminating calls
Tran req	Executed in international transit calls
Nat req	Executed in national calls

The activities for incoming MFC B activities appear in the following table.

Incoming MFC B activities (Sheet 1 of 2)

Activity	Explanation
Subs busy	The line of the subscriber is busy.
Idle chrg	Called party idle, charge
Idle nchrg	Called party idle, charge not made
Out of ord	Directory number (DN) out of order
Dn Changed	DN changed

MFCPROT (continued)

Incoming MFC B activities (Sheet 2 of 2)

Activity	Explanation
Num change	Called number changed
Subs icp	The system marks the line of the subscriber for intercept
Subs seiz	The system seizes the line of the subscriber
Unallc num	Unallocated number
Localcong	National congestion
Call Trace	Call trace

The activities for incoming MFC C activities appear in the following table.

Incoming MFC C activities

Activity	Explanation
Next Dig	Send next digit (n + 1)
Prev Dig	Send previous digit (n - 1)
Orig DN	Send next calling directory number (DN) digit
Category	Send caller category
B Category	Change to phase B and send caller category
First Dig	Send first digit
Curr Dig	Send current digit (n)
Spch Path	Install speech path, charge
Localcong	National congestion

The activities for incoming MFC D activities appear in the following table.

MFCPROT (continued)

Incoming MFC D activities

Activity	Explanation
Next Dig	Send next digit (n + 1)
Orig DN	Send next calling directory number (DN) digit
First Dig	Send first digit
Curr Dig	Send current digit (n)
Category	Send caller category
Localcong	National congestion

Functional description

Table MFCPROT defines tuples in MFCACT, ACTMFC and ACTGEN that a specified R2 protocol requires.

How table MFCPROT links tuples that relate to a specified protocol appears in the following figure. The MFCACT and ACTMFC indexes selected depend on the current call phase. The system installs the call phase through table ACTGEN based on the backward activity received.

MFCPROT (continued)

R2 protocol definition tables

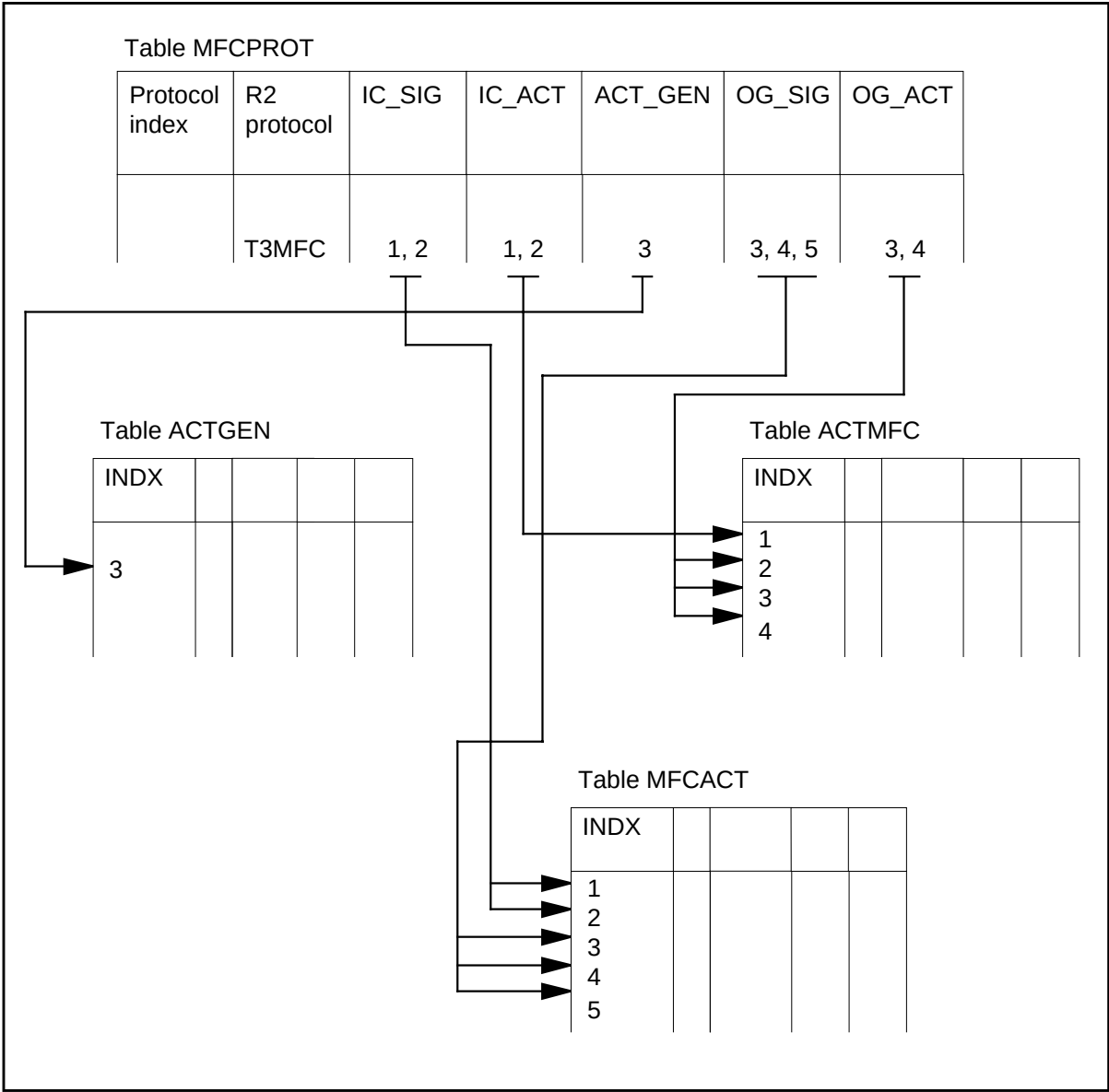


Table MFCPROT completes the definition of MFC protocols. The system builds a protocol from a set of tuples found in tables MFCACT, ACTMFC, and MFCGEN. The system includes a list of other protocols that can connect end-to-end.

Note: This table is protected. The operating company cannot update this table.

MFCPROT (continued)**Datafill sequence and meaning**

You do not have to enter data in other tables before table MFCPROT.

Table size

The system allocates memory for a maximum of 10 tuples.

Datafill

Datafill for table MFCPROT appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
INDX		1 to 10	<i>Index.</i> This field contains the index to the tuple. Field PROTINDX in table RGSIGSYS refers to this field.
PROTOCOL		INTLMFC NIL R2MFC T3MFC	<i>Multifrequency compelled protocol type.</i> This field contains one of the protocol types. The entry INTLMFC specifies the CCITT international R2 variant signaling system. The entry R2MFC specifies the Turkish national R2 variant signaling system. The entry T3MFC specifies the Australian national R2 variant signaling system.
ICSIG		vector of table MFCACT	<i>Signal mapping for incoming calls.</i> This field contains a vector with a maximum of 12 indexes of the tuples in table MFCACT. The tuples define the mapping of incoming signals to activities. Use this field for incoming calls. If you require less than 12 indexes, end the list with a dollar sign (\$).
ICACT		vector of table ACTMFC	<i>Activity mapping for incoming calls.</i> This field contains a vector with a maximum of four indexes of the tuples in table ACTMFC. The indexes define the mapping of incoming activities to signals. Incoming calls use this mapping. If you require less than four indexes, end the list with a dollar sign (\$).
ACTGEN		1 to 3	<i>Activity generator.</i> This field contains the index to table ACTGEN. The user can convert an incoming call and an activity to two activities.

MFCPROT (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
OGSIG		vector of table MFCACT	<i>Signal mapping for outgoing calls.</i> This field contains a vector with a maximum of six indexes of the tuples in table MFCACT. The indexes define the mapping of incoming signals to activities. Outgoing calls use this mapping. If you require less than six indexes, end the list with a dollar sign (\$).
OGACT		vector of table ACTMFC	<i>Activity mapping for outgoing calls.</i> This field contains a vector with a maximum of two indexes of the tuples in table ACTMFC. The indexes define the mapping of incoming activities to signals. Outgoing calls use this mapping. If you require less than two indexes, end the list with a dollar sign (\$).
ENDCON		vector of table MFCPROT	<i>End-to-end connection protocols</i> This field contains a vector with a maximum of ten indexes of the tuples in table MFCPROT. The indexes indicate the protocols that appear the same at each end and can work end-to-end. If the protocol can work end-to-end with the protocol, the system updates this field. The updated field includes the table index of the tuple. If the protocol can work end-to-end with another protocol, the system includes the table index of this other protocol. The system updates the field ENDCON of the other protocol tuple that corresponds. If you require less than ten indexes, end the list with a dollar sign (\$).

Datafill example

Sample datafill for table MFCPROT appears in the following example.

MFCPROT (end)**MAP example for table MFCPROT**

INDX	PROTOCOL	ICSIG	ICACT	ACTGEN	OGSIG
OGACT	ENDCON				
3	T3MFC	(7 8 9 10)\$	(3 4 5 6) 2		(1 2 3 11 6
5)\$					
(1 2)\$	\$				

MFCTRTMT

Table name

MFC Activity to Extended Treatment Translation Table

Functional description

Table MFCTRTMT provides a translation from a multi-frequency compelled (MFC) activity to an extended treatment. Outgoing R2 MFC signaling trunks require this table.

The default value for tuples in table MFCTRTMT is RODR (reorder).

For related information, refer to table TRTMTMFC.

Datafill sequence and meaning

You do not have to enter data in other tables before you enter data in table MFCTRTMT.

Table size

The table has a maximum of 64 tuples allocated.

MFCTRTMT (end)**Datafill**

Datafill for table MFCTRTMT appears in the following table.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
ACTIVITY		CONFUSION CONGE- STION DN- CHANGED INTLCONG LOCAL- CONG NILACTNUM- CHANGE OUTOFORD SUBSBUSY SUBSICP SUBSSEIZ TIMEOUT UNALLC- NVM	<i>Status activity.</i> Enter the activity that corresponds to a backwards signal.
TREATMNT		alphanumeric (4 characters)	<i>Extended treatment.</i> Enter an extended treatment for the system to apply to the backwards signal. Refer to table TMTCNTL, subtable TREAT, for the list of treatments.

Datafill example

Sample datafill for table MFCTRTMT appears in the following example.

Example of MAP for table MFCTRTMT

ACTIVITY	TREATMENT
SUBSBUSY	BUSY

MMCONF

Table name

IBN Meet-Me Conference Table

Functional description

Table MMCONF is required for a DMS with the MDC Meet-Me Conference features. Customer groups are assigned the Meet-Me Conference features through table control. All 4,096 customer groups can be assigned the Meet-Me Conference functionality.

To arrange a meet-me conference, a station calls the attendant to receive a directory number for a conference bridge if one has not been assigned. The originator must transmit the directory number (DN) to the future conference members before the date and time of the meet-me conference. At the specified time, all potential conferees dial the DN and meet.

As a conferee is added, all conferees, excluding the new arrival on the bridge, receive a confirmation tone indicating a party has been added. This allows any conferee to check the roll call to ensure only desired parties are involved in the conference call and to maintain an orderly list of participants.

As conferees leave the bridge, a confirmation tone is received by all conferees announcing a change in the number of participants.

Note: Trunks that do not return disconnect supervision are excluded.

For each MDC customer group, up to 16 DNs can be assigned for meet-me conferences. All these numbers can have conferences active simultaneously, assuming sufficient six-port conference circuits are provisioned in the DMS. Associated with each meet-me DN is a line screening code (LSC) flag number and a direct inward dial (DID) flag specifying whether extragroup stations can join the conference.

When the first conferee dials the meet-me DN, the station is checked for eligibility against the conference LSC and DID flag. Furthermore, the first conferee must provide disconnect supervision. The ACALLOW flag decides whether an attendant console can join a meet-me conference.

If the station is not eligible to join the conference, it receives no acknowledgement (NACK) treatment. Otherwise a six-port bridge is requested. If no bridge is available, the station receives no service circuit (NOSC) treatment.

MMCONF (continued)

If all the conference circuits allocated for this customer group are in use, the station receives customer group resource overflow (CGRO) treatment. If a bridge is obtained, the station is connected to one port of the bridge and hears ring tone until it abandons the call or a second party dials into the conference.

Subsequent parties dialing the conference are checked against the LSC and DID flag and are connected to the bridge if they are eligible. Otherwise, they are given NACK treatment. When the second party joins, the ringing to the first party stops, and speech is established between the two parties. As additional parties join the conference, one second of ringing is applied to the conference bridge to announce a party's arrival; then speech is established between the existing conferees and the newcomer.

If all bridge ports are occupied in the conference, a station dialing into the conference receives busy treatment.

The LSC entered in this table restricts parties dialing the meet-me conference DN. The party must have a compatible LSC as defined in table LSCFLAGS.

To allow for seven or more parties, a meet-me conference requires more than one conference bridge. The first bridge allocated to a conference is the primary bridge. Once more than six conferees have been connected to the conference, a conferee is transferred from the primary bridge to the new bridge which is connected to the primary bridge by the port used by the transferred conferee. This bridge, connecting to the primary bridge, is referred to as a secondary bridge.

At any time during the conference, any conferee can lock the conference by flashing or pressing the 3WC (three-way calling), CT (call transfer), or CONF (conference) keys on a Meridian business set (MBS). This prevents parties from dialing into the conference and gives them busy treatment. All conferees hear a locking confirmation tone.

After the conference is locked, subsequent flashes recall the attendant or unlock the conference if no consoles are assigned to the customer group to which the conference belongs. When the conference becomes unlocked, parties can again dial into the conference. If the attendant is recalled, the attendant can add conferees to the conference.

Subsequent flashes by conferees are handled as follows:

- If the customer group datafilled for the meet-me conference has consoles, an attendant is called. The attendant can then add conferees. Stations dialing into the conference still receive busy treatment. From this point,

MMCONF (continued)

the call is handled as if the attendant established the initial conference. If no attendants are available, the flash is ignored.

Note: Field CONSOLES in table CUSTENG determines if the customer group can have consoles.

- If the customer group datafilled for the meet-me conference cannot have consoles, the meet-me conference is unlocked. All conferees hear unlocking confirmation tone. If a subsequent flash occurs, the conference becomes locked and the conferees hear locking confirmation tone.

Once within a meet-me conference, normal flash features are disabled. If the conference is unlocked, the first flash by any DMS-served conferee is the signal to lock the conference. Within a locked conference, a flash by any party is an attendant recall signal. If the customer group of the meet-me conference DN cannot have attendant consoles, the flash by any conferee during a locked conference unlocks the conference.

Note: An external conferee coming in over a trunk is not able to use a flash to lock or unlock a conference due to limitations imposed by the trunk type. (It is possible for an external conferee to lock or unlock a conference regardless of whether they are connected by a trunk or a line. Most trunks view a flash as a disconnect.)

When a station dials a meet-me conference directory number, the DMS switch takes one of the following actions:

- If the maximum number of conferees has been reached, the station receives busy treatment.
- If there is a port available on the primary bridge, the station is connected to the port.
- If there is no free port left on the primary bridge, a check is made to see whether any secondary bridge is connected with the primary bridge. If so, a search is made to locate a free port on the secondary bridge. The first available port is used to connect the station to the conference.
- If there is no port available from the conference configuration, a check is made to see whether at least one port on the primary bridge is not connected to a secondary bridge. If so, a request for a six-port conference bridge is made. If allocated, the system removes one of the conferees from the primary bridge, connects the port with a port on the new bridge, and adds the removed conferee and the new conferee onto the new bridge.

MMCONF (continued)

In all cases, a 1-s ring (440 Hz + 480 Hz) is given to the conference when a new conferee is connected to the conference.

The system tracks the number of conferees in the conference. When a conferee disconnects from a secondary bridge, a check is made to see whether this was the last conferee on that bridge. If so, the secondary bridge is disconnected from the primary bridge and returned to the idle pool. When the number of conferees decreases to one, the conference call is taken down and all resources are returned to the idle pool.

Four confirmation tones are used in a meet-me conference. The conferee confirmation tone is 1 s of ring (440 Hz + 480 Hz). The conferee disconnect confirmation tone is 400 ms of dial tone (350 Hz + 440 Hz). The locking confirmation tone is 500 ms of high tone (480 Hz). The unlocking confirmation tone is three cycles of 100 ms on and 100 ms off, followed by 400 ms on, of high tone (480 Hz).

DMS supports a pool of conference bridges used for meet-me conference, attendant conference and future features using the six-port conference bridge.

When a conferee disconnects from the bridge, the DMS must check for the presence of DMS stations or trunks with disconnect supervision on the bridge. If none of the conferees is a DMS station or trunk with disconnect supervision, the conference bridge or bridges in use is returned to the idle pool.

Note that a two-party conference consisting of a plain ordinary telephone service (POTS) line and an IBN trunk that does not provide disconnect supervision constitutes a valid conference.

If the first conferee is a trunk, the trunk type must be one which returns disconnect supervision (it cannot be a 5X25 loop). If such is the case, the caller receives reorder treatment.

When a DMS station is connected to a conference bridge, the following features are cancelled for the duration of the call:

- Call Waiting
- Three-Way Calling
- Call Transfer
- Attendant Camp-on
- Busy Verify of Lines and Trunks connected to bridge

MMCONF (continued)

Feature Call Waiting is not cancelled if a conferee has an electronic telephone set.

There is no interaction between Direct Inward System Access (DISA) and meet-me conference. If the DID flag is set to N (no) for a meet-me conference number, an extragroup station is not allowed to join the meet-me conference even if it dials a DISA DN first.

If Station Message Detail Recording (SMDR) applies to any of the legs of the conference, the feature is identified in the SMDR record by the terminating feature code (3) for meet-me conference.

If an attendant dials the meet-me conference number, the call is routed to treatment NACK.

If an attempt is made to set up a conference call when the number of six-port conference circuits in use by the customer group is equal to the value of option CONF6C in table CUSTENG, or the number of six-port conference circuits in use by the customer group is less than the value of option CONF6C in table CUSTENG, and no six-port conference circuits are available, the call is routed to treatment CGRO.

Datafill sequence and implications

The following tables must be datafilled before table MMCONF:

- CUSTHEAD
- HNPACONT
- IBNXLA
- NARDATA

Note: After tuples are added in table MMCONF, the DN information is automatically datafilled in table DNINV, not in table DNROUTE.

Table size

Memory is automatically allocated for sixteen conference numbers for each customer group.

MMCONF (continued)**Datafill**

The following table lists datafill for table MMCONF.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
LKEY		see subfields	<i>Line key</i> This field consists of subfields CUSTNAME and CONF.
	CUSTNAME	alphanumeric (1 to 16 characters)	<i>Customer name</i> Enter the name assigned to the customer group.
	CONF	0 to 15	<i>Conference number</i> Enter the number assigned to the meet-me conference directory number.
SNPA		numeric (0 to 9)	<i>Serving number plan area</i> Enter the three-digit serving numbering plan area (NPA) of the meet-me conference directory number. Any entry outside of this range is invalid..
NNX		numeric (0 to 9)	<i>NNX code</i> Enter the three-digit NNX code of the meet-me conference DN. Any entry outside of this range is invalid.
DEFGDIGS		0 to 9 (4 digits)	<i>DEFG digits</i> Enter the four DEFG digits of the meet-me conference DN. Any entry outside the range indicated for this field is invalid.
LSCOMB		0 to 255	<i>Line screening code flag number</i> Enter the number assigned to the meet-me conference DN.
DID		Y or N	<i>Direct inward dial</i> Enter Y (yes) if any lines and incoming trunk that passes the line screening code (LSC) check are allowed to dial the meet-me conference DN. Enter N (no) to specify that only the lines and incoming trunks within the same customer group family as the meet-me conference DN are allowed to dial the meet-me conference DN.

MMCONF (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
DIDORIG		Y or N	<i>Direct inward dial origination</i> This field allows the operating company to decide if extragroup lines can initiate a meet-me conference or if initiation is restricted to intragroup lines. Enter Y to specify that extragroup lines can initiate a meet-me conference. Enter N to specify that all conferees must be intragroup. If field DID and field DIDORIG are both datafilled Y, all conferees can be extragroup and no special checks are needed when a conferee releases. If field DID is set to Y and field DIDORIG is set to N, at least one conferee must belong to the same customer group family as the meet-me conference DN. When any conferee releases, a check is made to ensure at least one of the remaining conferees is intragroup.
ACALLOW		Y or N	<i>A call allowed</i> Enter ACALLOW (a call allowed) to allow an attendant to join/transfer calls to a meet-me conference.
SIZE		0 to 150	<i>Size</i> Enter the number of callers allowed into the conference call. A conference size of 6 or 30 is available for a standard conference type. See field CONFTYPE, entry STD.

MMCONF (continued)**Field descriptions (Sheet 3 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
CONFTYPE		CNF6ADDON CODEADDON CODEONLY FLASHONLY or STD	<i>Conference type</i> Enter the conference control type. Enter CNF6ADDON if a flash gives the conferee SDT. The conferee then can do everything that can be done with CONFTYPE of CODEONLY. Also, if the conferee has the flexible station conference feature, the conferee can add another party directly. This conference type makes the interface look like CODEONLY for lines without the conference feature and CODEADDON for lines with the conference feature. This gives the operating company a way to ensure a meet-me conference is not used as a shared conference feature. The entry in field SIZE is independent of the SUPERCONF option in table CUSTHEAD. The size can be set to any value up to 150. Enter CODEADDON if the entry in field SIZE is independent of the SUPERCONF option in table CUSTHEAD. The size can be set to any value up to 150.
CONFTYPE (continued)			Enter CODEONLY if a flash gives the conferee SDT. The conferee then can dial the lock code, unlock code, or the attendant. If any other code is dialed, the conferee who flashed is given 5 s of reorder tone and returned to the conference. If the conferee dials the attendant, the attendant can connect the conferee with another station and the conferee can add the party into the conference. The attendant is only reached using a TRSEL of ATT in table IBNXL. If the call is routed any other way, the conferee receives five seconds of reorder tone and is returned to the bridge. The entry for field SIZE is independent of the SUPERCONF option in table CUSTHEAD. The size can be set to any value up to 150. Enter FLASHONLY if a flash toggles the conference state. If the conference is locked, flashing unlocks it, and vice versa. The entry for field SIZE does not depend on SUPERCONF option in table CUSTHEAD. The size can be set to any value up to 150.

MMCONF (continued)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
CONFTYPE (continued)			Enter STD (standard) if the conferee can lock the bridge by flashing. If a conferee flashes again, two events can happen. If the customer group of the meet-me number is datafilled to have attendant consoles, the call changes to an attendant console conference and the party that flashed is put on the attendant queue. If the customer group of the meet-me number is not datafilled to have attendant consoles, the conference is unlocked. The conferees can continue to alternate between lock and unlock. The maximum number of conferees is six, unless the customer group has the super conference (SUPERCONF) option in table CUSTHEAD, in which case the maximum number is 30.
OPTIONS (BCS36-)			<i>Options</i> This field consists of subfield MMOPTNS.
	MMOPTNS		<i>Meet-me conference option</i> Enter NARS (network access registers) to allow NAR access for calls terminating to a meet-me conference and datafill refinement NARNAME.
	NARNAME		<i>Network access registers name</i> Enter the name of the NAR that a call must have access through to continue. The NAR name must be datafilled in table NARDATA.

Datafill example

The following example shows sample datafill for table MMCONF.

The input data is for meet-me conference DN 613 722 4597 which is assigned to conference number 0 (zero) of customer group COMKODAK.

The meet-me conference DN is assigned line screening code flag number 0 (zero) and any line and incoming trunk which passes the line screening code (LSC) check are allowed to dial the meet-me conference DN.

The first conferee dialing into the conference can belong to a customer group family other than the one to which the meet-me DN belongs.

MMCONF (continued)

The maximum number of conferees is 30, and the conference control is CODEADDON.

The NAR is accessed through NARGRP1.

MAP display example for table MMCONF

LKEY	SNPA	NNX	DEFGDIGS	LSCOMB	DID	DIDORIG	ACALLOW	SIZE
CONFTYPE				OPTIONS				
COMKODAK	0	613	722	4597	0	Y	N	Y 30
CODEADDON				(NARS NARGRP1)\$				

Table history**NA009**

The Attendant Console Enhancements feature AF7263 in NA009 added the field ACALLOW to table MMCONF. This field allows an attendant to join/transfer calls to a meet-me conference.

NA005

The following changes were to table MMCONF:

- Statement in the functional description was added regarding the Meet-Me Conference Enhancement feature, AF6110, which removes the restriction on the number of customer groups that can be assigned Meet-Me Conference functionality.
- Note added to section "Datafill sequence and implications" stating that DN information in table MMCONF is automatically datafilled in table DNINV.

BCS36

Datafill sequence was added.

Field OPTIONS, subfield MMOPTNS, and refinement NARNAME were added.

Supplementary information

This section provides information on dump and restore procedures when datafilling table MMCONF.

MMCONF (end)

Dump and restore

A reformat is required for the new NAR option.

MNCKTPAK

Table name

Management Network Circuit Pack (MNCKTPAK)

Functional description

Table MNCKTPAK is one of seven DMS-Spectrum Peripheral Module (SPM) configuration tables. In this table, each tuple identifies 1 of 15 circuit packs on a shelf. The data maintained in this table includes the circuit pack type, product engineering code (PEC), load name, and slot number.

Table MNCKTPAK is also used for provisioning IW SPMs but not MG 4000s. MG 4000s are provisioned using the Succession Network Manager (SNM) interface.

Datafill sequence and implications

Datafill tables in the following order:

1. table PMLOADS

Note: Table PMLOADS specifies the location of a particular load file. Datafill PMLOADS only once. There is no need to datafill PMLOADS for each SPM added to the system unless a new load file entry has to be added to table PMLOADS.

2. table MNPRTGRP
3. table MNNODE
4. table MNSHELF
5. table MNCKTPAK

Note: Table TRKMEM is datafilled after table MNCKTPAK when the office is configured with SPMs with ISUP or per-trunk signaling (PTS) trunks.

6. table MNLINK

MNCKTPAK (continued)

7. table MNHSCARR
8. table MNPRIIID

Note: Table MNPRIIID is datafilled only when configuring an office with SPMs with PRI trunks.

ATTENTION

Some resource modules mentioned in the following discussion do not apply to all markets.

If the protection group specified by the OC3, DSP, ATM, DLC, or VSP group identifier has not been added to table MNPRTGRP, one of the following messages display:

Can not find the corresponding OC3_GRP in table MNPRTGRP

Can not find the corresponding DSP_GRP in table MNPRTGRP

Can not find the corresponding VSP_GRP in table MNPRTGRP

If the shelf specified by SHELFID has not been added to table MNSHELF, the following message displays:

Can not find the shelf MNPRTGRP

If the load specified by field LOAD has not been added to table PMLOADS, one of these messages display:

Can not load file xxxxx

Please datafill load file in table PMLOADS first

Table size

The maximum number of tuples in the table is 1,662.

MNCKTPAK (continued)**Field descriptions**

The following table describes field names, subfield names, and valid data ranges for table MNCKTPAK.

Field	Subfield or refinement	Entry	Explanation and action
CPKKEY		See subfields	CIRCUIT PACK KEY. The subfields are NODETYPE, NODEID, SHELFID, and SLOTNUM.
	NODETYPE	SPM	NODE TYPE. Enter SPM.
	NODEID	0-63	NODE IDENTIFIER. Enter the SPM node identifier. The default is 0.
	SHELFID	0-1	SHELF IDENTIFIER. Enter the shelf identifier. The default is 0.
	SLOTNUM	1-14	SLOT NUMBER. Enter the slot number of the circuit pack. The default is 1. Note: Slots 7 and 8 on shelf 0 are used for CEM circuit packs. Slots 9 and 10 on shelf 0 are used for OC-3 circuit packs.
CPKINFO		See subfields	CIRCUIT PACK INFORMATION. This is a generic area that is refined for each circuit pack type.
	CPKTYPE	CEM, OC3, DSP, VSP, ATM, DLC	CIRCUIT PACK TYPE. Enter the circuit pack type, then datafill the refinements.

MNCKTPAK (continued)**CPKTYPE = CEM**

When CPKTYPE equals CEM (common equipment module), the datafill is as shown in the following table.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
CPKTYPE		CEM	COMMON EQUIPMENT MODULE. The subfields are UNITNO and ALARMCTRL.
	UNITNO	0-1	UNIT NUMBER. Enter the CEM unit number. There are a maximum of two CEMs per SPM. Unit number 0 is assigned to the CEM residing on shelf 0 slot 7. Unit number 1 is assigned to the CEM residing on shelf 0 slot 8. The default is 0.
	ALRMCTRL	See subfields	ALARM CONTROL. The field is a vector of up to 10 entries. Each entry in the vector controls a particular alarm for the CEM circuit pack. To accept the system defaults, enter \$. For each entry, the subfields are ALARM and ATTR.
	ALARM	SYSB, MANB, ISTB, SYSBNA, MANBNA, HOLDOVR, HLDOVR24, VCXO70, VCXO90, CLKOOS	ALARM NAME. The alarms are described as follows: SYSB (system busy) The alarm generates when the CEM is in system busy state. The default alarm severity is CR. The default action is RPT. MANB (manual busy) The alarm generates when the CEM is in manual busy state. The default alarm severity is MJ. The default action is RPT. ISTB (in-service-trouble) The alarm generates when the CEM is in-service and it is experiencing non-service-affecting faults. The default alarm severity is MN. The default action is RPT.

MNCKTPAK (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
			SYSBNA (system busy and not accessible) The alarm generates when the CEM is in SYSB state and a network error (for example, ENET or MS) has caused it to be isolated. The default alarm severity is CR. The default action is RPT. MANBNA (manual busy and not accessible) The alarm generates when the CEM is in MANB state and a network error (for example, ENET or MS) has caused it to be isolated. The default alarm severity is MJ. The default action is RPT. HLDOVR (hold-over) The alarm generates when synchronization circuitry loses all its available timing references and goes into hold-over state. The default alarm severity is MJ. The default action is RPT. HLDOVR24 (hold-over-24) The alarm generates when synchronization circuitry has remained in hold-over state for more than 24 hours. The default alarm severity is MJ. The default action is RPT. VCXO70 (voltage-controlled-oscillator 70% threshold crossed) The alarm generates when the voltage controller must exceed 70% threshold of its dynamically adjustable range in order to keep the CEM synchronized to a timing reference. This is an indication that the circuit pack should be replaced. The default alarm severity is MN. The default action is RPT. VCXO90 (voltage-controlled-crystal-oscillator 90% threshold crossed) The alarm generates when the voltage controller must exceed 90% threshold of its dynamically adjustable range in order to keep the CEM synchronized to a timing reference. This is an indication that the circuit pack should be replaced; otherwise, a synchronization failure may occur. The default alarm severity is MJ. The default action is RPT.

MNCKTPAK (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
PEC			CLKOOS (clock out-of-specification) The alarm generates when the synchronization circuitry cannot meet standard performance specifications for its applications. Typically, this happens when the message switch (MS) has lost its synchronization or no adequate SONET (synchronous optical network) synchronization reference is available. The default alarm severity is MJ. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTE. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	SEVERITY. Enter one of the following alarm severities: • NA (no alarm severity) • MN (minor) • MJ (major) • CR (critical)
	ACTION	RPT, NRPT	ACTION. Enter one of the following actions: • RPT (reportable) • NRPT (no reportable)
		NTLX63AA, NTLX82AA, NTLX82BA	PRODUCT ENGINEERING CODE. This field indicates the product engineering code (PEC) of the circuit pack. Select an entry as follows: • NTLX63AA for CEM circuit packs • NTLX82AA or NTLX82BA for enhanced CEM circuit packs

MNCKTPAK (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
RELEASE		01-99 or 01-ZZ	RELEASE. This field indicates the release of the circuit pack. The default is 01. Select an entry as follows: • For a Nortel product, valid values include 01 to 99. • For a non-Nortel Networks (third-party vendor) product, valid values include 01 to ZZ.
LOAD		up to 8 alphanumeric characters	This field indicates the default software load for the circuit pack. The default load name entry must be added to table PMLOADS first; otherwise, messages "Can not find load file xxxxx" and "Please datafill load file in table PMLOADS first" display.

MNCKTPAK (continued)**CPKTYPE = OC3****ATTENTION**

In the case of an SPM, a circuit pack is datafilled as a sync source in table SYNCLK. Because this circuit pack is datafilled through table MNCKTPAK, a dependency exists between table SYNCLK and table MNCKTPAK. A circuit pack cannot be deleted from table MNCKTPAK if it is in use by table SYNCLK. If an attempt is made to delete the tuple in table MNCKTPAK, the deletion is blocked and the following message displays: "This circuit pack is specified as clock sync source in SYNCLK."

If CPKTYPE equals OC3 (optical carrier 3), the datafill is as shown in the following table.

(Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CPKTYPE		OC3	OPTICAL CARRIER 3. The subfields are UNITNO, OC3GRPID, WKRSRPR, and ALARMCTRL.
	UNITNO	0-1	UNIT NUMBER. Enter the OC-3 unit number. There is a maximum of two OC-3s per SPM. Assign unit number 0 to the OC-3 residing on shelf 0, slot 9. Assign unit number 1 to the OC-3 residing on shelf 0, slot 10.
	OC3GRPID	1-28	OC3 GROUP IDENTIFIER. Enter the OC-3 protection group identifier in table MNPRTGRP. Note: An OC3_GRP protection group must be added to table MNPRTGRP before datafilling the OC-3 circuit pack. If not, the message "Can not find the corresponding OC3_GRP in table MNPRTGRP" displays. The two OC-3s must belong to the same protection group.

MNCKTPAK (continued)

(Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	WRKSPR	WORKING, SPARE	WORKING, SPARE. Enter the OC-3 protection role designation as follows: - WORKING indicates the circuit pack is designated to provide service. - SPARE indicates the circuit pack is designated to standby and take over the service if the WORKING circuit pack fails. Note: There is a maximum of two OC-3s per SPM. Datafill one OC-3 as WORKING and datafill the other one as SPARE.
	ALRMCTRL	See subfields	ALARM CONTROL INFORMATION. The field is a vector of up to 4 entries. Each entry in the vector controls a particular alarm for the OC-3 circuit pack. To accept the default values, enter \$. For each entry, the subfields are ALARM and ATTR.
	ALARM	SYSB, MANB, ISTB, PROTFAIL	ALARM TYPE. Enter one of the following alarm types: - SYSB (system busy) The alarm generates when the OC-3 is in system busy state. The default alarm severity is CR. The default action is RPT. - MANB (manual busy) The alarm generates when the OC-3 is in manual busy state. The default alarm severity is MJ. The default action is RPT. - ISTB (in-service trouble) The alarm generates when the OC-3 is in service and is experience non-service-affecting faults. The default alarm severity is MN. The default action is RPT. - PROTFAIL (protection failure) The alarm generates when protection switching fails. The default alarm severity is NA. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTE. The subfields are SEVERITY and ACTION.

MNCKTPAK (continued)

(Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
PEC	SEVERITY	NA, MN, CR, MJ	SEVERITY. Enter one of the following alarm severities: • NA (no alarm severity) • MN (minor) • CR (critical) • MJ (major)
	ACTION	RPT, NRPT	ACTION. Enter one of the following actions: • RPT (reportable) • NRPT (no reportable)
		NTLX71AA, NTLX71BA	PRODUCT ENGINEERING CODE. This field indicates the product engineering code (PEC) of the circuit pack. Select an entry as follows: • NTLX71AA for OC-3 circuit pack • NTLX71BA for OC-3 circuit packs bearing the PEC code suffix "BA."
RELEASE		01-99 or 01-ZZ	RELEASE. This field indicates the release of the circuit pack. The default is 01. Select an entry as follows: • For a Nortel product, valid values include 01 to 99. • For a non-Nortel (third-party vendor) product, valid values include 01 to ZZ.
LOAD		up to 8 alphanumeric characters	This field indicates the default software load for the circuit pack. The default load name entry must be added to table PMLOADS first; otherwise, messages "Can not find load file <xxxxxx>" and "Please datafill load file in table PMLOADS first" display.

MNCKTPAK (continued)**CPKTYPE = DSP**

If CPKTYPE equals DSP (digital signal processor), the datafill is as shown in the following table.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
CPKTYPE		DSP	DIGITAL SIGNAL PROCESSOR. The subfields are UNITNO, DSPGRPID, and RSRINFO.
	UNITNO	0-27	UNIT NUMBER. Enter the DSP unit number. The default is 0.
	DSPGRPID	1-28	DSP GROUP IDENTIFIER. Enter the corresponding DSP_GRP protection group in table MNPRTGRP. The DSP_GRP protection group must be added to table MNPRTGRP before datafilling the DSP circuit pack; otherwise, message "Can not find the corresponding DSP_GRP in table MNPRTGRP" displays. Typically, the DSP circuit packs on the SPM are partitioned into different protection groups. Within each protection group, some are designated as WORKING to provide service, and others are designated as SPARE to standby. The default is 1.
	RSRINFO	See subfields	RSRINFO indicates the type of the resource and the number of the resource to be provided by the DSP circuit pack. Circuit packs can be configured as spares or working devices. Each working entry consists of a vector of up to six multiples of subfields RSRTYPE and NUM.
	WRKSPR	SPARE or WORKING	DSP RESOURCE CONFIGURATION. This field is refined based on whether the DSP is designated as SPARE or WORKING. The default value is WORKING. If the entry is WORKING, datafill refinements RSRTYPE and NUM.

MNCKTPAK (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RSRTYPE	COT, DTMF, TONESYN, ABBIT, MF, UKTONE, GERTONE, FRATONE, HOLTONE, BELTONE, BRATONE, ITATONE, SPATONE	RESOURCE TYPE. This field specifies the SPM service resources that require threshold control. Valid resources are • COT (continuity test resource) • DTMF (dual tone multifrequency receiver resource) • TONESYN (tone synthesizer resource) • ABBIT (A- and B-bit signaling resource) Note: See "Supplementary information" for more detail about changing or deleting a tuple. • MF (multifrequency signaling resource) • UKTONE (UK tone synthesizer resource) • GERTONE (German tone synthesizer resource) • FRATONE (French tone synthesizer resource) • HOLTONE (Holland tone synthesizer resource) • BELTONE (Belgian tone synthesizer resource) • BRATONE (Brazilian tone synthesizer resource) • ITATONE (Italian tone synthesizer resource) • SPATONE (Spanish tone synthesizer resource) Note: Only one type of tone synthesizer resource is to be datafilled on all RMs on a given SPM; that is, only one type per node is allowable.

MNCKTPAK (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	NUM	0 to 736(0 to 28 for ABBIT)	NUMBER OF RESOURCES. Enter the total number of resources datafilled on the DSP circuit pack. Note: If field RSRTYPE is datafilled with ABBIT, the range for field NUM is 0 to 28.
	ALRMCTRL	See subfields	ALARM CONTROL INFORMATION. To accept the system defaults, enter \$. The field is a vector of up to 4 entries. Each entry in the vector controls a particular alarm for the DSP circuit pack. For each entry, the subfields are ALARM and ATTR.
	ALARM	SYSB, MANB, ISTB, PROTFAIL	ALARM NAME. Enter one of the following alarms: • SYSB (system busy) The alarm generates when the DSP is in system busy state. The default alarm severity is CR. The default action is RPT. • MANB (manual busy) The alarm generates when the DSP is in manual busy state. The default alarm severity is MJ. The default action is RPT. • ISTB (in-service trouble) The alarm generates when the DSP is in service and is experience non-service-affecting faults. The default alarm severity is MN. The default action is RPT. • PROTFAIL (protection failure) The alarm generates when protection switching fails. The default alarm severity is NA. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTE. The subfields are SEVERITY and ACTION.

MNCKTPAK (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
PEC	SEVERITY	NA, MN, MJ, CR	SEVERITY. This subfield defines the relative importance of an alarm. Valid values are • NA (no alarm severity) • CR (critical) • MJ (major) • MN (minor)
	ACTION	RPT, NRPT	ACTION. Enter one of the following actions: • RPT (reportable) • NRPT (no reportable)
		NTLX65AA, NTLX65BA	PRODUCT ENGINEERING CODE. This field indicates the product engineering code (PEC) of the circuit pack. Select an entry as follows: • NTLX65AA for DSP circuit pack (the default) • NTLX65BA for DSP circuit packs bearing the PEC code suffix "BA."
RELEASE		01-99, 01-ZZ	RELEASE. This field indicates the release of the circuit pack. The default is 01. Select an entry as follows: • For a Nortel product, valid values include 01 to 99. • For a non-Nortel (third-party vendor) product, valid values include 01 to ZZ.
LOAD		up to 8 alphanumeric characters	This field indicates the default software load for the circuit pack. The default load name entry must be added to table PMLOADS first; otherwise, messages "Can not find load file <xxxxxx>" and "Please datafill load file in table PMLOADS first" display.

MNCKTPAK (continued)**CPKTYPE = VSP**

If CPKTYPE equals VSP (voice services processor), the datafill is as shown in the following table.

(Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
CPKTYPE		VSP	VOICE SERVICES PROCESSOR. The subfields are UNITNO, VSPGRPID, and RSRINFO.
	UNITNO	0-27	UNIT NUMBER. Enter the VSP unit number. The default is 0.
	VSPGRPID	1-28	VSP_GRP IDENTIFICATION. This field indicates the identification of the corresponding VSP_GRP protection group in table MNPRTGRP. The VSP_GRP protection group must be added to table MNPRTGRP before datafilling the VSP circuit packs. If not, the message "Can not find the corresponding VSP_GRP in table MNPRTGRP" displays. Typically, the VSP circuit packs on a SPM are partitioned into different protection groups. Within each protection group, some are designated as WORKING to provide service and others are designated as SPARE to standby. The default is 1.
	RSRINFO	See subfields	RSRINFO indicates the type of the resource and the number of the resource to be provided by the VSP circuit pack. Circuit packs can be configured as spares or working devices. Each working entry consists of a vector of up to six multiples of subfields RSRTYPE and NUM.
	WRKSPR	SPARE or WORKING	VSP RESOURCE CONFIGURATION. This field is refined based on whether the VSP is designated as SPARE or WORKING. The default value is WORKING. If the entry is WORKING, datafill refinements RSRTYPE and NUM.

MNCKTPAK (continued)

(Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	RSRTYPE	COT, DTMF, ECAN, TONESYN, ABBIT, MF, UKTONE, GERTONE, FRATONE, HOLTONE, BELTONE, BRATONE, ITATONE, SPATONE	RESOURCE TYPE. This field specifies the SPM service resources that require threshold control. Valid resources are • COT (continuity test resource) • DTMF (dual tone multifrequency receiver resource) • ECAN (echo cancellation resource) • TONESYN (tone synthesizer resource) • ABBIT (A- and B-bit signaling resource) Note: See "Supplementary information" for more detail about changing or deleting a tuple. • MF (multifrequency signaling resource) • UKTONE (UK tone synthesizer resource) • GERTONE (German tone synthesizer resource) • FRATONE (French tone synthesizer resource) • HOLTONE (Holland tone synthesizer resource) • BELTONE (Belgian tone synthesizer resource) • BRATONE (Brazilian tone synthesizer resource) • ITATONE (Italian tone synthesizer resource) • SPATONE (Spanish tone synthesizer resource) Note: Only one type of tone synthesizer resource is to be datafilled on all RMs on a given SPM; that is, only one type per node is allowable.

MNCKTPAK (continued)

(Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	NUM	0-736	NUMBER OF RESOURCES. Edit checks during datafill allow a value of 0 to 736. However, various circuit packs may impose their own lower limits. For example, PEC codes NTLX66AA and NTLX66BA allow a maximum of 260 echo cancellation resources, and PEC codes NTLX85AA and NTLX86AA allow a maximum of 336 echo cancellation resources. The actual maximum number of resources depends on the mix of applications configured.
	ALRMCTRL	See subfields	ALARM CONTROL INFORMATION. To accept the system defaults, enter \$. The field is a vector of up to 4 entries. Each entry in the vector controls a particular alarm for the VSP circuit pack. For each entry, the subfields are ALARM and ATTR.
	ALARM	SYSB, MANB, ISTB, PROTFail	ALARM TYPE. Enter one of the following alarm types: • SYSB (system busy) The alarm generates when the VSP is in system busy state. The default alarm severity is CR. The default action is RPT. • MANB (manual busy) The alarm generates when the VSP is in manual busy state. The default alarm severity is MJ. The default action is RPT. • ISTB (in-service trouble) The alarm generates when the VSP is in service and is experience non-service-affecting faults. The default alarm severity is MN. The default action is RPT. • PROTFail (protection failure) The alarm generates when protection switching fails. The default alarm severity is NA. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTE. The subfields are SEVERITY and ACTION.

MNCKTPAK (continued)

(Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
PEC	SEVERITY	NA, MN, CR, MJ	SEVERITY. Enter one of the following alarm severities: • NA (no alarm severity) • MN (minor) • CR (critical) • MJ (major)
	ACTION	RPT, NRPT	ACTION. Enter one of the following actions: • RPT (reportable, the default value) • NRPT (no reportable)
		NTLX66AA, NTLX66BA, NTLX85AA, NTLX86AA	PRODUCT ENGINEERING CODE. This field indicates the PEC of the circuit pack. Select an entry as follows: • NTLX66AA for VSP circuit packs manufactured by Nortel Networks; a string of 8 characters for non-NORTEL (third-party vendor) VSP circuit packs • NTLX66BA for VSP circuit packs bearing the PEC code suffix "BA." • NTLX85AA or NTLX86AA for third party VSP circuit packs. Note: The NTLX85AA and NTLX86AA VSP RMs are OEM products sometimes referred to as echo canceller resource modules, or ECRMs.

MNCKTPAK (continued)

(Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
RELEASE		01-99 or 01-ZZ	RELEASE. This field indicates the release of the circuit pack. The default is 01. Select an entry as follows: - For a Nortel product, valid values include 01 to 99. - For a non-Nortel (third-party vendor) product, valid values include 01 to ZZ.
LOAD		up to 8 alphanumeric characters	This field indicates the default software load for the circuit pack. The default load name entry must be added to table PMLOADS first; otherwise, messages "Can not find load file <xxxxxx>" and "Please datafill load file in table PMLOADS first" display.

CPKTYPE = ATM**ATTENTION**

ATM is not applicable to all markets.

If CPKTYPE equals ATM (asynchronous transfer mode), the datafill is as shown in the following table.

(Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CPKTYPE		ATM	ASYNCHRONOUS TRANSFER MODE. The subfields are UNITNO, ATMGRPID, WRKSPR, and ALARMCNTRL.
	UNITNO	0-1	UNIT NUMBER. Enter the ATM unit number. The default is 0.
	ATMGRPID	1-28	ATM GROUP IDENTIFIER.
	WRKSPR	SPARE or WORKING	ATM RESOURCE CONFIGURATION. This field is refined based on whether the ATM is designated as SPARE or WORKING.

MNCKTPAK (continued)

(Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	ALRMCTRL	See subfields	ALARM CONTROL INFORMATION. To accept the system defaults, enter \$. The field is a vector of up to 4 entries. Each entry in the vector controls a particular alarm for the ATM circuit pack. For each entry, the subfields are ALARM and ATTR.
	ALARM	SYSB, MANB, ISTB, PROTFail	ALARM NAME. Enter one of the following alarms: • SYSB (system busy) The alarm generates when the ATM is in system busy state. The default alarm severity is CR. The default action is RPT. • MANB (manual busy) The alarm generates when the ATM is in manual busy state. The default alarm severity is MJ. The default action is RPT. • ISTB (in-service trouble) The alarm generates when the ATM is in service and is experience non-service-affecting faults. The default alarm severity is MN. The default action is RPT. • PROTFail (protection failure) The alarm generates when protection switching fails. The default alarm severity is NA. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTE. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	SEVERITY. This subfield defines the relative importance of an alarm. Valid values are • NA (no alarm severity) • CR (critical) • MJ (major) • MN (minor)

MNCKTPAK (continued)

(Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
PEC	ACTION	RPT, NRPT	ACTION. Enter one of the following actions: • RPT (reportable) • NRPT (no reportable)
		NTLX73AA, NTLX73BA	PRODUCT ENGINEERING CODE. This field indicates the product engineering code (PEC) of the circuit pack. Select an entry as follows: • NTLX73AA for ATM circuit pack • NTLX73BA for ATM circuit packs bearing the PEC code suffix "BA."
RELEASE		01-99, 01-ZZ	RELEASE. This field indicates the release of the circuit pack. The default is 01. Select an entry as follows: • For a Nortel product, valid values include 01 to 99. • For a non-Nortel (third-party vendor) product, valid values include 01 to ZZ.
LOAD		up to 8 alphanumeric characters	This field indicates the default software load for the circuit pack. The default load name entry must be added to table PMLOADS first; otherwise, messages "Can not find load file <xxxxxx>" and "Please datafill load file in table PMLOADS first" display.

CPKTYPE = DLC

If CPKTYPE equals DLC (data link controller), the datafill is as shown in the following table.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
CPKTYPE		DLC	DATA LINK CONTROLLER. The subfields are UNITNO, DLCGRPID, WKRSRPR, and ALARMCTRL.
	UNITNO	0-27	UNIT NUMBER. Enter the DLC unit number. The default is 0.

MNCKTPAK (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	DLCGRPID	1-28	DLC GROUP IDENTIFIER. Enter the DLC protection group identifier in table MNPRTGRP. Add the DLC_GRP protection group to table MNPRTGRP before datafilling the DLC circuit pack; otherwise, the message "Can not find the corresponding DLC_GRP in table MNPRTGRP" displays.
	WRKSPR	WORKING, SPARE	WORKING, SPARE. Enter the protection role designation as follows: • WORKING indicates the circuit pack is designated to provide service. • SPARE indicates the circuit pack is designated to standby and take over the service if the WORKING circuit pack fails. Note: There is a maximum of two DLCs for each SPM. Datafill one DLC as WORKING and datafill the other one as SPARE.
	ALRMCTRL	See subfields	ALARM CONTROL INFORMATION. The field is a vector of up to 4 entries. Each entry in the vector controls a particular alarm for the DLC circuit pack. To accept the default values, enter \$. For each entry, the subfields are ALARM and ATTR.

MNCKTPAK (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
PEC	ALARM	SYSB, MANB, ISTB, PROTFAIL	ALARM TYPE. Enter one of the following alarm types: • SYSB (system busy) The alarm generates when the DLC is in system busy state. The default alarm severity is CR. The default action is RPT. • MANB (manual busy) The alarm generates when the DLC is in manual busy state. The default alarm severity is MJ. The default action is RPT. • ISTB (in-service trouble) The alarm generates when the DLC is in service and is experience non-service-affecting faults. The default alarm severity is MN. The default action is RPT. • PROTFAIL (protection failure) The alarm generates when protection switching fails. The default alarm severity is NA. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTE. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, CR, MJ	SEVERITY. Enter one of the following alarm severities: • NA (no alarm severity) • MN (minor) • CR (critical) • MJ (major)
	ACTION	RPT, NRPT	ACTION. Enter one of the following actions: • RPT (reportable) • NRPT (no reportable)
		NTLX72AA	PRODUCT ENGINEERING CODE. This field indicates the product engineering code (PEC) of the circuit pack. Select the entry as follows: • NTLX72AA for DLC circuit pack

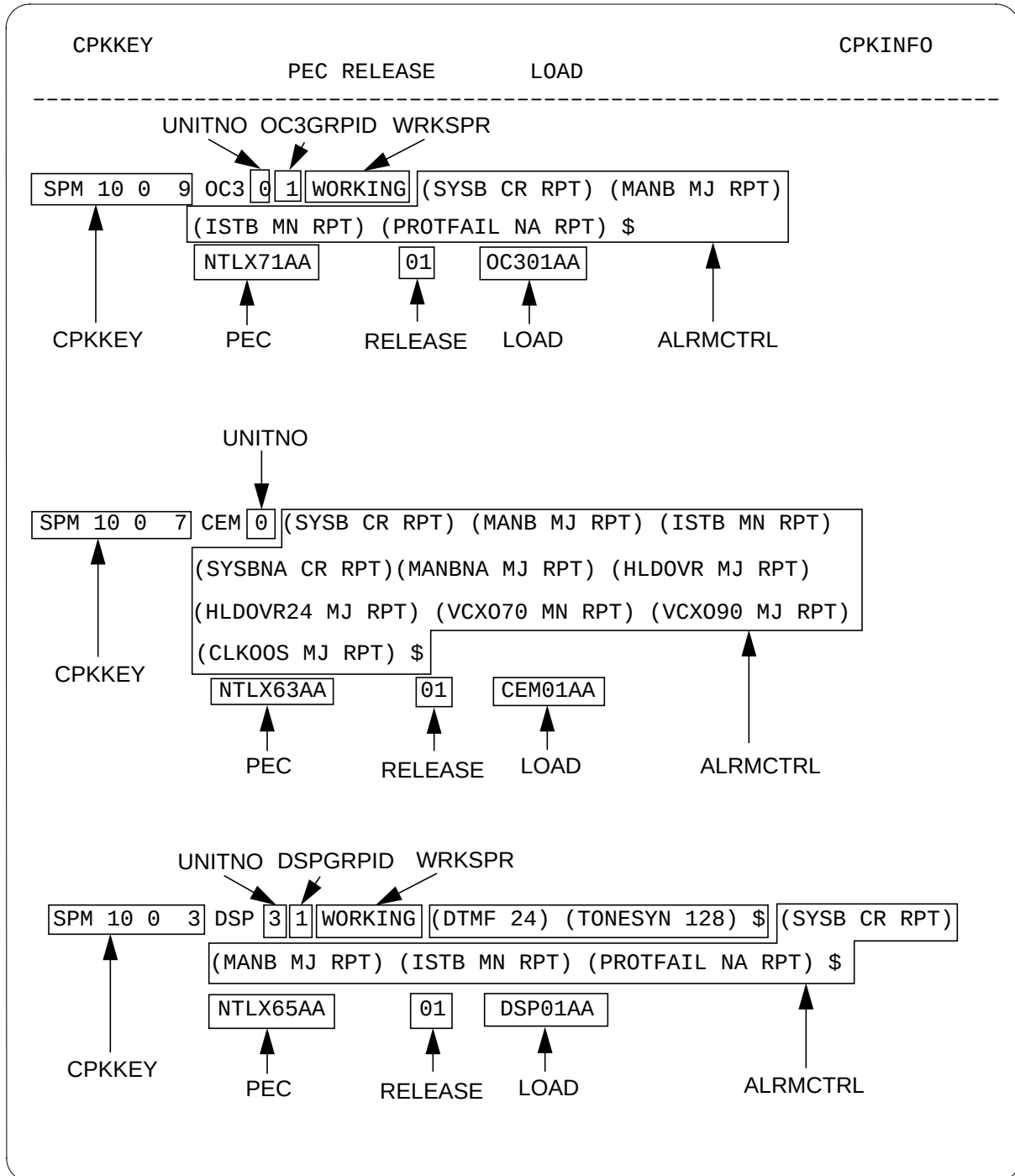
MNCKTPAK (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
RELEASE		01-99 or 01-ZZ	RELEASE. This field indicates the release of the circuit pack. The default is 01. Select an entry as follows: • For a Nortel product, valid values include 01 to 99. • For a non-Nortel (third-party vendor) product, valid values include 01 to ZZ.
LOAD		up to 8 alphanumeric characters	This field indicates the default software load for the circuit pack. The default load name entry must be added to table PMLOADS first; otherwise, messages "Can not find load file <xxxxxx>" and "Please datafill load file in table PMLOADS first" display.

Datafill example

The following shows sample datafill for table MNCKTPAK.

MNCKTPAK (continued)

MNCKTPAK (continued)

The following figure shows sample datafill for table MNCKTPAK using PECs introduced in MSH12 (NTLX73BA).

Note: ATM is not applicable to all markets.

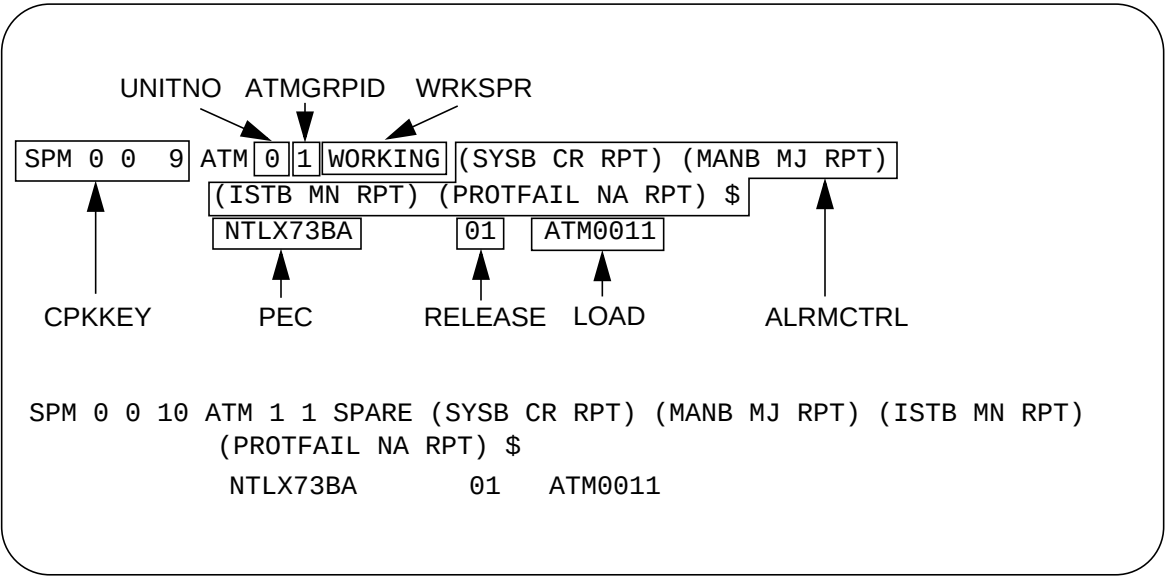


Table history

SP15 (CSP15)

Added NTLX82BA to the range of valid PECs based on features 59018984 and 59019804.

Added notes and attention boxes indicating ATM is not applicable to all markets.

SNH01

Changed datafill examples. Removed references to STA for SR 10366713.

SP14 (CSP13/14)

Added precaution to CPKTYPE = OC3 warning of the interdependency of tables MNCKTPAK and SYNCLK when OC3 is datafilled as a sync source.

Added international tone synthesizer resources to CPKTYPE = DSP and CPKTYPE = VSP per SR 10342332.

MSH12

Added NTLX73BA to the range of valid PECs and provided datafill example.

MNCKTPAK (continued)

SP12 (CSP12)

SR 10343869 changed the VSP datafill information in table MNCKTPAK.

Added NTLX65BA, NTLX66BA, NTLX71BA, NTLX72AA, NTLX82AA, NTLX85AA, and NTLX86AA to the range of valid PEC codes and DLC to the range of valid circuit packs.

Added "Procedure for removing a tuple from MNCKTPAK" and substantially rewrote the "Procedure for modifying a tuple in table MNCKTPAK." These changes are based on SR NR00582, SR 10301661, and design document AD8507.ab03.

SP11 (CSP11)

Added ATM to the range of valid circuit packs and NTLX73AA to the range of valid PEC codes.

SP10 (CSP10)

Added "Modifying provisioned data for RMs" information to "Supplementary information."

SPM01 (CSP09)

Table MNCKTPAK was created.

Supplementary information

The impact of a request to modify a tuple is described in the following paragraphs.

Procedure for modifying a tuple in table MNCKTPAK

Sparing actions between multiple RMs may have occurred since the original data download from the computing module (CM) to the common equipment module (CEM). Also, the services being provided by the RM may or may not be the same as the provisioned services for that RM. Therefore, to change provisioning data for an RM, perform the following steps.

1. Busy (BSY) the RM.
2. Return to service (RTS) the RM.
3. Busy (BSY) the RM that protects the services of the first RM.
4. Return to service (RTS) the RM.

These steps synchronize the provisioned and actual data.

The RM whose datafill is to be changed belongs to a particular protection group. The SPMRESMAN command displays all RMs that are in the same

MNCKTPAK (continued)

protection group as the RM to be modified. The procedure that follows uses the SPMRESMAN command to provide you with enhanced visibility into the activity status and protection information for the RMs in a protection group.

Note 1: "Provisioned data" is the set of required resources in table MNCKTPAK. This is also referred to by resource management as the "desired configuration" of the RM.

Note 2: "Configured data" is the set of resources that the RM is actually providing. This is also referred to by resource management as the "actual configuration" of the RM. When an RM takes over for another because of a protection switch, it acquires the configured data of the RM it protects. Thus, configured data and provisioned data for a particular RM may differ because of protection switch actions.

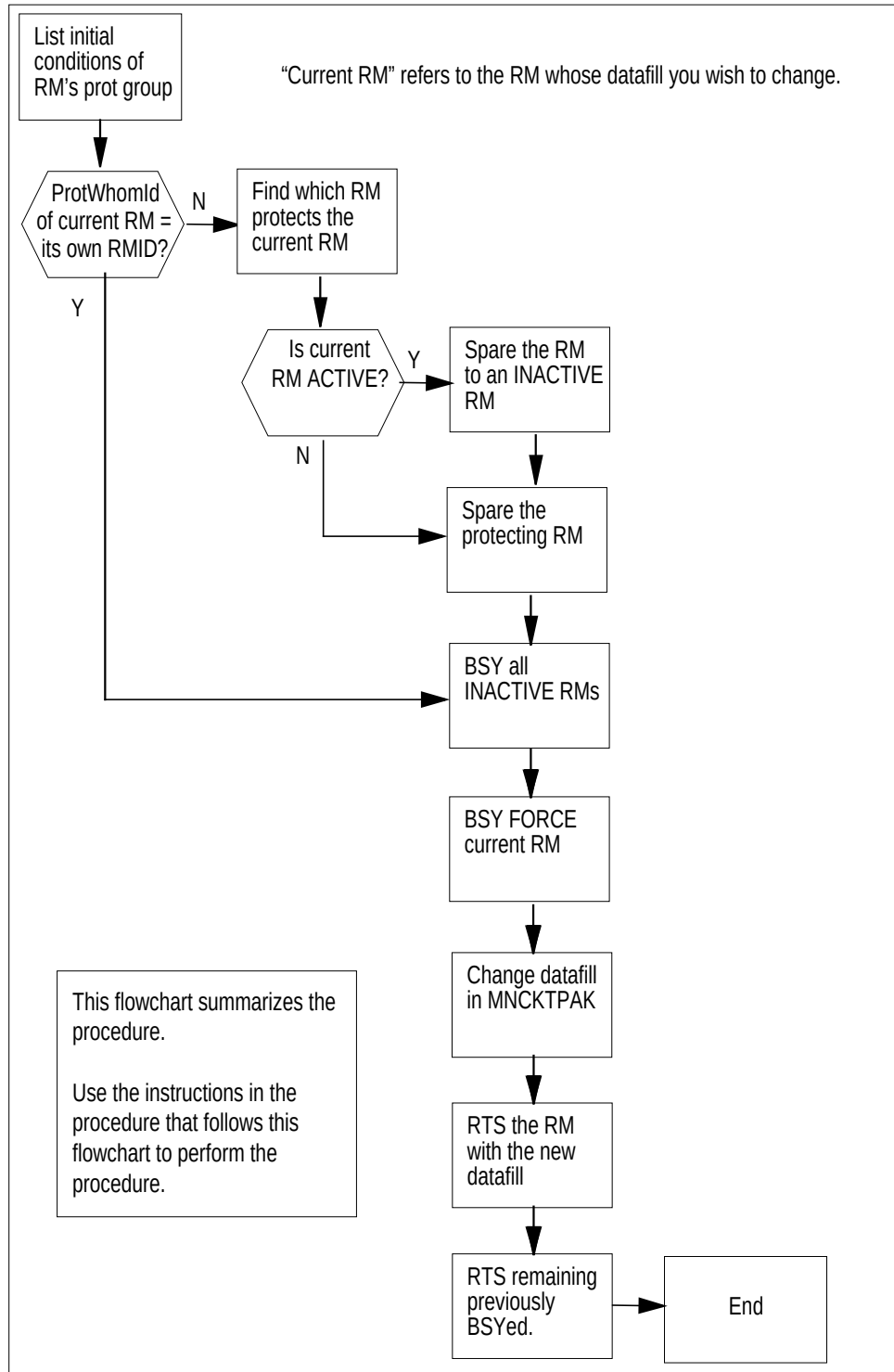
Note 3: "Inactive" is the state of the RM when it is not providing service. The RM can be in service when it is inactive.

Note 4: "Active" is the state of the RM when it is providing service. An RM only provides service when it is active and in service.

Note 5: The "RMID"(resource module ID) is a number that is formed by the combination of the shelf number and the slot numbers. $RMID = (\text{shelf number} \times 14) + \text{slot number}$.

Note 6: "ProtWhomID" is a second RMID associated with a specific RM. This number identifies the RM whose services are being protected by this specific RM.

The following flowchart is only a summary of the procedure datafill modification procedure. To perform the procedure, use the instructions in the step-action procedure that follows the flowchart.

MNCKTPAK (continued)**Summary of modifying datafill**

MNCKTPAK (continued)

Procedure to modify datafill in table MNCKTPAK**At the MAP terminal:**

- 1 Ensure you have access to both the CM and the CEM.
- 2 Determine the initial conditions of the RMs in the protection group of the RM whose datafill you need to modify.

CI> spmresman spm <spm#> [DSP|VSP|DLC] <rm#>

where

spm#

is the SPM number of the SPM housing the RM whose datafill is to be changed

rm#

is the number of the RM whose datafill is to be changed

Note: The SPMRESMAN command is available on loads SP12, SP11, or SP10 only if patch DCW25 has been applied. If patch DCW25 has not been applied, you must apply it, then begin this procedure again.

Example of an initial SPMRESMAN command and results

```
>spmresman spm 5 dsp 1
SPM 5
ProtGroup: 2
```

	RMID	Activity	ProtWhomID	ProtGrp	Safe to Change?
DSP 0	23	ACTIVE	24	2	NO
DSP 1	24	ACTIVE	25	2	NO
DSP 2	25	INACTIVE	23	2	NO
DSP 3	26	ACTIVE	26	2	NO
DSP 4	27	ACTIVE	27	2	NO

For the RM whose datafill needs to be changed, note the values of the RMID, activity state, and ProtWhomID.

If	Do
ProtWhomID is the same as the RM's own RMID, regardless of its activity state	step 6
ProtWhomID is not the same as the RM's own RMID, regardless of its activity state	step 3

- 3 Determine which RM currently has its ProtWhomID set to the RMID of the RM whose datafill is to be changed.

Example

Assume you want to change the datafill for DSP 1 in the SPMRESMAN output illustrated in step 2. DSP 1 has an RMID of 24. Look for RMID=24 in the ProtWhomID column; you see that DSP 0 has this value. This means DSP 0 is protecting DSP 1.

MNCKTPAK (continued)

- 4 Using the SPMRESMAN results from step 2, note the activity status of the RM whose datafill you need to change.

If the activity status is ACTIVE, then spare the RM to an INACTIVE RM.

Example

As before, assume you want to change the datafill for DSP 1. Note that its activity status is ACTIVE in the output example in step 2. DSP 2 is INACTIVE, so spare DSP 1 to DSP 2. The following command sequence accomplishes this.

```
mapci; mtc; pm; post spm 5
-->select dsp 1
-->prot
-->manual 1 2
-->y
```

Note: Do not type this example verbatim; remember to substitute appropriate values for your system.

SPMRESMAN command updated results

```
>spmresman spm 5 dsp 1
SPM 5
ProtGroup: 2
```

	RMID	Activity	ProtWhomID	ProtGrp	Safe to Change?
DSP 0	23	ACTIVE	24	2	NO
DSP 1	24	INACTIVE	23	2	NO
DSP 2	25	ACTIVE	25	2	NO
DSP 3	26	ACTIVE	26	2	NO
DSP 4	27	ACTIVE	27	2	NO

Observe that DSP 1, the one whose Datafill you wish to change, is now INACTIVE.

- 5 Spare the RM (found in step 3) that is protecting the RM whose datafill you want to change. Spare it to the INACTIVE RM from step 4.

Example

Based on the SPMRESMAN output in the preceding step, perform a SPARE operation of DSP 0 to DSP1 (since DSP 0 is currently protecting DSP1, and DSP 1 is INACTIVE). The follow command sequence illustrates this action.

```
mapci; mtc; pm; post spm5; select dsp 0;
-->listres
-->prot
-->manual 0 1
-->y
```

Issue the SPMRESMAN command again. In the sample output that follows, note that DSP 0 is inactive and protecting itself (the RMID and ProtWhomID field are the same), and DSP 1 is active and protecting itself.

MNCKTPAK (continued)**SPMRESMAN command updated results**

```
>spmresman spm 5 dsp 1
SPM 5
ProtGroup: 2
```

		RMID	Activity	ProtWhomID	ProtGrp	Safe to Change?
DSP	0	23	INACTIVE	23	2	NO
DSP	1	24	ACTIVE	24	2	NO
DSP	2	25	ACTIVE	25	2	NO
DSP	3	26	ACTIVE	26	2	NO
DSP	4	27	ACTIVE	27	2	NO

- 6 BSY all inactive RMs by entering the following for each one:

```
CI> mapci;mtc;pm;post spm <#>;select [DSP|VSP|DLC]
<#>;bsy force
```

Example

In the SPMRESMAN output in the preceding step, there is one inactive RM, DSP 0. So you would enter the command

```
CI> mapci;mtc;pm;post spm 5;select DSP 0; bsy force
```

SPMRESMAN command results

```
>spmresman spm 5 dsp 1
SPM 5
ProtGroup: 2
```

		RMID	Activity	ProtWhomID	ProtGrp	Safe to Change?
DSP	0	23	INACTIVE	23	2	YES
DSP	1	24	ACTIVE	24	2	NO
DSP	2	25	ACTIVE	25	2	NO
DSP	3	26	ACTIVE	26	2	NO
DSP	4	27	ACTIVE	27	2	NO

In the example printout, note that DSP 0 is inactive and the "safe to change" field is YES.

- 7 BSY FORCE the RM whose datafill is to be modified by entering the following:

```
CI> mapci;mtc;pm;post spm <#>;select [DSP|VSP|DSP]
<#>;bsy force
```

MNCKTPAK (continued)**SPMRESMAN command results**

```
>spmresman spm 5 dsp 1
SPM 5
ProtGroup: 2
```

		RMID	Activity	ProtWhomID	ProtGrp	Safe to Change?
DSP	0	23	INACTIVE	23	2	YES
DSP	1	24	ACTIVE	24	2	YES
DSP	2	25	ACTIVE	25	2	NO
DSP	3	26	ACTIVE	26	2	NO
DSP	4	27	ACTIVE	27	2	NO

Note that the “safe to change” field for the RM whose datafill you wish to change, DSP 1 in the example, now is YES.

- 8 Change the resource datafill for the RM in table MNCKTPAK.

```
CI> table mncktpak
```

```
TABLE: MNCKTPAK
```

```
>rwok on
```

```
WRITE ACCESS ENABLED FOR RESTRICTED DATA
```

```
>pos spm <#> <shelf#> <slot#>
```

```
> change
```

Continue to provide the new datafill as prompted by the system.

- 9 RTS the RM whose datafill you modified in the preceding step.

```
CI> mapci;mtc;pm;post spm <#>;select [DSP|VSP|DLC]
<#>;bsy rts
```

- 10 RTS the remaining inactive RMs that you busied in step 6 by entering the following command:

```
CI> mapci;mtc;pm;post spm <#>;select [DSP|VSP|DLC]
<#>;bsy rts
```

The modification to the provisioned data is complete.

Removing a tuple from table MNCKTPAK

Use the following procedure to remove a data tuple from table MNCKTPAK.

Procedure for removing a tuple from table MNCKTPAK**At the MAP display**

- 1 Perform steps 1-7 of the preceding procedure, “Procedure to modify datafill in table MNCKTPAK.”
- 2 Take offline the RM whose datafill you wish to delete.
- 3 Delete the tuple for the RM.
- 4 Perform steps 10 and thereafter in the preceding procedure, “Procedure to modify datafill in table MNCKTPAK.”

MNCKTPAK (continued)

Modify an AB-bit resource count

An AB-bit resource is assigned to each DS-1 carrier containing a PTS trunk. When the count of AB-bit resources in the DSP tuple being modified is decreased, a check is made to determine if the new number of AB-bit resources in the SPM where the DSP being modified is located corresponds to the number of DS-1 carriers with PTS trunks. The change is rejected if the total count per SPM falls below the number of DS1 carriers with PTS trunks. The following message displays in such a case:

```
Failed to change count of ABBIT resources for this
DSP. This new count of AB bit resources for its SPM
is less than the number of AB bit resources in use by
PTS trunks configured in table TRKMEM for this SPM.
```

Modify an MF/DTMF resource count

For MF resources, if there are any MF trunks provisioned in table TRKMEM, table MNCKTPAK must contain provisioning for at least one MF resource. When the count for MF resources in the tuple being modified decreases, the system checks to determine if any MF resources remain on the given SPM. The system rejects the change if it does not find at least one MF resource for the SPM while MF trunks are provisioned in table TRKMEM. The following message displays in such a case:

```
ERROR: Cannot delete all remaining MF resources while
in use. You must first delete the SPM PTS trunks in
table TRKMEM whose associated IPULSTYP = MF in table
TRKSGRP.
```

The same is true for DTMF resources. The following message displays if DTMF resources are not available:

```
ERROR: Cannot delete all remaining DTMF resources
while in use. You must first delete the SPM PTS trunks
in table TRKMEM whose associated IPULSTYP = DT in
table TRKSGRP.
```

Delete a tuple that contains AB-bit resources

The count for AB-bit resources on the DSP is deleted from the total AB-bit resources count for the SPM where the DSP is located. The system compares the new count for AB-bit resources with the number of DS-1 carriers with PTS trunks. If the counts do not correspond, the system rejects the change and displays the following message:

```
Failed to delete this DSP.
```

MNCKTPAK (end)

The new count of AB bit resources for its SPM is less than the number of AB bit resources in use by PTS trunks configured in table TRKMEM for this SPM

Delete a tuple containing MF/DTMF resources

The count for MF resources on a given SPM is deleted from the total MF resource count on the SPM. The system compares the new count for MF resources with the number of MF resources on the SPM. If the new count for MF resources = 0 and table TRKMEM contains provisioning for MF trunks, the system rejects the change and displays the following message:

ERROR: Cannot delete all remaining MF resources while in use. You must first delete the SPM PTS trunks in table TRKMEM whose associated IPULSTYP = MF in table TRKSGRP.

The same check is made for DTMF resources. If all DTMF resources are deleted, the system displays the following message:

ERROR: Cannot delete all remaining DTMF resources while in use. You must first delete the SPM PTS trunks in table TRKMEM whose associated IPULSTYP = DT in table TRKSGRP.

MNATMCON

Table name

ATM connections provisioning (MNATMCON)

Functional description

MNATMCON is a read/write table which is provisioned through table control. It is used to provision ATM connections against STS3cP carriers in table MNHSCARR. Each tuple in the table represents a single logical connection between the SPM ATM interface and the ATM network in the OC3c physical connection. Each connection can have upto 24 members provisioned in table TRKMEN.

This table uses a three-part key (node type, node number and connection number). To optimize access time, this table internally hashes the key as a single field for look-ups. AAL-1 is supported. All AAL-1 connections support wideband.

When a new tuple is assigned in table MNATMCON, a connection number (CON) is assigned.

Note: The CNO number in table MNATMCON must be unique for that SPM.

To modify a tuple in table MNATMCON, make sure all member are out of service. To delete a parent carrier tuple in table MNHSCARR, remove any connections provisioned against it in table MNATMCON.

No data in the connections tuple can be modified. To change a tuple, it must be deleted and then reentered through table control.

Datafill sequence and implications

Table MNHSCARR must be datafilled before table MNATMCON.

Table TRKMEM must be datafilled after table MNATMCON.

Table size

The maximum size is 5,376 tuples.

Datafill

The key is composed of the first three fields in a tuple. Along with the key, each tuple contains a vpi, vci, AAL type and the parent carrier ID. The data specific to AAL-5 is the application ID and the transmission direction.

MNATMCON (continued)

The following table lists datafill for table MNATMCON.

Field descriptions

Field	Range of values	Explanation and action
NODETYP	SPM	Peripheral type is always SPM
SPMNUM	0 TO 63	SPM number
CONN	0 TO 181	Connection number assigned by user
VPI	0 TO 255	Virtual path identifier
VCI	6 - (64K-1)	Virtual channel identifier
AAL	{1}	Adaptation layer
PCARRID	0 to 181	Parent carrier ID is the carrier number from table MNHSCARR. The PM_TYPE, PM_NO and the PCARRID can be combined to form a carrier id in table MNHSCARR.

Datafill example

The following example shows sample datafill for table MNATMCON.

MAP display example for table MNATMCON

```
SPM  0  0  1  1  5  24
SPM  1  63 83  1  5  24
```

Dump and restore

The new MNATMCON table is a dump and restore table. It is restored after table MNHSCARR during a software upgrade. The dump and restore of table MNATMCON writes the physical tuples through the OAM&P database in their sequential search order.

MNATMCON (end)

Activation

This table is not activated by SOC.

Table history

SP11

MNATMCON table was added.

Supplementary information

Not applicable

MNHSCARR

Table name

Management Network High Speed Carrier (MNHSCARR)

Functional description

The MNHSCARR table is one of seven tables used to configure a DMS-Spectrum Peripheral Module (SPM). The P-side of the OC-3 circuit pack carries a high-speed optical carrier. Each tuple in this table identifies a carrier or subcarrier terminating on the SPM.

Also, use this table to enter datafill into asynchronous transfer mode (ATM) and DS1L carriers.

ATTENTION

ATM is not applicable to all markets.

Datafill sequence and implications

Datafill tables in the following order:

1. table PMLOADS
2. table MNPRTGRP
3. table MNNODE
4. table MNSHELF
5. table MNCKTPAK
6. table MNLINK
7. table MNHSCARR
8. table TRKMEM
9. table MNPRIIID

Note 1: Table MNPRIIID is datafilled when configuring an office with PRI trunks.

Note 2: Table PMLOADS specifies the location of a particular load file. Datafill PMLOADS only once. There is no need to datafill PMLOADS for each SPM added to the system unless a new load file entry has to be added to table PMLOADS.

Note 3: The Succession Network MG 4000 product requires only entering datafill into tables MNODE, MNSHELF, and MNHSCARR.

MNHSCARR (continued)

When datafilling carriers for an OC-3 resource module (RM), perform the following:

1. Datafill the OC-3 section termination carrier.
2. Datafill the STS-3 line termination carrier.
3. Datafill the STS-1 path termination carrier.
4. Datafill the DS-3 or VT1.5 path termination carrier.
5. Datafill the DS-1 path termination carrier.

The Succession Network MG 4000 product requires only entering datafill into tables MNODE, MNSHELF, and MNHSCARR.

When datafilling carriers for an asynchronous transfer mode (ATM) RM, perform the following:

1. Datafill the OC-3 section termination carrier.
2. Datafill the STS-3 line termination carrier.
3. Datafill the STS3cp concatenated path termination carrier.

Note: ATM is not applicable to all markets.

If an attempt is made to add a carrier before C-side host links have been added to table MNLINK for the SPM, the following message displays:

Please define host links in table MNLINK first

If an attempt is made to add an OC-3 (OC3S) carrier before the OC-3 circuit pack has been added to table MNCKTPAK for the SPM, the following message displays:

Can not find the host OC-3 circuit pack

If an attempt is made to add an STS-3 (STS3L) carrier before the STS3L_GRP protection group has been added to table MNPRTGRP for the SPM, the following message displays:

Can not find the corresponding STS3L_GRP

If an attempt is made to add a subcarrier before its parent carrier has been added to the table, one of the following messages displays:

Can not find the parent OC3S carrier

Can not find the parent STS1P carrier

MNHSCARR (continued)

If an attempt is made to delete a carrier associated with an integrated data terminal (IDT), the following error message displays:

Error: P side equipped on modified port - change failed.

If the number of carriers provisioned is more than the set carrier limit an error message will display. If you require more carriers for this office, please contact Nortel Networks to increase the limit. The limits are set through the SOC options SPMS0016 and SPMS0017. Otherwise, the following error message will continue to display:

ADDITION DENIED: Adding this carrier would exceed the maximum number of SPM carriers for this office

Upon calculating the number of carriers, a transient problem may result in failure to determine the number of carriers. Try the command again. If the following error persists, contact the appropriate support group at NORTEL:

ERROR: Failed to determine the current number of SPM carriers

Table size

0 to 11,648 tuples

Field descriptions

The following table describes field names, subfield names, and valid data ranges for table MNHSCARR.

(Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CARRKEY		See subfield	CARRIER KEY. This field consists of subfield CARRNAME. This is the key field to table MNHSCARR.
	CARRNAME	Up to 38 alphanumeric characters	CARRIER NAME. Enter the name assigned to the carrier.

MNHSCARR (continued)

(Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CCTNO		1-180	CIRCUIT NUMBER. The carrier circuit number assigned to the carrier. Note 1: Each carrier on the SPM is assigned a unique circuit number that is used by table TRKMEM to datafill SPM trunks. Note 2: Only the CCTNO of DS1P or VT15P carriers with a byte synchronous DS-1 payload (BYSYNC_DS1) can be used in table TRKMEM. Note 3: See the table “Recommended circuit number datafill for table MNHSCARR” in the Supplementary information section of this document for the recommended use of circuit numbers.

MNHSCARR (continued)

(Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CARRINFO		See subfield	CARRIER INFORMATION. This field consists of subfield CARRTYPE and its refinements.
	CARRTYPE	OC3S, STS3L, STS3cP, STS1P, DS3P, VT15P, DS1P	CARRIER TYPE. Enter the carrier type and datafill the refinements according to the following list: • See "CARRTYPE= OC3S" for OC-3 section termination datafill. • See "CARRINFO = STS3L" for STS-3 line termination datafill. • See "CARRTYPE = STS3cP" for STS-3 concatenated path termination datafill. • See "CARRTYPE = STS1P" for STS-1 path termination datafill. • See "CARRTYPE = DS3P" for DS-3 path termination datafill. • See "CARRTYPE = VT15P" for V1.5 path termination datafill. • See "CARRTYPE = DS1P" for DS-1 path termination datafill. • See "CARRTYPE = DS1L" for DSIL path carrier datafill.

MNHSCARR (continued)**CARRTYPE = OC3S**

If the value of subfield CARRTYPE is OC3S, datafill the following subfields PHYLINK, OC3PP, OC3PM, and OC3FAIL as described in the following table.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PHYLINK	See refinements	PHYSICAL LINK. This is the location of the OC-3 circuit pack on the optical fiber/link termination. This field consists of refinements NODETYPE, NODEID, SHELFID, and SLOTNUM.
	NODETYPE	SPM	NODE TYPE. Enter the type of node, which is SPM.
	NODEID	0-63	NODE IDENTIFIER. Enter the identifier of the node.
	SHELFID	0	SHELF IDENTIFIER. Enter the identifier for the shelf that contains the OC-3 circuit pack. The default value is 0.
	SLOTNUM	9 or 10	SLOT IDENTIFIER. Enter the slot number of the OC-3 circuit pack. The default value is 9.
	OC3PP	See refinements	OC-3 CARRIER PHYSICAL MEDIUM LAYER PARAMETER ATTRIBUTES. The field is a vector of up to 3 entries. Each entry in the vector describes an optical parameter. To accept system default values, enter \$ for the field. For each entry, the subfields are PARM and ATTR. Refine the datafill as indicated in the following descriptions.
	PARM	LBC, OPT, OPR	PARAMETER NAME. Valid values are • LBC (normalized laser bias current in percentage) • OPT (normalized optical power transmitted in percentage) • OPR (normalized optical power received in percentage)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The refinements are ALRMLIM, CLRLIM, and ALRMSEV.

MNHSCARR (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	ALRMLIM	0-200	ALARM LIMIT. The alarm generation thresholds are described as follows: - When LBC goes above ALRMLIM, an alarm generates. The default value is 150. - When OPT goes below the ALRMLIM, an alarm generates. The default value is 85. - When OPR goes below the ALRMLIM, an alarm generates. The default value is 85.
	CLRLIM	0-200	ALARM CLEARANCE LIMIT. The alarm clearance thresholds are described as follows: - When LBC goes below the CLRLIM, the alarm clears. The default value is 125. - When OPT goes above the CLRLIM, the alarm clears. The default value is 95. - When OPR goes above the CLRLIM, the alarm clears. The default value is 95.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY. This is the severity of the alarm when it generates. Valid values are - NA (no alarm) - MN (minor alarm) - MJ (major alarm) - CR (critical alarm, the default value)
	OC3PM	See refinements	PERFORMANCE MEASUREMENTS. This field indicates the performance measurement attributes for an OC-3 section carrier. The field is a vector of up to 4 entries. Each entry in the vector describes an OC-3 section performance measurement parameter. To accept system default values, enter \$ for the field. For each entry, the subfields are PARM and ATTR.

MNHSCARR (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PARM	SEFS, CV, ES, SES	PARAMETER NAME. This field indicates the performance measurement parameter name. Select the entry as follows: • SEFS (severely errored framing second) • CV (code violation) • ES (errored second) • SES (severely errored second) Default values are shown in parentheses beside the following parameter names: • SEFS (17, 7) • CV (4430, 1732) • ES (864, 346) • SES (4, 2)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0 to 4294967295	DAY LIMIT. This subfield indicates the threshold for the current day interval. A threshold crossing alarm generates if the DAYLIM is crossed.
	MIN15LIM	0 to 32767	15-MINUTE LIMIT. This subfield indicates the threshold for the current 15-minute interval. A threshold crossing alarm generates if the MIN15LIM is crossed.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)

MNHSCARR (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	OC3FAIL	See refinements	DEFECT OR FAILURE ATTRIBUTES FOR OC-3 SECTION CARRIER. The field is a vector of up to 2 entries. Each entry in the vector describes an OC-3 section defect or failure. To accept system default values, enter \$ for the field. For each entry, the subfields are FAILURE and ATTR.
	FAILURE	LOS, LOF	DEFECT OR FAILURE NAME. Select entry as follows: • LOS (loss of signal) The default alarm severity is CR. The default action is RPT. • LOF (loss of frame) The default alarm severity is CR. The default action is RPT.
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	SEVERITY. This subfield indicates the severity of the alarm when the defect is declared. Valid values are • NA (no alarm) • MN (minor alarm) • MJ (major alarm) • CR (critical alarm, the default value)
	ACTION	RPT, NRPT	ACTION. This field indicates the action to take when the defect is declared. Valid values are • NRPT (no report or alarm) Note: Do not set ACTION to NRPT unless SEVERITY is set to NA. • RPT (report, the default value)

MNHSCARR (continued)**CARRTYPE = STS3L**

If the value of subfield CARRTYPE is STS3L, datafill the following subfields PCRRNAME, SFBERLIM, SDBERLIM, CARRCLAS, STS3GRID, GENFLT, STS3PM, and STS3FAIL as described in the following table.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PCRRNAME	Up to 38 alphanumeric characters	PARENT CARRIER NAME. Enter the OC-3S parent carrier name.
	SFBERLIM	3-5	SIGNAL FAILURE BIT-ERROR-RATIO THRESHOLD. Signal failure is declared when the threshold is crossed. Interpret the field as $1 \times 10^{\text{E-SFBERLIM}}$. For example, the value 3 corresponds to $1 \times 10^{\text{E-3}}$ and the value 5 corresponds to $1 \times 10^{\text{E-5}}$. The default value is 4.
	SDBERLIM	5-9	SIGNAL DEGRADATION BIT-ERROR-RATIO THRESHOLD. Signal degradation is declared when the threshold is crossed. Interpret the field as $1 \times 10^{\text{E-SDBERLIM}}$. For example, the value 5 corresponds to $1 \times 10^{\text{E-5}}$ and the value 9 corresponds to $1 \times 10^{\text{E-9}}$. The default value is 7.
	CARRCLAS	HSCARR	CARRIER CLASS. Enter HSCARR (high-speed carrier).
	STS3GRID	1-28	STS-3 GROUP IDENTIFICATION. Enter the group identification of the STS-3 line protection group. (STS3L_GRP is in table MNPRTGRP.) The default value is 1.
	GENFLT	See refinements	GENERAL FAULT ATTRIBUTES. This subfield indicates the general fault attributes for the STS-3 line carrier. The field is a vector of up to 2 entries. Each entry in the vector describes an STS-3 line fault. To accept system default values, enter \$ for the field. For each entry, the subfields are FAULT and ATTR.

MNHSCARR (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	FAULT	SFBERX, SDBERX	FAULT NAME. Valid values are - SFBERX indicates a signal failure bit-error-ratio threshold was crossed. The threshold value is specified by field SFBERLIM. - SDBERX indicates a signal degradation bit-error-ratio threshold was crossed. The threshold value is specified by field SDBERLIM.
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	ALARM SEVERITY. Values are - NA (no alarm) - MN (minor alarm, the default value) - MJ (major alarm) - CR (critical alarm)
	ACTION	RPT, NRPT	ACTION. This subfield indicates the action to be taken on fault detection. Values are - NRPT (no report) - RPT (report, the default value)
	STS3PM	See refinements	STS-3 PERFORMANCE MEASUREMENT. This field indicates the performance measurement attributes for the STS-3 line carrier. The field is a vector of up to 4 entries. Each entry in the vector describes an STS-3 line performance measurement parameter. To accept system default values, enter \$ for the field. Subfields are PARM and ATTR.

MNHSCARR (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PARM	CV, ES, SES, UAS	PARAMETER NAME. This field indicates the performance measurement parameter name. Select the entry as follows: - CV (code violation) - ES (errored second) - SES (severely errored second) - UAS (unavailable second) Default values are shown in parentheses beside the following parameter names. - CV (4430, 1732) - ES (864, 346) - SES (4, 2) - UAS (10, 10)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0-4294967295	DAY LIMIT. This subfield indicates the threshold for the current day interval. A threshold crossing alarm generates if the DAYLIM is crossed.
	MIN15LIM	0-32767	15-MINUTE LIMIT. This subfield indicates the threshold for the current 15-minute interval. A threshold crossing alarm generates if the MIN15LIM is crossed.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY. This subfield indicates the severity of the threshold crossing alarm when it generates. Valid severities are as follows: - NA (no alarm) - MN (minor alarm, the default value) - MJ (major alarm) - CR (critical alarm)

MNHSCARR (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	STS3FAIL	See refinements	FAILURE ATTRIBUTES. This field indicates defects or failure attributes for STS-3 line carrier. The field is a vector of up to 2 entries. Each entry in the vector describes a STS-3 line defect or failure. To accept system default values, enter \$ for the field. For each entry, the subfields are FAILURE and ATTR.
	FAILURE	AIS, RFI, SIMPLEX	FAILURE NAME. This field indicates the defect or failure name. The values are • AIS (alarm indication signal) The default severity is MN. The default action is NRPT. • RFI (remote failure indication) The default severity is MN. The default action is NRPT. • SIMPLEX (protection switching unavailable) The default severity is CR. The default action is RPT.
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	ALARM SEVERITY. The valid values are • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)
	ACTION	NRPT, RPT	ACTION. Action to be taken on fault detection. • NRPT (no report or alarm, the default value) Note: Do not set ACTION to NRPT unless SEVERITY is set to NA for SFBERX, SDBERX, and SIMPLEX. The combination of SEVERITY MN and ACTION NRPT hold only for AIS and RFI. • RPT (report)

MNHSCARR (continued)**CARRTYPE = STS3cP****ATTENTION**

ATM is not applicable to all markets.

If the value of subfield CARRTYPE is STS3cP, datafill the following subfields, PCRRNAME, STS1POS, STS3PALD, STS1PTRC, STS1PM, and STS1FAIL as described in the following table.

Note: AN STS3cP carrier can be hosted only off the STS3L carrier that is hosting off the WORKING ATM circuit pack. To check whether the STS3L carrier is hosting off a WORKING ATM circuit pack, backtrack to the parent ATM carrier by way of the PCARRNAME of the STS3L carrier. Once the ATM carrier is identified, look up the circuit pack tuple, identified by PHYLINK, in table MNCKTPAK. If the ATM circuit pack is datafilled as WORKING, then the STS3L carrier is hosting off a WORKING ATM circuit pack; otherwise, it is not.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PCRRNAME	Up to 38 alphanumeric characters	PARENT CARRIER NAME Note: An STS3CP is hosted by an STS3L carrier, of an OC3S carrier, which is resident on a working ATM circuit pack. The STS1POS field must not be visible.
	STS1POS	1-3	STS-1 PAYLOAD POSITION. This field indicates the position of the STS-1 in the payload. The default value is 1.
	STS3PALD	UNEQ, ATM	STS-3CP PAYLOAD TYPE. This field indicates the type of payload the STS-3CP is carrying. The default is ATM. Valid values are as follows: • UNEQ (payload is unequipped) • ATM (ATM payload, the default value)
	STS1PTRC	Up to 62 alphanumeric characters	STS3CP PATH TRACE MESSAGE

MNHSCARR (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	STS1PM	See refinements	STS3CP PERFORMANCE MEASURE ATTRIBUTES. This field indicates the performance measurement attributes for the STS3CP path carrier. The field is a vector of up to 8 entries. Each entry in the vector describes an STS3CP path performance measurement parameter. To accept the system default value, enter \$. The subfields are PARM and ATTR.
	PARM	CV, ES, SES, UAS, CVFE, ESFE, SESFE, UASFE	PARAMETER NAME. This field indicates the performance measurement parameter name. Valid values are • CV (code violation) • ES (errored second) • SES (severely errored second) • UAS (unavailable second) • CVFE (code violation, far end) • ESFE (errored second, far end) • SESFE (severely errored second, far end) • UASFE (unavailable second, far end) Default values are shown in parentheses beside their names. • CV (125, 15) • ES (100, 12) • SES (7, 3) • UAS (10, 10) • CVFE (125, 15) • ESFE (100, 12) • SESFE (7, 3) • UASFE (10, 10)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields to be refined are DAYLIM, MIN15LIM, and ALRMSEV.

MNHSCARR (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	DAYLIM	0-4294967295	DAY LIMIT. This field indicates the threshold for the current day interval. An alarm generates when the DAYLIM is crossed.
	MIN15LIM	0-32767	15-MINUTE ALARM. This field indicates the threshold for the current 15-minute interval. An alarm generates when the MIN15LIM is crossed.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY. This field indicates the severity of the threshold crossing alarm when it generates. Valid values are • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)
	STS3CFAIL	See refinements	STS-1 FAILURE ATTRIBUTES. This field indicates the defects or failure attributes for the STS-1 path carrier. The field is a vector of up to 4 entries. Each entry in the vector describes an STS-1 path defect or failure. To accept system default values, enter \$ for the field. The subfields are FAILURE and ATTR.
	FAILURE	LOP, AIS, RFI, PLM	FAILURE. This field indicates the defect or failure name. Valid values are • LOP (loss of pointer) • AIS (alarm indication signal) • RFI (remote failure indication) • PLM (payload label mismatch)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.

MNHSCARR (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SEVERITY	NA, MN, MJ, CR	SEVERITY. This field indicates the severity of the alarm when the defect is declared. Valid values are • NA (no alarm) • MN (minor alarm, the default value except for LOP, AIS, and RFI) • MJ (major alarm) • CR (critical alarm)
	ACTION	NRPT or RPT	ACTION. This field indicates the action to be taken on fault detection. Valid values are • NRPT (no report or alarm) Note: Do not set ACTION to NRPT unless SEVERITY is set to NA. • RPT (reportable, the default value except for LOP, AIS, and RFI)

CARRTYPE = STS1P

If the value of subfield CARRTYPE is STS1P, datafill the following subfields PCRRNAME, STS1POS, STS1PALD, STS1PTRC, STS1PM, and STS1FAIL as described in the following table.

Note: AN STS1P carrier can be hosted only off the STS3L carrier that is hosting off the WORKING OC-3 circuit pack. To check whether the STS3L carrier is hosting off a WORKING OC-3 circuit pack, backtrack to the parent OC-3S carrier by way of the PCARRNAME of the STS3L carrier. Once the OC-3S carrier is identified, look up the circuit pack tuple, identified by PHYLINK, in table MNCKTPAK. If the OC-3 circuit pack is

MNHSCARR (continued)

datafilled as WORKING, then the STS3L carrier is hosting off a WORKING OC-3 circuit pack; otherwise, it is not.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PCRRNAME	Up to 38 alphanumeric characters	PARENT CARRIER NAME Note: An STS-1 is hosted by an STS3L carrier, which is resident on a working OC-3 circuit pack.
	STS1POS	1-3	STS-1 PAYLOAD POSITION. This field indicates the position of the STS-1 in the payload. The default value is 1.
	STS1PALD	UNEQ, VT, ASYNC_DS3	STS-1 PAYLOAD TYPE. This field indicates the type of payload the STS-1 is carrying. The default is VT. Valid values are as follows: • UNEQ (payload is unequipped) • VT (VT-structured payload, the default value) • ASYNC_DS3 (asynchronous DS3)
	STS1PTRC	Up to 62 alphanumeric characters	STS-1 PATH TRACE MESSAGE
	STS1PM	See refinements	STS-1 PERFORMANCE MEASURE ATTRIBUTES. This field indicates the performance measurement attributes for the STS-1 path carrier. The field is a vector of up to 8 entries. Each entry in the vector describes an STS-1 path performance measurement parameter. To accept the system default value, enter \$. The subfields are PARM and ATTR.

MNHSCARR (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PARM	CV, ES, SES, UAS, CVFE, ESFE, SESFE, UASFE	PARAMETER NAME. This field indicates the performance measurement parameter name. Valid values are • CV (code violation) • ES (errored second) • SES (severely errored second) • UAS (unavailable second) • CVFE (code violation, far end) • ESFE (errored second, far end) • SESFE (severely errored second, far end) • UASFE (unavailable second, far end) Default values are shown in parentheses beside their names. • CV (125, 15) • ES (100, 12) • SES (7, 3) • UAS (10, 10) • CVFE (125, 15) • ESFE (100, 12) • SESFE (7, 3) • UASFE (10, 10)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields to be refined are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0-4294967295	DAY LIMIT. This field indicates the threshold for the current day interval. An alarm generates when the DAYLIM is crossed.
	MIN15LIM	0-32767	15-MINUTE ALARM. This field indicates the threshold for the current 15-minute interval. An alarm generates when the MIN15LIM is crossed.

MNHSCARR (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY. This field indicates the severity of the threshold crossing alarm when it generates. Valid values are • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)
	STS1FAIL	See refinements	STS-1 FAILURE ATTRIBUTES. This field indicates the defects or failure attributes for the STS-1 path carrier. The field is a vector of up to 4 entries. Each entry in the vector describes an STS-1 path defect or failure. To accept system default values, enter \$ for the field. The subfields are FAILURE and ATTR.
	FAILURE	LOP, AIS, RFI, PLM	FAILURE. This field indicates the defect or failure name. Valid values are • LOP (loss of pointer) • AIS (alarm indication signal) • RFI (remote failure indication) • PLM (payload label mismatch)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.

MNHSCARR (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SEVERITY	NA, MN, MJ, CR	SEVERITY. This field indicates the severity of the alarm when the defect is declared. Valid values are • NA (no alarm) • MN (minor alarm, the default value except for LOP, AIS, and RFI) • MJ (major alarm) • CR (critical alarm)
	ACTION	NRPT or RPT	ACTION. This field indicates the action to be taken on fault detection. Valid values are • NRPT (no report or alarm, the default value except for LOP, AIS, or RFI) Note: Do not set ACTION to NRPT unless SEVERITY is set to NA. • RPT (reportable)

CARRTYPE = DS3P

If the value of subfield CARRTYPE is DS3P, datafill the following subfields PCRRNAME, DS3APP, and DS3FAIL as described in the following table.

(Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	PCRRNAME	Up to 38 alphanumeric characters	PARENT CARRIER NAME. Enter the parent carrier name. Note: A DS3P carrier can only host off a STS1P carrier with asynchronous DS3 (ASYNC_DS3) payload.
	DS3APP	See refinements	APPLICATION CARRIED BY THE DS-3 PATH. Its subfield is APPTYPE.
	APPTYPE	M23	APPLICATION TYPE. The only valid value is M23, which is the M23 application. Refine the M23 application.

MNHSCARR (continued)

(Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	M23DS3PM	See refinements	PERFORMANCE MEASUREMENTS FOR DS3 PATH CARRIER CARRYING M23 APPLICATION. The subfields are PARM and ATTR.
	PARM	CV, ES, SES, UAS	PARAMETER NAME. This field indicates the performance measurement parameter name. Valid values are • CV (code violation) • ES (errored second) • SES (severely errored second) • UAS (unavailable second) Default values are shown in parentheses beside their names, as follows: • CV (3820, 382) • ES (250, 25) • SES (40, 4) • UAS (10, 10)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0 to 4294967295	DAY LIMIT. An alarm generates when the DAYLIM is crossed.
	MIN15LIM	0 to 32767	15-MINUTE ALARM. An alarm generates when the MIN15LIM is crossed.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY. These alarms indicate the severity of the threshold crossing alarm when it generates. • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)

MNHSCARR (continued)

(Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	DS3FAIL	See refinements	DS-3 FAILURE ATTRIBUTES. This field indicates the defects or failure attributes for DS-3 path carrier. The field is a vector of up to 3 entries. Each entry in the vector describes a DS-3 defect or failure. To accept system default values, enter \$ for the field. The subfields are FAILURE and ATTR.
	FAILURE	AIS, LOF, RAI	FAILURE NAME. Valid values are as follows: • AIS (alarm indication signal) The default for the SEVERITY field is MN. The default for the ACTION field is NRPT. • LOF (loss of frame) The default for the SEVERITY field is MJ. The default for the action field is RPT. • RAI (remote alarm indication) The default for the SEVERITY field is MN. The default for the ACTION field is NRPT.
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.

MNHSCARR (continued)

(Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SEVERITY	NA, MN, MJ, CR	SEVERITY. This field indicates the severity of the alarm when the defect is declared. Valid values are • NA (no alarm) • MN (minor alarm) • MJ (major alarm) • CR (critical alarm) Note: The default value depends on the value chosen for the FAILURE field.
	ACTION	NRPT or RPT	ACTION. Action to be taken on fault detection. The valid values are • NRPT (no report or alarm) Note: Do not set ACTION to NRPT unless SEVERITY is set to NA. • RPT (reportable) Note: The default value depends on the value chosen for the FAILURE field.

MNHSCARR (continued)**CARRTYPE = VT15P**

If the value of subfield CARRTYPE is VT15P, datafill the following subfields PCRRNAME, VTGRPID, VTID, VT15PALD, VT15PM, and VT15FAIL as described in the following table.

Note: A VT15P carrier can host only off an STS1P carrier with VT-structured payload.

(Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	PCARRNAME	Up to 38 alphanumeric characters	PARENT CARRIER NAME. Enter the parent carrier name.
	VTGRPID	1-7	VT GROUP IDENTIFICATION. Enter the group identification. The default is 1.
	VTID	1-4	VT1.5 IDENTIFICATION. Enter the VT1.5 identification within the VT group. The default is 1.
	VT15PALD	UNEQ, ASYNC_DS1, BYSYNC_DS1	VT1.5 PAYLOAD TYPE. Enter the STS-1 payload type as follows: • UNEQ (unequipped) • ASYNC_DS1 (asynchronous DS-1 payload) • BYSYNC_DS1 (byte-synchronous DS-1 payload, the default value)
	VT15PM	See refinements	VT1.5 PERFORMANCE MEASURE ATTRIBUTES. This field indicates the performance measurement attributes for the VT path carrier. The field is a vector of up to 4 entries. Each entry in the vector describes a VT path performance measurement parameter. To accept the system default values, enter \$ for the field. For each entry, the subfields are PARM and ATTR.

MNHSCARR (continued)

(Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	PARM	CV, ES, SES, UAS	PARAMETER. This field indicates the performance measurement parameter name. The valid values are • CV (code violation) • ES (errored second) • SES (severely errored second) • UAS (unavailable second) The default values are shown in parentheses beside the following parameter names: • CV (132960, 13296) • ES (648, 65) • SES (100, 10) • UAS (10, 10)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0 to 4294967295	DAY LIMIT. An alarm generates when the DAYLIM is crossed.
	MIN15LIM	0 to 32767	15-MINUTE ALARM. The threshold crossing alarm generates when the MIN15LIM is crossed.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)
	VT15FAIL	See refinements	VT1.5 FAILURE ATTRIBUTES. This field indicates the defects or failure attributes for a VT path carrier. The field is a vector of up to 4 entries. Each entry in the vector describes a VT path defect or failure. To accept system default values, enter \$ for the field. For each entry, the subfields are FAILURE and ATTR.

MNHSCARR (continued)

(Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	FAILURE	LOP, AIS, RFI, PLM	FAILURE OR DEFECT NAME. Valid values are • LOP (loss of pointer) The default for the SEVERITY field is MN. The default for the ACTION field is RPT. • AIS (alarm indication signal) The default for the SEVERITY field is MN. The default for the ACTION field is NRPT. • RFI (remote failure indication) The default for the SEVERITY field is MN. The default for the ACTION field is NRPT. • PLM (payload label mismatch) The default for the SEVERITY field is MN. The default for the ACTION field is RPT.
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	SEVERITY. Enter the alarm severity. • NA (no alarm) • MN (minor alarm) • MJ (major alarm) • CR (critical alarm) Note: The default value depends on the value chosen for the FAILURE field.
	ACTION	RPT, NRPT	ACTION. Action to be taken on fault detection. • NRPT (no report or alarm) Note: Do not set ACTION to NRPT unless SEVERITY is set to NA. • RPT (reportable) Note: The default value depends on the value chosen for the FAILURE field.

MNHSCARR (continued)**CARRTYPE = DS1P**

If the value of subfield CARRTYPE is DS1P, datafill the following subfields PCRRNAME, DS1POS, FRAMEFMT, and DS1FAIL as described in the following table.

Note: A DS1P carrier can host only off a DS3P carrier or a VT15P carrier with asynchronous DS1 (ASYNC_DS1) payload.

(Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	PCRRNAME	1 to 38 alphanumeric characters	PARENT CARRIER NAME. Enter the parent carrier name up to 38 alphanumeric characters.
	DS1ZCS	OFF/ON	ZERO CODE SUPPRESSION (ZCS). This field indicates if the zero code suppression is enabled or disabled for DS1p carrier. Its values depend on the Frame format option. - For Frame format SF, the values are: ON - Zero code suppression is enabled. OFF - Zero code suppression is disabled. - For Frame format ESF, only the OFF value is supported Note: If the DS1 carries channelized data services that require 64k clear-channel transmission, use the OFF value. This avoids undesirable ZCS modification of the bitstream.
	DS1POS	See refinements	DS1 POSITION. This field indicates the position of the DS1P carrier in the payload. Its one subfield is PCARRTYP.
	PCARRTYP	DS3P or VT15P	PARENT CARRIER TYPE. Valid values are - DS3P (DS-3 path carrier). Refine DS3P by entering PALDPOS, which is the DS1P carrier in the DS-3 payload. Valid values are 1-28. - VT15P (VT1.5 path carrier with asynchronous DS-1 payload)

MNHSCARR (continued)

(Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	PALDPOS	1 to 28	PAYLOAD POSITION. Enter the position of the DS1P carrier in the DS3 payload.
	FRAMEFMT	ESF or SF	FRAME FORMAT. This field indicates the frame format used by the DS1P carrier. Valid values are • ESF (extended superframe) • SF (superframe) Enter refinements for ESF and SF as described here.
	ESFDS1PM	See refinements	EXTENDED SUPERFRAME DS-1 PERFORMANCE MEASUREMENT. This field indicates the performance measurement attributes for DS1 path carrier employing ESF format. The field is a vector of up to 5 entries. Each entry in the vector describes an ESF DS-1 path performance measurement parameter. To accept system default values, enter \$ for the field. For each entry, there are two subfields: PARM and ATTR.
	PARM	CV, ES, SES, CSS, UAS	PARAMETER NAME. This field indicates the performance measurement parameter name. Valid values include • CV (code violation) • ES (errored second) • SES (severely errored second) • CSS (controlled slip second) • UAS (unavailable second) The default values are shown in parentheses beside the following parameter names: • CV (132960, 13296) • ES (648, 65) • SES (100, 10) • CSS (4, 1) • UAS (10, 10)

MNHSCARR (continued)

(Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	ATTR	See refinements	PARAMETER ATTRIBUTES. Valid values are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0 to 4294967295	DAY LIMIT. An alarm generates when the DAYLIM is crossed. The default value is 7.
	MIN15LIM	0 to 32767	15-MINUTE ALARM. An alarm generates when the MIN15LIM is crossed. The default value is 3.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)
	SFDS1PM	See refinements	SUPERFRAME DS-1 PERFORMANCE MEASUREMENT. This field indicates the performance measurement attributes for DS1 path carrier employing SF format. The field is a vector of up to 5 entries. Each entry in the vector describes an SF DS-1 path performance measurement parameter. To accept system default values, enter \$ for the field. For each entry, there are two subfields: PARM and ATTR.
	PARM	CV, ES, SES, CSS, UAS	PARAMETER NAME. This field indicates the performance measurement parameter name. Valid values include • CV (code violation) • ES (errored second) • SES (severely errored second) • CSS (controlled slip second) • UAS (unavailable second)

MNHSCARR (continued)

(Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
			The default values are shown in parentheses beside the following parameter names: • CV (132960, 13296) • ES (648, 65) • SES (100, 10) • CSS (4, 1) • UAS (10, 10)
	ATTR	See refinements	PARAMETER ATTRIBUTES. Valid values are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0 to 4294967295	DAY LIMIT. An alarm generates when the DAYLIM is crossed.
	MIN15LIM	0 to 32767	15-MINUTE ALARM. An alarm generates when the MIN15LIM is crossed.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)
	DS1FAIL	See refinements	DS-1 FAILURE ATTRIBUTES. This field indicates the defects or failure attributes for the DS-1 path carrier. The field is a vector of up to 3 entries. Each entry in the vector describes a DS-1 defect or failure. To accept system default values, enter \$ for the field. For each entry, there are two subfields: FAILURE and ATTR.

MNHSCARR (continued)

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Field	Subfield or refinement	Entry	Explanation and action
	FAILURE	AIS, LOF, RAI	FAILURE NAME. Valid values include • AIS (alarm indication signal) The default alarm severity is MN. The default action is NRPT. • LOF (loss of frame) The default alarm severity is MN. The default action is RPT. • RAI (remote alarm indication) The default alarm severity is MN. The default action is NRPT.
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	SEVERITY • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)
	ACTION	NRPT, RPT	ACTION. Action to be taken on fault detection. • NRPT (no report or alarm) Note: Do not set ACTION to NRPT unless SEVERITY is set to NA. • RPT (report)

MNHSCARR (continued)**CARRTYPE = DS1L**

Carrier type DS1L only applies to Succession Network products with an MSH layer. The following table shows datafill specific to carrier type DS1L.

(Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	PHYLINK	See refinements	PHYSICAL LINK. This is the location of the DS-1 circuit pack on the DS1L carrier. This field consists of refinements NODETYPE, NODEID, SHELFID, SLOTNUM, and PORTNUM.
	NODETYPE	DS1L	NODE TYPE. Enter DS1L as the type of node.
	NODEID	0-63	NODE IDENTIFIER. Enter the identifier of the node.
	SHELFID	0, 1	SHELF IDENTIFIER. Enter the identifier for the shelf that contains the DS-1 circuit pack.
	SLOTNUM	1-28	SLOT NUMBER. Enter the slot number of the DS-1 circuit pack. Note: Carrier type DS1L only accepts numbers • 3 (for slots 2-4) on shelf 1 • 9 (for slots 8-10) on shelf 1 • 11 (for slots 10-12) on shelf 0
	PORTNUM	1-28	PORT NUMBER. Enter the port number of the DS-1 circuit pack.
	ATTR	See refinements	PARAMETER ATTRIBUTES. The refinements are FRMFMT, LNCODING, SFBERLIM, and SDBERLIM.

MNHSCARR (continued)

(Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	FRMFMT	SF or ESF	FRAME FORMAT. This subfield indicates the frame format bit that the DS-1 carrier uses. Enter one of the following values: • SF (superframe) • ESF (extended superframe)
	LNCODING	AMI, B8ZS, ZCS	LINE ENCODING. Enter one of the following values: • AMI (alternate mark inversion) • B8ZX (binary N zero substitution) • ZCS (zero code suppression)
	SFBERLIM	Multiple with 3-5	SIGNAL FAILURE. Enter SFBERLIM and a value from 3 to 5.
	SDBERLIM	Multiple with 5 to 9	SIGNAL DEGRADATION. Enter SDBERLIM and a value from 5 to 9.
	DS1PM	See refinements	DS-1 PERFORMANCE MONITORING ATTRIBUTES. This subfield indicates the performance monitoring attributes for the DS-1 path carrier. This subfield is a vector of up to 6 entries. Each entry in the vector describes a DS-1 line performance monitoring parameter. The subfields are PARM and ATTR.

MNHSCARR (continued)

(Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	PARM	CV, ES, SES, CSS, UAS, AISS	PARAMETER NAME. This field indicates the performance monitoring parameter name. Select the entry as follows: • CV (code violation) • ES (errored second) • SES (severely errored second) • CSS (control slip second) • AISS (alarm indication signal second) • UAS (unavailable second)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are DAYLIM, MIN15LIM, and ALRMSEV.
	DAYLIM	0 to 4294967295	DAY LIMIT. This subfield indicates the threshold for the current day interval. A threshold crossing alarm generates if the DAYLIM is crossed.
	MIN15LIM	0 to 32767	15-MINUTE LIMIT. This subfield indicates the threshold for the current 15-minute interval. A threshold crossing alarm generates if the MIN15LIM is crossed.
	ALRMSEV	NA, MN, MJ, CR	ALARM SEVERITY. Enter one of the following values to indicate the level of severity for the alarm: • NA (no alarm) • MN (minor alarm, the default value) • MJ (major alarm) • CR (critical alarm)

MNHSCARR (continued)

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Field	Subfield or refinement	Entry	Explanation and action
	DS1FAIL	See refinements	DEFECT OR FAILURE ATTRIBUTES FOR DS1L SECTION CARRIER. The field is a vector of up to 2 entries. Each entry in the vector describes an DS1L defect or failure. To accept system default values, enter \$ for the field. For each entry, the subfields are FAILURE and ATTR.
	FAILURE	LOS, LOF, AIS, RAI, SFBER, SDBER	DEFECT OR FAILURE NAME. Select entry as follows: • LOS (loss of signal) The default alarm severity is CR. The default action is RPT. • LOF (loss of frame) The default alarm severity is CR. The default action is RPT. • AIS (alarm indication signal). The default alarm severity is MN. The default action is NRPT. • RAI (remote alarm indication) The default alarm severity is MN. The default action is NRPT. • SFBER (signal failure) • SDBER (signal degradation)
	ATTR	See refinements	PARAMETER ATTRIBUTES. The subfields are SEVERITY and ACTION.

MNHSCARR (continued)

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Field	Subfield or refinement	Entry	Explanation and action
	SEVERITY	NA, MN, MJ, CR	SEVERITY. This subfield indicates the severity of the alarm when the defect is declared. Valid values are • NA (no alarm) • MN (minor alarm) • MJ (major alarm) • CR (critical alarm, the default value)
	ACTION	RPT, NRPT	ACTION. This field indicates the action to take when the defect is declared. Valid values are • NRPT (no report or alarm) Note: Do not set ACTION to NRPT unless SEVERITY equals NA. • RPT (report, the default value)

MNHSCARR (continued)**Datafill example**

The following figures show sample datafill for table MNHSCARR.

CARRKEY	CCNT0	CARRINFO
SPM_0_OC3S_1_WORKING	177	
OC3S SPM 0 0 9 (LBC 150 125 CR) (OPT 85 95 CR) (OPR 85 95 CR) \$		
(SEFS 17 7 MN) (CV 4430 1772 MN) (ES 864 346 MN)		
(SES 4 2 MN) \$ (LOS CR RPT) (LOF CR RPT) \$		
SPM_0_OC3S_1_SPARE	178	
OC3S SPM 0 0 10 (LBC 150 125 CR) (OPT 85 95 CR) (OPR 85 95 CR) \$		
(SEFS 17 7 MN) (CV 4430 1772 MN) (ES 864 346 MN)		
(SES 4 2 MN) \$ (LOS CR RPT) (LOF CR RPT) \$		
SPM_0_STS3L_1_WORKING	175	
STS3L SPM_0_OC3S_1_WORKING 4 7 HSCARR 1 (SFBERX MN RPT) (SDBERX MN RPT) \$		
(CV 4430 1772 MN) (ES 864 346 MN) (SES 4 2 MN) (UAS 10 10 MN) \$		
(AIS MN NRPT) (RFI MN NRPT) \$		
SPM_0_STS3L_2_SPARE	176	
STS3L SPM_0_OC3S_1_SPARE 4 7 HSCARR 1 (SFBERX MN RPT) (SDBERX MN RPT) \$		
(CV 4430 1772 MN) (ES 864 346 MN) (SES 4 2 MN) (UAS 10 10 MN) \$		
(AIS MN NRPT) (RFI MN NRPT) \$		
SPM_0_STS1_1	172	
STS1P SPM_0_STS3L_1_WORKING 1 VT SPM_0_STS1_1_PATH		
(CV 125 15 MN) (ES 100 12 MN) (SES 7 3 MN) (UAS 10 10 MN)		
(CVFE 125 15 MN) (ESFE 100 12 MN) (SESFE 7 3 MN)		
(UASFE 10 10 MN) \$ (LOP MN NRPT) (AIS MN NRPT) (RFI MN NRPT)		
(PLM MN RPT) \$		
SPM_0_STS1_2	173	
STS1P SPM_0_STS3L_1_WORKING 2 ASYNC_DS3 SPM_0_STS1_2_PATH		
(CV 125 15 MN) (ES 100 12 MN) (SES 7 3 MN) (UAS 10 10 MN)		
(CVFE 125 15 MN) (ESFE 100 12 MN) (SESFE 7 3 MN)		
(UASFE 10 10 MN) \$ (LOP MN NRPT) (AIS MN NRPT) (RFI MN NRPT)		
(PLM MN RPT) \$		
SPM_0_STS1_3	174	
STS1P SPM_0_STS3L_1_WORKING 3 UNEQ SPM_0_STS1_3_PATH		
(CV 125 15 MN) (ES 100 12 MN) (SES 7 3 MN) (UAS 10 10 MN)		
(CVFE 125 15 MN) (ESFE 100 12 MN) (SESFE 7 3 MN)		
(UASFE 10 10 MN) \$ (LOP MN NRPT) (AIS MN NRPT) (RFI MN NRPT)		
(PLM MN RPT) \$		
SPM_0_STS1_2_DS3	169	
DS3P SPM_0_STS1_2 M23 (CV 3820 382 MN) (ES 250 25 MN)		
(SES 40 4 MN) (UAS 10 10 MN) \$ (AIS MN NRPT) (LOF MJ RPT)		
(RAI MN NRPT) \$		

MNHSCARR (continued)

CARRKEY CCNTO	CARRINFO
SPM_3_STS1_1_VT_1_1	85
VT15P SPM_3_STS1_1 1 1 BYSYNC_DS1 (CV 132960 13296 MN)	
(ES 648 65 MN) (SES 100 10 MN) (UAS 10 10 MN) \$ (LOP MN RPT) (AIS MN NRPT)	
(RFI MN NRPT) (PLM MN RPT) \$	
SPM_3_STS1_1_VT_1_2	86
VT15P SPM_3_STS1_1 1 2 BYSYNC_DS1 (CV 132960 13296 MN)	
(ES 648 65 MN) (SES 100 10 MN) (UAS 10 10 MN) \$ (LOP MN RPT) (AIS MN NRPT)	
(RFI MN NRPT) (PLM MN RPT) \$	
SPM_3_STS1_2_DS3_1_DS1_1	83
DS1P SPM_3_DS3_1 ON DS3P 1 SF (CV 691 72 MN) (ES 648 65 MN)	
(SES 100 10 MN) (CSS 4 1 MN) (UAS 10 10 MN) \$ (AIS MN NRPT) (LOF MN RPT)	
(RAI MN NRPT) \$	
SPM_3_STS1_3_DS3_2_DS1_1	84
DS1P SPM_3_DS3_2 ON DS3P 1 SF (CV 691 72 MN) (ES 648 65 MN)	
(SES 100 10 MN) (CSS 4 1 MN) (UAS 10 10 MN) \$ (AIS MN NRPT) (LOF MN RPT)	
(RAI MN NRPT) \$	

Note: For carrier circuit numbering, refer to the table entitled “Recommended circuit number datafill for table MNHSCARR” in the Supplementary information section of this module.

The following figure shows sample datafill for carrier type DS1L.

```
SPM_30_LSA_1_03_04_DS1L_126
DS1L SPM 30 1 3 4 (FRMFM ESF) (LNCODING AMI (SFBERLIM 4) (SDBERLIM 7) $
(CV 132960 13296 MN) (ES 648 65 MN) (SES 100 10 MN)
(CSS 4 1 MN) (AISS 10 10 MN) (UAS 10 10 MN) $ (LOS MN RPT) (AIS MN NRPT)
(LOF MN RPT) (RAI MN NRPT) (SFBER MN RPT) (SDBER MN RPT) $
```

MNHSCARR (continued)

The following figure shows MNHSCARR circuit mapping.

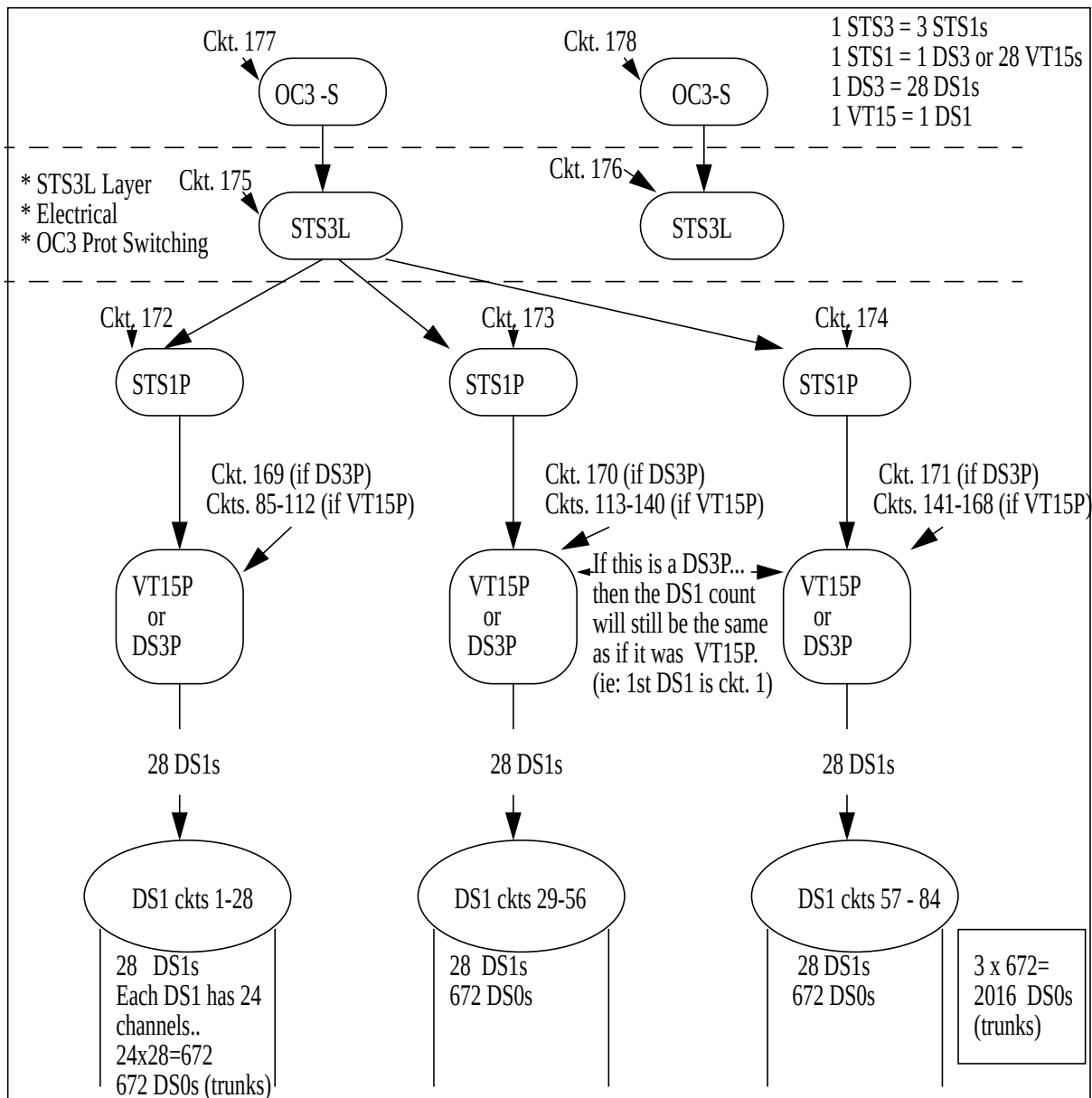


Table history

SP15

Updated the description of the error message related to the upper limit of provisioned carriers. This was based on feature 59027128, "SPM DS-1 Assignment SOC Control."

MNHSCARR (continued)

Added notes and attention boxes indicating ATM is not applicable to all markets.

SP14

Made the following changes:

- Added a note to the DS1ZCS field for DS1P carriers. This was based on feature 59014167, “CCS7 Channelized Access for SPM OC-3 TDM.”
- Added one additional error message at the end of “Datafill sequence and implications” section concerning IDTs. This was based on feature 59012232, “NGLA RDTINV Provisioning.”
- Added procedure for converting between DS3P carriers and VT15P carriers. This was based on SR UV90950.
- Modified the datafill section for CCTNO by adding a note to datafill carrier circuit numbers according to the table in the Supplementary information section. Modified the circuit numbers and added a note about DS1P carrier circuit numbers in the table. Added examples for DS1P and VT15P carrier datafill. This was based on SR 50331498.
- Added two additional error messages at the end of “Datafill sequence and implications” section concerning carrier provisioning. This was based on feature 59018431, “DS-1 Provisioning for NA100.”
- Added default severity and action for STS3L carrier SIMPLEX alarm. This was based on feature 59021056, “SPM Carm Carrier Banner Alarm Enhancement.”

MSH12

Added carrier type DS1L.

SP12 (CSP12)

SR50134464 and SR50134464 made technical corrections.

SPM01 (CSP09)

Table MNHSCARR was created.

Supplementary information

This section describes how to convert VT15P carriers to DS3P carriers and DS3P carriers to VT15P carriers.

Procedure for changing VT15P carriers to DS3P carriers and DS3P carriers to VT15P carriers

Conversion between DS3P and VT15P is becoming more common as operating company personnel discover that their needs differ from the

MNHSCARR (continued)

recommended datafill in table MNHSCARR. Corruption can occur when operating company personnel change existing table MNHSCARR datafill from VT15P to DS3P or from DS3P to VT15P. This corruption may cause OC3 RM protection switching to fail, and it may also affect speech capabilities. Nortel Networks recommends using the following procedure when converting existing carrier datafill in table MNHSCARR between VT15P carriers and DS3P carriers.

Note: If the converted SPM carriers are going to another SPM, you must also apply the changes to the far end SPM.

The following table shows the recommended circuit number datafill for table MNHSCARR. Note the VT15P and DS3P circuit numbers.

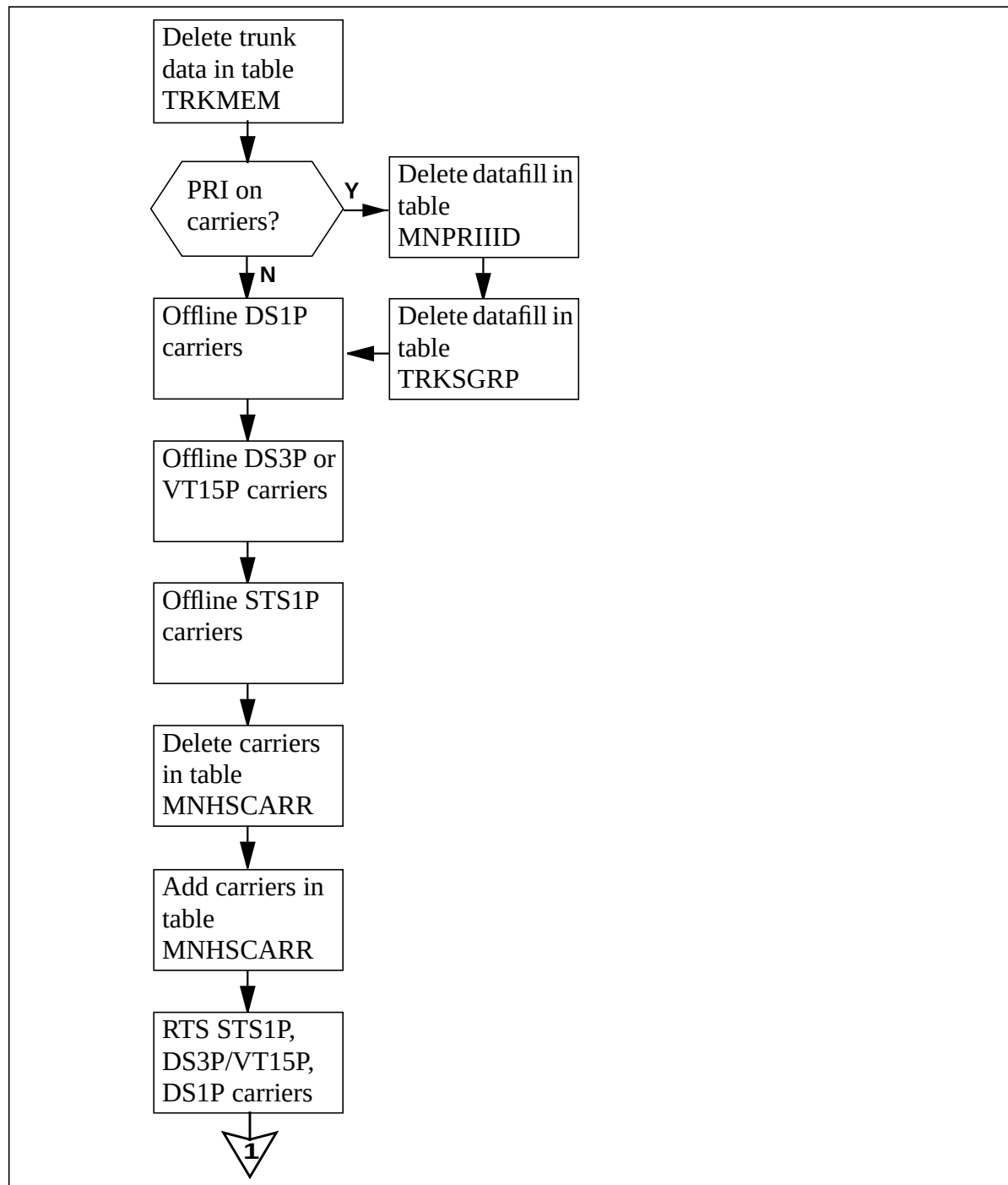
Recommended circuit number datafill for table MNHSCARR

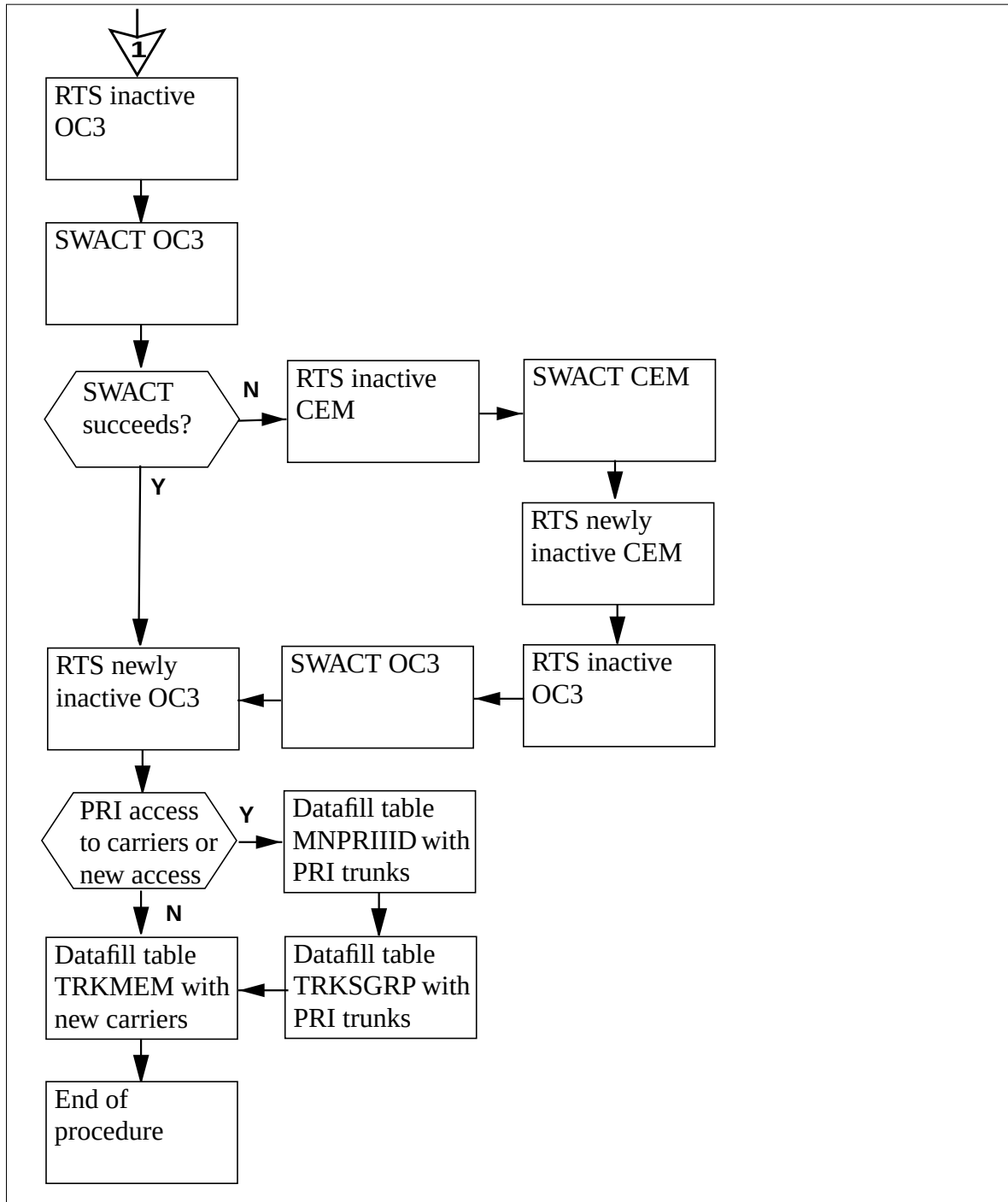
Carrier	Circuit number(s)
OC3 # 0	177
OC3 # 1	178
STS3L # 1	175
STS3L # 2	176
STS1P # 1	172
STS1P # 2	173
STS1P # 3	174
DS3P 1 under STS1P # 1	169
DS3P 2 under STS1P # 2	170
DS3P 3 under STS1P # 3	171
or	
VT15P under STS1P # 1	85-112
VT15P under STS1P # 2	113-140
VT15P under STS1P # 3	141-168
84 DS1P	1-84

Note: It is important to use Circuit Numbers 1 through 84 for the DS1P tuples. This will align the physical Circuit number with this logical Circuit

MNHSCARR (continued)

number. This will avoid confusion in trunk datafill and troubleshooting. The guide above is a suggested way of numbering the logical circuit numbers. The most important are the DS1P tuples.

MNHSCARR (continued)**Summary of procedure**

MNHSCARR (continued)**Summary of procedure**

MNHSCARR (continued)

Steps of procedure***At the MAP display***

- 1 Access table TRKMEM by typing
>TABLE TRKMEM
and pressing the Enter key.
- 2 In table TRKMEM, identify all the trunk data that references the DS1P carriers to be removed. Remove this trunk data from table TRKMEM. Remove only the table entries associated with the carriers to be changed. All other table entries can remain for that OC3.

If the carriers to be changed	Do
have PRI on them	step 3
do not have PRI on them	step 7

- 3 Access table MNPRIID by typing
>TABLE MNPRIID
and pressing the Enter key.
- 4 Remove the datafill from table MNPRIID.
- 5 Access table TRKSGRP by typing
>TABLE TRKSGRP
and pressing the Enter key.
- 6 In table TRKSGRP, remove the datafill that references the D-channel pointing to the SPM carriers being changed. This datafill must be removed before the carriers can be deleted from table MNHSCARR later in this procedure.
- 7 Return to the CI level of the MAP display by typing
>QUIT ALL
and pressing the Enter key.
- 8 Access the CARRIER level of the MAP display by typing
>MAPCI;MTC;TRKS;CARRIER
and pressing the Enter key.
- 9 Post the DS1P carriers by typing
>POST SPM spm_no DS1P
and pressing the Enter key.
where
spm_no
is the ID (number) of the SPM

Example**>POST SPM 0 DS1P**

MNHSCARR (continued)

- 10** Busy a DS1P carrier to be changed under its parent DS3P or VT15P by typing
>BSY ds1p_no
 and pressing the Enter key.

where

ds1p_no
 is the number of a DS1P carrier

Example

>BSY 0

- 11** Offline the DS1P carrier to be changed under its parent DS3P or VT15P by typing

>OFFL ds1p_no
 and pressing the Enter key.

where

ds1p_no
 is the number of a DS1P carrier

Example

>OFFL 0

If all of the DS1P carriers to be changed	Do

have not been offlined	return to step 10

have been offlined	step 12

- 12** Post the DS3P or VT15P carriers to be changed by typing

>POST SPM spm_no DS3P

and pressing the Enter key.

where

spm_no
 is the ID (number) of the SPM

Example

>POST SPM 0 DS3P

Note: Steps 12, 13, and 14 show how to offline DS3P carriers. If you are changing table MNHSCARR datafill from VT15P carriers to DS3P carriers, substitute VT15P for DS3P in these steps.

- 13** Busy a DS3P carrier to be changed by typing

>BSY ds3p_no

and pressing the Enter key.

where

ds3p_no
 is the number of a DS3P carrier

MNHSCARR (continued)

*Example***>BSY 0**

- 14** Offline the DS3P carrier to be changed by typing

>OFFL ds3p_no

and pressing the Enter key.

*where***ds3p_no**

is the number of a DS3P carrier

*Example***>OFFL 0**

If all of the DS3P carriers to be changed	Do

have not been offlined	return to step 13

have been offlined	step 15

- 15** Post the STS1P carrier to the DS3P or VT15P carriers by typing

>POST SPM spm_no STS1P

and pressing the Enter key.

*where***spm_no**

is the ID (number) of the SPM

*Example***>POST SPM 0 STS1P**

- 16** Busy the STS1P carrier to be changed by typing

>BSY sts1p_no

and pressing the Enter key.

*where***sts1p_no**

is the number of the STS1P carrier

*Example***>BSY 0**

- 17** Offline the STS1P carrier to be changed by typing

>OFFL sts1p_no

and pressing the Enter key.

*where***sts1p_no**

is the number of the STS1P carrier

MNHSCARR (continued)

Example

>OFFL 0

- 18** Access table MNHSCARR by typing

>QUIT ALL;TABLE MNHSCARR

and pressing the Enter key.

- 19** Delete the DS1P carriers datafilled in table MNHSCARR.

Note: The DS1P carriers were offlined in step 11.

- 20** Delete the DS3P or VT15P carriers datafilled in table MNHSCARR.

Note: The DS3P or VT15P carriers were offlined in step 14.

- 21** Delete the STS1P carrier datafilled in table MNHSCARR.

Note: The STS1P carrier was offlined in step 17.

- 22** In table MNHSCARR, add the STS1P carrier.

- 23** In table MNHSCARR, add the DS3P or VT15P carriers.

- 24** In table MNHSCARR, add the DS1P carriers.

- 25** Return to the CI level of the MAP display by typing

>QUIT

and pressing the Enter key.

- 26** Access the CARRIER level of the MAP display by typing

>MAPCI;MTC;TRKS;CARRIER

and pressing the Enter key.

- 27** Post the STS1P carrier by typing

>POST SPM spm_no STS1P

and pressing the Enter key.

where

spm_no

is the ID (number) of the SPM

Example

>POST SPM 0 STS1P

- 28** Busy the STS1P carrier by typing

>BSY sts1p_no

and pressing the Enter key.

where

sts1p_no

is the number of the STS1P carrier

Example

>BSY 0

MNHSCARR (continued)

- 29 Return-to-service the STS1P carrier by typing

>RTS sts1p_no

and pressing the Enter key.

where

sts1p_no

is the number of the STS1P carrier

Example

>RTS 0

- 30 Post the DS3P or VT15P carriers by typing

>POST SPM spm_no VT15P

and pressing the Enter key.

where

spm_no

is the ID (number) of the SPM

Example

>POST SPM 0 VT15P

Note: Steps 30, 31, and 32 show how to return-to-service VT15P carriers. If you are changing table MNHSCARR datafill from VT15P carriers to DS3P carriers, substitute DS3P for VT15P in these steps.

- 31 Busy a VT15P carrier by typing

>BSY vt15p_no

and pressing the Enter key.

where

vt15p_no

is the number of a VT15P carrier

Example

>BSY VT15P 0

- 32 Return-to-service a VT15P carrier by typing

>RTS vt15p_no

and pressing the Enter key.

where

vt15p_no

is the number of a VT15P carrier

Example

>RTS VT15P 0

If all of the VT15P carriers to be added	Do

have not been returned to service	return to step 31

MNHSCARR (continued)

	If all of the VT15P carriers to be added	Do
	have been returned to service	step 33
33	Post the DS1P carriers by typing >POST SPM spm_no DS1P and pressing the Enter key. <i>where</i> spm_no is the ID (number) of the SPM <i>Example</i> >POST SPM 0 DS1P	
34	Busy a DS1P carrier by typing >BSY ds1p_no and pressing the Enter key. <i>where</i> ds1p_no is the number of a DS1P carrier <i>Example</i> >BSY 0	
35	Return-to-service a DS1P carrier by typing >RTS ds1p_no and pressing the Enter key. <i>where</i> ds1p_no is the number of a DS1P carrier <i>Example</i> >RTS 0 Note: The inactive OC3S carrier will go CBSY.	
	If all of the DS1P carriers	Do
	have not been returned to service	return to step 34
	have been returned to service	step 36
36	Return to the CI level of the MAP display by typing >QUIT ALL and pressing the Enter key.	
37	Post the SPM by typing >MAPCI;MTC;PM;POST SPM spm_no	

MNHSCARR (continued)

and pressing the Enter key.

where

spm_no
is the ID (number) of the SPM

Example

>MAPCI;MTC;PM;POST SPM 0

- 38 Select the inactive OC3S by typing

>SELECT OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_no
is the unit number of the inactive OC3 RM

Example

>SELECT OC3 0

- 39 Busy the inactive OC3 RM by typing

BSY OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_unit
is the unit number of the inactive OC3 RM

Example

>BSY OC3 0

- 40 Return-to-service the inactive OC3 RM by typing

>RTS OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_no
is the unit number of the inactive OC3 RM

Example

>RTS OC3 0

Note: The inactive OC3S carrier will go INSV.

- 41 Begin executing manual OC3 RM sparing to switch activity by accessing the protection level of the MAP display and typing

>PROT

and pressing the Enter key.

- 42 Perform a manual protection switch of the OC3 RM by typing

>MANUAL active_oc3_unit inactive_oc3_unit

and pressing the Enter key.

MNHSCARR (continued)

where

active_oc3_unit

is the unit number of the active OC3 RM

inactive_oc3_unit

is the unit number of the inactive OC3 RM

Example

>MANUAL 1 0

Example of MAP display

A sparing action may impact services on this node.

Do you wish to continue?

Please confirm ("YES", "Y", "NO", or "N"):

- 43** Confirm the system prompt by typing

>Y

and pressing the Enter key.

If the MANUAL PROT switch	Do
fails	step 44
succeeds	step 59

- 44** Select the inactive CEM by typing

>SELECT CEM inactive_cem_unit

and pressing the Enter key.

where

inactive_cem_unit

is the unit number of the inactive CEM

Example

>SELECT CEM 0

- 45** Busy the inactive CEM by typing

BSY CEM inactive_cem_unit

and pressing the Enter key.

where

inactive_cem_unit

is the unit number of the inactive CEM

Example

>BSY CEM 0

MNHSCARR (continued)

- 46 Return-to-service the inactive CEM by typing
>RTS CEM inactive_cem_unit
and pressing the Enter key.
where
inactive_cem_unit
is the unit number of the inactive CEM
Example
>RTS CEM 0
- 47 Begin executing manual CEM sparing to switch activity by accessing the protection level of the MAP display and typing
>PROT
and pressing the Enter key.
- 48 Perform a manual protection switch of the CEM by typing
>MANUAL
and pressing the Enter key.

Example of MAP display

A sparing action may impact services on this node.

Do you wish to continue?
Please confirm ("YES", "Y", "NO", or "N"):

- 49 Confirm the system prompt by typing
>Y
and pressing the Enter key.
- 50 Quit the PROT level of the MAP display by typing
>QUIT
and pressing the Enter key.
- 51 Busy the inactive CEM by typing
BSY CEM inactive_cem_unit
and pressing the Enter key.
where
inactive_cem_unit
is the unit number of the inactive CEM
Example
>BSY CEM 1
- 52 Return-to-service the inactive CEM by typing
>RTS CEM inactive_cem_unit

MNHSCARR (continued)

and pressing the Enter key.

where

inactive_cem_unit
is the unit number of the inactive CEM

Example

>RTS CEM 1

- 53** Select the inactive OC3 by typing

>SELECT OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_no
is the unit number of the inactive OC3 RM

Example

>SELECT OC3 1

- 54** Busy the inactive OC3 RM by typing

BSY OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_unit
is the unit number of the inactive OC3 RM

Example

>BSY OC3 1

- 55** Return-to-service the inactive OC3 RM by typing

>RTS OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_unit
is the unit number of the inactive OC3 RM

Example

>RTS OC3 1

- 56** Begin executing manual OC3 RM sparing to switch activity by accessing the protection level of the MAP display and typing

>PROT

and pressing the Enter key.

- 57** Perform a manual protection switch of the OC3 RM by typing

>MANUAL 0 1

and pressing the Enter key.

>MANUAL active_oc3_unit inactive_oc3_unit

MNHSCARR (continued)

and pressing the Enter key.

where

active_oc3_unit

is the unit number of the active OC3 RM

inactive_oc3_unit

is the unit number of the inactive OC3 RM

Example

>MANUAL 0 1

Example of MAP display

A sparing action may impact services on this node.

Do you wish to continue?

Please confirm ("YES", "Y", "NO", or "N"):

- 58 Quit the PROT level of the MAP display by typing

>QUIT

and pressing the Enter key.

- 59 Busy the inactive OC3 RM by typing

BSY OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_unit

is the unit number of the inactive OC3 RM

Example

>BSY OC3 1

- 60 Return-to-service the inactive OC3 RM by typing

RTS OC3 inactive_oc3_unit

and pressing the Enter key.

where

inactive_oc3_unit

is the unit number of the inactive OC3 RM

Example

>RTS OC3 1

MNHSCARR (end)

Note: All the newly added carriers should be up.

	If	Do
	PRI access is to go back onto the carriers or if new PRI access is added	step 61
	PRI access is not to go back onto the carriers or if no new PRI access is added	step 65
61	Access table MNPRIIID by typing >QUIT ALL;TABLE MNPRIIID and pressing the Enter key.	
62	Datafill table MNPRIIID with the PRI trunks information.	
63	Access table TRKSGRP by typing >TABLE TRKSGRP and pressing the Enter key.	
64	Datafill table TRKSGRP with the PRI trunks information.	
65	Access table TRKMEM by typing >TABLE TRKMEM and pressing the Enter key.	
66	Datafill table TRKMEM with datafill for the newly added carriers.	
67	You have successfully completed this procedure.	

MNLINK

Table name

Management Network Link (MNLINK)

Functional description

Table MNLINK (Management Network Link) is one of six tables used to configure the DMS-Spectrum Peripheral Module (SPM). The data maintained in this table includes the link identifier and end-points of the link. Each tuple in the table identifies the C-side host link set for an SPM. The term *host link* refers to the DS-512 fiber links between the common equipment module (CEM) and the enhanced network (ENET) card.

Datafill sequence and implications

Datafill new link information in table MNLINK before putting new ENET cards or SPM modules on line. Before making changes to table MNLINK, set the ENET cards, which are connected to the SPM node specified in field NODEID, to the offline (OFFL) state.

After the links are datafilled in table MNLINK, use command TRNSL at the CEM level of the MAP terminal to view the ENET link assignments. Refer to the *DMS-Spectrum Peripheral Module Commands Reference Manual* (297-1771-819) for additional information about command TRNSL. Refer to the appropriate DMS-100 or DMS-250 *Commands Reference Manual* for information on ENET commands.

Datafill tables in the following order:

1. table PMLOADS

Note: Table PMLOADS specifies the location of a particular load file. Datafill PMLOADS only once. There is no need to datafill PMLOADS for each SPM added to the system, unless a new load file entry must be added to table PMLOADS.

2. table MNPRTGRP
3. table MNNODE
4. table MNSHELF
5. table MNCKTPAK
6. table ENCDINV
7. table MNLINK
8. table MNHSCARR

MNLINK (continued)

If the ENET XPT card terminating SPM host links has not been added to table ENCDINV, the following message displays:

Addition verification failed at ENET end,...

If CEM circuit packs of the SPM has not been added to table MNCKTPAK, the following message displays:

Cannot find the circuit pack

Table size

0 to 64 tuples

Field descriptions

The following table describes field names, subfield names, and valid data ranges for table MNLINK.

(Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LKSETKEY		See subfields	LINKSET KEY. This field consists of subfields NODETYPE and NODEID. This is the key field to table MNLINK.
	NODETYPE	SPM	NODE TYPE. Enter SPM.
	NODEID	0 to 63	NODE IDENTIFIER. Enter the SPM node identifier. The default value is 0 (zero).
CSLNKSET		See subfields	C-SIDE HOST LINK SET. This is a vector consisting of 4 entries. Each entry defines a paired connection between one of the two SPM CEMs and the ENET. The subfields are LKPAIRID, ENSHELF, ENSLOT, and ENLINK. Note: There are four optical fiber cables for each CEM. Enter four entries for each CSLINKSET vector. See the following table.

MNLINK (continued)

(Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	LKPAIRID	1 to 4	LINK PAIR IDENTITY. Enter the identity of the host link pair at the SPM end. The default value is 1.
	ENSHELF	0 to 3	ENET SHELF. Enter the ENET shelf where the link pair terminates. The default value is 0 (zero).
	ENSLOT	9 to 32	ENET SLOT. Enter the ENET crosspoint (XPT) card slot where the link terminates. The default value is 32.
	ENLINK	0 to 18	ENET LINK. Enter the ENET port (link) on the XPT card where the link terminates. The default value is 0 (zero).

Datafill example

Each CEM module has four fiber-optic cable pairs. Each pair must be entered as a vector in field CSLNKSET. The following is an example of a link split over two shelves.

(Sheet 1 of 2)

CEM 0		ENET PLANE 0		
CEM unit	CEM link ID	ENET shelf	ENET slot	ENET link
0	1	0	14	0
0	2	0	14	1
0	3	1	15	2
0	4	1	15	3
CEM 1		ENET PLANE 1		
CEM unit	CEM link ID	ENET shelf	ENET slot	ENET link
1	1	0	14	0

MNLINK (continued)

(Sheet 2 of 2)

CEM 0		ENET PLANE 0		
CEM unit	CEM link ID	ENET shelf	ENET slot	ENET link
1	2	0	14	1
1	3	1	15	2
1	4	1	15	3

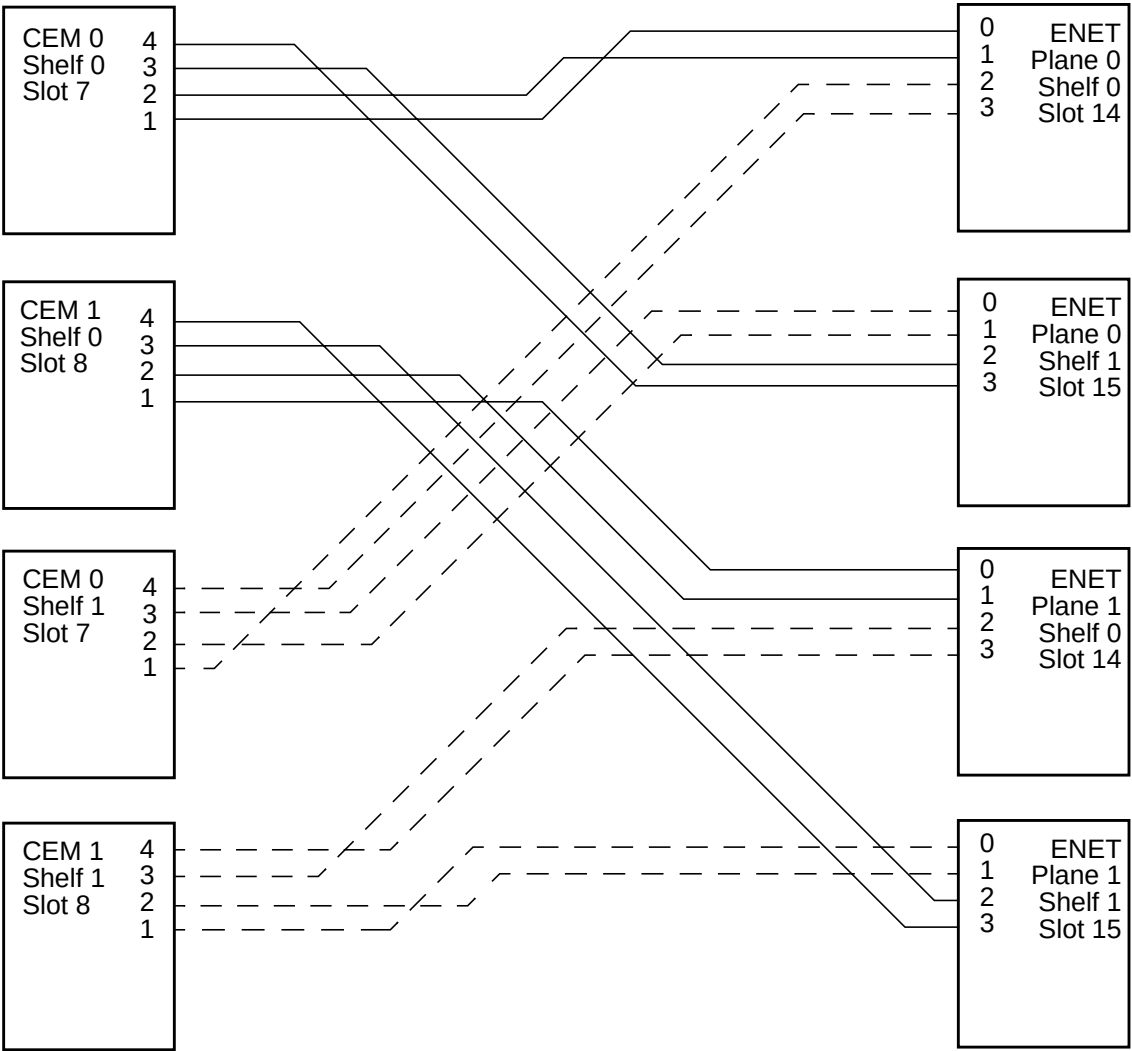
An example of the connection of SPM host links to the ENET plane is shown in the following table.

Shelf ID	Slot	CEM unit	Host link ID	ENET plane
0	7	0	1	0
0	7	0	2	0
0	7	0	3	0
0	7	0	4	0
0	8	1	1	1
0	8	1	2	1
0	8	1	4	1
0	8	1	3	1

The following figure shows the relationship of the DS-512 links between the CEM in the SPM and the NT9X40 cards in the ENET.

MNLINK (continued)

DS-512 link configuration



Note: All lines are DS-512 links. Dash lines are used for contrast.

The following shows sample datafill for table MNLINK.

MNLINK (end)

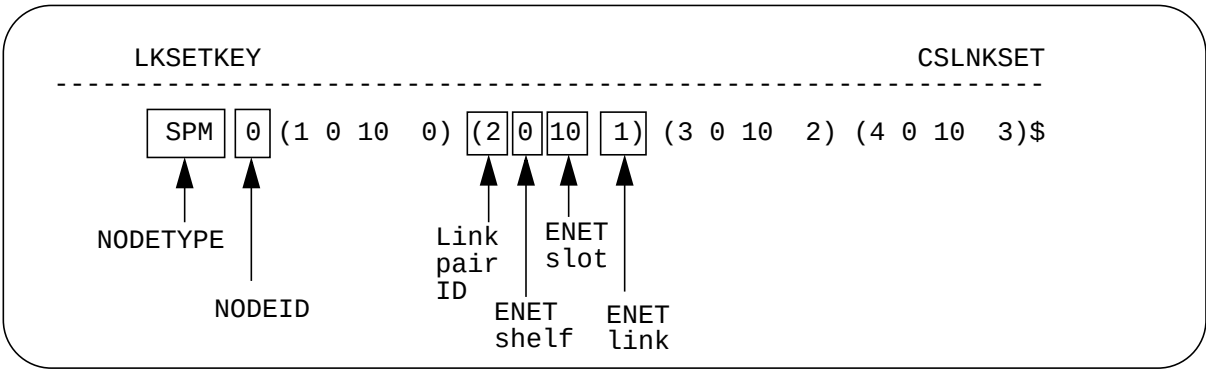


Table history

SNH01

Added DS-512 link configuration figure. Changed datafill example.

SPM01 (CSP09)

Table MNLINK was created.

MNNODE

Table name

Management Network Node (MNNODE)

Functional description

Table MNNODE is one of six tables used to configure a DMS-Spectrum Peripheral Module (SPM) node. The data maintained in this table includes the node identifier and the node location. Table MNNODE supports the Multi-Service Hub (MSH).

Datafill sequence and implications

Datafill tables in the following order:

1. table PMLOADS

Note: Table PMLOADS specifies the location of a particular load file. Datafill PMLOADS only once. There is no need to datafill PMLOADS for each SPM added to the system unless a new load file entry has to be added to table PMLOADS.

2. table MNPRTGRP
3. table MNNODE
4. table MNSHELF
5. table MNCKTPAK
6. table MNLINK
7. table MNHSCARR

In a DMS-250 switch load, there is no change to the existing datafill sequence. Table MNNODE does not depend on any other tables being datafilled.

In a DMS-100 switch load, to datafill a SMG4KDA SPM, table SITE should be datafilled before table MNNODE. Datafilling a DMSCP or IW SPM does not depend on any other tables being datafilled first.

Table size

0 to 64 tuples

MNNODE (continued)

Field descriptions

The following table describes field names, subfield names, and valid data ranges for table MNNODE.

Datafill for table MNNODE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NODEKEY		See subfields	NODE KEY. Subfields are NODETYPE and NODEID.
	NODETYPE	SPM	NODE TYPE. Enter SPM.
	NODEID	0 to 63	NODE IDENTIFIER. Enter the SPM node identifier. The default value is 0.

MNNODE (continued)**Datafill for table MNNODE (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
ALIAS		1 to 12 alphanumeric characters	ALIAS. Enter an alias for the node.
CLASS		DMSCP, IW, or SMG4KDA	CLASS. This field serves as the data selector (or refinement tag) for an SPM's datafill. Enter the class associated with each SPM's datafill to indicate its intended functionality. The SPM supports three classes: • DMSCP (DMS call processing). Assign SPMs deployed as DMS call processing peripherals to this class. For all software releases before SP12, the ONP automatically converts SPMs to this class. See "Field descriptions when CLASS=DMSCP" for further datafill. • IW (interworking). SPMs of this class connect to a DMS ENET and function as a bridge between DMS call processing peripherals and the SMG4KDA SPM. These SPMs are part of the Succession network. See "Field descriptions when CLASS=IW" for further datafill. • SMG4KDA (Succession Media Gateway 4000 Distributed Access). SPMs of this class do not connect to the ENET. This SPM class communicates to the DMS computing module over an ATM network. This SPM class serves as a distributed access point to a DMS switch. These SPMs are part of the Succession network. See "Field descriptions when CLASS=SMG4KDA" for further datafill.

MNNODE (continued)**Conditional datafill when CLASS=DMSCP**

The table that follows lists conditional datafill when you enter DMSCP in field CLASS.

Field descriptions when CLASS=DMSCP (Sheet 1 of 7)

Field	Subfield or refinement	Entry	Explanation and action
FLOOR		0 to 99	FLOOR. Enter the floor where the node is located.
CLKMODE		SYNC	CLOCK MODE. Enter SYNC. SYNC (synchronization mode) is the only valid entry for field CLKMODE.
CLKREF		INTERNAL or LOOP	CLOCK REFERENCE. Enter a clock synchronization reference from the following list: - INTERNAL (The clock synchronizes to the DMS message switch. This is the default value.) - LOOP (The clock synchronizes to the local OC-3 network.) Note: At initial program loading (IPL), field CLKREF is datafilled with the default value INTERNAL. If an SPM is datafilled in table SYNCLK as a sync source, table control prevents a change from INTERNAL to LOOP. An attempt to make such a change from INTERNAL to LOOP results in the following message: "SPM is datafilled in table SYNCLK as a SYNC SOURCE." When SPM OC-3 line timing is not employed and an SPM node is connected to an OC-3 SONET network, enter LOOP into field CLKREF to ensure correct OC-3 network timing.
LEDTIMER		0 to 1440	LED TIME-OUT PERIOD. Enter the LED timeout period in minutes. If the SPM detects no critical faults during the timeout period, the alarm LEDs turn off in order to extend their life. Enter 0 (zero) if the LEDs are to stay on at all times. The default value is 15.

MNNODE (continued)**Field descriptions when CLASS=DMSCP (Sheet 2 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
RSRUTLIM		See subfields	RESOURCE UTILIZATION. This field consists of a vector of up to five entries in subfields RESTYPE and THRESHLD. Each entry sets a low water mark use threshold, as a percent, for a resource type. If the use exceeds the threshold, alarms or logs generate. Enter \$ to select default values.
	RESTYPE	COT, DTMF, ECAN, TONESYN, MF	RESOURCE TYPE. Enter a resources type from the following list: • COT (continuity test) • DTMF (dual-tone multi-frequency) • ECAN (echo cancellation) • TONESYN (tone synthesizer) • MF (multi-frequency signaling)
	THRESHLD	10 to 100	UTILIZATION THRESHOLD. Enter the low water threshold as a percent of total resource. The default values are 60% for COT, DTMF, ECAN, TONESYN, and MF.
ALRMCTRL		See subfields	ALARM CONTROL INFORMATION. This field consists of a vector of up to ten entries in subfields ALARM and ATTR. Each entry controls a particular alarm. Enter \$ to select the system default values.
	ALARM	SYSB, MANB, ISTB, SYSBNA, MANBNA, COTLOW, DTMFLOW, ECANLOW, TONSLOW, MFLOW	ALARM NAME. Enter an alarm name from the following list: • SYSB (system busy) This alarm generates when the node is in system busy state. The default alarm severity is CR. The default action is RPT. • MANB (manual busy) This alarm generates when the node is in manual busy state. The default alarm severity is MJ. The default action is RPT.

MNNODE (continued)**Field descriptions when CLASS=DMSCP (Sheet 3 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
			• ISTB (in-service-trouble) This alarm generates when the node is in-service and it is experiencing non-service-affecting faults. The default alarm severity is MN. The default action is RPT. • SYSBNA (system busy and not accessible) This alarm generates when the node is in SYSB state and a network (for example, ENET or MS) error has caused it to be isolated. The default alarm severity is CR. The default action is RPT. • MANBNA (manual busy and not accessible) This alarm generates when the node is in MANB state, and a network (for example, ENET or MS) error has caused it to be isolated. The default alarm severity is MJ. The default action is RPT. • COTLOW (low water mark threshold for COT has been crossed) This alarm generates when use of the COT resource exceeds the threshold previously set, which means that the COT resource is in short supply. The default alarm severity is MN. The default action is RPT. • DTMFLOW (low water mark threshold for DTMF has been crossed) This alarm generates when use of DTMF resources exceeds the threshold previously set, meaning that DTMF resources are in short supply. The default alarm severity is MN. The default action is RPT.

MNNODE (continued)**Field descriptions when CLASS=DMSCP (Sheet 4 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
			• TONSLOW (low water mark threshold for TONESYN has been crossed). This alarm generates when use of the TONESYN resources exceeds the threshold previously set, meaning that TONESYN resource is in short supply. The default alarm severity is MN. The default action is RPT. • The "configdata all verbose" command displays the list of RMs that were provisioned, as well as other information pertaining to each RM, including the ProtWhomId. This number is found in the line that reads "This RM is currently protecting the services provisioned on RM X". "X" represents the ProtWhomId of that particular RM. Find the RMid whose associated ProtWhomId is the RMid of the RM to have its datafill changed. • MFLOW (low water mark threshold for MF has been crossed). This alarm generates when use of the MF resource exceeds the threshold previously set, meaning that MF resources are in short supply. The default alarm severity is MN. The default action is RPT. • ECANLOW (low water mark threshold for ECAN has been crossed) This alarm generates when use ECAN resources exceeds the threshold previously set, meaning that ECAN resources are in short supply. The default alarm severity is MN. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTES. This field consists of subfields SEVERITY and ACTION.

MNNODE (continued)**Field descriptions when CLASS=DMSCP (Sheet 5 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
EXECTAB	SEVERITY	NA, MN, MJ, CR	SEVERITY. The severity of the alarm defines its relative importance. Enter a severity from the following list: • NA (no alarm) • MN (minor alarm) • MJ (major alarm) • CR (critical alarm)
	ACTION	NRPT, RPT	ACTION. This subfield indicates the action to be taken when a fault is detected. Enter an action from the following list: • NRPT (no report generated) • RPT (report generated)
		See subfields	EXECUTABLES TABLE. This field is a vector of up to eight entries (one for each terminal type) in subfields EXEC and TRMTYPE. Each entry defines an executable lineup to be downloaded for a particular terminal type. If a node supports ISUP trunks only (no PTS trunks), enter \$ in the subfields. If a node supports PTS trunks, datafill subfields EXEC and TRMTYPE.

MNNODE (continued)**Field descriptions when CLASS=DMSCP (Sheet 6 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
	TRMTYPE	AB250, ABSPX, ABTRK, PRAB, PRAB500, POTS, or KEYSET	TERMINAL TYPE. Enter one of the following values for PTS trunks: - AB250 (PTS trunk configuration specific to the DMS-250 switch) - ABSPX (for PX FX trunks on an SPM that already has provisioned DAL trunks). This value must accompany an EXEC value of PXSPMX. Note: Only one instance of terminal type ABSPX may exist at a time. - ABTRK (standard PTS trunk configuration) - PRAB (Primary Rate Access B channels). - PRAB500 (Primary Rate Access B channels). This value must accompany an EXEC value of SPM250. Note: For PRI 100 and PRI 250 trunks to coexist on the same SPM, PRAB should be used for PRI 100 trunks and PRAB500 for PRI 250 trunks. - POTS (for POTS lines). This value must accompany a value of SPMPEX in the EXEC field. - KEYSET (for keyset lines). This value must accompany a value of SPMKEY in the EXEC field. Entries outside the range indicated for this field are invalid.

MNNODE (continued)**Field descriptions when CLASS=DMSCP (Sheet 7 of 7)**

Field	Subfield or refinement	Entry	Explanation and action
	EXEC	SPM250, SPMEX, SPMFX, FXOSPM, PXDTCX, PXSPMX, SPMPEX, or SPMKEX	EXEC LINEUP NAME. Enter the following values for SPM nodes supporting PTS trunks: • SPM250 • SPMEX. For DT, DP, or MF signalling, all 12 trunk types use ABTRK in the TRMTYPE field. For 100 PRA trunks, SPMEX should be used with a value PRAB in the TRMTYPE field. • SPMFX • FXOSPM • PXDTCX (for PX trunks that use FX signalling on the DTC). This value must accompany a value of AB250 in the TRMTYPE field. • PXSPMX (for PX FX trunks on an SPM that already has provisioned DAL trunks). This value must accompany a value of ABSPX in the TRMTYPE field. • SPMPEX (for POTS lines). This value must accompany a value of POTS in the TRMTYPE field. • SPMKEX (for keyset lines). This value must accompany a value of KEYSET in the TRMTYPE field. Note: For any trunk type that can use FX signalling, you must enter SPMFX or FXOSPM. Entries outside the range indicated for this field are invalid.

MNNODE (continued)**Conditional datafill when CLASS=IW**

The table that follows lists conditional datafill when you enter IW in field CLASS.

Field descriptions when CLASS=IW (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
FLOOR		0 to 99	FLOOR. Enter the floor where the node is located.
CLKMODE		SYNC	CLOCK MODE. Enter SYNC. SYNC (synchronization mode) is the only valid entry for field CLKMODE.
CLKREF		INTERNAL or LOOP	CLOCK REFERENCE. Enter a clock synchronization reference from the following list: - INTERNAL (The clock synchronizes to the DMS message switch. This is the default value.) - LOOP (The clock synchronizes to the local OC-3 network.) Note: At initial program loading (IPL), field CLKREF is datafilled with the default value INTERNAL. When an SPM node is connected to an OC-3 SONET network, enter LOOP into field CLKREF to ensure correct OC-3 network timing.
LEDTIMER		0 to 1440	LED TIME-OUT PERIOD. Enter the LED timeout period in minutes. If critical faults have not been detected during the timeout period, the alarm LEDs turn off in order to extend their life. Enter 0 (zero) if the LEDs are to stay on at all times. The default value is 15.
ALRMCTRL		See subfields	ALARM CONTROL INFORMATION. This field consists of a vector of up to five entries in subfields ALARM and ATTR. Each entry controls a particular alarm. Enter \$ to select the system default values.

MNNODE (continued)**Field descriptions when CLASS=IW (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	ALARM	SYSB, MANB, ISTB, SYSBNA, MANBNA	ALARM NAME. Enter an alarm name from the following list: • SYSB (system busy) This alarm generates when the node is in system busy state. The default alarm severity is CR. The default action is RPT. • MANB (manual busy) This alarm generates when the node is in manual busy state. The default alarm severity is MJ. The default action is RPT. • ISTB (in-service-trouble) This alarm generates when the node is in-service and it is experiencing non-service-affecting faults. The default alarm severity is MN. The default action is RPT. • SYSBNA (system busy and not accessible) This alarm generates when the node is in SYSB state and a network (for example, ENET or MS) error has caused it to be isolated. The default alarm severity is CR. The default action is RPT. • MANBNA (manual busy and not accessible) This alarm generates when the node is in MANB state, and a network (for example, ENET or MS) error has caused it to be isolated. The default alarm severity is MJ. The default action is RPT.
	ATTR	See subfields	ALARM ATTRIBUTES. This field consists of subfields SEVERITY and ACTION.

MNNODE (continued)**Field descriptions when CLASS=IW (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	SEVERITY	NA, MN, MJ, CR	SEVERITY. The severity of the alarm defines its relative importance. Enter a severity from the following list: • NA (no alarm) • MN (minor alarm) • MJ (major alarm) • CR (critical alarm)
	ACTION	NRPT, RPT	ACTION. This subfield indicates the action to be taken when a fault is detected. Enter an action from the following list: • NRPT (no report generated) • RPT (report generated)

Conditional datafill when CLASS=SMG4KDA

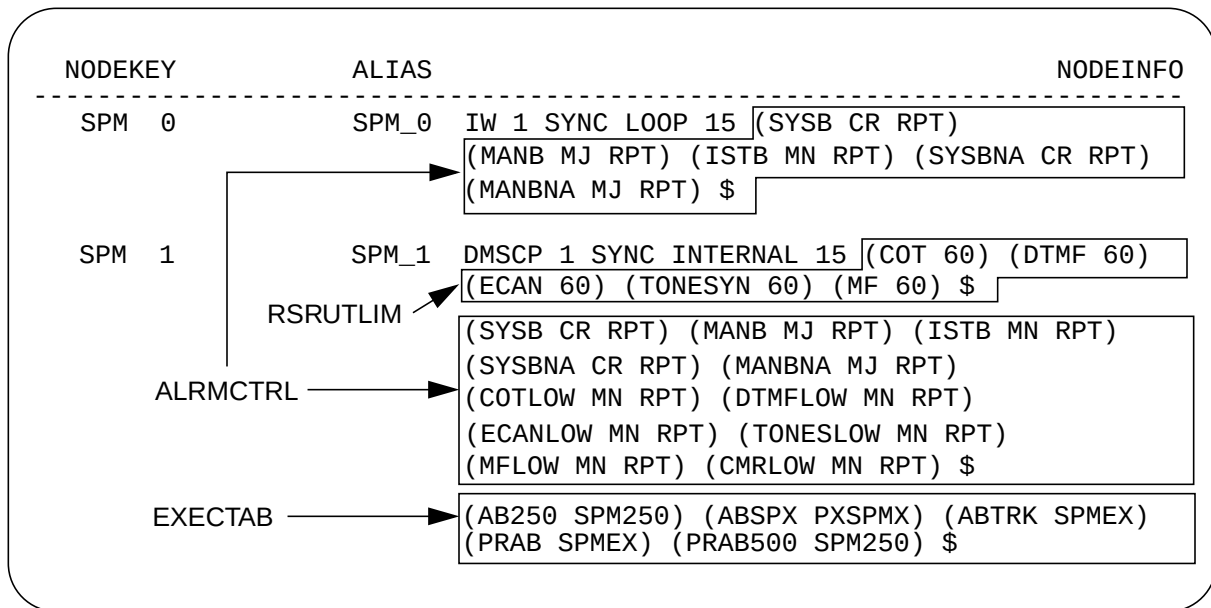
The table that follows lists conditional datafill when you enter SMG4KDA in field CLASS.

Field descriptions when CLASS=SMG4KDA

Field	Subfield or refinement	Entry	Explanation and action
SITE		HOST	SITE. Enter the site identification of the HOST node.
FLOOR		0 to 99	FLOOR. Enter the floor where the node is located.

Datafill example

The following shows sample datafill for table MNNODE.

MNNODE (continued)**Dump and restore**

Over the one night process (ONP), SPMs defined in releases before the MSH12 table change are automatically converted to DMSCP class SPMs. The field by field conversions from existing tuples to new tuples follows.

Conversion of existing tuples to new tuples (Sheet 1 of 2)

Existing tuple field name	New tuple field name	Comment
NODEKEY	NODEKEY	No change
ALIAS	ALIAS	No change
	NODEINFO.CLASS	Set to DMSCP automatically over an ONP.
FLOOR	NODEINFO{DMSCP}.FLOOR	
CLKMODE	NODEINFO{DMSCP}.CLKMODE	
CLKREF	NODEINFO{DMSCP}.CLKREF	
LEDTIMER	NODEINFO{DMSCP}.LEDTIMER	
RSRUTLIM	NODEINFO{DMSCP}.RSRUTLIM	
RSRUTLIM	NODEINFO{DMSCP}.ALRMCTRL	

MNNODE (continued)

Conversion of existing tuples to new tuples (Sheet 2 of 2)

Existing tuple field name	New tuple field name	Comment
ALRMCTRL	NODEINFO{DMSCP}.ALRMCTRL	
EXECTAB	NODEINFO{DMSCP}.EXECTAB	

Table history**SP15**

The following changes were made:

- Added “ABSPX” as a TRMTYPE and “PXSPMX” as a corresponding EXEC value and a note stating the availability of only one instance of the “ABSPX” TRMTYPE value. Added the pair to the Datafill example. This was based on feature 59014406, “PX trunk support on SPM”.
- Added “PRAB500” as a TRMTYPE and a note on when to use “PRAB” and “PRAB500” as TRMTYPE. Added examples of “PRAB” and “PRAB500” datafill to the Datafill example. This was based on feature 59025428, “Support of 100/250 PRI trunks on same SPM for DMS500”.

SNH01

Changed datafill examples.

SP14

The following changes were made:

- Added “POTS” as a TRMTYPE value and “SPMPEX” as a corresponding EXEC value. Also added “KEYSET” as a TRMTYPE value and “SPMKEX” as a corresponding EXEC value. Both these additions were for features 59011720, “NGLA IDT MTCE documentation” and 59012259, “NGLA Static Data.”
- Added restrictions for changing CLKREF datafill when employing SPM OC-3 line timing.

MSH12

Table MNNODE is updated by activity a59007841. Tuple layout in table MNNODE is changed to support multi-service hub (MSH)

SPM12 (CSP12)

Feature A59007841 allows table MNNODE to support the Multi-Service Hub. The feature also added field CLASS to table MNNODE.

MNNODE (end)

SPM01 (CSP09)

Table MNNODE was created.

MNPRIID

Table name

PRI interface identification (MNPRIID).

Functional description

Table MNPRIID is a read/write table that is provisioned through table control. It is used to provision a PRI interface ID against the carrier in table MNHSCARR. This table is used only for SPM nodetype used for all supported trunk types.

This table uses a three-part key (node type, node number and circuit number). To optimize access time, this table internally hashes the key as a single field for look-ups.

Datafill sequence and implications

Table MNHSCARR must be datafilled before table MNPRIID.

Table size

The table MNPRIID does not allocate store directly. The OAM&P database allocates store. The minimum size is 0; the maximum size is 5,376 tuples; CC restart type required to increase size is not applicable.

Datafill

The following table lists datafill for table MNPRIID.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NODETYPE		SPM	Peripheral type is always SPM.
NODEID		0-63	The SPM number.

MNPRIID (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
CCTNO		0-181	Physical port number. Note: The actual range for this field is dependant on the range of the CCTNO field datafilled in table MNHSCARR.
INTID		0-127	PRI interface ID. For PRI, a single D (or Data) channel can control multiple B (or Bearer) channels (DS0s) across multiple DS1 interfaces. The interface ID is used to indicate which DS1 interface the PRI signalling is addressing. The interface ID is part of the channel ID in PRI messaging. The interface ID maps to a unique DS1 span controlled by the D channel. Another part of the interface ID indicates which timeslot or DS0 of the DS1 is in use by the call. For example, the DMS attempts to set up a call on timeslot 5 of DS1 span 3. The information sent to the user is channel 5 INTID 3.

Datafill example

The following example shows sample datafill for table MNPRIID.

MAP display example for table MNPRIID

Nodetype	NODENO	CCTNO	INTID
SPM	0	0	1
SPM	0	1	1
SPM	63	181	127

MNPRIID (end)

Table history

SP15

Modified the description of the CCTNO field and the INTID field. This was based on SR NY00002.

SP11

Feature AF7786 introduced table MNPRIID.

MNPRTGRP

Table name

Management Network Protection Group (MNPRTGRP)

Functional description

Table MNPRTGRP is one of six DMS-Spectrum Peripheral Module (SPM) configuration tables. Each tuple in this table identifies a protection group within a switch.

A protection group is a group of objects that form protecting-protected relationships from a functional or service perspective. Members of the protection group can be peripherals, circuit packs, or links. Each group defines the protection relationship between entities. A maximum of 28 protection groups can be defined for each SPM. Typical maintenance data includes group types and related group attributes, such as protection switching mode and direction.

Datafill sequence and implications

External routing must be supported on the DMS switch before SPM nodes can be datafilled. Routing is set to external by using the C7RTR command. For more information on the C7RTR command, refer to the appropriate NTP.

For the IW SPM IP component of the Full Featured Long Distance (FFLD) Voice Trunking over Internet Protocol (VToIP) solution, the correct NTP is the *DMS-100 Family LIU7 External Routing Activation Guide*, 297-8991-030.

Datafill tables in the following order for ISUP trunks:

1. PMLOADS

Note: Table PMLOADS specifies the location of a particular load file. Datafill PMLOADS only once. There is no need to datafill PMLOADS for each SPM added to the system unless a new load file entry has to be added to table PMLOADS.

2. LOGCLASS

Note: Feature BV1572 automatically suppresses the generation and reporting of selected trunk logs. To unsuppress a log, datafill the log in table LOGCLASS. Datafill N in field SUPPRESS to ensure log generation and reporting. Refer to the *Data Schema Reference Manual* or the data schema section of the *Translation Guide*, as appropriate, for

MNPRTGRP (continued)

more information about table LOGCLASS. The following 17 logs are affected:

- TRK110 through TRK123
 - TRK162
 - TRK182
 - TRK183
3. MNPRTGRP
 4. MNNODE
 5. MNSHELF
 6. MNCKTPAK
 7. MNLINK
 8. MNHSCARR
 9. CLLI
 10. MCLLICDR
 11. TRKGRP
 12. TRKSGRP
 13. TRKMEM
 14. ISUPDEST
 15. C7TRKMEM

Datafill tables in the following order for PTS trunks:

1. PMLOADS
2. LOGCLASS
3. MNPRTGRP
4. MNNODE
5. MNSHELF
6. MNHSCARR
7. CLLI
8. MCLLICDR
9. TRKGRP

MNPRTGRP (continued)

10. TRKSGRP

11. TRKMEM

Table size

0 to 1,792 tuples

Field descriptions

The following table describes field names, subfield names, and valid data ranges for table MNPRTGRP.

(Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
GRPKEY			GROUP KEY. The subfields are NODETYPE, NODEID, GRPTYPE, and GRPID.
	NODETYPE	SPM	NODE TYPE. Enter SPM.
	NODEID	0-63	NODE IDENTIFIER. Enter the SPM node identifier. The default is 0.

MNPRTGRP (continued)

(Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	GRPTYPE	OC3_GRP, DSP_GRP, VSP_GRP, STS3L_GRP, ATM_GRP, DLC_GRP, IEM_GRP, STM_GRP, CARR_GRP	GROUP TYPE. Enter the protection group type as follows: • OC3_GRP (protection group for OC-3 circuit pack) • DSP_GRP (protection group for DSP circuit pack) • VSP_GRP (protection group for VSP circuit pack) • STS3L_GRP (protection group for STS-3 line carrier) • ATM_GRP (protection group for ATM circuit pack) Note: ATM is not applicable to all markets. • DLC_GRP (protection group for Data Link Controller circuit pack) • IEM_GRP (protection group for IEM RM on the MG4000) Note: Provisioning and maintenance of the LSA devices is done through the element manager. Do not manually provision this value. • STM_GRP (protection group for the STM-1 circuit pack) • CARR_GRP (protection group for protection switching at a carrier level)

MNPRTGRP (continued)

(Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
GRPINFO	GRPID	1-28	GROUP IDENTIFIER. Enter the protection group identifier. The default value is 1.
	SELECTOR	STM_GRP, ATM_GRP, VSP_GRP, OC3_GRP, IEM_GRP, DLC_GRP, DSP_GRP, CARR_GRP, STS3L_GRP	GROUP INFORMATION. This protection group information area is refined for each group type: STM_GRP, ATM_GRP, VSP_GRP, OC3_GRP, IEM_GRP, DLC_GRP, DSP_GRP, CARR_GRP, or STS3L_GRP. Refer to the following refinements.

SELECTOR = OC3_GRP, DSP_GRP, VSP_GRP, ATM_GRP, STM_GRP, or IEM_GRP

If the value in field SELECTOR is OC3_GRP, DSP_GRP, VSP_GRP, ATM_GRP, STM_GRP, or IEM_GRP datafill subfields MODE and ALRMCTRL as described in the following table.

(Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	MODE	See refinement	PROTECTION SWITCHING MODE. This field consists of subfield SWCHMODE.
	SWCHMODE	NRVTV	NON-REVERTIVE PROTECTION SWITCHING MODE. Enter NRVTV
	ALRMCTRL	See refinements	ALARM CONTROL. Each entry controls a particular alarm for the protection group. To accept the system default values, enter \$. The subfields are ALARM and ATTR.
	ALARM	NOSPARE	ALARM NAME. The valid alarm is NOSPARE (no sparing capability). The NOSPARE alarm generates when the protection group has lost its sparing capability. This alarm occurs when no spare circuit pack is provisioned for the protection group or inactive circuit packs are out of service.

MNPRTGRP (continued)

(Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	ATTR	See subfields	ALARM ATTRIBUTES. The subfields are SEVERITY and ACTION.
	SEVERITY	NA, MN, MJ, CR	SEVERITY. This field indicates the severity of the alarm. Valid severities are • NA (no alarm severity) • MN (minor alarm) • MJ (major alarm, the default value) • CR (critical alarm)
	ACTION	RPT, NRPT	ACTION. This field indicates the action to take when an alarm is detected. Valid entries are • RPT (report the alarm, the default value) • NRPT (do not report the alarm)

SELECTOR = STS3L_GRP

If the value in field SELECTOR is STS3L_GRP, datafill subfields APSCFG, MODE and SWCHDIR as described in the following table.

Field	Subfield or refinement	Entry	Explanation and action
	APSCFG	1PLUS1	AUTOMATIC PROTECTION SWITCHING CONFIGURATION. Enter 1PLUS1.
	MODE	See refinement	PROTECTION SWITCHING MODE. This field consists of subfield SWCHMODE.
	SWCHMODE	NRVTV	NON-REVERTIVE PROTECTION SWITCHING MODE. Enter NRVTV
	SWCHDIR	UNI_DIR	PROTECTION SWITCHING DIRECTION. Enter UNI_DIR (uni-directional) switching.

MNPRTGRP (continued)**SELECTOR = CARR_GRP**

If the value in field SELECTOR is CARR_GRP, datafill subfields APSCFG, MODE, SWCH_DIR, SIMPLEX_ALM, and SIMPLEX_LOG as described in the following table.

Field	Subfield or refinement	Entry	Explanation and action
	APSCFG	1PLUS1	AUTOMATIC PROTECTION SWITCHING CONFIGURATION. Enter 1PLUS1.
	MODE	See refinement	PROTECTION SWITCHING MODE. This field consists of subfield SWCHMODE.
	SWCHMODE	NRVTV	NON-REVERTIVE PROTECTION SWITCHING MODE. Enter NRVTV
	SWCH_DIR	UNI_DIR	PROTECTION SWITCHING DIRECTION. Enter UNI_DIR (uni-directional) switching.
	SIMPLEX_ALM	N,Y	SIMPLEX ALARM. This boolean value indicates whether the protection group generates simplex alarms. A simplex condition exists when no protection switching is possible. Note: This facility is not supported for STM-1.
	SIMPLEX_LOG	N,Y	SIMPLEX LOG. This boolean value indicates whether this protection group generates simplex logs. A simplex condition exists when no protection switching is possible. Note: This facility is not supported for STM-1.

Datafill example

The following shows sample datafill for table MNPRTGRP.

MNPRTGRP (end)

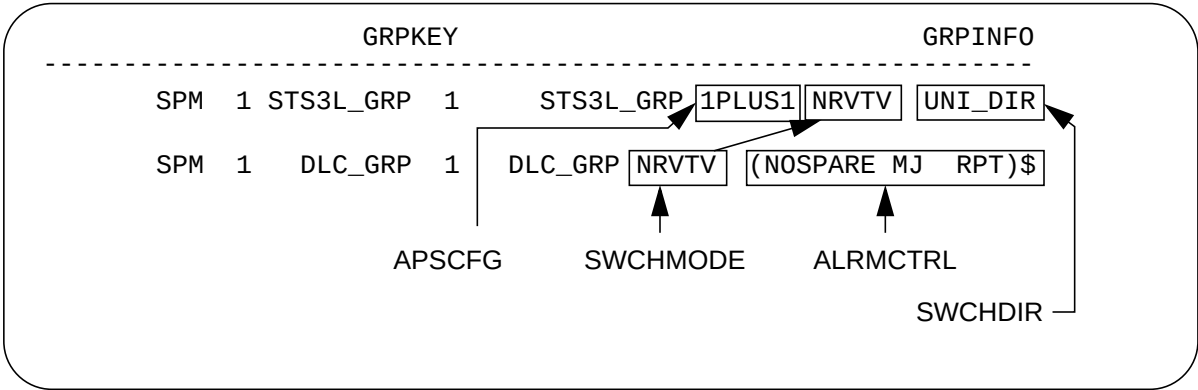


Table history

SP15

Added note indicating ATM is not applicable to all markets.

SNH01

Changed datafill example. Added reference to LIU7 External Routing Activation Guide.

MMP12

Feature 59008275 adds CARR_GRP for STM1M carriers to range of valid protection group types.

SP12 (CSP12)

Feature AF7583 adds DLC_GRP to the range of valid PROTGRPS.

SR 50134464 adds IEM_GRP, STM_GRP, and CARR_GRP to the range of valid PROTGRPS.

SP11 (CSP11)

Feature AF7378 adds ATM_GRP to the range of valid PROTGRPS.

SPM01 (CSP09)

Table MNPRTGRP was created.

MNSHELF

Table name

Management Network Shelf (MNSHELF)

Functional description

This table is one of six DMS-Spectrum Peripheral Module (SPM) configuration tables. An SPM consists of two shelves. Each tuple in this table identifies a shelf on a particular node. The data maintained in this table includes the shelf identifier and physical shelf location.

Datafill sequence and implications

Datafill tables in the following order:

1. table PMLOADS

Note: Table PMLOADS specifies the location of a particular load file. Datafill PMLOADS only once. There is no need to datafill PMLOADS for each SPM added to the system unless a new load file entry has to be added to table PMLOADS.

2. table MNPRTGRP
3. table MNNODE
4. table MNSHELF
5. table MNCKTPAK
6. table MNLINK
7. table MNHSCARR

If the SPM referenced by field NODETYPE and NODEID of table MNSHELF tuple has not been added to table MNNODE, the following message displays:

Failed to find the specified SPM

Table size

0 to 128 tuples

MNSHELF (continued)**Field descriptions**

The following table describes field names, subfield names, and valid data ranges for table MNSHELF.

(Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SHLFKEY		See subfields	SHELF KEY. Subfields are NODETYPE, NODEID, and SHELFID.
	NODETYPE	SPM	NODE TYPE. Enter SPM.
	NODEID	0 to 63	NODE IDENTIFIER. Enter the SPM node identifier. The default is 0.
			Note: If the SPM identified in NODETYPE and NODEID has not been added to table MNNODE, the message "Failed to find the specified SPM" displays.
	SHELFID	0 or 1	SHELF IDENTIFIER. Enter the shelf identifier. The lower shelf is shelf 0; the upper shelf is shelf 1. The default is 0.
FRTYPE		SPME, SMGE	FRAME TYPE. Enter SPME or SMGE. - SMGE (Successive Media Gateway Equipment) frametype required for SMG4KD (Succession Media Gateway 4000 Distributed Access) class SPM indicated as the intended functionality of the SPM's datafill. - SPME (SPM equipment) frametype required for DMSCP (DMS call processing) and IW (interworking) class. SPM indicated as the intended functionality of the SPM's datafill.
FRNO		0-511	FRAME NUMBER. Enter the frame number.
ROW		A-H, J-N, P-Z, AA-HH, JJ-NN, PP-ZZ	ROW. Enter the row where the frame is located.
FRPOS		0 to 99	FRAME POSITION. Enter the frame position.

MNSHELF (continued)

(Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SHPOS		0 to 77	SHELF POSITION. Enter the shelf position in inches. The recommended positions are 6, 21, 43, and 59. Note: In each SPM frame, there are a maximum of two SPMs—upper and lower SPM. Each SPM has a maximum of two shelves—bottom and upper shelf. The frame mounting positions of each shelf are “6” for lower SPM bottom shelf; “21” for lower SPM upper shelf; “43” for upper SPM lower shelf, and “59” for upper SPM upper shelf. The shelf position is specified in terms of the count of shelf mounting holes from the bottom of the frame.
FRPEC		NTLX91AA, NTLX50AA, NTLX91BA	FRAME PEC. Enter the frame product engineering code (PEC). • NTLX91AA Frame PEC required when installing a new DMSCP class SPM. • NTLX50AA is no longer used for new SPM deployment. It is still valid for SPMs deployed before this software release. • NTLX91BA Frame PEC is required when you install a new IW and SMG4KDA class SPM.
SHPEC		NTLX51AA, NTLX53AA, NTLX51BA	SHELF PEC. Enter the shelf PEC. Valid values are • NTLX51AA (two high-speed slots, double-height shelf, the default). This is the shelf PEC required for DMSCP- class SPMs. • NTLX53AA (two high-speed slots, single-height shelf). This is no longer used. • NTLX51BA (four high-speed slots, double-height shelf. This is the shelf PEC required for IW- and SMG4KDA-class SPMs.

MNSHELF (end)**Datafill example**

The following shows sample datafill for table MNSHELF.

SHLFKEY	FRTYPE	FRNO	ROW	FRPOS	SHPOS	FRPEC	SHPEC
SPM 0 0	SPME	3	A	13	6	NTLX91AA	NTLX51AA
SPM 0 1	SPME	3	A	13	21	NTLX91AA	NTLX51AA
SPM 1 0	SPME	2	B	12	6	NTLX91BA	NTLX51BA
SPM 1 1	SPME	2	B	12	21	NTLX91BA	NTLX51BA
SPM 2 0	SMGE	4	C	14	6	NTLX91BA	NTLX51BA
SPM 2 1	SMGE	4	C	14	21	NTLX91BA	NTLX51BA
SPM 3 0	SPME	5	D	15	6	NTLX91AA	NTLX51BA
SPM 3 1	SPME	5	D	15	21	NTLX91AA	NTLX51BA

Table history**MSH12**

Table MNSHELF is updated to include three additional fields.

SPM12 (CSP12)

Feature A59007841

- changed fields FRTYPE, FRPEC, and SHPEC to accommodate the multi-service hub designated by the SPM class when you install a new SPM
- added PEC values NTLX91AA and NTLX91BA to field FRPEC
- added PEC value NTLX51BA to field SHPEC
- added frame type value SMGE to field FRTYPE

SPM01 (CSP09)

Table MNSHELF was created.

MODEMPRO

Table name

Modem Protocol Name Definition Table

Functional description

Table MODEMPRO defines the various names associated with the modem protocols that are used in the table BCDEF. The names defined can have a maximum length of 32 characters.

Datafill sequence and implications

Table BCDEF must be datafilled after table MODEMPRO.

Note: Do not enter default tuples at the time of a load build. However, this is a symbolic range command (SRCOM) table; that is, the following string must be entered in an EXT file:

```
>|SRCOM 'MODEMPRO' ON 'MODEM_PROTOCOL_NAME'
```

Table size

0 to 64 tuples

Datafill

The following table lists datafill for table MODEMPRO.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
VALUE		see subfield	<i>Value</i> This field consists of subfield UNINT.
	UNINT	0 to 32 767	<i>Integer value</i> Enter the integer value associated with the string.
SYMBOL		alphanumeric (up to 32 characters)	<i>Symbol</i> Enter the name of the modem protocol.

Datafill example

The following example shows sample datafill for table MODEMPRO.

MODEMPRO (end)

MAP display example for table MODEMPRO

VALUE	SYMBOL
2	MODEMPRO

MPBINV

Table name

Multiparty Bridge Inventory Table

Functional description

Table MPBINV contains all multiparty bridge (MPB) groups configured in the DMS switch. Table MPBINV also contains the line equipment numbers (LEN) of the members of each bridge group. Table MPBINV fields contain the following information:

- multiparty bridge group (a one- to four-digit number)
- member line equipment numbers (one to four LENs for the members of the MPB group)

The following error messages can be output while datafilling table MPBINV:

INVALID LINE EQUIPMENT NUMBER.

Explanation: Field LENTAB of table MPBINV contains a LEN that does not exist.

TUPLE HAS DUPLICATE MEMBERS.

Explanation: Field LENTAB of table MPBINV contains two identical entries. All LENs must be distinct.

UNABLE TO EXPAND TABLE.

Explanation: Insufficient protected store exists for expanding the table.

TUPLE MUST HAVE AT LEAST ONE MEMBER.

Explanation: Field LENTAB of table MPBINV must have at least one member.

ONLY SINGLE PARTY LINES ALLOWED.

Explanation: All entries in field LENTAB must have a line class code of either 1FR or 1MR.

Table MPBINV is write protected and cannot be altered directly. When service orders are executed for MPB lines, table MPBINV is updated automatically.

MPBINV (continued)

Datafill sequence and implications

Table LENLINES must be datafilled before table MPBINV.

Table size

Memory is allocated dynamically when entries are added to table MPBINV in blocks of 16 entries. Each entry requires 9 words. Table MPBINV holds up to 3200 tuples. Additionally, a parallel structure in permanent store exists with 1-word entries. One entry is required for each MPB group.

Datafill

The following table lists datafill for table MPBINV.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
GROUP		0 to 3199	<i>Multiparty bridge group</i> The DMS switch automatically assigns this number to a new MPB group. If possible, the lowest available number is assigned.
LENTAB		see subfield	<i>Line equipment number table</i> This field defines the physical location of the equipment that is connected to a specific telephone line. Up to four LENs can be assigned to an MPB group. Prompting occurs for each member, and a dollar sign can be entered to halt prompting. Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. This field consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.

Datafill example

The following example shows sample datafill for table MPBINV.

MPBINV (end)

MAP display example for table MPBINV

GROUP	LENTAB				
31	RCU0	00	0	00	00

MPC

Table name

Multiprotocol Controller Table

Functional description

Table MPC contains the values required to implement the multiprotocol controller (MPC) in the DMS switch. Table MPC identifies the MPC card hardware to the DMS central control (CC). Table MPC requires one entry or tuple for each MPC.

Each entry contains the following:

- an index number for the MPC
- the number of the input/output controller (IOC) shelf where the card resides
- the card circuit number
- the product engineering code (PEC)
- the identification (ID) for the preferred download file

The device that contains the download file can appear before tuple entry in table MPC. The device can appear in a list before the first manual download. In these occurrences, a subsequent download or return to service (RTS) normally succeeds and does not list the download file.

Datafill sequence and meaning

Enter data in table IOC before table MPC.

Enter data in table MPC before table MPCLINK. Table MPCLINK provides protocol support and link information for cards configured in table MPC.

Table size

0 to 256 tuples

MPC (continued)**Datafill**

The datafill for table MPC appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
MPCNO		see subfield	<i>Multiprotocol controller number</i> This field contains subfield K.
	K	0 to 255	<i>Multiprotocol controller number key</i> Enter the number of one multiprotocol controller (MPC). Number the MPC cards as desired. This subfield does not have a default value.
MPCIOC		0 to 19	<i>Multiprotocol controller input/output controller</i> Enter the number of the input/output (IOC) shelf on which the MPC card sits. This subfield does not have a default value.
IOCCCT		0, 4, 8, 12, 16, 20, 24, 28, 32	<i>Input/output circuit number</i> Enter the slot position on the IOC shelf multiplied by 4, from 0 (zero) to 32. Entries out of this range are not correct. This subfield does not have a default value.

MPC (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
EQ		1X89AA, 1X89BA, 1X89BB FX30AA FX30BA	<i>Equipment code</i> Enter the Northern Telecom (NT) product engineering code (PEC): 1X89AA for the MPC card or 1X89BA/BB for the enhanced MPC (EMPC) card. Enter FX30AA if the specified IOC is an IOM. Entries out of this range are not correct. This subfield does not have a default value.
DLDFILE		alphanumeric (8 characters)	<i>Download file</i> Enter a file name that begins with MPC. Enter an X for X25ORIG, 0 (zero) for X2580, 4 for X.25, or A for asynchronous protocol software. Enter four alphanumeric characters that designate the Telecom software release cycle and the load designation. An example of a file name is MPCX33AB. Software download files are interchangeable between MPC and EMPC. For IOM MPC, use default name IOM\$LOAD. This subfield does not have a default value. Note: For automatic location identification (ALI), the system enters data in field DLDFILE. The system enters data to specify the asynchronous protocol software download files for the current MPC load. The fourth character of the download filename is the letter A.

Datafill example

Sample datafill for table MPC appears in the following example.

MPC (continued)**MAP example for table MPC**

MPCNO	MPCIOC	IOCCCT	EQ	DLDFILE
0	0	12	1X89AA	MPCX33AB
1	1	12	1X89AA	MPCX33AB

Table history**CSP06**

The IOM PEC FX30AA/AB was added to EQ field and IOM default information to DLDFILE field in CSP06.

CSP02

The information required to change download file name in field DLDFILE in section "Supplementary information" was added in CSP02.

BCS36

Subfield K was added in BCS36.

BCS35

The range of field MPCIOC was increased to 19 in BCS35.

Additional information

Information on how to enter data in table MPC from a maintenance and administration position (MAP) terminal appears in this section.

When you enter data in table MPC from a MAP position complete the following steps. Complete these steps to identify the MPC (NT1X89AA) and EMPC (NT1X89BA/BB) cards to the CC:

1. List the device directories of the download files to place the files in the user directory. The CC recognizes the download files in the user directory. If the device directories for the download files do not appear, a warning

MPC (end)

message appears. The warning message appears when the system writes the tuple to table MPC.

2. Add the following information in table MPC:

- the MPC numbers
- the IOC shelves and circuit positions where the MPC and EMPC cards are configured
- the NT PECs for the cards
- the download file names for the MPC and EMPC cards

The following limits apply when you enter data in table MPC from a MAP terminal:

- You can delete tuples in table MPC under the following conditions:
 - the MPCs that correspond are offline
 - you delete the associated tuples in table MPCLINK
- You can change field DLDFILE in a tuple of table MPC. To change other fields, delete the tuple and enter the tuple again. The file name in field DLDFILE can change to a file name of the same load. For example, to change file name MPC434R1, download MPC402BX. These files are 1984 X25 protocol versions. You can not download a 1980 X25 protocol version if table MPC contains a 1984 X25 protocol. An example of a 1980 X25 protocol version is MPC003AB. If the system downloads a wrong protocol version, the system generates the following error message:

```
NEW DOWNLOAD FILE INDICATES CHANGE IN BOARD PROTOCOL. MPC
MUST BE DELETED AND RE-ADDED TO CHANGE PROTOCOL. PROCESSING
ERROR.
```

- List the directory of the storage device, that contains the download file, where the CC can recognize the file. List this directory before you enter a tuple. The CC must recognize the file at the time of entry. List the directory to place the file in the user directory. For example, you can perform the command interpreter (CI) command LISTVOL on a disk like D000XPM, to list the download file. If you do not list the download file, entry of data succeeds with a warning that the download can fail. In other occurrences, you can add a tuple to table PMLOADS. Add this tuple to identify the image name and device name for the download file.

MPCFASTA

Table name

Multiprotocol Controller Fast Applications

Functional description

Table MPCFASTA identifies applications that use the multiprotocol controller (MPC) fast utility. The fast utility is a fast input and output interface through the MPC. Each application has a tuple in table MPCFASTA.

The following information appears in table MPCFASTA:

- the application name
- the frequency at which the system sends audit messages
- the units that apply to the frequency number
- the type of link audit failure recovery procedure
- a maximum of 16 MPC numbers, link numbers, and channel numbers (MLCLIST) for the application

The following considerations apply to the applications:

- If the application does not support an audit, set field AUDITFRQ to 0. Entries in field AUDITFRQ in units of 10 s or less are acceptable. For these unit entries, the system generates a warning about the real time impact frequent audits.
- Two MPCs for each application are recommended for reliability. The first release of this utility supports links 2 and 3. If you are using the Off-Board Selective Routing (OFBSR) interface feature, two MLCs (each consisting of one MPC, one link on the MPC, and one channel of the link) must be datafilled.

See table MPC for related information.

Datafill sequence and meaning

Enter data in the tables MPC and MPCLINK before you enter data in table MPCFASTA.

Table size

0-16 tuples

MPCFASTA (continued)

Datafill

Datafill for table MPCFASTA appears in the following table.

Field descriptions (Sheet 1 of 5)

Field	Subfield	Entry	Explanation and action
INDEX		see subfield	Application index. This field contains subfield K.
	K	alphanumeric (1 to 8 characters)	Application name. Enter an application name. This field is the key for table MPCFASTA. This field represents the application identifier (ID) available for multiprotocol controller (MPC) circuits. The MPC is an open interface. The user can enter a new or current application to allow the application to function with the MPC. The MPC is a generic transport device. The documentation of the application provides information on specified applications. If the entry of data in table SERVICES occurs, services DASERV and INTCERV require applications TOPSVR1 and TOPSVR2. The TOPSVR1 and TOPSVR2 cannot run the same service, DASERV or INTCERV. Enter M or L in tables MPC and MPCLINK. Make one entry in table MPCFASTA for each type of automatic location identification (ALI) system that connects to the tandem. The entry of all the links that serve CCI databases must occur.

MPCFASTA (continued)**Field descriptions (Sheet 2 of 5)**

Field	Subfield	Entry	Explanation and action
			Enter one of the following APPLIDs if the application is Remote Call Event Record: • 911RCER1 • 911RCER2 • 911RCER3 • 911RCER4 • 911RCER5 • 911RCER6 Enter OPN911AS if the application is E911 for multiprotocol controller card links with direct access to an ALI controller. This protocol generates a pseudo ANI (pANI) location for wireless calls. Enter ENH911AS to support data transmission from the MPC to an external ALI database for E911 calls terminating to a line or ACD public safety answering point (PSAP). Unlike OPN911AS, this protocol generates both the pANI and the mobile directory number (MDN) number of a wireless caller. Enter WLS911 for E911wireless calls terminating to a line appearance on a digital trunk (LDT) PSAP. Enter ATT911AS for the links that serve the AT&T controllers that connect to the switch. Enter E911SR01 to allow a DMS-100 serving as an E911 tandem to access its primary external selective routing database server (OFBSR). A secondary OFBSR also can be chosen; enter E911SR02 to choose the secondary OFBSR server. The Traffic Operator Position System (TOPS) personal audio response system (PARS) application uses table MPCFASTA in stand-alone and host offices.

MPCFASTA (continued)**Field descriptions (Sheet 3 of 5)**

Field	Subfield	Entry	Explanation and action
AUDITYPE		ACTIVE or IDLE	Audit type. Enter the type of audit that runs on the MPC link channel (MLC). Enter ACTIVE for a continuous audit. Enter IDLE to run audits when traffic is not present. The default value is IDLE.
AUDITFRQ		0-255	Audit frequency. Enter the time between audits of idle permanent virtual circuits (PVCs). Enter the time in minutes or seconds. See field UNITS. If the application does not support the audit, enter 0 if the entry of one of the following appears in field INDEX: • 911RCER1 • 911RCER2 • 911RCER3 • 911RCER4 • 911RCER5 • 911RCER6 • E911SR01 • E911SR02 Note: When field AUDITFRQ is 0, audits do not run on the MLCs.
UNITS		MINUTES or SECONDS	Audit frequency units. Enter the unit of measure that applies to the entry in field AUDITFRQ.

MPCFASTA (continued)**Field descriptions (Sheet 4 of 5)**

Field	Subfield	Entry	Explanation and action
RECOVERY		ENHANCED or REGULAR	Recovery. Enter ENHANCED to indicate that the application on link-audit failure requires a reset or initialization at the protocol level when link-audit failure occurs. Enter REGULAR to continue the current process of error recovery. The system does not support audits if field INDEX contains one of the following: • 911RCER1 • 911RCER2 • 911RCER3 • 911RCER4 • 911RCER5 • 911RCER6 • E911SR01 • E911SR02 If field INDEX contains these entries, enter REGULAR. • ATT911AS • OPN911AS • ENH911AS • WLS911
MLCLIST		see subfields	Multiprotocol controller link channel list. This field contains subfields M, L, and C. You can enter a maximum of 16 three-number sets that represent MLC. Separate each subfield with a single space. If you require less than 16 MLCs, end the list with a dollar sign (\$). An MLC contains one MPC, one MPC link, and one link channel. For example, 1 2 3 indicates MPC 1, link 2 on MPC 1, and channel 3 on link 2.
	M	0-255	MPC. Enter the number of the MPC.

MPCFASTA (continued)**Field descriptions (Sheet 5 of 5)**

Field	Subfield	Entry	Explanation and action
	L	2 or 3	Link. Enter the number of the MPC link.
	C	1-255	Channel. Enter the number the MPC link channel.

Datafill example

Sample datafill for table MPCFASTA appears in the following examples.

MAP example for table MPCFASTA

INDEX	AUDITYPE	AUDITFRQ	UNITS	RECOVERY	MLCLIST
TOPSVR1	IDLE	1	MINUTES	REGULAR	(1 2 1)\$

MAP example for table MPCFASTA

INDEX	AUDITYPE	AUDITFRQ	UNITS	RECOVERY	MLCLIST
E911SR01	IDLE	0	MINUTES	REGULAR	(4 2 1)(4 3 1)
E911SR02	IDLE	0	MINUTES	REGULAR	(6 2 1)(6 3 1)

Table history**NA015**

The APPLIDs E911SR01 and E911SR02 were added to the INDEX field. The E911SR01 ID indicates the primary Off-Board Selective Routing Interface (OFBSR). The E911SR02 ID indicates the secondary OFBSR Interface.

NA012

The E911 Wireless ANI Interface feature added the protocols ENH911AS and WLS911 to field INDEX.

MPCFASTA (end)

NA006

The APPLIDs 911RCER3, 911RCER4, 911RCER5, and 911RCER6 were added to field INDEX in NA006.

Notes about table SERVICES in field K are changed to reflect changes in table SERVICES by feature AN1844 in functionality Multiple DA System I, OSDA00001.

BCS36

Field AUDITYPE and subfields K, M, L, and C were added in BCS36.

Additional information

Dump and restore information for field AUDITYPE appears in this section.

Dump and restore

For BCS36 and later versions, duplication of the tuples occurs on the restore side.

For BCS35 and earlier versions, all fields except field AUDITYPE are copied to the entries that correspond in the table. Field AUDITYPE defaults to IDLE.

Upgrades from BCS34 or BCS35 to BCS36 and later versions require a manual change in table MPCFASTA. This manual change sets field AUDITYPE to ACTIVE to allow the following applications to continue to run active audits:

- MPCFDS
- MPCFERS
- TOPSIM
- TOPSVR1
- TOPSVR2
- TOPSVSN
- VSNSIM

MPCLINK

Table name

Multiprotocol Controller Link Table

Functional description

Table MPCLINK specifies link and protocol information for cards entered in table MPC. The user can enter correct multiprotocol controller (MPC) link definitions and protocol groups. The user can enter a group of protocol-specified fields in table MPCLINK.

Table MPCLINK supports the application of the 1980 CCITT X.25 layered protocol and asynchronous communications in the MPC. Table MPCLINK supports the application of the previous X25ORIG (BX25) protocol. Protocol support makes sure the establishment and maintenance of links and conversations occurs.

The fields in table MPCLINK identify the MPC data links to the central control (CC). The fields identify the MPC data links like table MPC identifies the MPC hardware to the CC. These fields do not have default values. The user must enter these fields.

The protocol in use determines protocol parameter descriptions. Most parameter fields do not require datafill. Parameter fields require datafill when adjustments occur to the default values assumed on the peripheral modules (PM). These adjustments occur when a download of the PM occurs. These fields contain timing and messaging specifications.

The user can enter a list of parameter entries and values. This list has different lengths. When you enter data in parameters at the MAP (maintenance and administration position) terminal, a prompt appears. This prompt appears until you enter a \$. Parameters in which you do not enter data retain the established default values. The parameters receive these default values during download. The user can change most of the fields in a tuple when the affected link is in a busy state.

To view all link parameter values on the MPC card, enter the following command at the MPC level of the MAP. Type

```
>QLINK linknum
```

and press the Enter key.

where

MPCLINK (continued)

linknum

specifies which link number (2 or 3) on the MPC the system queries for parameter values

Note: Command QLINK requires a link that contains entries and an in-service MPC.

The MPC has a limited amount of buffer allocation space. The data packet size determines the number of buffers normally dedicated to an activity on a single circuit. The default number of buffers is two. Requests for additional buffers occur from a general buffer pool. This type of allocation indicates a single channel can use the buffers that remain.

Applications, that output messages, can receive an MPC return code when buffers are not available. An MPC return code causes a CC delay of 10 s before the system sends the block to the MPC again. The system can take a list of parameter entries and values out of active service. The list of parameter entries and values has different lengths.

You must enter data in specified parameters in table MPCLINK. These parameters apply to the X.25 protocols. You must enter data in these parameters to correspond to the circuit subscription configuration for DATAPAC or the host data packet network (DPN).

The following parameters must match the circuit subscription:

- local data network address (DNA)
- number of permanent virtual circuits (PVC)
- number of switched virtual circuits (SVC)
- packet window size

These parameters must correspond exactly to subscription requirements. Users must know the requirements of features that use the MPC. Users must understand the circuit subscriptions or the environment in which the circuit subscriptions operate. Users must configure cards and links in tables MPC and MPCLINK to conform to the requirements of higher-level applications.

Warning: If field PARM = L2WINDOW for all protocols, field SIZE must be the same value at the DTE and DCE ends of the data link. When field PARM = L3WINDOW for all protocols, field SIZE must have the same value at the DTE and DCE ends of the data link. If the field SIZE values are different at

MPCLINK (continued)

the DTE and DCE ends of the data link, call processing errors, malfunctions, and lost revenue can occur.

Datafill sequence and meaning

You must enter data in table MPC before you enter data in table MPCLINK.

Table size

0 to 512 tuples

Datafill

Datafill for table MPCLINK appears in the following table.

Field descriptions (Sheet 1 of 3)

Field	Subfield	Entry	Explanation and action
LINKKEY		see subfields	<i>Link key.</i> This key field contains subfields MPCNO and LINKNO.
	MPCNO	0 to 255	<i>Multiprotocol controller number.</i> This field specifies the current multiprotocol controller (MPC) or enhanced multiprotocol controller (EMPC) card for this entry. Enter the MPC/EMPC number as entered in table MPC. This subfield does not have a default value.
	LINKNO	0 to 3	<i>Link number.</i> You can only specify logical links 2 or 3. A data link cable can connect to MPC physical ports 1, 2, or 3. Physical ports 2 and 3 are low speed RS232 ports (19.2K and below). Physical port 1 is a high speed V.35 port (56/64K). If the data link cable connects to port 3, specify link 3. If the data link cable connects to port 2, specify link 2. The RS232 is the default ELECTSPEC. The RS232 is not a datafill requirement. If the data link cable connects to port 1, specify link 3 with an ELECTSPEC of V35. This field does not have a default value.

MPCLINK (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield	Entry	Explanation and action
LINKALM (BCS35-)		Y or N	<i>Link alarm.</i> Enter Y to activate the MPCLINK alarm for system busy (SYSB) MPC links. Enter N if you do not want to activate the MPCLINK alarm for system busy (SYSB) MPC links. Note: If you enter N in field LINKALM, the system does not generate MPC908 (MPC link state transition) logs. For IOM MPC, the system checks the link for changes that are not normal. If the change is not normal, the system generates an MPC908 (MPC link state transition) log. If the change is normal, the system does not generate an MPC908 log. The default value on dump and restore procedures for pre-BCS35 is Y.
PRTCLDAT		see subfield	<i>Protocol data area.</i> This field contains subfield PROTOCOL.

MPCLINK (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield	Entry	Explanation and action
	PROTOCOL	ASYNC X2580 X2584 X25ORIG	<i>Link protocol data.</i> The protocol selection must correspond to the download file that table MPC specifies. Enter ASYNC. Enter data in subfield LINKNABL as follows. Enter data in additional refinements. Datafill for additional refinements appears in the next table. Enter X2580 or X2584. Enter data in subfield LINKNABL as follows. Enter data in additional refinements. Datafill for additional refinements appears in the third table in this document. Enter X25ORIG. Enter data in subfield LINKNABL as follows. Datafill for additional refinements appears in the fourth table in this document. This subfield does not have a default value.
	LINKNABL	0 to 32767	<i>Link enable.</i> Enter the time-out, in min, before the system system busies (SBSY) and returns to service (RTS) a link that is not fully active. This value must be a multiple of 5. Enter 0 to disable the function. This subfield does not have a default value. Note: If the entry is not zero, the system activates one link. When the other link reaches the timeout threshold, the system SBSY and RTS the active link and the MPC card. To prevent this condition, enter 0 to disable the function.

MPCLINK (continued)**PROTOCOL = ASYNC**

If the entry in subfield PROTOCOL is ASYNC, enter data in refinements PARMASYN and STRASYN. The datafill for these refinements appears in the following table.

Field descriptions for conditional datafill (Sheet 1 of 11)

Field	Subfield	Entry	Explanation and action
	PARMASYN	see subfield	<i>Parameter synonym.</i> This refinement contains subfield PARM. Enter this refinement with a vector list of a maximum of 19 link configuration parameters.
	PARM	APLDEFN BAUDRATE CHARBITS ECHO FCHARCNT FLOWCTRL IMODE L1IDLY L2IDLY LINEMODE LNKDOWN MODMCTRL NCHARTMO NCHTMOIN OMODE PARITY STOPBITS XPARENT	<i>Parameter protocol.</i> This vector field contains 19 parameter options. Some parameters are like the parameters used to configure a link that uses X25ORIG or X2580 protocols. If less than 19 options are a requirement, enter \$ to end the list. When you enter data in all parameter options, proceed to field STRASYN. Field STRASYN appears later in this table. Enter APLDEFN (application definition) to specify application-specified processing. Enter data in refinement ADEFN. Datafill for refinement ADEFN appears later in this table. Enter BAUDRATE (baud rate) to specify the link baud rate. Enter data in refinement RATE. Datafill for refinement RATE appears later in this table. Enter CHARBITS (character bits) to specify the number of bits that represent each character. Enter data in refinement LEN. Datafill for refinement LEN appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 2 of 11)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter ECHO to specify if the MPC must echo input responses received from the remote. Enter data in refinement ECHO. Datafill for refinement ECHO appears later in this table. Enter FCHARCNT (fill character control) to specify the number of times the system transmits an intermessage fill character. Field FILLCHAR specifies the intermessage fill character that the system transmits. Enter data in refinement FCNT. Datafill for refinement FCNT appears later in this table. Note: Entry FCHARCNT is only correct when the entry in subfield OMODE is CHR. Enter FLOWCTRL (flow control) to specify the link flow control sequence for incoming traffic. Enter data in refinement FLOW. Datafill for refinement FLOW appears later in this table. Enter IMODE (input mode) to indicate the operation mode for the input link (receive direction). Enter data in refinement MD. Datafill for refinement MD appears later in this table. Enter L1IDLY (level 1 input delay) to specify the maximum layer 1 input delay. This delay occurs when the system passes an input buffer to the layer 2 or layer 3 protocol for additional processing. Enter data in refinement T0. Datafill for refinement T0 appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 3 of 11)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter L2IDLY (level 2 input delay). This entry specifies the maximum layer 2 input delay allowed to handle an input buffer output to the CC for additional processing. Enter data in refinement T1. Datafill for refinement T1 appears later in this table. Note: The entry in refinement T0 for entry L1IDLY must be less than the entry in refinement T1 for entry L2IDLY. This requirement does not apply when one or both refinements are 0. Enter LINEMODE (line mode) to indicate the line mode for the link. Enter data in refinement MODE. Datafill for refinement MODE appears later in this table. Enter LNKDOWN (link down timer) to specify the amount of time a modem link is idle. The modem link is idle until the system records the modem link down. Enter data in refinement T1. Datafill for refinement T1 appears later in this table. Note: Entry LNKDOWN is only correct when subfield MODMCTRL is FULLMODM. Enter MODMCTRL (modem control) to specify the type of modem control the link presents. Enter data in refinement MODM. Datafill for refinement MODM appears later in this table. Enter NCHARTMO (intercharacter time-out) to specify the minimum intercharacter time-out for character transmission. Enter data in refinement CHTMO. Datafill for refinement CHTMO appears in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 4 of 11)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter NCHTMOIN (intercharacter time-out incoming) to specify the minimum intercharacter time-out for incoming characters. Enter data in refinement CHTMO. Datafill for refinement CHTMO appears later in this chapter. Enter OMODE to indicate the operation mode for the output link (transmit direction). Enter data in refinement MD. Datafill for refinement MD appears later in this chapter. Enter PARITY (parity) to specify the type of parity used on the link. Enter data in refinement PRTY. Datafill for refinement PRTY appears later in this chapter. Enter STOPBITS (stop bits) to specify the number of stop bits required for data communications. Enter data in refinement BITS. Datafill for refinement BITS appears later in this chapter. Enter XPARENT (transparency) to allow DLE character stuffing to achieve data transparency. Enter data in refinement DLE. Datafill for refinement DLE appears later in this chapter.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 5 of 11)**

Field	Subfield	Entry	Explanation and action
	ADEFN	A911 , C911, SMDI, or NONE	<i>Application definition.</i> If the entry in field PARM is APLDEFN, enter data in this refinement. The applications that are bound to the asynchronous protocol determines the range of possible inputs to this field. The following values are correct entries if the available features that support the values are installed: • A911 This value requires feature AF2146. This feature is E911 Open Interface to ALI Database for Call Processing. • C911 This value requires feature AF2759. This feature is E911 Direct Access to AT&T ALI Controller. • SMDI This value requires feature AF2471. This feature is SMDI Conversion to Use MPC. The default value is NONE. This value indicates that basic asynchronous processing occurs.
	RATE	B300, B600, B1200, B2400, B4800, B9600, B14400, B19200, B28800	<i>Baud rate.</i> If the entry in field PARM is BAUDRATE, enter data in this refinement. Enter the link baud rate. The default value is B1200 (1200 baud). The 1X89 MPC circuit card has a max baud rate of 9600 (B9600). Note: In addition to all previously supported baud rates, the IOM MPC also supports B14400, B19200, and B28800. The recommended minimum value for IOM MPC applications is B9600.
	LEN	BIT5, BIT6, BIT7, BIT8	<i>Character bits.</i> If the entry in field PARM is CHARBITS, enter data in this refinement. Enter the number of bits that represent each character. The default value is BIT7 (7 bits).

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 6 of 11)**

Field	Subfield	Entry	Explanation and action
	ECHO	ON or OFF	<i>Echo.</i> If the entry in field PARM is ECHO, enter data in this refinement. Enter ON if the MPC must echo input responses received from the remote. Enter OFF if you do not want the MPC to echo input responses received from the remote. The default value is OFF.
	FCNT	0 to 1024	<i>Fill character control.</i> If the entry in field PARM is FCHARCNT, enter data in this refinement. Enter the number of times the system transmits an intermessage fill character. Subfield FILLCHAR specifies the intermessage fill character. Fill character control is for applications that must synchronize a remote device, like a terminal, to the link. The default value is 0. Note: Entry FCHARCNT is correct when the entry in subfield OMODE is CHR.
	FLOW	NOFLOW or XONOFF	<i>Flow control.</i> If the entry in field PARM is FLOWCTRL, enter data in this refinement. Enter the link flow control sequence to control incoming traffic. Enter NOFLOW to indicate a flow control sequence is not available. Enter XONOFF to indicate the American National Standards Institute (ANSI) IA5 XON/XOFF characters are for flow control. The system implements ANSI IA5 XON/XOFF characters as sequences DC1 and DC3 in the sequence specified.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 7 of 11)**

Field	Subfield	Entry	Explanation and action
	MD	BLK or CHR	<i>Input mode.</i> If the entry in field PARM is IMODE or OMODE, enter data in this refinement. If the entry in field PARM is IMODE, enter the mode in which the input link (receive direction) operates. If the entry in field PARM is OMODE, enter the mode in which the output link (transmit direction) operates. Enter BLK for block mode or CHR for character mode. The default value is BLK.
	MODE	FULL, HALF, SIN, SOUT	<i>Line mode.</i> If the entry in field PARM is LINEMODE, enter data in this refinement. Enter the line mode for the link. Enter FULL for full duplex, HALF for half duplex, SIN for simplex-incoming, or SOUT for simplex-outgoing. The default value is FULL.
	T0	0 or 5 to 255	<i>Level 1 input delay.</i> If the entry in field PARM is L1IDLY, enter data in this refinement. Enter the time the maximum layer 1 input delays. Enter the time in increments of 10 ms. The delay occurs when the system passes an input buffer to the layer 2 or layer 3 protocol for additional processing. Entries out of this range are not correct. An entry of 0 causes the system to handle data byte-by-byte between level 1 and level 2. The default value is 100 (1 s). Note: The entry in refinement T0 for entry L1IDLY must be less than the entry in refinement T1 for entry L2IDLY. This requirement does not apply when one or both refinements are 0.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 8 of 11)**

Field	Subfield	Entry	Explanation and action
	T1	0 to 1000	<i>Link down timer.</i> If the entry in field PARM is L2IDLY or LNKDOWN, enter data in this refinement. If the entry in field PARM is L2IDLY, enter the maximum layer 2 input delay. Enter this delay in intervals of 10 ms. This delay is the time the system allows to handle an input buffer output to the CC for additional processing. The correct range is 0 or 5 to 1000. If the entry in field PARM is LNKDOWN, enter the amount of time a modem link is idle. The modem link is idle until the system records the modem link down. Enter the time in increments of 10-ms. Entries out of this range are not correct. The default value is 200 (2 s). Note: The entry in refinement T0 for entry L1IDLY must be less than the entry in refinement T1 for entry L2IDLY. This requirement does not apply when one or both refinements are 0.
	MODM	DIAL FULLMODM NOMODM or PARTIAL	<i>Modem control.</i> If the entry field PARM is MODMCTRL, enter data in this refinement. Enter the type of modem control the link presents. If the entry in refinement MODE is HALF or SOUT, enter FULLMODEM. The default value is FULLMODM. If the entry in subfield PROTOCOL is ASYNC, you can enter the value DIAL. If you enter DIAL, the MPC assumes the connection is not dedicated. The MPC allows the application to send commands to the modem to establish a connection.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 9 of 11)**

Field	Subfield	Entry	Explanation and action
	CHTMO	0 to 500	<i>Intercharacter time-out.</i> If the entry in field PARM is NCHARMO or NCHTMOIN, enter data in this refinement. If the entry in field PARM is NCHARMO, enter the minimum intercharacter time-out, in increments of 10-ms, for character transmission. If the entry in field PARM is NCHTMOIN, enter the minimum intercharacter time-out. Enter this value in increments of 10-ms for incoming characters. The default value is 0. This value indicates a delay is not present between characters on transmission. This value represents block data transfer.
	PRTY	EVEN NONE or ODD	<i>Parity.</i> If the entry in field PARM is PARITY, enter data in this refinement. Enter the type of parity used on the link. Enter EVEN for even parity, NONE for a parity that is not present, and ODD for odd parity. The default value is EVEN. The system does not support mark and space parity.
	BITS	S1, S2, S15	<i>Stop bits.</i> If the entry in field PARM is STOPBITS, enter data in this refinement. Enter the number of stop bits required for data communications. The default value is S1 (1 bit). The value S15 represents 1.5 bits.
	DLE	NODLE or YES	<i>Transparency.</i> If the entry in field PARM is XPARENT, enter data in this refinement. Enter NODLE if DLE character stuffing to achieve data transparency cannot occur. An entry of YES allows DLE character stuffing to achieve data transparency. The default value is NODLE.
	STRASYNC	see subfield	<i>String asynchronous.</i> This subfield contains subfield STRID.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 10 of 11)**

Field	Subfield	Entry	Explanation and action
	STRID	FILLCHAR IEOM ISOM OEOM OSOM	<i>String identification.</i> This subfield is a vector that contains six parameter options. To change a parameter default value, enter the parameter option and the associated value. If less than six options are a requirement, enter \$ to end the list. If the entry in field PARM is OMODE and the entry in refinement MD is CHR, enter FILLCHAR (fill character). Enter data in refinement TSTRVAL. Datafill for refinement TSRVAL appears later in this table. Enter IEOM for incoming end of message. Enter data in refinement STRVAL. Datafill for refinement STRVAL appears later in this table. Enter ISOM for incoming start of message. Enter data in refinement STRVAL. Datafill for refinement STRVAL appears later in this table. Enter OEOM for outgoing end of message. Enter data in refinement STRVAL. Datafill for refinement STRVAL appears later in this table. Enter OSOM for outgoing start of message. Enter data in refinement STRVAL. Datafill for refinement STRVAL appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 11 of 11)**

Field	Subfield	Entry	Explanation and action
	TSTRVAL	0 to 9 and A to F (0 or 2 characters)	<i>Test string value.</i> If the entry in subfield STRID is FILLCHAR, enter data in this refinement. This parameter allows for the specification of an intermessage fill character. This character is for use in some applications to synchronize a remote device to the link. A terminal is an example of a remote device. Enter characters in multiples of two. The system performs range checking. The default value is a no-fill character. A no-fill character is equivalent to the entry of a vector of zero length (nil).
	STRVAL	0 to 9 and A to F (to a maximum of 8 characters)	<i>String value.</i> If the entry in subfield STRID is IEOM, ISOM, OEOM, or OSOM, enter data in this refinement. This parameter specifies the end-of-message or start-of-message sequence verified on all incoming or outgoing messages on the link. Enter characters in groups of two. Each two-character block of the entered string represents from one to four hexadecimal characters. The system can find the character sequence that this subfield represents in an incoming message. When this condition occurs, the system removes the characters from the message. If the entry in subfield STRID is IEOM or ISOM, the default value can occur. The default value occurs if an end-of-message or start-of message verification does not occur. The default value occurs if you do not enter characters. If the entry in subfield STRID is OEOM or OSOM, the default value can occur. The default value occurs when you do not add characters to the end of the transmitted message. The default value occurs if you do not enter characters.

MPCLINK (continued)**PROTOCOL = X2580 or X2584**

If the entry in subfield PROTOCOL is X2580 or X2584, enter data in refinements CONVNABL, PARMS, and EXINF. Datafill for these refinements appears in the following table.

Field descriptions for conditional datafill (Sheet 1 of 16)

Field	Subfield	Entry	Explanation and action
	CONVNABL	0 to 32767	<i>Conversation enable.</i> Enter the number of minutes a conversation is not in progress before correcting action occurs. This value must be a multiple of 5. An entry of 0 indicates a period of time is not specified. This field does not have a default value.
	PARMS	see subfield	<i>Parameter selector (CCITT x 25 CC protocol).</i> This field contains subfield PARM.
	PARM	BAUDRATE, CLKSRCE, ELECSPEC, L2MODULO, L2WINDOW, L3ACK, L3DATA, L3MODULO, L3WINDOW, N2, NODETYPE, NUMPVCS, PVCDBIT, R20, R22, R23, R25, SVCS2WAY, SVCSIN, SVCSOUT, T1_S, T1_10MS, T20, T21, T22, T23	<i>Parameter selector.</i> Enter this field with a vector that has a maximum of 37 parameter options. Enter the parameter option and the associated value to change a parameter default value. Enter parameters as a group of the parameter type. You must enter the parameter name and the value. Enter these items one item at a time in any order. If less than 37 options are a requirement, enter \$ to end the list. After you enter all parameter options, proceed to field EXINF. Field EXINF appears later in this table. Enter BAUDRATE (baud rate) to specify the baud rate. Enter data in refinement RATE. Datafill for refinement RATE appears later in this table. Enter CLKSRCE (clock source) to specify the source for the MPC system clock. Enter data in refinement SOURCE. Datafill for refinement SOURCE appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 2 of 16)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)	T25, T26, T2_S T2_10MS, T3_S, T3_10MS, T4_S, T4_10MS, THRUPUT	Enter ELECSPEC (physical link specification) to determine the electrical specification for links 2 and 3 on the MPC. Enter data in refinement SOURCE. The refinement SOURCE appears later in this table. Enter L2MODULO (frame level modulo counter) to specify a numbering design for end-to-end messaging at level 2. Enter data in refinement MODVAL as described later in this table. Enter L2WINDOW (frame window size) to specify the size of the frame window. Enter data in refinement SIZE. Datafill for refinement SIZE appears later in this table. <i>Warning:</i> Field SIZE must have the same value at the DTE and DCE ends of the data link. If the value is not the same, call processing errors, malfunctions, and lost revenue can occur. Enter L3ACK (level 3 packet acknowledgement) to specify packet acknowledgement. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter L3DATA (level 3 data packet size) to specify the maximum number of bytes of user data allowed in a data packet. Enter data in refinement DATASIZE. Datafill for refinement DATASIZE appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 3 of 16)**

Field	Subfield	Entry	Explanation and action
			Enter L3MODULO (level 3 packet level modulo counter) to specify a protocol numbering design for end-to-end messaging at level 3. Enter data in refinement MODVAL. Datafill for refinement MODVAL appears later in this table. Enter L3WINDOW (level 3 packet window) to specify the packet-level window size. Enter data in refinement SIZE. Datafill for refinement SIZE appears later in this table. <i>Warning:</i> Field SIZE must have the same value at the DTE and DCE ends of the data link. If the value is not the same, call processing errors, malfunctions, and lost revenue can occur. Enter N2 (retransmission counter) to specify the size of the retransmission counter. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter NODETYPE (node type or address) to specify the node type or address of the MPC. Enter data in refinement NODE. Datafill for refinement NODE appears later in this table. Enter NUMPVCS (number of permanent virtual circuits [PVC]) to specify the number of PVCs on the link. Enter data in refinement NUMVCS. Datafill for refinement NUMVCS appears later in this table.
	PARM (continued)		Enter PVCDBIT (PVC bitset) to activate the X.25 D-bit facility on PVC channels. Enter data in refinement BITSET. Datafill for refinement BITSET appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 4 of 16)**

Field	Subfield	Entry	Explanation and action
			Enter R20 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T20). Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. The user must enter data in parameter T20. Enter R22 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T22). Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Parameter T22 must contain data. Enter R23 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T23). Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Parameter T23 must contain data. Enter R25 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T25). Enter data in refinement VALUE. Datafill for refinement value appears later in this table. Parameter T25 must contain data.
	PARM (continued)		Enter SVCS2WAY. This entry is the number of 2-way switched virtual circuit (SVC). Enter data in refinement NUMVCS. Datafill for refinement NUMVCS appears later in this table. Enter SVCSIN (number of one-way incoming SVCs). Enter data in refinement NUMVCS. Datafill for refinement NUMVCS appears later in this table. Enter SVCSOUT (number of one-way outgoing SVCs). Enter data in refinement NUMVCS. Datafill for refinement NUMVCS appears later in this table. Enter T1_S (timer 1 in steps of 1-s) to specify the timer value in seconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 5 of 16)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter T1_10MS (timer 1 in steps of 10m-s) to specify the timer value in milliseconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Note: You can enter data in timer T1_S or timer T1_10MS. You cannot enter data in both timers. Enter T20 (restart request timer) to determine the transmission of requests to restart level 3. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T21 (call restart response timer) to time the remote response to a call request packet. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T22 (reset request timer) to time the remote response to a reset request. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T23 (clear request response timer) to time the remote response to a reset to clear a virtual call. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T25 (packet acknowledgement timer) to time an acknowledgement is from the remote of the reception of a level 3 packet. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T26 (interrupt response timer) to time the remote response if the system transmits an interrupt packet at level 3. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T2_S (timer 2 in steps of 1-s) to specify the timer value in seconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 6 of 16)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter T2_10MS (timer 2 in steps of 10-ms) to specify the timer value in milliseconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Note: You can enter data in timer T2_S or timer T2_10MS. You cannot enter data in both timers. Enter T3_S (timer 3 in steps of 1-s) to specify the timer value in seconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T3_10MS (timer 3 in steps of 10-ms) to specify the timer value in milliseconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Note: You can enter data in timer T3_S or timer T3_10MS. You cannot enter data in both timers. Enter T4_S (timer 4 in steps of 1-s) to specify the timer value in seconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T4_10MS (timer 4 in steps of 10-ms) to specify the timer value in milliseconds. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Note: You can enter data in timer T4_S or timer T4_10MS. You cannot enter data in both timers. Enter THRUPUT (throughput class) to specify the throughput class across the link for outgoing data. Enter data in refinement RATE. Datafill for refinement RATE appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 7 of 16)**

Field	Subfield	Entry	Explanation and action
	RATE	B300, B600, B1200, B2400, B4800, B9600, B14400, B19200, or B28800 NOVALUE, T75, T150, T300, T600, T1200, T2400, T4800, T9600, T19200, or T48000	<i>Baud rate.</i> If the entry in field PARM is BAUDRATE or THRUPUT, enter data in this refinement. If the entry in field PARM is BAUDRATE, enter the baud rate value for data transmission compatible to the ends of the circuit. The baud rate value represents bits per second. If field CLKSRCE contains INTERNAL, you can enter data in field BAUDRATE. Note: The IOM MPC supports baudrates B14400 and B28800. The default value is B2400. If the entry in field PARM is THRUPUT, enter NOVALUE. This entry indicates that you accept the throughput class transmission rate entered in refinement RATE. Enter one of the throughput values (T75 to T48000) for selection of a throughput class other than the default value.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 8 of 16)**

Field	Subfield	Entry	Explanation and action
	SOURCE	INTERNAL or EXTERNAL RS232 or V35 or 512KV35	<i>Clock source.</i> If the entry in field PARM is CLKSRC or ELECSPEC, enter data in this refinement. If the entry in field PARM is CLKSRC, enter INTERNAL for the MPC card, or EXTERNAL for a modem device. Link 2 and link 3 must have the same clock source. The clock source can be internal or external. If link 2 and link 3 have different clock sources, the system generates an error message. The default value is EXTERNAL. If the entry in field PARM is ELECSPEC, enter RS232. This entry is the electrical specification for links 2 and 3 on the NT1X89AA multiprotocol controller (MPC) card. If the enhanced MPC (EMPC) is installed, enter RS232 (port 3 is link 3) or V35 (port 1 is link 3). You must enter one of these values because the NT1X89BA/BB enhanced multiprotocol controller card supports both specifications. Note: The IOM MPC can have value 512KV35. This value supports X2580 or X2584 protocols. The default value is RS232.
	MODVAL	MOD8 or MOD128	<i>Frame level modulo counter.</i> If the entry in field PARM is L2MODULO or L3MODULO, enter data in this refinement. Enter a numbering design for end-to-end messaging at level 2 or level 3. Modulo 8 frame sequencing (MOD8) supports a maximum level 2 or level 3 window size of 7. The refinement SIZE is 7. The default value is MOD8.

MPCLINK (continued)

Field descriptions for conditional datafill (Sheet 9 of 16)

Field	Subfield	Entry	Explanation and action
	SIZE	1 to 127	<i>Frame window size.</i> If the entry in field PARM is L2WINDOW or L3WINDOW, enter data in this refinement. Enter the size of the frame window. The frame window is the number of frames that level 2 and level 3 software sends before the levels require a confirmation. The confirmation indicates the software received the first frame. The recommended frame window is 7 because this frame window transmits data faster. In conditions specified, the end application cannot allow a frame window of 7. The digital terminal equipment (DTE) and the digital carrier equipment (DCE) must agree on this parameter. The default value is 2.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 10 of 16)**

Field	Subfield	Entry	Explanation and action
	VALUE	0 to 255	<i>Value.</i> If the entry in field PARM is one of the following, enter data in refinement VALUE: L3ACK, N2, R20, R22, R23, R25, T1_S, T1_10MS, T20, T21, T22, T23, T25, T26, T2_S, T2_10MS, T3_S, T3_10MS, T4_S, T4_10MS. If the entry in field PARM is L3ACK, the system uses this level 3 timer with subfields T2_S and T2_10MS. The entry is in units of 10 ms. The entry must be less than the values in subfields T2_S and T2_10MS. This requirement does not apply if both values are 0. The preferred value is a minimum of 20 ms less than the values in subfields T2_S and T2_10MS. The operating system timing functions of the following cards determine the preferred value: - the NT1X89AA multiprotocol controller cards - the NT1X89BA/BB enhanced multiprotocol controller cards The default value of 0 indicates the system immediately acknowledges incoming data at level 3. To conserve packets when refinement VALUE is not 0, the system starts the timer for an incoming packet. The system starts the timer and waits for reciprocal outgoing data. The reciprocal outgoing data can carry the acknowledgment of the incoming data. If outgoing data is not present, the system acknowledges the incoming data when refinement VALUE expires. Do not enter data in refinement VALUE unless a pattern of data is present and recognized. The user must use the Level 3 packet acknowledgment correctly. If the user does not use acknowledgment correctly, throughput from the remote node is affected. The default value is 0.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 11 of 16)**

Field	Subfield	Entry	Explanation and action
	VALUE (continued)		If the entry in field PARM is N2, 0 is not a correct entry. A value of 255 indicates the counter size does not have a limit. This counter determines the number of times level 2 transmits a frame again. Level 2 transmits the frame again for which the level does not receive an acknowledgment in the retransmission time. Field PARM is T1. The default value is 10. If the entry in field PARM is R20, 0 is not a correct entry. Enter the maximum number of expirations of the restart request timer. Field PARM is T20. When the value for entry T20 expires, the system sends the level 3 restart request again. The system resends the level 3 restart request until the number of requests equals the value entered for value R20. Timing stops if the system receives confirmation of the request. The default value is 1. If the entry in field PARM is R22, 0 is not a correct entry. The default value is 1. If the entry in field PARM is R23, 0 is not a correct entry. Enter the number of clear request retransmissions sent before the counter clears.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 12 of 16)**

Field	Subfield	Entry	Explanation and action
			If the entry in field PARM is R25, enter the number of data retransmissions attempted before the system fails the message. The system resets the channel. The data that the system does not acknowledge after the packet acknowledgment timer (T25) expires determines the channel. The default value is 0. If the entry in field PARM is T1_S, 0 is not a correct entry. Enter the time value in steps of 1 s. Entry T1_S is a timer used at level 2 to determine if the remote responds correctly. The system uses this timer with entry N2. The link can change state and reinitialize. This condition occurs under the following conditions: • if the T1_S timer expires the number of times specified in refinement VALUE for parameter N2 • if the T1_S timer does not send the correct acknowledgment of a frame to the remote device The entry in refinement VALUE must be equal to the entry of the remote DCE or DTE for local timer (T2_S) accuracy. If the entry in field PARM is T1_10MS or T2_10MS, the range is 0 or 5 to 255. Enter the time value in steps of 10 ms. Note: You can enter timer T1_S or timer T1_10MS. You cannot enter both timers. If you do not enter timer T1_S or timer T1_10MS, the default value for timer T1_S is 5 s. If the entry in field PARM is T2_S, this timer is the guideline to send an acknowledgment for data received. The real value of this entry must be less than the value entered in refinement VALUE for T1_S or T1_10MS. Enter the time value in steps of 1 s.
	VALUE (continued)		

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 13 of 16)**

Field	Subfield	Entry	Explanation and action
	VALUE (continued)		Note: You can enter timer T2_S or timer T2_10MS. You cannot enter both timers. If you do not enter timer T2_S or timer T2_10MS, the default value for timer T2_S is 3 s. If the entry in field PARM is T20, T21, T22, or T23, 0 is not a correct entry. The default for timer T20 is 180. The default for timer T21 is 200. The default for timer T23 is 180. If the entry in field PARM is T25, an entry of 0 indicates a time period that is not specified. Value 0 is not a correct entry for protocol X2580. The default value is 0. If the entry in field PARM is T26, 0 is not a correct entry. The default value is 180. If the entry in field PARM is T3_S, 0 is not a correct entry. Enter the time value in steps of 1 s. This timer is the idle channel timer. This timer determines when the link logically disconnects after detection of the idle channel state. The system enters the idle channel state when one end detects that I-frames or flags are not incoming on a channel from the remote device. The idle channel time value must be greater than the inactive link timer value. The idle channel time value must be greater than the timer values for timers T1_S or T1_10MS, and T2_S or T2_10MS. If the entry in field PARM is T3_10MS or T4_10MS, the range is 5 to 255. Enter the time value in steps of 10 ms. Note: You can enter data in timer T3_S or timer T3_10MS. You cannot enter data in both timers. If you do not enter timer T3_S or timer T3_10MS, the default value for timer 3 is 25 s.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 14 of 16)**

Field	Subfield	Entry	Explanation and action
	VALUE (continued)		If the entry in field PARM is T4_S, 0 is not a correct entry. Enter the time value in steps of 1 s. This timer is the inactive link timer. This timer times the periodic transmission of a frame to check remote responsiveness. This timer checks remote responsiveness when a higher level of activity on the link is not present. The inactive link timer value must be less than the idle channel timer value. The idle channel timers are T3_S or T3_10MS. The inactive link timer value must be greater than the values for timers T1_S or T1_10MS. Note: You must enter data for timer T4_S or timer T4_10MS. You cannot enter data for both timers. If you do not enter data for timer T4_S or timer T4_10MS, the default value for timer T4_S is 10 s.
	DATASIZE	P16, P32, P64, P128, P256, P512, P1024, P2048, or P4096	<i>Level 3 data packet size.</i> If the entry in field PARM is L3DATA, enter data for this refinement. Enter the maximum number of bytes of user data allowed in a data packet. The default value is P128.
	NODE	DCE or DTE	<i>Node type or address.</i> If the entry in field PARM is NODETYPE, enter data in this refinement. Enter the node type or address of the MPC. Enter DCE for digital carrier equipment or DTE for data terminal equipment. This entry indicates to the MPC that frame addressing is DCE or DTE. The default value is DTE.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 15 of 16)**

Field	Subfield	Entry	Explanation and action
	NUMVCS	0 to 255	<i>Number of virtual circuits.</i> If the entry in field PARM is NUMPVCS, SVCS2WAY, SVCSIN, or SVCSOUT, enter data in this refinement. If the entry in field PARM is NUMPVCS, enter the number of permanent virtual circuits (PVC) on the link. If the system does not configure SVCs, a user can configure a maximum of 255 PVCs. The default value is 3. If the entry in field PARM is SVCS2WAY, enter the number of two-way SVCs configured on the link. If the entry in field PARM is SVCSIN, enter the number of one-way incoming SVCs. If the entry in field PARM is SVCSOUT, enter the number of one-way outgoing SVCs.
	NUMVCS (continued)		If the total number of SVCs on a link is not 0, you must enter SVCDNA in subfield EXINF80. The entry SVCTYPE is not an additional information option with the X2580 protocol. If you do not enter any SVCs, the system configures a default of 0 for each type. This condition occurs if the user enters data in some PVCs. If the system does not enter data in PVCs or SVCs, the system rejects the tuple. The system can configure a maximum of 255 SVCs. The total of combined PVCs and SVCs cannot exceed 255 (NUMPVCS + SVCS2WAY + SVCSIN + SVCSOUT £ 255)

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 16 of 16)**

Field	Subfield	Entry	Explanation and action
	BITSET	DOFF or DON	<i>Permanent virtual circuit d-bit set.</i> If the entry in field PARM is PVCDBIT, enter data in this refinement. Enter DOFF to disable the D-bit facility. Enter DON to activate the D-bit facility. Over a network PVC, the network subscription must include the D-bit to use parameter PVCDBIT correctly. The MPC sends all user data with the D-bit set. The MPC acknowledges all incoming D-bit data. This condition applies to PVCs on the link. The call setup process determines the use of the D-bit for an SVC. The default value is DOFF.
	EXINF	see subfield	<i>Example information protocol.</i> This field contains subfield EXINFO.
	EXINFO	SVCDNA	<i>Example information protocol.</i> Enter SVCDNA if the link uses SVCs. Enter data in refinement DIGITS. If the link uses SVCs, enter \$. SVCDNA is the only correct entry.
	DIGITS	0 to 9 (vector of a maximum of 15 entries)	<i>Digits.</i> Enter the digits for the network address.

MPCLINK (continued)

PROTOCOL = X25ORIG

If the entry in subfield PROTOCOL is X25ORIG, enter data in refinements CONVNABL, PARMS, and EXTRAINF. The datafill for these refinements appears in the following table.

Field descriptions for conditional datafill (Sheet 1 of 20)

Field	Subfield	Entry	Explanation and action
	CONVNABL	0 to 32767	<i>Conversation enable.</i> Enter the number of minutes a conversation is not in progress before the system takes corrective action. This value must be a multiple of 5. An entry of 0 indicates a period of time that is not specified. This subfield does not have a default value.
	PARMS	see subfield	<i>Parameters.</i> This refinement contains subfield PARMSEL.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 2 of 20)**

Field	Subfield	Entry	Explanation and action
	PARM	BAUDRATE, CLKSRCE, CTSTIMER, DCDTIMER, ELECSPEC, ENVIRON, FACILCODE, INITROLE, L1PTTOPT, L2ACCESS, L2MODULO, L2WINDOW, L3DATA, L3MODULO, L3WINDOW, LINEMODE, LINKCONT, LINUSAGE, N2, NODETYPE, NUMPRIO, NUMPVCS, NUMSVCS, PHONE, POOLPCT, R20, R22, R23, R25, R27, STANDARD, SYNCMODE, T1, T2, T20, T21, T22, T23, T24, T25, T26, T27, THRUPUT, TIDLE, TINACTIVE	<i>Parameter selector.</i> Enter this field with a vector of a maximum of 46 parameter options. Enter the parameter option and the associated value to change a parameter default value. You must enter parameters as a combination of the parameter type. Enter the parameter name and the value. Enter these items one item at a time in any order. If you require less than 46 options, enter \$ to end the list. After you enter all parameter options, proceed to field EXTRAINF. A description of this field appears later in this table. Enter BAUDRATE (baud rate) to specify the baud rate. Enter data in refinement RATE. Datafill for refinement RATE appears later in this table. Enter CLKSRCE (clock source) to specify the source for the MPC system clock. Enter data in refinement SOURCE. Datafill for refinement SOURCE appears later in this table. The system does not support CTSTIMER. The CTSTIMER is the call-through simulator (CTS). Enter CTSTIMER to indicate that timing for CTS is not active on the MPC. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this table. The DCDTIMER (DCD timer) is not supported. Enter DCDTIMER to indicate timing failure for DCD. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 3 of 20)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter ELECSPEC (physical link specification) to determine the electrical specification for links 2 and 3 on the MPC. Enter data in refinement SPEC. Datafill for refinement SPEC appears later in this table. Enter ENVIRON (environment) to specify the protocol environment to establish communications. Enter data in refinement MPCENVRN. Datafill for refinement MPCENVRN appears later in this table. The system does not support FACILCODE (facility code). Enter FACILCODE. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this table. Enter INITROLE (initialization role) to indicate the role of the MPC during initialization. Enter data in refinement ROLE. Datafill for refinement ROLE appears later in this table. Enter L1PTTOPT (dedicated link) to specify if the link is dedicated. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter L2ACCESS (level 2 link access procedure) to specify the link access. Enter data in refinement PROTOCOL. Datafill for refinement PROTOCOL appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 4 of 20)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter L2MODULO (level 2 frame level modulo counter) to specify a numbering scheme for end-to-end messaging at level 2. Enter data in refinement MODVAL. Datafill for refinement MODVAL appears later in this table. Enter L2WINDOW (level 2 frame window size) to specify the size of the frame window. Enter data in refinement SIZE. Datafill for refinement SIZE appears later in this table. <i>Warning:</i> Field SIZE must have the same value at the DTE and DCE ends of the data link. If the value is not the same, call processing errors, malfunctions, and lost revenue can occur. Enter L3DATA (level 3 data packet size) to specify the maximum number of bytes of user data allowed in a data packet. Enter data in refinement DATASIZE. Datafill for refinement DATASIZE appears later in this table. Enter L3MODULO (level 3 packet level modulo counter). This entry specifies a protocol numbering scheme for end-to-end messaging at level 3. Enter data in refinement MODVAL. Datafill for refinement MODVAL appears later in this chapter. Enter L3WINDOW (level 3 packet window) to specify the packet level window size. Enter data in refinement SIZE. Datafill for refinement SIZE appears later in this chapter.

MPCLINK (continued)

Field descriptions for conditional datafill (Sheet 5 of 20)

Field	Subfield	Entry	Explanation and action
			<i>Warning:</i> Field SIZE must have the same value at the DTE and DCE ends of the data link. If the value is not the same, call processing errors, malfunctions, and lost revenue can occur. Enter LINEMODE (line mode) to specify the line mode. Enter data in datafill refinement MODE. Datafill for refinement MODE appears later in this chapter. Enter LINKCONT (link control) to specify the link control protocol. Enter data in refinement CONTROL. Datafill for refinement CONTROL appears later in this chapter. Enter LINUSAGE (line usage) to specify the type of circuit. Enter data in refinement LINE. Datafill for refinement LINE appears later in this chapter. Enter N2 (retransmission counter) to specify the size of the retransmission counter. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this chapter.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 6 of 20)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter NODETYPE (node type or address) to specify the node type or address of the MPC. Enter data in refinement NODE. Datafill for refinement NODE appears later in this chapter. Enter NUMPRIO (number with priority) to specify the number of virtual circuits with high priority. Enter data in refinement NUMVCS. Datafill for refinement NUMVCS appears later in this chapter. Enter NUMPVCS. This entry is the number of permanent virtual circuits (PVC). This entry specifies the number of PVCs on the link. Enter data in refinement NUMVCS. Datafill for refinement NUMVCS appears later in this chapter. Enter NUMSVCS. This entry is the number of simultaneous virtual circuits (SVC). This entry specifies the number of SVCs on the link. Enter data in refinement NUMVCS. Datafill for refinement NUMVCS appears later in this chapter. The system does not support PHONE (phone). Enter PHONE. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this chapter. Enter POOLPCT (pool percentage) to specify the percentage of total buffer pool resources that belong to PVCs. Enter data in refinement PERCENT. Datafill for refinement PERCENT appears later in this chapter.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 7 of 20)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter R20 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T20). Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this chapter. The user must enter data in parameter T20. Enter R22 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T22). Enter data in refinement VALUE. Datafill for refinement VALUE appears in this chapter. You must enter parameter T22. Enter R23 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T23). Enter data in refinement VALUE. Datafill for refinement VALUE appears in this chapter. You must enter parameter T23. Enter R25 (restart requests count) to specify the maximum number of expirations of the restart request timer (entry T25). Enter data in refinement VALUE as appears in this chapter. You must enter parameter T25. The system does not support R27 (reject retransmission count). Enter R27. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this chapter.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 8 of 20)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter STANDARD (standard) to specify the protocol standards the system must follow for communications on the link. Enter data in refinement STANDARD. Datafill for refinement STANDARD appears later in this chapter. Enter SYNCMODE (synchronous mode) for synchronous communications. Enter data in refinement MODE. Datafill for refinement MODE appears later in this chapter. Enter T1 (retransmission timer) to set the time for the level 2 retransmission timer. This setting specifies if the remote MPC responds correctly. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this chapter. The system does not support T2 (checkpoint). Enter T2. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this chapter. Enter T20 (restart request timer) to determine the transfer of requests to restart level 3. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this chapter. Enter T21 (call restart response timer) to time the remote response to a call request packet. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this chapter.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 9 of 20)**

Field	Subfield	Entry	Explanation and action
	PARM (continued)		Enter T22 (reset request timer) to time the remote response to a reset request. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T23 (clear request response timer) to time the remote response to a reset to clear a virtual call. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. The system does not support T24 (window update timer). Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this table. Enter T25 (packet acknowledgement timer) to time an acknowledgement from the remote that reception of a level 3 packet occurred. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter T26 (interrupt response timer) to time the remote response if the system transmits an interrupt packet at level 3. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. The system does not support T27 (reject response timer). Enter T27. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this table.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 10 of 20)**

Field	Subfield	Entry	Explanation and action
			Enter THRUPUT (throughput class) for the throughput class across the link for outgoing data. Enter THRUPUT. Enter data in refinement DEFAULT. Datafill for refinement DEFAULT appears later in this table. Enter TIDLE (idle channel timer) to determine when the system logically disconnects a link after the system detects an idle channel state. The idle channel state occurs when one end detects that I-frames or flags are not incoming. The I-frames or flags are not incoming on a channel from the remote. Enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table. Enter TINACTIVE (inactive link timer) to time the periodic transmission of a frame. Perform this action to check remote responsiveness if applications activity does not occur on the link. Enter TINACTIVE to enter data in refinement VALUE. Datafill for refinement VALUE appears later in this table.
	RATE	B300, B600, B1200, B2400, B4800, B9600, B14400, B19200 or B28800	<i>Baud rate.</i> If the entry in field PARM is BAUDRATE, enter data in this refinement. Enter the baud rate value for data transmission that is compatible for both ends of the circuit. The baud rate value is in bits per second. The user can enter data in field BAUDRATE if entry of field CLKSRC is INTERNAL. Note: The IOM MPC supports baudrates B14400 and B28800. The default value is B2400.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 11 of 20)**

Field	Subfield	Entry	Explanation and action
	SOURCE	INTERNAL or EXTERNAL	<i>Clock source.</i> If the entry in field PARM is CLKSRCE, enter data in this refinement. Enter INTERNAL for the MPC card or EXTERNAL for a modem device. Links 2 and 3 must have the same clock source. If the user enters a different clock source for links 2 and 3, the system generates an error message. The default value is EXTERNAL.
	DEFAULT	NOVALUE or T75, T150, T300, T600, T1200, T2400, T4800, T9600, T19200, or T48000	<i>Default.</i> Enter data in this refinement if the entry in field PARM is one of the following: • CTSTIMER • DCDTIMER • FACILCODE • PHONE • R27 • T2 • T24 • T27 • THRUPUT If the entry in field PARM is THRUPUT, enter NOVALUE. This entry allows the acceptance of the throughput class transmission rate entered in refinement RATE. To select a throughput class other than the default value, enter one of the throughput values. The throughput values are T75 to T48000. If the entry in field PARM is any value other than THRUPUT, the system does not support the parameter. Enter NOVALUE. The default value is NOVALUE.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 12 of 20)**

Field	Subfield	Entry	Explanation and action
	ELECSPEC	RS232 or V35	<i>Specification.</i> If the entry in field PARM is ELECSPEC, enter RS232 as the electrical specification for links 2 and 3. Links 2 and 3 are on the NT1X89AA multiprotocol controller (MPC) card. If the enhanced MPC (EMPC) is installed, enter RS232 or V35. Port 3 is link 3 for RS232. Port 1 is link 3 for V35. The NT1X89BA/BB enhanced MPC card supports both specifications. The default value is RS232.
	MPCENVRN	DCETODTE or DTETODXE	<i>Environment.</i> If the entry in field PARM is ENVIRON, enter this refinement. This parameter specifies the protocol environment to establish communications. If the entry in refinement NODE is DCE, enter DCETODTE. If the entry in refinement NODE is DTE, enter DTETODXE. The default value is DTETODXE.
	ROLE	PASSIVE	<i>Initialization role.</i> If the entry in field PARM is INITIROLE, enter data in this refinement. Enter PASSIVE to indicate the role of the MPC during initialization. The default value is PASSIVE.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 13 of 20)**

Field	Subfield	Entry	Explanation and action
	VALUE	0 to 255 or YES or NO	<i>Value.</i> Enter data in this refinement if the entry in field PARM is one of the following: • L1PTTOPT • N2 • R20 • R22 • R23 • R25 • T1 • T20 • T21 • T22 • T23 • T25 • T26 • TIDLE • TINACTIVE If the entry in field PARM is L1PTTOPT, if the link is a dedicated link enter YES. Enter NO if the link is not a dedicated link. If the entry in field PARM is N2, a value of 255 indicates the counter size does not have a limit. This counter determines how many times level 2 transmits a frame again. The system does not receive acknowledgment for this frame in the retransmission time. Field PARM is T1. The default value is 10.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 14 of 20)**

Field	Subfield	Entry	Explanation and action
	VALUE (continued)		If the entry in field PARM is R20, 0 is not a correct entry. Enter the maximum number of expirations of the restart request timer (T20). When the value entered for entry T20 expires, the system resends the level 3 restart request. The system resends the request the number of times data is entered for value R20. Timing stops if the system receives confirmation of the request. The default value is 1. If the entry in field PARM is R22, 0 is not a correct entry. The default value is 1. If the entry in field PARM is R23, 0 is not a correct entry. Enter the number of clear request retransmissions sent before the system clears the counter. If the entry in field PARM is R25, enter the number of data retransmissions attempted before the system fails the message. The data that is not acknowledged after the packet acknowledgment timer (T25) expires, determines how the system resets a channel. The default value is 0.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 15 of 20)**

Field	Subfield	Entry	Explanation and action
	VALUE (continued)		If the value in field PARM is T1, enter time, in seconds, for the retransmission timer. The system uses a timer at level 2 to determine if the remote MPC responds. Time can expire. the number of times entered for protocol N2 without correct acknowledgment. The correct acknowledgment is of a transmitted frame from the remote. When these conditions occur, the link changes state and reinitializes. An entry of 0 indicates a period of time that is not specified. This entry is not correct. The default value is 3. If the entry in field PARM is T20, T21, T22, or T23, 0 is not a correct entry. The default for timer T20 is 180. The default for timer T21 is 200. The default for timer T23 is 180. If the entry in field PARM is T25, an entry of 0 indicates a time period that is not specified. The default value is 0. If the entry in field PARM is T26, 0 is not a correct entry. The default value is 180. If the entry in field PARM is TIDLE, 0 is not a correct entry. Enter the amount of time, in seconds, that a channel can remain idle before the system disconnects the channel.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 16 of 20)**

Field	Subfield	Entry	Explanation and action
	VALUE (continued)		The default value is 180. If the entry in field PARM is TINACTIVE, 0 is not a correct entry. Enter the time, in seconds, that the link can remain idle before the system deactivates the link. The default value is 180. Note: The value of the inactive link timer (TINACTIVE) must be less than or equal to the value of the idle channel timer (TIDLE). The value of the inactive link timer must be greater than the value of the transmission timer (T1).
	PROTOCOL	LAPB	<i>Link access procedure.</i> If the entry in field PARM is L2ACCESS, enter data in this refinement. The system can support link access procedure balance mode (LAPB). Enter LAPB as the type of level 2 link access procedure. The default value is LAPB.
	MODVAL	MOD8 or MOD128	<i>Frame level modulo counter.</i> If the entry in field PARM is L2MODULO or L3MODULO, enter data in this refinement. This parameter specifies a numbering scheme for end-to-end messaging at level 2 or level 3. The only correct entry is MOD8. Modulo 8 frame sequencing (MOD8) supports a maximum level 2 or level 3 window size of 7. The refinement SIZE is 7. The default value is MOD8.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 17 of 20)**

Field	Subfield	Entry	Explanation and action
	SIZE	1 to 127	<i>Frame window size.</i> If the entry in field PARM is L2WINDOW or L3WINDOW, enter data in this refinement. Enter the size of the frame window. The frame window refers to the number of frames that level 2 and level 3 software send before the software requires confirmation. The software receives confirmation that the system received the first frame. The recommended frame window value is 7. A frame window of 7 transmits data faster. The end application does not always allow a frame window of 7. The digital trunk equipment (DTE) and the digital carrier equipment (DCE) must agree on this parameter. The default value is 2. <i>Warning:</i> Field SIZE must have the same value at both the DTE and DCE ends of the data link. If the value is not the same, call processing errors, malfunctions, and lost revenue can occur.
	DATASIZE	P256	<i>Level 3 data packet size.</i> If the entry in field PARM is L3DATA, enter data in this refinement. Enter the maximum number of bytes of user data allowed in a data packet. The maximum number is 256 (P256). Entries outside this range are not correct. The default value is P128.
	MODE	FDUPLEX SYNC	<i>Synchronous mode.</i> If the entry in field PARM is LINEMODE or SYNCMODE, enter data in this refinement. If the entry in field PARM is LINEMODE, full duplex is the only mode that operates on the MPC. Enter FDUPLEX. If the entry in field PARM is SYNCMODE, communications are synchronous on the MPC. Enter SYNC. The default value is SYNC.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 18 of 20)**

Field	Subfield	Entry	Explanation and action
	CONTROL	HDLC	<i>Link control.</i> If the entry in field PARM is LINKCONT, enter data in this refinement. High-level data link control (HDLC) is the only link control protocol that the MPC can support. Enter HDLC. The default value is HDLC.
	LINE	LEASED	<i>Line usage.</i> If the entry in field PARM is LINUSAGE, enter data in this refinement. The MPC can support the four-wire leased circuit (full duplex). Enter LEASED. The default value is LEASED.
	NODE	DCE or DTE	<i>Node type or address.</i> If the entry in field PARM is NODETYPE, enter data in this refinement. Enter the node type or address of the MPC. Enter DCE for digital carrier equipment or DTE for data terminal equipment. This entry indicates to the MPC that frame addressing is DCE or DTE. The default value is DTE.
	NUMVCS	0 to 255	<i>Number of virtual circuits.</i> If the entry in field PARM is NUMPRIO, NUMPVCS or NUMSVCS, enter data in this refinement. If the entry in field PARM is NUMPRIO, enter the number of virtual circuits with high priority. The value must be less than the total number of virtual circuits entered. The number of circuits entered is protocol NUMPVCS + protocol NUMSVCS. If the user does not specify protocol NUMPVCS or NUMSVCS, the entry for protocol NUMPRIO must be less than 3.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 19 of 20)**

Field	Subfield	Entry	Explanation and action
	NUMVCS (continued)		The default value is 0. If the entry in field PARM is NUMPVCS, enter the number of permanent virtual circuits (PVC) on the link. If the system does not configure SVCs, you can configure a maximum of 255 PVCs. The default value is 3 if the user does not enter data in parameter NUMPVCS or subfield NUMSVCS. If the user specifies parameter NUMSVCS, the default value for parameter NUMPVCS is 0. The user enters a value that is not zero to specify parameter NUMSVCS. If the entry in field PARM is NUMSVCS, enter the number of SVCs configured on the link. The user can enter a value that is not zero for parameter NUMSVCS. If the user enters this value, the user must enter SVCDNA and SVCTYPE in subfield EXINFSEL. The user can configure a maximum of 255 SVCs. The combination of PVCs and SVCs cannot exceed 255.
	PERCENT	0 to 100	<i>Pool percentage.</i> If the entry in field PARM is POOLPCT, enter data in this refinement. Enter the percentage of total buffer pool resources for permanent virtual circuits (PVC). The default value is 0.
	STANDARD	BX25 CCITT80 or DDNBASIC	<i>Standard.</i> If the entry in field PARM is STANDARD, enter data in this refinement. This parameter specifies the protocol standards the system must follow for communications on the link. The SVC users must specify CCITT80. The PVC users do not need to enter data in this parameter. The default value is BX25.
	EXTRAINF	see subfield	<i>Extra information.</i> This refinement contains subfield EXINFSEL.

MPCLINK (continued)**Field descriptions for conditional datafill (Sheet 20 of 20)**

Field	Subfield	Entry	Explanation and action
	EXINFSEL	SVCDNA SVCTYPE	<i>Extra information selector.</i> If SVCs are not on the link, do not enter data in this subfield. Enter a maximum of two selectors. If less than two selectors are a requirement, enter \$ to end the list. Enter SVCDNA for a data network address. Enter data in refinement DIGITS. Enter SVCTYPE for a switched virtual circuit (SVC) network. Enter data in refinement NETWORK. Note: If the user does not enter data in SVCs, the system configures a default of 0 for each type. The user must enter data in some permanent virtual circuits (PVC). If the user does not enter data in PVCs, the system rejects the tuple.
	DIGITS	0 to 9 (vector of a maximum 15 digits)	<i>Digits.</i> If the entry in subfield EXINFSEL is SVCDNA, enter data in this refinement. Enter the digits that define the network address. Additional data entries are not a requirement.
	NETWORK	DATAPAC, NTELPAC, DDN	<i>Network.</i> If the entry in subfield EXINFSEL is SVCTYPE, enter data in this refinement. Enter the SVC network format. Entries outside this range are not correct.

Datafill example

Sample datafill for table MPCLINK appears in the following example.

The example contains three tuples for table MPCLINK.

In the first tuple for MPC 5, link 2:

- MPC number is 5.
- Link number is 2.
- Link alarm is active.
- Protocol is X25ORIG.

MPCLINK (continued)

- Link enabling time is 35 min.
- Conversation enabling time is 35 min.

This tuple must contain the following parameters:

- Level 2 frame window is 7.
- Clock source is external.
- Packet acknowledgment timer is 180 s.
- Number of PVCs is 3.

Note: The user does not enter data in protocol NUMSVCS. The entry in subfield EXTRINF is \$.

In the second tuple for MPC 3, link 3:

- The MPC number is 3.
- The link number is 3.
- The link alarm is active.
- The protocol is X25ORIG.
- The link enabling time is 55 min.
- The conversation enabling time is 55 min.

Note: The user enters one parameter in this tuple. This parameter is the number of SVCs. The number of SVCs is 32.

Refinement NUMVCS for parameter NUMSVCS has a value that is not zero. The user must complete parameters SVCDNA and SVCTYPE in vector field EXTRINF as follows:

- The SVC data network address is 3333333.
- The SVC type is DATAPAC.

In the third tuple for MPC 4, link 2:

- The MPC number is 4.
- The link number is 2.
- The link alarm is not active.
- The protocol is ASYNC.
- The link enabling time is 55 min.

MPCLINK (continued)

This tuple must contain the following parameters:

- The number of bits per character is 7.
- Baud rate is 1200.
- Modem control is FULL.
- Number of stop bits is 1.
- Number of start bits is 1. Default values do not appear.
- Line mode is FULL.
- Parity is EVEN.
- The APLDEFN is NONE.

The link configuration parameters include outgoing end-of-message sequence. The outgoing end-of-message sequence is 0D0A19.

MAP example for table MPCLINK

LINKKEY LINKALM		PRTCLDAT
0 3	Y	
X2584 0 55 (CLKSRCE EXTERNAL) (ELECSPEC 512KV35) (L2WINDOW 7) (L3DATA P256) (NODETYPE DTE) (SVCSWAY 16) (THRUPUT T48000) \$ (SVCDNA 02580081) \$		
1 2	Y	
X250RIG 0 55 (NUMSVCS 15) (T20 5) (N2 10) (TINACTIVE 10) (TIDLE 120) (L2WINDOW 7) (L3WINDOW 2) (STANDARD CCITT80) \$ (SVCDNA 0115021000) (SVCTYPE DDN) \$		
2 3	Y	
X250RIG 55 55 (NUMSVCS 32) (T20 5) (STANDARD CCITT80) (L2WINDOW 7) (L3WINDOW 2) (N2 10) (TIDLE 180) (T1 5) \$ (SVCDNA 95800240) (SVCTYPE DATAPAC) \$		

Table history

NA07B

Additional warnings that L2WINDOW and L3WINDOW must be the same at both ends of the data link were added. Field SIZE previously contained this note. An office missed the note and caused call processing errors, malfunctions and lost revenue.

MPCLINK (end)

TELECOM 06

An explanation to enter data in field LINKALM in IOM MPC logs was added.

The baudrates B14400 and B28800 were added to subfield BAUDRATE for all protocols (X25ORIG/X2580/X2584/ASYNC).

The 512KV35 was added to the subfield ELECSPEC for subfield PROTOCOL = X2580/X2584.

A new MAP display for MPCLINK was added.

NA04B

Entry DDN was added to subfield SVCTYPE refinement NETWORK for subfield PROTOCOL = X25ORIG.

BCS36

Refinement names for all parameters (field PARM) were renamed. The default values for timers T20, T21, T23, T25, and T26 were changed.

MPCLOGIN

Table name

Multiprotocol Controller Login Table

Functional description

Table MPCLINK stores the screening information to determine if the multiprotocol controller (MPC) card accepts incoming calls. The MPC accepts incoming calls for the MAP login.

Datafill sequence and meaning

You do not have to enter data in other tables before you enter data in table MPCLOGIN.

Enter data in tables MPC and MPCLINK before you enter data in table MPCLOGIN. The table control software does not enforce the requirement of data entry in table MPC and MPCLINK before data entry in table MPCLOGIN. You cannot access table MPCLOGIN unless you enter hardware in tables MPCLINK and MPC.

Changes to table MPCLOGIN do not affect users logged in when the changes occur. For example, a tuple can change in table MPCLOGIN. This change does not terminate the login session for the user that the tuple changes for. The changes occur at the next login.

Table size

0 to 64 tuples

The system allocates memory for 64 tuples in table MPCLOGIN.

Datafill

Datafill for table MPCLOGIN appears in the following table.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
INDEX		0 to 63	<i>MPCLOGIN index.</i> Enter the number for the index in table MPCLOGIN. The index number is only for MPCLOGIN. This number can appear once as a table index.
MANDL		see subfields	<i>MPCLINK index</i> This field contains subfields MPCNO and LINKNO.

MPCLOGIN (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
CLINGDNA	MPCNO	0 to 255	<i>Multiprotocol controller number.</i> Enter the MPC card number to log in to the MAP(maintenance and administration). This value must be a correct entry in table MPC.
	LINKNO	0 to 3	<i>Multiprotocol controller link number.</i> Enter the MPC link number to log in to the MAP. This value must be a correct entry in table MPCLINK.
		see subfields	<i>Calling data network address.</i> This field contains subfields MPCMAPDNA and PROTCLID.
	MPCMAPDNA	0 to 9 (1 to 15 digits)	<i>MPC MAP data network address.</i> Enter an MPC MAP calling data network address assigned to the MPC card. Enter the link for MAP logins. If network addressing is not in use, enter \$ to meet the requirements of the table editor.
	PROTCLID	0 to F (1 to 8 hexadecimal digits)	<i>Protocol identifier.</i> Enter the protocol identifier of the incoming call that uses the MPC for MAP login. This protocol identifier checks against a user logging on. The check determines if the user can use a MAP login. If protocol identification is not in use, enter \$ to meet the requirements of the table editor.
USERDATA		see subfield	<i>MPCLOGIN user data.</i> This field contains subfield HEXASCII.

MPCLOGIN (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	HEXASCII	ASCII, HEX, or NONE	<i>Hexadecimal ASCII.</i> Enter the field required with a correct refinement for password security on the MPC login process. Each tuple in table MPCLOGIN can only have one entry and refinement. Enter ASCII for ASCII digits. Enter data in refinement ASCIICHRS. Enter HEX for hexadecimal digits. Enter data in refinement HEXDIGITS. Enter NONE if password security is not a requirement. Additional datafill is not a requirement.
	ASCIICHRS	alphanumeric (1 to 12 characters)	<i>ASCII character password string.</i> If the entry in field USERDATA is ASCII, enter data in this refinement. Enter an ASCII character password for this login circuit.
	HEXDIGITS	0 to F (1 to 24 characters)	<i>Hex digit password string.</i> If the entry in field USERDATA is HEX, enter data in this refinement. Enter a hexadecimal character password for this login circuit. Additional data is not a requirement.

Datafill example

Sample datafill for table MPCLOGIN appears in the following example.

MAP example for table MPCLOGIN

INDEX	MANDL	CLINGDNA	PROTCLID		USERDATA
0	2 2	555551212	12345678	HEX	ABCDEFABCDEF
1	2 3	55551212	\$		NONE
2	3 2	88880505	01000000		ASCII PASSWORD
3	3 3	\$	\$		NONE

MPCLOGIN (end)

Table history

BCS36

Subfield HEXASCII was added in BCS36.

MPCLSET

Table name

Multiprotocol Controller LINKSET

Functional description

Table MPCLSET allows the logical links of a multiprotocol controller (MPC) fast application to group in linksets for selective link transfers. Table MPCFASTA specifies the link connections as a collection of application name and MPC number, link number, and channel number (MLC).

Each linkset entry in table MPCLSET contains the application name. The linkset entry contains the linkset number for that application. The linkset entry contains the list of MLCs in that set.

Each application can have a maximum of 16 linksets. An application can have some links grouped in linksets and some links without sets. When a link failure occurs the links without sets do not receive a message transfer.

The user can enter links in different linksets. This action prevents link transfers. The MLCs for an application can appear in the same set. When this condition occurs the link selection and transfer is the like a table that does not contain data. If you remove an MLC from a linkset, the system transfers queued messages to a link in the same linkset. The user enters the MLC in another linkset for availability to a linkset application.

Subfields APPLID and SETNUM allow field LSETKEY to provide a two-part key for this table. Subfield APPLID contains the name of the application to which the linkset belongs. Subfield SETNUM contains the number assigned to each linkset within an application.

Field MLCLIST contains a vector of the MLCs in the application. The user places the vector in the linkset indicated by field LSETKEY. Each vector contains an MPC number, a link number, and a channel number. There can be a maximum of 16 MLCs in each linkset. The system does not allow duplicate MLCs in a linkset MLCLIST. Place a minimum of one MLC in the MLCLIST for each entry.

See table MPC for related information.

Datafill sequence and meaning

Table MPCFASTA must contain all application names and MLCs in table MPCLSET. The user must remove the table MPCLSET entries for applications or MLCs before the user can remove the table MPCFASTA entries.

MPCLSET (continued)

Before a user adds a new tuple to table MPCLSET, the user must enter correct MPCNOs in table MPC. The user must enter correct MPCLINKs in table MPCLINK. The user must enter correct RCERAPPL in table MPCFASTA.

Table size

Table MPCLSET requires 785 words of protected data store for each application entered. The system allocates the memory when an application enters the first entry in the table. The system removes memory when an application removes the last linkset of that application. The maximum amount of memory required is 785 words x 16 applications = 12.56K words.

Datafill

Datafill for table MPCLSET appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
LSETKEY		see subfields	<i>Linkset key.</i> This field contains subfields APPLID and SETNUM.
	APPLID	911RCER1, 911RCER2, 911RCER3, 911RCER4, 911RCER5, 911RCER6, ATT911AS, OPN911AS, ENH911AS, WLS911	<i>Application identification.</i> Enter the name of the MPC fast application to which the LINKSET belongs. This name must appear in field INDEX in table MPCFASTA.
	SETNUM	0-15	<i>Linkset number.</i> Enter the number assigned to each linkset in an application.
MLCLIST		see subfields	<i>MPC and link control vector list.</i> Enter all MLCs in the same sequence as the MLCs appear in table MPCTASTA with INDEX=911RCER(1-6). Table MPCTASTA determines the order of tries. This field contains subfields M, L, and C. The user can enter a maximum of 16 three-number sets that represent MLC. Separate each subfield with a single space. If the user requires less than 16 MLCs, end the list with a dollar sign (\$). The MLCLIST contains one MPC, one MPC link, and one link channel entered in the following three subfields.

MPCLSET (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield	Entry	Explanation and action
	M	0-255	<i>MPC.</i> Enter the number of the MPC.
	L	2 or 3	<i>Link.</i> Enter the number of the MPC link.
	C	1-255	<i>Channel.</i> Enter the number the MPC link channel.

Datafill example

The following example of datafill for table MPCLSET contains four MPC fast applications. The 911RCER1 numbers 0 and 1 contain single linkset members, MPC 1 in 911RCER1 0 and MPC 2 in 911RCER1 1. The system does not transfer messages from the down link to an operational link when a link failure occurs.

The 911RCER3 number 0 contains the elements MPC 5 and MPC 6. The 911RCER3 number 1 contains the elements MPC 3 and MPC 4. The system switches messages queued for the down link to the operational link if a failure occurs on a link.

MAP example for table MPCLSET

LSETKEY	MLCLIST
911RCER1 0	(1 2 1)\$
ENH911AS 1	(2 3 1)\$
911RCER3 0	(6 2 1) (5 3 1)\$
WLS911 0	(4 2 1) (3 2 1)\$

MPHCON

Table name

Multiple Position Hunt Console

Functional description

Table MPHCON (MPH Console) specifies the characteristics of an individual console in an MPH group. Specifically, this information includes data related to each non-data link console in an MPH console group.

Information specified within this table includes the console number within an office, the MPH group to which the console belongs, the console number within the group, the number of lines supported by the console, and the position busy scan (SC) group.

Each console is physically capable of terminating 16 lines. The position busy SC points for all consoles that are on SC group 0. Each SC point is normally closed. An open condition indicates the console is busy.

An SC or SD point definition includes the specification of a normal state. In the datafill for the MPH tables, the normal state is defined as 0 or 1. Normal states also may be referred to as OPEN or CLOSED. OPEN is a value of zero (0). Closed is a value of one (1).

Datafill sequence and implications

Table MPHGRP must be datafilled before table MPHCON.

The following tables must be datafilled after table MPHCON:

- HUNTGRP
- HUNTMEM

Datafill

The following table lists datafill for table MPHCON.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
MPHCNUM		0 to 31	<i>MPH console number</i> Enter the console number within the office.
MPHGRP		0 to 31	<i>MPH group index</i> Enter the MPH group index.

MPHCON (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
MPHCON		0 to 15	<i>MPH console index</i> Enter the console index within the MPH group.
MAXLINES		1 to 32	<i>Maximum number of lines</i> Enter the maximum number of lines the non-data link consoles can support.
PBSCGRP		0 to 255	<i>Position busy scan group</i> Enter the scan group from table SCGRP associated with the position busy indicator for this console.
PBSCPT		0 to 6	<i>Position busy scan group point</i> Enter the point in the position busy scan group which indicates the status of the console.
PBNORMST		0 or 1	<i>Normal state for position busy</i> If the SC point is open, the normal state is zero (0). If the SC point is closed, the normal state is one (1).

Datafill example

The following example shows sample datafill for table MPHCON.

MAP display example for table MPHCON

MPHCNUM	MPHGRP	MPHCON	MAXLINES	PBSCGRP	PBSCPT	PBNORMST
2	10	0	16	0	0	0
4	10	1	16	0	0	0

MPHGRP

Table name

Multiple Position Hunt Group

Functional description

Table Multiple Position Console Hunt Group (MPHGRP) specifies the characteristics of a group of non-data link consoles.

Information specified within this table includes the number of consoles, the maximum queue length and overflow route of the call, the ringing threshold and recorded announcement or music, the night service scan (SC) point, and the calls waiting indicator SD point.

There can be a maximum of 32 MPH groups supported by table MPHGRP.

Table MPHGRP defines the characteristics common to all three consoles. When a call is placed in a queue, after 20 s it receives a recorded announcement or music as defined in table AUDIO, tuple AUDIO1 MPHQ.

SC and SD point definition includes the specification of a normal state. Either an OPEN or CLOSED condition is considered a normal state. The group assigned to the point represents the facility. OPEN is a value of zero (0). Closed is a value of one (1).

The Night Service SC point is normally closed. An open condition activates Night Service. The Calls Waiting SD point is normally open.

Datafill

The following table lists datafill for table MPHGRP.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
MPHGRP		0 to 31	<i>MPH console group number</i> Enter the MPHGRP number this console group is assigned.
NUMCONS		0 to 6	<i>Number non-data link consoles</i> Enter the number of non-data link consoles in this console group. This field determines how many tuples are allocated in table MPHCON for this MPH group.

MPHGRP (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
CQLENGTH		0 to 32	<i>Calls in queue</i> Enter the number of calls that can be queued for this MPH group in the Central Office.
CQOVRTE		EXTERNAL _ROUTE_ID	<i>Central office overflow queue route</i> Enter EXTERNAL_ROUTE_ID. The route for calls overflowing the central office queue are directed here.
NSSCGRP		0 to 255	<i>Night Service scan group</i> This field specifies the scan group in table SGGRP associated with Night Service.
NSSCPT		0 to 6	<i>Night Service scan point</i> Specifies the scan point in the Night Service Scan Group associated with Night Service.
NSNORMST		0 to 1	<i>Normal state Night Service</i> The normal state of the Night Service SC point.
CWSDGRP		0 to 255	<i>Calls Waiting SD group</i> This field specifies the point in the Calls Waiting SD group which is activated when calls are present in the central office queue for this MPH group.
CWSDPT		0 to 6	<i>Calls Waiting SD point</i> This field specifies that point in the Calls Waiting SD group that is activated when calls are present in the central office queue for this MPH group.
CWNORMST		0 to 1	<i>Normal state Calls Waiting SD point</i> The normal state of the Calls Waiting SD point.
AUDIO		Y or N	<i>Audio option</i> Enter Y (yes) if this MPH group has audio option and datafill refinements AUDTHRSH and AUDIOIDX. Otherwise, enter N (no); no additional refinements must be datafilled.

MPHGRP (end)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
AUDTHRSH		0 to 60	<i>Audio threshold</i> If the entry in field AUDIO is Y, datafill this refinement. Enter the time, in seconds, that a call spends in the queue, until it is connected to the audio announcement.
AUDIOIDX		alphanumeric	<i>Audio index</i> If the entry in field AUDIO is Y, datafill this refinement. Enter the audio group to which the call is connected.

Datafill example

The following example shows sample datafill for table MPHGRP.

MAP display example for table MPHGRP

MPHGRP	NUMCONS	CQLENGTH	CQOVRTE	NSSCGRP	NSSCPT	NSNORMST
CWSDGRP	CWSDPT	CWNORMST	AUDIO		AUDIODAT	
10	2	4	OFRT 30	0	0	0
0	0	0	0 Y 20		AUDIO1	

SQLIMITS

Table name

Maintenance Q Limits Table

Functional description

Table SQLIMITS stores the maintenance Q limits for the bit error rate test (BERT) line and test time of the BERT.

The Q limit is a predetermined test limit. The test passes when the value of a test result is less than or equal to the Q limit value. The test fails if the value exceeds the Q limit value.

You can perform a BERT from the trunk test position (TTP) level of the MAP (maintenance and administration position) terminal. The test can occur automatically from the automatic trunk testing (ATT) level of the MAP terminal.

Refer to the *Trunks Maintenance Guide* for more information on trunk testing.

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table SQLIMITS.

Table size

0 to 10 tuples

Datafill

Datafill for table SQLIMITS appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
IDXKEY		see subfield	<i>Index key.</i> This field contains subfield MQKEY.
	MQKEY	0 to 9	<i>Maintenance Q limits table index.</i> Enter an index number from 0 to 9.
MQDATA		see subfields	<i>Maintenance Q data.</i> This field contains subfields TLTIME, BERQ, SLIPSQ, and ERSQ.

SQLIMITS (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	TLTIME	0 to 15300	<i>Bit error rate test line test time.</i> Enter the length of the test time the BERT runs. Enter the time in minutes. You cannot stop a test in progress if the test originates from the ATT level of the MAP. The default value for this field is 15.
	BERQ	0 to 15	<i>Bit error rate Q limit.</i> Specify the Q limit for the test. The bit error rate is 1.0×10^{-n}. The absolute exponent (n) is the number you specify. The default value for this field is 3.
	SLIPSQ	0 to 15	<i>Slips Q limit.</i> Specify the maximum number of slips allowed from the Q limit. The default value for this field is 3.
	ERSQ	0 to 999	<i>Percent of errored seconds.</i> Enter a number that indicates the maximum percentage of errored seconds. Enter the percentage in tenths of seconds (0.1 s). The percentage of errored seconds equals a specified equation. This equation is the number of errored seconds divided by the number of seconds the test runs, multiplied by 100. An entry of 10 equals to 1%. The default value for this field is 8 (0.8 s).

Datafill example

Datafill for table SQLIMITS appears in the following example.

The example contains a maintenance Q index of 0 that contains the default values.

SQLLIMITS (end)**MAP example for table SQLLIMITS**

IDXKEY	MQDATA				
0	15	3	3	80	
1	15	3	3	80	

MRSANAME

Table name

List of Multiunit Message Rate Area Names Table

Overview

The following table lists all the multiunit message rate (MUMR) services tables.

Multiunit message rate services tables

Table name	Table title
MRSANAME	List of Multiunit Message Rate Area Names table record
MUMRTAB	Multiunit Message Rate Screening table record
MUMRMBI	Multiunit Message Rate Message Billing Index (MBI) table record
CHARGTAB	Multiunit Message Rate Charge table record
TDCHLDY	Multiunit Message Rate Holiday table record
TDCSCHED	Multiunit Message Rate Day and Time Treatment table record

MUMR service can be used by an operating company to charge local calls that fall outside the flat-rate local calling area. Such calls are considered local as opposed to toll.

Feature BR0440 (Multiunit Message Rate Services) can be provided in a DMS-100 or DMS-100/200 switching unit provided the office is also equipped with the local automatic message accounting (LAMA) system with the new Bellcore formats.

MRSANAME (continued)**Tables involved in multiunit message rate call**

The following table lists the application of MUMR service and the field and table, or subtable, that each application is in.

Determining application of multiunit message rate services

Functions	Field	Table	Subtable
Identify local call prefix digit or digits and determine that a call is translated as a North American number.	PRTNM	LINEATTR	-
	PRTNM	TRKGRP	-
	various	STDPRTCT	STDPRT
	various	STDPRTCT	STDPRT
Determine that the digits received represent a valid North American number.	SNPA	LINEATTR	-
	SNPA	TRKGRP	-
	various	HNPACONT	HNPACODE
If the digits received represent valid North American number, determine that the called number is within the originator's local calling area.	SNPA	LINEATTR	-
	LCANAME	LINEATTR	-
	SNPA	TRKGRP	-
	LCANAME	TRKGRP	-
	various	LCASCRCN	LCASCR
If the called number is within originators local calling area determine that Multiunit Message Rate (MUMR) service applies: message rate service area (MRSA) not = NIL.	MRSA	LINEATTR	----
	MRSA	TRKGRP	
	MRSA	MRSANAME	
	MRSA	MRSANAME	

Determining the message billing index

The following table shows the tables to be accessed for determining the message billing index (MBI).

Determining the message billing index (MBI) for the MUMR call

Functions	Field	Table	Subtable
If MUMR service applies, determine the MBI applicable to the originator's MRSA and the called number.	MRSA	LINEATTR	-
	MRSA	TRKGRP	-
	MRSA	MRSANAME	-
	MUMR	MUMRTAB	-
	NAME	MUMRTAB	-
	DGLID	MUMRTAB	-
	XMUM	MUMRTAB	-
	RMBI	MUMRMBI	-
	MBI		

MRSANAME (continued)

Additional MUMR call functions

Additional functions for a MUMR call depend on the type of the originator station (noncoin, coin, or hotel/motel) and the operating company's accounting office procedures as follows.

Type of originator station

Originator station type	See page
Noncoin	4
Coin	5
Hotel/motel	7

LAMA tape record

The local automatic message accounting (LAMA) tape record provides information on detailed and bulk billing, timed billing, and recording MBI.

Detailed and bulk billing

Bulk billing reduces the amount of information that must be generated by the automatic message accounting (AMA) system. This is achieved by omitting the called number from the LAMA tape record. The operating company's accounting office programs make use of the message billing index (MBI) to calculate the charges on a MUMR call.

Refer to the the following table to see how the call code field is set on the LAMA tape record to communicate if detailed billing is required.

Timed billing

Refer to the following table to see how the call code field is set on LAMA tape depending on whether timing is required.

LAMA tape record

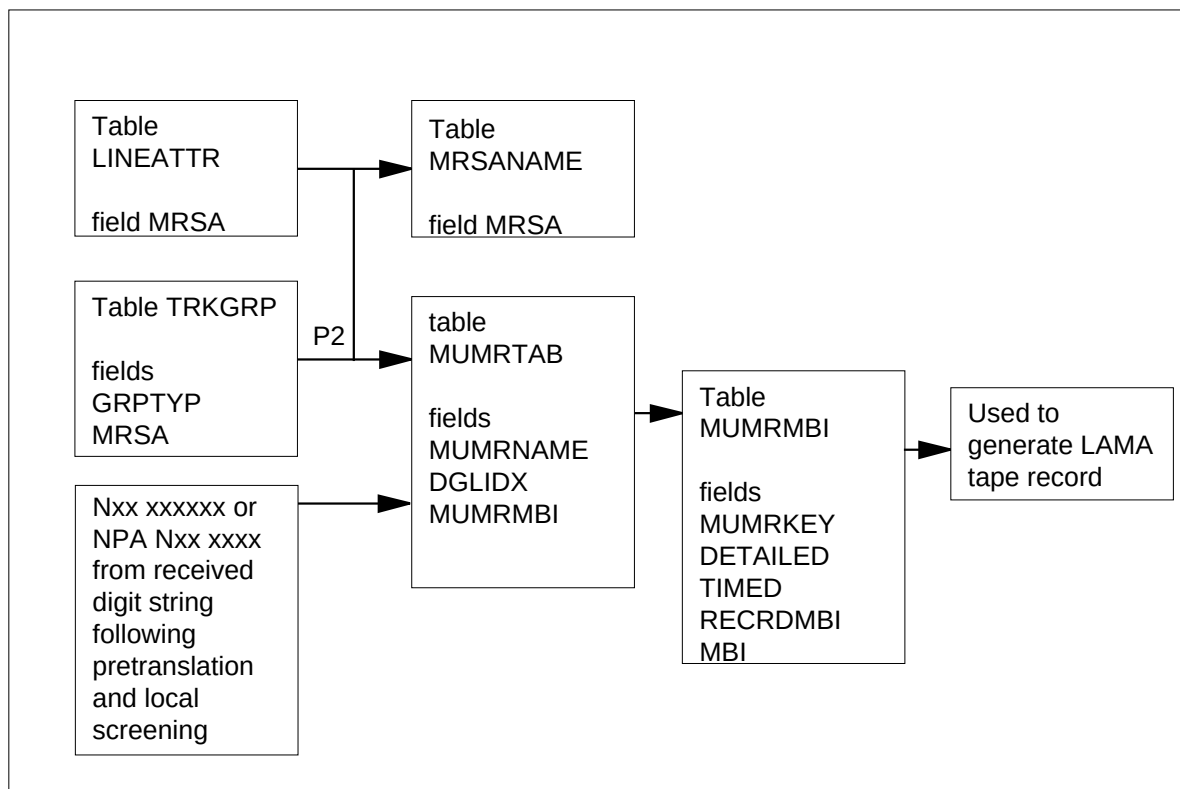
Detailed	Timed	RECRDMBI	Call code	Resulting field settings on LAMA tape with MBI
Y	Y	Y	001	Y
N	Y	Y	002	Y
Y	N	Y	003	Y
N	N	Y	004	Y
Y	Y	N	005	Y

MRSANAME (continued)**Noncoin**

The following table lists additional MUMR call functions for non-coin originator.

Additional MUMR call functions for non-coin originator

Functions	Field	Table	Subtable
If MUMR service applies to a non-coin subscriber (single or two-party line or two-way private branch exchange [PBX] trunk group type P2), generate LAMA tape record.	DETAILED TIMED RECRDMBI	MUMRMBI	-

MUMR block diagram for noncoin originator

MRSANAME (continued)**Coin**

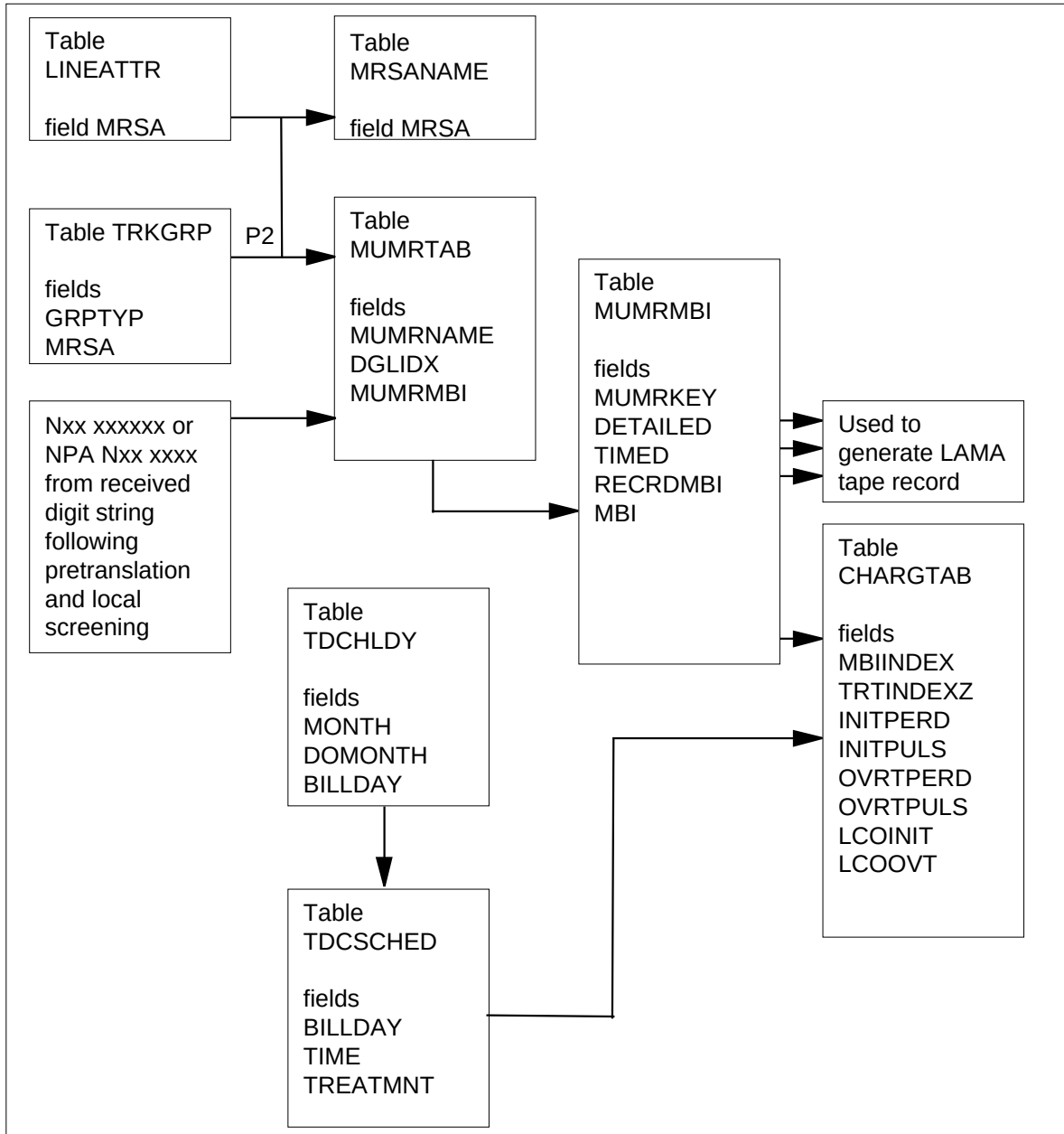
The following table lists additional MUMR call functions for coin originator.

Additional MUMR call functions for coin originator (CCF or CDF)

Functions	Field	Table	Subtable
Determine that feature 3R0372 (Local Coin Overtime [LCO]) charging is enabled: field PARMNAME is set to LOCAL_COIN_OVERTIME_FEATURE. If MUMR service applies on call, the following two office parameters are ignored: LOCAL_COIN_INIT_TIME LOCAL_COIN_OVER_TIME.	PARMVAL	OFCOPT	-
	PARMVAL	OFCOPT	-
	PARMVAL	OFCOPT	-
If MUMR service applies to a call from a coin, coin first (CCF) or coin dial-tone first (CDF) box, collect coins at prescribed intervals after determining the treatment index that applies for the day and time of call using office parameter RATE_PERIOD_SPECIFIC_BILLING.	TIMED	MUMRMBI	-
	MONTH DOMONTH	TDCHLDY	-
	BILLDAY BILLDAY	TDCHLDY	-
	TIME TREATMENT	TDCHLDY	-
	PARMVAL MBIINDEX	TDCSCHED	-
	TRTINDEX LCOINIT	TDCSCHED	-
	LCOOVT	TDCSCHED	-
		OFCSTD	-
		CHARGTAB	-
		CHARGTAB	-
		CHARGTAB	-
		CHARGTAB	-

If a call originates from a CDF or CCF coin subscriber in an office with the LCO enabled, (office parameter LOCAL_COIN_OVERTIME_FEATURE is set to Y), the initial and overtime periods for other than MUMR calls are the same for any local coin overtime call as specified in office parameters LOCAL_COIN_INIT_TIME and LOCAL_COIN_OVER_TIME in table OFCVAR.

For MUMR local coin calls, the initial and overtime periods are obtained in fields LCOINIT and LCOOVT, table CHARGTAB and are a function of the MBI and the day and time of the call.

MRSANAME (continued)**MUMR block diagram for coin originator**

MRSANAME (continued)**Hotel/motel**

The following table lists additional MUMR call functions for hotel/motel with register meter.

Additional MUMR call functions for hotel/motel register meter

Functions	Field	Table	Subtable
If MUMR service applies to a call from a hotel or motel, generate the LAMA tape record.	DETAILED TIMED RECRDMBI	MUMRMBI	-
Determine if the originator has feature Remote Meter Pulsing (RMP).	various	LENFEAT	-
Determine if fieldn PARMNAME is set to HM_INTERPULSE_TIME and HM_PULSE_TIME.	PARMVAL	OFCSTD	-
Determine the number of surcharge pulses to be returned to the remote meter.	SURCHG	LENFEAT	-
Determine the initial and overtime period and the number of pulses that apply for the month, day of month, and time of day using field PARMNAME set to RATE_PERIOD_SPECIFIC_BILLING.	DOMONTH BILLDAY	TDCHLDY	-
	BILLDAY TIME	TDCHLDY	-
	TREATMNT	TDCSCHED	-
	PARMVAL MBIINDEX	TDCSCHED	-
	TRTINDEX INITPERD	TDCSCHED	-
	INITPULS	OFCSTD	-
	OVRTPERD	CHARGTAB	-
	OVRTPULS	CHARGTAB	-
		CHARGTAB	-
		CHARGTAB	-
		CHARGTAB	-
		CHARGTAB	-

The following figure shows a block diagram of the multiunit message rate for hotel/motel originator.

MRSANAME (continued)

MUMR block diagram for hotel/motel originator

The following figure shows a block diagram of the MUMR for hotel/motel originator with feature RMP.

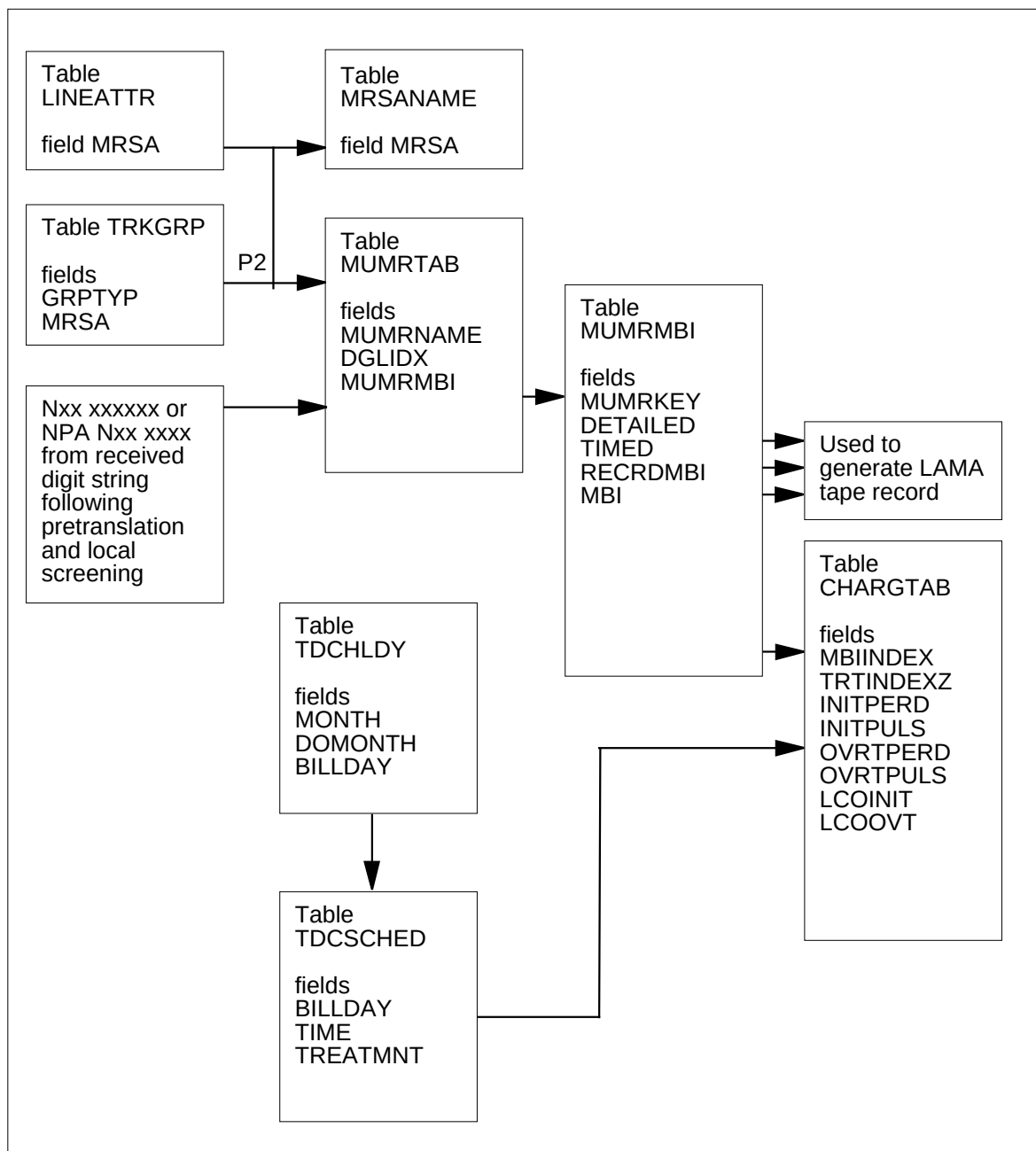
MRSANAME (continued)**Multiunit message rate block diagram for hotel/motel originator with RMP****Functional description**

Table MRSANAME lists the Multiunit Message Rate (MUMR) service area (MRSA) names.

MRSANAME (end)

The MRSA is used as part of the key into table MUMRTAB (field KEY subfield MUMRNAME), from table LINEATTR (field MRSA) and from table TRKGRP (field GRPVAR.MRSA) when the trunk group type is P2.

Datafill sequence and implications

There is no requirement to datafill other tables prior to table MRSANAME.

Table size

0 to 4095 tuples

Datafill

The following table lists datafill for table MRSANAME.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
MRSA		alphanumeric (up to 8 characters)	<i>Multiunit Message Rate service area name</i> Enter the name of an MRSA. The total number of Multiunit Message Rate (MUMR) service area names cannot exceed 127. Entries that are referenced in field MRSA in table LINEATTR, and field MUMRNAME in table MUMRNAME cannot be deleted until the associated tuples in tables LINEATTR and MUMRTAB are deleted.

Datafill example

The following example shows sample datafill for table MRSANAME.

MAP display example for table MRSANAME

MRSA

OTWA
NEP
BAR
HULL

MSBINV

Table name

Message Switch and Buffer Inventory Table

Functional description

Table MSBINV contains all inventory data except for peripheral side (P-side) information and external frame information.

See table MSBPSINV for P-side information and external frame information.

Datafill sequence and meaning

- Enter data in the following tables before you enter data in table MSBINV:
 - PMLOADS
 - NETWORK
 - ENCDINV
-
- Enter data in table MSBINV before you enter data in the following tables:
 - IPMLINV
 - MSBPSINV
 - STINV

Table size

0 to 5 tuples

MSBINV (continued)**Datafill**

Datafill for table MSBINV appears in the following table.

Field descriptions (Sheet 1 of 6)

Field	Subfield or refinement	Entry	Explanation and action
MSBNAME		see subfields	<i>Message switch and buffer name.</i> This field contains the subfields XPMTYPE and MSBNO.
	XPMTYPE	MSB6, MSB7, RCC2, SRCC, or TRCC	<i>Peripheral module type.</i> Enter the peripheral module (PM) type as follows: • Enter MSB6 to specify common channel interoffice signaling no. 6 (CCIS6). Enter MSB7 to specify Common Channel Signaling 7 (CCS7). • Enter RCC2 to specify remote cluster controller 2. • Enter SRCC to specify SONET remote cluster controller. • Enter TRCC to specify Turkish remote cluster controller. This controller is for licensee use only.
	MSBNO	0 to 9	<i>Message switching buffer number.</i> Enter the PM number. Entries out of this range are not correct.
FRTYPE		MC6M MC7M MLNK MS6E or MS7E	<i>Frame type</i> Enter the frame type for the PM equipment as follows: • MC6M (Meridian cabinet CCS6 module the DMS-250 uses) • MC7M (Meridian cabinet CCS7 module the DMS-300 and international DMS-250 uses) • MLNK (Meridian CCS7 link module the MSL-100 compact uses) • MS6E (message switching 6 equipment frame) • MS7E (message signaling 7 frame)

MSBINV (continued)**Field descriptions (Sheet 2 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
FRNO		0 to 511	<i>Frame number</i> . Enter the frame number for the PM.
SHPOS		0 to 77	<i>Shelf position</i> . Enter the position of the lowest MSB shelf on the frame that contains the two MSB shelves.
FLOOR		0 to 99	<i>Floor</i> . Enter the floor number of the PM.
ROW		A to H J to N P to Z AA to HH JJ to NN or PP to ZZ	<i>Row</i> . Enter the row number for the PM equipment frame.
FRPOS		0 to 99	<i>Frame position</i> . Enter the frame position of the PM equipment frame.
EQPEC		6X07AA 6X07AB 6X32AA 6X32AB 6X32BB 6X32CD 6X3201 or 6132SA	<i>Equipment product engineering code</i>. Enter the product engineering code (PEC) of the PM as follows: • 6X07AA (Message switch buffer 6 Comm CP kit), rated manufacturer discontinued (MD), 6X07AB (message switch and buffer 6 shelf) replaces 6X07AA • 6X32AA (message switch and buffer 7 module) • 6X32AB (MS7B common circuit packs) • 6X32BB (MS7B common circuit pack-EBI): entered in international switches if the MSB7 has a 6X44DA timeswitch card • 6X32CD (MSB7 common CP) • 6X3201 (STA7 shelf assembly): for use in frame type MLNK • 6132SA Only the Austrian version of the MSB7 uses this code.

MSBINV (continued)**Field descriptions (Sheet 3 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
LOAD		alphanumeric (vector of a maximum of eight characters)	<i>Load.</i> Enter the load name for the issue of PM software. See table PMLOADS for the appropriate release for a list of available names.
CSLNKTAB		see the subfields	<i>C-side link table.</i> If the DMS switch has junctored network (JNET) modules, enter data in subfields NMPAIR and NMPORT. If the DMS switch has an enhanced network (ENET), enter data in subfields ENSHELF, ENSLOT, ENLINK, and ENDS30.
	NMPAIR	0 to 31	<i>Network module pair number.</i> Enter the network link for the MSB. This link corresponds to C-side links 0 to 15 of the MSB. Enter the pairs in order to complete the vector.
	NMPORT	0 to 63	<i>Network module port.</i> Enter the network ports that correspond to the preceding links. Enter the ports in order to complete the vector.
	ENSHELF	0 to 7	<i>Enhanced network shelf number.</i> Enter the network shelf for the MSB. This shelf corresponds to the C-side link of the MSB.
	ENSLOT	10 to 16 and 25 to 32 (for ENET 128K, BCS34 and higher) or 13 to 19 (for ENET 16K)	<i>Enhanced network crosspoint slot number.</i> Enter the network crosspoint slot. Entries out of this range are not correct.
	ENLINK	0 to 18	<i>Enhanced network link on crosspoint card.</i> Enter the network link that corresponds to the preceding slot.
	ENDS30	0 to 15	<i>Enhanced fiber network link on crosspoint card.</i> Enter the network link. Entries must be in ascending order, starting with 0. Duplicate entries cannot occur.

MSBINV (continued)

Field descriptions (Sheet 4 of 6)

Field	Subfield or refinement	Entry	Explanation and action
HWCLASS		C6, C7, D, N6, or N7	<i>CCS signaling terminal control data.</i> Enter a vector to a maximum of four of the following designations of Common Channel Signaling hardware types: • C6 (CCIS6) • C7 (CCS7) • D (digital private network signaling system [DPNSS]) • N6 (CCITT no. 6) • N7 (CCITT no. 7) Separate each entry with a single space. If you enter less than four designations, end the list with a \$ (dollar sign). Entries out of the range for this field are not correct.
STCLOADS		alphanumeric (a maximum of eight characters)	<i>Signaling terminal control loads.</i> Enter a vector to a maximum of two STC loads. If you enter less than two loads, end the list with a \$.

MSBINV (continued)**Field descriptions (Sheet 5 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
OPTCARD		CONTINU-ITY, CMR5, CMR6, CMR7, CMR13, CMR15, CMR16, CMR17, CMR18, CMR19, CPA15, CPA17, CSMMSG, CTR13, CTR15, DCTAX78, ECC_300, ECC_600, ECC_1200, ECC_2400, ECC_4800, ECC_9600, ETSBX69, ISP4, ISP, NE2X10AA, NT6X28, NT6X28AB, NT6X28BA, NT6X44EA, RAM6X69,	<i>Optional card</i> . Enter a vector to a maximum of ten optional card types. If you enter less than ten cards, end the list with a \$.

MSBINV (continued)**Field descriptions (Sheet 6 of 6)**

Field	Subfield or refinement	Entry	Explanation and action
		STR8, STR11, STR16IC, STR16OG, STR17IC, STR17OG, TONE6X79, UTR6, UTR7, UTR8, UTR9, UTR10, UTR11, UTR14, UTR15, UTR16, UTR17, or UTR18	<i>Optional card.</i> Enter a vector to a maximum of ten optional card types. If you enter less than ten cards, end the list with a \$.
PECS6X45		6X45AA 6X45AB 6X45AC 6X45AD 6X45AE 6X45AF 6X45BA 6X45BB 6X45BC 6X45CA 6X45DA or 6X45EA	<i>Product engineering codes of 6X45 processor cards.</i> Enter the PECs of the processor cards that correspond to the 6X45 with the minimum firmware abilities. Enter the PEC for unit one before the PEC for unit two.

Datafill example

This example is for a DS30 link.

MSBINV (continued)**MAP example for table MSBINV**

MSBNAME	FRTYPE	FRNO	SHPOS	FLOOR	ROW	FRPOS	EQPEC	LOAD	CSLNKTAB
									HWCLASS
									STCLOADS
									OPTCARD
									PECS6X45
MSB7	0								
	MS7E	0	18	1	D	0	6X32AA	MC7XB07	
		(0	13	0	0)	(0	13	1	0)
						(0	13	2	0)
						(0	13	3	0)
									\$
									(C7) \$
									(M7CQA01)\$
									(MSG6X69)\$
									6X45AE 6X45AE

Additional information

Information on dump and restore procedures for table MSBINV appears in this section.

Dump and restore

From BCS34, field ENSLOT is an enumerated type. Conversion of the numeric slot is a requirement. The only correct enumerated slots are 10, 11, 12, 13, 14, 15, 16, 25, 26, 27, 28, 29, 30, 31, and 32.

Numeric slots from 10 to 16 and 25 to 32 receives a conversion. All other slots are not correct.

Field ENDS30 defaults to 0 for DS30 links. Use the old link entry to convert DS30 link entries from BCS33 or earlier to BCS34 or later. The addition of ENDS30 field occurs to the old link entry with a value of 0.

From BSC34 16 link entries replace each fiber link entry from BCS33 or earlier. The values of fields ENSHELF, ENSLOT, and ENLINK remain the same. The ENDS30 values for each of the 16 entries range from 0 to 15. The entries must be in ascending order of ENDS30.

A dump and restore from BCS33 or lower to BCS34 or later versions can occur. If this event occurs and a tuple contains the value MSG6X69 in field OPTCARD, delete the tuple.

MSBINV (end)

You can perform a dump and restore from BCS33 or lower to BCS34 or later versions. The system must encounter MSG6X69 or RAM6X69 values for a tuple in table MSBINV when you perform this action. If the system does not encounter these values, the system reports an error condition.

MSBPSINV

Table name

Message Switch and Buffer P-Side Inventory Table

Functional description

This table contains the following data assignment for each bay associated with a message switch and buffer (MSB) unit:

- peripheral module (PM) type and number
- signaling terminal controller (STC) extension frame type, number, and location
- if the frame type is MS6E or MC6M, the table contains the modem extension frame type, number, floor, row, and position

The only operation that table MSBPSINV allows is tuple changes. When the addition of a tuple occurs in table MSBINV the system adds tuples to table MSBPSINV. The system deletes tuples from table MSBPSINV when deletion occurs to tuples that correspond in table MSBINV.

See table MSBINV for related information.

Datafill sequence

Enter data in table MSBINV before you enter data in table MSBPSINV.

Table size

0 to 5 tuples

The system dynamically allocates memory when the system allocates blocks in table MSBINV.

MSBPSINV (continued)**Datafill**

Datafill for table MSBPSINV appears in the following table.

Field descriptions (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
MSBNAME		see the subfields	<i>Message switch and buffer name.</i> This field contains the subfields XPMTYPE and MSBNO.
	XPMTYPE	MSB6, MSB7, RCC2, SRCC, or TRCC	<i>Peripheral module type.</i> Enter the MSB PM type as follows: • Enter MSB6 to specify Common Channel Signaling 6 (CCS6) • Enter MSB7 to specify Common Channel Signaling 7 (CCS7). • Enter RCC2 to specify remote cluster controller 2 (RCC2). • Enter SRCC to specify SONET remote cluster controller. • Enter TRCC to specify Turkish remote cluster controller. Note 1: Types RCC2 and SRCC are not correct entries. Note 2: Type TRCC is for licensee use only.
	MSBNO	0 to 9	<i>Message switch and buffer number.</i> Enter the PM number.
MSBDATA		see the subfield	<i>Message switch and buffer data.</i> This field contains of subfield FRTYPE.
	FRTYPE	MS6E, MS7E, MC6M, MC7M, MLNK	<i>Frame type.</i> Enter the frame type for the PM equipment.

MSBPSINV (continued)**Field descriptions (Sheet 2 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	EXTFRAME	Y or N	<i>Extension frame.</i> If equipment of the STC extension occurs, enter Y (yes). If the STC extension is not equipped, enter N (no). If the entry in this field is Y, and the entry in field FRTYPE is MS6E or MC6M, enter data in the following fields: • EXTFRTYPE • EXTRNO • EXTRPOS • MODFRTYPE • MODFRNO • MODFLOOR • MODROW • MODFRPOS The entry in this field can be Y. The entry in field FRTYPE can be MS7E, MC7M, or MLNK. When this two conditions apply, enter data in the following fields: • EXTFRTYPE • EXTRNO • EXTRPOS

MSBPSINV (continued)**Field descriptions (Sheet 3 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	EXTFRTYPE	ST6E or ST7E	<i>Signaling terminal controller extension frame type.</i> If the entry in field EXTFRAME is Y, enter the STC extension frame type as follows: - Enter ST6E to specify the CCS6 extension frame, including STC modules 4 to 9. Note: An MS6E or MC6M frame is a requirement before use of ST6E can occur. - Enter ST7E to specify the CCS7 extension frame, including STC modules 4 to 9. Note: An MS7E or MC7M frame is a requirement before use of ST7E can occur.
	EXTFRNO	0 to 511	<i>Extension frame number.</i> If the entry in field EXTFRAME is Y, enter the frame number of the preceding frame type.
	EXTFRPOS	0 to 99	<i>Extension frame position.</i> If the entry in field EXTFRAME is Y, enter the bay position of the PM equipment frame.
	MODFRTYPE	DME	<i>Modem extension frame type.</i> The entry in field EXTFRAME can be Y. The entry in field FRTYPE can be MS6E or MC6M. When these conditions apply, enter the frame type for the PM equipment. Note: Frame MS6E or MC6M is a requirement.
	MODFRNO	0 to 511	<i>Modem extension frame number.</i> The entry in field EXTFRAME can be Y. The entry in field FRTYPE can be MS6E or MC6M. When these conditions apply, enter the frame number of the preceding frame type.

MSBPSINV (continued)**Field descriptions (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
	MODFLOOR	0 to 99	<i>Modem extension floor.</i> The entry in field EXTFRAME can be Y. The entry in field FRTYPE can be MS6E or MC6M. When these conditions apply, enter the floor for the PM equipment frame.
	MODROW	A to H J to N P to Z AA to HH JJ to NN or PP to ZZ	<i>Modem extension row.</i> The entry in field EXTFRAME can be Y. The entry in field FRTYPE can be MS6E or MC6M. When these conditions apply, enter the row for the PM equipment frame.
	MODFRPOS	0 to 99	<i>Modem extension frame position.</i> The entry in field EXTFRAME can be Y. The entry in field FRTYPE can be MS6E or MC6M. When these conditions apply, enter the bay position of the PM equipment frame.
	STCMODS	0 to 9 (vector of a maximum of 10 entries)	<i>STC modules.</i> For MS6E, MC6M, MS7E, and MC7M, DME STC values 0 and 1 are correct. For ST6E and ST7E, values 4 to 9 are correct. Enter the values without a blank space between the values. Do not end the vector with a \$.

Datafill example

Datafill examples for table MSBPSINV appear in the following section.

Assignments for two MSB PMs appear in the following example. The two MSB PMs are MSB0 and MSB1. When you enter data in table MSBINV, the system automatically adds default tuples to table MSBPSINV. This process appears in the following example:

In the example the following conditions apply:

- the MSB0 does not have an STC extension frame.
- the MSB1 has an STC extension frame and a modem extension frame.

MSBPSINV (continued)**MAP example for table MSBPSINV**

MSBNAME		MSBDATA	
MSB6	0	N	01
MSB6	1	N	01

In the following example, the second tuple has an extension frame. You must modify the tuple. To modify the tuple, use the **CHANGE** command.

MAP example for table MSBPSINV

MSBNAME				MSBDATA							
MSB6	1	Y	ST6E	2	18	DME	3	01	C	18	0145

The current status of the entries in table MSBPSINV appears in the following example.

MSBPSINV (end)**MAP example for table MSBPSINV**

MSBNAME			MSBDATA									
MSB6	1	N										01
MSB6	1	Y	ST6E	2	18	DME	3	01	C	18	0145	

MSCDINV

Table name

Message Switch Cards Inventory (MSCDINV) Table

Functional description

Table MSCDINV allows changes to the characteristic information of the system cards, bus extension unit, and interface units. This table also allows addition and deletion to interface units.

The owner message switch (MS) node requires the system cards to operate. The system adds the system cards to table MSCDINV with the addition of the MS to table MSINV. The system deletes the system cards from table MSCDINV with the deletion of the MS node from table MSINV. You cannot change the slot positions of the system cards. The only field that changes for these cards is the product engineering codes (PEC).

The owner extension shelf requires the bus extension units to operate. The system fixes the slot positions of these extension units. Operating company personnel cannot change these slot positions. The only field that you can change for these units is the PECs.

The interface cards have different configurations. These configurations provide for the different functions of the interface cards. Each DS30 and nonchannelized DS512 card contains one interface unit. The channelized DS512 card can have multiple interface units. These units link together serially to form a daisy chain. Each unit contains a main card, front card and a card subordinate to the front card. Each unit also contains a back card. A chain can also have a maximum of eight cards that link together. For noninterface units, the front and back cards can have functions that do not relate to each other.

The enhancement of the mechanism to modify chain tuples can now update the PECs for current chains. To modify chain tuples, the following rules apply:

- You can change a PEC to a compatible PEC for any card in a chain without affecting other cards. A compatible PEC is a PEC that can be present on a chain with the current PECs.
- A change to the the head card to an incompatible PEC causes the change to occur to all the relevant cards in the chain.
- A PEC can change to an incompatible PEC at the head card only.

To enter the different configurations, each tuple contains a card selector. Single-system cards are cards with functionally linked front and back cards.

MSCDINV (continued)

The clock is an example of a single-system card. Double-system cards have front and back cards that are functionally different.

The system treats single interface cards as independent cards. The entry of multiple interface cards is in the order in which they appear on the shelf.

Datafill sequence and meaning

You must enter data in table MSINV before you enter data in table MSCDINV.

Table size

20 to 52 tuples

Table MSCDINV contains 20 default tuples. Each default MS contains 10 default tuples. Each shelf has 26 cards. You can enter data in all 26 cards.

The range of front and back card PECs appears in the following tables.

Range of front card PECs (field FRONTPEC) (Sheet 1 of 2)

Card type	Range of values
CHAIN	NT9X17AB, NT9X17AC, NT9X17AD, NT9X17BA, NT9X17BB, NT9X17CA, NT9X17DA
CLOCK	NT9X53AA, NT9X53AB, NT9X53AC, NT9X53AD
CMIC	NT9X17AA, NT9X17AC, NT9X17AD, NT9X17BB
DS30	NT9X17AA, NT9X17AB, NT9X17AC, NT9X17AD NT9X17BA, NT9X17BB, NT9X17CA, NT9X17DA
DS512	NT9X17AA, NT9X17AB, NT9X17AC, NT9X17AD NT9X17BA, NT9X17BB, NT9X17CA, NT9X17DA
MAPPER	NT9X15AA
MEMORY	NT9X14AA, NT9X14BA, NT9X14BB, NT9X14DA, NT9X14DB
MSP	NT9X13AA, NT9X13DA, NT9X13DB, NT9X13DC, NT9X13DD, NT9X13NA, NT9X13NB
PBUS	NT9X49CA, NT9X49CB, NT9X49CC
TBUS	NT9X49BA

MSCDINV (continued)**Range of front card PECs (field FRONTPEC) (Sheet 2 of 2)**

Card type	Range of values
TBUSACC	NT9X52AA
TFI	NT9X73BA

Range of back card PECs (field BACKPEC)

Card type	Range of values
CHAIN	NT9X20BB, NT9X62BA, NT9X62CA, NT9X62CB
CLOCK	NT9X54AA, NT9X54AB, NT9X54AC, NT9X54AD, NT9X54AE
CMIC	NT9X20AA, NT9X62BA, NT9X62CA
DS30	NT9X23AA, NT9X23AB, NT9X23BA, NT9X25AA NT9X25BA, NT9X69AA, NT9X69BA
DS512	NT9X20AA, NT9X20BA, NT9X20BB, NT9X25AA, NT9X25BA, NT9X62BA, NT9X62BB, NT9X62CA, NT9X62CB
MAPPER	does not apply
MEMORY	does not apply
MSP	NT9X26AA, NT9X26AB
PBUS	NIL
TBUS	NIL
TBUSACC	NIL
TFI	NT9X79BA
Note: For MAPPER and MEMORY, a back card does not apply. Leave field BACKPEC blank.	

MSCDINV (continued)**Datafill**

Datafill for table MSCDINV appears in the following table.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
MSCDKEY		see the subfields	<i>Message switch card key.</i> This field contains the subfields MSNUM, SHELFNUM, and CARDNUM.
	MSNUM	0 to 1	<i>Message switch number.</i> Enter the MS number.
	SHELFNUM	0 to 3	<i>Shelf number.</i> Enter the shelf number of the card slot.
	CARDNUM	1 to 26 (see note)	<i>Card position number.</i> Enter the card position number relative to the other 26 cards. The MS has a total of 38 physical slots. Power converter cards occupy the first 6 and last 6 physical slots. The physical slots 7 to 32 are for the MS cards. These slots have the numbers 1 to 26. For example, for physical slot 7, enter 1 in this subfield. For physical slot 32, enter 26. Note: For the SuperNode SE MS, the range of subfield CARDNUM must be between 1 and 13. Physical slots 7 and 32 = CARDNUM 13. Physical slots 19 and 20 = CARDNUM 1. Only position 12 can contain TFI card datafill. Positions 5 to 9 can contain interface card datafill.
SLOTINFO		see subfield	<i>Slot information.</i> This field contains the subfield CARDTYPE.
	CARDTYPE	CHAIN CLOCKCMIC DS30 DS512 MAPPER MEMORY MSP PBUS TBUS TBUSACC TFI FBUS	<i>Card type.</i> Enter the type of card. If MSP contains the entry NT9X13DD, the corresponding memory card, NT9X14DB, is optional. If the entry is CHAIN, datafill fields PROTOCOL and HEADPECS.

MSCDINV (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	PROTOCOL	DS30 or DS512	<i>Protocol.</i> If the entry in subfield CARDTYPE is CHAIN, enter the protocol of the chain. If the entry is not chain, leave the field blank. Note: The DS30 is not a correct entry for operating company use.
	HEADPECS	see subfields	<i>Head product engineering code.</i> This field contains the subfields FRONTPEC and BACKPEC.
	FRONTPEC	alphanumeric (8 characters)	<i>Front product engineering code.</i> Enter the PEC for the front card. See the following table for a list of correct PECs for each card type.
	BACKPEC	alphanumeric (8 characters)	<i>Back product engineering code.</i> Enter the PEC for the back card. See the following table for a list of correct PECs for each card type. If the entry in subfield CARDTYPE can be CHAIN or DS512, and the entry in this subfield can be NT9X62BA, NT9X62CA, NT9X62CB, or NT9X62BB. When this condition occurs, enter the data in refinement NUMLINKS. If the entry in subfield CARDTYPE is MAPPER or MEMORY, leave this subfield blank.
	NUMLINKS	1, 2, or 4	<i>Number of links.</i> The entry in subfield CARDTYPE can be CHAIN or DS512, and the entry in field BACKPEC can be NT9X62BA, NT9X62CA, NT9X62CB, or NT9X62BB, enter the number of links on the NT9X62 card in the chain that receives data. The entry is as follows: • If the entry in subfield BACKPEC is NT9X62BA, enter 1, 2, or 4. • If the entry in subfield BACKPEC is NT9X62CA or NT9X62CB, enter 1 or 2. • If the entry in subfield BACKPEC is NT9X62BB, enter 4.

MSCDINV (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	BODYPECS	see subfields	<i>Body product engineering code.</i> This field contains the subfields BODYFRONTPEC and BODYBACKPEC. Enter a maximum of seven groups of front PEC and correct back PEC that form the body of the chain. Enter \$ at the end of the field.
	BODYFRONTPEC	alphanumeric (8 characters)	<i>Body front product engineering code.</i> Enter the PEC of the front card that connects to the body section of the chain.
	BODYBACKPEC	NT9X25AA or NT9X25BA	<i>Body back product engineering code.</i> Enter the PEC of the back card that connects to the body section of the chain. The last card in a chain must be NT9X25BA.

Datafill example

Sample datafill for table MSCDINV appears in the following example.

MSCDINV (end)

MAP example for table MSCDINV

MSCDKEY	SLOTINFO
0 0 1	TBUSACC NT9X52AA NIL
0 0 2	CLOCK NT9X53AA NT9X54AB
0 0 3	MSP NT9X13DB NT9X26AA
0 0 4	MEMORY NT9X14DB
0 0 5	MAPPER NT9X15AA
0 0 20	DS30 NT9X17AA NT9X23BA
0 0 21	DS30 NT9X17AA NT9X23BA
0 0 22	DS30 NT9X17AA NT9X23AA
0 0 23	DS30 NT9X17AA NT9X23AA
0 0 24	CMIC NT9X17AA NT9X20AA
0 0 25	CMIC NT9X17AA NT9X20AA
0 0 26	PBUS NT9X49CB NIL
1 0 1	TBUSACC NT9X52AA NIL
1 0 2	CLOCK NT9X53AA NT9X54AB
1 0 3	MSP NT9X13DB NT9X26AA
1 0 4	MEMORY NT9X14DB
1 0 5	MAPPER NT9X15AA
1 0 20	DS30 NT9X17AA NT9X23BA
1 0 21	DS30 NT9X17AA NT9X23BA
1 0 22	DS30 NT9X17AA NT9X23AA
1 0 23	DS30 NT9X17AA NT9X23AA
1 0 24	CMIC NT9X17AA NT9X20AA
1 0 25	CMIC NT9X17AA NT9X20AA
1 0 26	PBUS NT9X49CB

Table history

TEL07

The PEC NT9X62BB was added to the range of values for card type DS512 in the table, "Range of back cards" and in the table, "Field descriptions."

CSP04

The PEC NT9X62CB was added to the range of values for card type CHAIN and DS512 in the table ,“Range of back cards" and in the table , “Field descriptions."

CSP02

The PEC NT9X53AD was added to range of values for card type CLOCK in table 1 in section "Functional description."

MSFWLOAD**Table name**

Message Switch Firmware Load Table

Functional description

Table MSFWLOAD contains the name of the firmware load file for each firmware downloadable message switch (MS) product engineering codes (PEC). Table MSFWLOAD also contains the name of the device that contains the file.

The command LOADCD has a default file and device parameters. The switch uses the file name and device associated with the PEC of the card downloaded as the default file and device parameters.

Only the following interface cards are firmware downloadable:

- NT9X17CA (DMS-bus 128-port card)
- NT9X17DA (message switch 64-port card)
- NT9X17BB (DMS-bus 32-port card)

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table MSFWLOAD.

Table size

1 to 32 tuples

Datafill

Datafill for table MSFWLOAD appears in the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
PECODE		see subfield	<i>Interface product engineering code.</i> This field consists of subfield NAME.
	NAME	NT9X17BB NT9X17CA NT9X17DA	<i>Name.</i> Enter the the PEC of the interface card.

MSFWLOAD (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
DEV		alphanumeric (1 to 16 characters)	<i>Device name.</i> Enter the name of the device where the firmware load file resides.
FILENAME		alphanumeric (one to eight characters)	<i>Firmware load file name.</i> Enter the file name of the firmware load file.

Datafill example

Sample datafill for table MSFWLOAD appears in the following example.

MAP example for table MSFWLOAD

PECODE	DEV	FILENAME
NT9X17CA	D000PMLoads	MPF36CJ
NT9X17DA	D000PMLoads	MPF36CJ
NT9X17BB	D000PMLoads	MPF36CJ

Table history**BCS36**

Subfield NAME was added in BCS36.

MSGRTE

Table name

PRA Facility Message Routing Table

Functional description

Table MSGRTE provides for the networking of features on PRA trunks. Table MSGRTE is used for the routing and processing of PRA facility messages. This table does not establish call connections.

Table MSGRTE determines if the message terminates on the current switch or is sent to another switch. This is done through the use of the origination and destination information elements. The destination can be either LOCAL or a PRA D-channel that transmits the message to the next switch for further routing.

Datafill sequence and implications

The following tables must be datafilled before table MSGRTE.

- NETNAMES
- TRKMEM
- C7RTESET
- SPECCONN

All network names in this table must already exist in table NETNAMES.

To datafill a DPNSS selector, a source ISUP trunk CLLI must be specified along with a DPNSS selector, and the ISUP trunk CLLI must exist in tables TRKGRP and TRKSGRP. Only one DPNSS selector is allowed per tuple.

Table size

The table size is dynamic.

MSGRTE (continued)

Datafill

The following table lists datafill for table MSGRTE.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
MSGRTKEY		see subfields	<i>Message route key</i> This is the key to table MSGRTE and consists of subfields NETID and DIGRANGE.
	NETID	alphanumeric	<i>Network identifier</i> Enter the network name. The network name must be datafilled in table NETNAMES prior to being entered in table MSGRTE.
	DIGRANGE	see subfields	<i>Digit range</i> This field consists of subfields FROMDIGS and TODIGS.
	FROMDIGS	alphanumeric (vector of up to 11 characters, 0 to 9, B to F, or N)	<i>From digits</i> Enter the digit or digits translated. If the entry represents a block of consecutive numbers, enter the first number of the block.
	TODIGS	alphanumeric (vector of up to 11 characters, 0 to 9, B to F, or N))	<i>To digits</i> If FROMDIGS represents a block of consecutive numbers, enter the last number in the block. Otherwise, the entry is equal to field FROMDIGS.

MSGRTE (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
MSGRTRES		MSGRTSEL	<i>Message route result</i> Enter the list of routes used to transmit messages. Up to four routes can be datafilled.
	MSGRTSEL	DPNSS, GTT, LOCAL, PRA, SCREEN, or SS7	<i>Message route selector</i> Enter the route type. Enter DPNSS if TCAP NRAG messages are sent over DPNSS virtual trunks. Enter LOCAL if the message terminates on this switch. Enter PRA if the message is routed out on a specified PRA-D channel. Enter SCREEN if the message is screened and does not route further. Enter SS7 if a the message is routed over a specific SS7 route set.

MSGRTSEL = DPNSS

If the entry for field MSGRTSEL is DPNSS, datafill the following subfields.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	ISUPTRK	alphanumeric (up to 16 characters)	<i>Common language name</i> Enter the ISUP trunk CLLI name. Note: The CLLI name must correspond to a valid ISUP CLLI datafilled in table TRKGRP and table TRKSGRP.
	DELDIGS	0 to 15	<i>Delete digits</i> Enter the number of deleted digits from the destination address in the message routing information.

MSGRTE (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	PREDIGS	numeric or N (vector of up to 11 characters)	<i>Prefix digits</i> Enter the digit string prefixed to the destination address in the message routing information.
	OPTIONS	NEWNET	<i>DPNSS options</i> Enter the list of optional parameters for the DPNSS selector. Note: NEWNET is the only option currently supported.
	OPTION	NEWNET	<i>DPNSS option</i> Enter NEWNET.
	NETNAME	INTECNET or PUBLIC	<i>New Network name</i> Enter the new network name used to replace the network identifier in the destination address in the message routing information. Enter either INTECNET or PUBLIC. Note: The new network name must already exist in table NETNAMES.

MSGRTSEL = GTT

If the entry for field MSGRTSEL is GTT, datafill the following subfields.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	GTT_INDEX	alphanumeric (1 to 16 characters)	<i>Global title type name</i> Enter the title type name as defined in table C7GTTYPE.

MSGRTE (continued)**MSGRTSEL = PRA**

If the entry for field MSGRTSEL is PRA, datafill the following subfields.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	TRKCLLI	alphanumeric (1 to 16 characters)	<i>Trunk common language location identifier</i> Enter the trunk CLLI name.
	DELDIGS	0 to 15	<i>Delete digits</i> Enter the number of deleted digits from the destination address in the message routing information.
	PREDIGS	vector of up to 11 characters (0 to 9, B to F, or N)	<i>Prefix digits</i> Enter the digit string prefixed to the destination address in the message routing information.
	OPTIONS	NEWNET or NEWTOR	<i>PRA options</i> Enter NEWNET for a new network and datafill subfield NETNAME. Enter NEWTOR for a new type of route and datafill subfield TYPEOFRT.
	NETNAME	INTECNET or PUBLIC	<i>Network name</i> Enter either INTECNET or PUBLIC.
	TYPEOFRT (BCS36-)	PUB or PVT	<i>Type of route</i> Enter PUB for a public route. Enter PVT for a private route.

MSGRTE (continued)**MSGRTSEL = SS7**

If the entry for field MSGRTSEL is SS7, datafill the following subfields.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	DPC	alphanumeric (1 to 16 characters)	<i>Destination point code</i> Enter the CLLI name.
	DELDIGS	0 to 15	<i>Delete digits</i> Enter the number of deleted digits from the destination address in the message routing information.
	PREDIGS	numeric or N (vector of up to 11 digits)	<i>Prefix digits</i> Enter the digit string prefixed to the destination address in the message routing information.
	OPTIONS	NEWNET	<i>SS7 options</i> Enter NEWNET.
	NETNAME	INTECNET or PUBLIC	<i>Network name</i> Enter either INTECNET or PUBLIC.

Datafill example

The following example shows sample datafill for table MSGRTE.

MAP display example for table MSGRTE

MSGRTKEY				MSGRTRES
PUBLIC	6137223	6137224		
(PRA	K2KDTI64CLLP1	4	N NEWTOR	PVT)\$

MSGRTE (end)

Table history**UK002**

The following changes were made:

- expanded datafill implications
- corrected field name MSGRTESEL to read MSGRTSEL
- added DPNSS explanation to field MSGRTSEL
- corrected field name SUPTRK to read ISUPTRK
- added field OPTION for MSGRTSEL = DPNSS conditional datafill
- expanded explanation for refinements OPTIONS, OPTION, and NETNAME for MSGRTSEL = DPNSS conditional datafill
- added N to range of values for subfield PREDIGS for MSGRTSEL = DPNSS conditional datafill

CSP02

Message route selector ISMDI and its refinements were removed.

BCS36

The following changes were made:

- added entry NEWTOR to field OPTIONS
- added new field TYPEOFRT

MSILINV

Table name

Message Switch Inter-MS Link Inventory Table

Functional description

Table MSILINV defines inter-message-switch links. These links provide greater messaging reliability in the DMS-bus.

The frame transport system (FTS) messaging software uses the interlinks. The software uses these interlinks to direct messages across DMS message switches (MS) at the DMS-bus protocol level.

The software must use the interlinks if a DMS-100 contains link peripheral processor (LPP) cabinets. These cabinets have application specified units (ASU) that use feature package NTXH77AA (Channelized Access on LPP/LIS). Feature package NTXH77AA allows an LPP connection to a DMS junctored network (JNET) or enhanced network (ENET) that uses DS30 links. The method that feature package NTXH77AA replaces the previous method. In the previous method, channel banks connect the ASUs to the public switching network.

An additional path for messaging improves system reliability. This path is for use when one or more node message ports are not operational. The FTS software can detect message points that do not function. The FTS software can route messages with the MS interlinks. Before, the system lost the message if a path was not available.

See table MSCDINV for related information.

Datafill sequence and meaning

You must enter data in tables MSINV and MSCDINV before you enter data in table MSILINV.

Table size

0 to 2 tuples

MSILINV (continued)**Datafill**

Datafill for table MSILINV appears in the the following table.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
IMSL		see subfield	<i>Inter-message-switch link.</i> The field contains subfield LINKNO.
	LINKNO	0 to 1	<i>Message switch interlink number.</i> Enter the link number of the interlink to define. One MS shelf pair can have a maximum of two links defined. The addition of link 0 must occur before the addition of link 1.
SHELFNO		0 to 3	<i>Message switch shelf number.</i> Enter the number of the MS shelf where the interlink resides. For most DMS SuperNodes, shelf 0 is present. All MS shelves have MS 0 and MS 1 planes.
CARDNO		6 to 23	<i>Message switch card number.</i> Enter the number of the MS card where the interlink resides. For example, if you select card 5, card 5 of MS 0 and card 5 of MS 1 link together.
INFO		see subfields	<i>Message switch interlink information.</i> This field contains subfields PROTOCOL and PORTNO.

MSILINV (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	PROTOCOL	DS30 DS512 SR128 or SR256	<i>Messaging protocol.</i> Enter the messaging protocol for the MS interlink. Enter data in subfield PORTNO.
	PORTNO	0 to 15	<i>Message switch port number.</i> Enter the number of the MS port that the interlink uses. For DS512 protocol, the only correct entry is 0. For DS30 protocol, the correct entries are 0 to 15. Note: For four-port DS30 MS cards, the only correct entries are 0 to 3. For SR128 the correct entries are 0 to 3. For SR256 the correct entries are 0 or 1.

Datafill example

An example of datafill for table MSILINV appears in the example below. The example defines two interlinks.

Link 0 connects card 6, port 12 on MS shelf 0, MS 0, to card 6, port 12 on MS shelf 0, MS 1. Link 0 performs this connection with DS30 protocol.

Link 1 connects card 10, port 0 on MS shelf 0, MS 0, to card 10, port 0, on MS shelf 0, MS 1. Link 1 performs this connection with DS512 protocol.

MAP example for table MSILINV

IMSL	SHELFNO	CARDNO	INFO
0	0	6	DS30 12
1	0	10	DS512 0

Table history

BCS35

Values SR256 and SR128 were added to field PROTOCOL in BCS35.

MSINV

Table name

Message Switch Inventory Table

Functional description

Table MSINV contains message switch (MS) location and characteristic information. The table allows operating company personnel to change the characteristic information of the default MS nodes. This table allows operating company personnel to add and delete optional MS nodes.

The DMS switch requires the default MS nodes to operate. The default MS nodes are MS 0 and 1. The addition of these nodes to table MSINV occurs during the first data entry. Operating company personnel cannot delete these nodes from the table. Operating company personnel can change the location, product engineering codes (PEC), load name, and extension shelves of the nodes only.

The optional MS nodes increase the message handling capacity of the DMS-100E switch. At the start, this additional capacity is not a requirement. The system does not allow the entry of the optional MS nodes.

Each tuple in table MSINV contains a required and an optional part. The required part contains the identity, location, and PECs of the MS. The required part contains the version and edition of the MS software loaded in the MS.

The optional part contains information about shelves available for the MS. The number of shelves depends on the size of the office.

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table MSINV.

Table size

2 tuples

MSINV (continued)**Datafill**

Datafill for table MSINV appears in the following table.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
MSINVKEY		see subfield	<i>Message switch inventory key.</i> This is the key field to table MSINV. This field contains subfield MSNUM.
	MSNUM	0 to 1	<i>Message switch number.</i> Enter the MS number.
FLOOR		0 to 99	<i>Floor.</i> Enter the floor where the frame is. The default value for this field is 0.
ROW		A to H J to N P to Z AA to HH JJ to NN or PP to ZZ	<i>Row.</i> Enter the row position on the floor where the frame is. The default value for this field is A.
FRAMEPOS		0 to 99	<i>Frame position.</i> Enter the position of the frame in the row. The default value for this field is 0.
FRTYPE		CMDC DNPC DPCC MCCM MCOR or SCC	<i>Frame type.</i> Enter the name of the frame type as follows: • CMDC to specify a computing module duplex cabinet • DNPC to specify a dual network packaged core • DPCC to specify a dual-plane combined core cabinet • MCCM to specify a Meridian cabinet core module • MCOR to specify a computing module mixed core cabinet • SCC to specify SuperNode combined core cabinet The default value for this field is SCC. Entries out of the range indicated for this field are incorrect.

MSINV (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
FRAMENO		0 to 511	<i>Frame number.</i> Enter the number of the frame type. The default value for this field is 0.
FRINFO		see subfield	<i>Frame information.</i> This field contains subfield FRAMEPEC.
	FRAMEPEC	NT7X26AA NT9X01BA NT9X01MB NTMX42BA NTNX20AA	<i>Frame product engineering code.</i> Enter the PEC that corresponds to the frame type entry in field FRTYPE. If the entry in field FRTYPE is CMDC or DPCC, enter NT9X01BA. The NT9X01BA is the Dual-plane combined core cabinet. If the entry in field FRTYPE is DNPC, enter NT7X26AA. The NT7X26AA is the Dual network package core. If the entry in field FRTYPE is MCCM, enter NTNX20AA. The NTNX20AA is the Meridian cabinet core module. If the entry in field FRTYPE is MCOR, enter NTMX42BA. The NTMX42BA is the CM-mixed core cabinet. If the entry in field FRTYPE is SCC, enter NT9X01MB. The NT9X01MB is the SuperNode SE cabinet. The default value for this field is NT9X01MB.
	SHELF0	see subfields	<i>Shelf zero.</i> This field contains subfields SHELFPEC and SHELFPOS.

MSINV (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	SHELFPEC	NT9X0470 NT9X04AA NTRX1501	<i>Shelf product engineering code.</i> Enter the PEC for the MS shelf as follows: • NT9X0470 (combined message switch shelf assembly) • NT9X04AA (message switch shelf) • NTRX1501 (mini message switch shelf assembly) The default value for this field is NT9X0470.
	SHELFPOS	0 to 77	<i>Shelf position.</i> Enter the mounting position for shelf 0. The acceptable values are 0, 13, 26, and 39. The default value for this field is 39. Entries out of the range indicated for this field are incorrect.

Datafill example

Sample datafill for table MSINV appears in the following example. Four possible assignments associated with MS 0 and 1 appear in the example. The entry of two tuples, one tuple for each default MS, must occur.

MSINV (end)**MAP example for table MSINV**

MSINVKEY	FLOOR	ROW	FRAMEPOS	FRTYPE	FRAMENO	FRINFO

0	0	A	0	MCOR	0	NTMX42BA NTRX1501 39
1	0	A	0	MCOR	0	NTMX42BA NTRX1501 26
0	0	A	0	MCCM	0	NTNX20AA NTRX1501 39
1	0	A	0	MCCM	0	NTNX20AA NTRX1501 26
0	0	A	0	DNPC	0	NT7X26AA NTRX1501 39
1	0	A	0	DNPC	0	NT7X26AA NTRX1501 26
0	0	A	0	SCC	0	NT9X01MB NT9X0470 39
1	0	A	0	SCC	0	NT9X01MB NT9X01MB 26

MSRTAB

Table name

Message Storage and Retrieval System

Functional description

The system uses table MSRTAB as a database to store valid message storage and retrieval system identification (MSRIDs). The MRSNAME option provides the DMS-100 switch the ability to display the MSR name.

Datafill sequence and implications

The system requires no datafill of other tables prior to table MSRTAB. Table MSRTAB must be datafilled prior to table DNROUTE during dump and restore.

Table size

The system allocates table size from 0 to 255 tuples.

Datafill

The following table lists datafill for table MSRTAB.

Field descriptions

Field	Subfield	Entry	Explanation and action
MSRID		10-digit string Valid digits: 0–9	Message storage and retrieval system identification.
	BILLNUM	10-digit string Valid digits: 0–9	The BILLNUM option associates a billing number with an MSRID.
	BILLNUM_PREF	Y or N	Indicates whether to generate billing or not if activation/deactivation count is equal to zero. Default value is Y.
	MSRNAME	A string of up to 16 alphanumeric characters with no special characters Valid characters: A–Z, a–z, 0–9, _	Message Storage and Retrieval Name. Enter this option if the user wants to generate the MSR name that is associated with the MSRID.

Datafill example

The following example shows sample datafill for table MSRTAB.

MSRTAB (end)

MAP display example for table MSRTAB

MSRID	OPTLIST
6137216050	\$
8197228907	\$
7777777777	(BILLNUM 6137223001 Y) (MSRNAME RTPVMI)\$

Table history**NA012**

Added option MSRNAME for feature A59006512 Message Services - MSR Name Display and Universal DN System Support.

NA011

Added option BILLNUM for feature AF7776.

NA010

Feature AU2903 Update Message support for MWI introduces table MSRTAB.

Supplementary information

The following error messages are provided to inform the user that the name is not entered correctly.

If the MSRNAME is an empty string the following error message is displayed:

The number of characters in MSR Name should be greater than zero

If the MSRNAME exceeds 16 alphanumeric characters, the following message is displayed:

MSRNAME should not exceed sixteen characters

The MSRNAME only consists of characters from the following set: [A–Z, a–z, 0–9, _]. If the MSRNAME being entered contains special characters, the following message is displayed:

MSRNAME should contain no special characters

MTAHORIZ

Table name

Metallic Test Access Horizontal Connection Table

Functional description

Table MTAHORIZ lists the assignment of horizontal agents, line test units (LTU), metallic (or multi-line) test units (MTU), operator verification, metallic jacks (MJACK), incoming test access trunks, extended metallic test access (MTA) and short circuits to a horizontal connection and horizontal group of metallic test access minibars (MTAM).

Different horizontal agents can use the same horizontal connection, but are associated with different MTAMs and horizontal groups. A maximum of 160 different horizontal agents are permitted for a given horizontal connection.

A maximum limit of 32 MTAMs can be multiplied (grouped) to connect to a single horizontal agent. A horizontal agent can be used only once.

Line test units for the host and remote locations are assigned to pseudo common language location identifier (CLLI) code LTU.

Metallic (or multi-line) test units for the host and remote locations are assigned to pseudo CLLI code MTU.

Operator verification trunks for the host switching unit are assigned to the pseudo CLLI code VER90.

The CLLI codes for operator verification trunk groups for remote locations are assigned by the operating company.

Metallic jacks are assigned to pseudo CLLI code MJACK.

The CLLIs for incoming test access trunks for the host and remote locations are assigned by the operating company.

MTAHORIZ (continued)

The assignment rules for table MTAHORIZ are as follows:

- There are no horizontal connections reserved for dedicated LTUs. Non-dedicated LTUs have no restrictions on assignment.

If the MTAM is a 2X50, the maximum number of lines for each LTU is governed by hardware restraints. One LTU is required for 6400 lines (10 line concentrating modules [LCM]) or any fraction of this.

If the MTAM is a 3X90BA, the recommended maximum number of lines for each LTU is 5120 (8 LCMs).

When a line test unit is assigned to the host switching unit, the horizontal connection to which it is assigned is multiplied to all minibar switches that are assigned to the host switching unit.

When a line test unit is assigned to a remote location, the horizontal connection to which it is assigned is multiplied to all minibar switches that are assigned to the remote location.

- If the minibar switch is located at the host switching unit, no assignment restrictions exist for the assignment of incoming test and operator verification trunks. One horizontal connection is required for each incoming test access trunk and operator verification trunk.

If the MTA configuration is small or medium, the horizontal connections to which the incoming test access and operator verification trunks are assigned are multiplied to all minibar switches that are located at the host switching unit. If the MTA configuration is large, see the "Large MTA configuration" section below.

- If the minibar switch is remote from the host switching unit, all horizontal connections are available for the assignment of incoming test access and operator verification trunks, as well as for the extension of the metallic test access feature.

One horizontal is required for each incoming test access trunk, operator verification trunk and for each vertical connection on the host minibar switch that is assigned to a horizontal connection on the minibar switch located at the remote or host location.

- The number of metallic jacks in each DMS office is restricted to 256.

For the assignment of the LTUs, incoming test access and operator verification trunks to trunk group, trunk subgroup and trunk member tables, see tables TRKGRP, TRKSGRP and TRKMEM respectively.

An LTU, MTU, or both must be entered in table TRKMEM before being added to table MTAHORIZ. If the LTU or MTU is deleted from the TRKMEM table,

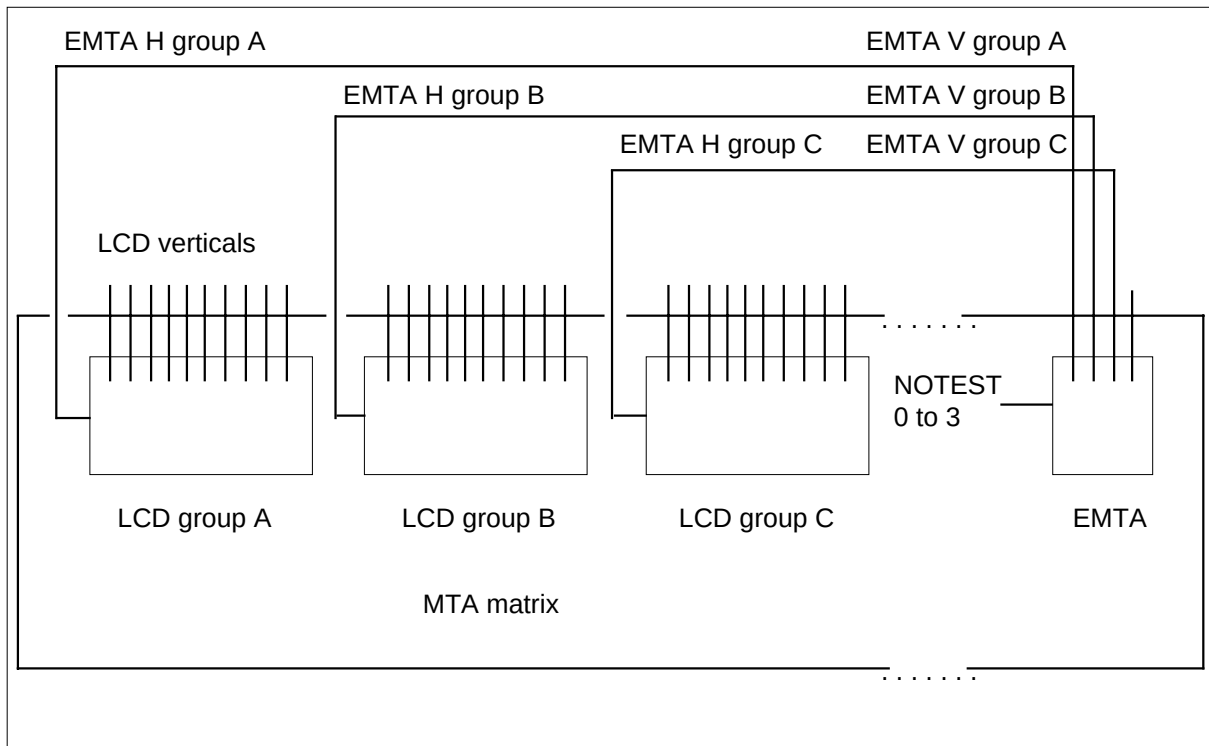
MTAHORIZ (continued)

the corresponding tuple in table MTAHORIZ is marked as deleted, but is automatically restored if the LTU or MTU is re-added to table TRKMEM.

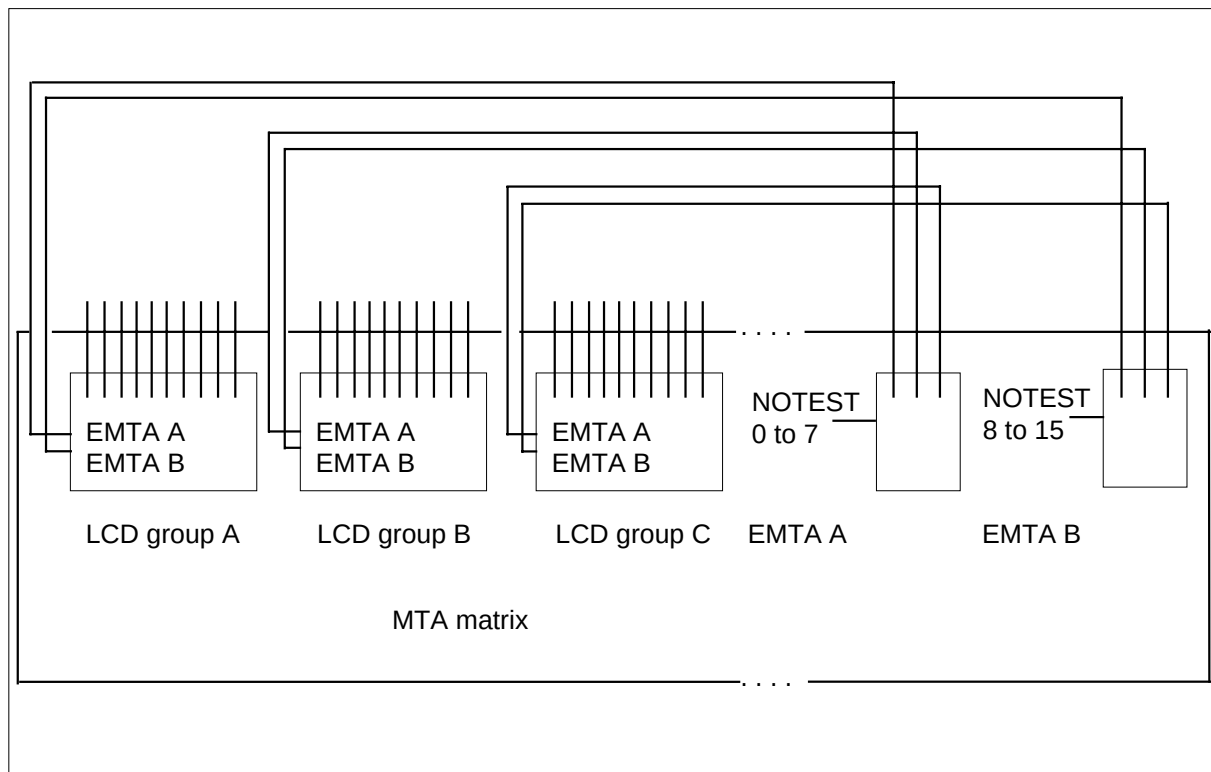
Large MTA configuration

A large MTA configuration is used if the vertical connections that are required to connect to the NOTEST trunk through the MTA exceed the MTAHORIZ limitation of 32 MTA drivers. The NOTEST trunk is placed on an extended metallic trunk access (EMTA), and the EMTA capability of connecting to line concentrating device (LCD) vertical connections is used as shown in the diagrams.

The following figure shows how the LCD group MTA drivers and the EMTA connections and MTA drivers connect. Figure xxxLCD connections to EMTA



If there are a large number of test access trunks, the previous solution could result in a large number of MTA drivers needed for the EMTA configuration. The number of MTA drivers for the EMTA can be reduced by breaking it into groups also, as shown in the following figure. Figure xxxMTA driver reduction through grouping

MTAHORIZ (continued)

For related information, refer to table MTAMDRVE.

Datafill sequence and implications

The following tables must be datafilled before table MTAHORIZ:

- MTAMDRVE
- MTAVERT
- TRKMEM
- TSTEQUIP

Table MTAHORIZ interacts with office parameter CABLE_SHORT_TIMEOUT in table OFCENG (timed short circuit [field SELECTOR set to S]).

Table size

Memory for this table is dynamically allocated up to a maximum of 2000 tuples.

MTAHORIZ (continued)**Datafill**

The following table lists datafill for table MTAHORIZ.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
HORIZ		0 to 127	<i>Metallic test access horizontal connection</i> Enter the metallic test access (MTA) horizontal connection to which the test equipment (horizontal agent) is connected.
HORIZGRP		0 to 159	<i>Metallic test access horizontal group</i> Enter the horizontal group number which identifies the horizontal connection and its horizontal agent as a unique tuple. The horizontal group is used to assign different test equipment (horizontal agents) on the same MTA horizontal. A horizontal group can involve only one horizontal agent, but is cross-connected (multiplied) at the main distribution frame (MDF) to a single or a number of MTA minibar (MTAM) driver horizontal connections.
HORIZAGT		see subfield	<i>Horizontal agent</i> This field consists of subfield SELECTOR.
	SELECTOR	B, BBT, E, J, L, LA, MJ, NT1, S, T	<i>Selector</i> If the assignment is for a board-to-board dedicated horizontal connection, enter B and datafill refinement BBTNR, section "SELECTOR = B". If the assignment is for the MTA horizontal connections on a board-to-board testing (BBT) unit, enter BBT and datafill refinement BBTNR. If the assignment is to multiple a horizontal connection of a minibar switch from a host or remote connection to the vertical of a host minibar switch, enter E (extension of MTA) and datafill refinement EMTAVERT, section "SELECTOR = E".

MTAHORIZ (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	SELECTOR (continued)	B, BBT, E, J, L, LA, MJ, NT1, S, T	If a metallic connection to the tip and ring of the subscriber line is required, enter MJ and datafill refinements CLLI and MJACKNUM, in section "SELECTOR = MJ". Selector values J and LA are for licensee use only. If the assignment is for a line test unit (LTU) or metallic (or multi-line) test unit (MTU), enter L and datafill refinements CLLI, EXTRKNM, and ALTUSE in section SELECTOR = L". If the assignment is for a test NT1, enter NT1 and complete refinement NT1NUM in section "SELECTOR = NT1". If the assignment is for a timed short circuit (and the time is defined by the office parameter CABLE_SHORT_TIMEOUT in table OFCENG), enter S. No refinements require datafill. Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T". If the assignment is for an incoming test access or operator verification trunk, enter T and datafill refinements CLLI and EXTRKNM in section "SELECTOR = T".

SELECTOR = B

If the entry in field SELECTOR is B, datafill refinement BBTNR as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	BBTNR	0 to 7	<i>Board-to-board testing number</i> Enter the number of the board-to-board set with which this horizontal connection is associated. Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".

MTAHORIZ (continued)**SELECTOR = BBT**

If the entry in field SELECTOR is BBT, datafill refinement BBTNR as described below.

Field descriptions for conditional datafill (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	BBTNR	0 to 7	<i>Board-to-board testing number</i> Enter the number of the board-to-board set with which this horizontal connection is associated.
	CLLI_NAME	alphanumeric	<i>Common language location identifier</i> This subfield specifies the CLLI name of the BBT outgoing trunk.
	EXTRKNM	0 to 9999	<i>External trunk number</i> This subfield specifies the external trunk number assigned in table TRKMEM to the BBT outgoing trunk.
	PREDIAL_ DELAY	0 to 300	<i>Predial delay</i> This subfield specifies the time in hundreds of milliseconds between sending an off-hook by the DMS switch on the no-test trunk to the old office and outpulsing of digits on that trunk. For example, an input of 2 gives a delay of 200 milliseconds.
	SDMEM	0 to 511	<i>Signal distribution member</i> This subfield specifies the group number associated with the primary SD circuit of an NT2X57 card connected to this BBT test unit previously datafilled in table SDGRP.
	SCMEM	0 to 511	<i>Scan detector member</i> This subfield specifies the group number associated with the primary SC circuit of a NT0X10 card connected to this BBT test unit previously datafilled in table SCGRP.
	DISC_ RELAY	A, K	<i>Disc relay</i> This subfield specifies the relay in the NT5X73AB BBT test unit which, when operated, disconnects the BBT test unit from the old office. The default is the A relay.

MTAHORIZ (continued)**Field descriptions for conditional datafill (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	DISC_TIME	1 to 300	<i>Disc time</i> This subfield specifies the time in 100-millisecond increments required for the old office to properly release once a disconnect signal has been received from the DMS switch.
	OFFICE TYPE	SxS, XBAR, ESS, DMS, and OTHER	<i>Office type</i> This subfield specifies the information required by the BBT software to communicate with the old office. The old offices are categorized as SxS, XBAR, ESS, DMS, and OTHER.
	OPTIMIZE_OUTPULSING	Y or N	<i>Optimized outpulsing</i> This subfield specifies if the old office uses optimized outpulsing. This subfield is displayed only for SxS offices.
	DIGSOUT	0 to 18	<i>Digit number</i> This subfield specifies the number of digits that must be outpulsed by the DMS switch to connect to a line in the old office.
	AT_HOST	YES or NO	<i>At host</i> This subfield specifies if the ABBT test unit is located at the host site.
	RELAY_DELAY	0 to 100	<i>Relay delay</i> This subfield specifies the time in 100-millisecond increments for a signal output from an SD point of the host DMS switch to travel to the BBT test unit located at a remote site and operate a relay in the BBT test unit. For example, an input of 2 specifies a delay of 200 milliseconds. The prompt appears only if the BBT test unit is located at a remote site (AT HOST=NO).

MTAHORIZ (continued)**Field descriptions for conditional datafill (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	SCAN_ DELAY	0 to 10	<i>Scan delay</i> This subfield specifies the time in 100-millisecond increments for a signal generated by an ABBT test unit located at a remote site to travel to a SCAN point of the host DMS switch and be read. For example, an input of 2 specifies a delay of 200 milliseconds. The prompt appears only if the ABBT test unit is located at a remote site (AT HOST=NO).
	VERT	0 to 639	<i>Vertical</i> This subfield is the starting vertical number on the MTA driver.
	NBRVERTS	0 to 640	<i>Number verticals</i> This subfield is the number of verticals for the MTA driver. Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".

SELECTOR = E

If the entry in field SELECTOR is E, datafill refinement EMTAVERT as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	EMTAVERT	0 to 1023	<i>Extended metallic test access column</i> Enter the associated vertical connection on the MTA in the host to which the horizontal connection is connected. Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".

MTAHORIZ (continued)**SELECTOR = L**

If the entry in field SELECTOR is L, datafill refinements CLLI, EXTRKNM, and ALTUSE as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	CLLI	LTU or MTU	<i>Common language location identifier</i> If the assignment is for an LTU, enter the pseudo common language location identifier (CLLI) code LTU. If the assignment is for an MTU, enter the pseudo CLLI code MTU. The pseudo CLLI codes must be previously entered in table CLLI.
	EXTRKNM	0 to 9999	<i>External trunk number</i> Enter the external trunk number assigned in table TRKMEM to the LTU or MTU.
	ALTUSE	Y or N	<i>Automatic line test use</i> Enter Y (yes) to use the line test equipment for automatic line testing. Otherwise, enter N (no). Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".

MTAHORIZ (continued)**SELECTOR = MJ**

If the entry in field SELECTOR is MJ, datafill refinements CLLI and MJACKNUM as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	CLLI	MJACK	<i>Common language location identifier</i> If the assignment is for a metallic jack, enter the pseudo common language location identifier (CLLI) code MJACK. The pseudo CLLI code must be previously entered in table CLLI.
	MJACKNUM	1 to 256	<i>Metallic jack number</i> Enter the metallic jack number. Note: The vertical connection to which the horizontal connection is being extended, must be previously datafilled as an EMTA vertical connection in table MTAVERT. Go to field MTAGRP on page Section , "SELECTOR = B, BBT, E, LA, MJ, S, T" on page -816.

SELECTOR = NT1

If the entry in field SELECTOR is NT1, datafill refinement NT1NUM as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	NT1NUM	0 to 255	<i>Network termination 1 number</i> Enter the number of the test network termination 1 (NT1) in the DMS testing system with which this horizontal connection is associated. Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T".

MTAHORIZ (continued)**SELECTOR = T**

If the entry in field SELECTOR is T, datafill refinements CLLI and EXTRKNM as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	CLLI	alphanumeric (up to 16 characters) or VER90	<i>Common language location identifier</i>If the assignment is for the host operator verification trunk, enter the pseudo common language location identifier (CLLI) code VER90. If the assignment is for an operator verification trunk for a remote location, or an incoming test access trunk, enter the pseudo CLLI code previously datafilled in table CLLI. The pseudo CLLI codes must be previously entered in table CLLI.
	EXTRKNM	0 to 9999	<i>External trunk number</i>Enter the external trunk number assigned in table TRKMEM to the operator verification trunk or the incoming test access trunk. Go to field MTAGRP in section "SELECTOR = B, BBT, E, LA, MJ, S, T"..

SELECTOR = B, BBT, E, LA, MJ, S, T

If the entry in field SELECTOR is B, BBT, E, LA, MJ, S, or T (all valid entries except NT1), datafill field MTAGRP as described below.

Field descriptions for conditional datafill (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
MTAGRP		see subfields	<i>Metallic test access group</i> This field consists of a list of MTA drivers that multiple to the test equipment and is a vector of up to 32 multiples of subfields MTAMEM and HORIZ. If less than 32 multiples are required, end the list with a \$ (dollar sign).

MTAHORIZ (continued)**Field descriptions for conditional datafill (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	MTAMEM	0 to 511	<i>Metallic test access minibar driver member</i> Enter the metallic test access minibar (MTAM) driver member number to which the horizontal connection is connected.
	HORIZ	0 to 127	<i>Horizontal</i> This read-only field gives information about the MTA drivers physical horizontal connection. Enter 0 (zero) to satisfy table control. Any entry outside the range indicated for this field is invalid.

Datafill example

An example of datafill for table MTAHORIZ is shown below.

The example shows an addition to table MTAHORIZ. The value in field HORIZ is entered which is part of the vector of field MTAGRP. After the values have been input, a display of the table shows the actual horizontal connection on the physical driver.

MAP display example for table MTAHORIZ

HORIZ	HORIZGRP	HORIZAGT										MTAGRP
3	159	BBT	0	BBTOUT	0	8	0	0	A	12		
		DMS	Y	7	YES	24	4	(	6	3	)	\$

MTAHORIZ (end)

Table history

NA002

The following changes were made to table MTAHORIZ:

- Entry BBT, with an action paragraph, was added under subfield SELECTOR of field HORIZAGT.
- The section SELECTOR=BBT, with its subfields and explanations, was added.
- A new MAP display for datafilling table MTAHORIZ was added.

MTAMDRVE**Table name**

Metallic Test Access Minibar Driver Table

Overview

The metallic test access (MTA) is a matrix of vertical and horizontal crosspoints (comparable to a minibar) which can connect specified verticals to horizontal within the MTA. It connects test equipment to a circuit that requires testing in cases where the test equipment is connected to a horizontal, and the circuit that requires testing is connected to a vertical.

An MTA of the required size is constructed through the interconnection of a number of smaller minibar circuits. The DMS-100 switch has three circuit elements that can be used as building block components in the construction of an MTA. These elements, which are referred to as MTA minibar drivers (MTAM), are described by product engineering code (PEC) in the following table.

MTA minibar drivers (Sheet 1 of 2)

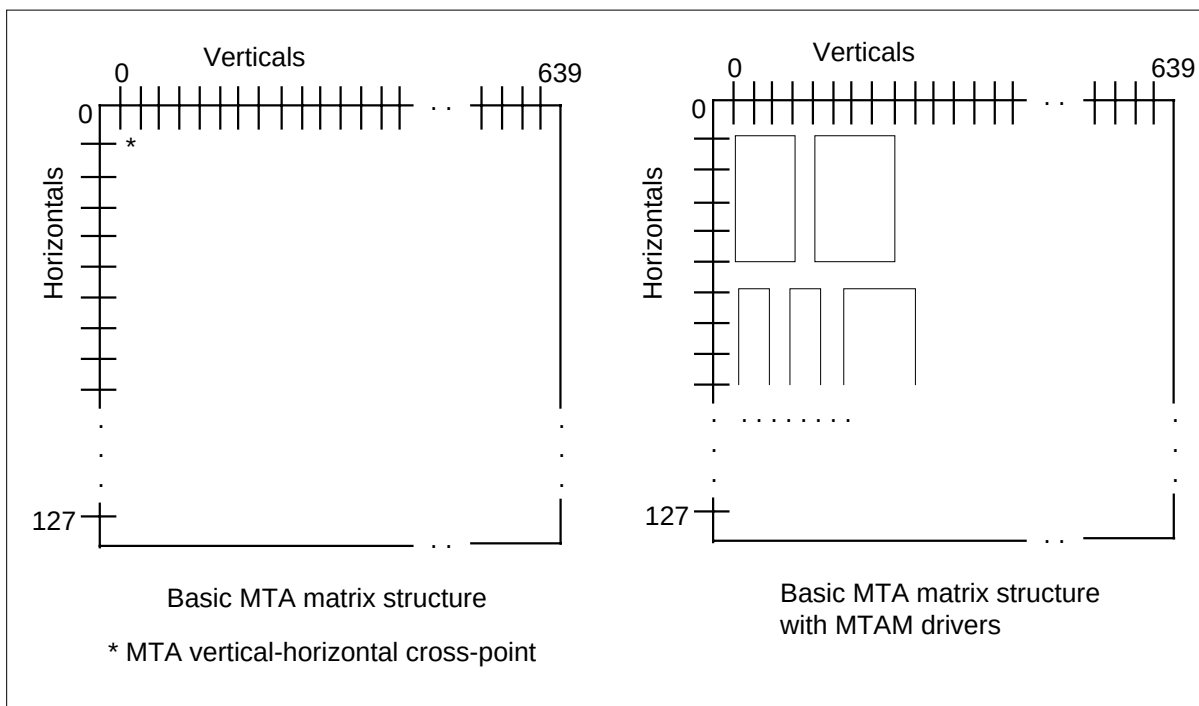
Model (PEC)	Function	Description
NT2X50AB	minibar driver	This is a 20 vertical by 16 horizontal circuit that has two components: cards NT2X46 and NT2X50AB. NT2X46 is the physical minibar. Located in a miscellaneous frame, it receives crosspoint connection requirements from the NT2X50AB control card and makes the corresponding connections. The NT2X50AB is a single package card that requires one slot in a peripheral module (PM) shelf. The MTA uses the control card to request crosspoint connections or disconnections on the minibar.
NT3X09AA	remote metallic test access	This is a four vertical by eight horizontal (see note) circuit that allows MTA access on remote line concentrating devices (RLCDs). Relays on this circuit card handle the crosspoint connections. The NT3X09AA is a single card package that requires one slot in the PM shelf.

MTAMDRVE (continued)**MTA minibar drivers (Sheet 2 of 2)**

Model (PEC)	Function	Description
NT3X09BA	8x8 remote metallic test access	Note: Although software uses this circuit as a four vertical by eight horizontal minibar, the physical wiring (hardware design) is eight verticals by four horizontals. This is an eight vertical by eight horizontal circuit. The physical package is similar to the 3X09AA. Relays on this circuit card handle the crosspoint connections.

The minibar components are interconnected to construct an MTA using the main distribution frame (MDF). The MDF has connections to all circuits and PMs in a switch and connects the various circuits together. This type of connection is known as a cross-connect.

In the case of MTAMs, each vertical and horizontal is wired to the MDF and cross-connects are made between various MTAMs. These MTAMs are datafilled as being part of the MTA. A large MTA can be constructed using this approach.

Basic MTA matrix

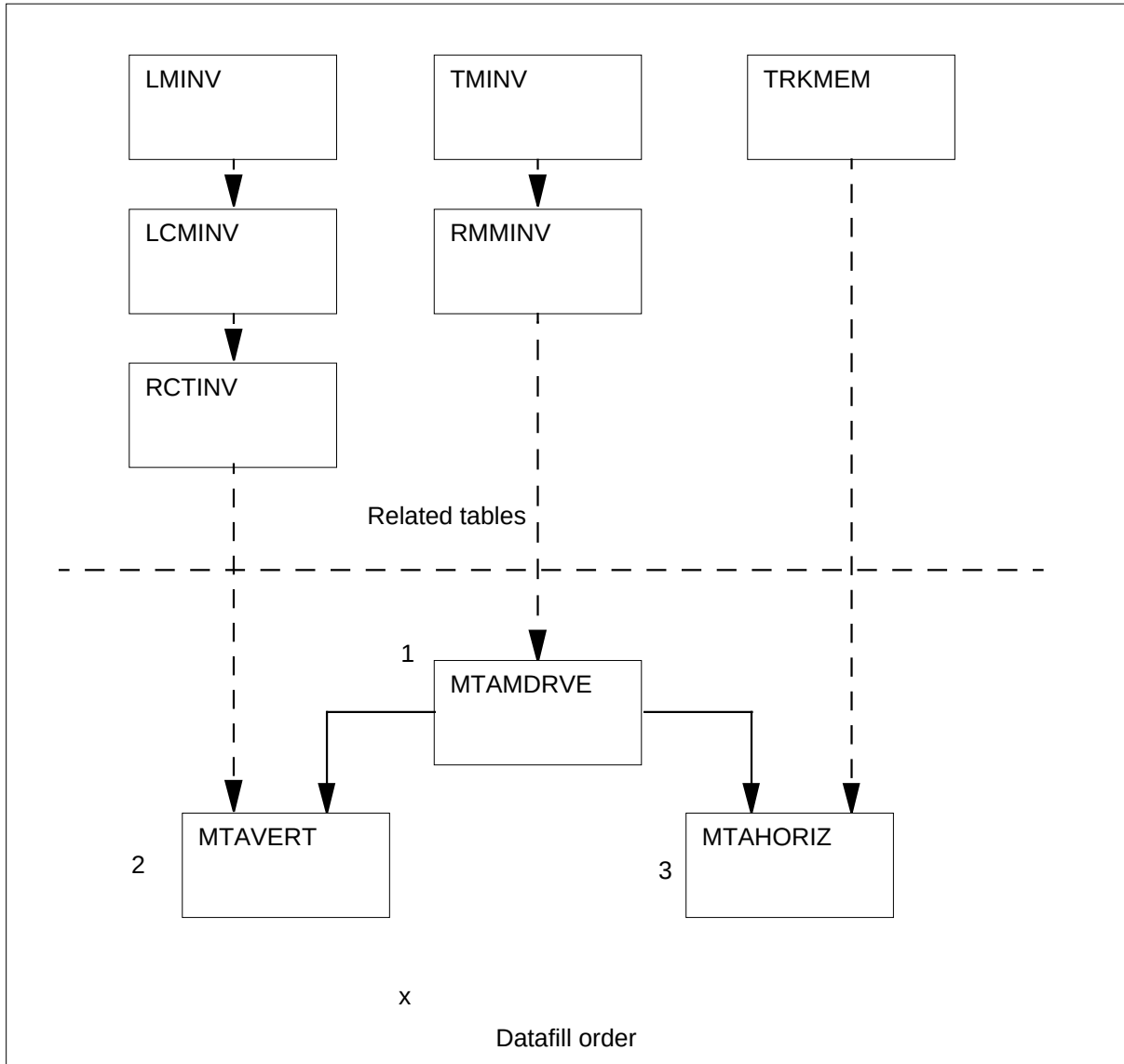
MTAMDRVE (continued)

Building the MTA structure

The MTA requires three tables to define all the connections involved. The use of these tables is described the following table and figure.

MTA table structure

Table name	Description
MTAMDRVE	Datafilled to locate an MTAM driver in the MTA structure.
MTAVERT	Datafilled to define the physical vertical connections on the MTA.
MTAHORIZ	Datafilled to define the physical horizontal connections on the MTA.

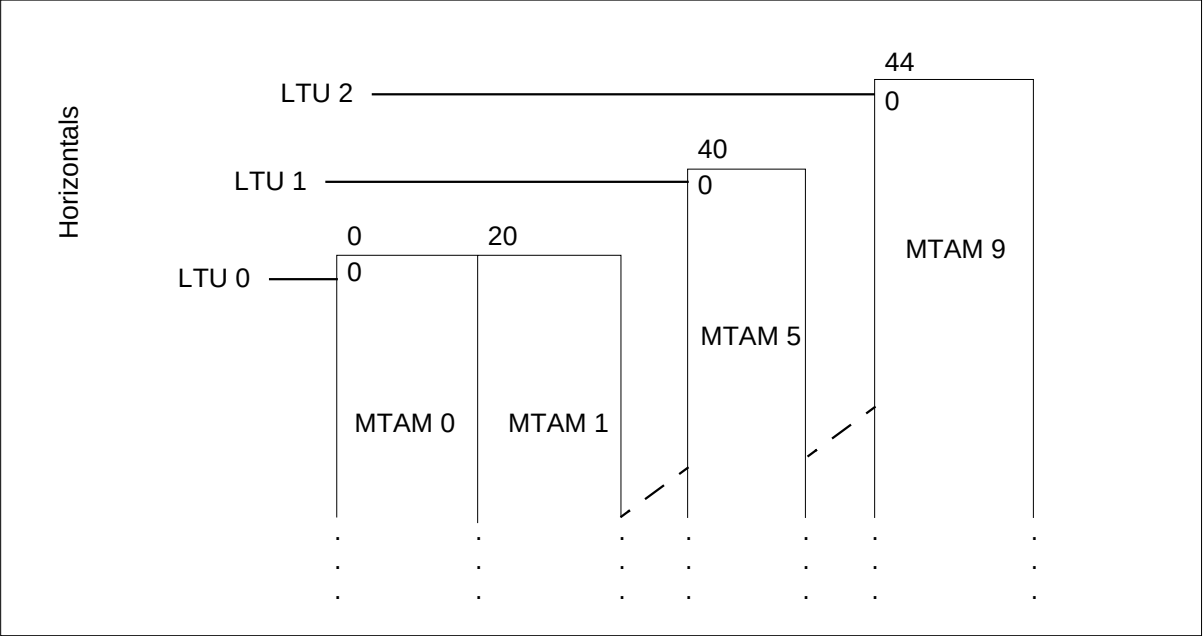
MTAMDRVE (continued)**Basic system and MTA table relationship****Horizontal groups**

The horizontal group provides a method of assigning different test equipment (horizontal agents) on the same MTA horizontal. A horizontal group can involve only one horizontal agent, but is cross-connected (multiplied) at the MDF on one or more MTAM driver horizontals, as shown in the following two figures.

In the following figure, each horizontal agent relates as a horizontal group on the MTA. This figure is the same as remote usage.

MTAMDRVE (continued)

MTA horizontal groups



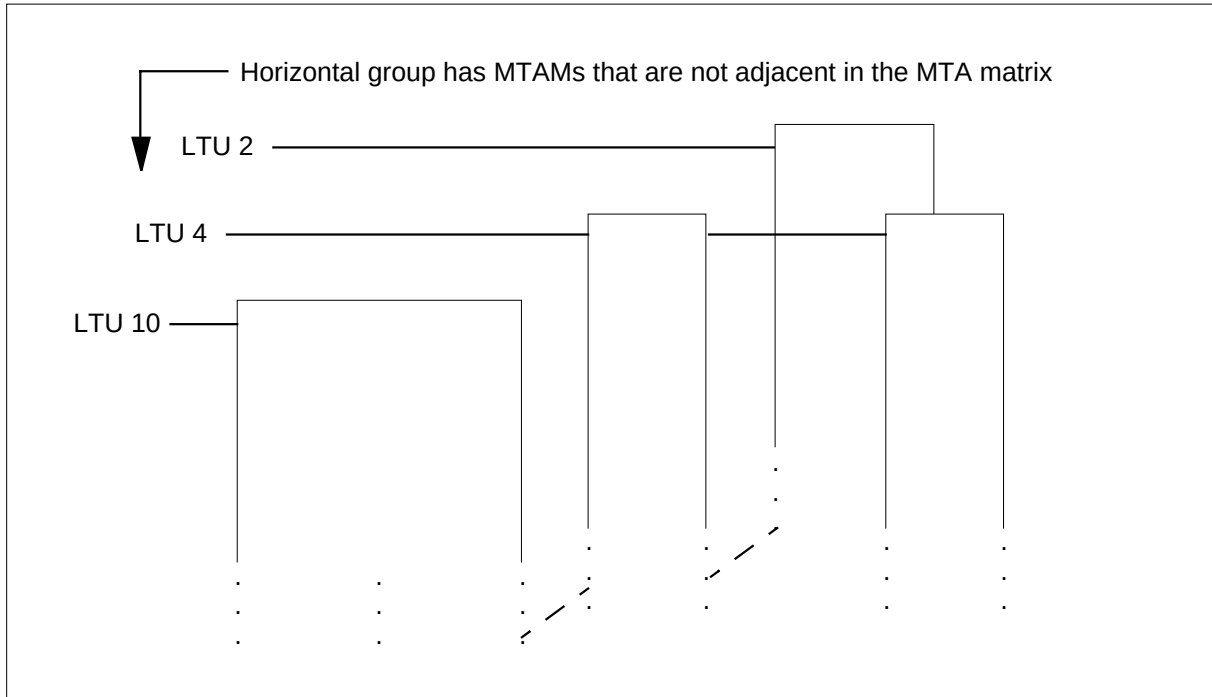
The following examples show datafill for the previous diagram (not including table MTAVERT).

MTAMDRVE (continued)

MTAMEM	VERT	HORIZ	TMTYPE	TMNO	TMCKTNO	MTACARD
0	0	0	MTM	n	n	2X50AB
1	20	0	MTM	n	n	2X50AB
5	40	0	RMM	n	n	3X09AA
9	44	0	RMM	n	n	3X09BA

HORIZ	HORIZGRP	HORIZAGT	MTAGRP
0	0	L	LTU 0 (0 0) (1 0)\$
0	0	L	LTU 1 (5 0)\$
0	0	L	LTU 2 (9 0)\$

The following figure also shows the cross-connections of horizontal groups.

MTAMDRVE (continued)**MTA horizontal group multiplied over MTAMs****Extended MTA (EMTA)**

The main use of the extended MTA is for NOTEST trunks. These trunks are used for local test cabinet, line test desk, repair and verification access, and mechanized loop test access. The interface is similar in all cases and works in the following manner:

- The trunk is seized by the far-end office, and digits are collected. The digits identify a line that resides on the switch.
- A metallic MTA connection is made between the NOTEST trunk and the line.

There are two reasons for using the extended MTA capabilities to make the metallic MTA connection between the NOTEST trunk and the line. These are as follows:

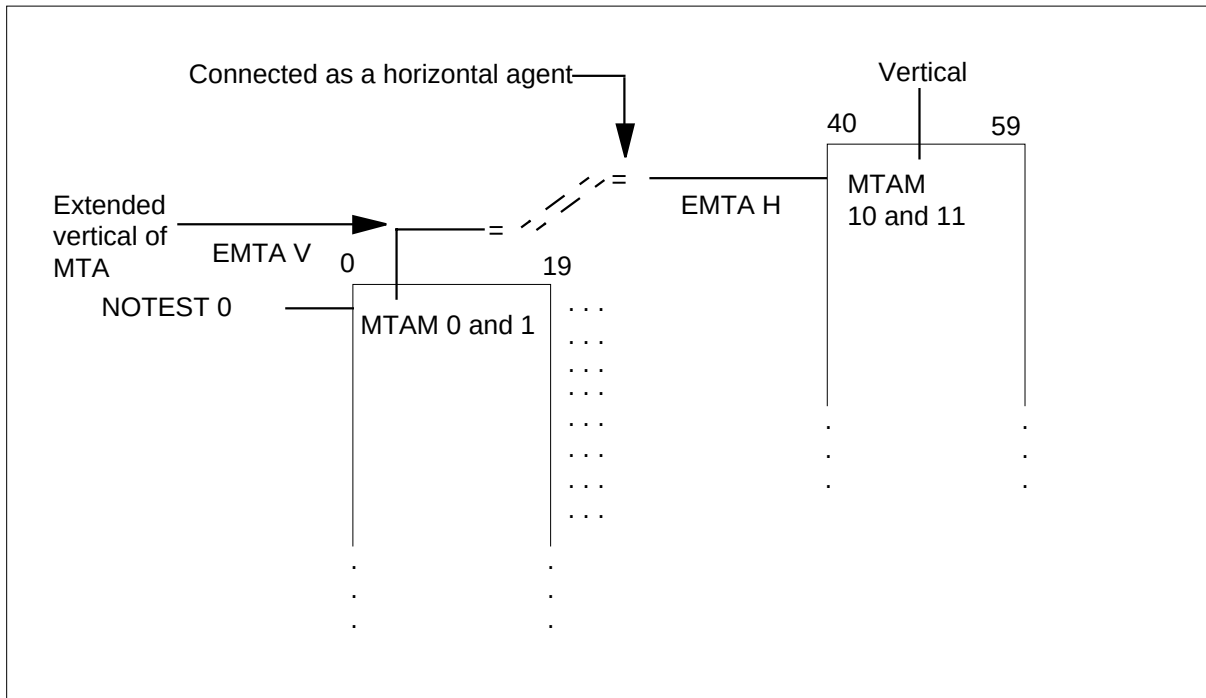
- A remote site has no room to support its own NOTEST trunk circuit.
- The NOTEST trunk accesses ALL lines on a site or in the office.

In both cases, connectivity issues must be addressed if a large MTA structure is required due to a large number of lines. The extended MTA overcomes some of the connectivity issues. See the "Large MTA configuration" section in this table description.

MTAMDRVE (continued)

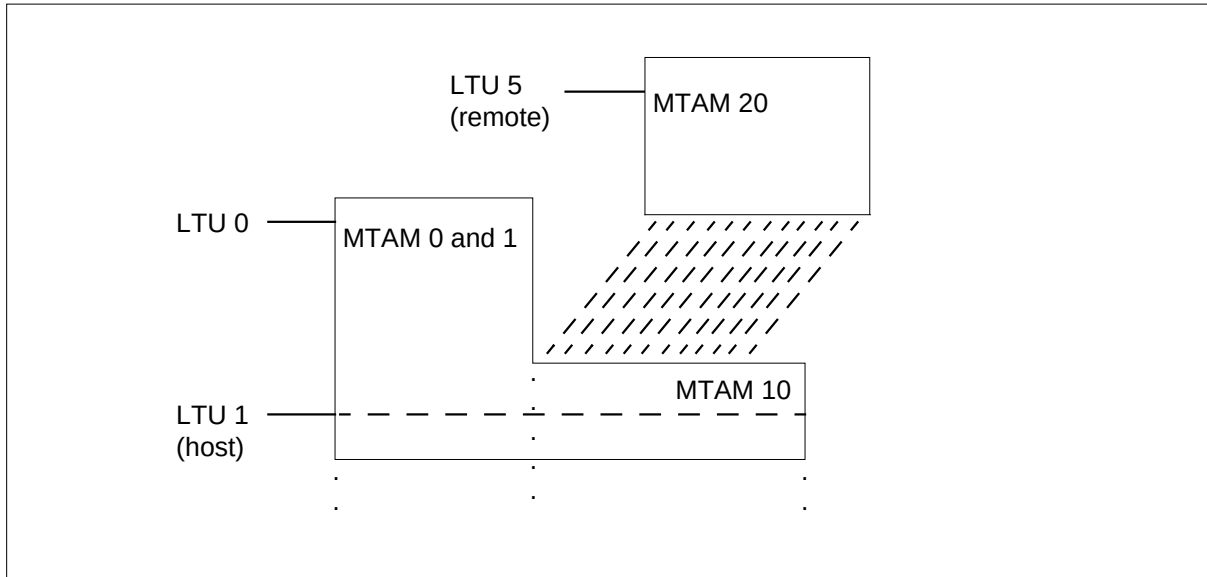
If a vertical is either a host or remote vertical, the extended MTA connection connects the vertical to a horizontal as a horizontal agent at host.

Only one EMTA connection at a time is allowed between a horizontal agent and a vertical. An EMTA horizontal and line test equipment (LTUs and MTUs) cannot make extended MTA connections to get a metallic connection.

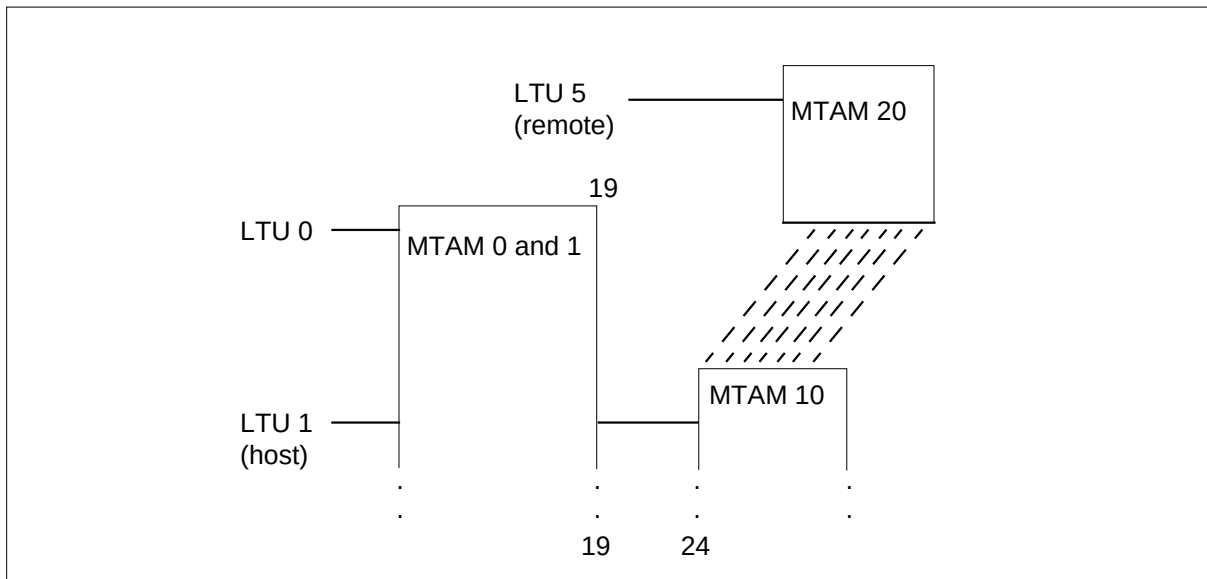
MTA horizontal group multiplied over MTAMs**Vertical at remote and host**

The following figures show the verticals served by the remote and the host verticals.

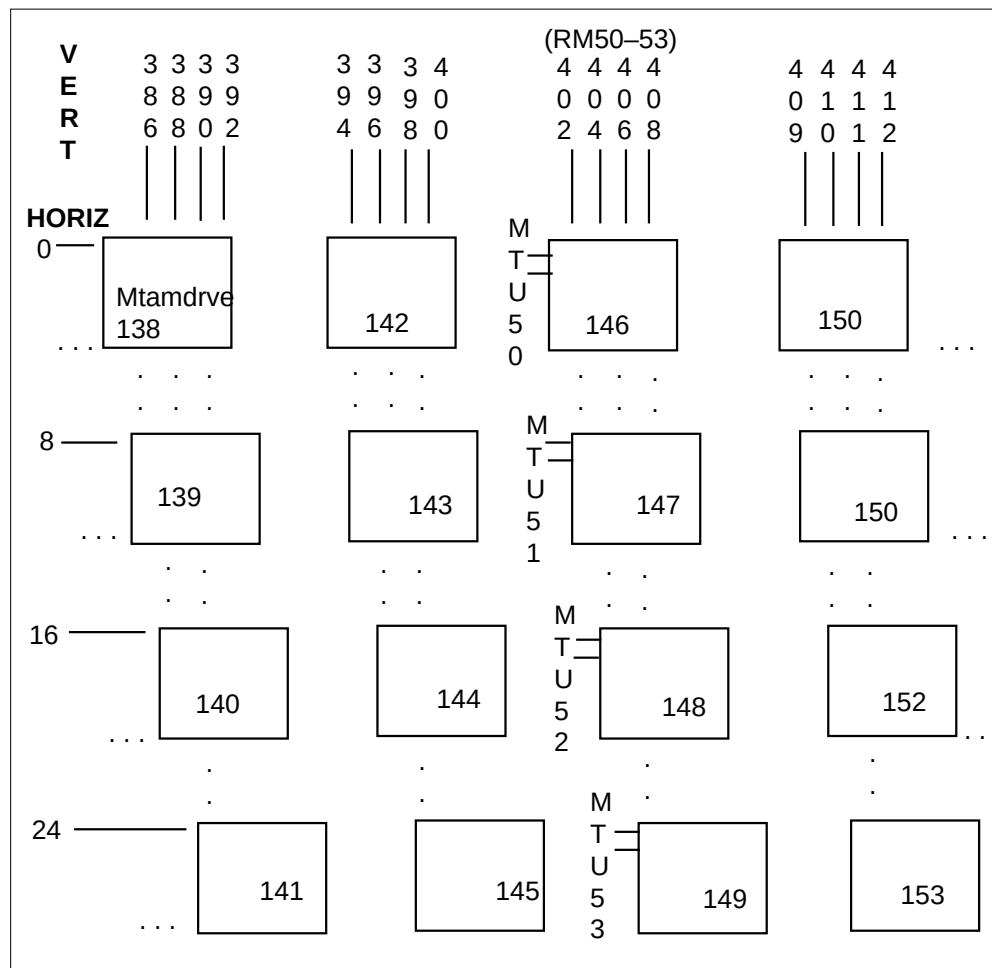
Note: In the first figure, MTAM 0 and 1 has MTAM 10 directly adjacent.

MTAMDRVE (continued)**Verticals served by remote and host**

In the following example, verticals 20 through 23 are not used.

Verticals served by remote and host**Many remotes in an MTA**

An MTA can support up to a maximum of 509 remotes, by adding up to four horizontal rows with an offset of two verticals. This configuration works with either NT3X09AA or NT3X09BA MTAMDRVE cards. See the following figure.

MTAMDRVE (continued)**Example configuration for an MTA with many remotes**

The following MAP display example shows table MTAMDRVE datafill for the previous example.

Datafill example for table MTAMDRVE

MTAMEM	VERT	HORIZ	TMTYPE	TMNO	TMCKTNO	MTACARD
146	402	0	RMM	50	18	3X09BA
147	404	8	RMM	51	18	3X09BA
148	406	16	RMM	52	18	3X09BA
149	408	24	RMM	53	18	3X09BA

MTAMDRVE (continued)

The following MAP display example shows table MTAHORIZ datafill for the previous example.

Datafill example for table MTAHORIZ

HORIZ	HORIZGRP	HORIZAGT				MTAGRP
0	5	L	MTU	50	Y	(146 0) \$
8	5	L	MTU	51	Y	(147 0) \$
16	5	L	MTU	52	Y	(148 0) \$
24	5	L	MTU	53	Y	(149 0) \$

The following MAP display example shows table MTAVERT datafill for the previous example.

Datafill example for table MTAVERT

VERT	VERTCONN					
402		S	L	RM50	0	0
404		S	L	RM51	0	0
406		S	L	RM52	0	0
408		S	L	RM53	0	0

Large MTA configuration

The size of an MTA depends on the size of an office and the number of verticals required to serve the LCDs. If dealing with large MTA configurations, there are two issues that require consideration:

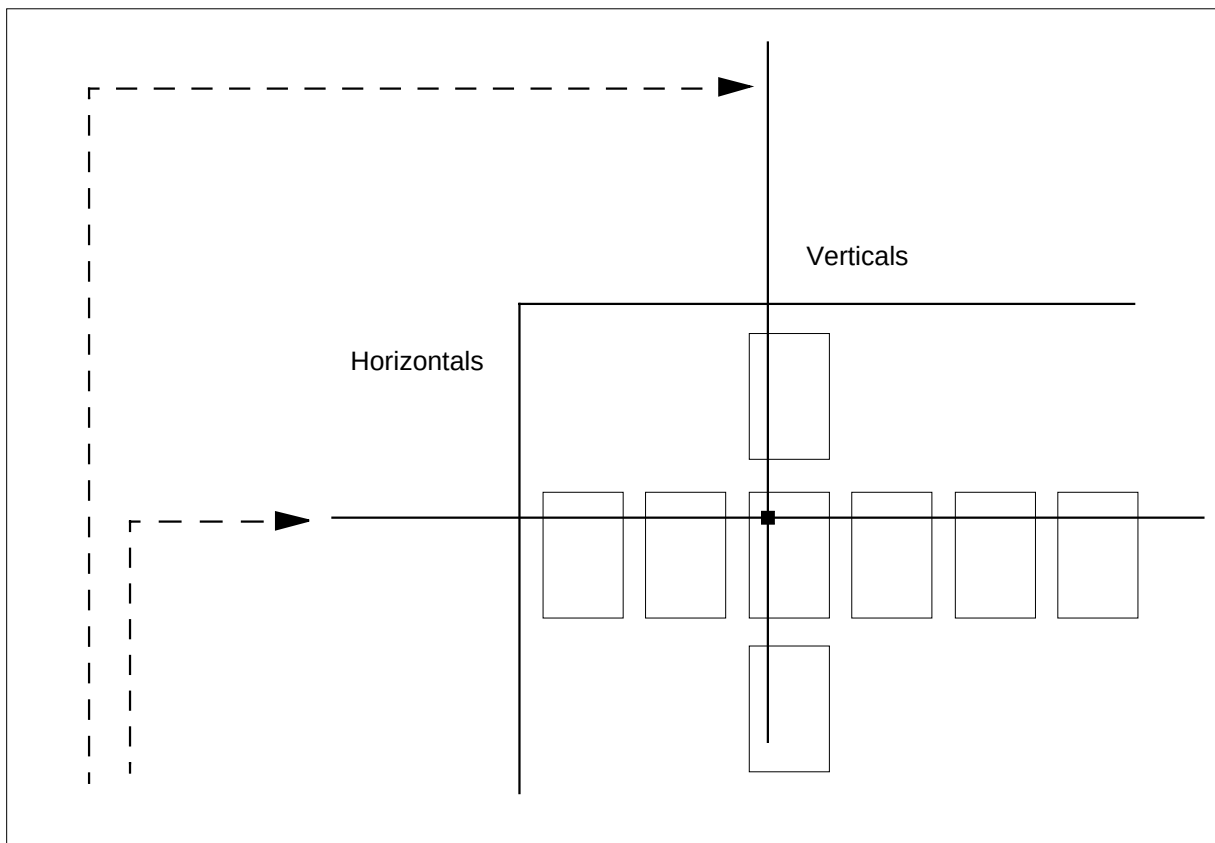
- The MTA drivers that are multiplied introduce extra cable into the metallic connections that use the MTA. This extra cable must be taken into account when measurements are involved.
- The number of verticals that can connect to a horizontal agent is limited. The limitation depends upon the type of MTA drivers associated with the horizontal agent and the first consideration above.

The first consideration is of primary importance because it imposes a physical hardware constraint. This constraint makes it necessary to engineer on a switch basis to satisfy MTA requirements that are different for each switch.

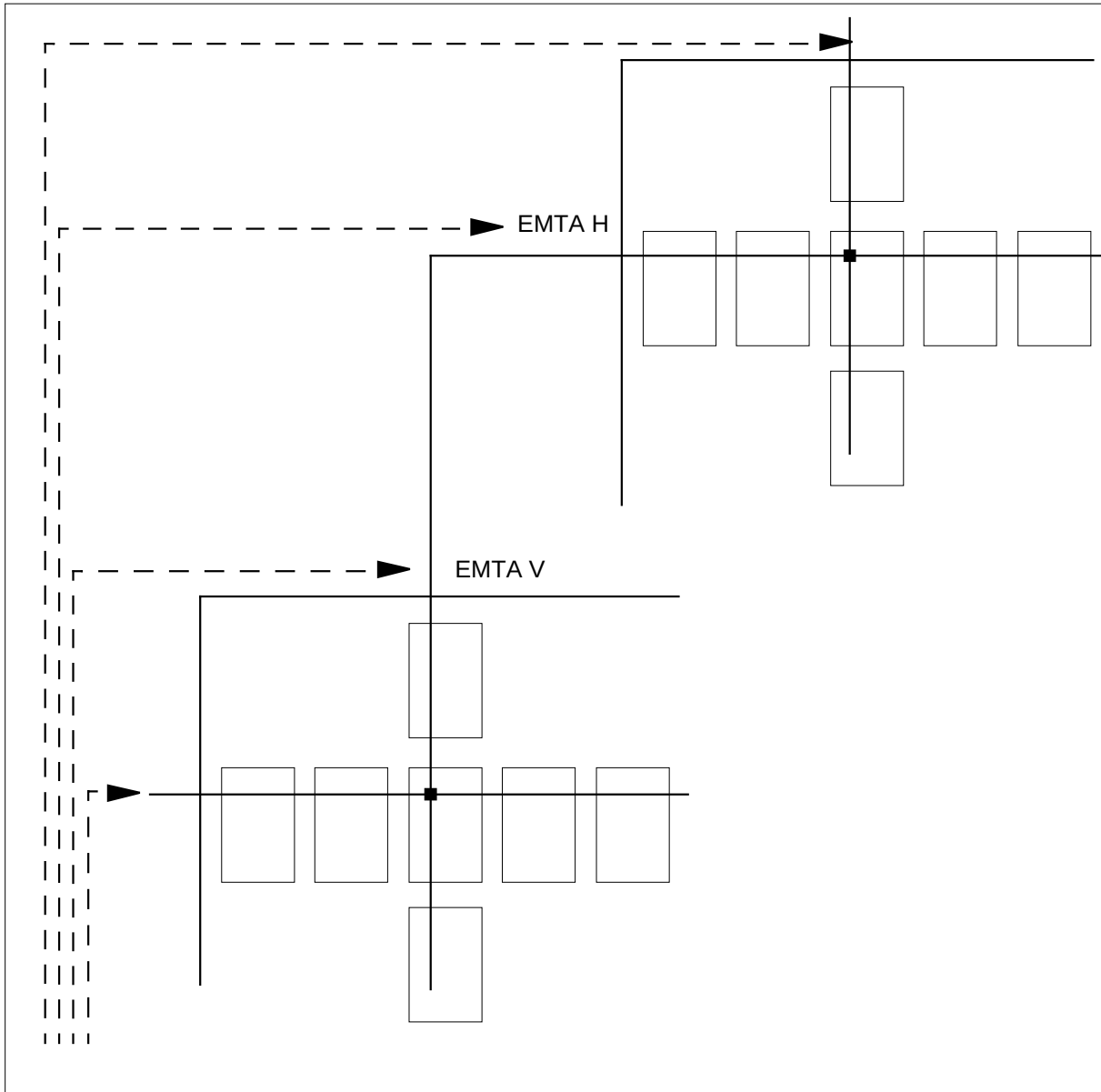
MTAMDRVE (continued)**Connection considerations**

An individual crosspoint has multiple connections to all vertical and horizontal MTA drivers associated with the crosspoint vertical and horizontal.

When determining the physical hardware constraints, all vertical MTA drivers, horizontal MTA drivers and the interconnecting cabling require consideration, as shown in the following figure.

Crosspoint connections

If EMTA connections are involved, extended connections also require consideration, as shown in the following figure.

MTAMDRVE (continued)**Extended crosspoint connections**

All vertical MTA drivers, horizontal MTA drivers and interconnecting cables must be taken into account for both the EMTA vertical connections and the EMTA horizontal connections.

Horizontal agent considerations

Line test equipment (LTE) that is a horizontal agent (such as an LTE, LTU, or MTU) requires access to a limited number of verticals of the MTA matrix.

MTAMDRIVE (continued)

This limit depends on the connection considerations of the MTA. If the LTE has too many connections, measurements on loops are incorrect or inaccurate. The recommended equipment for an office is one LTE for every 5 120 lines and one extra rover LTE for every 20 000 lines. LTEs must be equipped in accordance with operating company requirements and the setup of the MTA matrix in the switch.

Other types of horizontal agents (such as the test access or verification trunk) require the capability of connecting to all LCDs that are located at the same site. In cases where agents such as these are used and the number of verticals and MTA driver limits can be met, rearrangement of the MTA is required. The rearrangement uses the extended MTA capabilities of the MTA matrix.

Example

The following example illustrates the interconnection of MTAs to meet the requirements of an application.

A switch has 155 LCMs and 3X09BA MTA drivers. The 155 LCMs require 310 of the MTA matrix verticals (two verticals for each LCM). Thirty-nine MTA drivers are required to serve the 310 verticals. Table MTAHORIZ allows the datafilling of up to 32 MTA drivers for a given horizontal agent.

Four test access trunks require connection capability to the 155 LCMs (all HOST site). There is a physical cabling constraint that prevents more than 15 MTA drivers from being multiplied in this office.

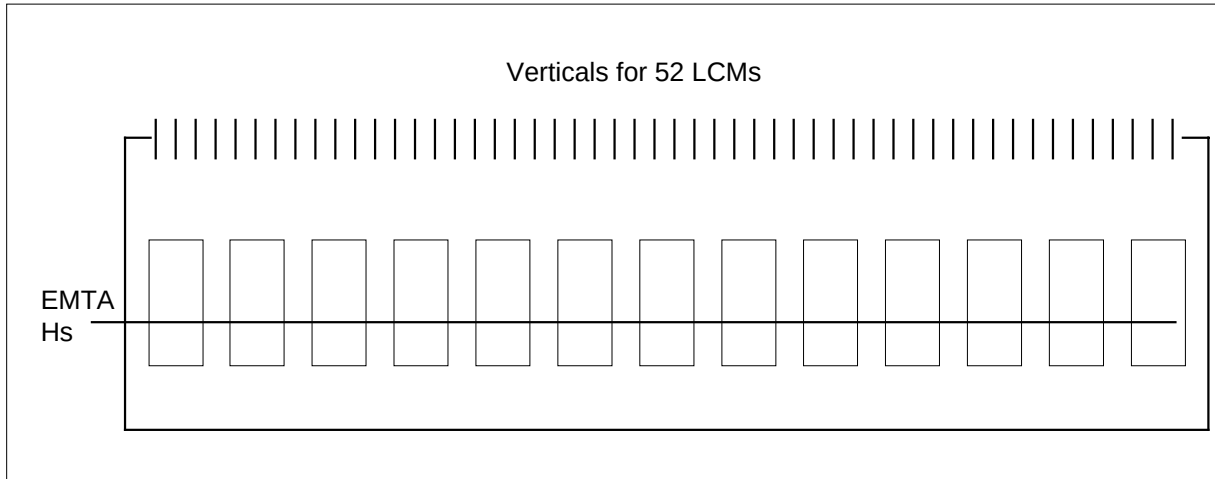
Based on the above information, the following approach can be taken:

Because of the 15 MTA driver cabling constraint, three groups of multiplied MTA drivers are needed in order to meet the 39 MTA driver requirement. These groups are referred to in this example as LCD groups A, B, and C.

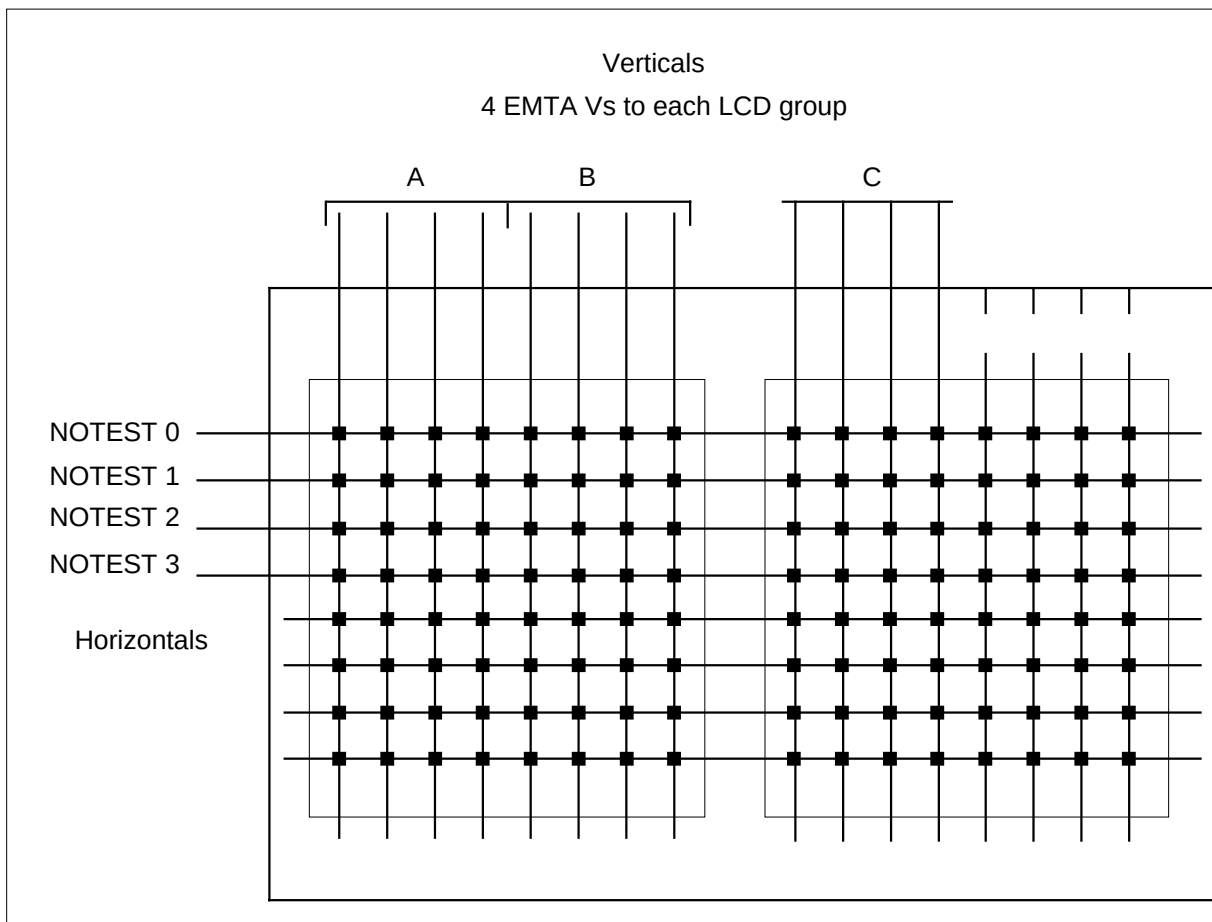
Each LCD group requires connection capability to the test access trunks. Extended MTA capabilities can be used to meet this requirement. Three LCD groups times four test access trunks equals 12 additional verticals for the EMTA verticals. Two MTA drivers are needed.

As the EMTA vertical uses two MTA drivers and the office only allows 15 MTA drivers to be multiplied, 13 drivers for each of the groups A, B, and C are allowed. This group of 13 drivers has the corresponding EMTA horizontal.

Each LCD group (A, B, and C) of 13 MTA drivers is shown in the following figure.

MTAMDRVE (continued)**LCD group**

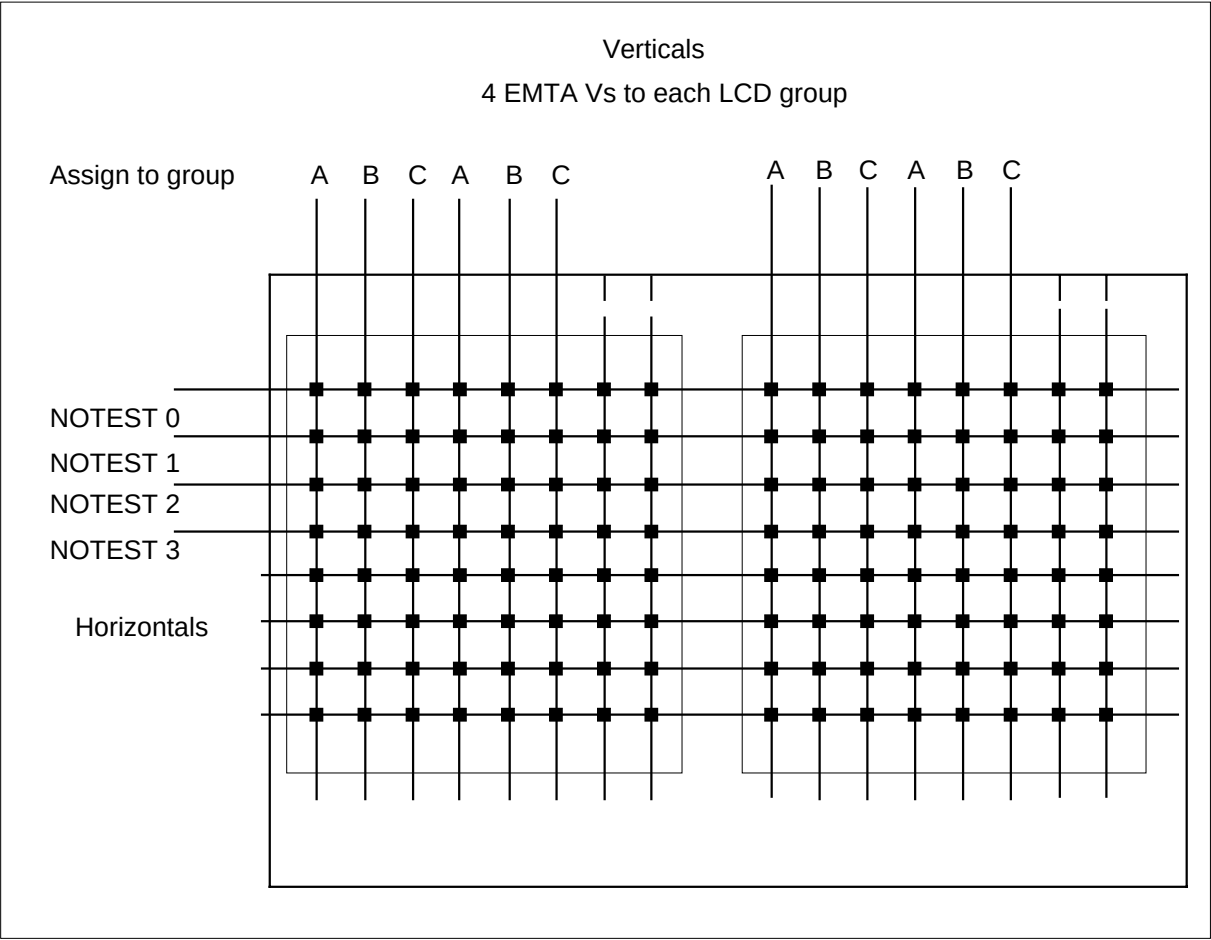
An area in the MTA matrix must be dedicated for the EMTA and test access trunk connections, as shown in the following figure.

MTAMDRIVE (continued)**MTA matrix area for EMTA and test access trunk connections**

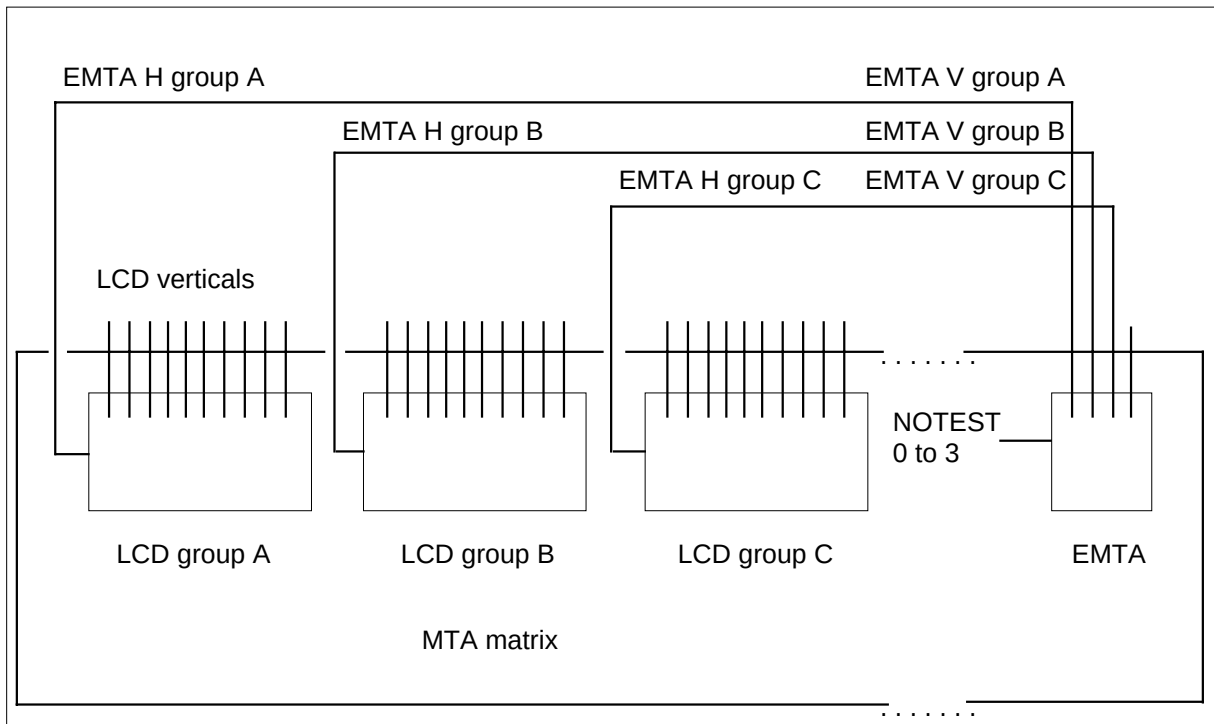
For better access reliability, distribute the EMTA verticals so that they are not concentrated on a particular MTA driver. In the event that an MTA driver is unavailable, access using the other driver or drivers is possible. See the following figure.

MTAMDRVE (continued)

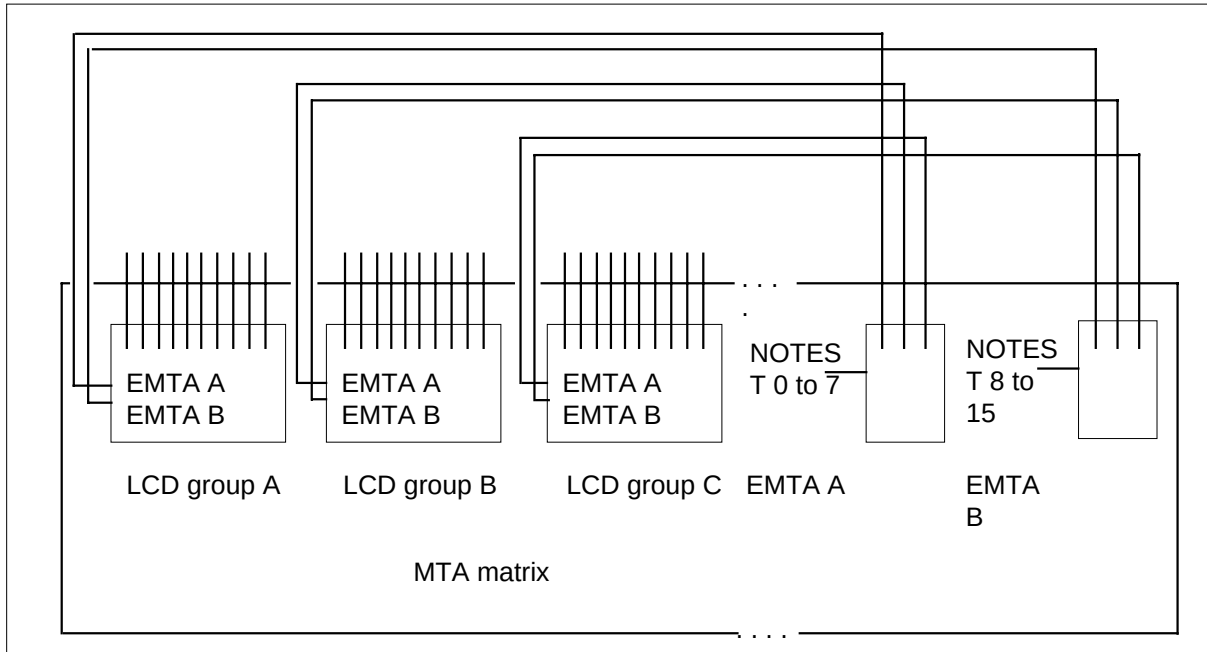
Distributed approach for better access reliability



The following figure shows how the LCD group MTA drivers, the EMTA connections, and the MTA drivers interconnect.

MTAMDRVE (continued)**LCD connections to EMTA**

If there are a large number of test access trunks, the previous solution could result in a large number of MTA drivers being needed for the EMTA set up. Breaking the EMTA up into groups reduces the number of MTA drivers required. See the following figure.

MTAMDRVE (continued)**MTA driver reduction through grouping**

By grouping the EMTAs, the number of MTA drivers involved in multiple connections is reduced also.

Further consideration must also be given to reducing the number of MTA drivers required for the LCD groups. If all test access trunks are required to have complete access to the LCD groups, the number of MTA drivers cannot be reduced. For example, if complete access requires EMTA and MTA connections for 16 test access trunks to interconnect with 16 verticals of a single LCD group, then 16 EMTA verticals and EMTA horizontals are needed for each LCD group.

Reducing the number of MTA drivers in the LCD groups entails calculating the expected access required to verticals (lines) in the LCD group. For example, if 16 test access trunks are allowed access to eight EMTA verticals and EMTA horizontals in LCD group A, the remaining eight can have access to LCD groups B and C. The eight EMTA verticals and EMTA horizontals connected to LCD group A represent the percentage of the total lines in the office that are in LCD group A.

Functional description

Table MTAMDRVE specifies the type of the minibar driver assigned to the minibar switch and the physical location of this driver. The NT2X50AB driver is part of NT2X46 minibar switch, while the NT3X09 driver (whose relays are

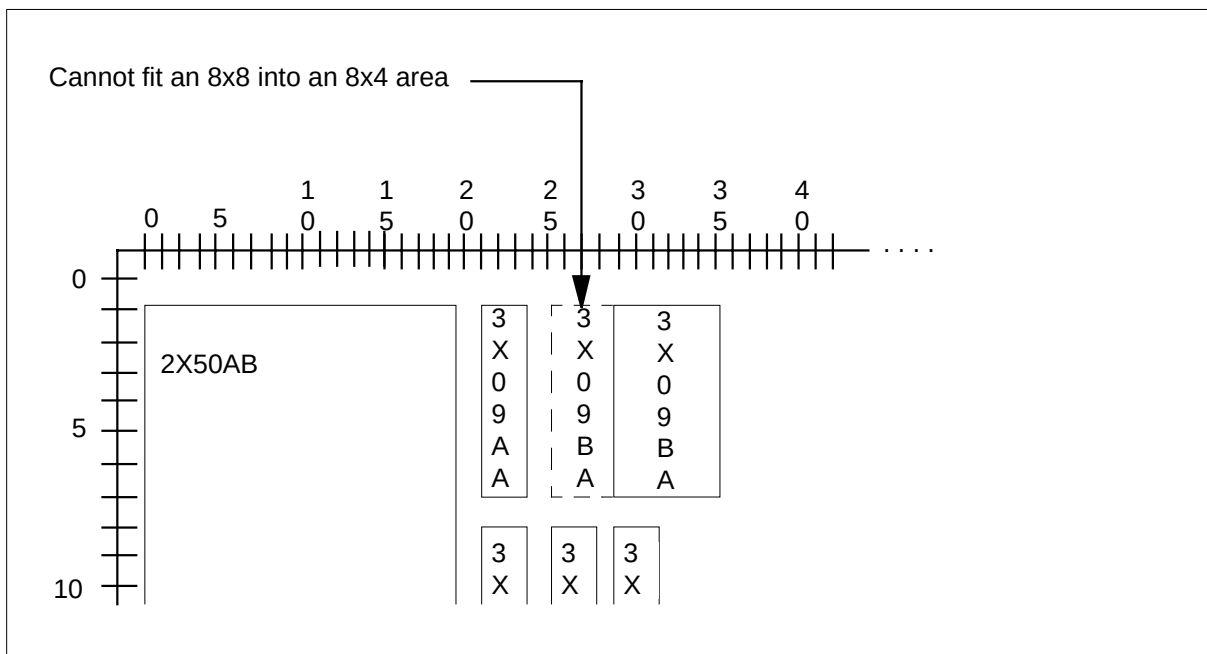
MTAMDRVE (continued)

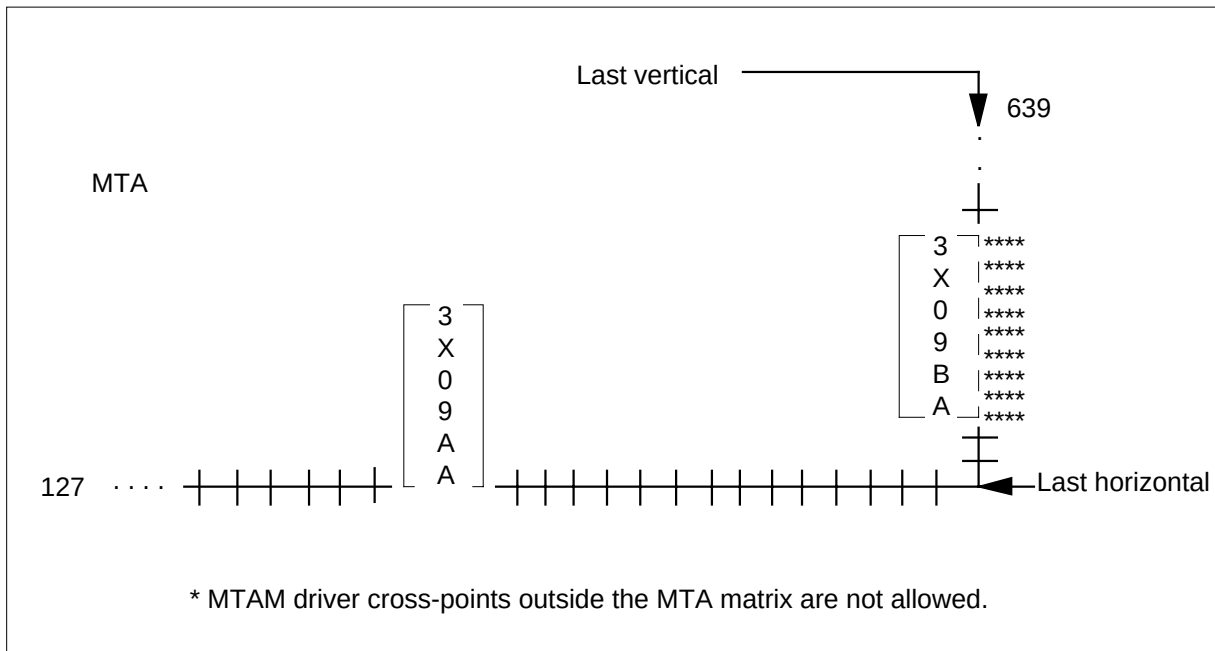
on the card itself) does not require an associated minibar switch. Each minibar switch is identified by its horizontal and vertical location in the grid.

The MTAM drivers can be located anywhere within the MTA matrix. Using MTA matrix vertical and horizontal start points, the MTAM driver is located in the matrix using its 0,0 cross-point. The number of MTA verticals or horizontals that the driver is associated with depends on its size.

The following restrictions exist when datafilling MTAM drivers in table MTAMDRVE:

- No cross-point of an MTAM driver can overlap an MTA matrix cross-point that is already in use, as shown in the following figure.
- No cross-point of an MTAM driver can exist outside of the MTA matrix, as shown in the second figure.
- The MTAM driver member numbers must be within a specific range. The range depends on the entry in field TRKGRSIZ, of fixed CLLI name MTADRIVER, in table CLLI. See the "Table size" section.

MTA MTAM overlapping not allowed

MTAMDRVE (continued)**MTAM driver outside MTA matrix****Datafill sequence and implications**

The following tables must be datafilled before table MTAMDRVE:

- TMINV
- RMMINV
- RSM

Table size

0 to 512 tuples

Table MTAMDRVE is extended by changing the value in field TRKGRSIZ specified in table CLLI for the pseudo-CLLI code MTADRIVER. A restart is not required for this extension.

MTAMDRVE (continued)

Datafill

The following table lists datafill for table MTAMDRVE.

Field descriptions (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
MTAMEM		see subfield	<i>Metallic test access minibar driver member</i> This field consists of subfield MTAMEM. This is the key to the table.
	MTAMEM	0 to 511	<i>Metallic test access minibar driver member</i> Enter the metallic test access minibar (MTAM) driver member number.
VERT		0 to 1023	<i>Mtam driver vertical start location</i> Enter the vertical start location for the MTAM driver. The MTAM driver is located using its 0,0 cross-point. See the "Datafill example" section in this description.
HORIZ		0 to 127	<i>MTAM driver horizontal start location</i> Enter the horizontal start location for the MTAM driver. The MTAM driver is located using its 0,0 cross-point. See the "Datafill example" section in this description.

MTAMDRVE (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield	Entry	Explanation and action
TMTYPE		MTM, PTM, RMM, RSM	<i>Trunk module type</i> Enter the type of trunk module on which the minibar driver is mounted: • If the minibar switch is located at the host and mounted on a maintenance trunk module, enter MTM. • If the minibar switch is located at a cabinetized Meridian SL-100 and mounted on a packaged trunk module, enter PTM. • If the minibar switch is located at an RLCM location and mounted on a remote maintenance module, enter RMM. (Only used if the MTA driver is 3X09AA or BA.) • If the minibar switch is located at an RLM location and mounted on a remote service module, enter RSM. Any entry outside the range indicated for this field is invalid.
TMNO		0 to 2047	<i>Trunk module number</i> Enter the number assigned to the MTM, PTM, RMM, or RSM on which the minibar driver is mounted.
TMCKTNO		0 to 28(even numbers only)	<i>Trunk module circuit number</i> Enter the trunk module circuit number on the MTM, PTM, RMM, or RSM to which the minibar driver is assigned. Only even numbers within the specified range can be entered. Any entry outside the range indicated for this field is invalid.
MTACARD		2X50AB 3X09AA 3X09BA	<i>Metallic test access minibar driver card</i> Enter the card code of the MTAM driver card. Any entry outside the range indicated for this field is invalid.

MTAMDRVE (end)

Datafill example

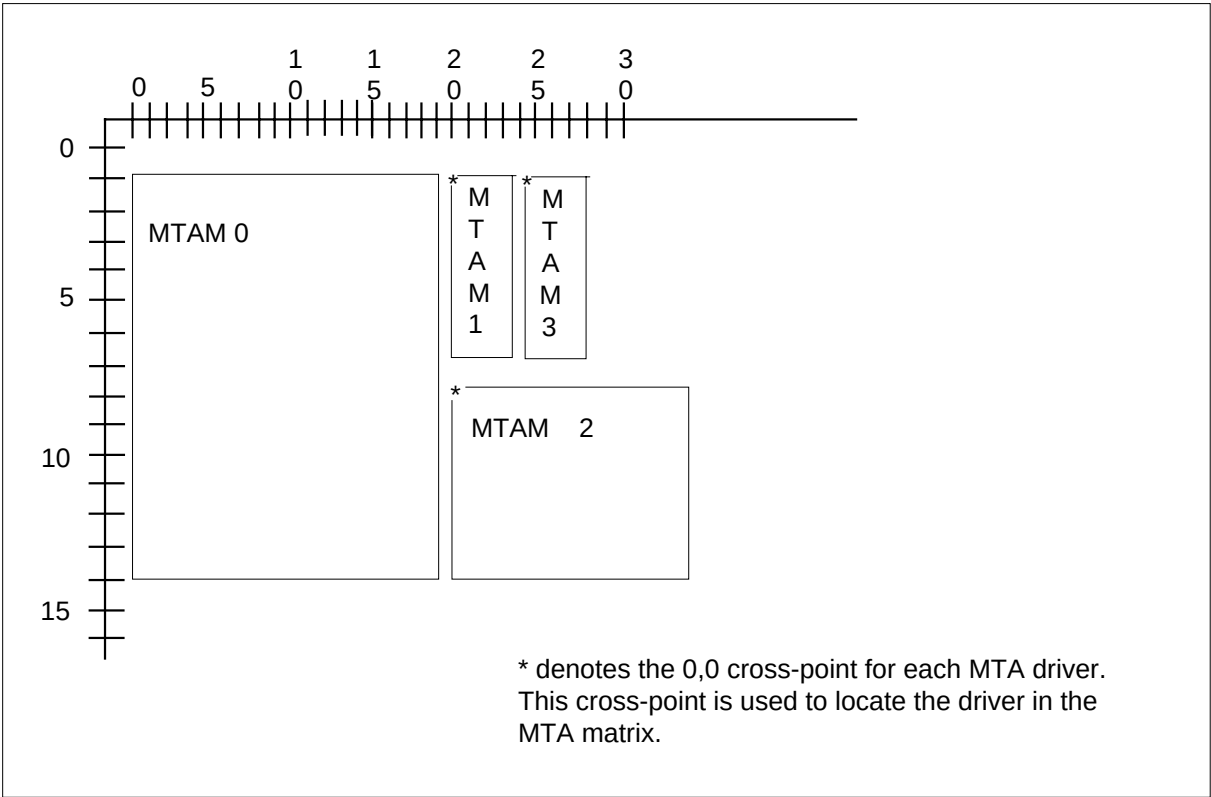
An example of datafill for table MTAMDRVE follows.

The example lists the physical locations of the four minibar drivers, as shown in the following figure. The example shows the positioning of the MTAM driver on the vertical and horizontal locations.

MAP display example for table MTAMDRVE

MTAMEM	VERT	HORIZ	TMTYPE	TMNO	TMCKTNO	MTACARD
0	0	0	MTM	4	9	2X50AA
1	20	0	MTM	2	18	3X09AA
2	20	8	MTM	1	16	3X09BA
3	24	0	MTM	10	22	3X09AA

Physical locations of four minibar drivers



MTAVERT

Table name

Metallic Test Access Vertical Connection Table

Functional description

Table MTAVERT identifies the vertical connectivity to the metallic test access (MTA) matrix. Two types of vertical connections are allowed, as described below.

Single

A single connection is defined using selectors L, E, T, and O. Selector L requires the assignment of two vertical connections for the line concentrating devices (LCD). One is for the first 320 lines; the other is for the remaining lines. The datafill automatically takes the two vertical connections; one vertical connection is taken as the primary and the other is taken as its mate. Any attempt to datafill on a vertical that is a mate is denied. Mate verticals cannot be displayed in table control.

Selectors E, T, and O require the assignment of a single vertical connection for use. Selector E defines an extended vertical; the MTA minibar drivers (MTAM) on this vertical must all be located at the host (field SITE). Selector T specifies that the vertical is connected to a trunk module (TM) peripheral module (PM). Selector O is for LCDs that require only one vertical for test access.

Note: Selector T is reserved for a special market segment (Austria) and is not available for general usage.

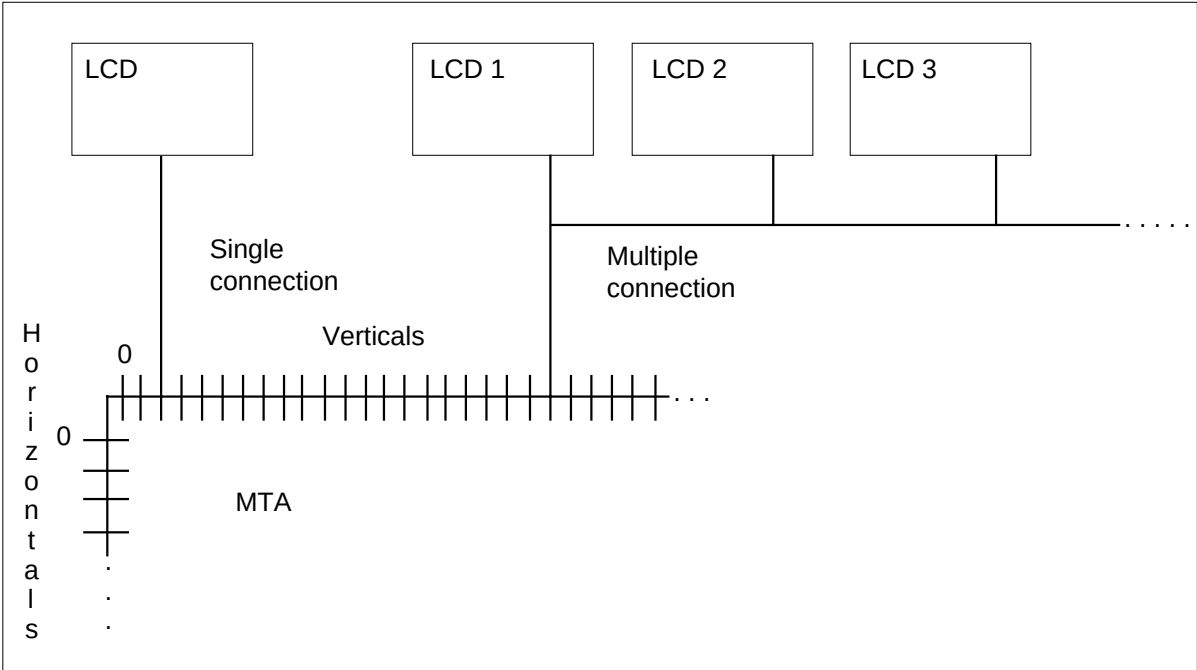
Multiple

The vertical connection is connected to a remote LCD that does not reside on a subscriber carrier module (SCM) and can have multiple or shared appearances of LCDs. Only selector O can be used, and a maximum of 32 LCDs for each vertical are allowed.

The following figure illustrates single and multiple vertical connections.

MTAVERT (continued)

Single and multiple vertical connections



For related information, refer to table MTAMDRVE.

Datafill sequence and implications

Table MTAMDRVE must be datafilled before table MTAVERT.

Table size

0 to 1024 tuples

Store for table MTAVERT is dynamically allocated.

MTAVERT (continued)**Datafill**

The following table lists datafill for table MTAVERT.

Field descriptions (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
VERT		0 to 1023	<i>Vertical</i> Enter the metallic test access (MTA) vertical connection number. If subfield SELECTOR has value L, and the entry in field MTACARD has value 2X50AB (in table MTAMDRVE), the entry in field VERT must be an even number. Each line module (LM) requires two vertical connections that must be adjacent. The second connection is made internally to vertical VERT + 1. The odd numbered vertical can only be used internally.
VERTCONN		see subfield	<i>Vertical connection</i> This field consists of subfield VERTSEL.

MTAVERT (continued)**Field descriptions (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	VERTSEL	M or S	<i>Vertical connection type selector</i> Enter one of the two types of vertical connections. For multiple LCD connections to the vertical connection, enter M and datafill refinement VERTAREA. This entry can be used only if the vertical is connected to a remote LCD that does not reside on a subscriber carrier module (SCM), namely remote carrier DMS-1 rural (RCT), remote concentrator SLC-96 (RCS), remote carrier DMS-1 urban (RCU), and remote digital terminal (RDT). Multiple connections are allowed and a vector of up to 32 selectors plus their refinements can be input. If less than 32 selectors are required, end the list with a \$ (dollar sign). If subfield VERTSEL is set to M, subfield SELECTOR can only have a value of O. For a single line concentrating device (LCD) connection to the vertical connection, enter S and datafill refinement VERTITEM. Only a single connection is allowed and only one selector and its refinements can be input for any tuple. Any selector and its refinements can be used in this case.
	VERTITEM	see subfield	<i>Vertical item</i> If the entry in subfield VERSEL is S, datafill this refinement. This field consists of subfield SELECTOR.

MTAVERT (continued)**Field descriptions (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	VERTAREA	see subfield	<i>Vertical area</i> If the entry in field VERTSEL is M, datafill this refinement. This field consists of subfield SELECTOR.
	SELECTOR	E, L, O, or T	<i>Selector</i> Enter one of the four selector types. If the vertical connection is used for an extended connection, enter E and datafill refinements EHORIZ and EHORIZGRP in section "SELECTOR = E". If the vertical connection is used for a line module, enter L and datafill refinement LINEMOD in section "SELECTOR = L". Selector L requires that two verticals be used. The datafill automatically takes the two verticals, one as the primary and other as its mate. If the vertical connection is used for an RCT or RCS, enter O and datafill refinement LINEMOD in section "SELECTOR = L". If the vertical connection is used for an RTD, enter either L or O and datafill refinement LINEMOD in section "SELECTOR = L". Up to two vertical assignments can be made for one or more RTDs. If the vertical connection is connected to a trunk module (TM) peripheral module (PM), enter T and datafill refinements TMTYPES and TMNO (for licensee use only) in section "SELECTOR = T".

MTAVERT (continued)

SELECTOR = E

If the entry in subfield SELECTOR is E, datafill refinements EHORIZ and EHORIZGRP as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	EHORIZ	0 to 127	<i>Extended metallic test access horizontal connection</i> Enter the horizontal connection on the MTA to which the vertical connection is connected.
	EHORIZGRP	0 to 159	<i>Extended metallic test access horizontal group</i> Enter the horizontal group on the MTA to which the vertical connection is connected.

SELECTOR = L or O

If the entry in subfield SELECTOR is L or O, datafill refinement LINEMOD as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	LINEMOD	see subfields	<i>Line module</i> This field is identical to field LEN that is datafilled in other tables. Field LINEMOD (and field LEN) defines the physical location of the equipment that is connected to a specific telephone line. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields. Field LINEMOD (and field LEN) consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT. If the entry in field SELECTOR is O, the field LINEMOD subfields must be set for RCS, RCT, or RDT only.

MTAVERT (continued)**SELECTOR = T**

If the entry in subfield SELECTOR is T (for licensee use only), datafill refinements TMTYPES and TMNO as described below.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	TMTYPES	alphanumeric (1 to 3 characters)	<i>Trunk module types</i> Enter the TM type. This field is for licensee use only.
	TMNO	0 to 511	Trunk module number Enter the number of the TM. This field is for licensee use only.

Datafill example

The following example shows sample datafill for table MTAVERT.

The example is datafilled for the following attributes:

- vertical 0 with single LCD connection to LCM 00, unit 0
- vertical 4 with single LCD connection to remote MTAM 10 (extended connection)
- vertical 5 with single LCD connection to RCS 00
- vertical 10 with multiple connection to three REMs
- vertical 17 with multiple connection to two RDTs

MAP display example for table MTAVERT

VERT	VERTCONN
0	S L HOST 00 0
4	S E 10 0
5	S O RCS 00 0
10	M (0 REM1 00 0) (0 REM1 00 1) (0 REM1 01 0)
\$	
17	M (0 RDT1 00 0) (0 RDT1 01 0)
\$	

MTAVERT (end)

Supplementary information

This section provides information on error messages that can be displayed when datafilling table MTAVERT.

Error messages

Only LCD types RCS, RCT, RCU, and RDT can share a vertical connection. If an attempt is made to datafill any other type on a shared vertical connection, the datafill is rejected and the following message displayed at the MAP (maintenance and administration position) terminal:

DEVICE(S) SPECIFIED NOT OF TYPE ALLOWED TO SHARE VERTICAL

All devices sharing a vertical connection must be of the same type; the devices must either be all RCUs, all RCTs, all RCSs, or all RDTs. If an attempt is made to datafill a shared vertical with multiple types, the datafill is rejected and the following message displayed at the MAP terminal:

DEVICES SHARING VERTICAL MUST BE OF THE SAME TYPE

The SLT mode of RCTs must be SLTA in order for them to be assigned to a vertical. If an attempt is made to assign an RCT to a vertical connection and that RCT's SLT mode is not SLTA, the datafill is rejected and the following message displayed at the MAP terminal:

RCT MUST HAVE SLTMODE OF SLTA TO USE VERTICAL

MTD**Table name**

Magnetic Tape Device Table

Overview

The input/output device (IOD) tables appears in the following table. These tables identify the hardware position assignments for many of the possible IOD devices in the DMS-100 switch.

IOD table assignments

Table name	Table title
MTD	MTDMagnetic Tape Device Table
TERMDEV	TERMDEVTerminal Device Table
DDU	Disk Drive Unit Table
DPACDEV	DATAPAC Device Table
DLCDEV	Data Link Controller Device Table

Input/output controller fixed assignments

The input/output controller (IOC) fixed assignments appear in the following tables.

Configuration 1

The arrangement for switching units equipped with magnetic tape drives (MTD) appear in the following table. These switching units do not have disk drive units (DDU).

Configuration (Sheet 1 of 2)

Card slot and base CKT number on shelf PEC								
NT1X61AA		NT1X61AB		NT2X76BA		Fixed assigned devices on module		
SLT	CKT	SLT	CKT	SLT	CKT	IOC:00	IOC:01	Note
12	16	04	00	21	00	MTD:00	MTD:01	1, 2
04	00	06	04	19	04	MTD:02	MTD:03	1, 3
14	20	08	08	17	08	MAP:00	PORT.VDU	1, 4

MTD (continued)**Configuration (Sheet 2 of 2)**

Card slot and base CKT number on shelf PEC							
06	04	10	12	15	12	Other devices	1, 6
16	24	12	16	--	--	Other devices	1, 6
08	08	14	20	--	--	Other devices	1, 6
18	28	16	24	--	--	Other devices	1, 6
10	12	18	28	--	--	Other devices	1, 6
20	32	20	32	--	--	Other devices	1, 6

Configuration 2

The arrangement for switching units with one MTD and a minimum of one DDU appears in the following table.

Configuration

Card slot and base CKT number on shelf PEC								
NT1X61AA		NT1X61AB		NT2X76BA		Fixed assigned devices on module		
SLT	CKT	SLT	CKT	SLT	CKT	IOC:00	IOC:01	Note
12	16	04	00	21	00	DDU:00	DDU:01	1, 7
04	00	06	04	19	04	DDU:02	MTD:00	1, 8
14	20	08	08	17	08	MAP:00	PORT.VDU	1, 4
14	23	08	11	17	11	ETAS	ETAS	1, 5
06	04	10	12	15	12	Other devices		1, 11
16	24	12	16	--	--	Other devices		1, 11
08	08	14	20	--	--	Other devices		1, 11
18	28	16	24	--	--	Other devices		1, 11
10	12	18	28	--	--	Other devices		1, 11
20	32	20	32	--	--	Other devices		1, 11

MTD (continued)**Configuration 3**

The arrangement for switching units with a minimum of two MTDs and a minimum of two DDUs appears in the following tables.

Configuration

Card slot and base CKT number on shelf PEC								
NT1X61AA		NT1X61AB		NT2X76BA		Fixed assigned devices on module		
SLT	CKT	SLT	CKT	SLT	CKT	IOC:00	IOC:01	Note
12	16	04	00	21	00	DDU:00	DDU:01	1, 7
04	00	06	04	19	04	MTD:01	MTD:03	1, 10
14	20	08	08	17	08	MAP:00	PORT.VDU	1, 4
14	23	08	11	17	11	ETAS	ETAS	1, 5
06	04	10	12	15	12	Other devices		1, 12
16	24	12	16	--	--	Other devices		1, 12
08	08	14	20	--	--	Other devices		1, 12
18	28	16	24	--	--	Other devices		1, 12
10	12	18	28	--	--	Other devices		1, 12
20	32	20	32	--	--	Other devices		1, 12

Configuration 4

The arrangement for switching units with a minimum of one MTD and one DDU appears in the following table.

Configuration (Sheet 1 of 2)

Card slot and base CKT number on shelf PEC								
NT1X61AA		NT1X61AB		NT2X76BA		Fixed assigned devices on module		
SLT	CKT	SLT	CKT	SLT	CKT	IOC:00	IOC:01	Note
12	16	04	00	21	00	DDU:00	MTD:02	1, 10
04	00	06	04	19	04	MTD:01	MTD:00	1, 10

MTD (continued)**Configuration (Sheet 2 of 2)**

Card slot and base CKT number on shelf PEC								
NT1X61AA		NT1X61AB		NT2X76BA		Fixed assigned devices on module		
SLT	CKT	SLT	CKT	SLT	CKT	IOC:00	IOC:01	Note
14	20	08	08	17	08	MAP:00	PORT.VDU	1, 4
14	23	08	11	17	11	ETAS	ETAS	1, 5
06	04	10	12	15	12	Other devices		1, 13
16	24	12	16	--	--	Other devices		1, 13
08	08	14	20	--	--	Other devices		1, 13
18	28	16	24	--	--	Other devices		1, 13
10	12	18	28	--	--	Other devices		1, 13
20	32	20	32	--	--	Other devices		1, 13

Notes:

The configuration tables reference the following notes:

1. The old type IOC has product engineering code (PEC) 1X61AA. The new type IOC has PEC 1X61AB. The combined IOC/CMC has PEC 2X76BA.
 - SLT = slot number on the IOC
 - CKT = circuit number in tables TERMDEV and MTD
 - CMC = central message controller
 - NT1X61AA restrictions: Fixed assignments impose these restrictions. The assignment of cards to slots on the shelf occur in the same order as in configurations 1, 2, 3, or 4. The assignment of a maximum of three cards to the following group of slots: 04, 06, 08, and 10 occurs. The assignment of a maximum of four cards to the group of slots: 12, 14, 16, 18, and 20 occurs. This assignment must satisfy power loading requirements of NT1X61AA. In NT1X61AA,

MTD (continued)

a converter feeds slots 12, 14, 16, 18, and 20 and another converter feeds slots 04, 06, 08, and 10.

- The assignment of fixed-assignment devices to the lowest numbered circuit that associates with the slot occurs. The assignment of circuits that the system does not use for other functions occurs.
2. The MTD:00 and MTD:01 are available for each DMS. The assignment of MTD:00 and MTD:01 appears in the tables in this document.
 3. If the MTD:02 and MTD:03 is available for assignment, the assignment appears in the second table in this document. If MTD:02 and MTD:03 are not available, the assignment of the other devices to these locations occurs. The user can reserve the slots for future MTD additions.
 4. The MAP:00 is the office primary general maintenance position. The MAP:00 is the same as TTP:00. This device is always available. The PORT.VDU is the portable visual display unit (VDU) available for maintenance use in the main equipment aisles. This device is always available.
 5. Emergency Technical Assistance Service (ETAS) assignments for the VDU and printer are IOC:00 VDU and IOC:01 printer. The assignment of ETAS devices appear in configuration tables. Name the Dial-up facilities that ETAS and field service engineering (FSE) use DIAL1, DIAL2 and follow in sequence.
 6. Assign additional MTDs or terminals as necessary.
 7. The DMS requires a minimum of one DDU. The assignment of DDU:00 and DDU:01 appears in the configuration tables.
 8. If the DDU:02 is available for assignment, the assignment appears in the third table in this document. If the DDU:02 is not available for assignment, the assignment of other devices to this location occurs. The user can reserve the slot for a future DDU addition.
 - The DMS requires a minimum of one MTD. The assignment of MTD:00 occurs as indicated.
 9. The DMS requires a minimum of one DDU. The assignment of DDU:00 occurs as indicated.
 - If MTD:02 is available for assignment, the assignment of MTD:02 occurs as indicated. If the MTD:02 is not available for assignment, the assignment of other devices to this location occurs. The user can reserve the slot for a future MTD addition.
 10. The DMS requires a minimum of one MTD. The assignment of MTD:00 and MTD:01 occurs as indicated.

MTD (continued)

11. The assignment of additional DDUs, distributed processing peripherals (DPP), billing medial converters (BMC), or terminals occurs as necessary.
12. The assignment of additional MTDs, DDUs, DPPs, BMCs, or terminals occurs as necessary.
13. The assignment of additional MTDs, DPPs, BMCs, or terminals occurs as necessary.

Functional description

Table MTD lists the assignments for each of the MTDs. The maximum number of assignments is 16.

The system can only boot an image from MTDs with IOC assignments that appear in the following table.

IOC assignments

Card slot and base CKT number of shelf PEC						
NT1X61AA						
IOC number	Slot	CKT	Slot	CKT	Slot	CKT
0	12	16	04	00	21	00
0	04	00	06	04	19	04
1	12	16	04	00	21	00
1	04	00	06	04	19	04

See the following table for magnetic tape drives 0 to 3 with fixed assignments on the IOC.

Datafill sequence and meaning

Enter data into table IOC before you enter data into table MTD.

Enter data into the following tables after enter data into table MTD.

- DIRPPool
- FTRANDEV

Table size

The system automatically allocates memory for 16 magnetic tape drives.

MTD (end)**Datafill**

Datafill for table MTD appears in the following table.

Field descriptions

Field	Subfield or refinement	Entry	Explanation and action
MTDNO		0 to 15	<i>Magnetic tape drive number.</i> Enter the number assigned to the MTD.
IOCNO		0 to 19	<i>Input/output controller number.</i> Enter the input/output controller number to which the system assigns the MTD. See the second table in this document.
IOCKTNO		0 to 35	<i>Input/output controller circuit number.</i> Enter the input/output controller circuit number (slot) to which the system assigns the MTD. See the second table in this document.
EQPEC		alphanumeric (6 characters)	<i>Product engineering code.</i> Enter the PEC of the MTC circuit card. Use PECs 1X68AA, 1X68AB, and 1X68BB with Hewlett-Packard tape drives. Use PECs 1X68AC and 1X68BC with Cook Electric tape drives.
IOENDIAN		BIG or LITTLE	<i>Input/output ENDIAN.</i> Select the ENDIAN format for the Input Output Module (IOM) DAT. The only format for a nine track tape drive is BIG.

Datafill example

Sample datafill for table MTD appears in the following example.

MAP example for table MTD

MTDNO	IOCNO	IOCKTNO	EQPEC
0	0	0	1X68AA
1	1	0	1X68AA

MTSIGSYS

Table name

Hardware Metering for Trunks Signaling System Table

Functional description

Table MTSIGSYS provides a customer interface that specifies meter pulse signaling on the DMS-100 family of switches. To generate hardware meter pulses over digital trunks, define the physical characteristics of a meter pulse. Use table MTSIGSYS to specify these attributes.

Signaling on digital trunks

Waveform patterns on four-channel supervision bits perform signaling on digital trunk. Another name for the supervision bits is the A-, B-, C-, and D-bits. Each bit can take the value of 0 or 1. To send signals, manipulate the value of these bits according to a standard protocol. Use the A- and B-bits for call control signaling. Use the C-bit for meter pulse signaling.

To generate meter pulse, specify the following attributes:

- the bits used to transmit the meter pulse
- the idle state of these signaling bits when the system does not transmit pulses
- the width of the meter pulse
- the interpulse gap
- the delay time after answer before transmission of pulses begins
- the actions to take on clear-back signals, clear-forward signals, and reanswer signals
- the type of calls on which to generate meter pulses

Enter the information for physical trunk pulses in table MTSIGSYS. Table TRKSGRP contains an index in table MTSIGSYS (field MTICSSI). The index maps the signaling attributes to specified trunk subgroup types.

Limits

The following limits apply:

- Incoming trunks with a signaling type of SIGSYS can reference tuples in table MTSIGSYS. Field SIGDATA in table TRKSGRP has value SIGSYS. The trunks must reference tuples in table MTSIGSYS that have the value GENERATION in field FUNCTION.
- You cannot delete a tuple in table MTSIGSYS if references to the tuple are present in table TRKSGRP.

MTSIGSYS (continued)

- The generation of a clear-back signal has priority over the generation of meter pulses. If metering stops on a clear-back signal while the system generates a meter pulse, the pulse truncates, and the clear-back signal applies.
- Reception of a clear-forward signal has priority over meter pulses. Metering can stop on a clear-forward signal while the system generates a meter pulse. In this occurrence, the pulse truncates and the clear-forward actions start.
- The system does not support reception of pulses from an outgoing trunk.
- Table MTSIGSYS can contain a maximum of 64 tuples to limit the memory requirements of the international digital trunk controller (IDTC). A change to this limit requires a formal request from the operating company or Northern Telecom.
- You cannot distinguish some signals. You cannot distinguish operator ringback, from a meter pulse if the system transmits signals on the same bit. The administration must enter hardware trunk metering to prevent signaling errors that this incompatibility causes.
- C1 trunks support the DEMAND value in field CALLSET of table MTSIGSYS. Other line signaling systems treat the DEMAND value in the same way as the ALLCALLS value.

The following limits are present:

- The real time consumed in the IDTC for generating hardware meter pulses is equal to the frequency of the pulses.
- An IDTC warm switch of activity (SWACT) can corrupt a physical pulse. The pulse width or inter-pulse gap can be zero to two times the length that you enter. Other signals that the system carries on the same bit as the meter pulses must have a minimum recognition length. The minimum recognition length must be twice the meter pulse length.

Datafill sequence and meaning

Enter data in table TRKSGRP after you enter data in table MTSIGSYS.

Table size

0 to 64 tuples

MTSIGSYS (continued)**Datafill**

Datafill for table MTSIGSYS appears in the following table.

Field descriptions

Field	Subfield or refinement	Entry	Description
MTSIGSYS		see subfield	<i>Metering for trunks signaling system key.</i> This field contains subfield MTSIGIDX. This field is the key field to table MTSIGSYS.
	MTSIGIDX	alphanumeric (1 to 16 characters)	<i>Metering for digital trunks signaling system index.</i> Enter a user-defined character string that identifies each tuple.
MTVAR		see subfield	<i>Metering for digital trunks signaling system variable area.</i> This field contains subfield FUNCTION.
	FUNCTION	GENERATION or RECEPTION	<i>Signaling function.</i> Enter the signaling function that indicates the correct application. If the entry is GENERATION, enter data in refinements SUPVBITS, CALLSET, CLGCLB, CLGRAN, CLDCLF, CLDRAN, PLSWIDTH, IPLSGAP, and ANSDELAY. Start on this page.. If the entry is RECEPTION, enter data in refinements SUPVBITS, BIT, IDLSTATE, CALLSET, CLGCLB, CLGRAN, CLDCLF, CLDRAN, MINPLSWD, MAXPLSWD, MINIPGAP, GUARDTIM, ANSREQD. Start with refinement LOGZERO in Section "FUNCTION = RECEPTION".. The entry NIL is not correct for datafill. The use of NIL allows you to create a nil tuple for table initialization. If you enter NIL, the system outputs the following message: THE NIL FUNCTION ALREADY EXISTS AND CANNOT BE USED The default value is GENERATION.

MTSIGSYS (continued)

FUNCTION = GENERATION

If the entry in subfield FUNCTION is GENERATION, enter data in refinements PLSWIDTH, IPLSGAP, and ANSDELAY as the following table describes.

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 1 of 9)**

Field	Subfield or refinement	Entry	Description
	SUPVBITS	see subfields	<i>Supervisory bits and idle states.</i> This subfield is a vector of a maximum of four multiples of subfields BIT and IDLSTATE. If less than four multiples are required, end the list with a \$ (dollar sign). Separate each subfield with a single space. This datafill indicates which bits that the system uses to generate meter pulses. This field indicates the states of these bits when the system does not generate pulses.
	CALLSET	ALLCALLS or DEMAND	<i>Call type setting.</i> Enter the type of calls for which the system generates meter pulses: Enter ALLCALLS if additional screening conditions are not a requirement. Enter ALLCALLS if the system generates meter pulses for all calls. Enter DEMAND if demand calls, as the signaling system defines, generate physical pulses. In some signaling systems this value does not have a meaning. The default value is ALLCALLS.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 2 of 9)**

Field	Subfield or refinement	Entry	Description
	CLGCLB	NOCHANGE STOPHARD or STOPMTR	<i>Calling party control send clear back.</i> Enter the action to take when the calling party has control of the call and the system sends a clear-back signal. For example, the terminating party is on hook. Note that under called party control, a clear-back signal ends metering. Enter NOCHANGE to indicate that metering continues without changes. Enter STOPHARD to indicate that hardware metering stops. Software metering pulse count incrementing continues but physical pulse generation stops. Note that clear-back signals have priority over meter pulse. If the system generates a partial meter pulse, the clear-back signal overrides the pulse. The partial meter pulse indicates that the pulse is not complete.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 3 of 9)**

Field	Subfield or refinement	Entry	Description
			Enter STOPMTR to indicate that metering stops. Metering includes software pulse count incrementing and hardware physical pulse generation metering. Clear-back signals have priority over meter pulse if the system partially generates a meter pulse (not complete). The clear-back signal overrides the pulse. The default value is NOCHANGE.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 4 of 9)**

Field	Subfield or refinement	Entry	Description
	CLGRAN	NOCHANGE or RESUME	<i>Calling party control send reanswer.</i> Enter the action to take when the calling party has control of the call. Enter the action to take when the system sends a reanswer signal after the clear-back signal. For example, the terminating party is back off hook. Enter NOCHANGE to indicate that metering continues without changes. Enter RESUME to indicate that metering resumes after the system generates a clear-back signal. If hardware and software metering stop, the two processes start again. If hardware metering stops, hardware metering starts again. The default value is NOCHANGE.
	CLDCLF	NOCHANGE STOPHARD or STOPMTR	<i>Called party control receive clear forward.</i> Enter the action to take when the called party has control of the call and the system receives a clear-forward signal. For example, the originating party is on hook. Under calling party control, a clear-forward signal stops metering.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 5 of 9)**

Field	Subfield or refinement	Entry	Description
			Enter NOCHANGE to indicate that metering continues without changes. Enter STOPHARD to indicate that hardware metering stops. Software metering pulse count incrementing continues but physical pulse generation stops. If you send a meter pulse when the system receives a clear-forward signal, the meter pulse does not complete. Enter STOPMTR to indicate that metering stops. The metering that stops include both software pulse count incrementing and hardware physical pulse generation metering. If you send a meter pulse when the system receives a clear-forward signal, the meter pulse does not complete. The default value is NOCHANGE.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 6 of 9)**

Field	Subfield or refinement	Entry	Description
	CLDRAN	NOCHANGE or RESUME	<i>Called party control return to answered state.</i> This field indicates the action to take when the called party has control of the call. This field indicates the action you must take when the call returns to an answered state after the clear-forward signal. For example, the originating party is back off hook. Enter NOCHANGE to indicate that metering continues without changes. Enter RESUME to indicate that metering resumes. The metering resumes when the system cannot continue to detect clear-forward signal. If hardware and software metering stop, the two start again. If hardware metering stops, hardware metering starts again. The default value is NOCHANGE.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 7 of 9)**

Field	Subfield or refinement	Entry	Description
	PLSWIDTH	0 to 1000	<i>Pulse width.</i> Enter the length of time, in 10-ms increments, that the signaling bits are not idle. This time indicates that the system generates a meter pulse. International extended multiprocessor system (XMS)-based peripheral module (XPM) restrictions require that this value be in multiples of 50 ms and non-zero. Additional restrictions require that this value, added with the value in field IPLSGAP, must total a multiple of 100 ms. The default value is 1 000.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 8 of 9)**

Field	Subfield or refinement	Entry	Description
	IPLSGAP	0 to 1000	<i>Idle pulse gap.</i> Enter the length of time, in 10-ms increments, that the signaling bits are not idle. This time indicates that the system generates a meter pulse. International XPM restrictions require that this value be in multiples of 50 ms and non-zero. Additional restrictions require that this value, added with the value in field PLSWIDTH, must total to a multiple of 100 ms. The default value is 1 000.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			
Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 9 of 9)**

Field	Subfield or refinement	Entry	Description
	ANSDELAY	0 to 1000	<i>Answer delay.</i> Enter the length of time, in 10-ms increments, for the metering delay after answer or reanswer occurs. International XPM restrictions require that this value be in multiples of 100 ms. This field allows the answer or reanswer signal to settle at the originating exchange before meter pulses are expected. The delay of the first meter pulse can be a maximum of 300 ms. This delay occurs because the international XPM metering system uses a timer. This timer does not depend on the call process signaling timer. The default value is 1000. Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timer for metering. The timer does not change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse. The system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal. Line signaling has priority over meter pulsing. The originating office continues to recognize the partial pulse. This process depends on the amount of the pulse that the system generates. This process also depends on the state the signal bit and the reception parameters of the outgoing trunk.

FUNCTION = RECEPTION

If the entry in subfield FUNCTION is RECEPTION, enter data in the following refinements as described in the following table:

- SUPVBITS
- BITS
- IDLSTATE
- CALLSET

MTSIGSYS (continued)

- CLLGCLB
- CLGRAN
- CLDCLF
- CLDRAN
- PLSWIDTH
- IPLSGAP
- ANSDELAY

MTSIGSYS (continued)

Field descriptions for conditional datafill (Sheet 1 of 8)

Field	Subfield or refinement	Entry	Description
	SUPVBITS	see subfields	<i>Supervisory bits and idle states.</i> This subfield is a vector of a maximum of four multiples of subfields BIT and IDLSTATE. If you require less than four multiples are a requirement, end the list with a \$ (dollar sign). Separate each subfield with a single space. This datafill indicates which bits are used in meter pulse generation. This datafill indicates the states of these bits when the system does not generate pulses.
	BIT	A, B, C, or D	<i>Supervision bit.</i> Enter a trunk signaling bit that the system uses for the transmission of meter pulses. Note: At the present time, the system supports one bit. The system denies more than one bit. The default value is C.
	DLSTATE	0 or 1	<i>Idle state of the bit.</i> Enter the state of the bit when the system does not generate pulses 0 (zero) or 1. The default value is 1.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 2 of 8)**

Field	Subfield or refinement	Entry	Description
	CALLSET	ALLCALLS or DEMAND	<i>Call type setting.</i> Enter the type of calls for which the system generates meter pulses: Enter ALLCALLS if additional screening requirements are not necessary and the system generates meter pulses for all calls. Enter DEMAND if the system only generates physical for demand calls. The signaling system defines which calls are demand calls. In some signaling systems, this value does not have a meaning. The default value is ALLCALLS.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 3 of 8)**

Field	Subfield or refinement	Entry	Description
	CLGCLB	NOCHANGE STOPHARD or STOPMTR	<i>Calling party control send clear back.</i> Enter the action to take when the calling party has control of the call and the system must send a clear-back signal. For example, the terminating party is on hook. With called party control, a clear-back signal stops metering. Enter NOCHANGE to indicate that metering continues without changes. Enter STOPHARD to indicate that hardware metering stops. Software metering pulse count incrementing continues but physical pulse generation stops. Clear-back signals have priority over meter pulses. If the system generates a partial meter pulse (not complete), the clear-back signal overrides the pulse. Enter STOPMTR to indicate that metering stops. This process includes software pulse count incrementing and hardware physical pulse generation metering. Clear-back signals have priority over meter pulse. If the system generates a partial meter pulse generated (not complete), the clear-back signal overrides the pulse. The default value is NOCHANGE.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 4 of 8)**

Field	Subfield or refinement	Entry	Description
	CLGRAN	NOCHANGE or RESUME	<i>Calling party control send reanswer.</i> Enter the action to take when the calling party has control of the call and the system must send the reanswer signal after the clear-back signal. For example, the terminating party is back off hook. Enter NOCHANGE to indicate that metering continues without changes. Enter RESUME to indicate that metering resumes after the system generates clear-back signal. If hardware and software metering stop, the two processes resume. If only hardware metering stops, hardware metering resumes. The default value is NOCHANGE.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 5 of 8)**

Field	Subfield or refinement	Entry	Description
	CLDCLF	NOCHANGE STOPHARD or STOPMTR	<i>Called party control receive clear forward.</i> Enter the action to take when the called party has control of the call and the system receives a clear-forward signal. For example, the originating party is on hook. Note that under calling party control, a clear-forward signal automatically stops metering. Enter NOCHANGE to indicate that metering continues without changes. Enter STOPHARD to indicate that hardware metering stops. Software metering pulse count incrementing continues but physical pulse generation stops. If the system sends a meter pulse when the system receives a clear-forward signal, the meter pulse does not complete. Enter STOPMTR to indicate that metering stops. This process includes both software (pulse count incrementing) and hardware (physical pulse generation) metering. If the system sends a meter pulse when the system receives a clear-forward signal, the meter pulse does not complete. The default value is NOCHANGE.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 6 of 8)**

Field	Subfield or refinement	Entry	Description
	CLDRAN	NOCHANGE or RESUME	<i>Called party control return to answered state.</i> This field indicates the action to take when the called party has control of the call and the call returns to an answered state after the clear-forward signal. For example, the originating party is back off hook. Enter NOCHANGE to indicate that metering continues without changes. Enter RESUME to indicate that metering resumes after the system cannot continue to clear-forward signal. If hardware and software metering stop, the two processes resume. If only hardware metering stops, hardware metering resumes. The default value is NOCHANGE.
	MINPLSWD (BCS33-)	10 to 1000	<i>Minimum pulse duration.</i> Enter the minimum duration, in 10-ms increments. Enter the duration of a signal change to the non-idle state of a metering bit. Enter the duration of a change that occurs before the system recognizes the bit as a potential meter pulse. The default value is 1000.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 7 of 8)**

Field	Subfield or refinement	Entry	Description
	MAXPLSWD (BCS33-)	10 to 1000	<i>Maximum pulse duration.</i> Enter the maximum duration, in 10-ms increments. Enter the duration of a signal change to the non-idle state of a metering bit. Enter the duration of a change that occurs before the system recognizes the bit as a potential meter pulse. The default value is 1000.
	GUARDTIM (BCS33-)	10 to 1000	<i>Guard timer.</i> If the entry in field CLDCLF is STOPMTR, enter data in this refinement. Enter the duration, in 10-ms increments. Enter the duration that scanning suppresses the metering bit after the outgoing trunk sends a clear forward signal. The system can confuse the superfluous incoming meter pulses with other signals. This process minimizes the confusion of the system that can occur after the originator goes on hook, like operator ringback. The default value is 1000.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

MTSIGSYS (continued)**Field descriptions for conditional datafill (Sheet 8 of 8)**

Field	Subfield or refinement	Entry	Description
	ANSREQD (BCS33-)	Y or N	<i>Answer required.</i> Enter Y (yes) to indicate that an answer signal is a requirement before a scan for meter pulses begins. N (no) is not a correct entry.
	LOGZERO (BCS33-)	Y or N	<i>Log zero.</i> Enter Y to indicate that central control (CC) must generate a log. The CC must generate a log if a call has data entries to receive meter pulses but did not receive pulses. If this condition does not occur, enter N. The default value is N.
Note 1: If the system suspends hardware metering, the timing of pulses resumes the pattern used before the clear-back signal. The system does not stop pulsing on pulses that can register. Recovery of these pulses cannot occur. The call tariff determines the internal timing for metering. The internal metering cannot change. Note 2: If the system suspends hardware and software metering, the timing resumes at the point where the system stops the metering. Metering continues as though an interruption did not occur. Pulses are not lost but a delay in pulses occurs. Note 3: If the system cannot account for partial pulses, metering resumes when the system generates the next pulse after the reanswer signal. Note 4: The system immediately applies the answer delay timing. The system applies the delay timing after the change from the clear-back state. The system applies the delay timing before metering resumes. This process allows the system to settle the reanswer signal.			

Datafill example

Sample datafill for table MTSIGSYS appears in the following example.

MTSIGSYS (continued)

MAP example for table MTSIGSYS

MTSIGSYS											
C1MTRSIG											
GENERATION	(C 1)	\$	DEMAND	STOPHARD	RESUME	STOPMTR	NOCHANGE	15	15	20	

Additional information

This section provides an example of how timing fields in table MTSIGSYS apply to a trunk.

Example of timing fields

The way in which timing fields in table MTSIGSYS apply to a C1 NTLS20 signaling trunk appear Figure 1. Assume that the system suspends the calling party control and hardware pulsing during the clear-back signal.

MTSIGSYS (end)**Timing fields on a C1 NTL20 signaling trunk**

MUMRMBI

Table name

Multiunit Message Rate Message Billing Index Table

Functional description

Table MUMRMBI holds all information relating to message billing indexes (MBI).

For related information, refer to table MRSANAME.

Datafill sequence and implications

Table MUMRTAB must be datafilled before table MUMRMBI.

Table size

0 to 63 tuples

Datafill

The following table lists datafill for table MUMRMBI.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
MUMRKEY		0 to 255	<i>Multiunit message rate key</i> Enter the key indexed from table MUMRTAB, field MUMRMBI.
DETAILED		Y or N	<i>Detailed entries on AMA tape</i> Enter Y to record the called number on the automatic message accounting (AMA) tape. Otherwise, enter N.
TIMED		Y or N	<i>Timed calls</i> Enter Y to record timing call data on the AMA tape. Otherwise, enter N.

MUMRMBI (end)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
RECRDMBI		Y or N	<i>Record message billing index</i> Enter Y to record the message billing index (MBI) on the AMA tape. Otherwise, enter N.
MBI		0 to 999	<i>Message billing index</i> Enter the MBI, 1 to 999, to record it on the AMA tape. Enter 0 (zero) to record a NO BILLING entry. Note: After 63 tuples, this field defaults to 0 (zero).

Datafill example

The following example shows sample datafill for table MUMRMBI.

MAP display example for table MUMRMBI

MUMRKEY	DETAILED	TIMED	RECRDMBI	MBI
20	N	N	Y	1

Table history**BCS36**

Added note to field MBI.

MUMRTAB

Table name

Multiunit Message Rate Screening

Functional description

Table MUMRTAB is used to determine the index into table MUMRMBI (Multiunit Message Rate Message Billing Index). A unique index is specified for each combination of Multiunit Message Rate (MUMR) area name and dialed digits for the destination office code or numbering plan area (NPA) plus the office code.

The key to table MUMRTAB has the following three subfields:

- MUMRNAME is the MUMR area name assigned to the particular originator in table LINEATTR, field MRSA (message rate serving area) or in table TRKGRP, field GRPINF0.MRSA for trunk group type P2.
- MUMRCDTP is the assigned context of the dialed digits that is specified in each tuple so that two tuples can exist with the same MRSANAME and dialed digits but with different MUMRMBI indices. The refinements of this key subfield are described as follows:
 - ANY indicates that any dialed number beginning the table MUMRTAB digits will match. When two tuples appear in table MUMRTAB with the same dialed digits and MRSANAME, the 'ANY' tuple will be selected by call processing prior to tuples with either of the other code types.
 - NPA indicates that the digits dialed must consist of at least 10 digits after any prefix digit(s) in order for the tuple to match.
 - OFC indicates that the dialed digits must consist of less than 10 digits (that is, must be a 7-digit number) in order for the tuple to match.
- DGLIDX is the digits dialed, starting with the office code of the destination or with the NPA plus the office code of the destination.

For related information, refer to table MRSANAME.

Datafill sequence and implications

The following tables must be datafilled before table MUMRTAB:

- MRSANAME
- MUMRMBI

Table size

0 to 4095 tuples

MUMRTAB (continued)**Datafill**

The following table lists datafill for table MUMRTAB.

Field descriptions (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		(see subfields)	<i>Key</i> This field consists of subfields MUMRNAME, MUMRCDTP, and DGLIDX.
	MUMRNAME	alphanumeric (up to 8 characters)	<i>Multiunit message rate area name</i> Enter the name of a Multiunit Message Rate (MUMR) area. This name must appear in table MRSANAME, field MRSA. The total number of MUMR area names must not exceed 127.
	MUMRCDTP	ANY, NPA, or OFC	<i>Multiunit message rate codetype</i> To assign a MUMRMBI index for an NPA-NXX digit string which begins with the same three digits as an office code in the same MRSA, perform the following steps: 1. Create a new tuple with the `NPA' code type and specify the NPA-NXX digit string as the dialed digits.</li> <li>2. Next, create a tuple with the `OFC' code type and specify the NXX (which consists of the same digits as the NPA above) as the dialed digits. 3. Finally, if an `ANY' tuple is present with the same digits as the NPA, then delete it. Note: Datafill example of this sequence follows.

MUMRTAB (continued)**Field descriptions (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	DGLIDX	numeric(up to 18 digits)	<i>Dialed digits</i> Enter the leading digits of the destination numbers that are within the MUMR area defined in subfield MUMRNAME. If the destination office code is within the originator's serving NPA, then the leading digits are the office code digits NXX (N is a digit from 2 to 9; X is a digit from 0 to 9). Otherwise, the leading digits are NPA plus NXX of the destination office code. Note: If the call encounters AIN, and metered rate billing is applicable to the call, then the full NPA-NXX digit string must be datafilled in subfield DGLIDX.
MUMRMBI		0 to 255	<i>Multiunit message rate message billing index</i> Enter the index into table MUMRMBI.

Datafill example

The following example of datafill for table MUMRTAB shows the sequence involved in assigning a MUMRMBI index for an NPA-NXX digit string that begins with the same three digits as an office code in the same MRSA.

Initial: MAP display example for table MUMRTAB

TABLE: MUMRTAB				MUMRMBI
KEY				

MRSA2	ANY	562	1	
MRSA2	ANY	563	5	

Step 1: MAP display example for table MUMRTAB

TABLE: MUMRTAB				MUMRMBI
KEY				

MRSA2	ANY	562	1	
MRSA2	NPA	562223	2	
MRSA2	ANY	563	5	

MUMRTAB (end)**Step 2: MAP display example for table MUMRTAB**

TABLE: MUMRTAB			
KEY		MUMRMBI	

MRSA2	ANY	562	1
MRSA2	NPA	562223	2
MRSA2	OFC	562	1
MRSA2	ANY	563	5

Step 3: MAP display example for table MUMRTAB

TABLE: MUMRTAB			
KEY		MUMRMBI	

MRSA2	NPA	562223	2
MRSA2	OFC	562	1
MRSA2	ANY	563	5

Table history**NA008**

Added subfield MUMRCDTP to the table key and added the subfield refinements ANY, NPA, and OFC.

MWDATA

Table name

Milliwatt Data Table

Functional description

Table MWDATA provides different milliwatt (mW) values for the office. Table MWDATA can have a maximum of ten different milliwatt values set for the office. Milliwatt values are the level in decibels (dB) and frequency in hertz (Hz). The office uses table MWDATA when the office requires a milliwatt reference value. Table CLLIMITCE provides a milliwatt index number that indexes table MWDATA.

The trunk group determines the milliwatt level required. You can use standard table control aspects to change table MWDATA. Add, change, and delete the milliwatt values in positions 1 to 9, field IDXKEY, as required. You can change the value in position 0. You cannot delete the value in position 0. Position 0 must contain the standard milliwatt value for the office.

For a specified cp_id of a circuit, an update of the milliwatt level and frequency fields occurs. The system indicates if the information is correct. If the information is not correct, the system uses the standard milliwatt value assigned for the office. Position 0 in table MWDATA always has the standard value assigned.

Note: Position 0 of field IDXKEY in table MWDATA must always contain datafill.

Datafill sequence and meaning

You do not need to enter data in other tables before you enter data in table MWDATA.

Table size

1 to 10 tuples

Datafill

Field names, subfield names, and correct data ranges for table MWDATA appear in the following table.

MWDATA (continued)**Field descriptions**

Field	Subfield or refinement	Entry	Explanation and action
IDXKEY		0 to 9	<i>Milliwatt index key.</i> Enter the milliwatt (mW) index. This field is the key to the table. The index 0 must contain data. You cannot delete index 0. You can change the values in field MWDATA. You can add, change or delete all other indexes.
MWDATA		see subfields	<i>Milliwatt data.</i> This field contains subfields LEVEL and FREQ.
LEVEL		1000 to 1000	<i>Decibel level.</i> Enter the decibel level in 0.1-dB steps. An entry of 10 equals a decibel gain of 1 dB. An entry of -10 equals a loss of 1 dB. Note: You can only change values against index 0.
FREQ		0 to 16 000	<i>Milliwatt frequency.</i> Enter the milliwatt frequency in Hertz. Any entry outside the range indicated for this field is not correct. Note: You can only change values against index 0.

Datafill example

Datafill for table MWDATA appears in the following example.

The example contains the assignment of index 0. The index 0 contains a standard North American level of 0 dB and a frequency of 1004 Hz.

MWDATA (end)

MAP example for table MWDATA

IDXKEY	MWDATA
0	0 1004

DMS-100 Family

North American DMS-100

Customer Data Schema Reference Manual

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Data Schema LNADMIN-MWDATA

Product Documentation-Dept. 3423
Nortel Networks
PO Box 13010
RTP, NC 27708-3010
Telephone: 1-877-662-5669
Electronic mail: cits@nortelnetworks.com

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