

EDD — LD 43 Equipment Data Dump

In this chapter

How the EDD works	456
When the data dump fails.	456
Low memory warning	457
EDD commands	458
EDD messages	461

How the EDD works

The LD 43 Equipment Data dump (EDD) is used to keep data on the system storage device up-to-date. When data dump is invoked, data in the read/write memory (including any that has been changed or added) is written to the storage device at the location reserved for it.

The overlay can be invoked daily as part of the daily routine or loaded manually. An incremental data dump occurs during the daily routines if database changes have been made. Problems with the data dump operation are indicated by EDD messages.

The same commands apply to Options 51C/61C/81 and all other machines. Because Options 61C and 81 utilize two CMDUs and disk redundancy, the LD 43 commands apply to both sides of the system. Refer to the specific commands for the differences between Options 51C/61C/81 and other systems.

Following a successful EDD on Options 51C/61C/81, the Hardware Infrastructure message, **HWIxxx**, is output.

When the data dump fails

In the event of an unsuccessful initial data dump, the programmable data on the tape or disk is suspect. Another data dump should be attempted on the same tape or disk. If the data dump is successful, a transient error is indicated and normal procedures can be resumed. If this second attempt also fails, *do not* attempt another data dump until the fault is isolated and corrected.

If the storage medium is not proved faulty and the storage device appears serviceable, data dumping to an OLD tape or disk may help to pinpoint the problem.

Except during the troubleshooting phase, any storage medium which has failed to data dump successfully must not be left in the storage device. Should a SYSLOAD occur with such a storage medium, the load may terminate abnormally with unpredictable results.

Low memory warning

Unprotected data-store equal in size to the length of the records being written (for example, 512 words) must be available to the data dump overlay.

A low memory warning message **SCH603** is issued when spare unprotected data store falls below a given threshold. Once this warning message has been issued, it is not possible to perform a data dump, as the Meridian SL-1 requires spare unprotected data-store equivalent to the size of a record on the storage medium (for example, 512K words).

Users should ensure that these amounts of spare unprotected data-store are available before attempting to perform a data dump.

EDD commands		
Command	Description	Release
Copy		
BKO	<p>Copy data from the primary to the backup device.</p> <p>Copy data base from the primary device (hard disk) to the back-up device (floppy disk). Applicable to systems with hard disk storage only.</p> <p>For the Options 51C/61C/81, this command creates backups to floppy disks for the active CMDU.</p>	basic-19
Begin data dump		
EDD	<p>Begin data dump.</p> <p>For the Options 51C/61C/81, this command creates backups to floppy disks for both CMDUs when redundancy is in effect and both CMDUs have floppy disks inserted.</p>	basic-19
Clear data dump		
EDD CLR	<p>Clear data dump inhibit flag.</p> <p>This flag is set because SYSLOAD or the conversion programs detect incomplete or inconsistent equipment data. Exercise caution since the use of this option may result in incorrect data being written to tape.</p>	basic-19
Save		
EDD CN	<p>Save CND names (use prior to data dump).</p> <p>Saves the names associated with DNs for Caller's Name Display.</p> <p>Note: Use EDD CN prior to data dump.</p>	basic-1
EDD HM	<p>Save AWU, RMS and MR data with the data dump.</p> <p>Saves Automatic Wake Up (AWU), Room Status (RMS) and Message Registration (MR) data.</p> <p>Note: This should be performed prior to a sysload or software conversion.</p>	basic-1

EDD commands (continued)		
Command	Description	Release
Inhibit		
EDD IWC	<p>Inhibits write check.</p> <p>Caution: For Emergency Use Only. Inhibits write check. This command is useful when the standard commands for data dump fail and end-of-file cannot be found. It writes an end-of-file on tape and allows other commands to be invoked.</p>	basic-1
EDD NBK	<p>Inhibit database backup.</p> <p>Indicates that a database backup should not be performed after a data dump. Applicable to hard disk storage with floppy disk backup.</p>	basic-1
EDD NS	<p>Inhibit tape far end spool.</p> <p>Tape will not spool to the far end and will not perform write test. Default option is SP.</p> <p>Overlay cannot be aborted until writing has either been completed or has failed.</p> <p>This command applies to systems equipped with tape units.</p>	basic-1
Write		
EDD NX	<p>Write tape data records.</p> <p>Writes tape data records consistent in size with predefined system values. Default option is NX.</p>	basic-1
Data dump without XPEC/XNET audit		
EDD SA	<p>This command is used to complete the data dump and bypass the software audit of Peripheral Controller and superloop data.</p>	basic-20

EDD commands (continued)		
Command	Description	Release
Spool		
EDD SP	<p>Spool tape to far end.</p> <p>Spools tape to the far end in order to even the tension on the tape. Also writes a test record after the end of existing data to check for any write problems. If errors occur during test, data should remain intact.</p> <p>This command applies to systems equipped with tape units.</p>	basic-1
Print		
DAT	Print the creation date of the main, secondary, or backup database.	op81-18
Bit dump		
PBXC6 (ALLOWED)	Bit dumped with PBX data block.	basic-1
Copy		
RES	<p>Copy entire contents of back-up to primary device.</p> <p>Copy entire contents of back-up device (floppy diskettes) to primary device (hard disk). Applicable to systems with hard disk storage.</p> <p>For Options 51C/61C/81, this command copies the contents of the floppy disks on the active CMDU to both hard disks providing redundancy is in effect. If redundancy is not in effect, this command copies the floppy disk contents to the active CMDU.</p>	basic-19
Swap		
SWP	Exchange (swap) main and secondary database files.	51C/61C /81-18

EDD messages

EDD000

Ready for commands.

ACTION: The EDD program is loaded and ready for you to input the commands.

EDD001

Storage device unequipped.

ACTION: Check to make sure your data is correct.

EDD002

Storage device busy.

ACTION: Wait until the tape unit, the floppy disk unit, or the mass storage unit is idle.

EDD003

Storage device not ready.

ACTION: Check that the tape cartridge or diskettes are correctly seated.

EDD004

Storage medium is write protected.

ACTION: Use a coin to position the arrow on the tape cartridge away from the word SAFE.

EDD005

Tape unit has sensed an early warning mark while attempting to write a test record. The tape is probably full.

ACTION: Do not attempt to dump to remaining tapes. Contact your technical support group.

EDD006

Storage device read error.

ACTION: Attempt the data dump again.

EDD007

1. Storage device write error.

ACTION: Check the memory deallocation and attempt the data dump again. Contact your technical support group.

2. Received a TEMU011 message while backing up the database.

ACTION: Use TEST CMDU n and DATA CMDU n in LD 137 to check for a faulty CMDU. Replace the faulty components following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CIOD* chapter in this guide.

EDD008

Storage device disabled.

ACTION: For MSI - Use ENL MSI x in LD 37 to enable the storage device. If the MSI does not enable and the fault does not clear, replace the MSI card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IOD* chapter in this guide.

For CMDU use DIS CMDU n and DIS IOP to disable both CMDUs and IOPs. Use ENL CMDU n and ENL IOP to re-enable the active CMDU and IOP. Try to data dump again. If you are successful, use the SYNC command to synchronize the CMDUs. If you need help with the commands or system responses refer to the *CIOD* chapter in this guide. If you are not successful, contact your technical support group.

EDD009

1. A 90 minute time-out has occurred.

ACTION: An initialization is required to clear this fault condition. After the initialization, insert the patch.

2. Receiving time and date stamps on CORE x, and this message when using the SPCU command. All BUG/ERR/AUD messages buffered in CORE x are output.

ACTION: Check for a bad IOP card in CORE x. Check for any SCI040, SCSI043 time-out messages while in CORE x. Contact your technical support group.

EDD010

Invalid command or incorrect parameter.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

EDD011

Successive records with identical record numbers track 1 (or 3).
Refer to ERR014.

ACTION: Try again. If this message reappears contact your technical support group.

EDD012

1. Records out-of-order track 1 (or 3). See ERR014.

ACTION: Try again. If this message reappears contact your technical support group.

2. Receiving this message after upgrading to Release 18.

ACTION: Verify the tape identification of the system. Use LD 97 to check for modified ISM parameters. Refer to *Keywords* in the *administration input/output guide*.

EDD013

Successive records with identical record numbers track 2 (or 4).
Refer to ERR014.

ACTION: Try again. If this message reappears contact your technical support group.

EDD014

Records out of order track 2 (or 4). Errors EDD11 to 14 have two parameters: the record number expected and the record number found. According to the pattern of errors, the storage medium may or may not be all right to load.

ACTION: Try again. If this message reappears contact your technical support group.

EDD015

Storage device has no existing data. Cannot dump.

ACTION: Check to make sure you have the proper disk in the storage device.

EDD016

Incorrect data. Dump is inhibited to prevent writing bad data to storage medium.

ACTION: Investigate and clear any SYSxxx messages which may appear concurrently with this message, then attempt to data dump onto a second or new copy of the storage medium. If the EDD016 is

printed again, enter the EDD CLR command. Reload the system from the new copy to check that the data is now valid. If this is done after a reload, the only further cause would be CED203.

On dual-memory systems, the indicated memory card should be retested and re-enabled. The data will be copied from the other memory. If this fails again or is a single memory system, use EDD CLR to dump data to a second copy of the storage medium. Reload and check any SYS or INI errors for data corruption.

EDD017

Not enough unprotected data space available for the storage device buffer. The buffer requires the defined threshold number of words of unprotected data; for instance, the size of records to be written (the space is used only while the data dump is running).

ACTION: Use LD 29 to check the memory map. Contact your technical support group.

EDD018

Error occurred during an attempt to write a test record. It may indicate storage medium or storage device problems.

ACTION: Refer to the *IOD* chapter and use the MSI diagnostics in LD 37 for more information. Use EDD SP to spool the tape and even the tension. The data on the tape should remain intact, as long as the SP option is used.

EDD019

A faulty Map. The memory allocation map to be dumped is invalid.

ACTION: Use LD 29 to correct the dump map. The CLR option overwrites the error condition, but if used, the data will likely be lost at the next SYSLOAD.

EDD020 c

EOF tape write fault; record count **c** (normally 9).

X08: Tape unit not idle.

ACTION: Attempt the data dump again using the EDD IWC command.

EDD021

Tape unit not idle.

ACTION: Use DIS TAPE in LD 37 to disable, and ENL TAPE in LD 37 to re-enable the tape interface and re-enter the command. If you need help with the commands or system responses refer to the *IOD* chapter in this guide.

EDD022

Data corrupted in tree block.

ACTION: Contact your technical support group.

EDD023

Double density loop has single density card in upper unit.

ACTION: Refer to the *administration input/output guide*. Use LD 10 or LD 11 to correct the database, and re-enter the command.

EDD024

Tape ID does not match system. An incorrect tape cartridge is being used.

ACTION: Contact your technical support group.

EDD025 a b t

The tape unit has sensed the early-warning mark but is unable to write an end-of-file mark. Two possible causes are: Record **a** does not match record **b**, or, record **b** is not a data record. For example, the record that was read was type **t** when a data record was expected.

ACTION: In either case, do not dump to the remaining tapes. Contact your technical support group.

EDD026

MSI is reading from the floppy backup instead of the hard disk primary device.

ACTION: Use MSI x in LD 37 to check for a faulty MSI. Replace the faulty MSI following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IOD* chapter in this guide.

EDD027

End-of-data (EOD) sensed on the last disk in the set.

ACTION: Information only, no action required.

EDD028

Floppy disk insertion timeout.

ACTION: You did not insert the next disk required by the system in time. Start the procedure again and watch the maintenance DTE for the prompt to insert the next disk.

EDD029

Floppy disk is write protected.

ACTION: Remove write protect by positioning the disk slider to cover the square hole.

EDD030

Floppy disk backup or restore function timeout.

ACTION: X08: Faulty map. The memory allocation map to be dumped is invalid. Use LD 29 to correct the dump map. The CLR option overwrites the error condition but the data will likely be lost at the next SYSLOAD.

EDD031

Not all the floppy disks needed to complete the function are in the drives.

ACTION: Check to make sure you have all the floppy disks that are needed.

EDD032

“Restore function done” was sensed before all floppy disks were restored.

ACTION: Try again. If this message reappears contact your technical support group.

EDD033

Command not allowed for systems not equipped with a hard disk primary device.

ACTION: Ensure that this is the command you wanted to use.

EDD034

DIP switch 4 on the MSI (QPC584) card is set to the off position, and in the CFN data block, a hard disk has been redefined, causing this message when a data dump is performed. The floppies are being dumped to, and not the hard disk. Possible faulty MSI/EMSI/MDU if the switch settings are correct and a BKO receives the same response.

ACTION: Set 4 to on and enter BKO. If this message reappears, use MSI x to test for faults. Replace the faulty components following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IOD* chapter in this guide.

EDD035

Configured loops exceed system loop limit.

ACTION: Check for the correct machine type and refer to the *administration input/output guide* for loop limitations.

EDD036

Hard disk not ready.

ACTION: Use DIS MSI in LD 37 to disable and ENL MSI in LD 37 to re-enable the tape interface and re-enter the command. If the problem persists, replace either the disk interface or the hard drive. If you need help with the commands or system responses refer to the *IOD* chapter in this guide.

EDD037

Data error on the disk media.

ACTION: Replace the hard drive or the MDU card following the steps in the *Hardware replacement* guide. Verify that a data dump to the floppies can be performed. To do a data dump to the floppies, turn off switch 4 on the MSI card.

EDD038

The EDD HM command cannot be used because a Background Terminal is not equipped.

ACTION: Ensure that this is the command you wanted to use.

EDD039

An audit indicates Peripheral Controller and the superloop data do not agree. The datadump is aborted. During a data dump, Peripheral Controller and superloop data is audited to ensure that data matches and is otherwise correct. The data dump is aborted when a data discrepancy is found.

ACTION: To bypass the software audit and complete the data dump, enter the EDD SA command. To correct the data discrepancy, redefine the Peripheral Controller or superloop data using LD 97.

EDD040 c

It does not allocate storage either for ovflw_ptr_block or ovflw_Index_block.

ACTION: Remove all the existing authcodes for customer c, and create new authcodes.

EDD041

Corrupted Group Hunt (GPHT) data.

ACTION: Refer to the *administration input/output guide*. Use LD 57 FFC to correct the Group Hunt data and LD 18 to correct the Group Hunt list(s). Perform an EDD to correct the primary storage medium.

EDD047

Insufficient UDATA for EDD GP.

ACTION: Initialize the system and retry the EDD GP command.

EDD048

No patches found on tape (for use with EDD GP option).

ACTION: Information only, no action required.

EDD049

Cannot do a GP option with a GP option.

ACTION: Information only, no action required.

EDD050

Attempt to dump card with wrong density.

ACTION: Refer to the *administration input/output guide*. Use LD 17 to correct the loop density and re-enter the command.

EDD060

Not able to allocate enough unprotected data-store (UDS) for authcode conversion. Auth data block and sorted table are not converted. The required number of words in UDS is displayed.

ACTION: Check the memory and add more if necessary.

EDD074

Conversion: number of leading digits to insert for digit manipulation table is greater than 20. The table is lost.

ACTION: Perform a system reload, or a parallel reload. Contact your technical support group for assistance.

EDD075

The digit manipulation table being converted is lost. Either 256 tables already exist or unprotected data store cannot be allocated.

ACTION: Refer to the *administration input/output guide*. Use LD 86 PRT DGT to check the table. If there are tables missing, it is due to data corruption. You need to perform a system reload, or a parallel reload. Contact your technical support group for assistance.

EDD076

The Classcode of the authcode being converted does not match any in the auth table. The authcode is discarded.

ACTION: Refer to the *administration input/output guide*. Use LD 88 PRT AUB to check the table. If there are tables missing, it is due to data corruption. You will need to perform a system reload, or a parallel reload. Contact your technical support group for assistance.

EDD080

GP option requires Supplementary Package (131).

ACTION: Have your technical support group contact Nortel Technical Assistance Service and order package 131.

EDD081

DP option requires Supplementary Package (131).

ACTION: Have your technical support group contact Nortel Technical Assistance Service and order package 131.

EDD082

Numbers expected after EDD DP.

ACTION: Enter: EDD DP xx xx, where xx is the patch number.
EDD DP only dumps data.

EDD083

Patch number does not exist; is out-of-range; or is not tagged for saving. Occurs during an EDD DP operation.

ACTION: Contact your technical support group.

EDD100

Corruption in FFC tree.

ACTION: Contact your technical support group.

EDD101

This message is unique to Option 11. Your dynamic memory request has failed; there is not enough Unprotected data space available to buffer the Patch data. The Patch buffer requires 383 words; the Patches have not been saved.

ACTION: Increase your Unprotected memory size through Service Change and perform data dump.

EDD102

There was a database conversion between the Source database and the Target Release issue. No backward data dump is allowed.

ACTION: Information only. Contact your technical support group if you need assistance.

EDD103

Corruption has occurred in the FFC RPA tree.

ACTION: Contact your technical support group.

EDD104

Corruption has occurred in the DN-PSA tree.

ACTION: Contact your technical support group.

EDD105

Corruption has occurred in the System Parameter Blk.

ACTION: Contact your technical support group.

EDD106

The data of a set being moved by Automatic Set Relocation is not dumped because its originating TN is already occupied.

ACTION: Refer to the *administration input/output guide*. Use LD 21 SRDT to locate the set data not dumped. Use LD 10 or 11 to correct TN location.

EDD107

Flash ROM interface not idle. Option 11

ACTION: Perform a manual initialization and re-enter the command.

EDD108

Backup of data exceeded the time limit.

ACTION: Re-enter the command.

EDD109

Backup of data failed.

ACTION: Re-enter the command. If this message appears, contact your technical support group.

EDD110

Invalid flash ROM selection. Option 11

ACTION: Check for the correct hardware.

EDD111

Time limit exceeded for erasure of flash ROM. Option 11

ACTION: Re-enter the command.

EDD112

Security check failed. Invalid cartridge.

ACTION: Check the tape identification of the system. Check that the ISM parameters were modified in LD 97.

EDD113

Checksum of flash ROM failed. Option 11

ACTION: Contact your technical support group.

EDD114

Cannot find DSL data.

ACTION: Contact your technical support group.

EDD115

Cannot find USID map.

ACTION: Contact your technical support group.

EDD116

Cannot find protected Multipurpose ISDN Signaling Processor (MISP) loop block.

ACTION: Contact your technical support group.

EDD117

TN of Agent key on ACD supervisor does not link to an ACD agent.

ACTION: Correct the database and re-attempt the command.

EDD118

This message is unique to Option 11. The EDD DR1 command cannot be executed if a service change has been performed.

ACTION: Remove all the models and the ACD queues from the system, and re-enter the command. Contact your technical support group.

EDD119

Corruption is detected in the data structure for TTY x.

Data for TTY x is not dumped.

ACTION: Contact your technical support group.


EDD127

Insufficient protected data space to buffer an MWNS dump table. The MWNS data dump has not been completed.

ACTION: Contact your technical support group. 

EHM — Automatic Patch Retention

The EHM messages are related to the Automatic Patch Retention Tool. This tool is to be used only by qualified personnel.

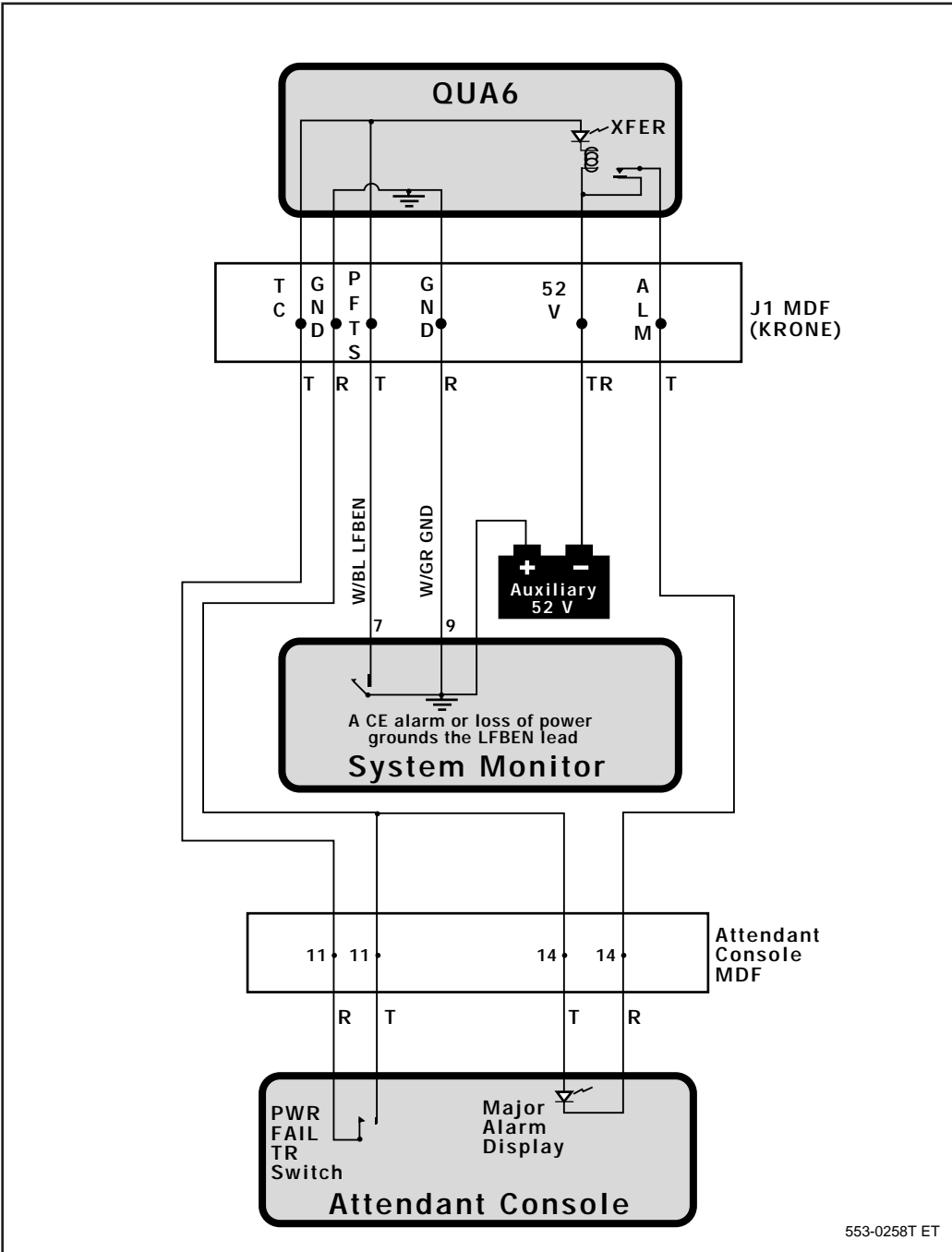
EHM messages are normally beyond the capabilities of anyone except Northern Telecom, licensee software engineers, and code writers. Therefore EHM messages will only appear in the fault clearing guide binder used by technical support groups. 

Emergency Transfer (PFTU)

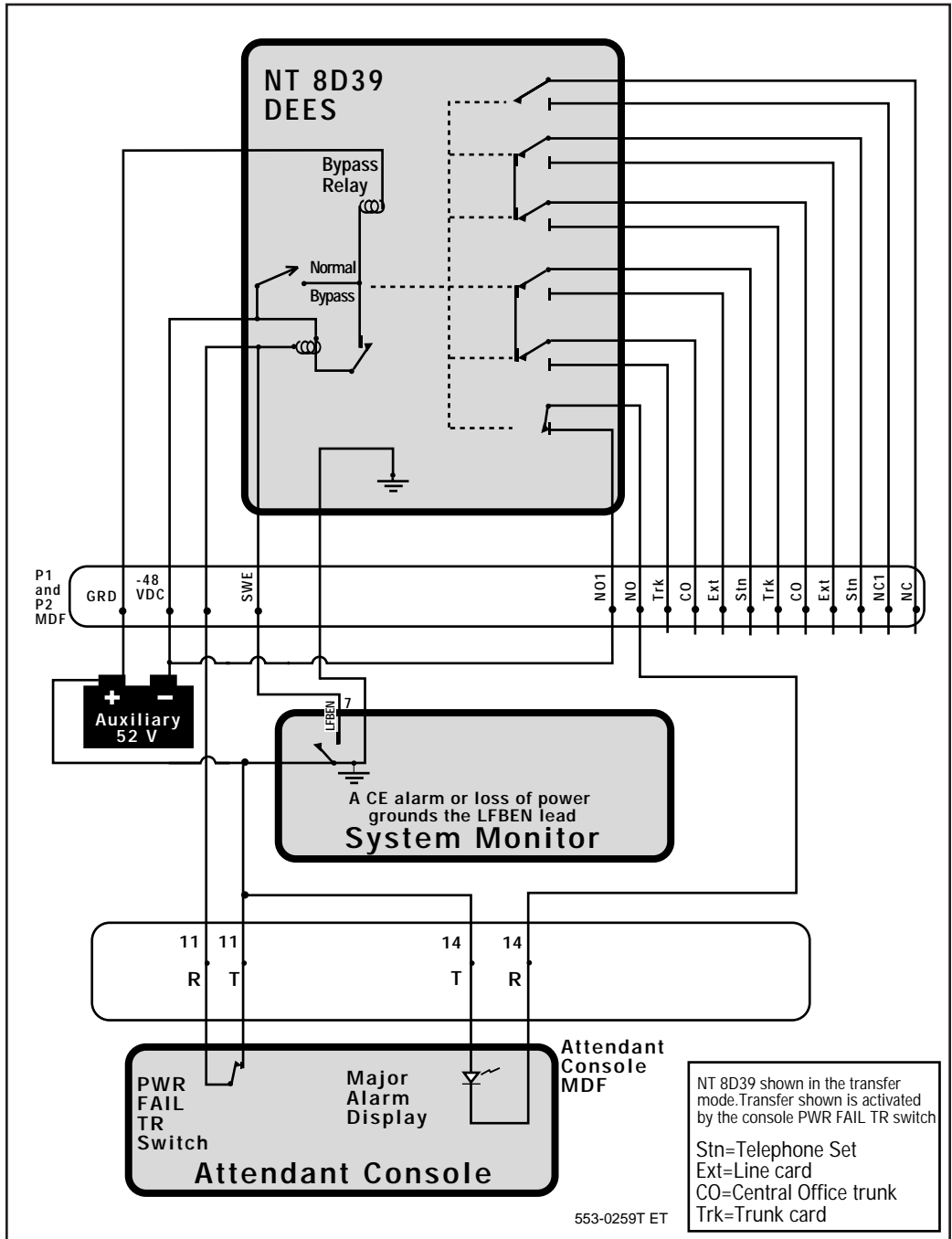
The following diagrams will assist you in finding faults with emergency transfer units.

The diagrams show the connections to the control circuits for the QUA6 and NT8D39 units. The trunk and line connections for these units are found in the Installation NTP.

Option 21 to 81C using a QUA6 unit



Option 21 to 81C using an NT8D39 unit



EMR — Emergency Key (ACD)

How the EMR works

In the event of an emergency situation, an ACD agent can press the Emergency (EMR) key to establish a No Hold Conference with a supervisor, and begin recording the call. When the key is pressed an EMR message appears on the TTY noting pertinent information.

EMR messages


EMR100

This message is output to the TTY when an ACD Emergency key is pressed. The message appears in one or more of the following formats:

```
EMR100 RC L S C U RR MMM
EMR100 AG XXXX YYYY
EMR100 OR L S C U RR MM
```

Where:

RC= Recording trunk for the emergency recorder
L= Loop for the recording trunk
S= Shelf for the recording trunk
C= Card for the recording trunk
U= Unit for the recording trunk
RR= Recording trunk Route number
MMM= Recording trunk Member number
AG= Agent that pressed the EMR key
XXXX=ACD DN assigned to that agent
YYYY=Agent Position ID (POS ID)
OR= The Originator

Prior to X11 Release 14, ACD DN and Position ID digits are shown in reverse order. The character “A” indicates a “0,” and the character “0” indicates the end of the number. For example, output “01A4” identifies the ACD DN 401, while the Position ID 5412 would be output as 2145. X11 Release 14 and later output the ACD DN and Position ID as they really exist. ACD DN 301 appears as 301 on the printout. 

ERR — Error Monitor

How the ERR works

Error Monitor is a resident program. ERR does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

When the Error Monitor detects database programming errors or incorrectly formatted information, the system outputs ERR messages. Programming errors cause most ERR messages, however, certain hardware faults can also cause ERR messages.

ERR message makeup

The ERR messages fall into two categories:

- ◆ messages reporting the effect of the programmed database on call processing
- ◆ messages reporting the condition of Peripheral Equipment and Network equipment located in the network and Peripheral Equipment shelves

Using the ERR messages to clear faults

Depending on the fault, the actions in this chapter refer to different overlay loads located outside of this chapter. To solve database programming errors, the action refers you to overlay loads in the *administration input/output guide*. To solve hardware faults, the action refers you to diagnostic overlays found in this guide.

ERR messages

ERR0001

No MWI NSI table corresponds to the NSI string received.

ACTION: Check the MWI NSI table in OVL 15.

ERR002

The NSI string received does not match the corresponding MWI NWI table.

ACTION: Compare the MWI NSI table in OVL 15 to the manufacturer's requirements.

ERR003

A Syntax error in the MWI NSI string received.

ACTION: Compare the MWI NSI table in OVL 15 to the manufacturer's requirements.

ERR010 loop

Input message from unequipped **loop**.

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. Check if the network card for the **loop** is inserted into the network shelf backplane.

ACTION: Unseat the network or superloop card from the backplane in the network shelf.

2. The data for the unequipped **loop** is incorrect.

ACTION: Refer to the *administration input/output guide* and use CFN in LD 22 or PRT in LD 97, to check the loop data. Use LD 17 or LD 97 (CFN) to correct the loop data.

3. If the **loop** identifier in the message is not present, the peripheral signaling (PS) card is suspect.

ACTION: Replace the PS card following the steps in the *Hardware replacement guide*.

ERR020 I s c

Input message received from an unequipped peripheral equipment card **I s c**. This card has no TNs programmed. The card is disabled to prevent further input.

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. If all the messages are from the same card or from the same PE shelf, suspect one of the following:

a) The PE card **I s c**, if the card is present.

ACTION: If the PE card is seated in the PE shelf backplane, unseat it.

b) The peripheral buffer on loop **I** shelf **s**.

ACTION: Replace the peripheral buffer following the steps in the *Hardware replacement* guide.

c) The network loop **s**.

ACTION: Replace the network card following the steps in the *Hardware replacement* guide.

d) The cables connecting the network and peripheral shelves.

ACTION: Replace the cables following the steps in the *Hardware replacement* guide.

e) Other PE cards on loop **I** shelf **s**.

ACTION: Replace the cards following the steps in the *Hardware replacement* guide.

f) The connectors.

ACTION: Check the PE shelf backplane connectors between the PE shelf and the crossconnect wiring.

g) The PE shelf backplane.

ACTION: Replace the PE shelf backplane following the steps in the *Hardware replacement* guide.

2. If all the messages are from various PE shelves connecting to loop **I**, suspect:

a) The network loop **I**.

ACTION: Replace the network card following the steps in the *Hardware replacement* guide.

b) The network loop **I** associated cables.

ACTION: Check the cable connectors, and if they are unseated, seat them. If the fault does not clear, replace the cables following the steps in the *Hardware replacement* guide.

c) Any peripheral buffer card on loop **I**.

ACTION: Replace each peripheral buffer following the steps in the *Hardware replacement* guide. After replacing each card, Refer to if this message reappears. If it does reappear replace another peripheral buffer card.

3. For SL-1 XN: Messages occur only when a specific System Clock Controller (SCC) is providing clock and loops in all groups are affected. Suspect:

a) SCC providing clock when messages occur.

ACTION: Replace the clock controller following the steps in the *Hardware replacement* guide.

b) Any QPC412 Intergroup Switch (IGS).

ACTION: Replace the IGS cards one at a time following the steps in the *Hardware replacement* guide. After replacing each card, Refer to if this message reappears. If it does reappear replace another IGS card.

4. Messages occur only when a specific SCC is providing clock and loops on both shelves of one group are affected. Suspect:

a) QPC412 IGS associated with the affected group when messages occur.

ACTION: Replace the IGS cards one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each card, Refer to if this message reappears. If it does reappear replace another IGS card.

b) Cable connecting the SCC and IGS cards through the Junctor.

ACTION: Replace the cables one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each cable, Refer to if this message reappears. If it does reappear replace another cable.

5. The messages are from loops on the same network shelf. Suspect:

a) Peripheral signaling card on the affected shelf.

ACTION: Replace the PS card following the steps in the *Hardware replacement* guide.

b) QPC412 IGS on affected shelf.

ACTION: Replace the IGS cards one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each card, Refer to if this message reappears. If it does reappear replace another IGS card.

c) Any network, conference or TDS card on this shelf.

ACTION: Replace the listed cards one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each card, Refer to if this message reappears. If it does reappear replace another card.

ERR027

Too large, invalid > 3 auxpm out-of-range.

ACTION: Contact your technical support group.

ERR030 x x tn rtclock

NE-500 output buffer overflow. x x represents reference numbers for the message. These numbers normally do not concern the technician.

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. The NE-500 buffer may not be large enough or is not being emptied.

ACTION: Refer to the *administration input/output guide*. Print out the CFN record using LD 22 CFN to check the 500 output buffer size. Run TFS004 using LD 2, to tell you if the buffer is overflowing or if the line card is faulty. Use LD 17 to resize the buffer. Contact your technical support group for more information.

2. If the error messages are from the same TN,

a) The telephone could be faulty.

ACTION: Replace the telephone. If this message reappears, re-install the original telephone.

b) The 500/2500 line card may be defective.

ACTION: Replace the card following the steps in the *Hardware replacement* guide. If this message reappears, reinsert the original card.

3. The message continues to appear.

ACTION: Contact your technical support group.

ERR031 x x

Output buffer overflow (as ERR030). An RPE message is lost.

x x represents reference numbers for the message. These numbers do not concern the user.

ACTION: Take the same action as for ERR030.

ERR0032

No response is received for an MCID request.

ACTION: Check if the local CO supports the treatment of such requests.

ERR0033

A mCIDRequest return error component (See Appendix C), has been returned with the indication 'notSubscribed'.

ACTION: Check if you have subscribed to the service with the operator. If not, disallow MCID as a Remote Capability on the corresponding D-Channel.'

ERR0034

An mCIDRequest return error component (see Appendix C) has been returned with the indication 'notAvailable'. This means that the network was not able to register any call information.

ACTION: Contact the network operator.

ERR040 x x tb rtclock

SL-1 telephone output buffer overflow. **x x** represents reference numbers for the message. These numbers normally do not concern the technician.

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. SL-1 telephone buffer may not be large enough or is not being emptied.

ACTION: Refer to the *administration input/output guide*. Print out the CFN record using LD 22 CFN to check the SL-1 output buffer size. Run TFS004 using LD 2. This will tell you if the buffer is overflowing or if the line card is faulty. Use LD 17 to resize the buffer. Contact your technical support group for more information.

2. If the error messages are from the same TN,

a) The telephone may be faulty.

ACTION: Replace the telephone. If this message reappears, re-install the original telephone.

b) The SL-1 or digital line card may be faulty.

ACTION: Replace the card following the steps in the *Hardware replacement* guide. If this message reappears, reinsert the original card.

3. The message continues to appear.

ACTION: Contact your technical support group.

ERR045 tn

Invalid DN stored against buzz key.

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. If the set is equipped with a buzz key, check that the DN stored against it is valid.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the buzz key TN. Use LD 11 to correct the data.

2. Otherwise, print all information for that Meridian 1 proprietary telephone.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the buzz key TN.

ERR050 x x tn

Meridian 1 proprietary telephone DN has too many appearances. **x x** represents reference numbers for the message. These numbers normally do not concern the user.

1. For each DN on the specified Meridian 1 proprietary telephone, check that the DN has at most 16 appearances.

Refer to the *administration input/output guide*. Use LD 20 or LD 22 DNB to check for DN appearances. Use LD 11 to correct the data.

2. The fault cannot be fixed.

ACTION: Contact your technical support group.

ERR060 tn

Invalid Digitone Receiver TN.

ACTION: Check that the Digitone Receiver with the given TN is defined in the data. Refer to the *administration input/output guide*. Use LD 20 TNB to check for invalid Digitone Receiver programming. Use LD 13 to correct the data.

ERR070 tn

Input from software-idled Digitone Receiver.

Where:

x = rtclock

y = start time when ttr idled

z = allowed wait time before printing msg

x, y, z in half millisecond increments.

ACTION: Use the STAT command in LD 34 to list all disabled Digitone Receivers. Replace the Digitone receiver card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS* chapter in this guide.

ERR071

Charge_son never a main_cr.

ACTION: Contact your technical support group.

ERR076

Music trunk has a bad Call Register in active Call Register (CR).

ACTION: Contact your technical support group.

ERR077

Music CR has a bad conference TN.

ACTION: Contact your technical support group.

ERR078

Music CR has a bad auxpm.

ACTION: Contact your technical support group.

ERR079

Music on hold has improper Call Register (CR).

ACTION: Contact your technical support group.

ERR080 tn key

Key input from software-unequipped add-on module.

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. Check Meridian 1 proprietary telephone data.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the Meridian 1 proprietary telephone data. Use LD 11 to correct the data.

2. Ensure that the add-on module is defined and that the last key number is less than the last key.

ACTION: Check that the last key on the printout is less than last key of the add-on module. Use LD 11 to correct the data.

ERR081

The music source has an improper Call Register (CR).

ACTION: Contact your technical support group.

ERR090 tn

Answer supervision was received before all the digits were outputted by the far-end.

ACTION: Contact your technical support group for help in checking with the local public exchange office personnel for a bad trunk.

ERR091 tn

A call through the network trunk was camped on for 40 minutes. The call is disconnected.

ACTION: No action required. Someone may have forgotten that they activated Camp-On. You may want to let the telephone users know how to tell if they have a call Camped-On.

ERR092 c r s

A radio paging system has failed. All trunks on that route have been made maintenance busy. Output: **c** = customer, **r** = route, **s** = system.

ACTION: Follow the radio page vendor maintenance recommendations.

ERR100 tn

An invalid starting arrangement is specified for the trunk.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TIE to check the trunk data. Contact your technical support group for advice. Use LD 14 to modify the start arrangement as required.

ERR110 tn

Invalid protected trunk line data.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the trunk data. Contact your technical support group for advice. Use LD 14 to correct the data.

ERR115 tn

The route block data indicated by the trunk data, cannot be located.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the trunk data, and LD 21 to check customer number and route number. Contact your technical support group for advice.

ERR120 tn

The trunk has not been released by the far-end.

ACTION: Contact your technical support group and have the trunk at the central office checked for release failure.

ERR130 tn

Invalid DN hunting data.

ACTION: Refer to the *administration input/output guide*. Use LD 20 HNT to check that the hunt DN defined for the TN is correct. Use LD 10 or 11 to correct the data.

ERR140 tn

Invalid off-hook message.

ACTION: Contact your engineering or traffic group for more information. Refer to the *administration input/output guide*. Use LD 22 CFN to check the size of the input buffer and correct it if necessary. Use LD 2 to check the traffic statistics. If necessary, replace the card following the steps in the *Hardware replacement guide*. After replacing the card verify that the fault is cleared.

ERR150 r/c

Automatically Identified Outward Dialing (AIOD) route **r** or customer number **c** is nonexistent.

ACTION: Refer to the *administration input/output guide*. Use LD 21 LTM to check the route and customer number. Use LD 16 to correct ACNO or ARNO in the trunk route data blocks. Use LD 15 to correct the customer number.

ERR160

An invalid AIOD station identification. The station ID must be 4 digits.

ACTION: Refer to the *administration input/output guide*. Use LD 21 to check the APRF and AATT in the customer data block and ATTK in the route data blocks of the incoming Tie trunks.

ERR170

An undefined AIOD output message. An AIOD station or trunk identification is missing.

ACTION: Use LD 36 and set AIOD MSG to display the data. Refer to the *administration input/output guide*. Check the ADID in LD 14 trunk data blocks and AATT in LD 15 customer data block.

ERR180 x x rtclock

A trunk output buffer overflow. The trunk output buffer may not be large enough. **x x** represents reference numbers for the message. These numbers normally do not concern the user.

ACTION: Contact your technical support group for more information. Refer to the *administration input/output guide*. Use LD 22 CFN to check the size of the 500 output buffer and, correct it if necessary. Use LD 2 to check the traffic statistics. If necessary, replace the card following the steps in the *Hardware replacement guide*. After replacing the card verify that the fault is cleared.

ERR182

The route type has been changed to ISA.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR183 dnis tn

The DINS calls cannot terminate because the IDC Translation is invalid, or the terminating station is not an ACD-DN.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB to check that DNIS and IDC are set to YES. This error message outputs when a route has both IDC and DNIS set to YES and a call is made to a vacant number. Contact your technical support group.

ERR184

A Global CREF number is needed for any service message.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR185

An invalid maintenance state in the service message.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR186

Change the status; an octet 3 error.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR187

Mini-CDR, used with the SL-1 M and MS, is not supported with DNXP or CDRE.

ACTION: Information only, no action required.

ERR190

An overload TN stack overflow.

ACTION: Contact your technical support group.

ERR200 c tn

Invalid customer **c** in unit block.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check the customer number and LD 14 to correct data for the specified TN.

ERR201

No customer ptr set.

ACTION: Contact your technical support group.

ERR203

Ulp_{ptr} not set.

ACTION: Contact your technical support group.

ERR205 c tn

Invalid customer **c** in unit block.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check the customer number and LD 14 to correct the data for the specified TN.

ERR206

Let the group data audit get rid of all pointers.

ACTION: Information only, no action required.

ERR210 r/c

The route **r** or customer **c** is invalid.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check the customer number and LD 14 to correct the data for the specified TN.

ERR215 r/c

The Recorded Announcement (RAN) route **r** or customer **c** is nonexistent.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB to check the route and CDB to check the customer number. Correct the RAN route or customer number in LD 16 route data block or LD 15 customer data block.

ERR220 r c

There is no response (control pulse) return from all the trunks on route **r** for customer **c**.

ACTION: Check the RAN equipment is operating according to the vendors instructions. Use RAN in LD 36 to check the trunk and the RAN machine. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

ERR221 r c

Procedure NWK/DIGPR. The intercept treatment is assigned as RAN. RAN route **r** for customer **c** does not exist.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB to check the route and CDB to check the customer number. Correct the RAN route or customer number in LD 16 route data block or LD 15 customer data block.

ERR225 p c

The Call Detail Recording (CDR) port **p** for customer **c** is not a CDR device.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB to check the data and LD 17 to correct the data so that the port is not a CDR device, or connect the correct CDR hardware.

ERR226 tn

A bit was set for trunk idle. Missed operation of Call Transfer.

ACTION: Contact your technical support group.

ERR230

Protected ARS pointers are incorrect. Print out and correct the ARS data.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR231

The location access code for a VNET route has not been found.

ACTION: Contact your technical support group.

ERR232

No ARS ADB data was found for network calls.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR235

An invalid ARS route number. This occurs if an ARS schedule block contains a valid route that has no members. Print out and correct the ARS data.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR240

Inserted digits for a route do not begin with the access code for that route. Print out and correct the ARS data.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR245 tn scl

A nonexistent or invalid speed call list number SCL.

ACTION: Refer to the *administration input/output guide*. Use LD 20 SCL to check the Speed Call list number. Correct the speed call list number for the TN using LD 18, or provide the list number by service change using LD 10 or 11.

ERR250 c r x

AIOD route number is not an AIOD route **x**. Route data block for outgoing central office route contains invalid AIOD route number.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB to check the AIOD route. Correct the central office route data block using LD 16.

ERR260

Incomplete calling number information. Check ANI_LDN, ANI_TRK_NO and ANI_ATTN_NO to form a complete 7-digit number.

ACTION: Contact your technical support group for help in checking with the local public exchange office personnel for an ANI problem.

ERR265 g

DND key used to determine status of nonexistent group **g**.

ACTION: Refer to the *administration input/output guide*. Use LD 26 to print out and correct the data.

ERR266 mg sg

Secondary DND group **sg** was encountered during the processing of a main group **mg** that did not exist.

ACTION: Refer to the *administration input/output guide*. Use LD 26 to print out and correct the data.

ERR267 mg sg g

A secondary group **sg** contains another group number **g**.

ACTION: Refer to the *administration input/output guide*. Use LD 26 to print out and correct the data.

ERR269 c tn

Procedure FIND_ARSQPTR failed. **tn** has suddenly disappeared during the processing of a call involving it. The **tn** may have been removed from service while someone was making or receiving a call on it.

ACTION: Refer to the *administration input/output guide*, and check to Refer to if someone was using LD 10 or 11 or 14 and removed this TN from the customer data base with the OUT command.

ERR270

Overflow of OVD_TRK_LIST. The trunk identified by the accompanying OVD003 message may not be automatically re-enabled.

ACTION: To correct the overload condition indicated by the OVD003 message, refer to the *OVD* chapter in this guide.

ERR275 x

ARS schedule block **x** not in data but is invoked by certain codes. Print out and correct ARS data.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR280 tn1 tn2

Ring Again activated by **tn1** was unable to access trunk **tn2** due to trunk access restrictions.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check that all trunks in the route have the same class-of-service. Correct the class of service using LD 14.

ERR285 tn

Voice call to invalid DN from set.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check that the voice call key VCC is not programmed to call a Mixed, Multiple Appearance or Invalid DN. Correct Voice Call using LD 14.

ERR290

Invalid incoming DP precedence digit.

ACTION: Contact your technical support group and have the trunk at the central office checked for release failure.

ERR291

Invalid incoming MF precedence digit.

ACTION: Contact your technical support group and have the trunk at the central office checked for release failure.

ERR300 tn

Customer has no Dial Intercom Group (DIG) defined or DIG package does not exist.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DIG to check for a Dial Intercom Group. If the problem cannot be resolved, notify your technical support group.

ERR301 tn

DIG group does not exist for this **tn**.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the group number on the DIG key for this TN. Use LD 10 or 11 to correct the data.

ERR302 tn

DIG key group number problem.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the group number on the DIG key for this TN. Use LD 10 or 11 to correct the data.

ERR303 tn

Originating DIG group is not the same as the terminating group for this key and DN.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the group number on the DIG key for this TN. Use LD 10 or 11 to correct the data.

ERR304 tn

Telephone does not belong to the same customer as the DIG.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the group number on the DIG key for this TN. Use LD 10 or 11 to correct the data.

ERR305

Invalid tstl linkage.

ACTION: Contact your technical support group.

ERR306

Customer translation failed.

ACTION: Contact your technical support group.

ERR307

TNS actv.cr does not point to Call Register (CR).

ACTION: Perform an AUDIT in LD 44. If this message reappears, perform a parallel reload. If you need help contact your technical support group.

ERR319

Bad LLC blocking value found.

ACTION: Contact your technical support group.

ERR367

Son Call Register is an orphan, idle it.

ACTION: Perform an AUDIT in LD 44. If this message reappears, perform a parallel reload. If you need help contact your technical support group.

ERR400

Customer data block (CDB) missing.

ACTION: Refer to the *administration input/output guide*. Use LD 21 CDB to check the CDB and LD 15 to program the CDB.

ERR401

NFCR pointers table missing.

ACTION: Contact your technical support group.

ERR402

CRCS table missing.

ACTION: Contact your technical support group.

ERR403

Tree pointers table missing.

ACTION: Contact your technical support group.

ERR404

No default tree exists.

ACTION: Check the IDC data base and re-enter the command.

ERR405

Tree was service-changed.

ACTION: Information only, no action required.

ERR406

NCOS not defined in procedure CODE_RESTRICTION.

ACTION: Check the BARS/NARS database.

ERR418

MFC TN of active MFC S/R not.

ACTION: Contact your technical support group.

ERR500 dn tn

Message Waiting lamps for the set listed have been found faulty by the system.

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, contact your technical support group.

1. One unit is faulty, suspect the lamp of the telephone indicated by the TN.

ACTION: Use LD 61 to test the lamps. If the lamps are faulty, replace the telephone.

2. User may have inadvertently unplugged telephone.

ACTION: Plug in the telephone.

3. All units on one card are faulty, suspect the line card.

ACTION: Replace the line card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

4. All units on one more shelves are faulty. Suspect the power supply.

ACTION: Refer to the PWR chapter.

ERR547 c g dn

Invalid **dn** or disallowed Tenant DN for group **g** call for customer.

ACTION: Refer to the *administration input/output guide*. Use LD 20 or 26 to check the data for group and LD 10 or 11 or 26 to correct through service change.

ERR548 c g

Group **g** for customer **c** does not exist or is invalid.

ACTION: Refer to the *administration input/output guide*. Use LD 20 or 26 to check the data for the group and LD 10 or 11 or 26 to correct through service change.

ERR600

Invalid supervisor TN in Automatic Call Distribution (ACD). Check ACD data for the TN.

ACTION: Refer to the *administration input/output guide*. Use the ACD overlays to correct the data.

ERR605

Agent-ID table is full.

ACTION: Refer to the *administration input/output guide*. Use the ACD overlays to correct the data.

ERR606

High-speed link is not defined.

ACTION: Refer to the *administration input/output guide*. Use LD 22 CFN to check the link and LD 17 to define the link.

ERR607

High-speed link Serial Data Interface (SDI) is disabled.

ACTION: Refer to the *maintenance input/output guide*. Use LD 48 to enable the SDI card.

ERR608

High-speed link status is 'down'.

ACTION: Refer to the *maintenance input/output guide*. Use LD 48 to enable the link.

ERR609

Low-speed link is not defined.

ACTION: Refer to the *administration input/output guide*. Use LD 22 CFN to check the link and LD 17 to define the link.

ERR623

Customer pointer not valid or is missing. Between the time of origination and the time the error was generated, the pointer to the customer data block was corrupted. (SET CUST PTRS fails).

ACTION: Perform a parallel reload. If you need help contact your technical support group.

ERR624

ESN data block or NTCL data block pointer invalid or missing. A NARS/BARS/CDP DN has been dialed but the ESN or NTCL block has not been set up.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR625

Pointer to NARS/BARS/CDP translation data is not valid, or missing. The pointer to the NARS/BARS/CDP translation data does not exist for the access code dialed (enter network data through service change).

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR626

NARS/BARS is not available due to feature packaging but a NARS/BARS access code is in the system and was dialed.

ACTION: Information only, no action required.

ERR627

Translation data is corrupted; invalid translation type. NARS/BARS/CDP translation data specifies a call type not recognized by call processing software (corrupted protected data).

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR628

Route List data cannot be accessed. Route list specified by NARS/BARS/CDP is not in the system (add route list data through service change.)

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR629

Trunk route data cannot be accessed. Trunk route is specified by NARS/BARS/CDP data but the route data block is not available.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR630

Location route data is invalid. When attempting to perform conversion from an On-Net to an Off-Net number, it was determined that the location route data block has invalid data.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR631

Route list entry data is at fault. Occurs when route list data has been changed between the time a route list entry has been selected and when the route has been seized (pointer to route list entry cannot be found).

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR638

Invalid NXX code.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR639

Free Calling Area Screening (FCAS) data cannot be accessed.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR700 tn

MFC signaling error threshold exceeded.

ACTION: Refer to the *maintenance input/output guide*. Use LD 54 to test MFC channels.

ERR1001

An invalid primitive was received from the DCHI card. Check the DCHI card vintage to make sure it matches the X11 software release.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR2139

DN assignment is not allowed for this key.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the DN, and LD 10 or 11 to correct the data.

ERR3000 x

APL message about I/O devices.

ACTION: Refer to the *Related System Messages* section in the *IOD* chapter of this guide.

ERR3001 x

APL link **x** is down due to transmission problems. The problem can be TTY hardware problem, transmission line problem or AUX processor problem.

ACTION: Refer to the *Related System Messages* section in the *IOD* chapter of this guide.

ERR3002 x

The number of NAK messages within last 30 minutes exceeded the system-defined limit of 10. APL link **x** may have transmission problem. This APL link has an occasional hit on the line.

ACTION: Contact your technical support group. Check the transmission facility for foreign noise introduced to this link.

ERR3003

Remove_Apl_OQ. Message CR is not in QU_APL_OP queue.

ACTION: Perform a parallel sysload, and contact your technical support.

ERR3004 x

The number of times the link has no acknowledge signal sent from the other side exceeds the system limit of 10. APL link **x** may have a transmission problem. This APL link has occasional hit on the line.

ACTION: Contact your technical support group. Check the transmission facility for foreign noise introduced to this link.

ERR3007

Special Common Carrier (SCC) data table is required and is not found.

ACTION: Contact your technical support group.

ERR3010 dn

The **dn** sent from the AUX, in Message 7 is invalid for Message Waiting Indication. The AUX DN may be invalid.

ACTION: Contact your technical support.

ERR3011 ltn

An invalid **ltn** was found. The LTN table may be wrong.

ACTION: Check the LTN database.

ERR3012

Bad APL range (0-15).

ACTION: Check the APL link in LD 17 and LD 48.

ERR3013

APL shared by another user.

ACTION: Information only, no action required.

ERR3014

APL not defined in customer data block

ACTION: Check and program the APL data in LD 15.

ERR3015

Warning: some UST user may have some problem.

ACTION: Contact your technical support group.

ERR3016

Bad telmsg timer range (2-15).

ACTION: Contact your technical support group.

ERR3017

No to mwc not allowed, IMS defined.

ACTION: Information only, no action required.

ERR3018

Change CMS from yes to no, or vice versa.

ACTION: Information only, no action required.

ERR3030

Member in DND group does not exist.

ACTION: Refer to the *administration input/output guide*. Use LD 26 to check and correct the DND data.

ERR3032

Transfer blocked due to unavailable matching timeslots.

ACTION: Information only, no action required.

ERR3033 c p

A Q-record is discarded because the target CTY port **p** for customer **c** is under maintenance testing.

ACTION: If you are not testing, contact your technical support group.

ERR3035

Test line type/index out-of-range.

ACTION: Contact your technical support group.

ERR3036 r s j ts

Continuity failure has occurred on assigning timeslots for speech paths. First attempt failed; tries to get new path. Parameters are:

r = receive loop **s** = send loop **j** = junctor used to transmit to the RRR loop ID

ts = timeslot used on transmit loop to send PCM data to the receive loop

ERR3036 and ERR3037 messages refer to one-way connections so that if both one-way connections fail, either message may print out twice.

Note: ERR3036 also occurs if a loop on the QPC414 Network card is not configured. This is not an error condition. To prevent ERR3036 occurring in this case, define the loop in LD 17.

ACTION: Refer to the *administration input/output guide*, use LD 22 CFN to check the unused loop on the network card, and LD 17 to program it if applicable.

ERR3037 r s j ts

Same as EDD3036 but failed on second attempt; path is assigned anyway.

ACTION: Refer to the *administration input/output guide*, use LD 22 CFN to check the unused loop on the network card, and LD 17 to program it if applicable.

ERR3038 dn

Invalid or non-existing intra-flow **dn**.

ACTION: Contact your technical support group.

ERR3039

Process IDs do not match in AUX_KEYS. This could be due to the AUX equipment not having a Directory Number assigned at the time of an incoming call to that equipment.

ACTION: Contact your technical support group.

ERR3040

Process IDs do not match in operator revert.

ACTION: Contact your technical support group.

ERR3041

The output buffer to the DTI hardware has overflowed.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR3042

No IETI.

ACTION: Contact your technical support group.

ERR3043

LOC NO SDI.

ACTION: Contact your technical support group.

ERR3044

Bad ITGE data.

ACTION: Contact your technical support group.

ERR3045

Incorrect key function defined for data TN.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check the key function and LD 11 to program it.

ERR3046

Data TN is not defined.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check the Data TN and LD 11 to program it.

ERR3047 c loop tn

Failure for 500/2500 telephone set Six-Party Conference c.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check the conference programming, and LD 10 CLS to check for XFA and C6A.

ERR3050

MWD not allowed if MWK key is equipped.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check the MWA and LD 11 CLS to program the MWA if applicable.

ERR3056 tn

tn was force disconnected due to a LD 10, 11 or 14 service change.

ACTION: Check to Refer to if someone was using LD 10 or 11 or 14 on this TN. Tactfully inform the person programming that STAT l s c u in LD 32 or LD 10 or LD 11 can tell them if the unit is in use.

ERR3067

The output buffer to the tone detector has overflowed.

ACTION: Contact your technical support group.

ERR3068 x

Call Park ID x returned which is now invalid, usually the result of a service change or set relocation. The invalid ID is unavailable for use as a Park ID.

ACTION: Refer to the *administration input/output guide*. Use LD 11 to correct the ID.

ERR3069

Call is to HOT set/key but not to package.

ACTION: Information only, no action required.

ERR3070

Set/key is EHOT but data is defined.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check EHOT and LD 10 or 11 to program it.

ERR3071

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. The list number for Hot key termination is invalid.

ACTION: Refer to the *administration input/output guide*. Use LD 20 HTL to check the list and LD 18 to correct it.

2. The entry number for Hot key termination is invalid.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check the key termination and LD 11 to correct it.

ERR3072

Failure to establish SLP conference.

ACTION: Contact your technical support group.

ERR3073

Failure to add tone to SLP conference.

ACTION: Contact your technical support group.

ERR4010 tn key f

Predefined secondary DN key with function **f** on a data service ACD agent set is not MNC, MCR, SNC, or SCR.

ACTION: Refer to the *administration input/output guide*. Use the ACD overlays to correct the data.

ERR4011 tn ici

Wrong **ici** key removed.

ACTION: Refer to the *administration input/output guide*. Use LD 20 ATT to check ICI key and LD 15 to correct the data.

ERR4012 in cr tn msg key

Message Reference ID (MRID) mismatch between the MRID contained in the input CSL message and the MRID stored in the Call Register. This message indicates the CSL message is delayed. When this message repeats, the most likely problem is CPU overload. Where:

in = MRID contained in the incoming CSL message (in hex).

cr = MRID stored in the Call Register associated with the TN of the incoming CSL message (in hex).

tn = The TN of the incoming CSL message, in packed format.

msg = The message type of the incoming CSL message.

key = The function of the key message. This appears when the message type is KEY message.

ACTION: Contact your technical support group.

ERR4013 n t

There have been **n** mismatches in Message Reference ID (MRID) between the active CR and AML message CR within **t** * 2 seconds.

ACTION: The CPU may be very busy. Contact your technical support group for help in checking the total number of Call Registers, provision of Meridian Mail ports, Meridian Mail use, and system I/O.

ERR4016

CSL indirect connect failed.

ACTION: Contact your technical support group.

ERR4017

CSL indirect disconnect failed.

ACTION: Contact your technical support group.

ERR4018 dn c

The ACD-DN for customer **c** is not defined for data services.

ACTION: Refer to the *administration input/output guide*. Use the ACD overlays to correct the data.

ERR4019 dn

1. Invalid **dn** was sent from VAS when requesting MWI update. Digits output following the code show the DN affected.
2. Receiving this message and cannot light the message waiting lamp.

ACTION: Refer to the *Meridian Mail guide* in the *System Administration* section to check that the customer number is correct.

ERR4020 dn c xxx

Data Service **dn** leaf block does not contain a valid ACD DN.

c = customer; **xxx** = block contents.

ACTION: Refer to the *administration input/output guide*. Use the ACD overlays to correct the data.

ERR4021

Meridian Mail MP alarm.

ACTION: Contact your technical support group.

ERR4022 mt mst vas c dn acc

An incoming CSL DATA add data service DN message has been received, but not enough protected memory exists to allocate a DSDN_LIST for the customer.

Output in hex:

mt = message type

mst = message subtype

vas = VAS ID

c = customer number

dn = data service DN

acc = access code.

ACTION: Install more memory if applicable. Use LD 35 STAT MEM to get the memory status and use MEM xx to test the memory. If the memory test fails, replace the memory card following the steps in the *Hardware replacement* guide. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

ERR4023

An incoming CSL DATA add or validate data service DN message has been received, but the data services customer option is not set. No data services DNs will be accepted. Refer to ERR4022 for output data.

ACTION: Contact your technical support group.

ERR4024

CSL Co-administration error.

ACTION: Contact your technical support group.

ERR4025

An incoming CSL DATA add or delete data service DN message has been received, but the DN could not be added or removed because not enough unprotected memory exists to allocate a WORKAREA. Refer to ERR4022 for output data.

ACTION: Check and reallocate memory or add more memory.

ERR4026

An incoming CSL DATA delete data service DN message has been received, but the DN does not exist for this customer. Refer to ERR4022 for output data.

ACTION: Install more memory if applicable. Use LD 35 STAT MEM to get the memory status and use MEM xx to test the memory. If the memory test fails, replace the memory card following the steps in the *Hardware replacement* guide. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

ERR4027

An incoming CSL DATA add data service DN message has been received, but the DN could not be added because the maximum had been reached. Refer to ERR4022 for output data.

ACTION: Install more memory if applicable. Use LD 35 STAT MEM to get the memory status and use MEM xx to test the memory. If the memory test fails, replace the memory card following the steps in the *Hardware replacement* guide. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

ERR4028

An incoming CSL DATA delete data service DN message has been received, but the DN was not removed because it was not a data DN. Refer to ERR4022 for output data.

ACTION: Install more memory if applicable. Use LD 35 STAT MEM to get the memory status and use MEM xx to test the memory. If the memory test fails, replace the memory card following the steps in the *Hardware replacement* guide. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

ERR4029

An incoming CSL DATA add or delete data service DN message has been received, but the DN was rejected because the access code was invalid (the DN does not exist). Refer to ERR4022 for output data.

ACTION: Check the database and then re-enter the commands.

ERR4030

An incoming CSL DATA add or delete data service DN message has been received, but the DN was rejected because the access code was invalid (the DN was not an ACD DN). Refer to ERR4022 for output data.

ACTION: Information only, no action required.

ERR4031

An incoming CSL DATA add or delete data service DN message has been received, but the DN was rejected because the access code was invalid (the ACD DN is not defined as a primary data service access code). Refer to ERR4022 for output data.

ACTION: Check the ACD DN in OVL 23.

ERR4032

An incoming CSL DATA add or delete data service DN message has been received, but the DN was rejected because the access code was invalid (the DN is defined for a different VAS Server). Refer to ERR4022 for output data.

ACTION: Check the database for VAS in LD 17.

ERR4033

An incoming CSL DATA add or delete data service DN message has been received, but the DN was rejected because the access code was invalid (the DN conflicts with an existing longer or shorter DN). Refer to ERR4022 for output data.

ACTION: Contact your technical support group.

ERR4034

An incoming CSL DATA add or delete data service DN message has been received, but the DN was rejected because the access code was invalid (the DN already exists). Refer to ERR4022 for output data.

ACTION: Contact your technical support group.

ERR4035

Wrong IE for Notify Message.

ACTION: Contact your technical support group.

ERR4036

Wrong extension bit for notification indicator IE.

ACTION: Contact your technical support group.

ERR4037

Wrong extension bit for original called number IE.

ACTION: Contact your technical support group.

ERR4038

Wrong IE length for original called number IE.

ACTION: Contact your technical support group.

ERR4040

NTP states no default tree exists.

ACTION: Refer to the *administration input/output guide*. Use LD 49 NFCR to check for valid data. Use LD 15 to check if NFCR is allowed. If NFCR is to be denied, NFCR should be NO.

ERR4048 c r idc

Conflict in data base for DRC key on SL-1 set. Check the specified customer, route, for IDC setting.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the DRC key, LD 15 and LD 11 to correct the data.

ERR4049

Mandatory Notification description invalid.

ACTION: Information only, no action required.

ERR4050 data

Intercept treatment DN not found. Define intercept treatment DN in the FGD data block (LD 19). The data output is:

TRK tn MFR tn ID j ddd ADR j ddd

Where,

TRK tn = TN of the FGDT trunk (l s c u, loop ch)

MFR tn = TN of the MF receiver (l s c u, or loop ch)

ID j ddd = ID field, **j** = number of digits, **ddd** = digits

ADR j ddd = Address field, **j** = number of digits, **ddd** = digits

Note: If the address was not received or was empty, it is not printed.

ACTION: Refer to the *administration input/output guide*. Use LD 19 to check and correct the intercept treatment DN.

ERR4051 data

Invalid NPA in ID field. If the error repeats with the same MFR, test the MFR card; otherwise suspect a fault on far-end outpulsing mechanism. Refer to ERR4050 for a description of output data.

ACTION: If the MFR card is faulty replace it following the *Hardware replacement* guide. If the MFR card is not faulty, contact your technical support group for assistance from the far-end.

ERR4052 data

Incorrect address; cannot determine the category. If the error repeats with the same MFR, test the MFR card; otherwise suspect a fault on far-end outpulsing mechanism. Refer to ERR4050 for a description of output data.

ACTION: If the MFR card is faulty replace it following the *Hardware replacement* guide. If the MFR card is not faulty, contact your technical support group for assistance from the far-end.

ERR4053 c h a

More than 20 Attendant console Graphic Modules being updated in one time slice.

c = customer number

h = hundreds group involved

a = attendant not updated

ACTION: Information only, no action required.

ERR4054

Access to the trunk was disconnected due to Timed Forced Disconnect (TFD) time-out.

ACTION: Information only, no action required.

ERR4055 data

This message may indicate that a caller dialed an invalid authorization code. It can also refer to MF inter-digital or inter-field time-out. Refer to ERR4050 for a description of output data.

ACTION: Refer to the *administration input/output guide*. Use LD xx to check the ID and ADR fields to Refer to if the digits are for a phone number or an authorization code. If it is an incomplete phone number, increase the DGTO or IFTO parameters in the FGD block in LD 19.

ERR4056 data

FGD or M911 trunk received TTR input before end of start-dial wink.
Output: trktn mfrtn trunkpm input_message

ACTION: Refer to the *administration input/output guide*. Use LD xx to test the FGDT trunk and MFR card.

ERR4057

CFNA cannot terminate on the Forward DN (FDN) because;

1. The FDN is an ACD-DN which is not a Message Center,

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the FDN and use LD 10 or LD 11 to correct.

2. The set on which the FDN is defined does not have Message Waiting Allowed (MWA) Class of Service (COS).

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the FDN and use LD 10 or LD 11 to correct it.

ERR4058

Undefined or invalid Attendant Alternative Answering (AAA) DN type was found at AAA time-out. Valid types are Set DN and ACD-DN.

ACTION: Refer to the *administration input/output guide*. Use LD 20 ATT to check the AADN and LD 12 to correct it.

ERR4059 dn

Tenant to Tenant Access denied between the caller and the specified Attendant Alternative Answering (AAA) **dn** at AAA time-out.

ACTION: Information only, no action required.

ERR4060 SUPL loop HW c

Parameter downloading failed. Unable to send messages through Network card message interface.

c = NT8D01 Controller card

ACTION: Try using ENXP in LD 32 to download the appropriate enable command to the card. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

ERR4061

CPG_DATA_PTR or CPG_BLK_PTR pointer is nil (DUMP module).

ACTION: Perform a parallel reload. Contact your technical support group for assistance.

ERR4062

Digitone Receiver (NT8D16) failed self test.

ACTION: Use DTR l s c in LD 34 to perform Digitone receiver diagnostics. If you need help with the commands or system responses refer to the *TDS* chapter in this guide.

ERR4064 x y z

Feature is not allowed for this interface.

x = DCH Interface ID

y = D-channel number

z = Mnemonic for the feature

ACTION: Information only, no action required.

ERR4067 c x

No unprotected CPG data block for CPG **x** of customer **c**.

ACTION: Perform a parallel reload. Contact your technical support group for assistance.

ERR4068 c

No unprotected CPG data block for CPG 0 of customer **c**.

ACTION: Perform a parallel reload. Contact your technical support group for assistance.

ERR4069 c

No protected CPG data block for CPG 0 of customer **c**.

ACTION: Perform a parallel reload. Contact your technical support group for assistance.

ERR4070 c x

Customer **c** data block exists, but there is no CPG_PTR_BLK for CPG number **x**.

ACTION: Perform a parallel reload. Contact your technical support group for assistance.

ERR4071 tn

The type of trunk (COT, DID, Tie, etc.) specified during the audit did not match the trunk type stored within IPE trunk card. The trunk type stored within the card has been set to the trunk type specified in the audit message. (The audit process obtains trunk type from the TN block contained within the database.)

Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. If this message persists, do a parameter download.

ACTION: Use DISC l s c and ENLC l s c in LD 32 to disable and enable the unit causing a download.

2. If the problem persists, suspect a faulty card.

ACTION: Replace the IPE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

ERR4072 tn

Impedance setting conflict found on an IPE trunk during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the impedance setting and LD 14 to correct the data.

ERR4073 tn

Dialing speed setting conflict found on an IPE trunk during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check the dialing speed setting and LD 14 to correct the data.

ERR4074 tn

Carrier pad setting conflict found on an IPE trunk during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check the Carrier pad setting and LD 14 to correct the data.

ERR4075 tn

A-Law or Mu-Law companding setting conflict found on an IPE trunk during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check the A-Law or Mu-Law companding setting and LD 14 to correct the data.

ERR4076 tn

10pps1 conflict found on IPE trunk during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK Class of Service to check the 10pps1 setting and LD 14 to correct the data.

ERR4077 tn

10pps2 conflict found on the IPE trunk during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK Class of Service to check the 10pps2 setting and LD 14 to correct the data.

ERR4078 tn

20pps conflict found on the IPE trunk during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TRK to check the 20pps setting and LD 14 to correct the data.

ERR4079 tn

The hardware ID for type of unit (COT, DID, etc.) and signaling (LOP,GRD, EAM, etc.) is not supported by the XUT, XEM, or any other IPE trunk card. The software configuration no longer matches the hardware configuration for the unit. Unit is disabled.

ACTION: Check that the correct card for the desired trunks is in the configured slot. Check the configuration of the unit. Refer to the *administration input/output guide*. Use LD 20 TNB to check the impedance setting and LD 14 to correct the data.

ERR4080

D-channel was not found for sending a facility Message. Output appears as follows (with X11 Release 16 and later software):

NTFERR a b c

DIGPR a b c

INVDN p a b c

Where:

a = originating digits

b = destination digits

c = customer number

p = TCAP package type

X11 Release 15 messages appear as follows:

FAIL ORIG: xxx DEST: xxx CUST: xx

ACTION: Refer to the *ISDN Primary Rate Interface NTP*. Set up messaging in LD 96.

ERR4081

A Facility Reject message was received. Destination digits cannot be translated. Output with message:

PKG: xxx NOXLAN

ORIG: xxx DEST: xxx CUST: xx

ACTION: Refer to the *administration input/output guide*. Use the ESN overlay LD 86 to verify that the NCDP prompt is set to the same length in all systems within the network.

ERR4082

TCAP Package type is not recognized by Network Message Center (NMC) feature. Output with message:

PKG: xxx

ORIG: xxx DEST: xxx CUST: xx

ACTION: Check the networking data database.

ERR4082

ICP does not support more than 4 digit DNs. Procedure ICP_ESTABLISH and ICP_FIND_DN

ACTION: Information only, no action required.

ERR4083

TCAP Component is not recognized by Network Message Center (NMC) feature. Output with message:

PKG: xxx COMP: xxx

ORIG: xxx DEST: xxx CUST: xx

ACTION: Check the networking data database.

ERR4084

TCAP Operation is not recognized by Network Message Center (NMC) feature. Output with message:

PKG: xxx COMP: xxx OPER: xxx

ORIG: xxx DEST: xxx CUST: xx

ACTION: Check the networking data database.

ERR4085

TCAP parameter is not recognized by Network Message Center (NMC) feature.

Output with message:

PKG: xxx COMP: xxx OPER: xxx PARM: xxx

ORIG: xxx DEST: xxx CUST: xx

ACTION: Check the networking data database.

ERR4100

Tenant TDATAPTR or route ACCESS_ARRAY block does not exist.

ACTION: Contact your technical support group.

ERR4101

PBX output buffer overflow for Digital set.

ACTION: Refer to the *administration input/output guide*. Print out the CFN record using LD 22 CFN to check the 500 output buffer size. Run TFS004 using LD 2. This will tell you if the buffer is overflowing or if the line card is faulty. Use LD 17 to resize the buffer. Contact your technical support group for more information.

ERR4102

Set requested to disable the unit. LAMPAUDIT disables it.

ACTION: Contact your technical support group.

ERR4103

Meridian 3000 Touch Telephone watchdog overflow.

ACTION: In LD 32 use DISU l s c u to disable and ENLU l s c u to enable the telephone. If the message reappears, replace the Meridian 3000 Touch Telephone or the line card following the steps in the *Hardware replacement* guide. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

ERR4104

TSET data TN not equipped.

ACTION: Refer to the *administration input/output guide*. Use LD 20 DNB to check if the data TN is equipped and LD 11 to correct it.

ERR4105

An appearance of Multiple Appearance DN cannot answer a call. It resides on a telephone with CLS that cannot receive external calls, or, it resides on a telephone with a tenant that differs from the tenant of other telephones that can answer the call. All the appearances of the DN should reside on sets that belong to the same tenant.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the Multiple Appearance DN and LD 11 or 10 to correct the data.

ERR4106

TSET downloading buffer overflow.

ACTION: Contact your technical support group.

ERR4108 tn

Possible tip and ring reversal at central office or CO trunk card problem.

ACTION: Check the polarity at the cross connect with meter for reversal. Contact your technical support group for help in checking with the local public exchange office personnel for reverse polarity.

ERR4109

VASID out-of-range.

ACTION: Check the database in LD 17. Contact your technical support group.

ERR4111

Incorrect key function defined for data TN.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the data and LD 11 or 10 to correct the data.

ERR4112

Data TN not defined. An M2317 telephone cannot have Single Call Ringing (SCR) on key 10.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the data and LD 11 or 10 to correct the data.

ERR4113

Digital set has sent handsfree activated message, but does not have Handsfree Class of Service (HFA).

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check data and LD 11 or 10 to correct data.

ERR4114

Data DN of M2317 or M3000 Touch telephone does not have two appearances.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check data and LD 11 or 10 to correct the data.

ERR4115

The M2317 or M3000 telephone has requested a restart.

1. If telephone has not been manually reversed down and up and these messages consistently appear then, start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

a) The telephone may be faulty.

ACTION: Replace the telephone following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

b) The line card channel may be faulty.

ACTION: Replace the line card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

c) The telephone power supply may be faulty.

ACTION: Replace the power supply card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. Replace the power supply.

2. ORIG & TER TN will show if active in a call.

ACTION: To check if a call on this telephone is active, use TRAC l s c u in LD 80. If you need help with the commands or system responses refer to the *TRA* chapter in this guide.

ERR4116

The M2317 set has received a message when the headset was unplugged, but no message was sent when the headset was plugged in. Ignore this message during sysload as all headsets should be unplugged.

ACTION: Replace the telephone following the steps in the *Hardware replacement* guide.

ERR4117

Incorrect tree class.

ACTION: Contact your technical support group.

ERR4118

Tree is corrupted.

ACTION: Contact your technical support group.

ERR4119

IDC pointer is corrupted.

ACTION: Contact your technical support group.

ERR4120

Invalid digit received by IDC.

ACTION: Contact your technical support group.

ERR4124

Add the NSF IE to the SETUP message

ACTION: Contact your technical support group.

ERR4125

Message CRI is not in idle queue.

ACTION: Perform a system initialization, and if the problem continues contact your technical support group.

ERR4126

Output queue is not allocated.

ACTION: Contact your technical support group.

ERR4127

Message CR is not in QU_CSL_OP.

ACTION: Perform a system initialization, and if the problem continues contact your technical support group.

ERR4128

Output message has length zero.

ACTION: Contact your technical support group.

ERR4129 dn c t1 t2

The duration time set for the call in the Abandoned Call Waiting in the Source queue is invalid. Output: **dn** = ACD-DN, **c** = customer, **t1** = time of day, **t2** = time call arrived.

ACTION: Refer to the *Automatic Call Distribution guide*.

ERR4130

Wrong call reference flag. Incompatible Protocol between the interface. If the error continues, file a problem report.

ACTION: Contact your technical support group.

ERR4131

The message received has global CREF. Incompatible protocol between the interface. If the error continues, file a problem report.

ACTION: Contact your technical support group.

ERR4132

Received a SERVICE, SERVICE ACK, RESTART, RESTART ACK with a non-global CREF. Incompatible protocol between the interface.

ACTION: Contact your technical support group.

ERR4133

For ISDN ESS #4 received a SERVICE, SERVICE ACK, RESTART, RESTART ACK with the wrong call reference flag. Incompatible protocol between the interface. If the error continues, file a problem report.

ACTION: Contact your technical support group.

ERR4134 data

First digit is not KP. If the error repeats with the same MFR, test the MFR card; otherwise suspect a fault on far-end outpulsing mechanism, or noisy trunk. The data output is:

TRK tn MFR tn ID j ddd ADR j ddd

Where:

TRK tn = TN of the FGDT trunk (l s c u, loop ch)

MFR tn = TN of the MF receiver (l s c u, or loop ch)

ID j ddd = ID field, **j** = number of digits, **ddd** = digits

ADR j ddd = Address field, **j** = number of digits, **ddd** = digits

Note: If the address was not received or was empty, it is not printed.

ACTION: Replace the MFR card, following the steps in the *Hardware replacement* guide. If this message reappears, contact your technical support group for assistance from the far-end.

ERR4135 data

Illegal size of a field. If the error repeats with the same MFR, test the MFR card. Refer to ERR4134 for a description of output data.

ACTION: Replace the MFR card, following the steps in the *Hardware replacement* guide. If this message reappears, contact your technical support group for assistance from the far-end.

ERR4136 data

Illegal MF combination. If the error repeats with the same MFR, test the MFR card; otherwise suspect a fault on far-end outpulsing mechanism, or noisy trunk. Refer to ERR4050 for a description of output data.

ACTION: Replace the MFR card, following the steps in the *Hardware replacement* guide. If this message reappears, contact your technical support group for assistance from the far-end.

ERR4137 data

Unexpected digit (ST', ST'', ST'''), or KP in the middle of a field. If the error repeats with the same MFR, test the MFR card; otherwise suspect a fault on far-end outpulsing mechanism, or noisy trunk. Refer to ERR4050 for a description of output data.

ACTION: Replace the MFR card, following the steps in the *Hardware replacement* guide. If this message reappears, contact your technical support group for assistance from the far-end.

ERR4138 data

Call category denied. Refer to ERR4134 for a description of output data.

ACTION: Refer to the *administration input/output guide*. Use LD 21 CRB to check if the CCAN definitions are consistent with the far-end LEC arrangement. Contact your technical support group for assistance from the far-end. Use LD 19 to correct the fault.

ERR4139 data

ANI field empty when should be present. Refer to ERR4134 for a description of output data.

ACTION: Refer to the *administration input/output guide*. Use LD 21 CRB to check if the CCAN definitions are consistent with the far-end LEC arrangement. Contact your technical support group for assistance from far-end. Use LD 19 to correct the fault.

ERR4140 data

ANI field present when should be empty. Refer to ERR4134 for a description of output data.

ACTION: Refer to the *administration input/output guide*. Use LD 21 CRB to check if the CCAN definitions are consistent with the far-end LEC arrangement. Contact your technical support group for assistance from far-end. Use LD 19 to correct the fault.

ERR4141 data

Undefined information digit (I I) number received. This is an attempt by an unauthorized user. The output data is: **CUST c Trm hh:mm:ss dd/mm/yyyy II-NPANXXXXX zzzzz**

Where:

c = customer number

Trm = FGD route and member number

II-NPANXXXXX = FGD ID field information

zzzzz = FGD field address digits

ACTION: Contact your technical support group for help in checking with the local public exchange office personnel.

ERR4142 data

Undefined ANI number received. This is an attempt by an unauthorized user. Refer to ERR4141 for description of the output data.

ACTION: Contact your technical support group for help in checking with the local public exchange office personnel.

ERR4143 data

Cannot access NARS database. Refer to ERR4134 for a description of output data.

ACTION: Refer to the *administration input/output guide*. Use the ESN overlays to correct the data.

ERR4144 data

Cannot access FGD block. Refer to ERR4134 for a description of output data.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB and check the value of the FGDB in the route and the definition of the related FGD block.

ERR4145 data

100 line test DN not defined. Refer to ERR4134 for a description of output data.

ACTION: Refer to the *administration input/output guide*. Use LD 21 CDB to check and define the 100 test line in LD 15.

ERR4147 data

An invalid message while waiting for MF digits. Output data is mfrtn input_message.

ACTION: Test the MFR card.

ERR4148

An invalid message while waiting for DTR digits. Output data is mfrtn input_message.

ACTION: Test the MFR card.

ERR4149

The output buffer to PRI2 card overflowed.

ACTION: Test or replace the PRI card.

ERR4161

Call Reference length is greater than 2.

ACTION: Contact your technical support group for assistance from the far-end.

ERR4162 x

The length **x** of the call reference of an incoming ISDN message was incorrect. The length allowed in North America is 1 or 2. For some other interfaces, only a length of 2 is allowed. There may be a compatibility problem with the far-end.

ACTION: Contact your technical support group for assistance from the far-end.

ERR4200

Speed Call list check failed.

ACTION: Perform a system reload, and if the problem continues contact your technical support group.

ERR4201

Speed Call list CR setup failed.

ACTION: Perform a system reload, and if the problem continues contact your technical support group.

ERR4202

Speed Call indexing failed.

ACTION: Perform a system reload, and if the problem continues contact your technical support group.

ERR4203

Speed Call entry pointer nil.

ACTION: Perform a system reload, and if the problem continues contact your technical support group.

ERR4204

Speed Call digits to CR failed.

ACTION: Perform a system reload, and if the problem continues contact your technical support group.

ERR4205

Pretranslation table being removed.

ACTION: Information only, no action required.

ERR4220

1. Secondary Control register on MSI card (QPC584) failed R/W test.

2. Receiving this message during upgrade to new software.

ACTION: Check the MSI card to verify that the correct target data cartridge is used to receive the datadump. Check the associated cabling.

ERR4221

MSI Refer to the *administration input/output guide*. Use the reading from backup device when it should be reading from primary device.

ACTION: Check for proper switch settings on the MSI card.

ERR4222

Auto-terminating DN defined in the trunk block for this ACD DNIS call is not an ACD DN.

ACTION: Refer to the *administration input/output guide*. Use the ACD overlays to correct the data.

ERR4225

500/2500 Set DN cannot be defined until CPND feature is configured for that set. DATA: 500/2500 set DN and packed TN

ACTION: Refer to the *administration input/output guide*. Use the LD 95 PRT CPND command to check and to configure any name first. Use LD 10 to configure the CPND feature.

ERR4226 xx

Insufficient storage for CPND Name.

ACTION: Add memory or relocate CPND Logic page. **xx** = DN or DIG group and member numbers. Refer to the *administration input/output guide*. Use the LD 95 PRT CPND command to check and to configure any name first. Use LD 10 to configure the CPND feature.

ERR4227 xx

Insufficient storage for DIG name table.

ACTION: Add memory or relocate CPND Logic page. **xx** = DN or DIG group and member numbers. Refer to the *administration input/output guide*. Use LD 95 PRT CPND to check and to configure any name first. Use LD 10 to configure CPND feature.

ERR4228

Wrong I.E. for message type.

ACTION: Contact your technical support group.

ERR4229

Wrong I.E. for STATUS message.

ACTION: Contact your technical support group.

ERR4230

Wrong I.E. for RELease message.

ACTION: Contact your technical support group.

ERR4231

Wrong I.E. for REStart message.

ACTION: Contact your technical support group.

ERR4232

Wrong I.E. for CONNect message.

ACTION: Contact your technical support group.

ERR4233

Wrong I.E. for SETUP message.

ACTION: Contact your technical support group.

ERR4234

Wrong I.E. for PROGress message.

ACTION: Contact your technical support group.

ERR4235

Wrong I.E. for CALL PROCeeding message.

ACTION: Contact your technical support group.

ERR4236

Wrong I.E. for ALERTing message.

ACTION: Contact your technical support group.

ERR4237

Wrong message type.

ACTION: Contact your technical support group.

ERR4238

Wrong coding standard.

ACTION: Contact your technical support group.

ERR4239

BC - extension bit not right.

ACTION: Contact your technical support group.

ERR4240

BC - information transfer not supported.

ACTION: Information only, no action required.

ERR4241

BC - information transfer rate/mode not supported.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4242

BC - layer1 protocol id not correct.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4243

BC - rate is not correct.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4244

General location not supported.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4245

Cause value not supported.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4246

Channel id octet3 error.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4247

Channel id octet5 error.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4248

Channel number not exist.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4249

Extension bit wrong in cause.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4250

Extension bit wrong in connected number.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4251

Extension bit wrong in redirecting number.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4252

Extension bit wrong in redirection number.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4253

Extension bit wrong in channel number.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4254

Extension bit wrong in progress indicator.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4255

Extension bit wrong in NSF.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4256

Extension bit wrong in calling party number.

ACTION: Contact your technical support group.

ERR4257

Extension bit wrong in called party number.

ACTION: Contact your technical support group.

ERR4258

Extension bit wrong in restart.

ACTION: Contact your technical support group.

ERR4259

Reference length error.

ACTION: Contact your technical support group.

ERR4260

CREF flag in SETUP is incorrect.

ACTION: Contact your technical support group.

ERR4261

State message error, protocol violation.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4262

NTWK ID not correct in TNS.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4263

No REStart ACK message received.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4264

Message received in NULL state.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4265

Mandatory Channel ID missing in ALERtIng.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4266

Mandatory Channel ID missing in CONNect.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4267

Service in NSF doesn't match service route.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4268

PROGRESS INDICATOR not supported.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4269

ZERO length for mandatory IE.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4270

ZERO length for option IE.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4271

TNS, BAD NTKW ID, TYPE/PLAN.

ACTION: Contact your technical support group.

ERR4272

BC - layer id not correct.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4273

Incorrect TNS Network ID.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4274

Message Length exceeds buffer size (261).

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4275

Protocol discriminator is not compatible with a Message length of > 2.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4276

The maintenance message is only allowed in specific DCH interface.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4277 c dn ifdn

Invalid Interflow destination. Where:

c = customer, **dn** = ACD-DN, **ifdn** = Interflow DN.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the database.

ERR4278 c dn ifdn

Invalid Night Call Forward destination specified. Where:

c = customer, **dn** = ACD-DN, **ifdn** = Interflow DN.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the database.

ERR4279

No Service Ack message received.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4280

Use LD 92 to diagnose the ADM TN.

ACTION: Refer to the action for ERR4279.

ERR4281

Message input received from a 64 k data module has no Call Register available.

ACTION: Information only, no action required.

ERR4282 d b

No response from far-end to this PRA call.

Where:

d = DCHI number, **b** = B-channel number.

ACTION: Refer to the *ISDN Primary Rate Interface*, and check the D-channel link on the near and far-end switches. Contact your technical support group.

ERR4283

Both DCHs have been released. Establish the DCH.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4285

ACNT key defined but no ADS block defined.

ACTION: Take out the ACNT key or the defined ADS block.

ERR4286

Message count on the loop exceeds the threshold value.

ACTION: Refer to any OVD messages previously printed, and check the hardware for defects that generate an overload condition. Rearrange the TNs to another location or they may be disabled. If you need help with the commands or system responses refer to the *OVD* chapter in this guide.

ERR4287

Customer number greater than 31 while CDRE is not packaged.

ACTION: Information only, no action required.

ERR4288

Route number is greater than 127 while CDRE is not packaged.

ACTION: Information only, no action required.

ERR4289

Route number for Music Route is not a Music Route.

ACTION: Refer to the *administration input/output guide*. Check all routes in LD 15, LD 23 and LD 50 for MUS.

ERR4291

Music Route is undefined.

ACTION: Refer to the *administration input/output guide*. Use LD 21 to check the Music Route and LD 16 to correct it.

ERR4293

Both DCHs are out-of-service.

ACTION: Refer to the *ISDN Primary Rate Interface*. Release and establish both DCHs.

ERR4300 c dn n i

Invalid DN in the Speed Call List. Prints an error message and skips to the next DN.

Where:

c = customer, **dn** = Pilot DN, **n** = LSNO, **i** = INDEX value.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the database.

ERR4301 c dn n i

Pilot DN not allowed as Trunk/Tenant Night DN. Call is diverted to customer night DN during Night Service.

Where:

c = customer, **dn** = Pilot DN, **n** = LSNO, **i** = INDEX value.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the database.

ERR4302 c dn n i

Pilot DN is not allowed Speed Call list.

Where:

c = customer, **dn** = Pilot DN, **n** = LSNO, **i** = INDEX value.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the database.

ERR4302 c dn tn

Pilot DN not allowed as Hunt/CFW/MNDN when used to access a Speed Call. Where:

c = customer, **dn** = Pilot DN, **tn** = TN.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the database.

ERR4304

Display DN too large to be output in CDR record.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the database.

ERR4500

GPT Integrated Digital Access ERR: <x x x x x>

The format of the message is **ERR4500 xxxx**, where **xxxx** is as follows:

300 d = A message has been received from DTSL/DDSL **d** that is either unequipped or disabled.

311 d = Message length of zero read from DTSL **d** — suspect faulty card.

312 d = Message length exceeding 63 bytes read from DTSL **d**.

313 d = DTSL **d** is not responding.

314 d = Status register of DTSL **d** is not accessible.

315 d = Data register of DTSL **d** is not accessible.

330 d = Message output to DTSL/DDSL **d** has failed.

333 d = Invalid interrupt.

401 d = Message length of less than 3 bytes has been received from DTSL/DDSL **d**.

402 d l c = Message received on unconfigured channel **c**, loop **l**, and DTSL/DDSL **d**.

403 d tn = Flow control encountered on DTSL/DDSL **d**. **tn** gives packed TN of the channel.

ACTION: Refer to the *ISDN Primary Rate Interface guide*.

ERR4501

Received a PRA message with an unsupported service identifier.

ACTION: Refer to the *ISDN Primary Rate Interface guide*. Contact your technical support group.

ERR4502

Service discriminator is not supported by ISDN.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4503

Message is bouncing back and forth between two nodes.

ACTION: Call your technical support group for a software patch.

ERR4506

Facility reject received. Data: Orig PNI, Orig #, Dest PNI, Dest #, Reason. The values for “Reason” are:

0 = no transmission address of such nature

1 = no transmission address for this specific address

2 = application congestion

3 = application failure

4 = unequipped application

5 = network failure

6 = network congestion

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4507 c s

Missing PNI number in the customer data block.

Where:

c = customer, **s** = service ID.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4508

Received bad facility I.E.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4509 s

1. PNI missing in RDB, **s** = Service ID.

2. Receiving this message and the PNI is missing type error when calling across an ISDN network with NMS service. All sites involved with NMS type service in a network, must have package 148.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR4510

ROSE component sent is being rejected.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5000

Target ID is not an ACD-DN or NARS DN. Procedure: Successful

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5001

Target ID did not access the ISL/PRA Trunk. Procedure:
SEND_CALLSETUP

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5002

The QPC720C PRI is required for 1.5 Mb/s GPRI, otherwise the MU/A law conversion and loss level adjustments will not function properly.

ACTION: Use QPC720C, or newer, hardware.

ERR5003 x

An incoming message, shorter than 5 octets, is ignored. The message should have a minimum of 5 octets if <n> is equal to 2.

Where, x = the length of call reference in hex.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5010

ISDN: Receive a Status messages with CAUSE = 30. This was in response to Status Enquiry but SL-1 did not send out a Status Enquiry message.

Output format:

DCH = x IFC = y

x = D-channel number

y = Interface Type

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5011 x

Received IE is in the wrong codeset; x = IE index.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5012 x

Received IE is wrong in the High Layer Compatibility; **x** = wrong IE information.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5015 x y z

D-channel is interfacing with a software issue not supported by the application.

Output:

x = D-channel number;

y = the last digit of the release ID (for example: if LD 17 prompt RLS = 16, then y = 6);

z = application ID.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group. Be sure the software release at the far-end is correctly defined by prompt RLS in LD 17.

ERR5016

Wrong extension bit for information request IE.

ACTION: Contact your technical support group.

ERR5017 c

Customer **c** should have a common printer defined. Procedure ICP_GET_PRINTER.

ACTION: Contact your technical support group.

ERR5018 t

Tenant **t** should have a common printer defined. Procedure ICP_GET_PRINTER.

ACTION: Information only, no action required.

ERR5019

This TN should have a printer configured. Procedure ICP_ESTABLISH and ICP_GET_ATTEN_PTR.

ACTION: Information only, no action required.

ERR5020

That information request type is not supported.

ICP_STORECFW and ICP_ACT_ALLOWED.

ACTION: Information only, no action required.

ERR5021

Wrong length for information request IE.

ACTION: Contact your technical support group.

ERR5022

The specific information requested is not supported.

ACTION: Information only, no action required.

ERR5024

The Auto-Terminating number for this In-Band ANI route is not an ACD-DN.

ACTION: Refer to the *administration input/output guide*. Use the ACD overlays to correct the data.

ERR5025 x

A call originating or being tandem switched though on this switch is trying to insert more than 8 digits in the calling party number for an AXE-10 interface. Only eight (8) digits can be included in the calling party number, or the digits are truncated to the right. **x** = DCH Interface number for the SETUP message.

ACTION: Use PFX1 and PFX2 in LD 15 to modify the calling party number so that PFX1+PFX2+DN is less than 8 digits.

ERR5026

Multi-Tenant alone or with CPG level services is enabled. The caller is denied access to the CPG Night DN. This is an illegal configuration. Tenants sharing the same CPG should be allowed access to each other.

ACTION: Refer to the *administration input/output guide*. Use LD 93 to check the Multi-Tenant data and correct it.

ERR5027

Stepping action is aborted. Stepping to an ISA route is not allowed.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB to check the stepping route number and LD 16 to correct it.

ERR5028

Stepping action is aborted. Stepping to an ISA SERVICE route is not allowed.

ACTION: Refer to the *administration input/output guide*. Use LD 21 RDB to check the stepping route number and LD 16 to correct it.

ERR5029

Reverse call charging is not allowed.

ACTION: Information only. Disregard the call charging information received from the network.

ERR5030

Information in the TYPE field of the Information Element is invalid.

ACTION: Information only, no action required.

ERR5031

The network will disregard the ISDN call charging information received, because the call was never properly established.

ACTION: Information only, no action required.

ERR5032

The HM_STRUCT for a set is missing in the procedure WUK_LAMP_FLASH, or the HM_STRUCT for a set is missing or the set does not have CCSA Class of Service procedure WUK_DARK_OR_LIT.

Data corruption.

ACTION: Perform a system reload, and contact your technical support.

ERR5033

An invalid lamp state has occurred in the procedure WUK_DARK_OR_LIT. Either there is a request and the Wake Up key (WUK) lamp is not lit or there is no request and the WUK lamp is lit.

ACTION: Information only, no action required.

ERR5034

aux_custptr [] = NIL in procedure store_awu. Data corruption.

ACTION: Perform a system reload, and contact your technical support.

ERR5035

Unable to find a primary appearance DN to store the Wake Up call. Procedure `wuk_get_tn` or `ffc_find_awu_tn`. Cannot proceed.

ACTION: Perform a system reload, and contact your technical support.

ERR5037

A restart message has been sent twice, but the far-end has not responded with the proper RESTART ACK message. The PRA B-channels are left in a maintenance busy state. The ISL trunks are not marked as maintenance busy if they revert back to a conventional trunk (option enabled).

ACTION: Check the D-channel status for both ends in LD 96. Try to disable and re-enable the D-channels.

ERR5039 d

The Virtual Network Service (VNS) message received is discarded because the VNS package is not equipped. **d** = D-channel number.

ACTION: Contact your technical support group.

ERR5040

No idle channel is available for a VNS customer.

ACTION: Contact your technical support group.

ERR5041

VNS mismatch due to timing. Depending on frequency, this may or may not be a problem.

ACTION: Information only. If the error continues contact your technical support group.

ERR5043

Invalid date information element for PRA messaging.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5044

No posttransl blk defined in pd. Pretranslation.

ACTION: Contact your technical support group.

ERR5045

No RPA FFC PARM blk defined for the RPS.

ACTION: Contact your technical support group.

ERR5046

DN does not exist in the RPA-DN tree (table).

ACTION: Information only, no action required.

ERR5047

RPA does not support diversion to manual RPS.

ACTION: Information only, no action required.

ERR5048

RPA traffic block pointer in RPA SYS PARM blk is nil.

ACTION: Information only, no action required.

ERR5049

Rising edge of Call Accepted signal is either too short or too long from trailing All Digits Revd signal.

ACTION: Contact your technical support group for assistance from the far-end.

ERR5050

Rising edge of Start Talk signal is either too short or too long from trailing Call Accepted signal. Speech path will not be provided; call can be answered in normal manner.

ACTION: Contact your technical support group for assistance from the far-end.

ERR5051

NO RPCD data defined.

ACTION: Contact your technical support group.

ERR5054

The ISDN call charging information exceeds the limit of 9 digits. Please disregard the charging information message from the network.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5055

Unable to generate End-to-End Signaling tone due to one or more of the following:

- no available conference slots
- no available TDS slots
- no available junctor slots
- no available time slots to establish speech paths among all involved conference parties
- this can be a traffic problem

ACTION: Contact your technical support or engineering group to help you check that the system is properly balanced. Ensure that the system has enough DTRs to support the load. Verify that Music On-Hold is used on the DTI trunks. Check your traffic reports for the specific hour to help isolate the problem. If necessary, add applicable cards following the *Installation NTP*.

ERR5056 l s c u

An invalid EES lamp state exists on the Attendant console. The TN **l s c u** is output.

ACTION: Disable and re-enable the Attendant console in LD 32.

ERR5057 a d o t

The D-channel interface for routing Network Message Service (NMS) facility messages is not an SL-1 interface.

a = operation code for TCAP protocol

d = the D-channel sending FACILITY message

o = Originating digits

t = Terminating digits

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5058 a o t

Please check the system registers resources. Cannot obtain Call Register to simulate the configuration request for sender feature originated at remote switch.

a = operation code for TCAP protocol

o = Originating digits

t = Terminating digits

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5059

No DNP message is sent to the Meridian Mail server.

The DNP message for ISDN/AP is not retrieved for a Conference call to the Meridian Mail server when activated from a remote switch.

ACTION: Refer to the *ISDN Primary Rate Interface*. Contact your technical support group.

ERR5060 tn

This unit has and LSPK key, but the DN defined does not match with any loudspeaker.

ACTION: Contact your technical support group.

ERR5061

You cannot synchronize a local clock, it must be set manually.

ACTION: Information only, no action required.

ERR5062

That TCAP package type is not recognized by the TSYNC feature.

ACTION: Contact your technical support group.

ERR5063

That TCAP parameter is not recognized by the TSYNC feature.

ACTION: Contact your technical support group.

ERR5064

The local clock can not be synchronized, the local clock must be set.

ACTION: Information only, no action required.

ERR5065

The TCAP package type is not recognized by the TSYNC feature.

ACTION: Contact your technical support group.

ERR5066

That TCAP parameter is not recognized by the TSYNC feature.

ACTION: Contact your technical support group.

ERR5067

Previous Hospitality block is found to be missing. The new entry is used to recreate the lost block.

ACTION: Refer to the *administration input/output guide*. Use LD 49 PRT to check and correct the Hospitality block.

ERR5068

Corrupted NFCR structures. TREE_EXIST of Hospitality.

ACTION: Contact your technical support group.

ERR5069

Corrupted Hospitality tree. Hospitality procedure.

ACTION: Refer to the *administration input/output guide*. Use LD 43 EDD correct the Hospitality tree.

ERR5070

Prime DN key must be SCR or SCN for a Hospitality set.

HSP_FORCEDISC of Hospitality.

ACTION: Check the database in LD 11 or LD 10.

ERR5071

Hospitality tree does not exist. TREE_EXIST of Hospitality.

ACTION: Contact your technical support group.

ERR5072

Accessed tree is not a Hospitality tree. HSP_GETLEAF_PTR of Hospitality.

ACTION: Contact your technical support group.

ERR5073

Corrupted value of TREE_DIGIT_CODE in Hospitality tree.

HSP_GETLEAF_PTR of Hospitality.

ACTION: Contact your technical support group.

ERR5075 x

The NT8D19 Memory/Peripheral Signaling card had **x** memory parity errors in the last 30 minutes. Ignore occasional occurrences as these errors are self-correcting.

ACTION: If this error persists or is accompanied by unexplained system reloads, replace the Memory/Peripheral Signaling card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

ERR5087 x

Invalid value for the interface identifier field of channel id information element from an incoming message. Where, **x** = the message type in hex.

ACTION: Contact your technical support group.

ERR5088

Invalid value for the class field of restart indicator information element from an incoming message. Where, **x** = the message type in hex.

ACTION: Contact your technical support group.

ERR5090 data

Could not send an activation/deactivation message to an MFR.

ACTION: Contact your technical support group.

ERR5091

Speaker dn, unit dn - loudspeaker cannot enter CONF; number of loudspeakers in conference is at maximum value.

ACTION: Contact your technical support group.

ERR5092

Warning: LDNO must be defined for the customer for ISDN DID calls in order to determine the number of digits expected for successful call termination.

ACTION: Contact your technical support group.

ERR5094

Not the same dial tone frequency range defined on the route and on the dial tone detector.

ACTION: Contact your technical support group.

ERR5095

Timer value conflict found on Universal Trunk or E & M Dictation card (NT8D14/NT8D15) during audit parameter download.

ACTION: Contact your technical support group.

ERR5096

A TNTRANS was successful when the AWU call was linked to the attendant queue, but is now unsuccessful when the actual VIP call was attempted.

ACTION: Contact your technical support group.

ERR5097

Received an invalid call reference from the far-end switch.

ACTION: Contact your technical support group.

ERR5098

Invalid Cardlan Message. Received a data message before receiving an address type message.

ACTION: Contact your technical support group.

ERR5099

Invalid Cardlan Message. Received a retransmit message without sending a message.

ACTION: Contact your technical support group.

ERR5100

Invalid Cardlan message. Received an unrecognizable message.

ACTION: Contact your technical support group.

ERR5101

Cardlan received a message out of sequence.

ACTION: Contact your technical support group.

ERR5102

A write to 64180 Interrupt control register failed

ACTION: Contact your technical support group.

ERR5103

A write to 64180 Data control register failed.

ACTION: Contact your technical support group.

ERR5104

Invalid Cardlan Message.

ACTION: Contact your technical support group.

ERR5105

Received a retransmit message from an XPE pack.

ACTION: Information only, no action required.

ERR5106

Cardlan audit has detected a stuck cardlan state. Problem has been reset.

ACTION: Information only, no action required.

ERR5107

An invalid 64180 message has been received.

ACTION: Contact your technical support group.

ERR5108

Hardware type error message received from cardlan.

ACTION: Contact your technical support group.

ERR5109

Input IVD message has been discarded.

ACTION: Information only, no action required.

ERR5110

Output SSD message is discarded.

ACTION: Contact your technical support group.

ERR5111

Invalid sequence type has been detected in a transmit XI type message.

ACTION: Contact your technical support group.

ERR5112

Overload condition has been detected on an XPE line card. Signaling to the card has been disabled.

ACTION: Refer to the OVD chapter in this guide. Follow steps 1 through 15 in the section called *How to use manual print LD 77*.

ERR5113

Three consecutive overload conditions have occurred for this card. The card will be disabled and will not be re-enabled. You must replace the card.

ACTION: Replace the card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. If you need help refer to the *OVD* chapter.

ERR5114

A signaling channel has been disabled. The channel will be enabled automatically.

ACTION: Information only, no action required.

ERR5115

An overload card has been enabled again. Card must be operational.

ACTION: Contact your technical support group.

ERR5120

The 1.5 Mb/s International ISDN Gateway feature does not support the QPC472 DTI hardware for the MU/A law conversion and loss level adjustments.

ACTION: Refer to the *ISDN Primary Rate Interface*. Use the QPC720C PRI hardware for 1.5 Mbps DTI trunk connectivities.

ERR5132 data

For a tandem CDP DSC call, the incoming route and outgoing route belong to the same Route List Index (RLI). The output data is: customer number, incoming route, outgoing route, outgoing route list index, outpulsed digits.

ACTION: To avoid potential looping problems, the CDP DSC database may need to be modified. Contact your technical support group.

ERR5133

Invalid content of optional information element.

ACTION: Contact your technical support group.

ERR5134

Invalid information element for the message type.

ACTION: Contact your technical support group.

ERR5135

Mandatory Cause Information Element missing in Release or Release Complete message. Procedure I_RELEASE.

ACTION: Contact your technical support group.

ERR5136

Invalid octet 3A in Calling Party Number Information Element. Procedure CALLING_PTY_#.

ACTION: Contact your technical support group.

ERR5137

Protocol error. Procedure DEC_STATUS.

ACTION: Contact your technical support group.

ERR5138

Global Call Reference not supported. Procedure GLOBAL_CREF.

ACTION: Contact your technical support group.

ERR5139 a b c d e f

A data corruption in the ISA_ACTIVE_CALL variable for the ISA service route has been detected and fixed. The data output is:

a = customer number

b = ISA master route number

c = ISA service route number

d = number of trunks configured for the master route

e = audited active call count

f = active call count in data-store

ACTION: Contact your technical support group.

ERR5140 a b c d e

A data corruption in the ISA_B_RESERVED variable for the ISA service route has been detected and fixed. The data output is:

a = customer number

b = ISA master route number

c = ISA service route number

d = number of B-channels reserved in data-store

e = audited number of B-channels reserved

ACTION: Contact your technical support group.

ERR5141 a b c d e f g h

A data corruption in the ISA_BCH_AVAIL variable for the ISA service route has been detected and fixed. The data output is:

a = customer number

b = ISA master route number

c = ISA service route number

d = audited number of channels available

e = number of trunks configured for the master route

f = audited number of busy channels

g = number of channels available in data-store

h = number of channels reserved in data-store

ACTION: Contact your technical support group.

ERR5144

Invalid length of information element.

ACTION: Contact your technical support group.

ERR5145

Extension bit or IE length error in Party Category IE.

ACTION: Contact your technical support group.

ERR5146

Extension bit or IE length error in Transit Counter IE.

ACTION: Contact your technical support group.

ERR5147

Invalid numbering type, numbering plan combination.

ACTION: Contact your technical support group.

ERR5148

Invalid restart class.

ACTION: Contact your technical support group.

ERR5149

Receipt of a Status reporting a Cause different than response to STATUS ENQ.

ACTION: Contact your technical support group.

ERR5150

T308 timed out twice in U19 channel. Put in maint-busy state followed by INT (MSG_CR), D-channel number, UTN, State, Call Reference.

ACTION: Contact your technical support group.

ERR5151

Undesirable Interface Indicator present in Channel ID IE.

ACTION: Contact your technical support group.

ERR5155

OHAS treatment not given because it is not a legal OHAS DN.

ACTION: Information only, no action required.

ERR5156

The input buffer for the CDR TTY is still loaded. There is not enough space for the number of characters to be output. The last character of the field may be lost.

ACTION: Information only, no action required.

ERR5157

BRI call in wrong state, call is cleared.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5158

Invalid BRI call reference.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5159

BRI B-channel status out of sync between Meridian 1 and the MISP; call attempt is aborted.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5160

BRI calls exceeded the limit for the DSL.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5161

BRI call cannot be connected because of incompatibility of the call type with the B-channel.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5162

BRI call cannot be connected because a call register cannot be allocated.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5163

BRI call processing message has timed out.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5164

The BRI B-channel is in a maintenance busy state.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5165

Message received from invalid loop.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5166

Message received from wrong line card type.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5167

Invalid message received from BRI line card.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5168

No output buffer available to send SSD message.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5169

Message problem report from BRI line card.

ACTION: Refer to the *ISDN Basic Rate Interface*. Contact your technical support group.

ERR5231

No outgoing ESDI packet allowed when the ESDI card is disabled.

Output: **AML:** <aml number in decimal>.

ACTION: Contact your technical support group.

ERR5232

No incoming ESDI packet allowed when the ESDI card is disabled.

Output: **AML:** <aml number in decimal>.

ACTION: Information only, no action required.

ERR5233

The MSDL AML port is disabled. Therefore the incoming AML message is disregarded. Output: **AML:** <aml number in decimal>.

ACTION: Re-enable the MSDL AML port in LD 48.

ERR5234

The given AML (i.e., CLS) priority is disregarded.

Output

AML: <aml number in decimal>

CODE: <msg_priority in decimal>

Receiving this message and Meridian Mail is not answering calls properly.

ACTION: Check for an I/O conflict with the ESDI/AML card setting and an existing I/O device. Check for a paddleboard sitting on the rear of the module, causing a hardware conflict. Contact your technical support group.

ERR5235

The MSDLMISP_HDLR handler failed the outgoing XDU MSDL AML request. Output:

AML: <aml number in decimal> **CODE:** <msdlmisp_hdlr failure code in decimal>

ACTION: Contact your technical support group.

ERR5236

The MSDLMISP_HDLR handler failed the outgoing DU MSDL AML request. Output:

AML: <aml number in decimal>

CODE: <msdlmisp_hdlr failure code in decimal>

ACTION: Contact your technical support group.

ERR5237

The GET_O_BUF procedure failed to find a free outgoing buffer to send an outgoing AML MSDL packet. Output: AML: <aml number in decimal>.

ACTION: Contact your technical support group.

ERR5241

NIL pointer passed in as a parameter. Unable to update the TN block with the wake up information. Cannot proceed. Procedure WRT_AWU_TN.

ACTION: Contact your technical support group.

ERR5242

NIL pointer to the HM_STRUCT which contains the wake up information. Cannot update and cannot proceed. Procedure WRT_AWU_TN.

ACTION: Contact your technical support group.

ERR5243 tn

Digit collect message received from RAN trunk unit.

ACTION: Check that the RAN equipment is operating according to the vendor's instructions. Use RAN in LD 36 to check the trunk and the RAN machine. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

ERR5244 type tn

An invalid problem type has been received in a problem report message.

ACTION: Contact your technical support group.

ERR5245 type tn

1. An invalid message type has been received from a card or unit.

ACTION: Check or replace the card following the steps in the *Hardware replacement* guide.

2. Receiving this message, without type tn, and INI000 8000 message on an Option 21E system running release 19.32 software.

ACTION: Verify that there is no I/O address mismatch with this card and other I/O cards. Check the fault page and address in the INI message and if they are hardware related, check for and replace a faulty MSPS (NTDD02) card following the steps in the *Hardware replacement* guide.

ERR5252

The SDI I/F Handler could not retrieve a free buffer to send an outgoing message.

ACTION: Contact your technical support group.

ERR5254

The SDI I/F Handler encountered a problem transmitting an expedited message.

ACTION: Contact your technical support group.

ERR5255

The SDI I/F Handler encountered a problem transmitting a standard ring message.

ACTION: Contact your technical support group.

ERR5256

The SDI I/F Handler received a data.indication primitive with a length of zero.

ACTION: Contact your technical support group.

ERR5257

The SDI I/F Handler received a data indication primitive but could not store incoming characters because the TTY input buffer is full. Incoming characters were discarded.

ACTION: Contact your technical support group.

ERR5258

The SDI I/F Handler received a data indication primitive but could not store all incoming characters because the TTY input buffer became full. Some incoming characters were discarded.

ACTION: Contact your technical support group.

ERR5259

The SDI I/F Handler received an incoming message that had an unsupported primitive ID.

ACTION: Contact your technical support group.

ERR5260

The SDI I/F Handler received an incoming message that was not in the correct MSDL ring or expedited buffer.

ACTION: Contact your technical support group.

ERR5261

The SDI Port was disabled because the number of response timeouts on a output primitive has been exceeded.

ACTION: Contact your technical support group.

ERR5262

The SDI I/F Handler received a message from a port that is not enabled.

ACTION: Contact your technical support group.

ERR5263

The SDI I/F Handler received an incoming message that could not be processed in the current SDI state.

ACTION: Contact your technical support group.

ERR5264

The SDI I/F Handler received a data.indication message that had more characters than the maximum size of the TTY input buffer. The message is discarded.

ACTION: Information only, no action required.

ERR5266

The SDI I/F Handler received a maintenance primitive message with an invalid data length. The primitive message is discarded.

ACTION: Information only, no action required.

ERR5267

The SDI I/F Handler encountered a problem when trying to resynchronize flow-control variables with the MSDL I/F Handler.

ACTION: Contact your technical support group.

ERR5272 tn

An invalid maintenance message has been received from a card.

ACTION: Information only, no action required.

ERR5275

The DCH timed out while waiting for a test mode state change.

ACTION: Information only, no action required.

ERR5276

An SSD message to process the MSDL DCH output request queue is found to be lost.

ACTION: Information only, no action required.

ERR5277

An invalid DCH link state was found and corrected.

ACTION: Information only, no action required.

ERR5278

The DCH state was found to be disabled, while the DCH port was disabled.

ACTION: Re-enable the DCH card.

ERR5279

DCH application state was disabled, while the port on the MSDL card was enabled.

ACTION: Information only, no action required.

ERR5279

Wrong mandatory Information Element length.

ACTION: Information only, no action required.

ERR5280

Wrong Optional Information Element Length.

ACTION: Information only, no action required.

ERR5281

Pointer BG_TFC_TODAY_PTR or BG_TFC_YESDY_PTR is NIL because of the low memory problem or the memory corruption.

ACTION: Manually INIT the system to rebuild memory blocks. If the manual INIT command does not work, you must add more memory cards or remove data from the system.

ERR5282 c dn r

Warning: Undefined RAN route for night RAN.

Where,

c = customer number, **dn** = ACD DN, **r** = route number.

ACTION: Manually INIT the system to rebuild memory blocks. If the manual INIT command does not work, you must add more memory cards or remove data from the system.

ERR5283

No message sent to the ICP computer. Update the computer database manually.

ACTION: Manually INIT the system to rebuild memory blocks. If the manual INIT command does not work, you must add more memory cards or remove data from the system.

ERR5285 c dn r

Warning: Undefined RAN route for first RAN. Where, **c** = customer number, **dn** = ACD DN, **r** = route number.

ACTION: Define the RAN route and trunk in LD 16 and LD 14. Enter the route number at the FRRT prompt and the connection timer at the FRT prompt in LD 23 for the ACD DN.

ERR5286 c dn r

Warning: Undefined RAN route for second RAN.

Where,

c = customer number, **dn** = ACD DN, **r** = route number.

ACTION: Define the RAN route and trunk in LD 16 and LD 14. Enter the route number at the SRRT prompt and the connection timer at the SRT prompt in LD 23 for the ACD DN.

ERR5287

Invalid routing data encountered for Network Call Pickup/TAFAS. Digits do not indicate a valid DSC/TSC/AC1/AC2 route access code to route the Call Pickup request.

ACTION: Information only, no action required.

ERR5300

DPNSS Route Optimization, invalid message received in Route Optimization supplementary service state. The message is ignored.

ACTION: Information only, no action required.

ERR5301

The ATDN is not a CDN, but the call was routed to the ATDN anyway. Output data: TRK trktn ANI ani_count ani_digits

ACTION: Information only, no action required.

ERR5302

M911 does not support test calls for the pilot release. (This does not apply to Release 19.) Output data: TRK trktn ANI ani_count ani_digits.

ACTION: Information only, no action required.

ERR5303

ANI must be either one or eight digits in length. Call routed to default ACD DN as ANI failure. Output data: TRK trktn ANI ani_count ani_digits

ACTION: Contact your technical support group for assistance from the far-end.

ERR5304

ANI digit is must be 1-10, where 10 is the digit 0. Call routed to default ACD DN as ANI failure. Output data: TRK trktn ANI ani_count ani_digits

ACTION: Contact your technical support group for assistance from the far-end.

ERR5305

ANI was not received within 4 seconds. Call routed to default ACD DN as ANI failure. Output data: TRK trktn ANI ani_count ani_digits

ACTION: Contact your technical support group for assistance from the far-end.

ERR5306

Digit dialed exceed maximum allowed. More than 10 digits received.

ACTION: Contact your technical support group for assistance from the far-end.

ERR5307

MFR holding timeout. Call routed to default ACD DN as ANI failure.
Output data: TRK trktn ANI ani_count ani_digits

ACTION: Contact your technical support group for assistance from the far-end.

ERR5308

Could not allocate the M911 auxiliary call register. Call routed to default ACD DN as ANI failure. Output data: TRK trk tn ANI ani_count ani_digits

ACTION: Contact your technical support group.

ERR5309 x y

No music route for telephones defined for customer **x** using the FTC table **y** with XTT = YES.

ACTION: Information only, no action required.

ERR5310 l s c u x

No music route defined for the trunk at TN **l s c u** using the FTC table **x** with XTT = YES.

ACTION: Information only, no action required.

ERR5313

CP to CP Cable Loss. The CP to CP cable is either disconnected or faulty.

ACTION: Check the cables on the core module backplane at 14A and 14C for bent pins or improper connections. Replace the cables if necessary following the steps in the *Hardware replacement* guide.

ERR5314

The remote CMB has lost power.

ACTION: Contact your technical support group.

ERR5315

Cannot turn on memory protection. Input address is invalid.

ACTION: Contact your technical support group.

ERR5316

Cannot turn off memory protection. Input address is invalid.

ACTION: Contact your technical support group.

ERR5317

IPB parity threshold exceeded.

ACTION: Contact your technical support group.

ERR5318

IPB IRQ threshold exceeded. Interrupt has been disabled.

ACTION: Contact your technical support group.

ERR5319

IPB IRQ interrupt has been re-enabled.

ACTION: Contact your technical support group.

ERR5320

Error occurred initializing CP.

ACTION: Contact your technical support group.

ERR5321

Failure occurred opening IPB database.

ACTION: Contact your technical support group.

ERR5322

CP database I/O error.

ACTION: Contact your technical support group.

ERR5323

IPB database I/O error.

ACTION: Contact your technical support group.

ERR5324 l s c u

The message received (Barring, Busy Tone, Line Break, Polarity Change, Seize Acknowledge) is not supported by the class of service defined on the trunk unit. Trunk disabled. Mismatch between hardware and software data base. (Feature is XFCOT/XDID.)

ACTION: Use ENLU l s c u in LD 32 to re-enable the trunk, forcing a software download.

ERR5325 l s c

Undefined PPM ID on card l s c; PPM ID unchanged on card: hardware and software configurations no longer match. If PPM ID was invalid or undefined before, PPM has been disabled by card for all units on card.

ACTION: Refer to the *administration input/output guide*. Use LD 14 to reconfigure the PPM ID for the card.

ERR5326 l s c

Undefined Busy Tone Id on Card **l s c** ; Busy Tone ID unchanged on card: hardware and software configurations no longer match. If Busy Tone ID was invalid or undefined before, Tone supervision is not guaranteed to work for any unit on the card.

ACTION: Refer to the *administration input/output guide*. Use LD xx to reconfigure the Busy Tone ID for the card.

ERR5327 l s c u xxx xxx...xxx

Configuration Not Supported on trunk **l s c u**. Trunk is disabled. Configurations not supported are **xxx (xxx ... xxx)** where **xxx** is one of: **BUF PPM BTD BAR BAT DGC ATG**.

ATG = Autoguard (defined on unit: SEIZ)

BAR = Barring/Line Break Alarm (defined on unit Class of Service)

BAT = Battery Supervision (ARF BAT LBS) (defined on unit Class of Service).

BTS = Busy Tone Supervised: (defined on unit Class of Service)

BUF = PPM Buffered/Unbuffered: (defined on route)

DGC = DID Digit Collection Type (DIP/DTN/MFC) (defined on unit Class of Service and route)

PPM = PPM Enabled/Disabled: (defined on route)

ACTION: Examine the Route and Trunk Unit configuration and change the offending configuration.

ERR5328 l s c u

Dialing Speed downloaded is not supported on the unit. Dialing speed for the unit is not changed on the card. Hardware and software databases no longer match.

ACTION: Refer to the *administration input/output guide*. Use LD xx to change the dialing speed of the unit.

ERR5329 l s c

Companding law downloaded is not supported on the card.
Companding law on the card is not changed. Hardware and software databases no longer match. Do either of the following:

1. Change the companding law of the system.

ACTION: Refer to the *administration input/output guide*. Use LD xx to change the companding law of the system.

2. Change the card.

ACTION: Replace the card following the steps in the *Hardware replacement guide*. After replacing the card verify that the fault is cleared.

ERR5330 l s c u

Configuration conflict was detected on trunk unit during an audit. The configuration as specified for the unit has been stored on the card.

ACTION: Refer to the *administration input/output guide*. Use LD 20 to check the trunk TN, or LD or 17 to check the trunk loop density.

ERR5331

Seize failure on trunk to Conventional Main. CBQCM or RVQCM process was canceled.

ACTION: Contact your technical support group for assistance from the far-end.

ERR5332 msgtype tn

Unknown content in message type received from superloop unit.

ACTION: Check the superloop card, and if the error continues replace the superloop card following the steps in the *Hardware replacement guide*.

ERR5333 content msgtype tn

Unknown content in message type received from superloop unit.

ACTION: Check the superloop card, and if the error continues replace the superloop card following the steps in the *Hardware replacement guide*.

ERR5334

The SACP package is not equipped. Idle Extension Notification (IEN) or Attendant Blocking of DN (ABDN) request received from another location.

ACTION: Equip the SACP packages in all nodes. Contact your technical support group.

ERR5335 x y

Route **x** has a non-existent XTDT table defined **y** and therefore no XTD could be found.

ACTION: Refer to the *administration input/output guide*. Use LD 97 to print out the tables on the system. Use LD 20 to print out the information on the XTD cards. Use LD xx to reconfigure the route with the existing XTDT table.

ERR5336

GPT DTSL or NT5K75AA card configured in GPT mode. Status register not accessible. Writeio failed. Pd. DTS_CLEAR_LINT

ACTION: Replace the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5337

GPT DTSL or NT5K75AA card configured in GPT mode. Status register not accessible. Writeio failed. Pd. DTS_READY

ACTION: Replace the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5338

GPT DTSL, NT5K75AA card. Data register not accessible. Write I/O failed. Pd. DTS_SEND

ACTION: Replace the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5339

GPT DTSL or NT5K75AA card configured in GPT mode. Status register not accessible. Write I/O failed. Pd. DTS_END_OF_WRITE

ACTION: Replace the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5340

GPT DTSL or NT5K75AA card configured in GPT mode. The timer has expired and the I bit is still raised in the status register.

Pd. DTS_END_OF_WRITE

ACTION: Replace the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5341

GPT DTSL, NT5K35AA card or NT5K75AA card. The software wanted to send a message to the card. The transmit FIFO on the card was busy and there was no more output buffer available. The value entered to DTOB in the ov117 may be too small. This may also be a hardware fault. Pd. DTOB_Q_MSG

ACTION: Refer to the *administration input/output guide*. Use LD 22 to check the DTOB prompt and LD 17 to increase the value. If this message reappears, replace the NT5K35AA card or the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5342

NT5K35AA card or NT5K75AA in NT mode. DTS_SEND failed in pd. SEND_DPNSS_MSG.

ACTION: Replace the NT5K35AA card or the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5343

GPT DTSL or NT5K75AA card in GPT mode. DTS_SEND failed in pd. DASS_INPUT.

ACTION: Replace the NT5K75AA card, following the steps in the *Hardware replacement* guide. If the fault persists, contact your technical support group.

ERR5344

WRITE I/O failed. Pd. LED_OFF.

ACTION: Contact your technical support group.

ERR5345

WRITE I/O failed. Pd. LED_ON.

ACTION: Contact your technical support group.

ERR5346

Msg received from L2 but DTIB is full. The value entered to DTIB in the Ov117 may be too small. This may also be a hardware fault. Pd. DTS_LONG_MSG.

ACTION: Refer to the *administration input/output guide*. Use LD 22 to check the DTIB prompt and LD 17 to increase the value. If this message reappears, contact your technical support group.

ERR5347

DTS_SEND failed in pd. WRITE_SIG_LINK.

ACTION: Contact your technical support group.

ERR5348

Some msg were still waiting in the DTOB when the DISABLE msg is sent to the card. DTOB has been cleared. Pd. DDSL_DIS_MSG

ACTION: Information only, no action required.

ERR5349

Some msg were still waiting in the DTOB when the ENABLE msg is sent to the card. DTOB has been cleared. Pd. REQ_ENABLE.

ACTION: Information only, no action required.

ERR5350

The required FR is missing in the display IE received from SwissNet CO. The charging information is ignored.

ACTION: Information only, no action required.

ERR5351

A FACILITY message other than the expected campon activation message was received at the MCDN/DPNSS call offer Gateway.

ACTION: Information only, no action required.

ERR5352

Could not allocate memory for Call ID table. No Call ID can be allocated. More memory may be required.

ACTION: Install more memory if applicable. Use LD 35 STAT MEM to get the memory status and use MEM xx to test the memory. If the memory test fails, replace the memory card following the steps in the *Hardware replacement* guide. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

ERR5355

Request to get an expedited buffer by the MSDL DCH application failed.

ACTION: Contact your technical support group.

ERR5356

Request to send a message through the MSDL expedited interface failed.

ACTION: Contact your technical support group.

ERR5357

A flow control timer was found to be active for MSDL D channel. It has been reset.

ACTION: Information only, no action required.

ERR5358

There must be an active flow control timer for the MSDL D channel. The flow control state has been reset.

ACTION: Information only, no action required.

ERR5359

Under/Overflow condition in converting ICCL Tandem Count to/from IDA Loop Avoidance Count.

ACTION: Contact your technical support group.

ERR5360 tn

Loss Plan conflict found on an IPE trunk during audit parameter download. The Loss Plan stored in the IPE trunk firmware for the unit has been reset to the Loss Plan specified in the audit message.

ACTION: Contact your technical support group.

ERR5361

Unable to allocate NPID table block in memory.

ACTION: Contact your technical support group.

ERR5362

Invalid format of the dialed (ADR) digits received over 911E trunk.

ACTION: Contact your technical support group.

ERR5363

Dialed (ADR) digits not received within specified time. 911 call treated as ANI failure.

ACTION: Information only, no action required.

ERR5364

NPID table does not exist for the 911 route.

ACTION: Refer to the *administration input/output guide*.

Use LD 21 RDB to check the table and use LD 16 RDB to check for the 911 route.

ERR5365

M911_NPID_MHPTR is Nil.

ACTION: Information only, no action required.

ERR5367

Wrong configuration for NAS Routing when the attendant is in Night Service. The following may indicate the problem:

1. NAS table is empty.

ACTION: Contact your technical support group.

2. Night DN cannot be defined as DSC.

ACTION: Contact your technical support group.

3. Night DN is not allowed to have any forward of any type (CFWAC, FBA, HTA, EHTA, HBTA)

ACTION: Contact your technical support group.

ERR5368 n

Italian CO special services: route associated to the ITXX FFC code is not configured anymore. **n** = is the route originally configured for ITXX.

ACTION: Contact your technical support group.

ERR5369 l s c u i

Invalid database configuration. Assigned authcode entered is not a valid authcode in OVL88.

l = loop

s = shelf

c = card

u = unit

i = index of the assigned authcode

ACTION: Check the database in LD 10 or LD 11.

ERR5370 tn

USCR being accessed, but customer SCPL is not defined.

ACTION: Information only, no action required.

ERR5371 tn

Set has CLS USRA but FFC package is not equipped.

ACTION: Information only, no action required.

ERR5384

The total number of messages in queue exceeds the predefined number defined in LD 17. The oldest message will be discarded in order to make room for more. The deleted messages will be displayed following this error message.

ACTION: Information only, no action required.

ERR5385

The message has been retransmitted for the specified number of times. This message will be discarded. This deleted message will be displayed following the error message.

ACTION: Contact your technical support group

ERR5386

Failed to allocate a CR for PMSI outgoing message.

ACTION: Contact your technical support group

ERR5387 a b c d

The PMSI outgoing message is exceed the maximum length.

The character will be ignored, where:

a = address of the CR contains the message

b = AUXPM, MAINPM

c = NAK counter, Timeout counter, retransmission flag

d = message length

ACTION: Contact your technical support group.

ERR5388

A digit other than 1 or 0 was entered for message monitoring option from a maintenance telephone.

ACTION: Information only, no action required.

ERR5389

A non-polling Call Register was found when auditing the PMSI Call Registers.

ACTION: Contact your technical support group.

ERR5390

Failed to allocate polling Call Register during initialization.

ACTION: Contact your technical support group.

ERR5391

The primary port is not configured. Therefore, the message monitoring commands cannot be executed from LD 37, or from a maintenance telephone.

ACTION: Contact your technical support group.

ERR5396

Call is dropped due to TSP database change.

ACTION: Contact your technical support group.

ERR5397

Service operation violated.

ACTION: Contact your technical support group.

ERR5398

One of the following has occurred.

The specified RAN route is not configured.

The specified route is not configured as a RAN route.

The RAN route is configured but no RAN member exists.

ACTION: Information only, no action required.

ERR5399

Attendant Blocking of DN (ABDN) feature is not enabled.

ACTION: Information only, no action required.

ERR5400 x y x

The PNI in the Route Data Block (LD 16), as noted by the dialed digits, is the same PNI number as currently programmed in the CDB (LD 15),

where:

x = customer number

y = customer PNI number

z = digits dialed (first 8 digits)

ACTION: Information only, no action required.

ERR5408

NACD logical call request received that contained more than the supported number of DNIS digits. The DNIS information has been truncated to the supported length.

ACTION: Information only, no action required.

ERR5409 tn

The OHOL unit assigned to the conference loop is not valid. The spare dealer conference loop was used.

ACTION: Information only, no action required.

ERR5410 tn

The OHOL unit assigned to the conference loop is not available. The spare dealer conference loop was either non existing or not available.

ACTION: Information only, no action required.

ERR5411 tn

The M2616 telephone with CLS DELA, but is not an OHOL unit has initiated a conference.

ACTION: Information only, no action required.

ERR5412

Invalid Status Register state in Low Speed Link to Option 11 Mail.

ACTION: Contact your technical support group.

ERR5413 tn

No charging information available from CO for an outgoing call.

ACTION: .Information only, no action required.

ERR5414

NIL AOC pointers found in protected trunk block.

ACTION: A possible solution is to switch the MR prompt in LD 16 to NO and then to switch it back to the current value (the TN of the trunk to follow).

ERR5415 c

For customer **c**, either the Authcode-last Retry RAN is defined with an invalid RAN route, or the route has no trunk member.

ACTION: Use LD 21 RDB to check the route information.
Use LD 16 to correct the route information.

ERR5416 c dn

For customer **c**, DISA DN **dn**, an incoming call has been waiting too long (>RTMR) for DISA RAN. As a result, the caller is removed from the RAN queue and the call proceeds to the next processing step.

ACTION: Check the RAN hardware to see if the RAN trunks are capable of handling the traffic. An alternative to decreasing the frequency of message appearance is increasing the time defined for the RAN timer.

ERR5417

Message received from analog line card contains invalid message type. The message is ignored. Format:

ERR5417 tttt mmmm

Where:

tttt = the TN the message was sent to in internat format.

mmmm = the message contents

ACTION: This message can be ignored if test messages are being sent to the line card firmware. Otherwise contact your technical support group.

ERR5418

Reverse Charging billing ID received in an AOC-D or AOC-E message from CO for an outgoing call.

This charging information is not taken into account. (TN of the trunk to follow).

ACTION: Information only, no action required.

ERR5419

The currency information received from CO in AOC-D or AOC-E message overflows the storing area limit (4 294 967 295).

This charging information will no be taken into account.
(TN of the trunk to follow)

ACTION: Information only, no action required.

ERR5420

Overflow during computing of AOC information received from CO.

This charging information is not to be taken into account.
(TN of the trunk to follow).

ACTION: Information only, no action required.

ERR5421

Null time stamp found in AOC-S structure. Processing of the charging information not possible. (TN of the trunk to follow).

ACTION: Information only, no action required.

ERR5422

The AOC-D or AOC-E charging information received from CO is smaller than the previous one. This information is discarded. (TN of the trunk to follow).

ACTION: Information only, no action required.

ERR5423

No 500 set TN found to send Message Waiting Indication from.

ACTION: Refer to the *administration input/output guide*. Use LD 10 to define a pseudo-TN block with SMSA Class of Service, where y is the customer number.

ERR5424

Procedure DO_XALC_SETS/DO_ANALOG_SETS module LIN5
Input received from Standalone Mail Message server. These sets
should not exist outside of the configuration.

ACTION: Contact your technical support group.

ERR5425

Buffer to the PRI (QPC720) hardware has overflowed.

ACTION: If necessary, replace the PRI card following the steps in
the *Hardware replacement* guide.

ERR5427

Failure on a D-ch used by VNS.

ACTION: Contact your technical support group.

ERR5428

Failure on a bearer trunk used by VNS.

ACTION: Contact your technical support group.

ERR5429

Unexpected event for the VNS state handler.

<WHATS_HAPPENED><VNS_STATEPN:UVNS_DNPTR> and
if VNS state not 0:<CUST><INDEX>.

ACTION: Contact your technical support group.

ERR5430

Unexpected message received on a D-ch used by VNS
<message type>.

ACTION: Contact your technical support group.

ERR5431

Invalid message to send an a D-ch used by VNS <message type>

ACTION: Contact your technical support group.

ERR5433

FLH timer conflict found on the EXUT, XCOT cards during audit
parameter download. The FLH timer stored on the card is different
form that which is stored in the route for the unit. TN of the unit
is given.

Force disconnect timer conflict found on the CIS incoming XDID card during audit parameter download. Unproductive timer conflict found on the CIS outgoing XDID card during audit parameter download.

ACTION: Refer to the *administration input/output guide*. Use LD 16 FLH to change the timer. Use DISC l s c and ENLC l s c to disable and then re-enable the card.

ERR5434 tn

A recall message is reported by the XFEM card to the software for an AC15 tie trunk but it is ignored because either the ACRL package is restricted or the TRRL feature is not configured properly. **tn** is the TN of the faulty trunk.

If the ACRL package is restricted

ACTION: Contact your technical support group to enable the ACRL package. Reload the system if necessary.

If the TRRL feature is supposed to be configured, make sure the data configuration is correct.

ACTION: Refer to the *administration input/output guide*. Use LD xx to check the TRRL feature Use LD xx to correct.

If the TRRL feature is not to be configured, check why the system at the far-end sends a recall signal.

ACTION: Contact your technical support group for assistance from the far-end.

ERR5435 tn

A recall message is reported by the XFEM card to the software for an AC15 tie trunk but it is ignored because the trunk is not in the "answered" state. **tn** is the TN of the faulty trunk.

ACTION: Contact your technical support group and with their help, check to find out why the system at the far-end is sending a recall signal when the trunk is in this state.

ERR5436

Number of Call Registers is too low to process DASS/DPNSS calls. This can be changed in the configuration record (Overlay 17, prompt NCR).

ACTION: Refer to the *administration input/output guide*. Use LD 22 CFN to check the Call Registers. Use LD 17 NCR to increase the NCR.

ERR5437

Set is configured with DIG Member Number matching the SPRE first digit and one single DIG digit is expected. This should never happen unless wrong configuration manipulation. For instance, going from a two-digit table to a single-digit table without removing the single DIG Member Number matching the first SPRE code digit.

ACTION: Refer to the *administration input/output guide*. Use LD 20 TNB to check the DIG and LD 21 CDB to check the SPRE. Use LD 10, and LD 11 to correct the DIG, or LD 15 to correct the SPRE.

ERR5439

CPND/CLID message not sent to card from output buffer. Output buffer overflow on MCMO card. MCMO set buffer may not be large enough or is not being emptied. Impact: User will not Refer to all or part of CPND/CLID information.

ACTION: If the error messages are from the same TN, check the station or the MCMO card for defects.

Output Data: **ERRyy xx tn**, where:

yy = the error number.

xx = reference numbers for the message.

tn = terminal number (tn is in all decimals (l s c u)).

ERR5440 mm nn

Auto Set Inst. default Model No. in LD 97 mismatches with model set defined in the data base, where:

mm = the default model type

nn = the default number.

ACTION: Information only, no action required.

ERR5441

Facility message error. Incorrect Facility message is sent to the user.

ACTION: Contact your technical support group.

ERR5442

The Set Based Administration initialization routine could not allocate enough memory for the restriction control blocks. Login limits are set to zero.

ACTION: Contact your technical support group.

ERR5443 y

BTD table associated with this trunk **y** has been removed using Overlay 97. Table 0 is used.

ACTION: Either recreate BTD table number as configured in trunk block or remove all trunks associated with this card and reconfigure them with BTDT to match an existing table.

ERR5444 l s c

A mismatch between previously downloaded Busy Tone Phase 1 cadence value and audit message has occurred.

ACTION: Values on card are changed to reflect audit message. If problem continues, contact your technical support group.

ERR5445 l s c

A mismatch between previously downloaded Busy Tone Phase 2 cadence value and audit message has occurred.

ACTION: Values on card are changed to reflect audit message. If problem continues, contact your technical support group.

ERR5446 l s c

A mismatch between previously downloaded BTD call direction support value and audit message has occurred.

ACTION: Values on card are changed to reflect audit message. If problem continues, contact your technical support group.

ERR5447 l s c

A mismatch between previously downloaded Busy Tone Detect Level value and audit message has occurred.

ACTION: Contact your technical support group.

ERR5448

The EI Originating party has received a CCM for the connection of the EI conference, but this CCM does not contain any EI-I.

ACTION: Still accept the message.

ERR5449

The Wanted party has become free while involved in an EI process (waiting for the Unwanted's IPL or involved in an established EI conference), but it could not be re-rung for lack of resources or bad configuration.

ACTION: Send CRM (Congestion) on the Originating channel.

ERR5468

NFCR tree being used for Outgoing Call Barring does not exist. No calls are barred.

ACTION: Turn off OCB on the set indicated, or configure the required tree.

ERR5469

The number of digits used for LEC and ANI DN is more or less than 7 when trying to transmit ANI information to a CIS analogue/DTI trunk. The least significant digits of the ANI DN will be omitted or missing digits will be completed with ADDG.

ACTION: Check LEC prompt in LD 16 and ANI DN used.

ERR5491

Bad CPNW configuration. The Speed Call list specified in the CPNW data block of Overlay 18 is invalid.

ACTION: Contact your technical support group.

ERR5492

The PINX DN cannot be reached. Start at the first cause and follow that action. If this message reappears, go down the list one item at a time until the fault is cleared. If the fault does not clear, call your technical support group.

1. Either the configuration is invalid, or

ACTION: Program a valid configuration.

2. the D-channel is disabled, or

ACTION: Enable the D-channel.

3. The local PINX DN is not defined.

ACTION: Define the local PINX DN.

ERR5493

TCAP or ROSE protocol error for CPNW feature.

ACTION: Contact your technical support group.

ERR5511

BTD Table 0 is not defined.

ACTION: Use Overlay 97 to create Busy Tone Detection Table 0.

ERR5512 n ERR020 blocking on

More than 10 ERR020 messages received from loop **n** within 20 seconds. ERR020 messages for loop **n** has been automatically turned OFF. ERR020 will be automatically turned back ON in 20 seconds.

ACTION: Information only, no action required.

ERR5513 n ERR020 blocking off

ERR020 messages for loop **n** has been automatically turned ON.

ACTION: If accompanied by an FWH 003 message, refer to the FHW chapter.

ERR5514

Multiple appearances of a DN that is associated with a DTM key or with key 00 of a TN which has a DTM key is not permitted.

Output data: TN location DN for which an illegal multiple appearance has been found.

ACTION: Craftsperson must either deleted the multiple appearance, use another DN, or delete the DTM key.

ERR5515

Applicable when MULT = YES

Configuration error. Regarding the value of the multiplier received from the CO, the value of RURC is not correct. the RURC value should not be great than the multiplier.

ACTION: Change RURC exponent value.

ERR5516

The IDs configured on the NAS routing table must lead to a full DPNNS route, or full MCDN routes to routes including a single MCDN to DPNSS gateway.

ACTION: Reconfigure the NAS routing table.

ERR5517

The IDs configured in the NAS routing tables must be UDP or CDP DNs.

ACTION: Reconfigure the NAS routing table.

ERR5523

Parsing of name informations received from QSIG failed.

ACTION: Inconsistent name information has been received. Contact your technical support group.

ERR5524

A network call park operation is tried from one node to another for which the Call Park Networkwide feature is not defined.

ACTION: Contact your system administrator if the Call Park Networkwide operation is not defined.

ERR5526

Illegal multiple appearance of a DN assigned to a designated data mode key.

ACTION: Contact your technical support group.

ERR5532

DNIS has more than 30 digits in the PCI message which is not supported by the MMail.

ACTION: Contact your technical support group.

ERR5533

SETUP message has been received on an Australian UIPE interface with the request for a permanent connection to be established. The ISPC Reference Number included in the message does not allow the link to be established for the following reason:

The format of the message is: ERR5533 -x -y where:

y - D-channel number

x - Detail of the problem

1. Unknown ISPC Reference Number. there is no TN on any Phantom DT12 loops configured with this ISPC Reference Number.

2. The ISPC Call Reference number is not delimited by a star '*' character in Calling number field of the received SETUP message.

3. The ISPC Call Reference number is empty.

4. The ISPC Call Reference number is made of information other than the digits in the IA5 format.

5. The ISPC Call Reference number is longer than seven digits.

6. The TN for which the ISPC Reference number is configured is on a Phantom DT12 loop not on the same group as the PRI2 trunk on which the request was received.

ACTION: Check the system configuration. If the configuration is correct, contact the Administrative Entity of the Public Network.

ERR5534

The ISPC Call Reference number is empty in the Calling number field of the received SETUP message. This message is displayed when a SETUP message has been received on request for a permanent connection to be established.

ACTION: Contact the Administrative Entity of the Public Network.

ERR5535 TN <cause>

An improper configuration has been detected when an ISPC link is used to convey D-channel signaling.

The format of the message is ERR5535 TN <cause> where:

TN - ISPC D-channel slave trunk <cause> - represents the error cause:

0: SET_DTI22_PTRS failed with DT12 phantom trunk.

2: The trunk must be a TIE trunk.

3: The trunk must be configured with the DTN class of service.

4: Data corruption with the route pointer.

5: The route is not an ISL trunk.

6: The trunk is not a DID trunk.

7: The route is not configured with DSEL = DTA.

8: The route must not be an ISL route.

9: The route is not configured with DLTN = YES.

10: The route is not configured.

11: The route is not configured with PRDL = BSY.

12: The route is not configured with DTD = YES.

13: The route is not configured as outgoing.

14: The route is not configured with NEDC = ETH.

15: The route is not configured with FEDC = ETH.

16: The route is not configured with CPDC = NO.

17: DDD_PACKAGE is restricted.

ACTION: Check the system configuration and use overlay 96 to restart the process if required.

ERR5536

The ISPC Call Reference number length is longer than 7 digits. This message is displayed when a SETUP message has been received on an Australian UIPE interface with the request for a permanent connection to be established.

ACTION: Contact the Administrative Entity of the Public Network.

ERR5537 TN DN

The maximum number of calls to be performed on a data interface for D-channel signalling to use an ISPD link has been reached. This manual process has been stopped. The format of the message is:

ERR5537 TN DN, where:

TN - ISPC D-channel slave trunk

DN - represents the digits received by the Meridian 1. If no digits have been received, nothing is printed. If some digits have been received, but the DN is incomplete or invalid, the digits will be printed.

ACTION: Check the system configuration and use overlay 96 to restart the process if required. Also, check the system configuration of the far end Meridian 1.

ACTION:

ERR5538

A SETUP message has been received on an Australian UIPE interface with the request for a permanent connection to be established. As the ISPC package (#313) is not enabled, the request has been requested.

ACTION: Enable Package ISPD (#313) and reload the PBX if an ISPC link is required.

ERR5539 <type of error> <event/state> <parm1> <parm2><parm3>

Call Completion (CC) Supplementary Service. Protocol error detected by CC QSIG protocol handler.

ACTION: Contact your technical support group.

ERR8985

Invalid Group Hunt number encountered, Group Hunting terminated.

ACTION: Contact your technical support group.

ERR8986

This TN should have CFW AC configured. Procedure icp_storecfw and icp_act_allowed.

ACTION: Contact your technical support group.

ERR8987

FFC cannot be used without SPRE defined.

ACTION: Refer to the *administration input/output guide*. Use LD 15 to define SPRE.

ERR8988

Flexible Dial Tone Detection (FDTD) table not configured.

ACTION: Contact your technical support group.

ERR8999 x

Attempt to use a nonexistent ART x. Default for route type is used.

ACTION: Contact your technical support group

ERR9000 C T A

NAS routing is incorrectly configured. The routing tables should contain DN's to reach remote attendants on the network. the configuration error was noticed by the software while processing.

CUST c customer number

TEN t tenant number

ALT a alternative

The previous alternative route is probably badly defined, for example as a local DN.

ACTION: Redefine the previous alternative route.

ERR9006

Invalid ESRT configuration. ACCD intercept treatment has been given to the set.

ACTION: Correct the database.

ERR9007

Invalid OSDN configuration, caller information is not linked.

ACTION: Correct the database

ERR9008

Station set specified by OSDN is not configured with an OSN key.
Caller information is not linked.

ACTION: Correct the database.

ERR9009

Undefined CLID entry is configured for the originating DN of an ESA call. Calling number is set to customer's DFCL.

ACTION: Correct the database.

ERR9012

ESA CLID configuration error detected. Calling number for ESA call is set to customer's DFCL.

ACTION: Correct the database.

ERR9013 TN N data

Parsing of QSIG Diversion Informations received failed, or QSIG Diversion informations sent have been answered unexpectedly.
Incorrect QSIG Diversion informations are dropped.

Output parameters:

TN = TN from which information is received.

N = error number

data = dependant on error number (N)

ACTION: Report the problem along with the output parameters.

ERR9016

x NON PROVISION SERVICE y An incoming SETUP with NSF IE message is received from the NI-2 CBC master route and the service specified in the facility coding field cannot be found in service route associating with the master route. The call was terminated as public call.

Where:

x = Master route number y = NSF IE in Hex format

ACTION: Configure a service route.

ERR9021

Type 5A PAD messages were specified for an unknown trunk card type. The TN is printed.

ACTION: Contact your technical support group.

ERR9022

Type 5B PAD messages were specified for an unknown trunk card type. The TN is printed.

ACTION: Contact your technical support group.

ERR9023

Incorrect database configuration encountered. CNUS class of service conflicts with CNAA class of service.

ACTION: Correct the database configuration in LD10.

ERR9027xxx DCH TN STATEPM

WARNING: Cannot use the B-channel or the ISL trunk because the STATEPM of the trunk is not idle. The B-channel or ISL trunk is put in a maintenance busy state.

ACTION: Manually restart the given B-channel or the ISL trunk.

ERR9034 x y z

Cannot send an ISRM containing a Message Waiting NSI string. There is no NORTEL message waiting NSI string configured in Overlay 15 (for Notification (NOTI) or Cancellation (CNC)).

ACTION: FORMAT_MWI_NSI. Module DIO.

ERR9036 DO NOT PRINT

The TMDI output buffer is not allocated.

ACTION: Ensure that some unprotected memory is available, then use LD 17 and CHG CEQU (no real changes required, to rebuild the output buffer.)

ERR9044

The ANI data should be retrieved from an ANI Entry but the specified Entry does not exist in the Customer Data Block.

ACTION: Action: Configure the ANI Entry that is needed (Overlay 15).

ERR9048

AUDIT turned on Analog CLI.

ACTION: Contact your technical support group.

ERR9049

AUDIT turned off on Analog CLI.

ACTION: Contact your technical support group.

ERR9050

RAN/MIRAN channel is not available.

ACTION: Contact your technical support group.

ERR9051

The CAC conversion data must be retrieved from a CAC conversion entry but the specified entry does not exist in the Customer Data Block. The default table is used instead.

ACTION: Action: Configure the CAC conversion entry that is needed (Overlay 15).

ERR9052

VNS does not support Backup D-channel signalling.

ACTION: VNS call made using BDCH.

ERR9056

The XCT card is the only card supported by TWR1. The MFS card is not supported. The call cannot be completed

ACTION: Action: Contact your technical support group.

ERR9057

The length of FLEN in LD 86 and LD 90 is not configured. The call cannot be completed.

ACTION: Action: Contact your technical support group. The FLEN must be configured.

ERR9058

The supervision is not of the expected type.

ACTION: Contact your technical support group.

ERR9059

The data received for INS-J is more than 128 bytes.

ACTION: Contact your technical support group.

ERR9060

An invalid parameter type has been received.

ACTION: Contact your technical support group.

ERR9061

INS-J data was not expected.

ACTION: Contact your technical support group.

ERR9062

No DID digits were received in the INS-J data.

ACTION: Contact your technical support group.

ERR9063

An ACLI SSD message was unexpectedly received.

ACTION: Contact your technical support group.


ERR9064

The father CR is nil for the ACLI son call register.


ACTION: Contact your technical support group.

ERR9065


Parsing of QSIG Transfer information received failed.

ACTION: Report the problem. 

ESDA — LD 48 Enhanced Serial Data

For messages and descriptions refer to the *maintenance input/output guide*. 

ESDI — LD 48 Enhanced Serial Data

For messages and descriptions refer to the *maintenance input/output guide*. 

ESN — Electronic Switched Network

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ESN Northern Telecom Publications for details. 

FHW — Faulty Hardware

Faulty Hardware is a resident program. FHW does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

The M1 Initialization Prevention and Recovery feature prevents initializations from network loop, SDI device or Expanded SDI device faults. An FHW00x message on all maintenance TTYs indicates a loop or device fault. The faulty network loop, SDI or Expanded SDI remain enabled until one of the following occur:

- ◆ the faulty hardware is disabled by your maintenance commands
- ◆ the faulty hardware is disabled by background routines
- ◆ the faulty hardware is disabled by the FHWR function
- ◆ an initialization
- ◆ a sysload

FHW messages

FHW000 n loop response timeout

Loop **n** is faulty as detected by the LRIP function. An INI000 8000 is prevented.

ACTION: Do the following immediately:

1. Load the appropriate maintenance overlay according to the data base configuration of loop **n**. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to check the loop type of **n**:

- ◆ Use LD 32 when the loop type is a Terminal loop, a Super Loop, a Remote Loop [*without* RPE2 package 165 equipped], or a Multipurpose ISDN Signal Processor Loop. Refer to the *Administration Guide*. Use LD 22 PRT, PKG to check for RPE2 package 165.
 - ◆ Use LD 34 when the loop type is a Tone/Digit Sender Loop.
 - ◆ Use LD 38 when the loop type is a Conference Loop.
 - ◆ Use LD 46 when the loop type is a Multifrequency Sender Loop.
 - ◆ Use LD 53 when the loop type is a Remote Loop *with* RPE2 package 165 equipped. Refer to the *Administration Guide*. Use LD 22 PRT, PKG to check for RPE2 package 165.
 - ◆ Use LD 60 when the loop type is a Digital Loop.
 - ◆ Use LD 75 when the loop type is either an Integrated Digital Access Loop or a Primary Rate Interface Loop.
2. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to print the status of loop **n** to ensure that it is marked faulty. Skip the remaining steps if loop **n** is not marked “faulty”.
 3. Enter the disable command for loop **n**.
 4. Enter the disable command for all other loops that are on the same hardware card as the faulty loop.
 5. Replace the hardware card, by following the steps in the *Hardware replacement* guide.
 6. Enter the enable command for all the loops that are on the newly installed hardware card.
 7. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to print the status of loop **n** to ensure that it is no longer marked faulty.
- If you are unable to perform steps 1 to 3, the FHW function will disable the faulty loop as a low priority task.

FHW001 n SDI device response timeout

SDI device **n**, which is not defined as an Expanded D-channel, is faulty as detected by the SRIP function. An INI 8000 is prevented.

ACTION: Do the following immediately:

1. Load the appropriate maintenance overlay according to the data base configuration of SDI device **n**:

- ◆ Use LD 37 when the SDI device is either a Terminal Port or a Printer Port on a non-MSDL card.
 - ◆ Use LD 48 when the SDI device is an Application Module Link on a non-MSDL card.
 - ◆ Use LD 96 when the SDI device is on an MSDL card, or when either a Backup D-channel or a D-channel is on a non-MSDL card.
2. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to print the status of the SDI device **n** to ensure that it is marked faulty. Skip the remaining steps if the SDI device **n** is not marked faulty.
 3. Enter the disable command for the faulty SDI device.
 4. Enter the disable command for all other SDI devices that are on the same hardware card as the faulty SDI device.
 5. Replace the hardware card, by following the steps in the *Hardware replacement* guide.
 6. Enter the enable command for all the SDI devices that are on the newly installed hardware card.
 7. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to print the status of the SDI device **n** to ensure that it is no longer marked as faulty.

If you are unable to perform steps 1 to 3, the FHWR function will disable the faulty SDI device as a low priority task.

FHW002 nexpaned SDI device responce timeout

SDI device **n**, which is defined as an Expanded D-channel, is faulty as detectedby the SRIP function. an INI 8000 is prevented.

ACTION: Do the following immediately:

1. Load LD 75.
2. Print the status of the SDI device **n** to ensure that it is marked faulty and has been disabled. Skip the remaining steps if the SDI device **n** is not marked faulty.
3. Enter the disable command for the faulty SDI device.
4. Enter the disable command for all other SDI devices that are on the same hardware card as the faulty SDI device.
5. Replace the hardware card, by following the steps in the *Hardware replacement* guide.
6. Enter the enable command for all the SDI devices that are on the newly installed hardware card.

7. Print the status of the SDI device **n** to ensure that it is no longer marked as faulty.

If you are unable to perform steps 1 to 3, the FHWR function will disable the faulty Expanded SDI device as a low priority task.

FHW003 n loop overload

Loop **n** has been detected as faulty by LOIP function. INI000 0006 has been averted.

ACTION: Do the following immediately:

1. Load the appropriate maintenance Overlay according to the data base configuration of loop **n**. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to check the loop type of **n**:
2. Use LD 32 when the loop type is a Terminal loop, Super Loop, or a Remote Loop [*without* RPE2 package 165 equipped]. Refer to the *Administration Guide*. Use LD 22 PRT, PKG to check for RPE2 package 165.
3. Use LD 53 when the loop type is Remote Loop [*with* RPE2 package 165 equipped]. Refer to the *Administration Guide*. Use LD 22 PRT, PKG to check for RPE2 package 165.
4. Use LD 60 when the loop type is Digital Loop.
5. Use LD 75 when the loop type is either an Integrated Digital Access Loop or a Primary Rate Interface Loop
6. Print the status of loop **n** to ensure that it is marked “faulty”. Skip remaining steps if loop **n** is not marked “faulty”.
7. Enter the disable command for loop **n**.
8. Enter the disable command for all other loops that are on the same hardware card as the faulty loop
9. Replace the hardware card, following the steps in the *Hardware replacement* guide.
10. Enter the enable command for all the loops that are on the newly installed hardware card.
11. Print the status of loop **n** to ensure that it is no longer marked as faulty.

If you are unable to perform steps 1 to 3, the FHWR function will disable the faulty loop as a low priority task.

FHW004 n network loop has been automatically disabled

Loop **n** has been automatically disabled by the FHWR function.

ACTION: Action: Do the following immediately:

1. Load the appropriate maintenance Overlay according to the data base configuration of loop **n**. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to check the loop type of **n**:
 - ◆ Use LD 32 when the loop type is a Terminal loop, Super Loop, Remote Loop [*without* RPE2 package 165 equipped], or a Multipurpose ISDN Signal Processor Loop. Refer to the *Administration Guide*. Use LD 22 PRT, PKG to check for RPE2 package 165.
 - ◆ Use LD 34 when the loop type is a Tone/Digit Sender Loop
 - ◆ Use LD 38 when the loop type is a Conference Loop
 - ◆ Use LD 46 when the loop type is a Multifrequency Sender Loop
 - ◆ Use LD 53 when the loop type is a Remote Loop [*with* RPE2 package 165 equipped]. Refer to the *Administration Guide*. Use LD 22 PRT, PKG to check for RPE2 package 165.
 - ◆ Use LD 60 when the loop type is a Digital Loop.
 - ◆ Use LD 75 when the loop type is either an Integrated Digital Access Loop or a Primary Rate Interface Loop.
2. Enter the status command for loop **n** to ensure that it is marked “faulty” and has been disabled. Skip the remaining steps if loop **n** is not marked “faulty”.
3. Enter the disable command for all other loops that are on the same hardware card as the faulty loop.
4. Replace the hardware card, by following the steps in the *Hardware replacement* guide.
5. Enter the enable command for all the loops that are on the newly installed hardware card.
6. Print the status of loop **n** to ensure that it is no longer marked as faulty.

FHW005 n SDI device has been automatically disabled

SDI device **n**, which is not an Expanded D-channel, has been automatically disabled by the FHWR function.


ACTION: Do the following immediately:

1. Load the appropriate maintenance Overlay according to the data base configuration of SDI device **n**:
 - ◆ Use LD 37 when the SDI device is either a Terminal Port or a Printer Port, on a non-MSDL card.
 - ◆ Use LD 96 when the SDI device is on an MSDL card, or when either a Backup D-channel or a D-channel is on a non-MSDL card.
2. Enter the Status command for SDI device **n** to ensure that it is marked “faulty” and has been disabled. Skip the remaining steps if SDI device **n** is not marked “faulty”.
3. Enter the disable command for all other SDI devices that are on the same hardware card as the faulty SDI device.
4. Replace the hardware card, by following the steps in the *Hardware replacement* guide.
5. Enter the enable command for all the SDI devices that are on the newly installed hardware card.
6. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to print the status of SDI device **n** to ensure that it is no longer marked as faulty.

FHW006 n expanded SDI device has been automatically disabled

SDI device **n**, which is an expanded D-channel, has been automatically disabled by the FHWR function.

ACTION: Do the following immediately:

1. Load LD 75.
2. Enter the status command for SDI device **n** to ensure that it is marked “faulty” and has been disabled. Skip the remaining steps if the SDI device **n** is not marked “faulty”.
3. Enter the disable command for all other SDI devices that are on the same hardware card as the faulty SDI device.
4. Replace the hardware card, by following the steps in the *Hardware replacement* guide.
5. Enter the enable command for all SDI devices that are on the newly installed hardware card.
6. Refer to the *Administration Guide*. Use LD 22 PRT, CFN to print the status of SDI device **n** to ensure that it is no longer marked as faulty. 


HEX — Hexadecimal Display Codes

Hexadecimal displays on card faceplates indicate normal operation or faults.

A description and an action for the hexadecimal display codes follow the description of each card.

How to find the hex codes

If you see a hexadecimal display code you want to investigate, do the following:

1. Note the card name.
2. Locate the card name in this guide's *Index of cards*.
3. Go to the page where the card is listed.
4. Locate the hex code in the XXX *faceplate hex codes* list that follows the Purpose, Function and Feature description of the card.
5. Read the hex code description and follow the action. 

HWI – Hardware Infrastructure

How the HWI works

Hardware Infrastructure Maintenance is a resident program. HWI does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

These messages indicate errors within the Hardware Infrastructure. These maintenance messages relate to:

- ◆ Changeover and Memory Block (CMB). CMB provides DRAM control and separate updating of memory or shadowing
- ◆ Switchover (SWO)
- ◆ Network Control Bus (NCB)
- ◆ Connectors (CON)

HWI messages

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by xxx0008 or xxx008.

HWI001 HI Init: Cold Start to begin on side x.

ACTION: Information only. If this message appears repeatedly or is associated with a system problem, contact your technical support group.

HWI002 HI Init: Warm Start to begin on side x.

ACTION: Information only. If this message appears repeatedly or is associated with a system problem, contact your technical support group.

HWI003 HI: Graceful Switchover to start on side x.

ACTION: Information only, no action required.

HWI004 HI Init: Phase x (y) to start.

ACTION: Information only, no action required.

HWI005 HI Init: Cold Start to complete on side x, section y.

ACTION: Information only, no action required.

HWI006 HI Init: Warm Start to complete at side x in y seconds.

ACTION: Information only, no action required.

HWI007 HI Init: Switchover Start to complete at side x in y seconds.

ACTION: Information only, no action required.

HWI008 HI Init: created a data directory x.

ACTION: Information only, no action required.

HWI009 HI Init: saving data to directory x.

ACTION: Information only, no action required.

HWI010 HI Init: Forced Switchover to start on side x.

ACTION: Information only, no action required. Core was forced into the maintenance mode.

HWI101 CON x y: Connected to a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI102 CON x y: Disconnected from a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI103 CON x y: Connector device is unknown.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI104 CON x y: Disconnected device is unknown.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI105 CON x y: Connect event. Identification starts.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI106 CON x y: Connect event. Creating a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI107 CON x y: State transition from: a (input=b) to: c.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI108 CON x y: Created a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI109 CON x y: Simulating Disconnect-Connect for a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI110 CON x y: Deleted.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI111 CON x y: Connect event. Notifying a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI112 CON x y: Disconnect event. Notifying a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI113 CON x y: Specification of new device a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI114 CON x y: x destroyed. Affected objects: a, b.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI115 CON x y: x destroyed.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI116 CON x y: Successful probe of a.

ACTION: Information only, no action required.

HWI117 CON x y: Failed to probe a.

ACTION: Check cables in the core module backplane for bent pins or improper connections. If this problem persists, contact your technical support group.

HWI118 CON x y: Unconfigured %s connected to a.

ACTION: Verify that the above hardware is in the database.

HWI119 CON x y: Unknown device connected to a.

ACTION: Check the ID for the device on the core shelf and check the 3PE switch settings.

HWI201 NCB x y: Enabling 3PE to support: a.

ACTION: Information only, no action required.

HWI202 NCB x y: Failed to enable 3PE on group a.

ACTION: Check that 3PE has correct DIP switch setting. Check both connector ends of CNI-3PE cable (if applicable). Check that 3PE enable/disable switch is enable (up).

HWI203 NCBNCB x y: Disabling 3PE on Group a.

ACTION: Information only, no action required.

HWI204 NCB x y: Failed to disable 3PE on group a.

ACTION: Check that the 3PE has the correct DIP switch setting. Check both connector ends of the CNI-3PE cable (if applicable). Check that the 3PE enable/disable switch is in the enable (up) position.

HWI205 NCB x y: OOS testing 3PE.

ACTION: Check both connector ends of the CNI-3PE cable for bent pins or improper connections. Use TEST CNI c s p in LD 135 to test the CNI. If you need help with the commands or system responses refer to the *CCED* chapter in this guide.

HWI206 NCB x y: No response from 3PE on Group a.

ACTION: Check that the CP Norm/Maint SW is in Maint (Down) for Single Mode. Check the CNI-3PE cable (if applicable). Check 3PE ENB/DIS switch is ENB (up) or check the 3PE DIP switch setting.

HWI207 NCB x y: Unable to control 3PE state.

ACTION: Check both connector ends of CNI-3PE cable for bent pins or improper connections. Use TEST CNI c s p in LD 135 to test the CNI. If you need help with the commands or system responses refer to the *CCED* chapter in this guide.

HWI208 NCB x y: Failed OOS test.

ACTION: Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to locate the faulty components. If you need help with the commands or system responses refer to the *CCED* chapter in this guide. Replace the faulty components by following the steps in the Hardware replacement guide. After replacing the component verify that the fault is cleared.

HWI209 NCB x y: Cannot read 3PE state.

ACTION: Check the cable connection between the 3PE and the CNI. Check that the 3PE faceplate switch is in the Enb position. Use DIS EXT x to disable the 3PE card, unseat and reseat the 3PE card,

use ENL EXT x to re-enable the 3PE. If you need help with the commands or system responses refer to the *CED* chapter in this guide. Use DSPS x to disable the PS card, unseat and reseal the PS card, use ENPS x to re-enable the PS card. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

HWI210 NCB x y: Failed to service interrupt a. Number of ISR serviced: b.

ACTION: Check the cable connection between the 3PE and the CNI. Check that the 3PE faceplate switch is in the Enb position. Use DIS EXT x to disable the 3PE card. Unseat and reseal the 3PE card. Use ENL EXT x to re-enable the 3PE. If you need help with the commands or system responses refer to the *CED* chapter. Use DSPS x to disable the PS card. Unseat and reseal the PS card. Use ENPS x to re-enable the PS card. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

HWI211 NCB x y: Resuming service of interrupt a. Number of ISR Service Failures: b.

ACTION: Check the cable connection between the 3PE and the CNI. Check that the 3PE faceplate switch is in the Enb position. Use DIS EXT x to disable the 3PE card, unseat and reseal the 3PE card, use ENL EXT x to re-enable the 3PE. If you need help with the commands or system responses refer to the *CED* chapter. Use DSPS x to disable the PS card, unseat and reseal the PS card, use ENPS x to re-enable the PS card. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

HWI212 NCB x y: Masking interrupt a. Failed to detect source of this interrupt b times.

ACTION: Use STAT CNI c s p in LD 135 to get an OOS to determine why the CNI is disabled. Refer to the CCED chapter in this guide to interpret the OOS messages and follow the OOS action to clear the fault. When you are finished, verify that the fault is cleared.

HWI213 NCB x y: Unmasking interrupt a.

ACTION: Information only, no action required.

HWI214 NCB x y: Unmasking all interrupts.

ACTION: Information only, no action required.

HWI215 NCB x y: Failed to unmask interrupt a, (line b).

ACTION: Contact your technical support group.

HWI216 NCB x y: I/O interrupts from group x disabled.

ACTION: Remove all unconfigured I/O cards from the above group. Reseat or replace the I/O cards, by following the steps in the Hardware replacement guide. Reseat or replace the corresponding CNI card, by following the steps in the Hardware replacement guide. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI217 NCB x y: a interrupts from group b disabled.

ACTION: Reseat or replace the card(s) for the above group, by following the steps in the Hardware replacement guide. If you need help with the commands or system responses refer to the NPR or IGS chapter in this guide. Verify that the fault is cleared. If the fault is not cleared, reseat or replace the corresponding CNI card, following the steps in the Hardware replacement guide. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI218 NCB x y: CNI to 3PE connection mismatch.

Expected: a to 3PE b c.

Detected: d to 3PE e f .

ACTION: Check that the 3PE has the correct DIP switch setting. Check both connector ends of the CNI-3PE cable (if applicable). Check that the 3PE enable/disable switch is in the enable (up) position.

HWI219 NCB x y: Masking interrupt a failed to detect source of this interrupt b times.

ACTION: Contact your technical support group.

HWI301 CMB: CMB Cable (top cable) Faulty or Removed.

ACTION: Check both connector ends of the CP cable, A14 and C14.

HWI302 CMB: CMB remote power failed.

ACTION: Check the CEPS on the other core shelf. Check both connector ends of the CP cable, A14 and C14.

HWI303 CMB: CMB remote power restored.

ACTION: Information only, no action required.

HWI304 CMB: CMB Cable (top cable) installed.

ACTION: Information only, no action required.

HWI305 SIMM: Actual SIMM(s) found is less than configured in database.

ACTION: Reseat the SIMMs on the CP card.

**HWI306 SIMM x y: Memory fault will impact real time capacity.
(MTR : a)**

ACTION: Replace the CP card, by following the steps in the Hardware replacement guide. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI320 SIMM x y: From side a this SIMM appears without Base Address.

ACTION: Suspect a faulty SIMM. Replace the CP card, by following the steps in the Hardware replacement guide. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI321 SIMM x y: From side a this SIMM appears without size attribute.

ACTION: Suspect a faulty SIMM. Replace the CP card, by following the steps in the Hardware replacement guide. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI322 SIMM x y: From side a this SIMM appears with unknown size: b.

ACTION: Suspect a faulty SIMM. Replace the CP card, by following the steps in the Hardware replacement guide. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI323 SIMM x: Total DRAM on side 0: a megabytes, side 1: b megabytes.

Memory mismatch may affect switchover decision.

ACTION: Check the SIMMs on side c of the CP card.

HWI324 SIMM x: Total equipped DRAM on CP a: b megabytes. Specified amount of DRAM: c megabytes

ACTION: Check the SIMMs on side x. of the CP card.

HWI325 SIMM x: SIMMs on CP side y: - a - a - a - a - a - a.

a = SIMM size.

ACTION: Information only, no action required.

HWI326 SIMM x: SIMMs on CP side a: not accessible.

ACTION: Check both connector ends of the CP cable, A14 and C14. Check that both CP Norm/Maint switches are in the Norm Mode (Up).

HWI401 SWO % x: Switchover denied, system is in maintenance mode.

ACTION: Check that both CP Norm/Maint switches are in the Norm Mode (Up).

HWI402 SWO x: Switchover denied, redundancy not available.

ACTION: Check both connector ends of the CP cable, A14 and C14.

HWI403 SWO x: Switchover attempt unsuccessful.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI404 SWO x: Switchover denied. Other side deemed not better.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI405 SWO x: Switchover denied, critical resource is locked.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI406 SWO x: Failure occurred attempting to suspend SL-1 task.

ACTION: Contact your technical support group.

HWI407 SWO x: Failure occurred attempting to resume SL-1 task.

ACTION: Contact your technical support group.

HWI408 SWO x: Attempted to switchover when memory not synchronized.

ACTION: Perform MEM synchronization in LD 137 (SYNC).

HWI409 SWO: Switch back to side x fail: Will un-suspend SL-1 on side y.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI0412

SWO %s: Switchover requested, other side deemed better. (%d will be replaced with Core Shelf number).

ACTION: No action to be taken by craftsperson.

HWI500 CMB: Remote ready de-asserted.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI501 CMB: Remote ready asserted.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI502 CMB: Remote power bit de-asserted.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI503 CMB: Secondary CMB not accessible.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI504 CMB: Cable time out.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI505 CMB: Pri par err: AD=a DA=b PSC=c LMTR=d RMTR=e.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI506 CMB: Sec par err: AD=a DA=b PSC=c LMTR=d RMTR=e.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI507 CMB: Write without unlock.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI525 CMB: Spurious interrupt.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI526 CMB: RSC = x (TASK LEVEL).

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. If errors continue and the cabling is not at fault, replace the CP card, by following the steps in the Hardware replacement guide.

HWI527 CMB: RSC = x (INTERRUPT LEVEL).

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. If errors continue and the cabling is not at fault, replace the CP card, by following the steps in the Hardware replacement guide.

HWI528 CMB: Standby CP asserts READY. Begin shadowing.

ACTION: Information only, no action required.

HWI529 CMB: Primary CP cannot access secondary CP.

ACTION: Check both 14 A and 14C connector ends of the CP cables for bent pins or improper connections. Use TEST CNI c s p, TEST CPU and STAT MEM c in LD 135 to check the CNI and CP. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI530 CMB: System split via maint/norm switches.

ACTION: Information only. Manual intervention.

HWI531 CMB: MAINT/MAINT to MAINT/NORM does not shadow.

ACTION: Use TEST CPU in LD 135 to check the CP. Replace the CP card, if applicable, by following the steps in the Hardware replacement guide. After replacing the card verify that the fault is cleared. If you need help with the commands or system responses refer to the CCED chapter in this guide.

HWI532 CMB: Synchronization of memories failed.

ACTION: Use TEST CPU in LD 135 to check the CP. Replace the CP card, if applicable, by following the steps in the Hardware replacement guide. After replacing the card verify that the fault is cleared. If you need help with the commands or system responses refer to the CCED chapter in this guide.


HWI533 CMB: Synchronization of memories completed.

ACTION: Information only, no action required.

HWI534 CMB: Synchronization of memories begun: CP x master.

ACTION: Information only. Be sure HWI533 is seen after this message before further system diagnostics is done.

HWI535 CMB: Fatal error occurred on CP x. Processing will continue on CP y.

ACTION: Use TEST CPU in LD 135 to check the CP. Replace the CP card, if applicable, by following the steps in the Hardware replacement guide. After replacing the card verify that the fault is cleared. If you need help with the commands or system responses refer to the CCED chapter in this guide. 

ICU — LD 51 Intercept Computer Update

How the ICU works

The following messages indicate command errors related to the ICU feature in LD 51.

LD 51 commands		
Command	Description	Release
Update		
CUST ALL	Update all customers.	icp-5
CUST c...c	Update 1 to 5 customers (0-99). Repeat the command if more than 5 customers are to be updated.	icp-5
END	Terminate the program.	icp-5
UPD	Update the transfer information.	icp-5

ICU Messages

ICU001

Invalid command.

ACTION: Check to make sure your data is correct and re-enter the command.

ICU002

Too many characters.

ACTION: Check to make sure your data is correct and re-enter the command.

ICU003

Invalid number of parameters.

ACTION: Check to make sure your data is correct and re-enter the command.

ICU004

Customer number does not exist.

ACTION: Check to make sure your data is correct and re-enter the command.

ICU005

ICP, APL, ACD_BAS, MW, SUPP, FTC, or FFC package missing.

ACTION: Contact your technical support group.

ICU006

Invalid input.

ACTION: Check to make sure your data is correct and re-enter the command.


ICU007

ICP does not exist for this customer.

ACTION: Check to make sure your data is correct and re-enter the command.

ICU008

No customer to update.

ACTION: Information only, no action required. 

IGS — LD 39 Intergroup Switch and

In this chapter

- How the IGS works 624
 - Common commands 624
- IGS — Intergroup Switch. 625
 - How to locate Intergroup Switch cards. 626
 - IGS commands. 627
- PS/Periph Snlg — Peripheral Signaling 628
 - Group, Loop and Periph Snlg card relationship 629
 - PS card commands 630
- CC/SCG — System Clock. 631
 - SCG commands 632
 - IGS clock synchronization messages. 633
- ISR messages 634
- MSR messages 641

Before changing circuit cards, be aware of the procedures to follow as outlined in the section *Do this when replacing circuit cards*, in the *Hardware maintenance tools* chapter of this guide.

How the IGS works

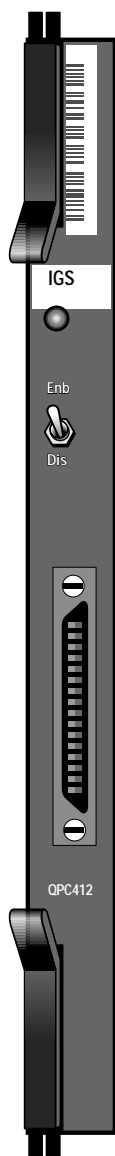
The Intergroup Switch (IGS) and System Clock Generator (SCG) or Clock Controller (CC) diagnostic is used to perform the following:

- ◆ determine the status of any Peripheral Signaling (PS), IGS, SCG, CC card
- ◆ disable and enable any PS, IGS, SCG or CC card
- ◆ switch the system clock from one SCG or CC to another
- ◆ clear minor alarm indications and the maintenance display on the active CPU

All SCG commands can be used for Clock Controllers, although LD 60 is normally used when DTI, CPI or PRI features are installed.

Common commands		
Command	Description	Release
Clear alarms and display		
CDSP	Clear the maintenance display on the active CPU.	basic-1
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1

IGS — Intergroup Switch



553-0183T IGS(ISSC)

Intergroup Switch cards are used in multigroup systems such as Meridian SL-1 XT, Options 71, 81 and 81C.

Purpose

There are four IGS cards associated with each group, composed of two cards, on each network shelf. Therefore the loss of one IGS card would only reduce intergroup traffic to that group by 25 percent.

All IGS cards are interconnected with one another through a Junctor Board.

Function

The Intergroup Switch acts as a space switch, passing PCM from one group to another.

The master System Clock Generator distributes timing signals through the IGS to its network shelf peripheral signalling card.

Features

The faceplate of the IGS card includes the following features:

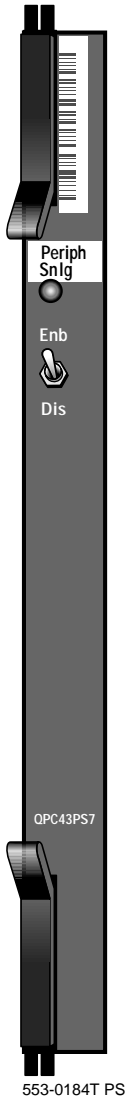
- ◆ an LED, when lit indicates a disabled card
- ◆ an ENB, DIS switch to hardware enable or disable the card
- ◆ a connector used to interconnect the IGS and Junctor Board

How to locate Intergroup Switch cards

Group	Shelf or module	Card slot	IGS card
0	0	12	0
0	0	13	2
0	1	2	3
0	1	3	1
1	0	12	4
1	0	13	6
1	1	2	7
1	1	3	5
2	0	12	8
2	0	13	10
2	1	2	11
2	1	3	9
3	0	12	12
3	0	13	14
3	1	2	15
3	1	3	13
4	0	12	16
4	0	13	18
4	1	2	19
4	1	3	17

IGS commands		
Command	Description	Release
Check status of IGS		
STAT IGS x	Get status of IGS card x (0 to 19). The response x DSBL x BUSY indicates the number of junctor timeslots disabled or busy associated with the specified IGS card.	basic-1
Disable an IGS		
DIS IGS x	Disables IGS card x (0 to 19).	basic-1
DISI IGS x	Disables IGS card x (0 to 19) when all timeslots are idle. Use of this command is recommended instead of DIS IGS, which interrupts calls in progress. The command's progress completion is indicated by an output of ISR043 on the maintenance terminal.	basic-1
Enable an IGS		
ENL IGS x	Enables IGS card x (0 to 19).	basic-1
Stop test		
END	Stop current operation or test.	basic-1

PS/Periph Snlg — Peripheral Signaling



The CPU communicates with the terminal equipment through the Peripheral Signaling card. One Peripheral Signaling card is required per network shelf, each controlling up to 16 loops in a 32 loop group. The peripheral signaling circuitry is combined with other circuitry on some single group systems.

Purpose

The Peripheral Signaling card has two functions:

- ◆ to provide a signaling interface between the parallel CPU bus and the serial bit stream required by the PE equipment
- ◆ to generate and distribute timing signals for synchronous PCM transmission throughout the system

Function

Signaling — A change of state, for example Off-Hook or Dialing, on a PE card generates a 16 bit MESSIN, setting a flag. During Time Slot (TS) Ø the network loop scans each of its terminals for flags and enables the flagged terminal during subsequent TS Øs. The PS enables each network loop in turn during TS Ø and when it detects a MESSIN, locks on and receives the 16 bits. It takes 29 successive TS Øs to gather the MESSIN and generate an interrupt. The CPU recovers the 16 bits by reading the MESSIN Register, of the PS card and this action allows the PS and network card to resume scanning.

When the CPU writes into the PS MESSOUT Register, the PS card serially shifts the 16 bit MESSOUT out through the network loop to the PE card.

Timing — A 16.384 MHz oscillator on the PS card is divided down to obtain the 2.048 MHz clock and 4 kHz for CODEC sync. In a single group enhanced SL-1, the PS card associated with the active CPU is the master clock source. In multigroup systems, each PS card obtains its master clock from the System Clock Generator through the Intergroup Switch card.

Features

The faceplate includes the following features:

- ◆ a LED, when lit indicating a disabled card
- ◆ an ENB, DIS switch to hardware enable or disable the card

Group, Loop and Periph Sngl card relationship

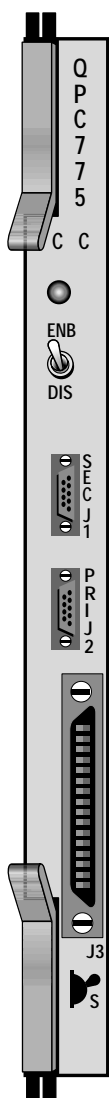
Group	Shelf	PS	Loops
0	0	0	0-15
0	1	1	16-31
1	0	2	32-47
1	1	3	48-63
2	0	4	64-79
2	1	5	80-95
3	0	6	96-111
3	1	7	112-127
4	0	8	128-143
4	1	9	144-159

PS card commands		
Command	Description	Release

Check status of PS

STAT PER x	<p>Get status of PS card x (0 to 9).</p> <p>Possible responses:</p> <p>DSBL: NOT RESPONDING = Peripheral Signaling card is disabled and not responding. The PS is either missing, disabled via its faceplate switch or faulty.</p> <p>Note: If there is a fault in the extender pair for the network shelf, the status of the PS card will also be DSBL: NOT RESPONDING.</p> <p>DSBL: RESPONDING = The PS card is disabled and responding to the CPU. The PS may have been disabled by manual request (DSPS) or the associated extender pair may have been manually disabled. If neither of these conditions exist, the card may have been disabled because of an overload condition on the associated loop.</p> <p>Check for OVD messages appearing in previous TTY output. An attempt to enable a PS card which was disabled because of an overload may result in a recurrence of the overload condition: the system's service may be impaired for approximately 2 minutes.</p>	basic-1
------------	--	---------

CC/SCG — System Clock



553-0185T CC(ISSC)

The System Clock Generator (SCG) and Clock Controller (CC) cards are used in multigroup systems which can contain up to five groups. There are two redundant clock cards and either one can be made active regardless of which CPU is active. In addition, Clock Controller cards synchronize the Meridian 1 network to an external source clock for PRI and DTI functions. These PRI and DTI functions are further described in the ISDN Basic Rate Interface NTP.

Purpose

There can be up to five separate network buses in a multigroup system. The SCG and CC is required to synchronize the flow of the PCM from one group to another by doing the following:

- ◆ generating master timing for all multiplex network loops
- ◆ providing synchronization for all CODECs
- ◆ monitoring the other SCG and CC cards for failure and switching over when necessary or when requested by the CPU

Function

The active SCG CC provides the following through junctors:

- ◆ eight mHz clock, through the IGS, to each Peripheral Signaling card for timing
- ◆ four kHz synchronization for each CODEC
- ◆ both SCGs CCs send status to one another, thereby keeping only one SCG CC active
- ◆ each SCG CC sense clock on its twin to detect failure

SCG commands		
Command	Description	Release
Check status of SCG		
STAT SCG x	Get status of SCG x (0 or 1).	basic-1
Disable a SCG		
DIS SCG x	Disable SCG card x (0 or 1).	basic-1
Enable SCG		
ENL SCG	Enable SCG x (0 or 1).	basic-1
Switch SCGs		
SCLK	Switch clock to other SCG.	basic-1
Stop test		
END	Stop current operation or test.	basic-1

IGS clock synchronization messages

The following messages indicate command errors related to the clock synchronization hardware.

IGS501 c

Requested clock **c** card failed to respond.

ACTION: Refer to the *ISDN Basic Rate Interface NTP*.

IGS502 c

Requested clock **c** card failed self-test.

ACTION: Refer to the *ISDN Basic Rate Interface NTP*.

IGS503 c s loop

Phase locked on primary source **loop**, DTI shelf **s**, and the Clock Controller **c** is active.

ACTION: Refer to the *ISDN Basic Rate Interface NTP*.

IGS504 c s loop

Phase locked on secondary source **loop**, DTI shelf **s**, and the Clock Controller **c** is active.

ACTION: Refer to the *ISDN Basic Rate Interface NTP*.

IGS505 c s loop

Unable to track on primary source **loop**, DTI shelf **s** and the Clock Controller **c** is active.

ACTION: Refer to the *ISDN Basic Rate Interface NTP*.

IGS506 c s loop

Unable to track on secondary source **loop**, DTI shelf **s**, and the Clock Controller **c** is active. Free running.

ACTION: Refer to the *ISDN Basic Rate Interface NTP*.

ISR messages

The Intergroup Switch (IGS) and System Clock Generator (SCG) diagnostic (LD 39) applies to the Meridian SL-1 XN equipped with Generics X08 and X11. The program is used to maintain Peripheral Signaling (PS), IGS or System Clock Generator SCG cards.

ISR000

Program identifier.

ACTION: The IGS program is loaded and ready for you to enter commands.

ISR001

Illegal character in command.

ACTION: Check to make sure your data is correct and re-enter the command.

ISR002

Wrong number of input parameters.

ACTION: Check to make sure your data is correct and re-enter the command.

ISR003

Illegal command.

ACTION: Check to make sure your data is correct and re-enter the command.

ISR004

Group out of range.

ACTION: Check to make sure your data is correct and re-enter the command. Groups are numbered from 0 to 4.

ISR010

Command ignored as an active input device would be disabled.

ACTION: Obtain the status of the device. If applicable, switch so that the device you want is not active.

ISR015 loop

Loop specified does not respond. During ENPS command, an attempt is made to re-enable all loops associated with peripheral signaling card.

ACTION: Check and replace the Segmented Bus Extender card, the 3 Port Extender card or the cable between the two extender cards on the CPU and the network shelf of the loop associated with the peripheral signaling card. When replacing cards or cables use the steps in the *Hardware replacement* guide. After replacing each card, see if this message reappears. If it reappear replace another card. If you need help with the commands or system responses refer to the *CED* chapter in the guide.

ISR018

Only one DISI IGS allowed at a time.

ACTION: Check to make sure your data is correct and re-enter the command.

ISR020

Specified Peripheral Signaling card out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command. Peripheral Signaling cards are numbered from 0 to 9.

ISR021

Specified Peripheral Signaling card does not respond.

ACTION: Check and replace the Segmented Bus Extender card or the 3 Port Extender card or the cable between the two extender cards on the CPU and the network shelf of the loop associated with the Peripheral Signaling card. When replacing cards or cables use the steps in the *Hardware replacement* guide. After replacing each card, see if this message reappears. If it reappears replace another card. If you need help with the commands or system responses refer to the *CED* chapter in the guide.

ISR022

Specified Peripheral Signaling card already enabled.

ACTION: Ensure that this is the command you wanted to use.

ISR025

Cannot determine which CPU is active.

ACTION: Use STAT CPU in LD 35 to determine which CPU is active. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

ISR026 p

A peripheral signaling interrupt fault is present. p identifies the faulty card.

ACTION: Replace the Peripheral Signaling card and verify that the fault is clear.

ISR027

A fault in the outgoing signaling circuitry has been detected on the Peripheral Signaling card being examined.

ACTION: Replace the PS card as following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is clear.

ISR029

Customer does not exist.

ACTION: Check to make sure your data is correct and re-enter the command.

ISR033

System clock must be switched before proceeding.

ACTION: Use the SCLK command to switch the clocks. Refer to the *ISDN Basic Rate Interface NTP*.

ISR040

Intergroup switch out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command. Intergroup switch cards are numbered from 0 to 19. Refer to the section *How to locate Intergroup Switch cards*, in the chapter.

ISR041

Intergroup switch specified is not responding.

ACTION: Replace the IGS card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. If the fault does not that clear, check and replace the Segmented Bus Extender card or the 3 Port Extender card or the cable

between the two extender cards on the CPU and the network shelf of the loop associated with the peripheral signaling card. When replacing cards or cables use the steps in the *Hardware replacement* guide. After replacing each card, see if this message reappears. If it does reappear replace another card. If you need help with the commands or system responses go to the *CED* chapter in the guide.

ISR042

Intergroup switch is already enabled.

ACTION: Ensure that this is the command you wanted to use.

ISR043

DISI IGS command completed.

ACTION: Information only, no action required.

ISR050

System clock generator specified is out-of-range.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands* and the *PRI Maintenance Guide*. Check to make sure your data is correct and re-enter the command. Clock cards are numbered from 0 and 1.

ISR051

SCG specified is not responding.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands* and the *PRI Maintenance Guide*.

ISR052

SCG specified is already enabled.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands* and the *PRI Maintenance Guide*. Ensure that this is the command you wanted to use.

ISR054

Idle CPU must be switched in to replace the present clock.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*. Use SCPU in LD 35 to switch the CPU. If you need help with the commands or system responses go to the *CED* chapter in this guide.

ISR060 n

SCG **n** cannot be switched in to replace the present clock.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*. Replace the clock card and verify that the fault is clear.

ISR061 n

SCG **n** cannot be switched in because loss of service will result to the Peripheral Signaling cards specified. List is composed of the numbers of the specified Peripheral Signaling cards affected.

ACTION: Contact your technical support group. Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands* and the *PRI Maintenance Guide*.

ISR062 n

Software and hardware status of SCG **n** do not match

ACTION: Contact your technical support group. Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands* and the *PRI Maintenance Guide*.

ISR070

Specified equipment could not be enabled because of the CPU bus extender to the network shelf is disabled.

ACTION: Check and replace the Segmented Bus Extender card or the 3 Port Extender card or the cable between the two extender cards on the CPU and the network shelf. When replacing cards or cables use the steps in the *Hardware replacement guide*. After replacing each card, see if this message reappears. If it reappears replace another card. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

ISR071

Supposed to free run, but H/W is tracking on primary.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR072

Supposed to free run, but H/W is tracking on secondary.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR073

Supposed to track on primary, but H/W is tracking on secondary.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR074

Supposed to track on primary, but H/W is free run.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR075

Supposed to track on secondary, but H/W is free run.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR076

Supposed to track on secondary, but H/W is free run.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR077

Tracking rejected. Primary reference is not specified.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR078

Tracking rejected. Secondary reference is not specified.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR079 loop

Loop is disabled. Command performed no action.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR080

NT, 61, and 61E systems cannot use LD 39.

ACTION: Refer to the *maintenance input/output guide, LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR100

An invalid error message was received from the clock controller.

ACTION: Contact your technical support group. Refer to the *maintenance input/output guide*, *LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR101

Superloop on the specified PS card.

ACTION: Use LD 32 ENPS/DSPP commands.

ISR102

Loop is a Digital trunk Interface or Primary Rate Interface.

ACTION: Refer to the input/output guide, *LD 60 Clock Controller Commands*, and the *PRI Maintenance Guide*.

ISR104

BRSC<->PRI B-ch connection is using the IGS being disabled.
Cannot complete DISI command.

ACTION: Use the DIS IGS command or disconnect the nail-up by disabling the BRSC in LD 32 first.

ISR105

A TCON connection is using the IGS being disabled. Cannot complete DISI command.

ACTION: Use the DIS IGS command or disconnect the TCON first.

MSR messages

MSR Messages

The Multigroup Switch Replacement Diagnostic (LD 39) applies to multigroup systems equipped with Generic X37. The Multigroup Switch Diagnostic provides a means of:

- ◆ determining the status of any Peripheral Signaling (PS), Multigroup Switch (MGS), Multigroup Extender (MGE) or Multigroup Control (MGC) card
- ◆ disabling and enabling any PS, MGS, MGE or MGC card
- ◆ switching the system clock from one MGC to another

MSR Messages

MMSR000 to MSR070

These messages pertain to the SL-1 VL, VLE, XL and the QCA97 XN used with Generic X37 software.

ACTION: See the NTPs specific to this equipment. 

INI — System Initialization

In this chapter

- How the INI works 644
 - Causes of initialization 644
 - Example of a Clean INI Message 644
 - Example of an INI Message indicating typical I/O
 - Device faults 645
- How to decode INI messages 647
 - Output codes 647
 - Fault codes 666
 - Decoding the Fault Address Code 682
 - Fault Address Codes for page 3 683

How the INI works

The Initialization program (INI) is a resident program used to build the unprotected data blocks in Meridian 1 software. An occurrence of an initialization is indicated by INI messages.

Causes of initialization

The Initialization program is run when the following conditions occur:

- ◆ after a SYSLOAD is complete
- ◆ when the manual initialize button is pressed on the Miscellaneous (MISC), Interface (IF) or Call Processor (CP) card of the active CPU
- ◆ when a software or firmware fault is detected
- ◆ when a hardware fault in CE equipment is detected

For more information refer to: *You should know this* chapter, *Software tools, System reaction when things don't go right*.

Example of a Clean INI Message

When an INI is invoked on a system without faults, a clean INI message is output. The following is an example of a clean INI message:



```
INI000 000002 10 09 38 000000 07A188 00000A
007C99 0 1 000000
```

- ◆ **INI000** = Output Code. The output code INI000 always appears as shown in the above example
- ◆ **000002** = Fault Code. Identifying the cause of the initialization*
- ◆ **10** = Hour of initialization
- ◆ **09** = Minute of initialization
- ◆ **38** = Second of initialization

- ◆ **000000** = Program page. At the time of trap, in hexadecimal*
- ◆ **07A188** = Program counter. In hexadecimal.*
- ◆ **00000A** = Fault page. In hexadecimal. Hardware faults are indicated when this field displays 000003 (page 3).*
- ◆ **007C99** = Fault address. Valid for a hardware fault if the fault page is 3 and only one fault is detected.*
- ◆ **0** = Active CPU or FN. If it is not known, a question mark (?) is output. This field only occurs for dual CPU systems and is not included in INI message from single CPU systems.
- ◆ **1** = Active clock controller. For multi-group systems only and is not included in INI message from single group systems.
- ◆ **000000** = Hex contents of the maintenance display prior to the initialization.*

* The number of digits in these fields may vary from the above example. However the position of the field within the message and the meaning does not change.

Example of an INI Message indicating typical I/O Device faults.



```
INI000 002000 10 09 38 000000 07A188
00000A 000DC0 0 1 000000
INI002 12/08/96 10:35:52129013
OPRDATA: 000000080 00000001
```

- ◆ **INI002** = the output code indicating an I/O fault.
- ◆ **OPRDATA** = a 30-character field to help determine how to clear fault
- ◆ **000080** = the hex code field indicating that SDI port 0 is faulty.
- ◆ **00008A** = the hex code field indicating that SDI port 10 is faulty.

In this example, the maintenance hexadecimal faceplate display of the MISC or IF or CP card will show **8A** or **08A**. The maintenance hexadecimal faceplate display can only indicate one code, that is the last hex code.

How to decode INI messages

To help you decode INI messages the following three sections are provided.

- ◆ output codes
- ◆ fault codes
- ◆ fault address codes



Most important to the technician is that the Output Codes section identifies faulty cards and, in most cases, where they are located in the various shelves of the equipment.

The Fault Codes section identifies the cause of the INI and supplies supporting information to the Output Codes section.

The Fault Address Codes section is used in rare cases when there are no output codes.

Output codes

INI000 fc h m s pp pc fc fp fa (a cpu) (a c c) hex

An initialization has taken place. Up to 12 additional fields are associated with this message output. For an explanation of these fields see *Example of INI messages* in this chapter.

ACTION: Examine the associated fields and any subsequent INI output codes for fault indicators.

INI002 hex

An I/O device fault is indicated. The faceplate **hex** display or this message **hex** code identifies the faulty device requiring replacement.

ACTION: Follow the steps in the *Hardware replacement* guide and replace the I/O card indicated by the hex code. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *IOD* chapter. The following table of INI002 hex codes identify the I/O cards:

INI002 Hex code	For card type	Addressed as
70	MSI	device 0
71	MSI	device 1
80	SDI, ESDI or MSDL	port 0
81	SDI, ESDI or MSDL	port 1
82	SDI, ESDI or MSDL	port 2
83	SDI, ESDI or MSDL	port 3
84	SDI, ESDI or MSDL	port 4
85	SDI, ESDI or MSDL	port 5
86	SDI, ESDI or MSDL	port 6
87	SDI, ESDI or MSDL	port 7
88	SDI, ESDI or MSDL	port 8
89	SDI, ESDI or MSDL	port 9
8A	SDI, ESDI or MSDL	port 10
8B	SDI, ESDI or MSDL	port 11
8C	SDI, ESDI or MSDL	port 12
8D	SDI, ESDI or MSDL	port 13
8E	SDI, ESDI or MSDL	port 14
8F	SDI, ESDI or MSDL	port 15

INI003 hex

Network or Peripheral Signaling card fault.

1. The faceplate **hex** display or this message **hex** code shows one or more of the following for Peripheral Signaling card faults.

ACTION: Follow the steps in the *Hardware replacement* guide and replace the Peripheral Signaling card indicated by the hex code. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *NPR* or *IGS* chapter. The following table of INI003 hex codes identify the Peripheral Signaling cards.

INI003 Hex code	For card type	Addressed as
40	Peripheral Signaling	card 0
41	Peripheral Signaling	card 1
42	Peripheral Signaling	card 2
43	Peripheral Signaling	card 3
44	Peripheral Signaling	card 4
45	Peripheral Signaling	card 5
— continued —		

INI003 Hex code	For card type	Addressed as
46	Peripheral Signaling	card 6
47	Peripheral Signaling	card 7
48	Peripheral Signaling	card 8
49	Peripheral Signaling	card 9

2. The faceplate **hex** display or this message **hex** code shows one or more of the following for network or TDS or Conference loop faults.

ACTION: Follow the steps in the *Hardware replacement* guide and replace the network, tone and digit switch, or conference card as indicated by the hex code. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *NPR*, *TDS* or *CFN* chapter. The following table of INI003 hex codes identify the loops.

INI003 Hex code	For NET or T&DS or Conf or CT loop	Loop is in network shelf	Shelf is in Group
90	0	0	0
91	1	0	0
92	2	0	0
93	3	0	0
94	4	0	0
95	5	0	0
96	6	0	0
97	7	0	0
98	8	0	0
99	9	0	0
9A	10	0	0
9B	11	0	0
9C	12	0	0
9D	13	0	0
9E	14	0	0
9F	15	0	0
A0	16	1	0
A1	17	1	0
A2	18	1	0
A3	19	1	0
A4	20	1	0

— continued —

INI003 Hex code	For NET or T&DS or Conf or CT loop	Loop is in network shelf	Shelf is in Group
A5	21	1	0
A6	22	1	0
A7	23	1	0
A8	24	1	0
A9	25	1	0
AA	26	1	0
AB	27	1	0
AC	28	1	0
AD	29	1	0
AE	30	1	0
AF	31	1	0
B0	32	0	1
B1	33	0	1
B2	34	0	1
B3	35	0	1
B4	36	0	1
B5	37	0	1
B6	38	0	1
B7	39	0	1
B8	40	0	1
B9	41	0	1
BA	42	0	1
BB	43	0	1
BC	44	0	1
BD	45	0	1
BE	46	0	1
BF	47	0	1
C0	48	1	1
C1	49	1	1
C2	50	1	1
C3	51	1	1
C4	52	1	1
C5	53	1	1
C6	54	1	1
C7	55	1	1
— continued —			

INI003 Hex code	For NET or T&DS or Conf or CT loop	Loop is in network shelf	Shelf is in Group
C8	56	1	1
C9	57	1	1
CA	58	1	1
CB	59	1	1
CC	60	1	1
CD	61	1	1
CE	62	1	1
CF	63	1	1
D0	64	0	2
D1	65	0	2
D2	66	0	2
D3	67	0	2
D4	68	0	2
D5	69	0	2
D6	70	0	2
D7	71	0	2
D8	72	0	2
D9	73	0	2
DA	74	0	2
DB	75	0	2
DC	76	0	2
DD	77	0	2
DE	78	0	2
DF	79	0	2

3. Follow the steps in the *Hardware replacement* guide and replace the network, tone and digit switch, or conference card as indicated by the hex code. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *NPR*, *TDS* or *CFN* chapter. The following table of INI003 hex codes, which only apply to the SL-1 XT, Option 71 and Option 81, identify the loops.

INI003 Hex code	For NET or T&DS or Conf or CT loop	Loop located in network shelf	Shelf located in Group
190	80	1	2
191	81	1	2
— continued —			

INI003 Hex code	For NET or T&DS or Conf or CT loop	Loop located in network shelf	Shelf located in Group
192	82	1	2
193	83	1	2
194	84	1	2
195	85	1	2
196	86	1	2
197	87	1	2
198	88	1	2
199	89	1	2
19A	90	1	2
19B	91	1	2
19C	92	1	2
19D	93	1	2
19E	94	1	2
19F	95	1	2
1A0	96	0	3
1A1	97	0	3
1A2	98	0	3
1A3	99	0	3
1A4	100	0	3
1A5	101	0	3
1A6	102	0	3
1A7	103	0	3
1A8	104	0	3
1A9	105	0	3
1AA	106	0	3
1AB	107	0	3
1AC	108	0	3
1AD	109	0	3
1AE	110	0	3
1AF	111	0	3
1B0	112	1	3
1B1	113	1	3
1B2	114	1	3
1B3	115	1	3
1B4	116	1	3
— continued —			

INI003 Hex code	For NET or T&DS or Conf or CT loop	Loop located in network shelf	Shelf located in Group
1B5	117	1	3
1B6	118	1	3
1B7	119	1	3
1B8	120	1	3
1B9	121	1	3
1BA	122	1	3
1BB	123	1	3
1BC	124	1	3
1BD	125	1	3
1BE	126	1	3
1BF	127	1	3
1C0	128	0	4
1C1	129	0	4
1C2	130	0	4
1C3	131	0	4
1C4	132	0	4
1C5	133	0	4
1C6	134	0	4
1C7	135	0	4
1C8	136	0	4
1C9	137	0	4
1CA	138	0	4
1CB	139	0	4
1CC	140	0	4
1CD	141	0	4
1CE	142	0	4
1CF	143	0	4
1D0	144	1	4
1D1	145	1	4
1D2	146	1	4
1D3	147	1	4
1D4	148	1	4
1D5	149	1	4
1D6	150	1	4
1D7	151	1	4
— continued —			

INI003 Hex code	For NET or T&DS or Conf or CT loop	Loop located in network shelf	Shelf located in Group
1D8	152	1	4
1D9	153	1	4
1DA	154	1	4
1DB	155	1	4
1DC	156	1	4
1DD	157	1	4
1DE	158	1	4
1DF	159	1	4

INI004 hex

A memory fault. The faceplate **hex** display or this message **hex** code shows one or more of the following, indicating a defective memory module or CMA card.

ACTION: Follow the steps in the *Hardware replacement* guide and replace the memory modules (card) indicated by the hex code. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *CED* chapter. The following table of INI004 hex codes identify the memory cards.

INI004 Hex code	For memory card	In CE shelf with CPU
10	00	0
11	01	0
12	02	0
18	10	1
19	11	1
1A	12	1

INI005 000x

A CPU or FN fault, where **x** equals 0 for a CPU 0 fault and **x** equals 1 for a CPU 1 fault.

ACTION: Start at the first or most likely cause and go down the list until the fault is cleared. Follow the steps in the *Hardware replacement* guide to replace the cards indicated. If the fault does not clear, call your technical support group. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *CED* chapter in this guide.

1. The Interface card may be faulty.

ACTION: Use STAT CPU x in LD 35 to get the status of the both IF cards. Use TCPU in LD 35 to test the inactive IF card. If necessary, replace the IF card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

2. The Function card

ACTION: Use STAT CPU x in LD 35 to get the status of the both FN cards. Use TCPU in LD 35 to test the inactive FN card. If necessary, replace the FN card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. A ROM daughter board on FN, especially if display shows 02, may be faulty.

ACTION: If necessary, replace the ROM daughter board following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

4. Configuration and Memory Arbitrator cards may be faulty.

ACTION: Use STAT CMA x in LD 35 to get the status of the CMA cards. Use ENL CMA x in LD 35 to enable CMA and run TEST in LD 45 to verify that the fault is cleared. If the CMA card does not enable and the fault does not clear, replace the CMA card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

INI006 hex

A device or card has been detected which is not defined in the configuration record. The device must be removed or programmed in the configuration record. An accompanying INI message, with a **hex** code, should identify the device or card.

ACTION: Remove the card indicated, if appropriate for your situation, and follow the steps in the *Hardware replacement* guide. To program the card, if appropriate for your situation, use LD 17 in the *administration input/output guide*. The following table of INI006 hex codes identify the card, port or device.

INI006 Range of Hex code	card, port or device	see Output codes for specific card
10 to 1A	memory	INI004
40 to 49	peripheral signaling	INI003
50 to 63	IGS	INI007
70 to 71	MSI	INI002
80 to 8F	SDI	INI002
90 to 1DF	loops	INI003
E0 to FF	extenders	INI014

INI007 hex

Intergroup Switch fault. The faceplate **hex** display or this message **hex** code indicates one or more defective IGS card.

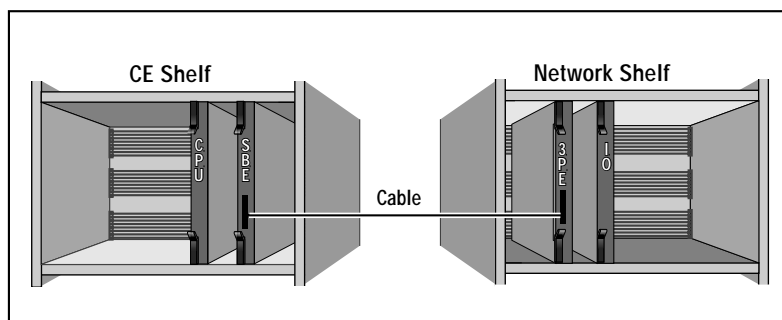
ACTION: Follow the steps in the *Hardware replacement* guide to replace the cards indicated. If the fault does not clear, call your technical support group. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *IGS* chapter. The following table of INI007 hex codes that identify the IGS cards in this guide.

INI007 Hex code	For IGS card	Card is in network shelf	Shelf is in Group
50	0	0	0
51	1	1	0
52	2	0	0
53	3	1	0
54	4	0	1
55	5	1	1
56	6	0	1
57	7	1	1
58	8	0	2
59	9	1	2
5A	10	0	2
5B	11	1	2
5C	12	0	3
5D	13	1	3
5E	14	0	3
— continued —			

INI007 Hex code	For IGS card	Card is in network shelf	Shelf is in Group
5F	15	1	3
60	16	0	4
61	17	1	4
62	18	0	4
63	19	1	4

INI008 hex

The CPU or FN tried to access an I/O device port but could not because of a faulty extender (SBE, 3PE, cable). The CPU is unable to indicate which extender is at fault. It can only indicate that the I/O device it tried to access did not respond. The I/O device is indicated in the faceplate **hex** display or this message **hex** code .



553-0186T SI

1. If there is no hex indicator, the standby CPU has full access through the extenders to the network shelves but the active CPU does not.

ACTION: Check all the Segmented Bus Extender cards or the 3 Port Extender cards; or the cables between the extenders associated with the active CPU, and all network shelves. Replace faulty components following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

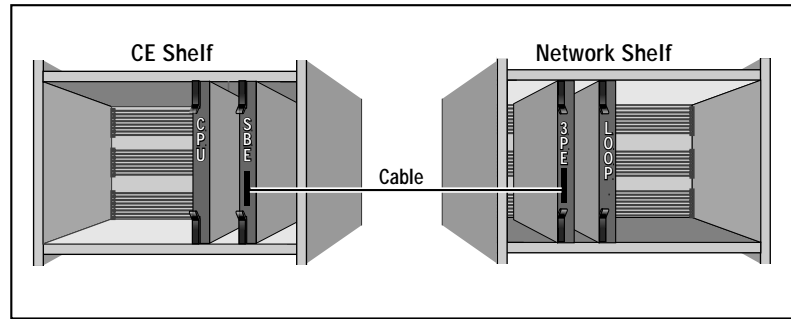
2. If the output code includes one or more hex indicators, the standby CPU has limited access through the extenders to the network shelves.

ACTION: Use the INI008 Hex code table below to locate the network shelf where the I/O device is situated. Check the Segmented Bus Extender card, or the 3 Port Extender card, or the cable between the standby CPU and the located network shelf. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

INI008 Hex code	I/O device	Port on I/O device
70	MSI	device 0
80	SDI, ESDI or MSDL	port 0
81	SDI, ESDI or MSDL	port 1
82	SDI, ESDI or MSDL	port 2
83	SDI, ESDI or MSDL	port 3
84	SDI, ESDI or MSDL	port 4
85	SDI, ESDI or MSDL	port 5
86	SDI, ESDI or MSDL	port 6
87	SDI, ESDI or MSDL	port 7
88	SDI, ESDI or MSDL	port 8
89	SDI, ESDI or MSDL	port 9
8A	SDI, ESDI or MSDL	port 10
8B	SDI, ESDI or MSDL	port 11
8C	SDI, ESDI or MSDL	port 12
8D	SDI, ESDI or MSDL	port 13
8E	SDI, ESDI or MSDL	port 14
8F	SDI, ESDI or MSDL	port 15

INI009 hex

The CPU or FN tried to access a Network, Tone and Digit switch, or conference loop, but could not because of a faulty extender (SBE, 3PE, cable). The CPU is unable to indicate which extender is at fault. It only indicates that the loop it tried to access did not respond. The loop is shown in the faceplate **hex** display or this message **hex** code .



553-0187T SI

1. If there is no hex indicator, the standby CPU has full access through the extenders, to the network shelves, but the active CPU does not.

ACTION: Check all the Segmented Bus Extender cards or the 3 Port Extender cards, or the cables between the extenders associated with the active CPU, and all network shelves. Replace faulty components following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

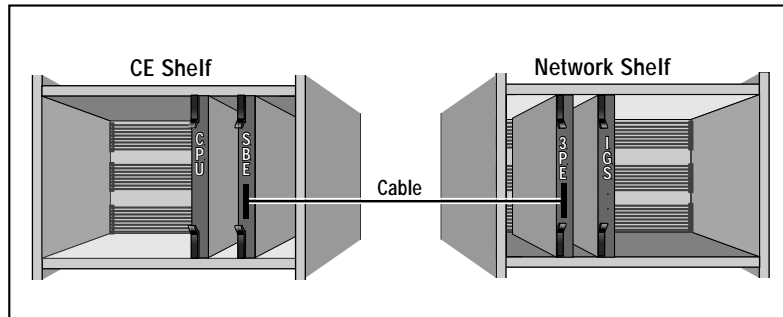
2. If the output code includes one or more hex indicators, the standby CPU has limited access through the extenders to the network shelves.

ACTION: Use the INI009 Hex code table to locate the network shelf. Check the Segmented Bus Extender card, or the 3 Port Extender card, or the cable between the standby CPU and the located network shelf. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

INI009 Hex code range	Network shelf	Group
90 to 9F	0	0
A0 to AF	1	0
B0 to BF	0	1
C0 to CF	1	1
D0 to DF	0	2
190 to 19F	1	2
1A0 to 1AF	0	3
1B0 to 1BF	1	3
1C0 to 1CF	0	4
1D0 to 1DF	1	4

INI010 hex

The CPU or FN tried to access an Intergroup Switch card but could not because of a faulty extender (SBE, 3PE, cable). The CPU is unable to indicate which extender is at fault. It can only indicate that the IGS card it tried to access did not respond. The IGS card is indicated in the faceplate **hex** display or this message **hex** code .



553-0188T SI

1. If there is no hex indicator, the standby CPU has full access, through the extenders, to the network shelves but the active CPU does not.

ACTION: Check all the Segmented Bus Extender cards or the 3 Port Extender cards, or the cables between the extenders associated with the active CPU and all network shelves. Replace faulty components following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

2. If the output code includes one or more hex indicators, the standby CPU has limited access, through the extenders, to the network shelves.

ACTION: Use the INI010 Hex code table to locate the network shelf. Check the Segmented Bus Extender card, or the 3 Port Extender card, or the cable between the standby CPU and the located network shelf. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

INI010 Hex code	Network shelf	Group
50	0	0
51	1	0
52	0	0
53	1	0
54	0	1
55	1	1
56	0	1
57	1	1
58	0	2
59	1	2
5A	0	2
5B	1	2
5C	0	3
5D	1	3
5E	0	3
5F	1	3
60	0	4
61	1	4
62	0	4
63	1	4

INI011 hex

The faceplate **hex** display or this message **hex** code indicates Network shelves that do not respond to Clock Controller 0 or the SCG card 0.

1. A hex code of 6E indicates a probable fault on CC/SCG, IGS or interconnecting cables through the Junctor.
2. For SL-1 VL, VLE and XL systems, display 5E = MG CTRL 0

ACTION: Check and replace the clock card or the interconnecting cables, the clock and Junctor, following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

INI012 hex

The faceplate **hex** display or this message **hex** code indicates Network shelves that do not respond to Clock Controller 1 or the SCG card 1.

1. A hex display or hex code of 6F. The probable fault is on CC/SCG, IGS or interconnecting cables through the Junctor.
2. For SL-1 VL, VLE and XL systems, display 5F = MG CTRL 1.

ACTION: Check and replace the clock card or the interconnecting cables, the clock and Junctor, following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

INI013 000x

x = 0 for CPU 0 or 1 for CPU 1. There is a possible CPU or FN fault, because the CPU has initialized more than five times, since the previous running of the midnight or daily routines.

ACTION: Check and replace the CPU/ MISC. or FN/IF card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

INI014 hex

The faceplate **hex** display or this message **hex** code indicates an Extender fault or stuck I/O interrupt on the network shelf associated with the extender card.

1. If a stuck interrupt, the interrupt was identified which could not be disabled directly. Disabling the extender allows the Meridian 1 to process interrupts from devices not located on the network shelf with the stuck interrupt.

ACTION: In LD 35, use DIS EXT x to disable the extender and ENL EXT x to enable the extender. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

2. Extender fault

ACTION: If the problem reoccurs, replace the extender following the steps in the *Hardware replacement* guide. The following table of INI014 hex codes identify the extender card. After replacing the card verify that the fault is cleared.

INI014 Hex code	For extender	linking	to
E0	SBE	CPU 0	group 0
E1	SBE	CPU 0	group 1
E2	SBE	CPU 0	group 2
E3	SBE	CPU 0	group 3
E4	SBE	CPU 0	group 4
E8	3PE	group 0	CPU 0
E9	3PE	group 1	CPU 0
EA	3PE	group 2	CPU 0
EB	3PE	group 3	CPU 0
EC	3PE	group 4	CPU 0
F0	SBE	CPU 1	group 0
F1	SBE	CPU 1	group 1
F2	SBE	CPU 1	group 2
F3	SBE	CPU 1	group 3
F4	SBE	CPU 1	group 4
F8	3PE	group 0	CPU 1
F9	3PE	group 1	CPU 1
— continued —			

FA	3PE	group 2	CPU 1
FB	3PE	group 3	CPU 1
FC	3PE	group 4	CPU 1
FF	All extenders are disabled		

INI016 hex

The faceplate **hex** display or this message **hex** code indicates the following:

1. If this messages appears without a hex code, the standby CPU or FN has full access to all devices of the appropriate type, but the active CPU or FN does not.

ACTION: Check and replace the CMA card following the steps in the *Hardware replacement* guide. The following table of INI016 hex codes identify the memory and CMA cards.

2. Memory access faults from the standby CPU or FN. If the maintenance hex display or hex code shows one or more of the following, indicating a defective memory module or CMA card.

ACTION: Check and replace the CMA card or the memory cards following the steps in the *Hardware replacement* guide. The following table of INI016 hex codes identify the memory and CMA cards. After replacing a card, verify that the fault is cleared.

INI016 Hex code	memory card	CMA card	Memory and CMA are on CE shelf
10	00	0	0
11	01	0	0
12	02	0	0
18	10	1	1
19	11	1	1
1A	12	1	1

INI017

More than five Network or Network/DTR cards need a software download recovery during the auto-recovery or midnight audit.

ACTION: Examine the fault code field for cause of the initialization.

INI018

More than five Peripheral Controllers need a software download recovery during the auto-recovery or midnight audit.

ACTION: Examine the fault code field for cause of the initialization.

INI020 aaaa

Page 0 has been frozen at address **aaaa** for software analysis, (XN CPU/Memory).

ACTION: Your technical support group is probably already aware of this.

INI021

Idle Output queue was not set up.

ACTION: If this fault is causing problems, contact your technical support group.

INI022

X08 omega diagnostic return address stack information is output.

ACTION: If this is causing problems, contact your technical support group.

INI100

DDSL card failed read/write response test. Fault codes 200 - 29F indicate the DDSL number 0 - 159 respectively.

ACTION: Contact your technical support group.

INI102

The mass storage interface is not responding. Peripheral software downloading was not attempted.

ACTION: Follow the steps in the *Hardware replacement* guide and replace the MSI card. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *IOD* chapter in this guide.

INI106 n

The number of Call Registers has been reduced by **n**. This warning indicates that the number of Call Registers has been reduced since the amount of the available unprotected data-store is not large enough for the configured number of Call Registers.

ACTION: Contact your provisioning group to re-evaluate the number of Call Registers required. Examine the use of unprotected data-store.

INI111

16K of unprotected memory space cannot be allocated for INIT ACD Queue Call Restore (ACDR).

ACTION: Contact your technical support group.

INI112

INIT ACD Queue Call Restore (ACDR) aborted due to multiple system initializations.

ACTION: Contact your technical support group.

Fault codes

The following fault codes are output as the second field in the INI000 message. Note that the fault codes from some systems may show more backfilled zeros than indicated in the following list.

0000

Normal initialize after SYSLOAD.

ACTION: Information only, no action required.

This code may also appear if a fault occurs in memory 0. In this case, an INI004 10 message will follow the INI000 line.

ACTION: Refer to the output code INI004.

0002

Manual initialize from the Miscellaneous (MISC) or Interface (IF) card.

ACTION: For information only, to advise you that the MAN INT button was pressed.

The code appears but the button on the MISC or IF card was not pressed.

ACTION: Check and replace the MISC or IF card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

0003

A PE signaling fault. The INI003 message will follow to identify the Peripheral Signaling card at fault.

ACTION: Refer to output code INI003.

0004

The Real-Time Clock (RTC) has failed, in a system having two CPUs. Start at the first or most likely cause and go down the list until the fault is cleared.

1. A probable fault in the Peripheral Signaling card providing the clock.

ACTION: Follow the steps in the *Hardware replacement* guide to replace the cards indicated. If the fault does not clear, call your technical support group. If you need help with the commands or system responses when verifying that the fault is cleared, refer to the *CED* chapter in this guide.

2. Miscellaneous or Interface associated with an active CPU.

ACTION: Follow the steps in the *Hardware replacement* guide to replace the MISC. or IF cards. If the fault does not clear, call your technical support group. If you need help with the commands or system responses when verifying that the fault is cleared, refer to the *CED* chapter in this guide.

0005

A CPU changeover has taken place due to a failure of the then-active CPU. The faulty CPU or FN should be identified by a subsequent INI005 message.

ACTION: Refer to output code INI005.

0006

An Overload is detected from a particular loop. The loop will be disabled. An OVD diagnostic message should follow. If an OVD message identifying a faulty PE card appeared before the initialization, remove that card before the loop.

ACTION: Note the OVD message and refer to the *OVD* chapter in this guide. Test and replace the card(s) if necessary.

0007

An Overload is detected from a Peripheral Signaling card. The offending Peripheral Signaling card will be disabled. An OVD diagnostic message should follow.

ACTION: Note the OVD message and refer to the *OVD* chapter in this guide. Test and replace the card(s) if necessary.

0008

1. Invalid operation code (opcode). Inform the operating company.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

2. A problem encountered when attempting to load Overlay N 1 and N 2.

ACTION: Try to load the overlay from the floppy if a hard disk is present or try to load overlay from another set of diskettes, as a floppy diskette may be faulty. If the above actions do not clear the fault, replace the MDU following the steps in the *Hardware replacement* guide.

0009

Invalid interrupt. Inform operating company.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

000A

Attempt to write store using a nil pointer. Software error.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

000B

Main stack underflow. Software error.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

000C

Broken queue. Software error.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

000D

Response timeout in data-store 0. The System should reload. Replace data-store 0.

ACTION: Follow the steps in the *Hardware replacement* guide to replace the memory card 00, if necessary. If the fault does not clear, call your technical support group. If you need help with the commands or system responses when verifying the fault is cleared, refer to the *CED* chapter in this guide.

000E

Trying to idle Call Register with active auxiliary Call Registers still linked to it. Inform operating company.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

000F

A Service change. The data-store has been exceeded and should be preceded by a warning message, "Equip more data store". Insufficient memory for SL-1 L, VL, LE, VLE and XL systems.

ACTION: Refer to the *CED* chapter and the *administration input/output guide* LD 17 to install more memory.

0010

Congratulations on a job well done; conversions are complete.

ACTION: Information only, no action required.

0011

Triggered by a software verification program which is used only by the operating company. If an investigation by the operating company is not currently active, then inform the operating company.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

0012

Caused by Common Equipment Diagnostic (CED) trying to rebuild an unprotected data-store.

ACTION: Be careful when using memory commands during peak telephone traffic times.

0013

All extenders are disabled. This may be followed by an INI014 FF.

ACTION: Refer to output code INI014.

0014

A Firmware fault. CPU clock unmasked. This is the same as 011.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

0015

A Firmware fault. The RTC interrupt on level 7 is unmasked. This is the same as 0011.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

0017

More than five NT8D04 Network or Network/DTR cards need software download recovery during the auto-recovery or midnight audit. xxxx = cause of the initialization.

ACTION: Examine previous INI messages for the cause of software download recoveries.

0018

More than five NT8D01 Peripheral Controllers need software download recovery during the auto-recovery or midnight audit.

ACTION: Examine the previous INI messages for cause of software download recoveries.

0019

From Firmware. The system has initialized after recovery from battery backup. The system clock time may have slipped during the time the system was under battery power.

ACTION: To reset the time, use LD 2 and refer to the *Set Time and Date* chapter in this guide.

001C

There have been more than 10 occurrences of auto-recoveries to avert INI000 000C problems since the last system initialization. INI000 000C was triggered to perform systae cleanup following midnight routines.

ACTION: Contact your technical support group.

001D

An invalid pointer is found during queue processing.

ACTION: Contact your technical support group.

00000021

Hardware Sanity Timeout on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000022

SWO. Failure on switchover on Options 51C/61C/81/81C.

ACTION: To check hardware on the affected core, use LD 135.

00000023

SWO. Too many switchovers on Options 51C/61C/81/81C.

ACTION: Information only. If the error continues contact your technical support group.

00000024

WARM. Disk OS warmstart failure on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000025

WARM. Too many Disk OS Warmstarts on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000026

WARM. Disk OS not loaded on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000027

RESET: Forced SWO in progress on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

00000028

RESET: Soft Reset in progress on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

00000029

TASK: Unable to create msg queue on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000002A

Protected Memory checksum failure on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000002B

INFO: Disk OS Warm start begins on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

0000002C

INFO: DRAM is not initialized on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

0000002D

Restart: Cannot delete safe task on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000002E

RESET: Task threshold exceeded on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000002F

WARM: Exc vector thresh exceeded on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000030

WARM: Exc total thresh exceeded on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000031

WARM: Non-bus exc in interrupt on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000036

SEG: Disk OS Text segment corrupt on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000037

SEG: Disk OS partitions corrupt on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000038

DISKOS: Unable to load SL-1 on Options 51C/61C/81/81C.

ACTION: Make sure the correct TOOLS window selection was made.

0000003E

Parity Err - remote SIMM: missing on Options 51C/61C/81/81C.

ACTION: Check the SIMM status in LD 135.

0000003F

Parity Err - remote SIMM: disabled on Options 51C/61C/81/81C.

ACTION: LD 135 and re-enable SIMM.

00000040

HI BER recommended action on Options 51C/61C/81/81C.

ACTION: Information only. No action required

00000041

HI BER TASK RESTART for safe task on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

00000042

HI Warm Start not possible on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000049

OS: manual (PDT) request on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

0000004A

OS: request to reboot (sysToMon) on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

0000004B

OS: RST initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000004C

OS: SKD initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000004D

OS: SWD initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000004E

OS: PMEM initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000004F

OS: Security Cart check failed on Options 51C/61C/81/81C.

ACTION: Check to make sure correct cartridge is being used.

00000050

OS: Normal recovery from BER on Options 51C/61C/81/81C.

ACTION: Information only, no action required.

00000051

OS: Unable to recover from BER on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000052

OS: Unable to run “diskos” on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000053

OS: Unable to load “diskos” on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000054

OS: VOL initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000055

OS: SCSI initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000056

OS: DOS initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000057

OS: IOP initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000058

OS: EXC initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

00000059

OS: IOS initialization failed on Option 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000005A

OS: Clock initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000005B

OS: Failed during Loader run on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000005C

OS: Failed to spawn Loader task on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000005D

OS: kernel initialization failed on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000005E

OS: diskos P seg overlaps U seg on Options 51C/61C/81/81C.

ACTION: Contact your technical support group.

0000005F

Operating System level command to coldstart on Options 51C/61C/81.

ACTION: Contact your technical support group.

0100

Trap data blocks are not valid.

ACTION: No action required. If this message appears repeatedly, contact your technical support group.

0200

The SYSLOAD was caused by response timeout of data-store.

ACTION: Follow the steps in the *Hardware replacement* guide to replace the memory card(s) if necessary. If you need help with the commands or system responses when verifying that the fault is cleared, refer to the *CED* chapter in this guide.

0400

Power-on reset. Power-up, manual reload.

ACTION: Check to see if the commercial power failed.

0800

Software trap.

ACTION: No action required. If this message appears repeatedly, contact your technical support group.

1000

A Memory parity error.

ACTION: Refer to *Example of INI Messages* in this chapter.

Examine the fault page field, seventh from INI000, and the fault address field, eighth from INI000, for this message. If the fault page is 3 and the fault address field codes are listed below, these address codes indicate the following cards may be faulty:

1. The CMA card may be faulty.

ACTION: Use STAT CMA x in LD 35 to get the status of the CMA cards. Use ENL CMA x in LD 35 to enable CMA and run TEST in LD 45 to verify that the fault is cleared. If the CMA card does not enable and the fault does not clear, replace the CMA card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

2. MISC card may be faulty.

ACTION: Indiscriminate use of the following test command, especially during heavy telephone traffic periods, may cause the system to reload. Use TCPU in LD 35 to test the idle MISC circuitry or IF card. If MISC circuitry or the IF card does not pass the test, or the fault does not clear, replace it following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. The Memory card may be faulty.

ACTION: Follow the steps in the *Hardware replacement* guide and replace the memory modules (card). If you need help with the commands or system responses when verifying that the fault is cleared, refer to the *CED* chapter in this guide.

2000

Watchdog timer run out. This fault code without an additional INI00x hex output code, sometimes denotes a software fault.

ACTION: Contact your technical support group.

If accompanied by an additional INI00x hex output code, this could indicate hardware faults as follows.

1. This fault code with an INI002 message indicates an I/O fault.

ACTION: Refer to output code INI002.

2. This fault code with an INI003 message indicates a network fault.

ACTION: Refer to output code INI003.

3. If the maintenance display on the faceplate of the IF card is 04, suspect the inactive IF card.

ACTION: Use STAT CPU x in LD 35 to get the status of both IF cards. Use TCPU in LD 35 to test the inactive IF card. If necessary, replace the IF card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

4. If the maintenance display on the faceplate of the IF card is 05, suspect the following cards.

a) The Peripheral Signaling card may be faulty.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of all PS cards. Replace the PS cards following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* or *IGS* chapter in this guide.

b) The CE Extender card may be faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and 3 Port Extender card. Use ENL EXT x in LD 35 to enable extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and fault does not clear, replace the extender card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

5. The affected CPU or FN may be faulty.

ACTION: Use STAT CPU x in LD 35 to get the status of both FN cards. Use TCPU in LD 35 to test the inactive FN card. If necessary, replace the FN card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3000

Same as code 1000.

ACTION: Refer to the action for fault code 1000.

4000

A write protection violation. An attempt was made to overwrite a protected memory location.

1. This code may appear if the affected CPU is faulty, especially the IF card.

ACTION: Use STAT CPU x in LD 35 to get the status of the both IF cards. Use TCPU in LD 35 to test the inactive IF card. If necessary, replace the IF card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

2. The software may be faulty.

ACTION: Contact your technical support group.

5000

Same as code 1000.

ACTION: Refer to the action for fault code 1000.

6000

Same as code 2000.

ACTION: Refer to the action for fault code 2000.

7000

Same as code 1000.

ACTION: Refer to the action for fault code 1000.

8000

Response time-out. A memory or other device failed to respond to a read-write request.

1. This fault code with an INI002 message indicates an I/O fault.

ACTION: Refer to the output code INI002.

2. This fault code with an INI003 message indicates a network fault.

ACTION: Refer to the output code INI003.

3. This fault code with an INI004 message indicates a CPU fault.

ACTION: Refer to the output code INI004.

4. If several devices on the same shelf are indicated, the CE extender connecting the shelf to the CPU may be faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and 3 Port Extender card. Use ENL EXT x in LD 35 to enable extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and fault does not clear, replace the extender card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

5. If none of the above messages appear, this code probably indicates the following:

a) The software may be faulty.

ACTION: Contact your technical support group.

b) There is a CPU fault, especially the Interface card of the affected CPU.

ACTION: Use STAT CPU x in LD 35 to get the status of the both IF cards. Use TCPU in LD 35 to test the inactive IF card. If necessary, replace the IF card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with commands or system responses refer to the *CED* chapter in this guide.

c) Peripheral Signaling card faulty on same bus as affected CPU.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of all PS cards. Replace the PS cards following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with commands or system responses refer to the *NPR* or *IGS* chapter in this guide.

d) Faulty ROM on CPU or FN card faulty.

ACTION: If necessary, replace the ROM daughter board following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with commands or system responses refer to the *CED* chapter in this guide.

6. On an Option 21E system running 19.32 software, if you are receiving ERR5245 and INI000 8000 messages and the fault page in the initialization message is 3.

ACTION: Replace the MSPS (NTDN02) card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

9000

Same as code 1000.

ACTION: Refer to the action for fault code 1000.

A000

Same as code 8000.

ACTION: Refer to the action for fault code 8000.

B000

Same as code 1000.

ACTION: Refer to the action for fault code 1000.

C000

Same as code 8000.

ACTION: Refer to the action for fault code 8000.

D000

Same as code 1000.

ACTION: Refer to the action for fault code 1000.

E000

Same as code 8000.

ACTION: Refer to the action for fault code 8000.

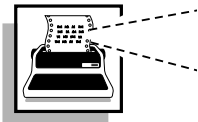
F000

Same as code 1000.

ACTION: Refer to the action for fault code 1000.

Decoding the Fault Address Code

The following is used to interpret a single fault address for page 3 hardware faults. To obtain the address of the fault, the 4-digit hexadecimal codes must be converted to a 16 bit binary word.



**INI000 000002 10 09 38 000000 07A188 000003
000DC0 0 1 000000**

1. From the above example, if eighth field is 3, write the last four digits of the ninth field on a paper (hexadecimal).

Note that as the ninth field **000DC0** indicates, the range of the hexadecimal code is between 8000 to A7FF, a network loop is faulty.

2. Write the binary values on the paper. It takes four binary values to equal one hexadecimal character.

3. Write a 1 under the column value that will add up to the hexadecimal number above it. In hexadecimal the numbers 0 to 9 are the same as decimal 0 to 9. Hexadecimal A=10, B=11, C=12, D=13, E=14, F=15.

Hexadecimal	0	D	C	0
Binary values	8 4 2 1	8 4 2 1	8 4 2 1	8 4 2 1
16 bit word	0 0 0 0	1 1 0 1	1 1 0 0	0 0 0 0

4. Write the bit identifiers under the 16 bit word.

5. In the fault address codes for page 3, bits 6 to 13 are relevant as the example system uses enhanced network loops.

16 bit word	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	
bit identity	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

6. Assume that bits 6 to 13 are a single entity. Assign column values, starting with 1 on the right and double the previous value as you refer to the left.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

7. Add up the column values where a 1 in bits 6 to 13 are present.
32+16+4+2+1 = 55.

Network loop 55 is faulty.

Fault Address Codes for page 3

The following Fault Address Codes are output as the ninth field in INI000 messages. The fault address codes from some systems may show more backfilled zeros than indicated in the Fault Address Code column of the following code list.

Outputs not covered in this list cannot be decoded to an address, however they may indicate a Bus Fault.

0800 to 0807

CPU or FN card fault address, or an extender fault.

ACTION: Follow the INI005 output code action.

1806

CMA card fault address.

ACTION: Follow the INI005, item 4 output code action.

0x3000 to 0x 30F0 and 0xC000 to 0xC3C0

SDI device fault address.

Bits 4 to 7 provide card addressing.

ACTION: Refer to the following table to locate the faulty card and follow the INI002 output code action.

SL-1 NT, XT and Option 51, 61, 71	
3000 = SDI 0	3010 = SDI 1
3020 = SDI 2	3030 = SDI 3
3140 = SDI 4	3050 = SDI 5
3160 = SDI 6	3070 = SDI 7
3080 = SDI 8	3090 = SDI 9
30A0 = SDI 10	30B0 = SDI 11
30C0 = SDI 12	30D0 = SDI 13
30E0 = SDI 14	30F0 = SDI 15

Option 51C, 61C, 81 and 81C	
C000 = SDI 0	C040 = SDI 1
C080 = SDI 2	C0C0 = SDI 3
C100 = SDI 4	C140 = SDI 5
C180 = SDI 6	C1C0 = SDI 7
C200 = SDI 8	C240 = SDI 9
C280 = SDI 10	C2C0 = SDI 11
C300 = SDI 12	C340 = SDI 12
C380 = SDI 13	C3C0 = SDI 15

0x3800 to 0x 3CF8 and 0xE000 to 0xF3E0

Expanded Serial Data Intreface (XSDI) device fault address.

ACTION: Refer to the following table to locate the faulty card and follow the steps in the *Hardware replacement* guide to replace the Expanded Digital Signalling Link card (NT5K75AA).

SL-1 NT, XT and Option 51, 61, 71		Option 51C, 61C, 81 and 81C	
3800 = XSDI 0	3808 = XSDI 1	E000 = XSDI 0	E020 = XSDI 1
3810 = XSDI 2	3818 = XSDI 3	E040 = XSDI 2	E060 = XSDI 3
3820 = XSDI 4	3828 = XSDI 5	E080 = XSDI 4	E0A0 = XSDI 5
3830 = XSDI 6	3838 = XSDI 7	E0C0 = XSDI 6	E0E0 = XSDI 7
3840 = XSDI 8	3848 = XSDI 9	E100 = XSDI 8	E120 = XSDI 9
3850 = XSDI 10	3858 = XSDI 11	E140 = XSDI 10	E160 = XSDI 11
3860 = XSDI 12	3868 = XSDI 13	E180 = XSDI 12	E1A0 = XSDI 13
3870 = XSDI 14	3878 = XSDI 15	E1C0 = XSDI 14	E1E0 = XSDI 15
3880 = XSDI 16	3888 = XSDI 17	E200 = XSDI 16	E220 = XSDI 17
3890 = XSDI 18	3898 = XSDI 19	E240 = XSDI 18	E260 = XSDI 19
38A0 = XSDI 20	38A8 = XSDI 21	E280 = XSDI 20	E2A0 = XSDI 21
38B0 = XSDI 22	38B8 = XSDI 23	E2C0 = XSDI 22	E2E0 = XSDI 23
38C0 = XSDI 24	38C8 = XSDI 25	E300 = XSDI 24	E320 = XSDI 25
38D0 = XSDI 26	38D8 = XSDI 27	E340 = XSDI 26	E360 = XSDI 27
38E0 = XSDI 28	38D8 = XSDI 29	E380 = XSDI 28	E3A0 = XSDI 29
38F0 = XSDI 30	38F8 = XSDI 31	E3C0 = XSDI 30	E3E0 = XSDI 31
3900 = XSDI 32	3908 = XSDI 33	E400 = XSDI 32	E420 = XSDI 33
3910 = XSDI 34	3918 = XSDI 35	E440 = XSDI 34	E460 = XSDI 35
3920 = XSDI 36	3928 = XSDI 37	E480 = XSDI 36	E4A0 = XSDI 37
3930 = XSDI 38	3938 = XSDI 39	E4C0 = XSDI 38	E4E0 = XSDI 39
3940 = XSDI 40	3948 = XSDI 41	E500 = XSDI 40	E520 = XSDI 41
3950 = XSDI 42	3958 = XSDI 43	E540 = XSDI 42	E560 = XSDI 43
3960 = XSDI 44	3968 = XSDI 45	E580 = XSDI 44	E5A0 = XSDI 45
— continued —			

SL-1 NT, XT and Option 51, 61, 71		Option 51C, 61C, 81 and 81C	
3970 = XSDI 46	3978 = XSDI 47	E5C0 = XSDI 46	E5E0 = XSDI 47
3980 = XSDI 48	3988 = XSDI 49	E600 = XSDI 48	E620 = XSDI 49
3990 = XSDI 50	3998 = XSDI 51	E640 = XSDI 50	E660 = XSDI 51
39A0 = XSDI 52	39A8 = XSDI 53	E680 = XSDI 52	E6A0 = XSDI 53
39B0 = XSDI 54	39B8 = XSDI 55	E6C0 = XSDI 54	E6E0 = XSDI 55
39C0 = XSDI 56	39C8 = XSDI 57	E700 = XSDI 56	E720 = XSDI 57
39D0 = XSDI 58	39D8 = XSDI 59	E740 = XSDI 58	E760 = XSDI 59
39E0 = XSDI 60	39D8 = XSDI 61	E780 = XSDI 60	E7A0 = XSDI 61
39F0 = XSDI 62	39F8 = XSDI 63	E7C0 = XSDI 62	E7E0 = XSDI 63
3A00 = XSDI 64	3A08 = XSDI 65	E800 = XSDI 64	E820 = XSDI 65
3A10 = XSDI 66	3A18 = XSDI 67	E840 = XSDI 66	E860 = XSDI 67
3A20 = XSDI 68	3A28 = XSDI 69	E880 = XSDI 68	E8A0 = XSDI 69
3A30 = XSDI 70	3A38 = XSDI 71	E8C0 = XSDI 70	E8E0 = XSDI 71
3A40 = XSDI 72	3A48 = XSDI 73	E900 = XSDI 72	E920 = XSDI 73
3A50 = XSDI 74	3A58 = XSDI 75	E940 = XSDI 74	E960 = XSDI 75
3A60 = XSDI 76	3A68 = XSDI 77	E980 = XSDI 76	E9A0 = XSDI 77
3A70 = XSDI 78	3A78 = XSDI 79	E9C0 = XSDI 78	E9E0 = XSDI 79
3A80 = XSDI 80	3A88 = XSDI 81	EA00 = XSDI 80	EA20 = XSDI 81
3A90 = XSDI 82	3A98 = XSDI 83	EA40 = XSDI 82	EA60 = XSDI 83
3AA0 = XSDI 84	3AA8 = XSDI 85	EA80 = XSDI 84	EAA0 = XSDI 85
3AB0 = XSDI 86	3AB8 = XSDI 87	EAC0 = XSDI 86	EAE0 = XSDI 87
3AC0 = XSDI 88	3AC8 = XSDI 89	EB00 = XSDI 88	EB20 = XSDI 89
3AD0 = XSDI 90	3AD8 = XSDI 91	EB40 = XSDI 90	EB60 = XSDI 91
3AE0 = XSDI 92	3AD8 = XSDI 93	EB80 = XSDI 92	EBA0 = XSDI 93
3AF0 = XSDI 94	3AF8 = XSDI 95	EBC0 = XSDI 94	EBE0 = XSDI 95
3B00 = XSDI 96	3B08 = XSDI 97	EC00 = XSDI 96	EC20 = XSDI 97
3B10 = XSDI 98	3B18 = XSDI 99	EC40 = XSDI 98	EC60 = XSDI 99
3B20 = XSDI 100	3B28 = XSDI 101	EC80 = XSDI 100	ECA0 = XSDI 101
— continued —			

SL-1 NT, XT and Option 51, 61, 71		Option 51C, 61C, 81 and 81C	
3B30 = XSDI 102	3B38 = XSDI 103	ECC0 = XSDI 102	ECE0 = XSDI 103
3B40 = XSDI 104	3B48 = XSDI 105	ED00 = XSDI 104	ED20 = XSDI 105
3B50 = XSDI 106	3B58 = XSDI 107	ED40 = XSDI 106	ED60 = XSDI 107
3B60 = XSDI 108	3B68 = XSDI 109	ED80 = XSDI 108	EDA0 = XSDI 109
3B70 = XSDI 110	3B78 = XSDI 111	EDC0 = XSDI 110	EDE0 = XSDI 111
3B80 = XSDI 112	3B88 = XSDI 113	EE00 = XSDI 112	EE20 = XSDI 113
3B90 = XSDI 114	3B98 = XSDI 115	EE40 = XSDI 114	EE60 = XSDI 115
3BA0 = XSDI 116	3BA8 = XSDI 117	EE80 = XSDI 116	EEA0 = XSDI 117
3BB0 = XSDI 118	3BB8 = XSDI 119	EEC0 = XSDI 118	EEE0 = XSDI 119
3BC0 = XSDI 120	3BC8 = XSDI 121	EF00 = XSDI 120	EF20 = XSDI 121
3BD0 = XSDI 122	3BD8 = XSDI 123	EF40 = XSDI 122	EF60 = XSDI 123
3BE0 = XSDI 124	3BD8 = XSDI 125	EF80 = XSDI 124	EFA0 = XSDI 125
3BF0 = XSDI 126	3BF8 = XSDI 127	EFC0 = XSDI 126	EFE0 = XSDI 127
3C00 = XSDI 128	3C08 = XSDI 129	F000 = XSDI 128	F020 = XSDI 129
3C10 = XSDI 130	3C18 = XSDI 131	F040 = XSDI 130	F060 = XSDI 131
3C20 = XSDI 132	3C28 = XSDI 133	F080 = XSDI 132	F0A0 = XSDI 133
3C30 = XSDI 134	3C38 = XSDI 135	F0C0 = XSDI 134	F0E0 = XSDI 135
3C40 = XSDI 136	3C48 = XSDI 137	F100 = XSDI 136	F120 = XSDI 137
3C50 = XSDI 138	3C58 = XSDI 139	F140 = XSDI 138	F160 = XSDI 139
3C60 = XSDI 140	3C68 = XSDI 141	F180 = XSDI 140	F1A0 = XSDI 141
3C70 = XSDI 142	3C78 = XSDI 143	F1C0 = XSDI 142	F1E0 = XSDI 143
3C80 = XSDI 144	3C88 = XSDI 145	F200 = XSDI 144	F220 = XSDI 145
3C90 = XSDI 146	3C98 = XSDI 147	F240 = XSDI 146	F260 = XSDI 147
3CA0 = XSDI 148	3CA8 = XSDI 149	F280 = XSDI 148	F2A0 = XSDI 149
3CB0 = XSDI 150	3CB8 = XSDI 151	F2C0 = XSDI 150	F2E0 = XSDI 151
3CC0 = XSDI 152	3CC8 = XSDI 153	F300 = XSDI 152	F320 = XSDI 153
3CD0 = XSDI 154	3CD8 = XSDI 155	F340 = XSDI 154	F360 = XSDI 155
3CE0 = XSDI 156	3CD8 = XSDI 157	F380 = XSDI 156	F3A0 = XSDI 157
3CF0 = XSDI 158	3CF8 = XSDI 159	F3C0 = XSDI 158	F3E0 = XSDI 159

0x3000 to 0x37FF

MSDL card fault address.

ACTION: Follow the INI002 output code action.

3FC8

Tape or MSI card fault address.

ACTION: Follow the INI002 output code action.

0x6008 to 0x63FD

3PE card fault address.

ACTION: Refer to the INI002 output code.

0x8000 to 0xA7C0

NET, ENET, CONF, TDS, and XCT loop fault address.

For single network loops (QPC50 cards), dual or non-enhanced (QPC376 cards), bits 7 through 13 determine loop address.

For enhanced network loops, (QPC414 cards), bits 6 through 13 determine loop address.

ACTION: Refer to the following table to locate the faulty loop and follow the INI003 output code action.

SL-1 NT, XT and Option 51, 61, 71		Option 51C, 61C, 81 and 81C	
8000 = loop 0	8040 = loop 1	20000 = loop 0	20100 = loop 1
8080 = loop 2	80C0 = loop 3	20200 = loop 2	20300 = loop 3
8100 = loop 4	8140 = loop 5	20400 = loop 4	20500 = loop 5
8180 = loop 6	81C0 = loop 7	20600 = loop 6	20700 = loop 7
8200 = loop 8	8240 = loop 9	20800 = loop 8	20900 = loop 9
8280 = loop 10	82C0 = loop 11	20A00 = loop 10	20B00 = loop 11
8300 = loop 12	8340 = loop 13	20C00 = loop 12	20D00 = loop 12
8380 = loop 14	83C0 = loop 15	20E00 = loop 13	20F00 = loop 15
8400 = loop 16	8440 = loop 17	21000 = loop 16	21100 = loop 17
8480 = loop 18	84C0 = loop 19	21200 = loop 18	21300 = loop 19
8500 = loop 20	8540 = loop 21	21400 = loop 20	21500 = loop 21
8580 = loop 22	85C0 = loop 23	21600 = loop 22	21700 = loop 23
8580 = loop 22	85C0 = loop 23	21600 = loop 22	21700 = loop 23

— continued —

SL-1 NT, XT and Option 51, 61, 71		Option 51C, 61C, 81 and 81C	
8600 = loop 24	8640 = loop 25	21800 = loop 24	21900 = loop 25
8680 = loop 26	86C0 = loop 27	21A00 = loop 26	21B00 = loop 27
8700 = loop 28	8740 = loop 29	21C00 = loop 28	21B00 = loop 29
8780 = loop 30	87C0 = loop 31	21E00 = loop 30	21F00 = loop 31
8800 = loop 32	8840 = loop 33	22000 = loop 32	22100 = loop 33
8880 = loop 34	88C0 = loop 35	22200 = loop 34	22300 = loop 35
8900 = loop 36	8940 = loop 37	22400 = loop 36	22500 = loop 37
8980 = loop 38	89C0 = loop 39	22600 = loop 38	22700 = loop 39
8A00 = loop 40	8A40 = loop 41	22800 = loop 40	22900 = loop 41
8A80 = loop 42	8AC0 = loop 43	22A00 = loop 42	22B00 = loop 43
8B00 = loop 44	8B40 = loop 45	22C00 = loop 44	22D00 = loop 45
8B80 = loop 46	8BC0 = loop 47	22E00 = loop 46	22F00 = loop 47
8C00 = loop 48	8C40 = loop 49	23000 = loop 48	23100 = loop 49
8C80 = loop 50	8CC0 = loop 51	23200 = loop 50	233300 = loop 51
8D00 = loop 52	8D40 = loop 53	23400 = loop 52	23500 = loop 53
8E00 = loop 56	8E40 = loop 57	23800 = loop 56	23900 = loop 57
8E80 = loop 58	8EC0 = loop 59	23A00 = loop 58	23B00 = loop 59
8F00 = loop 60	8F40 = loop 61	23C00 = loop 60	23D00 = loop 61
8F80 = loop 62	8FC0 = loop 63	23E00 = loop 62	23F00 = loop 63
9000 = loop 64	9040 = loop 65	24000 = loop 64	24100 = loop 65
9080 = loop 66	90C0 = loop 67	24200 = loop 66	24300 = loop 67
9100 = loop 68	9140 = loop 69	24400 = loop 68	24500 = loop 69
9180 = loop 70	91C0 = loop 71	24600 = loop 70	24700 = loop 71
9200 = loop 72	9240 = loop 73	24800 = loop 72	24900 = loop 73
9280 = loop 74	92C0 = loop 75	24A00 = loop 74	24B00 = loop 75
9300 = loop 76	9340 = loop 77	24C00 = loop 76	24D00 = loop 77
9380 = loop 78	93C0 = loop 79	24E00 = loop 78	24F00 = loop 79
— continued —			

SL-1 NT, XT and Option 51, 61, 71		Option 51C, 61C, 81 and 81C	
9400 = loop 80	9440 = loop 81	25000 = loop 80	25100 = loop 81
9480 = loop 82	94C0 = loop 83	25200 = loop 82	25300 = loop 83
9550 = loop 84	9450 = loop 85	25400 = loop 84	25500 = loop 85
9580 = loop 86	95C0 = loop 87	25600 = loop 86	25700 = loop 87
9600 = loop 88	9640 = loop 89	25800 = loop 88	2590 = loop 89
9680 = loop 90	96C0 = loop 91	25A00 = loop 90	25B00 = loop 91
9700 = loop 92	9740 = loop 93	25C00 = loop 92	25D00 = loop 93
9780 = loop 94	97C0 = loop 95	25E00 = loop 94	25F00 = loop 95
9800 = loop 96	9840 = loop 97	26000 = loop 96	26100 = loop 97
9880 = loop 98	98C0 = loop 99	26200 = loop 98	26300 = loop 99
9900 = loop 100	9940 = loop 101	26400 = loop 100	26500 = loop 101
9980 = loop 102	99C0 = loop 103	26600 = loop 102	26700 = loop 103
9A00 = loop 104	9A40 = loop 105	26800 = loop 104	26900 = loop 105
9A80 = loop 106	9AC0 = loop 107	26A00 = loop 106	26B00 = loop 107
9B00 = loop 108	9B40 = loop 109	26C00 = loop 108	26D00 = loop 109
9B80 = loop 110	9BC0 = loop 111	26E00 = loop 110	26F00 = loop 111
9C00 = loop 112	9C40 = loop 113	27000 = loop 112	27100 = loop 113
9C80 = loop 114	9CC0 = loop 115	27200 = loop 114	27300 = loop 115
9D00 = loop 116	9D40 = loop 117	27400 = loop 116	27500 = loop 117
9D80 = loop 118	9DC0 = loop 119	27600 = loop 118	27700 = loop 119
9E00 = loop 120	9E40 = loop 121	27800 = loop 120	27900 = loop 121
9E80 = loop 122	9EC0 = loop 123	27A00 = loop 122	27B00 = loop 123
9F00 = loop 124	9F40 = loop 125	27C00 = loop 124	27D00 = loop 125
9F80 = loop 126	9FC0 = loop 127	27E00 = loop 126	27F00 = loop 127
A000 = loop 128	A040 = loop 129	28000 = loop 128	28100 = loop 129
A080 = loop 130	A0C0 = loop 131	28200 = loop 130	28300 = loop 131
A100 = loop 132	A140 = loop 133	28400 = loop 132	28500 = loop 133
A180 = loop 134	A1C0 = loop 135	28600 = loop 134	28700 = loop 135
— continued —			

SL-1 NT, XT and Option 51, 61, 71	
A200 = loop 136	A2C0 = loop 137
A280 = loop 138	A2C0 = loop 139
A300 = loop 140	A340 = loop 141
A380 = loop 142	A3C0 = loop 143
A400 = loop 144	A440 = loop 145
A480 = loop 146	A4C0 = loop 147
A500 = loop 148	A540 = loop 149
A580 = loop 150	A5C0 = loop 151
A600 = loop 152	A640 = loop 153
A680 = loop 154	A6C0 = loop 155
A700 = loop 156	A740 = loop 157
A780 = loop 158	A7C0 = loop 159

Option 51C, 61C, 81 and 81C	
28800 = loop 136	28900 = loop 137
28A00 = loop 138	28B00 = loop 139
28C00 = loop 140	28D00 = loop 141
28E00 = loop 142	28F00 = loop 143
29000 = loop 144	29100 = loop 145
29200 = loop 146	29300 = loop 147
29400 = loop 148	29500 = loop 149
29600 = loop 150	29700 = loop 151
29800 = loop 152	29900 = loop 153
29A00 = loop 154	29B00 = loop 155
29C00 = loop 156	29D00 = loop 157
29E00 = loop 158	29F00 = loop 159

C000 to E2FF

PS and Clock Controller card fault address.

ACTION: Refer to the following table to locate the faulty card and follow the INI003 output code action.

INI — System Initialization

SL-1 L, LE, VL,VLE, XL, M, MS, S, ST, N, XN and Option 21		SL-1NT, XT and Option 51, 61, 71	
Fault Address		Fault Address	
C0xx = Peripheral Signaling card 0		C0C0xx = Peripheral Signaling card 0	
C2xx = Peripheral Signaling card 1		C0C2xx = Peripheral Signaling card 1	
C4xx = Peripheral Signaling card 2		C0C4xx = Peripheral Signaling card 2	
C6xx = Peripheral Signaling card 3		C0C6xx = Peripheral Signaling card 3	
C8xx = Peripheral Signaling card 4		C0C8xx = Peripheral Signaling card 4	
CAxx = Peripheral Signaling card 5		C0CAxx = Peripheral Signaling card 5	
CCxx = Peripheral Signaling card 6		C0CCxx = Peripheral Signaling card 6	
— continued —			

INI — System Initialization

SL-1 L, LE, VL,VLE, XL, M, MS, S, ST, N, XN and Option 21		SL-1NT, XT and Option 61, 71	
Fault Address		Fault Address	
CExx = Peripheral Signaling card 7		C0CExx = Peripheral Signaling card 7	
D0xx = Peripheral Signaling card 8		C0D0xx = Peripheral Signaling card 8	
D2xx = Peripheral Signaling card 9		C0D2xx = Peripheral Signaling card 9	
D4xx = Peripheral Signaling card 10		C0D4xx = Peripheral Signaling card 10	
D6xx = Peripheral Signaling card 11		C0D6xx = Peripheral Signaling card 11	
D8xx = Peripheral Signaling card 12		C0D8xx = Peripheral Signaling card 12	
DAxx = Peripheral Signaling card 13		C0DAxx = Peripheral Signaling card 13	
DCxx = Peripheral Signaling card 14		C0ACxx = Peripheral Signaling card 14	
DExx = Peripheral Signaling card 15		C0DExx = Peripheral Signaling card 15	
E0xx = Clock Controller card 0		C0E0xx = Clock Controller card 0	
E2xx = Clock Controller card 1		C0E2xx = Clock Controller card 1	



IOD — LD 37 Input/Output Diagnostic

How the IOD works	694
SDI — Serial Data Interface	695
TTY/PRT commands	696
Mass storage system	697
MDU — Multi Disk Unit	698
FDU — Floppy Disk Unit	699
MSI — Mass Storage Interface	700
MSI faceplate hex codes	701
Disk commands versus tape commands	712
MSI status	714
FDI — Floppy Disk Interface	715
FDI faceplate hex codes	716
MSDL — Multipurpose Serial Data Link	724
Multipurpose Serial Data Link commands	725
MSDL commands	725
Property Management System Interface	726
PMSI commands	726
Intelligent Links (APL, HSL, LSL, and CMAC)	728
IOD messages	728

Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards*, found in the *Hardware maintenance tools* chapter of this guide.

How the IOD works

LD 37 is used to diagnose faults with disk units, tape units, Teletypewriter (TTY) or Serial Data Interface (SDI) cards. It provides enable, disable, status and test functions on these devices. Problems are indicated by IOD messages.

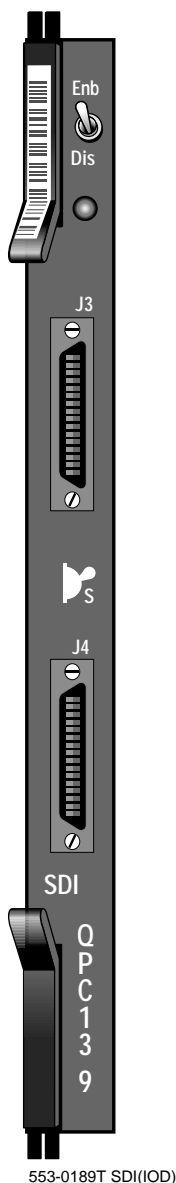
When LD 37 is defined as a daily routine, the overlay runs only once every five days. And the primary storage device (disk or tape) is thoroughly tested (equivalent to command MSI 0 or TAPE 0).

Only some of the commands in this overlay are supported by Options 51C/61C/81. For these systems, use the MSI commands in LD 137.

Refer to Link Diagnostic (LD 48) for I/O ports used with the following applications:

- ◆ Command and Status Links (CSL)
- ◆ Meridian Link
- ◆ Automatic Call Distribution (ACD)
- ◆ Integrated System Messaging Link
- ◆ Enhanced Serial Data Interface (ESDI) ports

SDI — Serial Data Interface



553-0189T SDI(IOD)

All Meridian SL-1 systems can support up to 16 serial data interface devices that utilize the American Standard Code for Information Interchange (ASCII) characters.

Up to three dual port SDI paddleboards can be installed on the rear backplane of each Option 21 CE/PE module, and up to two SDI paddleboards can be installed on the rear backplane of each Option 61 CPU/NET module.

Purpose

The SDI provides EIA Data Interchange Standard RS-232-C interface between the CPU and Data Terminal Equipment (DTE), Data Communication Equipment (DCE), and an Applications Processor Link (APL). Older SDI cards, up to and including the QPC139 card can also support teletypes or printers requiring 20 mA loop current.

Function

Serial data from the external equipment is converted to parallel data and driven onto the CE or control bus for the CPU, or vice versa.

Features

The faceplate includes the following:

- ◆ an ENB, DIS switch to hardware enable or disable the card
- ◆ a LED, when lit indicating a disabled card
- ◆ two DB 25 sub-miniature connectors; port 1 is labeled as J3 and port 2 is labeled as J4

The component side of the card contains the following switches and plugs:

Address Selection Switches — selects which pair of devices, 0 and 1 to 14 and 15, are to be addressed as ports 1 and 2

Speed Switches — matches the port baud speed to that of the connected device

Socket Plugs — matches the card function to three types of connecting devices as follows:

- ◆ Modem or DCE — used as an interface between a digital terminal and the analog transmission facilities of the public exchange network.
- ◆ EIA RS 232 Data Terminal or DTE — a device that requires an exchange of predetermined signals to provide control, called handshaking. This exchange between the SL-1 and the device must take place before information can be passed.
- ◆ Teletype terminal or TTY — a non-handshaking 20 mA current loop device. The SDI card provides the current.

TTY/PRT commands		
Command	Description	Release
Stat all		
STAT	Provide status of all input/output devices in system.	basic-1
Status of TTY/PTR		
STAT TTY x	Provide status of TTY x. With X11 Release 19 and later, this command also provides the status of the primary PMSI port. FAULTY HW: NO RESPONSE = SDI device identified as faulty by the SRIP function. Refer to the FHW chapter.	basic-1
STAT TTY	Provide status of all TTY devices in system. With X11 Release 19 and later, this command enables you to get the status of the primary PMSI I/O port, and the Single Terminal Access (STA) administration terminal.	basic-1
STAT PRT	Provide status of all printers in system.	basic-1
STAT PRT x	Provide status of printer x.	basic-1

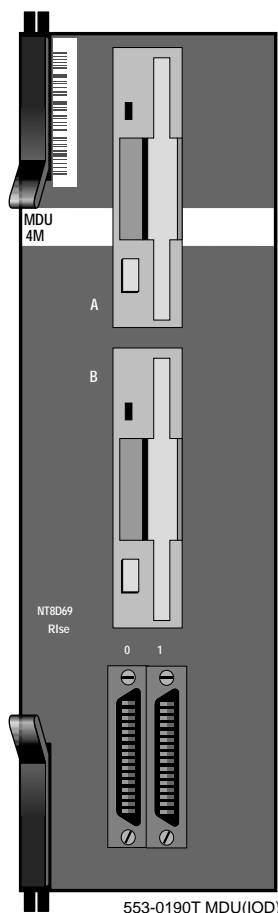
TTY/PRT commands (continued)		
Command	Description	Release
Disable TTY/PRT		
DIS TTY x	Disable TTY x.	basic-1
DIS PRT X	Disable printer x.	basic-1
Enable TTY/PRT		
ENL TTY x	Enable TTY x.	basic-1
ENL PRT X	Enable printer x.	basic-1
Test TTY/PRT		
TTY x	<p>Test TTY x .</p> <p>Response is:</p> <p>ABCDEFGHIJKLMNOPQRSTUVWXYZ 0123456789"#\$%*!&()<>-.:,.? READY FOR INPUT</p> <p>Anything entered on the keyboard will be echoed until END is input.</p>	basic-1

Test TTY/PRT		
PRT x	<p>Test printer x.</p> <p>Same as TTY test except that no keyboard input is expected and END command is not required.</p> <p>The following symbol is printed * denoting that the printer is not yet available.</p>	

Mass storage system

The mass storage system is used as the nonvolatile storage medium and consists of two 3.5 inch floppy disk drives, a mass storage interface card, and a hard disk drive (optional).

MDU — Multi Disk Unit



Purpose

The Multi Disk Unit (MDU) is used to load the programs and programmable data into the system memory.

Function

Provides a nonvolatile store of resident programs and data for automatic loading in case the system memory is erased due to a power or control failure. The MDU or FDU can be used on Option 61 and 71. The MDU is mandatory when Option 71 or SL-1 XT is equipped with Release 16 and later software.

Features

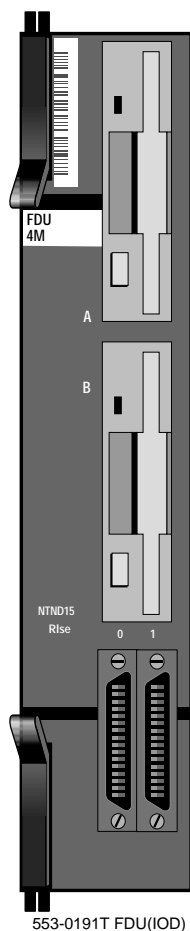
The MDU has the following features:

- ◆ two 3.5-inch floppy drive units, labeled “A” and “B”, each with a LED, which when lit indicate that the diskette is rotating. Each disk has a formatted capacity of 1.44 mega-bytes
- ◆ a 3.5-inch hard drive unit, labeled “C”, with a capacity of 20 mega-bytes
- ◆ a QPC584 Mass Storage Interface card, which controls the MDU
- ◆ occupies three adjacent card slots in the CPU, CPU/NET, or Network module and requires 5V and 12V from this module backplane

The MDU can be connected to one or two MSI cards as required.

Do not turn off the power when the drives are active, as this could corrupt data.

FDU — Floppy Disk Unit



Purpose

The Floppy Disk Unit (FDU) is used to load the programs and programmable data into the system memory.

Function

Provides a nonvolatile store of resident programs and data for automatic loading in case the system memory is erased due to a power or control failure. The FDU is used with Options 21, 61, 71, and can be retrofitted to the Meridian SL-1XT, NT, ST.

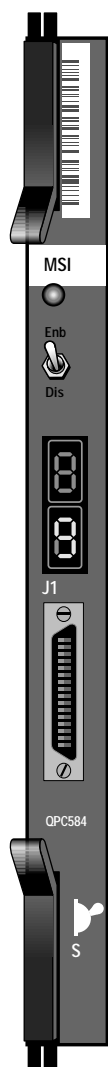
Features

The FDU has the following features:

- ◆ two 3.5-inch floppy drive units, with same features as the MDU floppy
- ◆ is controlled by the QPC742 Floppy Disk Interface card
- ◆ is powered through the cable connecting it to the FDI card
- ◆ occupies two adjacent card slots in the CUP, Network, or PE module
- ◆ can be connected to one or two FDI cards as required

Do not turn off the power when the drives are active, as this could corrupt data

MSI — Mass Storage Interface



553-0192T MSI(IOD)

Purpose

Used to interface the Mass Storage Unit, a Serial Device, to the CPU, a Parallel Device.

Function

The MSI card provides address matching, disk drive control, data buffering, and interrupt control circuits.

Features

The faceplate includes the following features:

- ◆ a LED when lit indicating a disabled MSI card
- ◆ an ENB, DIS switch to hardware enable or disable the card
- ◆ two display modules, to indicate MSU faults or operation
- ◆ a 50 pin connector used to interconnect the MSI card to the mass storage unit

A switch on the component side of the card is used to address the hard disk when optioned.

A Security Data cartridge is inserted into jack J2 on the component side of the MSI card. Only one cartridge is issued for each MSI card installed in a Meridian 1.

Data Cartridge - The cartridge allows the system to load only those optional programs purchased by the user or owner of the system. Each cartridge carries an identification number and is unique to a particular Meridian 1. If the identification number on the cartridge does not match that of the floppy disks, the system will not load. - If the cartridge fails during operation, the system will still process calls, however the system will not load programs stored on disks into memory.

MSI faceplate hex codes

The Mass Storage Interface (MSI) card is located on the CPU shelf of systems equipped with disk drives. *Display definition* applies to QPC584E and earlier versions. If the faceplate cable is disconnected, the MSI displays AF for about seven seconds then flashes 55 followed by 10, the idle state. IOD050 and OVL005 messages are output.

The meaning of the code depends on whether the display is alternating, counting, flashing or steady.

Display is alternating

Ax

The MSI is reading disk records.

ACTION: For information only, no action required.

Display is counting

00-50

During the restore command in LD 43, the MSI display counts from 0 to 32 hex as the floppies are being copied to hard disk. Each count corresponds to a block of data being transferred. It also counts down when a second copy of the floppy is made on the hard disk.

ACTION: For information only, no action required.

55-00

During the running of LD 37 I/O diagnostic commands:

On **MSI 0** command, the display shows a pattern counting down from 55 to 00 on two separate occasions. Each count occurs in approximately 1 second intervals. This simulates the fast forward and reverse tape motion which takes about 85 seconds each.

ACTION: For information only, no action required.

On **MSI RW 0** command, after the A1-AF pattern indicating records are being read, there is an occasional '8B' indicating that records are being written. When writing to a floppy with the write/protect tab on, the display flashes 97 and IOD075 is output.

ACTION: If appropriate remove write/prot Display is flashing.

00

Hard disk or floppy disk is not formatted (QPC584A to D). For QPC584E or later, 00 indicates that information is missing from the disk.

ACTION: Try another set of disks. If the problem still occurs, replace the hard drive following the steps in the *Hardware replacement* guide.

01

No Index/Sector signal (hardware/disk error).

ACTION: Try another set of disks. If the problem still occurs, replace the hard drive following the steps in the *Hardware replacement* guide.

02

No seek complete on the floppy disk (hardware data/disk error).

ACTION: Try another set of disks. If the problem still occurs replace the hard drive following the steps in the *Hardware replacement* guide.

03

Write fault.

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

04

Addressed disk drive is not ready.

ACTION: Check that the floppy disks are in place and that they are properly seated. Be sure that the floppy disks are not upside down or backwards in their drives.

05

Addressed disk drive is not selected.

ACTION: Check that the drive is present and the cables to the controller are correct. If the MSU has just been powered on, the MSI must be initialized. This is done by turning the MSI switch from ENL to DIS and back to ENL.

06

No Track Zero found (hardware error).

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

07

Multiple Drives selected (hardware error).

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

0D

A command is still executing and a new command is issued.

ACTION: Be patient. You are entering commands faster than the system can handle them.

10

Check Sum Error (hardware/medium error).

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

11

Read Error (medium error).

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

12

No address mark found in ID field on disk (medium error).

ACTION: Try another set of disks, if the problem still occurs, replace the hard drive following the steps in the *Hardware replacement* guide.

13

No address mark found in data field on disk (medium error).

ACTION: Try another set of disks, if the problem still occurs, replace the hard drive following the steps in the *Hardware replacement* guide.

14

No record found (disks) (medium error).

ACTION: Try another set of disks, if the problem still occurs, replace the hard drive following the steps in the *Hardware replacement* guide.

15

Seek error (hardware error).

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

17

Attempting to write to a write-protected disk.

ACTION: Close the sliding write/protect tab on the disk, to unwrite protect.

1A

Too many parameters (illegal request).

ACTION: Contact your technical support group.

20

Invalid Command (illegal request).

ACTION: Contact your technical support group.

21

Illegal parameters were sent to the controller. For QPC584E; 21 indicates invalid address on disk.

ACTION: Contact your technical support group.

22

Switching from hard disk to floppy disk for n

ACTION: For information only, no action required.

23

Disk capacity overflow (illegal request).

ACTION: Contact your technical support group.

24

Illegal field in command (illegal request).

ACTION: Contact your technical support group.

25

Invalid drive selection (illegal request).

ACTION: Contact your technical support group.

26

Invalid field in parameter list (illegal request).

ACTION: Contact your technical support group.

27

Write protected (also see 97).

ACTION: Switch the notch from the write protect to unwrite protect on the disk.

28

Disk changed.

ACTION: Information only, no action required.

29

Power on reset occurred.

ACTION: Information only, no action required.

2A

Drive parameters changed.

ACTION: Information only, no action required.

2B

Floppy disk controller error.

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

31

Drive format is corrupted (medium error).

ACTION: Try another set of disks, if the problem still occurs replace the hard drive following the steps in the *Hardware replacement* guide.

33

Switching from floppy disk to hard disk for normal operation.

ACTION: Information only, no action required.

40

RAM failure (hardware error).

ACTION: Contact your technical support group.

41

ECC diagnostic failure (hardware error).

ACTION: Contact your technical support group.

42

Power on failure (hardware error).

ACTION: Contact your technical support group.

43

Message rejected.

ACTION: Contact your technical support group.

44

Sanity timer is active; extraordinary situation.

ACTION: Contact your technical support group.

45

Drive select failed (hardware error).

ACTION: Replace the hard drive following the steps in the *Hardware replacement* guide.

47

Parity error.

ACTION: Contact your technical support group.

48

Initiator detected error.

ACTION: Contact your technical support group.

49

Illegal message.

ACTION: Contact your technical support group.

55

The MSU or CPU not responding. The MSU may have no power. 55 also occurs if the CPU does not respond to the MSI after giving it a command.

ACTION: Check the MSI to MSU cable.

90

Configuration error.

ACTION: Contact your technical support group.

91

Uncorrectable error in data field of diskette.

ACTION: Replace the floppy disk that was being accessed when the error occurred with a backup floppy disk.

92

Controller did not detect the address mark in the Identification (ID) field.

ACTION: Contact your technical support group.

94

Controller could not find the requested record.

ACTION: Contact your technical support group.

95

Seek error. The Controller could not find the specified track.

ACTION: Contact your technical support group.

97

Attempting to write on a write-protected disk. Floppy disk B has a write-protect tab.

ACTION: Switch the notch from the write protect to unwrite protect on the disk.

BA

Write error.

ACTION: Replace the floppy disk that was being accessed when the error occurred with a backup floppy disk.

BC

A diskette write error occurred during the write of a record.

ACTION: Replace the floppy disk that was being accessed when the error occurred with a backup floppy disk.

BD

Logical Record Count (LRC) mismatch during disk write.

The LRC calculated by the MSI does not agree with the LRC sent by the system.

ACTION: Contact your technical support group.

BE

Record Number (RN) mismatch during disk write. The current RN in the MSI does not agree with the RN sent by the system.

ACTION: Contact your technical support group.

BF

Illegal Record Type (RT) during disk write. The record requested by SL-1 to be written onto diskette is neither a configuration record (RT8) nor data record (RT7).

ACTION: Contact your technical support group.

CA

Beginning to copy data from floppy disk B to hard disk.

ACTION: For information only, no action required.

CC

Copy (restore) from floppy disk to hard disk is complete.

ACTION: For information only, no action required.

CD

Hard disk has been positioned to shipping zone.

ACTION: Contact your technical support group.

D0

Attempting to do a backup when there are no data records on the hard disk. Do a datadump to the hard disk before doing the backup to the floppy disks.

ACTION: Perform a (RES) command to restore LD 43 to the hard drive.

D1

Attempting to do a data base backup when MSI switch settings have not been set for operation from a hard disk.

ACTION: Put position 4 of S3 ON

D6

Read error of hard disk private sector.

ACTION: Contact your technical support group.

DD

Datadump (backup) to floppy disk B is beginning.

ACTION: Information only, no action required.

DC

Datadump (backup) to floppy disk is complete.

ACTION: Information only, no action required.

E1

Cartridge time-out because MSI data cartridge is not present.

ACTION: Install a data cartridge.

E2

Illegal MSI data cartridge.

ACTION: Check that the data cartridge is properly installed (proper orientation with all pins inserted), or replace the data cartridge.

E3

Disk ID on floppy does not match ID in data cartridge.

ACTION: Replace the floppy disk or cartridge.

E4

Mismatch in System Version Number (SVN). SVN on disk does not match SVN in MSI data cartridge.

ACTION: Replace the floppy disks or cartridge. SVN indicates the SL-1 machine type, for example the SVN for SL-1 XN is 911.

E5

Mismatch in System Issue Number (SIN). SIN release number on disk does not match SIN release number in MSI data cartridge. SIN consists of two parts: a release number and an issue number. The release number is the most significant (decimal) digit of the SIN and the issue number is the least two significant digits. For example, a SIN of 855 means a release number of 8 and an issue number of 55. The MSI only compares the release portion of the SIN.

ACTION: Replace the floppy disks or data cartridge.

E6

Diskette read error encountered during attempted read of the private sector.

ACTION: Check that the floppy disk is present.

E7

Diskette write error encountered during attempted write to the private sector.

ACTION: Check that the write-protect tab has been removed from the floppy disk in drive B.

E8

Illegal attempt to write onto floppy disk A.

ACTION: This is not allowed.

E9

Illegal attempt to write to track 1 or track 2 space on the hard disk. This is not allowed.

ACTION: Contact your technical support group.

EA

Illegal value was written into track register. The value written was not 1, 2, 4 or 8.

ACTION: Contact your technical support group.

EC

Conversion error in computing logical sector number for hard disk.

ACTION: Contact your technical support group.

EE

Maximum record number was exceeded during a database write to disk.

ACTION: Contact your technical support group.

FA

Fault in floppy drive A. Self-test failed.

ACTION: Check the cabling to drive A, and check the drive DIP switches or replace the drive.

FB

Fault in floppy drive B. Self-test failed. If code 97 was displayed before FB, the write-protect tab is in place and the write test could not be completed.

ACTION: Remove the tab on floppy disk B. Check the cabling to drive B, check the drive DIP switches or replace the drive.

FC

Fault in hard disk drive C. Self-test failed.

ACTION: Check the cabling to drive C, also check the drive DIP switches or replace the drive.

FD

Wrong floppy disks in drives.

ACTION: Insert Floppy disk A in drive A and floppy disk B in drive B.

FE

Read error.

ACTION: Contact your technical support group.

FF

Floppy disk is in the wrong drive. Floppy disk A is in drive B and floppy disk B is in drive A. Drive A must contain a Track 1 floppy, Drive B a Track 3 floppy.

ACTION: Insert Floppy disk A in drive A and floppy disk B in drive B.

Display is steady**00**

Mass Storage Interface (MSI) power-up completed.

ACTION: For information only, no action required.

10

Mass Storage Interface (MSI) in idle state.

ACTION: For information only, no action required.

2F

Unknown command from CPU.

ACTION: Contact your technical support group.

81-8F

Codes **81** to **8F** indicate the MSI is simulating tape functions.

81Slow forward with Inter-record Gap (IRG)

82Slow reverse with Inter-record Gap (IRG)

83Fast forward with Inter-record Gap (IRG)

84Fast reverse with Inter-record Gap (IRG)

85Rewind

89Set timer (to a maximum of 64 ms)

8ARead disk

8BWrite disk

8CDiagnostic write

8DDiagnostic fast forward

8EDiagnostic fast reverse

8FUnrecognized command

ACTION: For information only, no action required.

A1

MSI has completed reading a record from disk and is transferring the data to the CPU.

ACTION: For information only, no action required.

A2

MSI has completed writing a record from its write buffer onto a diskette.

ACTION: For information only, no action required.

AD

During restore and backup for hard disk, the MSI is waiting for the disk controller to indicate that it has completed execution of the command.

ACTION: For information only, no action required.

AE

MSI has sent a status request to the Disk Controller.

ACTION: For information only, no action required.

AF

MSI has issued a command to the Disk Controller.

ACTION: For information only, no action required.

C2

Copying track 1 to track 2 on hard disk.

ACTION: For information only, no action required.

C4

Copying track 3 to track 4 on hard disk.

ACTION: For information only, no action required.

Disk commands versus tape commands

The various MSI (Mass Storage Interface) commands are not supported on Generic X37 and Generic X08 (prior to Release 12) software and if they are equipped with disk drives, the corresponding TAPE command should be used when testing the MSI as follows:

Disk command = Tape command

DIS MSI x=DIS TAPE x
ENL MSI x=ENL TAPE x
MSI DATA=TAPE DATA
MSI x=TAPE x
MSI RW x=TAPE RW x
MSI SELF x=TAPE CTRL x
STAT MSI=STAT TAPE
STAT MSI x=STAT TAPE x

Use of the TAPE x or TAPE MOTN x commands on a system equipped with disk drives will result in an IOD075 message. This message should be disregarded.

If LD 37 is run as part of the daily routines, an IOD075 message will be output on systems equipped with disk drives. This message should be disregarded.

MSI status		
Command	Description	Release
STAT	Provide status of all input/output devices in system.	basic-1
STAT MSI	Provide status of all MSI cards.	basic-1
STAT MSI x	Provide status of MSI card associated with the active CPU.	basic-1
STAT TAPE	Provide status of all magnetic tape devices.	basic-1
Disable MSI		
DIS MISI x	Disable Mass Storage Interface card x.	basic-1
DIS TAPE x	Disable tape unit x.	basic-1
Enable MSI		
ENL MISI x	Enable Mass Storage Interface card x.	basic-1
ENL TAPE X	Enable tape unit x.	basic-1
Test MSI		
TAPE CTRL x	Test control electronics on tape device x.	basic-1
TAPE DATA	Test data on all 4 tracks.	basic-1
TAPE MOTN x	Test motion and timing on tape device x.	basic-1
TAPE RW x	Test READ/WRITE ability of tape device x.	basic-1
TAPE x	Test magnetic tape device x.	basic-1
MSI DATA	Test data validity in primary and backup device.	basic-1
MSI RW x	Test READ/WRITE ability of Mass Storage unit x.	basic-1
MSI SELF x	Perform self-test on MSI card and report result.	basic-1
MSI x	Test Mass Storage unit x. This commands runs the MSI DATA, RW and SELF tests.	basic-1
Status of CDR Links		
STAT LINK	Provide status of all CDR links.	basic-1
STAT LINK x	Provide status of CDR data link x.	basic-1

FDI — Floppy Disk Interface



553-0193T FDI(IOD)

Purpose

The Floppy Disk Interface (FDI) card is used to interface the floppy disk unit, a serial device, to the CPU, a parallel device.

Function

The FDI card provides address matching, disk drive control, data buffering, and interrupt control circuits.

Features

The FDI card faceplate includes the following:

- ◆ a LED, when lit indicating a disabled FDI card
- ◆ an ENB/DIS switch to hardware enable or disable the card
- ◆ two display modules, to indicate FDU faults or operation
- ◆ a 50 pin connector used to interconnect the FDI card to the mass storage unit

A switch on the component side of the card is used to address the hard disk when optioned.

A Security Data cartridge is inserted into jack J2 on the component side of the FDI card. Only one cartridge is issued for each FDI card installed in a Meridian 1.

Data cartridge The cartridge allows the system to load only those optional programs purchased by the user or owner of the system. Each cartridge carries an identification number and is unique to a particular Meridian 1. If the identification number on the cartridge does not match that of the floppy disks, the system will not load. - If the cartridge fails during operation, the system will still process calls, however the system will not load programs stored on disks into memory.

FDI faceplate hex codes

The codes listed in the following section appear on the Floppy Disk Interface (FDI) circuit card located on the CPU shelf of systems equipped with disk drives.

The meaning of the code depends on whether the display is alternating, counting, flashing or steady.

Display is alternating

A1-70

FDI is reading disk records.

ACTION: For information only, no action required.

Display is counting

55-00

Display counts down in hexadecimal from 55 to 00 in approximately 1 second intervals. This display will run through two cycles. This is to simulate fast-forward and fast-reverse tape motion during diagnostics.

ACTION: For information only, no action required.

Display is flashing

44

Sanity timer has timed out. Extraordinary situation.

ACTION: Contact your technical support group.

55

Floppy Disk Unit (FDU) or CPU not responding. The FDU may have no power. This message is also displayed if the CPU does not respond to the FDI after giving it a command.

ACTION: Check the FDI to FDU cable.

60

Missing address mark. The Floppy Disk Controller (FDC) cannot detect the ID address mark after encountering the index hole twice.

ACTION: Check the cable or replace the diskette (disk error).

61

Not writable. The Floppy Disk Controller (FDC) has detected a write protect signal from the addressed drive.

ACTION: Remove the write protect tab on floppy disk B and try again.

62

No data. Floppy Disk Controller (FDC) cannot find the sector specified (disk error).

ACTION: Contact your technical support group.

63

Overrun. Floppy Disk Controller (FDC) is not being serviced fast enough by the CPU (FDC/hardware error).

ACTION: Contact your technical support group.

64

Data error. A checksum error in the ID field or the data field was detected (disk error).

ACTION: Contact your technical support group.

65

End of cylinder. An attempt has been made to access beyond the final sector of a cylinder (FDC/hardware error).

ACTION: Contact your technical support group.

66

Missing address mark in data field. In conjunction with (60), this specifies the missing address mark to have occurred in a data field (disk error).

ACTION: Contact your technical support group.

67

Bad cylinder. The cylinder address as read from the disk does not match the cylinder address loaded into the Floppy Disk Controller (FDC), and the disk cylinder address equals FFH (FDC/hardware error).

ACTION: Contact your technical support group.

68

Wrong cylinder. The cylinder address as read from the disk does not match the cylinder address loaded into the Floppy Disk (FDC) (FDC/hardware error).

ACTION: Contact your technical support group.

69

Data error in data field. A checksum error was detected in the data field (disk error).

ACTION: Contact your technical support group.

6A

Control mark. A sector with a deleted data address mark was encountered (disk error).

ACTION: Contact your technical support group.

72

Abnormal termination. Command execution started but not be successfully completed.

ACTION: Contact your technical support group.

74

Interrupt module error. An error was detected during execution of interrupt module.

ACTION: Contact your technical support group.

75

Read2s module error.

ACTION: Contact your technical support group.

76

Write2s module error.

ACTION: Contact your technical support group.

77

Initctrl module error.

ACTION: Contact your technical support group.

78

Command interface error. Incorrect hand shaking between Floppy Disk Controller (FDC) and CPU during attempt to load command block.

ACTION: Contact your technical support group.

79

Result interface error. Incorrect handshaking between Floppy Disk Controller (FDC) and CPU during attempt to read result bytes.

ACTION: Contact your technical support group.

7A

RXRSLT module error.

ACTION: Contact your technical support group.

7C

Addressed drive not ready.

ACTION: Contact your technical support group.

7D

Invalid hard disk operation attempted.

ACTION: Contact your technical support group.

7E

Logical sector number out-of-range.

ACTION: Contact your technical support group.

BA

Write error.

ACTION: Contact your technical support group.

BC

A disk write error occurred during the write of a tape record.

ACTION: Contact your technical support group.

BD

Checksum mismatch during disk write. The checksum calculated by the MSI does not agree with the checksum sent by the system.

ACTION: Contact your technical support group.

BE

Record Number (RN) mismatch during disk write. The current RN in the MSI does not agree with the RN sent by the system.

ACTION: Contact your technical support group.

BF

System has requested that a record be written to a disk. The record is neither a configuration record nor a data record.

ACTION: Contact your technical support group.

E1

Cartridge timeout because MSI data cartridge is not present.

ACTION: Install a data cartridge.

E2

Illegal MSI data cartridge.

ACTION: Check that the data cartridge is properly installed (proper orientation with all pins inserted), or replace data cartridge.

E3

Disk ID on floppy disk does not match disk ID in data cartridge

ACTION: Replace the floppy disks or data cartridge.

E4

Mismatch in System Version Number (SVN). SVN on disk does not match SVN in MSI data cartridge.

ACTION: Replace the floppy disks or data cartridge.

E5

Mismatch in System Issue Number (SIN). SIN release number on disk does not match SIN release number in MSI data cartridge.

ACTION: Replace the floppy disks or data cartridge.

E6

Diskette read error encountered during attempted read of the private sector.

ACTION: Check that the floppy disk is present.

E7

Diskette write error encountered during attempted write to the private sector.

ACTION: Check that the write-protect tab has been removed from the floppy disk in drive B.

E8

Illegal attempt to write onto floppy disk A. This process is not allowed.

ACTION: Check that the proper floppy disk is present.

EA

Illegal value was written into track register. The value written was not 1, 2, 4 or 8.

ACTION: Contact your technical support group.

EE

Maximum record number was exceeded during database write to disk

ACTION: Contact your technical support group.

FA

Fault in floppy drive A. Self-test failed.

ACTION: Check the cabling to drive A or replace the drive.

FB

Fault in floppy drive B. Self-test failed. If code 61 was displayed before FB, the write-protect tab is in place and the write test could not be completed.

ACTION: Remove the write/protect tab on floppy disk B. Check cabling to drive B or replace the drive.

FD

Wrong floppy disks in drives.

ACTION: Insert disks in the proper drives.

FE

Read error.

ACTION: Contact your technical support group.

FF

Floppy disk is in the wrong drive. Floppy disk A is in drive B and floppy disk B is in drive A.

ACTION: Insert disks in the proper drives.

Display is steady

00

Floppy Disk Interface (FDI) power-up completed.

ACTION: For information only, no action required.

10

Floppy Disk Interface (FDI) in idle state.

ACTION: For information only, no action required.

2F

Unknown command from CPU.

ACTION: Contact your technical support group.

70

1. Invalid command. Floppy Disk Controller (FDC) has received an unrecognizable command.

ACTION: Ensure that this is the command you wanted to use.

2. This code also signals the successful completion of all asynchronous processing.

ACTION: For information only, no action required.

71

Asynchronous command complete.

ACTION: For information only, no action required.

73

Ready status change.

ACTION: For information only, no action required.

7B

Synchronous command complete.

ACTION: For information only, no action required.

81-8F

Codes **81** to **8F** indicate the FDI is simulating tape functions.

81Slow forward with Inter-record Gap (IRG)

82Slow reverse with Inter-record Gap (IRG)

83Fast forward with Inter-record Gap (IRG)

84Fast reverse with Inter-record Gap (IRG)

85Rewind

89Set timer (to a maximum of 64 ms)

8ARead disk

8BWrite disk

8CDiagnostic write

8DDiagnostic fast forward

8EDiagnostic fast reverse

8FUnrecognized command

ACTION: For information only. No action required.

A1

Floppy Disk Interface (FDI) has completed reading a record from a disk into its read buffer and is transferring the data to the CPU.

ACTION: For information only, no action required.

A2

Floppy Disk Interface (FDI) has completed writing a record from its write buffer onto a disk.

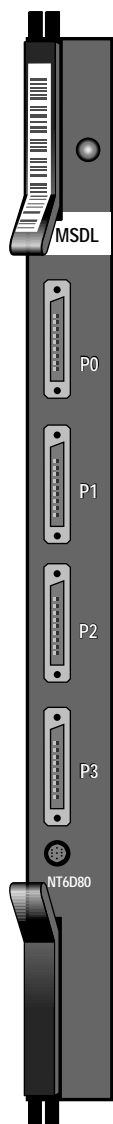
ACTION: For information only, no action required.

CC

Data transfer from cartridge is complete.

ACTION: For information only, no action required.

MSDL — Multipurpose Serial Data Link



553-0194T MSDL(IOD)

A Meridian 1 can support up to 16 Multipurpose Serial Data Link (MSDL) cards to a maximum of 64 ports.

Purpose

The MSDL card provides a serial interface for D-channel (DCH), ISDN Signaling Link (ISL), Application Module Link (AML), and SDI terminals (DTE or DCE).

TTY and printer asynchronous terminals can only be configured on port 0. All ports can be configured for synchronous applications, as DTE or DCE and RS232 or RS422.

Function

The MSDL MPU provides the following:

- ◆ self-tests
- ◆ communicates with the Meridian 1 CPU
- ◆ downloads peripheral software from the Meridian 1 CPU to control MSDL parameters
- ◆ coordinates data flow in conjunction with the Meridian 1 CPU
- ◆ manages data link layer and network layer signaling to control connection and disconnection
- ◆ controls its own operation initialization and addressing

Features

The MSDL card faceplate includes the following:

- ◆ a LED, when lit indicating a disabled MSDL card
- ◆ four I/O ports using 26 pin female SCSI II connectors
- ◆ a proprietary port for monitoring MSDL functions

On the component side of the card, switches S9 and S10 set the device number to match DNUM in LD 17. Switches S1 to S8 set ports to DTE or DCE and RS232 or RS422.

Multipurpose Serial Data Link commands

The MSDL provides 4 ports for ISDN Primary Rate D-channel (DCH) and Application Module Link (AML).

The MSDL commands are listed below, where x is the MSDL device number (defined by prompt DNUM in LD 17):

- DIS MSDL x (ALL) = Disable MSDL card
- ENL MSDL x (FDL, ALL) = Enable MSDL card
- RST MSDL x = Reset MSDL card
- STAT MSDL (x (FULL)) = Get MSDL status
- SLFT MSDL x = Execute a selftest on MSDL card x

These commands are provided in Link Diagnostic (LD 48) and D-channel Maintenance (LD 96), and I/O Diagnostic (LD 37). Refer to the “Alphabetical list of commands” in LD 48 for a complete description of these commands.

MSDL commands		
Command	Description	Release
Status of MSDL		
STAT MSDL (x) (FULL)	Get status of MSDL card (x) (additional information).	
Disable		
DIS MSDL x (ALL)	Disable MSDL device x (card).	
Enable		
ENL MSDL x (ALL, FDL)	Enable MSDL device x (card, Forced Download).	
Reset MSDL		
RST MSDL x	Reset MSDL device x.	
Test MSDL		
SLFT MSDL x	Invoke self-test for MSDL device x.	

Property Management System Interface

The Property Management System Interface (PMSI) is a full-duplex RS-232 asynchronous data link that allows a Meridian 1 customer with a Property Management System (PMS) computer to exchange a higher level of protocol for the Background Terminal (BGD) features in a hospitality environment.

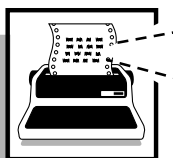
The system connects to the PMS computer through a SDI port. Each character received from the PMSI data link is treated as if it were entered from a TTY, and each character transmitted to the PMS computer is handled the same way as characters that are output to a TTY.

PMSI commands		
Command	Description	Release
Status of PMSI		
STAT	Provide status of all input/output devices in system.	basic-1
STAT TTY	Provide status of all TTY devices in system. With X11 Release 19 and later, this command enables you to get the status of the primary PMSI I/O port, and the Single Terminal Access (STA) administration terminal.	basic-1
STAT TTY x	Provide status of TTY x. With X11 Release 19 and later, this command also provides the appropriate PMSI port.	basic-1
STAT MON	Get the monitoring status for the primary PMSI port. This command displays the status of the message monitoring for the primary port. For example, if MSGI, MSGO, and SET MON 0 are enabled the display would be as follows. MSGI:ON MSGO: ON ALPH	pms-19
Disable PMSI		
DIS MSGI	Disable incoming message monitoring for the primary PMSI port.	pms-19
DIS MSGO	Disable outgoing message monitoring for the primary PMSI port.	pms-19

PMSI commands (continued)		
Command	Description	Release
Enable PMSI		
ENL MSG	Enable incoming message monitoring for the primary PMSI port.	pms-19
ENL MSGO	Enable outgoing message monitoring for the primary PMSI port.	pms-19
Set PMSI monitoring display		
SET MON 0	Set the monitoring display to be in alphanumeric format. This applies to the primary PMSI port.	pms-19
SET MON 1	Set the monitoring display to be in hexadecimal format. This applies to the primary PMSI port.	pms-19
CDSP	Set the monitoring display to be in alphanumeric format This applies to the primary PMSI port.	pms-19

Intelligent Links (APL, HSL, LSL, and CMAC)

A warning message is generated each time an intelligent link is accessed (enable, disable, test). The message is generated for the following types of links:



APL

ACD-D (HSL/LSL)

CMAC (Communication Management Center)

The message allows the access to be aborted prior to performing the enable, test, etc. The warning appears in the following format:

DIS TTY N (link type) LINK (status) (y/n)

A response of y disables the hardware of the TTY regardless of the software status of the link. The status field provides the software status of the link. Valid status entries are:

BAD = software status is invalid

DOWN = link is down

MAINT = link is up and in maintenance mode

FULL = link is full

EMPTY = link is empty

NOT EMPTY = link still contains data

IOD messages

IOD000

Program 37 identifier.

ACTION: The IOD program is loaded and ready for you to enter commands.

IOD001

An invalid command.

ACTION: Ensure that this is the command you wanted to use.

IOD002

An invalid argument(s).

ACTION: Check to make sure your data is correct and re-enter the command.

IOD003

The customer is nonexistent or out-of-range. Range is 0 to 31.

ACTION: Check to make sure your data is correct and re-enter the command.

IOD004

The device number is out-of-range. Range is 0 to 7 or 0 to 15.

ACTION: Check to make sure your data is correct and re-enter the command.

IOD005

The requested device is not defined in the system.

ACTION: Ensure that this is the command you wanted to use. If this is the correct command, refer to the *administration input/output guide* to program the device.

IOD006

The interface card failed to respond and a card fault is indicated. The device cannot be enabled until the fault is cleared. This information is also displayed on the maintenance display. Refer to the Maintenance Display Codes Table.

ACTION: Check the enable switch on the SDI or MSDL card. Use ENL MSDL to enable MSDL card. If the card still does not respond, replace the SDI or MSDL cards following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD007

The interface card has a permanent interrupt. The device cannot be enabled until fault is cleared.

ACTION: Replace the SDI or MSDL card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD009

The disabling of an active input device is not allowed.

ACTION: Refer to a different TTY or use an SL-1 maintenance set.

IOD010

The device cannot be enabled because the extender to the network shelf is disabled.

ACTION: Use STAT EXT in LD 35 to determine which extender is disabled. Use ENL EXT xxx in LD 35 to re-enable the extender before proceeding. If the extender does not enable, replace the extender card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

IOD011

The CDR tape is not positioned after the last record.

ACTION: Perform a backup so that the data on the tape is not lost, and then install new tape.

IOD012

The RW test is not allowed on the Mini-CDR tape. It is only used on SL-1 M and MS.

ACTION: Information only, no action required.

IOD021

An illegal character was entered while the tape data was running. Only END is permitted while TEST is in progress.

ACTION: Check to make sure your data is correct and re-enter the command.

IOD030

The command is not allowed for an ESDI port.

ACTION: Ensure that this is the command you wanted to use.

IOD040 n

A TTY or printer **n** is not emptying the output buffer.

The device is disabled. This information is also displayed on the maintenance display.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The output circuitry on SDI card *n* is faulty.

ACTION: Replace the SDI card following the steps in the *Hardware replacement* guide.

2. A miscellaneous or IF card on active CPU

ACTION: Use SCPU in LD 35 to switch CPUs. If the TTY operates now, replace the IF card following the steps in the *Hardware replacement* guide. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. Other Serial Data Interface Type cards.

ACTION: Replace the other SDI card one at a time following the steps in the *Hardware replacement* guide.

IOD041 *n*

A TTY *n* is producing incoherent or too much (over a defined threshold) input. The card has been disabled. Either the device is faulty or it is connected to a very noisy data line. This information is also displayed on the maintenance display. With X11 Release 19 and later, I/O Port auto Lockout Recovery is operating. This message indicates the TTY was left disabled because it had been locked out and re-enabled three times in the last 30 minutes.

ACTION: Use ENL TTY *x* to manually re-enable the port, and bring it back to service.

IOD050 *n*

1. The MSI/Tape unit *n* is not ready.

ACTION: Check disk/tape cartridge for proper seating. With disk systems, try operation again while watching the Mass Storage Interface display. Note display and follow the actions in the *Mass Storage Interface faceplate codes* in this chapter.

2. Receiving this message on a STE system running release 19 or 20 software.

ACTION: Load an overlay from another set of diskettes. Check for faulty FDI (QPC742). Check for a faulty cable or FDU (NTND15) card.

3. Receiving this message when data dumping to the target diskettes while upgrading.

ACTION: Check that the MSI or FDI switch S3 position 4 is off. Check that the proper target data cartridge is mounted on the MSI or FDI card.

IOD051 e n

1. Time-out or early warning on tape unit while reading. Error codes for **e** are as follows:

A=read directory timeout

B=check directory time-out

C=check track 3 time-out

D=check track 4 time-out

E=find last overlay record time-out

F=read EOF (End-Of-File) time-out

G=erase fault

W=tape initialization time-out

X=position check (tape read) time-out

Y=early warning point reached

Z=find record time-out

The field **n** represents MSI/tape unit 1 or 2.

ACTION: Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. Receiving this message when data dumping to the target diskettes while upgrading.

ACTION: Check that the MSI or FDI switch S3 position 4 is off. Check that the proper target data cartridge is mounted on the MSI or FDI card.

IOD052

An early warning point has been reached.

ACTION: Replace the disk or tape. Verify that the fault is cleared.

IOD060 n

An MSI or Tape Interface card fault for MSI or tape unit **n**.

ACTION: Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD061 n

A faulty track select on MSI or tape unit **n**.

ACTION: Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD062 n

A tape cartridge is missing or there is a defective bulb on tape unit **n**.

ACTION: Check the cartridge and bulb. Use MSI x to check Drive A and drive B. If the tests do not pass, replace drive A or B following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD063 n

The tape wound off the end of the reel on unit **n**, or tape unit **n** is defective.

ACTION: Check the cartridge or disk on MSI unit **n**.

IOD064 n

Interrupt fault on tape interface (TI) card for unit **n**.

ACTION: Disregard this message if the system is equipped with disk drives.

IOD065 n

Unable to position disk or tape correctly on MSI drive A or drive B or tape unit **n** due to faulty tape or interrupt fault.

ACTION: Replace the MSI card or drive A or drive B one at a time following the steps in the *Hardware replacement* guide. After replacing each device verify that the fault is cleared.

IOD066 n

The MSI or tape motion error detector on MSI or tape unit **n** malfunctioning.

ACTION: Replace the MSI card or drive A or drive B one at a time following the steps in the *Hardware replacement* guide. After replacing each device verify that the fault is cleared.

IOD067 n

Tape control electronics is allowing improper tape motion on tape unit **n**. The MSI control unit is not working.

ACTION: Replace the MSI card or Drive A or drive B one at a time as per steps in the *Hardware replacement* guide. After replacing each device verify that the fault is cleared.

IOD068 n

There is a defective interval timer on interface card for tape unit **n**. The MSI timer is not working.

ACTION: Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD069 n

The tape speed is incorrect, or there has been a failure to detect tape position changes on tape unit **n**. Possible defect in positioning of front cover. MSI timer not working.

ACTION: Remove the cover and test the cartridge. Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD070 n

The hardware on tape unit **n** failed to automatically stop motion at cartridge limits, or MSI timer not working.

ACTION: Replace the MSI card as per steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD071 n

Bad data on disk or tape, or defective cartridge in MSI, or tape unit **n**.

ACTION: Replace the MSI cartridge following the steps *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD072 n

There is a faulty track select or defective cartridge in MSI, or tape unit **n**.

ACTION: Replace the MSI cartridge following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD073 n

A faulty write protect mechanism exists which allows writing on protected data track of MSI or tape.

ACTION: Replace the drive unit following the steps in the *Hardware replacement* guide. After replacing the drive unit verify that the fault is cleared.

IOD074 n

The tape cartridge on tape unit **n** is set to SAFE; the test cannot continue. Test will automatically continue when cartridge is replaced. This message can also indicate the MSI floppy disk B is write protected.

ACTION: Remove the write protection on the 5 1/4 inch floppy disk B by exposing the notch in the disk, or on the 3.5 inch floppy disk B by covering the hole on the disk.

IOD075 e c n

Erase or write fault on tape unit **n**. **c** is the EOF record count (normally 9) and is given only when **e** = J.

e appears as one of the following codes:

J= write unsuccessful after four attempts

K=skip back timeout

L=not EOF when EOF expected or timeout

M=read buffer full

N=read buffer full

O=time-out checking read buffer

P=EOF record not found before starting check pattern

Q=write check pattern timeout

R=read check pattern timeout

S=read check pattern timeout

T=check pattern record count error

U=read EOF (to start erase) timeout

V=no EOF when expected or timeout

n=MSI/tape unit 1 or 2 has erase or write fault. Possible faults include dirty tape heads, faulty cartridge or faulty drive interface

ACTION: Replace the tape unit following the steps in the *Hardware replacement* guide.

IOD076 n

The MSI or tape unit **n** has problems reading data from disk or tape.

ACTION: Replace the drive unit following the steps in the *Hardware replacement* guide. After replacing the drive unit verify that the fault is cleared.

IOD077 n

The MSI or tape unit **n** has problems writing data on tape

ACTION: Replace the drive unit following the steps in the *Hardware replacement* guide. After replacing the drive unit verify that the fault is cleared.

IOD078 n

There is a hardware fault on the MSI or tape unit **n** which causes a momentary 'Not Ready' indication.

ACTION: Replace the MSI or tape unit. If the problem continues contact your technical support group.

IOD079 n

The tape cartridge on tape unit **n** has bad a directory, or there is a bad directory in the MSI system.

ACTION: Try using the backup disks.

IOD080 n

Disk or tape cartridge on MSI or tape unit **n** has missing 'end of disk/file'.

ACTION: Try using the backup disks.

IOD100 x y

Meaning depends on the output data:

1. If **IOD100 = 1 t**, Head fault or bad record on track **t**.

ACTION: Try using the backup disks, or replace the drive unit following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

2. If **IOD100 = e n**, Timeout or early warning during checking MSI/tape unit **n**. See IOD051 for error **e**. Suspect tape cartridge, interface, cable(s) or tape shelf.

ACTION: Replace the following components one at a time following the steps in the Hardware replacement guide. Replace tape cartridge, interface, cable(s) or tape drive unit following the steps in the *Hardware replacement* guide. Swapping the active and secondary tape interfaces and cables may help to isolate the problem. Verify that the fault is cleared after replacing each component.

3. If **IOD100 = n t**, Track **t** disabled due to timeout or early warning initializing MSI/tape unit **n**.

ACTION: Try the backup disks/tape.

IOD101 x y

Meaning depends on the output:

1. If **IOD101 = 1 t**, Requested data record not found on track **t**.

ACTION: Try the backup disks/tape.

2. If **IOD101 = n t**, Data record not found on track **t** on MSI/tape unit **n**. The data was loaded because it was duplicated.

ACTION: See IOD100 for possible faults.

3. If **IOD101 = t n r**, Data record rewritten by TAPE module on MSI/tape **n**, record **r**.

ACTION: Try the backup disks/tape.

4. If **IOD101 = e n t**, Data record not found on tape **n** track **r**, **e** appears as one of the following codes:

A=tape initialization

B=read directory

C=read data record (after read directory)

D=read test record

E=read EOF record

F=read data record (after test)

G=read last overlay record

H=read checking track 1 or 3

I= read checking track 2 or 4

ACTION: Try the backup disks/tape.

IOD110

Meaning depends on the output data:

1. If IOD110 = n, Data record not found on both tracks of tape unit **n**.
The data from the tape could not be loaded. Refer to IOD100 for possible faults.

2. If IOD110 = 1 t, Requested data record not found on track **t**.

ACTION: Backup the disk or tape. If the problem continues replace the drive.

IOD111 n

Tape unit **n** is disabled.

ACTION: Use ENL MSI x to enable MSI unit.

IOD112

Cannot perform TTY tests on PMS link.

ACTION: Information only, no action required.

IOD200 1

Tape disabled detected during write effort. Write effort suspended.

ACTION: Replace the drive following the steps in the *Hardware replacement* guide.

IOD201 1

Tape not equipped detected during write effort.

Write effort suspended.

ACTION: Remove the tape from the drive and reset the drive.

IOD203 1

Tape not ready detected during write effort. Write effort suspended.

ACTION: Disable and re-enable the drive and enter the command again.

IOD204 1

Tape write protected detected during write effort.

Write effort suspended.

ACTION: Remove the tape from write protect.

IOD205 1

Early warning detected during write effort. Write effort suspended if track 3.

ACTION: Replace the drive following the steps in the *Hardware replacement* guide.

IOD206 1

Read error detected during write effort. Hardware fault suspected. Write effort suspended.

ACTION: Replace the drive following the steps in the *Hardware replacement* guide.

IOD207 1

Write error detected during write effort. Write effort suspended after retries fail.

ACTION: Run diagnostics, and replace the tape or drive.

IOD208 1

Record not found error detected during write effort. Hardware fault suspected. Write effort suspended.

ACTION: Replace the drive following the steps in the *Hardware replacement* guide.

IOD209 1

Time-out detected during write effort. Write effort suspended.

ACTION: Run diagnostics, and replace the tape.

IOD210 1

Tape is put in tape full state. Write effort suspended.

ACTION: Perform a backup and install new tape.

IOD211 1

CDR tape has been locked too long. Write effort suspended.

ACTION: Run diagnostics, and replace the tape.

IOD212 1

CDR tape is now at least 75% full.

ACTION: Information only, no action required.

IOD250 1

Tape response idle while erasing. Hardware fault suspected.

ACTION: Replace the drive following the steps in the *Hardware replacement* guide.

IOD251 1

Mini-CDR tape disabled. Only used on SL-1 M and MS.

ACTION: Re-enable the drive and run a test.

IOD252 1

Mini-CDR tape unequipped. Only used on SL-1 M and MS.

ACTION: Remove the tape and insert a backup tape.

IOD254 1

Mini-CDR tape not ready. Only used on SL-1 M and MS.

ACTION: Disable the drive and then re-enable it.

IOD255 1

Mini-CDR tape write protected. Only used on SL-1 M and MS.

ACTION: Remove the write protect from the tape.

IOD256 1

Early warning hit.

ACTION: Retry the command. Try the backup software.

IOD257 1

Read error detected.

ACTION: Try the backup software.

IOD258 1

Write error detected.

ACTION: Try the backup software.

IOD259 1

Record not found.

ACTION: Try the backup software.

IOD260 1

Time-out occurred.

ACTION: Try the backup software.

IOD261

(No description)

ACTION: Use LD 48 to enable or disable CND TTY.

IOD280

(No description)

ACTION: Use the tape command.

IOD281

(No description)

ACTION: Use the MSI command.

IOD282

(No description)

ACTION: This command not allowed for an MSI equipped system.

IOD283

The primary MSU is not responding.

ACTION: Check that the MSU cable connectors are fully inserted in their sockets. If the fault does not clear, replace the MSU card following the steps in the *Hardware replacement* guide. After replacing the MSU verify that the fault is cleared.

IOD284

The secondary MSU is not responding.

ACTION: Check that the MSU cable connectors are fully inserted in their sockets. If the fault does not clear, replace the MSU card following the steps in the *Hardware replacement* guide. After replacing the MSU verify that the fault is cleared.

IOD290

MSI self-test time-out. MSI is not responding.

ACTION: Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD291

MSI memory is faulty.

ACTION: Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD292

MSI control is faulty.

ACTION: Replace the MSI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD293

MSI drive A failed self-test.

ACTION: Replace the MSI drive A following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD294

MSI drive B failed self-test.

ACTION: Replace the MSI drive B following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD295

MSI drive C failed self-test.

ACTION: Replace the MSI drive C following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD296

MSI drive not configured.

ACTION: Refer to the *administration input/output guide*. Use LD 17 ADAN to program the MSI.

IOD297

Mass Storage Interface (MSI) floppy drive failed self-test.

ACTION: Replace the MSI drive following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

IOD298

The Mass Storage Interface (MSI) software configuration does not match the hardware. Update the configuration record (LD 17).

ACTION: Refer to the *administration input/output guide*. Use LD 17 ADAN to update the configuration record.

IOD300

No response is received from the System Monitor (NT8D22) after sending a status request message.

ACTION: Check that the ribbon cable, from the master system monitor connector is fully inserted into the proper socket of the SDI paddleboard. Check that the SDI paddleboard switch settings correspond to the configuration record. Refer to the administration put/output guide. Use LD 22 PRT CFN to check the configuration record and go to the *Circuit Pack and Testing NTP* to check for switch settings. If the fault does not clear, replace the System Monitor or SDI paddleboard, one at a time, following the steps in the *Hardware replacement* guide. After replacing each device verify that the fault is cleared.

IOD301

There is no master System Monitor (NT8D22) port defined.

ACTION: Refer to the *administration input/output guide*. Use LD 17 ADAN to define the master System Monitor port.

IOD302

Invalid command.

ACTION: Ensure that this is the command you wanted to use.

IOD306 x

Could not test TTY due to one of the following reasons. The **x** field indicates the port number.

1. A self-test is not supported on that type of TTY

ACTION: Information only, no action required.

2. The TTY is not in the correct state to run self-test.

ACTION: Check to make sure the TTY is connected properly, optioned correctly, plugged in, turned on, has paper, and is serviceable.

3. Put the TTY in the enable and operational state and run the test again.

ACTION: Use ENL TTY x to enable the TTY port.

IOD307 x

The Meridian 1 timed out waiting for a response to the enable SDI application message sent to the MSDL card. The **x** field indicates the port number.

ACTION: Use ENL MSDL x to enable the MSDL card. If this error message is received twice in a row when attempting to enable the TTY, check to ensure the card is enabled and remains that way for the next few minutes. If the problem still persists, use DIS MSDL x to disable and then re-enable the MSDL card.

IOD308 x

The MSDL cannot enable the SDI application. The **x** field indicates the port number.

ACTION: Use ENL MSDL x to enable the MSDL card. If this error message is received more than twice in a row when attempting to enable the TTY, use ENL MSDL x FDL to re-download the card.

IOD309 x

The SDI application in transient state. **x** = port number

ACTION: Try again.

IOD314

That command does not apply to the Pseudo TTY (PTY).

ACTION: Ensure that this is the command you wanted to use.

IOD315 x

Failure to download the device setup. The device will still be enabled with the current setup. The **x** field indicates the failure reason:

1. If **x** = 0, Fail to download due to device data corruption.

ACTION: Remove the data and rebuild the device.

2. If **x** = 1, Fail to change baud rate.

ACTION: Remove the data and rebuild the device.

3. If **x** = 2, Fail to change device setup such as data bit, stop bit, or parity type.

ACTION: Remove the data and rebuild the device.

4. If **x** = 3, Fail to change control option.

ACTION: Remove the data and rebuild the device.

IOD316

It is not possible to enable the TTY or PRT without first enabling the MSDL card.

ACTION: Use ENL MSDL x to enable the MSDL card.

IOD317

The MSI and Tape related commands are not applicable to this machine.

ACTION: Use LD 137 to issue any maintenance and diagnostics for IOPs and CMDUs.

IOD318 x

TTY x was disabled due to invalid characters and will be automatically enabled in 4 minutes.

ACTION: Information only, no action required. Be patient.

IOD319 x

TTY x was automatically enabled.

ACTION: Information only, no action required.

IOD320 x

TTY x has been disabled 3 times, the maximum allowed, during the last 30 minutes. It will not be automatically enabled.

ACTION: Information only, no action required.

IOD321

Cannot disable the TTY used to access non Meridian 1 task (PDT/VxWorks Shell, for example).

ACTION: Information only, no action required.

IOD322 x y

Int detected: unconfigured I/O device. The I/O device located in group x at address y has been H/W disabled. Address y is interpreted in the *Fault address codes for page 3* section in the *INI* chapter.

ACTION: Refer to the administration guide. Use LD 17 to program the MSDL card. Check that the card faceplate switch is in the ENB position. Use the ENL MSDL x command to enable the card.

IOD323x y

Int detected: S/W disabled I/O device. The I/O device located in group **x** at address **y** has been H/W disabled. Address **y** is interpreted in the *Fault address codes for page 3* section in the *INI* chapter.

ACTION: Check that the card faceplate switch is in the ENB position. Use the ENL MSDL **x** command to enable the card.

IOD327 x

Overlay command cannot be executed due to one of the following conditions. The **x** field indicates the port number.

1. The port is not in the correct state for the command to be executed.

ACTION: Disable the MSDSL card and re-enter the command.

2. The port is already in the right state.

ACTION: Check to ensure your data is correct and if applicable, re-enter the command.

3. Check port state and try again.

ACTION: Use the stat MSDL to check the status of the card.

IOD328 x y z

MSDL SDI target state has been changed. The **x** field gives the port number. The **y** field gives the original target. The **z** field gives the new target.

ACTION: Information only, no action required.

IOD329 x y

Event: An application download failed. The **x** field indicates the port number. The **y** field indicates the failure reason.

1. If **y** = 3, Maintenance in progress is the failure reason.

ACTION: Be patient, and wait.

2. If **y** = 4, Transmit **x** buffer busy is the failure reason.

ACTION: Use DIS MSDL **x** to disable the MSDSL card, then use ENL MSDL **x** to enable it. When the card is enabled, try again.

3. If **y** = 6, No maintenance socket ID is the failure reason.

ACTION: Refer to the *administration input/output guide*. Use LD 17 ADAN to reconfigure port, then use ENL MSDL **x** to enable port again.

4. If **y** = 10, Download failed or other failure reasons.

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and then try again.

5. If **y** = 11, Force download not allowed is the failure reason.

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and then try again.

IOD331 **x y z**

The port is disabled by the system. The **x** field indicates the port number. The **y** field indicates why the port is disabled. The **z** field indicates the port state or port substate if the state is test.

1. If **y** = 1, Enable application failed

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and re-enter the command.

2. If **y** = 2, Status errno

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and re-enter the command.

3. If **y** = 3, Primitive timeout

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and re-enter the command.

4. If **y** = 4, MSDL Handler failure

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and re-enter the command.

5. If **y** = 5, Disable indication received

ACTION: Refer to the *Circuit Pack Installation & Testing NTP* and check the MSDL card switch setting.

6. If **y** = 6, PSDL threshold exceeded

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and re-enter the command.

7. If **y** = 7, MSDL card is system disabled

ACTION: Use ENL MSDL **x** to enable the card and re-enter the command.

8. If **z** = 15, Bad RS232/422 switch setting

ACTION: Refer to the *Circuit Pack Installation & Testing NTP* and check the MSDL card switch setting.

9. If **z** = 16, Bad DTE/DCE switch setting

ACTION: Refer to the *Circuit Pack Installation & Testing NTP* and check the MSDL card switch setting.

10. If **z** = 17, Not enough memory

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and re-enter the command.

IOD332 **x y**

The port is enabled but not ready. The **x** field gives the port number and the **y** field indicates the not ready reason.

1. If **y** = 0 Autobauding

ACTION: Press the return key repeatedly to trigger the port to autobaud.

2. If **y** = 1, Wait for the modem to be connected

ACTION: Check the modem connection.

3. If **y** = 2, The DTR is down

ACTION: Check the cable connection.

4. If **y** = 3, Await terminal (vt220) verification

ACTION: Information only, no action required. Be patient.

IOD333 **x**

The port is now operational; previously it was enabled but not ready.
x = port number.

ACTION: Information only, no action required.

IOD334 **x**

The port is put into midnight recovery. **x** = port number

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable the card, or wait for a midnight recovery to occur.

IOD335 x

Auto-recovery is complete. **x** = port number

ACTION: Information only, no action required.

IOD336 x y z

Auto-recovery is in progress. Wait for auto-recovery to complete.

x = port number

y = recv attempt no - 1, 2, or 3

z = cause for recovery - <disable reason>

ACTION: Information only, no action required. Be patient.

IOD337

HSPR command attempted, but the HOSP package is unequipped.

ACTION: Ensure that this is the command you wanted to use. If it is the proper command, refer to the *administration guide*. Use LD 22 PRT, PKG to ensure that all the packages you have ordered are on the disk. Check to make sure that there are no extra packages on the disk. Have your technical-support group contact Northern Telecom Customer Service for replacement software.

IOD338

HSPR command attempted, but no PMS ports configured.

ACTION: Ensure that this is the command you wanted to use. If it is the proper command, you may have to configure the PMS ports.

IOD339 x

STA disable process failed because application says so. **x** = STA logical number.

ACTION: Contact your technical support group.

IOD340 x

The overlay command cannot be executed. One of the following may have taken place. The **x** gives the STA logical number

1. STA application is not in the correct state for the command to be executed

ACTION: Check the database and if applicable, re-enter the command.

2. STA application is already in the right state.

ACTION: Ensure that this is the command you wanted to use.

IOD341 x y z

STA application encounters operational errors and the auto-recovery process is activated to recover. The **x** field indicates the STA logical number, The **y** field indicates the type of operational errors and the **z** field is the reason for STA loadware suicide. The **z** only appears in the message if y is 5.

1. If **y** = 1, Fail to enable STA application due to operational errors.

ACTION: Use DIS MSDL x to disable the MSDL card, then use ENL MSDL x to enable it and re-enter the command.

2. If **y** = 2, Status error due to operational errors.

ACTION: Use DIS MSDL x to disable the MSDL card, then use ENL MSDL x to enable it and re-enter the command.

3. If **y** = 3, Primitive timeout due to operational errors.

ACTION: Use DIS MSDL x to disable the MSDL card, then use ENL MSDL x to enable it and re-enter the command.

4. If **y** = 4, MSDL Handler failure due to operational errors.

ACTION: Use DIS MSDL x to disable the MSDL card, then use ENL MSDL x to enable it and re-enter the command.

5. If **y** = 5, STA loadware suicide as indicated by **z**, as follows:

z = 15 Wrong RS232/RS422 switch setting caused suicide.

ACTION: Refer to the *Circuit Pack Installation & Testing NTP* and check the MSDL card switch setting.

z = 16 Wrong DTE/DCE setting caused suicide.

ACTION: Go to the *Circuit Pack Installation & Testing NTP* and check the MSDL card switch setting.

z = 17 Not enough memory caused suicide.

ACTION: Use DIS MSDL x to disable the MSDL card, then use ENL MSDL x to enable it and re-enter the command.

z = 18 Fail to detect VT220 caused suicide.

ACTION: Contact your technical support group.

z = 19 STA loadware layer 2 bug caused suicide.

ACTION: Contact your technical support group.

y = 6 PSDL threshold failure due to operational errors.

ACTION: Use DIS MSDL **x** to disable the MSDL card, then use ENL MSDL **x** to enable it and re-enter the command.

IOD342 x

STA application is put in midnight recovery. No more auto-recovery will be attempted until midnight. **x** = STA logical number.

ACTION: Information only, no action required.

IOD343

“DIS TTY #” Cannot be used to disable the STA administration terminal.

ACTION: Ensure that this is the command you wanted to use.

IOD344

“ENL TTY #” cannot be used to enable the STA administration terminal.

ACTION: Ensure that this is the command you wanted to use.

IOD345

A TTY self test is not allowed on the STA administration terminal.

ACTION: Ensure that this is the command you wanted to use.

IOD346 x y z

An STA auto-recovery is in progress. The **x** field indicates the STA logical number. The **y** field gives the number of STAs attempts to recover: after three attempts the STA is put into midnight recovery. The **z** field gives the Operational Errors types which cause auto-recovery.

1. If **z** = 1, Fail to enable STA application

ACTION: Contact your technical support group.

2. If **z** = 2, Status error

ACTION: Contact your technical support group.

3. If **z** = 3, Primitive timeout

ACTION: Contact your technical support group.

4. If $z = 4$, MSDL Handler failure

ACTION: Contact your technical support group.

5. If $z = 5$, STA loadware suicide

ACTION: Contact your technical support group.

6. If $z = 6$, PSDL threshold failure

ACTION: Contact your technical support group.

7. If $z = 7$, MSDL system enabled

ACTION: Contact your technical support group.

IOD347 x

A STA auto-recovery has been completed. The **x** field indicates the STA logical number.

ACTION: Information only, no action required.

IOD350

Point-to-Point Protocol interface is disabled.

ACTION: Issue the command “ENL PPP” in LD 117.

IOD351

Active Point-to-Point Protocol session has been found.

ACTION: Wait until the current PPP session is terminated.

IOD352

Point-to-Point Protocol task has failed to start.

ACTION: Check the system port for additional information regarding possible causes of the failure.

IOD353

Invalid PTY port. PTY port is not supported.

ACTION: Check to make sure your data is correct.

IOD363


The overloaded SDI MSDL port needs to be disabled before it can be enabled.

ACTION: Action: Place the TTY in the manually disabled mode with the command DIS TTY x. Enable the TTY with the command ENL TTY x.

IOD — LD 37 Input/Output Diagnostic


IOD0371

Device locked by the Russian Call Monitoring feature. The TTY could not be disabled or enabled.

ACTION: Action: Contact your technical support group. 

IOD — LD 37 Input/Output Diagnostic

ISR — LD 39 Intergroup Switch and

Refer to the *IGS* chapter in this guide. 


LD 31 — Telephone and Attendant

This program tests the keys and lamps of Meridian 1 proprietary telephone sets and Attendant Consoles. The tests consist of pressing keys on a telephone and checking for the correct response. This diagnostic cannot be used for testing the DISPLAYPHONE 1200, or M3000.

This test is not much value to a site technician as the internal components of telephone sets are repaired in telephone repair centers. A test of more value to a site technician is the replacement of a faulty telephone with a good one.


LD 31 will only appear in the *Fault Clearing Guide* binder used by technical support groups. 

LNK — LD 48 Link Diagnostic

For messages and descriptions refer to the *maintenance input/output guide*. 

MCT — Malicious Call Trace

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ISDN Basic Rate Interface Northern Telecom Publications for details. 

MEM — Memory Manager

How the MEM works

Memory Manager is a resident program. MEM does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

MEM is used to check the amount of unused memory available to accommodate substantial amounts of new data to be added, and to respond to error messages SCH601 and SCH603.

MEM messages

MMEM000

Program Identifier.

ACTION: The MEM program is loaded and ready for you to enter commands.

MEM001

Invalid key word, or incorrect password entered.

ACTION: Check to make sure your data is correct and re-enter the proper key word or password.

MEM002

Incorrect number of parameters.

ACTION: Check to make sure your data is correct and re-enter the command.

MEM003

Invalid parameter.

ACTION: Check to make sure your data is correct and re-enter the command.

MEM005

Request valid for XL systems only.

ACTION: Ensure that this is the command you wanted to use.

MEM010

Dump map has been made identical to active map.

ACTION: Contact your technical support group.

MEM011

No change from present assignment.

ACTION: Information only, no action required.

MEM012

Map was not changed before CHK command.

ACTION: To check the map refer to the *administration input/output guide* and use LD 29.

MEM101

Maximum logical page size exceeded by response to MSG.

ACTION: To check the map refer to the *administration input/output guide* and use LD 29.

MEM102

Maximum logical page size exceeded (prompts TYNM/PGBY).

ACTION: Contact your technical support group.

MEM103

Parameter out of range.

ACTION: Check to make sure your data is correct and re-enter the command.

MEM104

Unequipped package.

ACTION: Use LD 22 PRT, PKG to ensure that all the packages you have ordered are on the storage medium.

MEM110

Attempt to assign page to wrong memory type.

ACTION: Check to make sure your data is correct and re-enter the command.

MEM111

Attempt to assign page to an unequipped memory.

ACTION: Check to make sure your data is correct and re-enter the command.

MEM112

Invalid logical page number.

ACTION: Check to make sure your data is correct and re-enter the command.

MEM113

Specified page is assigned to an unequipped memory.

ACTION: Check to make sure your data is correct and re-enter the command.

MEM120

WARNING: Free space will likely be below the safety limit.

ACTION: Contact your technical support group.

MEM121

Map check failed. Some page(s) will not likely fit.

ACTION: Contact your technical support group.

MEM150

Automatic map generator routine failed.

ACTION: Contact your technical support group. 

MFC — LD 54 Multifrequency Compelled

In this chapter

How the MFC works	768
Hardware initialization after SYSLOAD	768
Loop-around test during daily routines	768
Loop-around test by command.	769
MFC/MFE Error Handler and counter.	770
LD 54 Common commands	771
Multifrequency Compelled Signaling	774
MFC Messages	774

How the MFC works

Multifrequency Compelled Signaling (MFC) or Multifrequency Signaling (MFE) provides a handshaking facility between the Meridian 1 and the Central Office (CO) or Public Exchange (PE) or between other PBXs over network and Tie trunks.

The MFD overlay program is used to diagnose, display or change the status of the MFC or MFE send/receive (S/R) cards.

LD 54 resets all available MFC or MFE cards (both channels idle) and performs loop-back tests during the midnight routines. After every SYSLOAD or power-up, all available MFC or MFE cards are initialized.

The overlay can be loaded by the system after every power-up (or SYSLOAD), as part of the daily routines, or loaded manually to enter commands.

Hardware initialization after SYSLOAD

After system power-up, every idle MFC or MFE card is initialized (self-tested). During this test the card is disabled (the LED on faceplate is ON) and the S/R card microprocessor executes sequential loop-back tests on both channels.

These tests entail looping the sender output of each card to the receiver input. The sender transmits all thirty tone pairs (1 to 15 digits for both DOD/DID modes) with a default signal level of zero. Each time the receiver detects a tone pair, the microprocessor verifies the digit received. At the end of the test a command to enable the card is issued and the microprocessor sends the test results to the CPU.

Loop-around test during daily routines

This loop-around test is conducted by the system during the daily routines. The loop-around test is identical to the one conducted after power-up except for the following points:

- ◆ the test is conducted on one channel at a time for all available MFC or MFE cards
- ◆ the MFC or MFE S/R card remains enabled (the LED on faceplate is OFF)
- ◆ the self-test can also be loaded manually by issuing a command on the specified channel

Loop-around test by command

The loop-around tests are performed by maintenance personnel on a specified channel of the MFC or MFE S/R card. There are two types of tests:

- ◆ the first is identical to the daily routine test which is conducted on the specific channel
- ◆ the second is conducted on a specific channel for a specified digit and signal level

LD 54 also performs the following functions:

- ◆ resets all idle MFC or MFE cards once a day during the midnight routines
- ◆ enables and disables the MFC or MFE card or channel
- ◆ determines the status of the MFC card or channel
- ◆ lists all disabled MFC or MFE channels
- ◆ handles other common overlay operations, such as clearing alarms

Note 1: Use the DISL command to force-disable the MFC or MFE channel or card.

Note 2: Use the DISI command in LD 32 to disable the card when idle.

Note 3: No more than 50 percent of MFC channels can be disabled at one time as a result of system or manually initiated tests. However, this constraint does not apply when using disable commands.

MFC/MFE Error Handler and counter

The MFC/MFE Error Handlers are resident programs that monitor the number of MFC or MFE signaling errors. A one-word error field in the MFC or MFE block is initialized to zero. The Error Handler program allows a maximum of 10 errors. After every successful use of the MFC or MFE channel, the error field is decremental by one, if it is not already at zero. After every failure of the MFC or MFE channel the error field is incremental by one.

With X11 software, the Error Handler program generates only the **ERR700 L S C U** message. When an Error Handler code is output, the MFD overlay must be loaded manually and the MFC or MFE channels tested.

LD 54 Common commands		
Command	Description	Release
Clear Disable alarm		
CDSP	Clear the maintenance display on active CPU.	basic-1
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	basic-1
CMIN ALL	Clear minor alarm indication on all Attendant Consoles.	basic-1
CMIN c	Clear minor alarm indication on Attendant Consoles for customer c.	basic-1
Status		
STAT	List all disabled MFC channels in the system.	basic-1
STAT I s c (u)	Get status of specified MFC or MFE card or unit. Status is one of IDLE, BUSY, MBSY, DSBL or UNEQ for both channels.	basic-1
Disable device		
DISC I s c	Disable specified MFC or MFE card. LED on card is ON when disabled.	basic-1
DISU I s c u	Disable specified MFC or MFE channel. When the other unit on the card is also in a disabled state in the software, a message is sent to disable the MFC or MFE card. LED on card is ON when disabled.	basic-1

LD 54 Common commands (continued)		
Command	Description	Release
Enable		
ENLC I s c	Enable specified MFC or MFE card. Response is OK. A message is sent to the MFC or MFE card to turn off the LED.	basic-1
ENLU I s c u	Enable specified MFC or MFE channel. Response is OK. A message is sent to the MFC or MFE card to turn off the LED.	basic-1
Reset/Initialize		
MIDN 0	Reset all idle MFC or MFE cards. Resets all idle MFC or MFE cards and performs loop-around tests on all idle channels.	basic-1
MIDN 1	Initialize all idle MFC or MFE cards (recommended after installation).	basic-1
Test		
ATST I s c u	Test automatic loop-around for specified unit. Performs automatic loop-around test on specified unit with default signal level of zero. All 30 tone pairs are tested and verified by the card microprocessor. Digits 1 to 15 signify Forward Signals 1 to 15 (DOD mode) and digits 16 to 30 signify Backward Signals 1 to 15 (DID mode). The response is OK when the unit passes the test and is enabled. If the receiver sends no message within a predefined time period, an error message indicating timeout is printed. If the receiver indicates it has received a different signal than that sent, the failed signal, an error message and the TN are printed.	basic-1
End		
END	Stop further testing or cancel active command.	basic-1

LD 54 Common commands (continued)		
Command	Description	Release

Manual loop-around

MTST I s c u dl	Manual loop-around test on unit with specified digit level.	basic-1
----------------------------	--	---------

MFC-30 tone pairs are tested and verified by the CPU. Digits 1 to 15 indicate forward signals 1 to 15 (DOD mode) and digits 16 to 30 indicate backward signals 1 to 15 (DID mode).

MFE-15 tone pairs are tested and verified. Digits 1-15 represent Forward Signals 1-15 (DID mode). Digit 0 represents the control frequency.

The MFC signal levels require a +3 dBm gain at the trunk end. The following list shows the level codes, their value at the S/R card output, and their value at the trunk.

Digit level	Level Values (at S/R card)	Level Values (at trunk)
0	8 dBm	5 dBm
1	11 dBm	8 dBm
2	12 dBm	9 dBm
3	13 dBm	10 dBm
4	14 dBm	11 dBm
5	15 dBm	12 dBm
6	16 dBm	13 dBm
7	35 dBm	32 dBm

The MFE signal level 0=-10.5 dBm level with skew -7.0 dBm control frequency level. Signal levels 1-7 are used for internal test purposes.

The response is **OK** when the unit passes the test and is enabled. If the unit fails the test, the appropriate error

Multifrequency Compelled Signaling

Multifrequency Compelled Signaling (MFC) or Multifrequency Signaling (MFE) provides a handshaking facility between the Meridian 1 and the Central Office (CO) or Public Exchange (PE) or between other PBXs over network/Tie trunks.

MFC applies to X08, X11, and X11 with Supplementary features software. The format of MFC messages is as follows:

MFCxxx MFCTN TRKTN X1-X5

The mnemonic description is as follows:

MFCxxx=MFC message

MFCTN=MFC register TN (packed format)

TRKTN=Trunk TN of the CMFTN (packed format)

X1-X5=the first 6 words of the unprotected MFC block for the unit used

MFC Messages

MFC000

Program 54 identifier.

ACTION: The MFD program is loaded and ready for you to enter commands.

MFC001

Invalid input, number of characters in one field are greater than four (X08). Noisy card H/W (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Replace the MFC or MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFC002

Invalid input (datatype) (X08). Large twist (hardware) (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Replace the MFC or MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFC003

Invalid input, command field unknown (X08). Three frequencies (hardware) (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Replace the MFC or MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFC004

Invalid input, too many parameters (X08). No interdigit pause (hardware) (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Replace the MFC or MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared

MFC005

Last command is still in progress (X08). Invalid decision (hardware) (X11).

ACTION: X08 Be patient. X11 Replace the MFC or MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared

MFC006

Invalid TN (X08). MFC card firmware fault (hardware) (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFC007

Invalid DOD trunk (X08). Undefined error (hardware) (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Replace the MFC or MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared

MFC008

Trunk is busy or disabled (X08). Software timeout (software) (X11).

ACTION: X08 Try later or use ENLC l s c to re-enable the trunk card. X11 Contact your technical support group.

MFC009

Invalid TN. Shelf out-of-range. Shelf range is 0 to 3. (X08). Software not ready to send (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Contact your technical support group.

MFC010

Invalid TN. Card out of range. Card range is 1 to 10 (X08). Undefined function/signal (software) (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11.

MFC011

Invalid Set TN (X08). MFC table not defined (software) (X11).

ACTION: X08 Check to make sure your data is correct and re-enter the command. X11 Contact your technical support group.

MFC012

Defined set is busy or disabled (X08). Invalid backward (BWD) signal received. Call cleared down (software) (X11).

ACTION: X08 Try later or use ENLU l s c u to re-enable the set. X11 Contact your technical support group.

MFC013

Invalid signalling type (X08). Invalid FWD signal received; call cleared down (software) (X11).

ACTION: X11 Contact your technical support group.

MFC014

Signaling type not defined (X08).

ACTION: Check to make sure your data is correct and re-enter the command.

MFC015

Signalling type already defined (X08). Invalid TRKTYPE attempting MFC signaling (software) (X11).

ACTION: X08 Ensure that this is the command you wanted to use. X11 Contact your technical support group.

MFC016

Command not valid for MFE signaling (X08).

ACTION: Ensure that this is the command you wanted to use.

MFC017

Trunk busy, DSI timing (X08).

ACTION: Contact your technical support group.

MFC018

Use loop and channel for digital loop TN (X08).

ACTION: Check to make sure your data is correct and re-enter the command

MFC019

Invalid digital loop TN (X08).

ACTION: Check to make sure your data is correct and re-enter the command


MFC020

No MFC incoming table defined for route (software) (X11).

ACTION: Check to make sure your data is correct and re-enter the command

MFC021

No MFC outgoing table defined for route (software) (X11).

ACTION: Check to make sure your data is correct and re-enter the command 

MFD — LD 54 Multifrequency Signaling

In this chapter

How the MFD works	780
Hardware initialization after SYSLOAD	780
Loop-around test during daily routines	780
Loop-around test by command.	781
MFC/MFE Error Handler and counter.	782
MFD common commands	783
MFD messages	786

How the MFD works

Multifrequency Compelled Signaling (MFC) or Multifrequency Signaling (MFE) provides a handshaking facility between the Meridian 1 and the Central Office (CO) or Public Exchange (PE) or between other PBXs over network and Tie trunks.

The MFD overlay program is used to diagnose, display or change the status of the MFC or MFE send/receive (S/R) cards.

LD 54 resets all available MFC or MFE cards (both channels idle) and performs loop-back tests during the midnight routines. After every SYSLOAD or power-up, all available MFC or MFE cards are initialized.

The overlay can be loaded by the system after every power-up (or SYSLOAD), as part of the daily routines, or loaded manually to enter commands.

Hardware initialization after SYSLOAD

After system power-up, every idle MFC or MFE card is initialized (self-tested). During this test the card is disabled (the LED on the faceplate is ON) and the S/R card microprocessor executes sequential loop-back tests on both channels.

These tests entail looping the sender output of each card to the receiver input. The sender transmits all thirty tone pairs (1 to 15 digits for both DOD/DID modes) with a default signal level of zero. Each time the receiver detects a tone pair, the microprocessor verifies the digit received. At the end of the test a command to enable the card is issued and the microprocessor sends the test results to the CPU.

Loop-around test during daily routines

This loop-around test is conducted by the system during the daily routines. The loop-around test is identical to the test conducted after power-up except for the following points:

- ◆ the test is conducted on one channel at a time for all available MFC or MFE cards
- ◆ the MFC or MFE S/R card remains enabled (the LED on the faceplate is OFF)
- ◆ the self-test can also be loaded manually by issuing a command on the specified channel

Loop-around test by command

The loop-around tests are performed by maintenance personnel on a specified channel of the MFC or MFE S/R card. There are two types of tests:

- ◆ the first is identical to the daily routine test which is conducted on the specific channel
- ◆ the second is conducted on a specific channel for a specified digit and signal level

LD 54 also performs the following functions:

- ◆ resets all idle MFC or MFE cards once a day during the midnight routines
- ◆ enables and disables the MFC or MFE card or channel
- ◆ determines the status of the MFC card or channel
- ◆ lists all disabled MFC or MFE channels
- ◆ handles other common overlay operations (such as clearing alarms)

Note 1: Use the DISL command to force-disable the MFC or MFE channel or card.

Note 2: Use the DISI command in LD 32 to disable the card when idle.

Note 3: No more than 50 percent of the MFC channels can be disabled at one time as a result of system or manually initiated tests. However, this constraint does not apply when using disable commands.

MFC/MFE Error Handler and counter

The MFC/MFE Error Handlers are resident programs that monitor the number of MFC or MFE signaling errors. A one-word error field in the MFC or MFE block is initialized to zero. The Error Handler program allows a maximum of 10 errors. After every successful use of the MFC or MFE channel, the error field is decremental by one, if it is not already at zero. After every failure of the MFC or MFE channel the error field is incremental by one.

With X11 software, the Error Handler program generates only the **ERR700 L S C U** message. When an Error Handler code is output, the MFD overlay must be loaded manually and the MFC or MFE channels must be tested.

MFD common commands		
Command	Description	Release
Clear display/alarm		
CDSP	Clear the maintenance display on active CPU.	basic-1
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	basic-1
CMIN ALL	Clear minor alarm indication on all Attendant Consoles.	basic-1
CMIN c	Clear minor alarm indication on Attendant Consoles for customer c.	basic-1
Status		
STAT	List all disabled MFC channels in the system.	basic-1
STAT I s c (u)	Get status of specified MFC or MFE card or unit. Status is one of IDLE, BUSY, MBSY, DSBL or UNEQ for both channels.	basic-1
Disable device		
DISC I s c	Disable specified MFC or MFE card. LED on card is ON when disabled.	basic-1
DISU I s c u	Disable specified MFC or MFE channel. When the other unit on the card is also in a disabled state in the software, a message is sent to disable the MFC or MFE card. LED on card is ON when disabled.	basic-1

MFD common commands (continued)		
Command	Description	Release
Enable		
ENLC I s c	Enable specified MFC or MFE card. Response is OK . A message is sent to the MFC or MFE card to turn off the LED.	basic-1
ENLU I s c u	Enable specified MFC or MFE channel. Response is OK . A message is sent to the MFC or MFE card to turn off the LED.	basic-1
Reset/Initialize		
MIDN 0	Reset all idle MFC or MFE cards. Resets all idle MFC or MFE cards and performs loop-around tests on all idle channels.	basic-1
MIDN 1	Initialize all idle MFC or MFE cards (recommended after installation).	basic-1
Test		
ATST I s c u	Test automatic loop-around for specified unit. Performs automatic loop-around test on specified unit with default signal level of zero. All 30 tone pairs are tested and verified by the card microprocessor. Digits 1 to 15 signify Forward Signals 1 to 15 (DOD mode) and digits 16 to 30 signify Backward Signals 1 to 15 (DID mode). The response is OK when the unit passes the test and is enabled. If the receiver sends no message within a predefined time period, an error message indicating timeout is printed. If the receiver indicates it has received a different signal than that sent, the failed signal, an error message and the TN are printed.	basic-1
End		
END	Stop further testing or cancel active command.	basic-1

MFD common commands (continued)

Command	Description	Release
---------	-------------	---------

Manual loop-around

MTST I s c u dl	Manual loop-around test on unit with specified digit level.	basic-1
--------------------	---	---------

MFC-30 tone pairs are tested and verified by the CPU. Digits 1 to 15 indicate forward signals 1 to 15 (DOD mode) and digits 16 to 30 indicate backward signals 1 to 15 (DID mode).

MFE-15 tone pairs are tested and verified. Digits 1-15 represent Forward Signals 1-15 (DID mode). Digit 0 represents the control frequency.

The MFC signal levels require a +3 dBm gain at the trunk end. The following list shows the level codes, their value at the S/R card output, and their value at the trunk.

Digit level	Level Values (at S/R card)	Level Values (at trunk)
0	8 dBm	5 dBm
1	11 dBm	8 dBm
2	12 dBm	9 dBm
3	13 dBm	10 dBm
4	14 dBm	11 dBm
5	15 dBm	12 dBm
6	16 dBm	13 dBm
7	35 dBm	32 dBm

The MFE signal level 0=-10.5 dBm level with skew -7.0 dBm control frequency level. Signal levels 1-7 are used for internal test purposes.

The response is **OK** when the unit passes the test and is enabled. If the unit fails the test, the appropriate error message and the TN are printed.

MFD messages

MFD000

Program 54 identifier.

ACTION: The MFD program is loaded and ready for you to enter commands.

MFD001

Invalid input. Number of characters in one field is greater than 4.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD002

Invalid input. Wrong data type.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD003

Invalid input. Command field unknown.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD004

Invalid input. Too many parameters.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD005

Previous command still in progress.

ACTION: Be patient. You are entering commands faster than the system can handle them.

MFD006

Wrong/unequipped customer.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MFD007

Wrong argument/invalid parameter.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD008

Invalid TN. Loop out-of-range. Loop range is 0 to 159.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD009

Invalid TN. Shelf out-of-range. Shelf range is 0 to 3.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD010

Invalid TN. Card out-of-range. Card range is 1 to 10.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD011

Invalid TN. Unit out-of-range. Unit range is 0 to 1.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD012

Wrong Argument. Digit out-of-range. Digit range is 1to 30.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD013

Wrong Argument. Level out-of-range. Level range is 0 to 7.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD014

Specified TN is not equipped to be MFC or MFE channel.

ACTION: Ensure that this is the command you wanted to use.

MFD015

MFC/MFE/MFK channel is busy.

ACTION: Try later.

MFD016

MFC/MFE/MFK channel found faulty but has not been disabled. Given after ATST command or in response to test initiated by system. TN and failed digit are both output.

ACTION: Replace the MFE or MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD017

MFC/MFE/MFK channel found faulty and has been disabled. Given after ATST command or in response to test initiated by system. TN and failed digit are both output.

ACTION: Replace the MFE or MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD018

MFC/MFE/MFK channel found faulty but has not been disabled. Given after MTST command. TN, failed digit, and signal level received are all output.

ACTION: Replace the MFE or MFC card following the steps following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD019

MFC/MFE/MFK channel found faulty and has been disabled. Given after MTST command. TN, failed digit, and signal level received are all output.

ACTION: Replace the MFE or MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD020

Time-out, no response. Channel not disabled. Given after ATST, MTST commands and midnight test.

ACTION: For repeated failures, replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD021

Time-out, no response. Channel is disabled. Given after ATST, MDST commands and midnight test.

ACTION: For repeated failures, replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD022

Time-out, no response. Card level, channel or channels are not disabled. Given after initialization.

ACTION: For repeated failures, replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD023

Time-out, no response. Both channels are disabled. Given after initialization.

ACTION: For repeated failures, replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD024

MFC/MFE/KD3 packages not equipped. Overlay not loaded.

ACTION: Contact your technical support group and ask if you can do this test.

MFD030

Corrupted data, loop density out-of-range. Loop density range is 0 to 2.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD031

Corrupted data, unit information out-of-range. Unit information range is 0 to 15.

ACTION: Check to make sure your data is correct and re-enter the command.

MFD032

Self-test failed. Channel was not disabled.

ACTION: Use DISU l s c u in LD 54 to disable the channel.

MFD033

Self-test failed. Channel was disabled.

ACTION: Use ENLU l s c u in LD 54 to enable the channel.

MFD034 l s c

Self-test Failed, and XMFC/XMFE card disabled (all units) l s c = TN information (loop, shelf, card).

ACTION: Replace the MFE or MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFD035 l s c


Time-out due to no response. The XMFC/XMFE card missing or disabled (all units).

l s c = TN information (loop, shelf, card)

ACTION: Replace the MFE or MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared

MFD037

New MFC/MFE/MFK5/MFK6 units on Card 0 can only be enabled using ENLX in LD 34.

ACTION: To enable these units, go into LD 34 and perform ENLX0. 

MFE — LD 54 Multifrequency Signaling

In this chapter

How the MFE works	792
Hardware initialization after SYSLOAD	792
Loop-around test during daily routines	793
Loop-around test by command.	793
MFC/MFE Error Handler and counter.	794
MFE common commands.	795
MFE messages	798

How the MFE works

Multifrequency Compelled Signaling (MFC) or Multifrequency Signaling (MFE) provides a handshaking facility between the Meridian 1 and the Central Office (CO) or Public Exchange (PE) or between other PBXs over network and Tie trunks.

The MFD overlay program is used to diagnose, display or change the status of the MFC or MFE send/receive (S/R) cards.

LD 54 resets all available MFC or MFE cards (both channels idle) and performs loop-back tests during the midnight routines. After every SYSLOAD or power-up, all available MFC or MFE cards are initialized.

The overlay can be loaded by the system after every power-up (or SYSLOAD), as part of the daily routines, or loaded manually to enter commands.

Hardware initialization after SYSLOAD

After system power-up, every idle MFC or MFE card is initialized (self-tested). During this test the card is disabled (the LED on the faceplate is ON) and the S/R card microprocessor executes sequential loop-back tests on both channels.

These tests entail looping the sender output of each card to the receiver input. The sender transmits all thirty tone pairs (1 to 15 digits for both DOD/DID modes) with a default signal level of zero. Each time the receiver detects a tone pair, the microprocessor verifies the digit received. At the end of the test a command to enable the card is issued and the microprocessor sends the test results to the CPU.

Loop-around test during daily routines

This loop-around test is conducted by the system during the daily routines. The loop-around test is identical to the one conducted after power-up except for the following points:

- ◆ the test is conducted on one channel at a time for all available MFC or MFE cards
- ◆ the MFC or MFE S/R card remains enabled (the LED on the faceplate is OFF)
- ◆ the self-test can also be loaded manually by issuing a command on the specified channel

Loop-around test by command

The loop-around tests are performed by maintenance personnel on a specified channel of the MFC or MFE S/R card. There are two types of tests:

- ◆ the first is identical to the daily routine test which is conducted on the specific channel
- ◆ the second is conducted on a specific channel for a specified digit and signal level

LD 54 also performs the following functions:

- ◆ resets all idle MFC or MFE cards once a day during the midnight routines
- ◆ enables and disables the MFC or MFE card or channel
- ◆ determines the status of the MFC card or the channel
- ◆ lists all disabled MFC or MFE channels
- ◆ handles other common overlay operations (such as clearing alarms)

Note 1: Use the DISL command to force-disable the MFC or MFE channel or card.

Note 2: Use the DISI command in LD 32 to disable the card when idle.

Note 3: No more than 50% of MFC channels can be disabled at one time as a result of system or manually initiated tests. However, this constraint does not apply when using disable commands.

MFC/MFE Error Handler and counter

The MFC/MFE Error Handlers are resident programs that monitor the number of MFC or MFE signaling errors. A one-word error field in the MFC or MFE block is initialized to zero. The Error Handler program allows a maximum of 10 errors. After every successful use of the MFC or MFE channel, the error field is decremental by one, if it is not already at zero. After every failure of the MFC or MFE channel the error field is incremental by one.

With X11 software, the Error Handler program generates only the **ERR700 L S C U** message. When an Error Handler code is output, the MFD overlay must be loaded manually and the MFC or MFE channels tested.

MFE common commands		
Command	Description	Release
Clear display/alarm		
CDSP	Clear the maintenance display on active CPU.	basic-1
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	basic-1
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1
Status		
STAT	List all disabled MFC channels in the system.	basic-1
STAT I s c (u)	Get status of specified MFC or MFE card or unit. Status is one of IDLE, BUSY, MBSY, DSBL or UNEQ for both channels.	basic-1
Disable device		
DISC I s c	Disable specified MFC or MFE card. LED on card is ON when disabled.	basic-1
DISU I s c u	Disable specified MFC or MFE channel. When the other unit on the card is also in a disabled state in the software, a message is sent to disable the MFC or MFE card. LED on card is ON when disabled.	basic-1
Enable		
ENLC I s c	Enable specified MFC or MFE card. Response is OK . A message is sent to the MFC or MFE card to turn off the LED.	basic-1
ENLU I s c u	Enable specified MFC or MFE channel. Response is OK . A message is sent to the MFC or MFE card to turn off the LED.	basic-1

MFE common commands (continued)		
Command	Description	Release
Reset/Initialize		
MIDN 0	Reset all idle MFC or MFE cards. Resets all idle MFC or MFE cards and performs loop-around tests on all idle channels.	basic-1
MIDN 1	Initialize all idle MFC or MFE cards (recommended after installation).	basic-1
Test		
ATST I s c u	Test automatic loop-around for specified unit. Performs automatic loop-around test on specified unit with default signal level of zero. All 30 tone pairs are tested and verified by the card microprocessor. Digits 1 to 15 signify Forward Signals 1 to 15 (DOD mode) and digits 16 to 30 signify Backward Signals 1 to 15 (DID mode). The response is OK when the unit passes the test and is enabled. If the receiver sends no message within a predefined time period, an error message indicating timeout is printed. If the receiver indicates it has received a different signal than that sent, the failed signal, an error message and the TN are printed.	basic-1
End		
END	Stop further testing or cancel active command.	basic-1

MFE common commands (continued)		
Command	Description	Release

Manual loop-around

MTST I s c u dl	Manual loop-around test on unit with specified digit level.	basic-1
--------------------	---	---------

MFC-30 tone pairs are tested and verified by the CPU. Digits 1 to 15 indicate forward signals 1 to 15 (DOD Mode) and digits 16 to 30 indicate backward signals 1 to 15 (DID mode).

MFE-15 tone pairs are tested and verified. Digits 1-15 represent Forward Signals 1-15 (DID mode). Digit 0 represents the control frequency.

The MFC signal levels require a +3 dBm gain at the trunk end. The following list shows the level codes, their value at the S/R card output, and their value at the trunk.

Digit level	Level Values (at S/R card)	Level Values (at trunk)
0	8 dBm	5 dBm
1	11 dBm	8 dBm
2	12 dBm	9 dBm
3	13 dBm	10 dBm
4	14 dBm	11 dBm
5	15 dBm	12 dBm
6	16 dBm	13 dBm
7	35 dBm	32 dBm

The MFE signal level 0=-10.5 dBm level with skew -7.0 dBm control frequency level. Signal levels 1-7 are used for internal test purposes.

The response is OK when the unit passes the test and is enabled. If the unit fails the test, the appropriate error message and the TN are printed.

MFE message format

The MFE messages identify software and hardware errors during call processing. Output is in the following format:

MFExxx MFETN TRKTN

The mnemonics description is as follows:

xxx = the Error code number

MFETN = the MFE register TN (packed format)

TRKTN = the Trunk TN associated with the MFETN (packed format)

MFE messages

MFE001

Noisy Multifrequency Signaling (MFE) card hardware.

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE002

Large twist (hardware).

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE003

Three frequencies (hardware).

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE004

No inter-digit pause (hardware).

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE005

Invalid decision (hardware).

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE006

MFE card firmware fault (hardware).

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE007

Illegal signal 11 to 15 not supported (hardware).

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE008

Signal sent is invalid at this time (hardware).

ACTION: Replace the MFE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFE009

Software time-out (software).

ACTION: Contact your technical support group.

MFE010

Undefined/invalid signal received (software).

ACTION: Contact your technical support group.

MFE011

Signal not expected (software).

ACTION: Contact your technical support group.

MFE012

Undefined function (software).

ACTION: Contact your technical support group.

MFE013

Outgoing calls not allowed (software).

ACTION: Contact your technical support group.

MFE014

MFE table not defined (software).

ACTION: Contact your technical support group.

MFE015

Not ready to send (software).

ACTION: Contact your technical support group. 

MFK — Multifrequency Signaling for KD3

MFK messages

Multifrequency Signaling for KD3 is a resident program. MFK does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

MFK001

Noisy MFK card.

ACTION: Replace the MFK card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFK002

Large twist.

ACTION: Contact your technical-support group.

MFK003

Three frequencies.

ACTION: Contact your technical-support group.

MFK004

No interdigit pause.

ACTION: Contact your technical-support group.

MFK005

Invalid decision.

ACTION: Check to make sure your data is correct and re-enter the command.

MFK006

MFK card firmware fault.

ACTION: Replace the MFK card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFK007

Illegal signal.

ACTION: Check to make sure your data is correct and re-enter the command.

MFK008

Signal sent is invalid at this time.

ACTION: Contact your technical-support group.

MFK009

Software timeout.

ACTION: Contact your technical-support group.

MFK010

Undefined signal received.

ACTION: Contact your technical-support group.

MFK011

Signal not expected.

ACTION: Contact your technical-support group.

MFK012

Undefined function.

ACTION: Contact your technical-support group.

MFK014

MFK table not defined.

ACTION: Contact your technical-support group.

MFK015

Not ready to send.

ACTION: Contact your technical-support group. 

MFR — LD 34 Multifrequency Receiver

The Multifrequency Receiver card receives multifrequency signals for the Feature Group D package.

MFR commands		
Command	Description	Release
Test all MFR Units		
MFR	Test all Automatic Number Identification (ANI) Multifrequency receiver units.	fgd-17
Test MFR Units on this loop		
MFR loop	Test all Automatic Number Identification (ANI) Multifrequency receivers on this loop.	fgd-17
Test MFR Card or unit		
MFR I s c u	Test Automatic Number Identification (ANI) Multifrequency receiver card or unit.	fgd-17

MFR Messages

MFR001 l s c u

MFR unit did not respond. The specified MFR unit has been disabled.

ACTION: Replace the indicated MFR card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFR002 l s c u

MFR card self-test failed. N is the failure. The specified MFR card has been disabled.

1 = EPROM failed


2 = Processor failed

3 = Invalid result

ACTION: Replace the indicated MFR card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFR003 l s c u n1 n2 nn

MFR unit failed MF tones test, where **n1**, **n2**, etc. is the list of input messages received by the MFR. In a successful test, 30 input messages are received, corresponding to KP, 0-9, ST, ST', ST'' and ST'''. Each tone input messages is followed by an interdigit silence input message. The specified card has been disabled. Suspect faulty MFS if fault persists or if MFR units on more than one card are shown faulty.

ACTION: Replace the indicated MFR card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. 

MFS — LD 46 Sender Diagnostic for ANI

In this chapter

How the MFS works	806
MFS common commands.	807
MF Sender diagnostic for ANI	809
MFS messages	809

Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards*, found in the *Hardware maintenance tools* chapter of this guide.

How the MFS works

LD 46 is used to maintain the Multifrequency Sender (MFS) card. The MFS card provides multifrequency signals of Automatic Number Identification (ANI) digits over Centralized Automatic Message Accounting (CAMA) trunks to a toll switching CAMA, Traffic Operator Position System (TOPS) or Traffic Service Position System (TSPS).

The MFS diagnostic overlay can be run manually to enter commands, or it can be run in the background, during the daily routines.

It performs the following tests:

- ◆ checks that the MFS card responds to system I/O functions
- ◆ tests the 30-channel memory locations, the 480 (30 x 16) digit buffer memory locations and the 64 First-in, First-out locations
- ◆ exercises all 15-digit codes with digit strings from 2 to 16 digits long and verifies both the 68 ms pulse width and whether each string outputpulses to completion

MFS common commands		
Command	Description	Release
Clear display		
CDSP	Clear the maintenance display on the active CPU.	basic-1
CMAJ	Clear major alarm and resets power fail transfer.	basic-1
CMIN ALL	Clear minor alarm indication on all Attendant Consoles.	basic-1
CMIN c	Clear minor alarm indication on Attendant Consoles for customer c.	basic-1
MFS Status		
STAT loop	<p>Get status of MFS loop.</p> <p>Response is:</p> <p>UNEQ — loop is unequipped</p> <p>DSBL — loop is disabled</p> <p>CHAN xx — number of channels busy</p> <p>xx DSBL xx BUSY — number of channels disabled and busy</p> <p>NOT MFS — loop is not an MFS loop</p> <p>FAULTY HW: NO RESPONSE = loop identified as faulty by the LRIP function. Refer to the FHW chapter.</p>	basic-1
Disable MFS		
DISL loop	<p>Disable MSF loop.</p> <p>For NT8D17 Conference/TDS cards see note with ENLL command.</p>	basic-1
DISX loop	<p>Disable NT8D17 Conference/TDS card on loop L and L + 1.</p> <p>Disables all functions on the NT8D17 Conference/TDS card. Both the even numbered TDS/MFS loop and adjacent conference loop are disabled. Loop = 0, 2, 4...158</p> <p>Note 1: The DISL and ENLL commands can be used on the even number loop for the TDS/MFS functions provided the card has not been hardware disabled by the faceplate switch. The DISX and ENLX commands are recommended. The ENLX command must be used if the DISX command was used to disable the card.</p> <p>Note 2: This command can be used in LD 34, LD 38 and LD 46.</p>	xct-15

MFS common commands (continued)		
Command	Description	Release
Enable MFS		
ENLL loop	Enable loop. Note: For Conference/TDS cards the DISX and ENLX commands must be used whenever the faceplate switch of the card has been toggled. ENLL will software enable the card but the card will not reset properly.	basic-1
ENLX loop	Enable NT8D17 Conference/TDS card on loop L and L + 1. Enables all functions on the NT8D17 Conference/TDS card. Both the even numbered TDS/MFS loop and adjacent conference loop are enabled. Loop = 0, 2, 4...158 If one of the loops is already enabled, it is disabled and then both loops are enabled. This command initiates card tests and downloads software. Note 1: The DISL and ENLL commands can be used on the even number loop for the TDS/MFS functions, provided the card has not been hardware disabled by the faceplate switch. The DISX and ENLX commands are recommended. The ENLX command must be used if the DISX command was used to disable the card. Note 2: This command can be used in LD 34, LD 38 and LD 46. Note 3: The Conf/TDS card is not enabled automatically when it is inserted. Note 4: Enabling more than 16 conference loops may cause system to lock-up.	xct-15
MF Tone		
TONE loop	Enter input mode to provide MF tone bursts.	basic-1
TONE loop ALL	Provide MF tone bursts for all digits on specified loop. Provides MF tone bursts for all digits 1 to 9, 0, 11 to 15, in that order.	basic-1
Test MFS		
MFS loop	Test and enable MFS loop.	basic-1
End		
END	Stop all current testing.	basic-1

MF Sender diagnostic for ANI

The Multifrequency Sender card provides multifrequency signals of Automatic Number Identification (ANI) digits over Centralized Automatic Message Accounting (CAMA) trunks to a toll switching CAMA, Traffic Operator Position System (TOPS) or Traffic Service Position System (TSPS).

MFS messages

MFS000

Program identifier.

ACTION: The MFS program is loaded and ready for you to input commands.

MFS001

Invalid command. Only the commands listed are allowed.

ACTION: Ensure that this is the command you wanted to use.

MFS002

Incorrect use of command.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MFS003

The customer specified does not exist or is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MFS004

Loop specified is out of range.

ACTION: Check to make sure your data is correct and re-enter the command.

MFS005

This command is only allowed to be used from an SL-1 maintenance set.

ACTION: Use END to abort the program. Reload the program from a maintenance telephone. If you need help with maintenance telephone functions, refer to the *You should know this* chapter in this guide.

MFS006

Could not establish a channel connection between the maintenance telephone and the MF sender.

ACTION: Use LOOP x in LD 30 to run a signaling test. Replace the component or card causing the faulty condition following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFS020 loop

MF sender failed to respond.

ACTION: Ensure that the faceplate switch is set to ENB and that the card is inserted properly. If the MFS card still fails to respond, replace the MFS card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFS021 loop

MF sender has a channel memory fault.

ACTION: Replace the MFS card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFS022 loop

MF sender has a digit buffer memory fault.

ACTION: Replace the MFS card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFS023 loop d

MF sender does not output pulse for the digits **d** listed.

Applications with NT or XT machine types only can disregard this message. Operation of the MFS card is unaffected.

ACTION: Replace the MFS card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFS024 loop

MF sender has a fault in the FIFO stack memory. This fault is not service affecting.

ACTION: Replace the MFS card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

MFS100

On ENLX (enable Conference/TDS/MFS card) did not receive the message verifying download completion within six seconds.

ACTION: Use DISX to disable the card and use the ENLX command to enable the MFS card.

MFS101

Time out on Digit Interrupt for Conference/TDS/MFS card.

ACTION: Use DISX to disable the card and then use ENLX to re-enable the card. If the problem persists, replace the card following the *Hardware replacement* guide.

MFS102

Cannot use the ENLX (Enable) or DISX (Disable) commands on a non-Conference/TDS/MFS card.

ACTION: Ensure that this is the command you wanted to use.

MFS103

The Conference/TDS/MFS card is already enabled/disabled.

ACTION: Ensure that this is the command you wanted to use.


MFS104

Received an unexpected message from a Conference/TDS/MFS card.

ACTION: Replace the card following the steps in the *Hardware replacement* guide. 

Multi-purpose ISDN Signaling Processor

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ISDN Basic Rate Interface Northern Telecom Publications for details. 

MPH — Meridian Packet Handler

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ISDN Northern Telecom Publications for details. 

MRB — Message Registration Block

How the MRB works

Message Registration Block is a resident program. MRB does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

Message Registration Block messages are output in response to commands or prompts/responses related to the Message Registration feature.

MRB messages

MRB028

The unit to be tested is not message waiting PBX type.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MRB029

The unit to be tested is not idle.

ACTION: Wait for the unit to become idle and re-enter the command.

MRB030

The unit to be tested is not lamp equipped.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MRB900

Wrong number of input fields to prompt 'FUNT'.

ACTION: Check the database and re-enter the command

MRB901

Unable to match input with stored mnemonics for prompt.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB910

Wrong number of input fields for prompt 'REQ' when function 'MRBK', 'CRST', or 'DISP' has been invoked.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB911

Unable to match input with stored mnemonics.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB912

Warning: Unprotected data store below safety limit.

ACTION: Reallocate or add memory.

MRB913

Warning: Protected data store below safety limit.

ACTION: Reallocate or add memory.

MRB920

Wrong input type for prompt DBGN, BFNO.

ACTION: Check the database and re-enter the command.

MRB921

MR data block number out-of-range (0-99)

ACTION: Check the database and re-enter the command.

MRB922

Block already exists.

ACTION: Ensure that this is the command you wanted to use.

MRB923

Block does not exist.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MRB930

Wrong input type for prompt DLST, LSRM.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB931

Entry for prompt DN out-of-range (0-99).

ACTION: Check to make sure your data is correct and re-enter the command.

MRB932

Last room number illegal (0-99).

ACTION: Check to make sure your data is correct and re-enter the command.

MRB940

Wrong input type for prompt DN, RMNO.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MRB941

DN or room number out of assigned range.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB950

Input parameter must be between 0 and 24, inclusive.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB951

Input parameter must be between 0 and 7, inclusive.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB952

CRT/TTY has not been allocated for MR in the configuration record.

ACTION: Check the database in LD 17, correct and if applicable, re-enter the command.

MRB961

Enter parameter between 0 and 31, inclusive.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB962

Customer does not have any MR blocks allocated.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MRB963

Password does not have access to this customer data.

ACTION: Contact your technical support group and obtain the proper password to continue.

MRB971

Enter parameter between 0 and 31 inclusive.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB980

Wrong number of input fields to prompt **all**.

ACTION: Check to make sure your data is correct and re-enter the command.

MRB981

Unable to match input with stored mnemonics for prompt **all**.

ACTION: Check to make sure your data is correct and re-enter the command.


MRB990

Wrong input data type.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

MRB991

Number of input characters greater than four.

ACTION: Check to make sure your data is correct and re-enter the command. 

MSDL — LD 48 Multi-purpose Serial Data

In this chapter

How the MSDL works	822
MSDL — Multipurpose Serial Data Link	823
MSDL commands	824
MSDL messages	831

Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards*, found in the *Hardware maintenance tools* chapter of this guide.

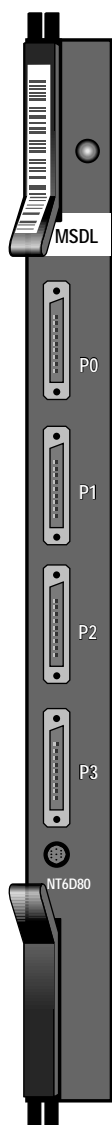
How the MSDL works

The commands used to provide enable, disable, status, and test functions on the Multi-purpose Serial Data Link cards are provided in LD 48 - Link Diagnostic, LD 96 - D-channel Maintenance, and LD 37 I/O Diagnostic.

Problems on the Multi-purpose Serial Data Link cards are indicated by MSDL and IOD messages.

For additional information, refer to the *IDSN PRI description and administration* or the *Multi-purpose Serial Data Link description* or the *Fault Clearing Guide Book 3 of 3, Managenent Applications*.

MSDL — Multipurpose Serial Data Link



553-0194T MSE

A Meridian 1 system can support up to 16 Multipurpose Serial Data Link (MSDL) cards to a maximum of 64 ports.

Purpose

One MSDL card provides a serial interface for four D-channels (DCH), one Application Module Link (AML), and one SDI terminal (DTE or DCE).

TTY and printer asynchronous applications can only be configured on port 0. All ports can be configured for synchronous applications, such as DTE or DCE, and RS232 or RS422.

Function

The MSDL MPU provides the following:

- ◆ self-tests
- ◆ communicates with the Meridian 1 CPU
- ◆ downloads peripheral software from the Meridian 1 CPU to control MSDL parameters
- ◆ coordinates data flow in conjunction with the Meridian 1 CPU
- ◆ management of the data link layer and network layer signaling to control connection and disconnection
- ◆ control of its own operation, initialization, and addressing

Features

The MSDL card faceplate includes the following:

- ◆ an LED, when lit indicating a disabled MSDL card
- ◆ four I/O ports using 26 pin female SCSI II connectors
- ◆ a proprietary port for monitoring MSDL functions

On the component side of the card, switches S9 and S10 set the device number to match DNUM in LD 17. Switches S1 to S8 set ports to DTE or DCE, and RS232 or RS422.

MSDL commands		
Command	Description	Release

Status of MSDL

STAT MSDL (x) (FULL)	<p>Get the status of MSDL card (x) (additional information). msdl-18</p> <p>This command outputs the status of MSDL cards. Without any optional parameters (no card number, etc.), the status of all MSDL cards in the system is output.</p> <p>When a card number alone is provided with the command, the status of the card is output along with additional information regarding the applications configured on the card.</p> <p>Specifically, for each D-channel or AML configured on the card, the application name, logical number and port status is output.</p> <p>For example:</p> <p>MSDL x: ENL AML 11 DIS PORT 1 DCH 25 OPER PORT 2 AML 03 OPER PORT 3</p> <p>If the FULL option is entered along with the MSDL number, the Meridian 1 outputs all the information for the STAT MSDL x command along with the following additional information:</p> <ul style="list-style-type: none">— card ID— bootloader firmware version— basecode version— basecode state— when the basecode was activated (if it is active)— each application version— each application state— when each application was activated (if it is active)
-----------------------------	---

MSDL commands (continued)

Command	Description	Release
---------	-------------	---------

Status of MSDL

The card status is output on the first line and can be any one of the following:

MSDL x: ENBL - card is enabled

MSDL x: MAN DSBL - card disabled by the DIS MSDL command

MSDL x: SYS DSBL reason - card has been disabled by the system

The system disabled state may be due to any of the following:

- 1. SYS DSBL - NOT RESPONDING**

If the MSDL is in this state, the implication is that the Meridian 1 has attempted to communicate with the MSDL and was not successful. It is possible that the card is not present in the shelf. If it is present, then it is possible that the software on the card is unable to respond to messages from the Meridian 1.

Action: Check to see if the card is properly inserted in its slot. If it is (and has been for more than a few minutes), then check the maintenance terminal for MSDL or ERR messages and take the appropriate action for the error message.

It may be that the rotary switch setting on the MSDL card is not set properly. To keep the Meridian 1 from continuously attempting recovery of the MSDL, use the DIS MSDL x command to put the card in the Manually Disabled (MAN DSBL) state.

- 2. SYS DSBL - SELF-TESTING**

If the MSDL is in this state, self-tests are in progress.

Action: Wait for the self-tests to complete and for the Meridian 1 to examine the results. Under normal circumstances, the self-tests take less than one minute to complete. However, when an erasable EPROM on the card has been cleared, the self-tests may take between five and six minutes to complete. Do not to take any action at this time.

MSDL commands (continued)		
Command	Description	Release

Status of MSDL

3. SYS DSBL - SELF-TESTS PASSED

This is a transient state. A card in a transient state has successfully completed the self-tests and the Meridian 1 is either beginning to download the MSDL base software, or has just completed downloading the MSDL base software and is about to attempt to enable the card.

Action: Wait for the Meridian 1 to begin the next step of recovery. If a more immediate recovery is desired, use the DIS MSDL x command followed by the ENL MSDL x command. This causes essentially the same recovery action to be taken. However, it may be faster (since it is being done as a result of input from the craftsperson).

4. SYS DSBL - SELF-TESTS FAILED

If the MSDL is in this state, the self-tests have executed and failed on this card.

Action: Use the STAT MSDL x command to determine reason for self-test failure. Disable the MSDL card using the DIS MSDL x command, then use the SLFT MSDL x command to execute the self-tests again.

If the self-tests pass, attempt to enable the card using the ENL MSDL x command. If the card fails the self-tests again, record the results and replace the card.

5. SYS DSBL - SRAM TESTS FAILED

If the MSDL is in this state, the self-tests have been run and passed. However when the Meridian 1 attempted to perform read/write tests to the shared RAM on the MSDL, it detected a failure.

Action: This is the same as for a self-test failure. If the attempt to enable the card fails, record the results and replace the card.

MSDL commands (continued)

Command	Description	Release
---------	-------------	---------

Status of MSDL**6. SYS DSBL - OVERLOAD**

The Meridian 1 has received too many messages from the MSDL. This is unacceptable as excessive demand can interfere with other system functions.

Action: If the MSDL is left in this state, the Meridian 1 will attempt to bring the card back into service within a few minutes. If this is not required, disable the card using the DIS MSDL x command.

It is also advisable to identify a specific port or application that may be responsible for the overload. The identification can be made by disabling individual links/ports on the MSDL and letting the remaining links/ports operate normally.

7. SYS DSBL - RESET THRESHOLD

If the MSDL is in this state, the Meridian 1 has detected more than four resets within ten minutes. A normal, operating card should not reset so often.

It is possible that the card may be in this state due to a Fatal Error or Self-test failure from which no recovery was successful. (As the recovery from Fatal Errors and Self-test failures begins with resetting the card, repeated attempts at recovery may cause the reset threshold to be reached.)

Action: Disable the card using the DIS MSDL x command and execute the SLFT MSDL x command. If the self-tests pass, attempt to enable the card using the ENL MSDL x command. If the problem recurs, try a forced downloading of the software to the MSDL using the ENL MSDL x FDL command.

If the problem continues to recur and resets continue because of a repeated fatal error, attempt to isolate the problem by disabling all links/ports controlled by one application (e.g., all D-channels or all AMLs). If no manual intervention is taken by the craftsperson, the Meridian 1 will attempt to bring the card back into service beginning at midnight.

MSDL commands (continued)		
Command	Description	Release

Status of MSDL

8. SYS DSBL - FATAL ERROR

If the MSDL is in this state, the card encountered a fatal condition from which it could not recover. In response to the STAT command, the cause of the fatal error will be displayed.

If the STAT command is not entered while the card is in this state, the MSDL302 message printed at the time of the state transition will indicate the cause of the fatal error.

Action: The Meridian 1 will attempt to bring the card back into service automatically. While the card is in this state, no action is required. If the Meridian 1 is unable to recover the card, the system disabled substate will be changed to indicate the reason recovery was not possible. The craftsperson should then take the recommended action for that new substate.

9. SYS DSBL - NO RECOVERY ATTEMPTED UNTIL MIDNIGHT

When this is output after the SYS DSBL message, the Meridian 1 has attempted to recover the card but has repeatedly failed. One example of this condition is when the background recovery mechanism has failed to download the MSDL Base Code five times in a row.

Action: Disable the card using the DIS MSDL x command. Test the card using the SLFT MSDL x command, and if the self-tests pass, enable the card using the ENL MSDL x command.

If the downloading of the MSDL Base Code is necessary, it will be attempted in response to the enable command. If no manual intervention is taken, the Meridian 1 will attempt recovery again beginning at midnight.

MSDL commands (continued)		
Command	Description	Release
Disable		
DIS MSDL x (ALL)	<p>Disable MSDL device x (card).</p> <p>When entered without the optional parameter, the disable MSDL command attempts to disable the MSDL card. Disabling the card via this command is permitted from either the Enabled (ENBL) state or the System Disabled (SYS DSBL) state.</p> <p>When attempted on an MSDL that does not have any ports enabled, this command will succeed. The only exception to this is when the disable card message needs to be sent to the card, and there is no buffer currently available for building the message (MSDL015 is output to the TTY). In this unusual situation, attempting the command again will most likely result in success.</p> <p>Application Overlays are not erased when the MSDL is disabled.</p> <p>If there are any ports that are still running in the MSDL card, the ALL option must be used to force disable the active ports. As an alternative to this command, the craftsperson can use the commands provided by the applications to disable the ports (D-channels or AML) individually, and then use the DIS MSDL x command.</p> <p>The command DIS MSDL x ALL is not allowed if the active TTY (the terminal from which the command was entered) is supported on the MSDL card in question.</p> <p>Software disable the logical channel prior to disabling the physical DNUM port.</p>	msdl-18

MSDL commands (continued)		
Command	Description	Release
Enable		
ENL MSDL x (ALL, FDL)	<p>Enable MSDL device x (card, Forced Download).</p> <p>When entered without any of the optional parameters, the enable MSDL command attempts to enable the MSDL card. Enabling the card via this command is only permitted if the card is currently in the Manually Disabled (MAN DSBL) state.</p> <p>The enable card succeeds if:</p> <ol style="list-style-type: none">1. the card is resident in the shelf2. it has passed all the self-tests3. the MSDL base software has been downloaded and is responding <p>If the MSDL base software and any configured application software has not been downloaded, or if the version of the software on the card is different from the version on the system disk, software download occurs. While download is in progress, a series of dots (. . .) are output.</p> <p>If the FDL (forced download) option is entered, the MSDL base software and all the configured applications will be downloaded regardless if the application already exists on the card. Following the download, the card will be enabled.</p> <p>If the ALL option is entered, the card will be enabled (provided the three conditions mentioned above are met), all the applications will be downloaded if necessary and then an attempt will be made to enable all the links/ports configured on the card.</p> <p>Additionally, the enable command with the ALL option can be entered when the card is already in the enabled state. This allows you to enable any disabled links/ports through one command. It is not possible to use both the ALL and the FDL options in the same command.</p>	msdl-18

Reset MSDL		
RST MSDL x	<p>Reset MSDL device x.</p> <p>This command causes a power-on reset on the MSDL, followed by a series of short self-tests. Resetting the card via this command is only permitted if the card is in the Manually Disabled (MAN DSBL) state.</p>	msdl-18

MSDL commands (continued)		
Command	Description	Release

Test MSDL

SLFT MSDL x	<p>Execute a self-test for MSDL device x.</p> <p>This command causes a power-on reset on the MSDL, which will be followed by a complete set of self-tests. This command only executes the self-tests if the card is in the Manually Disabled (MAN DSBL) state.</p> <p>If the self-tests pass, a message indicating this and card id is output.</p> <p>If the self-tests fail, a message is output describing which self-test failed. It is useful to note that the first test that fails will abort the self-test sequence, so this command only indicates one test failure, even if multiple tests might fail.</p>
------------------------------	---

MSDL messages**MSDL001**

The number of parameters for the MSDL command is incorrect.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation.

MSDL002

The card number in the command is out-of-range or invalid.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation.

MSDL003

Since this command is only valid for use on the MSDL card in this Overlay, the first parameter must be MSDL.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation.

MSDL004

Cannot reset the card or execute self-tests right now because the card is not in Manually Disabled state (MAN DSBL).

ACTION: Use DIS MSDL x to disable the card.

MSDL005

Failed to reset; could not write command to card, due to the following:

1. Card is probably not present.

ACTION: Check to make sure the card is seated in the backplane.

2. The address switch settings on the card do not agree with the database.

ACTION: Check that the switch settings of S9 and S10 match the DNUM in the configuration record. To get the DNUM, refer to the *administration input/output guide* and use LD 22 PRT CFN.

MSDL006

Cannot enable the card unless it is in Manually Disabled (MAN DSBL) state.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation. If your data is correct, use DIS MSDL x to disable the card.

MSDL007

Cannot disable card unless it is in the Enabled (ENBL) state.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation. If your data is correct, use ENL MSDL x to enable the card.

MSDL008

Cannot reset the card (or execute self-tests) on the card right now since the device enabled bit is set, meaning a message response is currently pending.

ACTION: Attempt the self test command again. Assuming the card is Manually Disabled and when the response pending condition clears, the reset and self tests should run.

MSDL011

No response received to the enable card command.

ACTION: To find out why the card did not respond to ENL MSDL x, use RST MSDL x, or use the SLFT MSDL x to start a self test. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL012

The response message from the card to the Overlay indicates failure to enable/disable.

ACTION: To find out why the card did not respond, use RST MSDL x, or use the SLFT MSDL x to start a self test. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL014

No response received to the disable card command. The card is set to the Manually Disabled (MAN DSBL) state anyway.

ACTION: Information only, no action required. However to find out why the card did not respond to DIS MSDL x, you may want to use RST MSDL x, or use the SLFT MSDL x to start a self test.

MSDL015

The command entered requires that a message be sent to the MSDL. The Meridian 1 was unable to build the message since the buffer was not free.

ACTION: Try again later. If this message continues to be generated and if the card is enabled, wait for a few minutes, as the card may have encountered a problem that warrants recovery. If the card is manually disabled, reset the card using the RST MSDL x, or execute self tests using the SLFT MSDL x. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL016

Failed enable attempt. If this message is not accompanied by any other error message, the card may be in the process of performing self-tests or the self-tests may have already failed.

ACTION: Wait a few minutes, then execute the self-tests with the SLFT MSDL x command. If the self-tests pass, use ENL MSDL x to

enable the card again. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL017

At least one of the ports on the MSDL is currently enabled. Disabling the card is disallowed when ports are enabled unless the DIS MSDL x ALL command is used.

ACTION: To disable the card, use DIS MSDL x ALL.

MSDL018

The fourth parameter of the command is unrecognized or not implemented.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation.

MSDL019

The command entered required that information be read from the MSDL. The specified MSDL is not present in the system, and the information could not be read.

ACTION: Check to make sure the card is seated in the backplane. Check that the switch settings of S9 and S10 match the DNUM in the configuration record. To get the DNUM, refer to the *administration input/output guide* and use LD 22 PRT CFN.

MSDL020

The command entered required that the application information block on the MSDL be read by the Meridian 1. The block is currently being updated by the MSDL, and the system could not read the block.

ACTION: Try again.

MSDL021

Began to download the MSDL basecode but stopped before finishing. There should be an accompanying SDL error message, so refer to the information on that message for the failure reason.

ACTION: See the accompanying SDL error message.

MSDL022

The rest of the information output in response to this command is resident on the card. The card is not enabled, and the information cannot be read.

ACTION: To enable the card, use ENL MSDL x.

MSDL024

The Meridian 1 began to download an MSDL application but stopped before finishing.

ACTION: There should be an accompanying SDL error message, so refer to the information on that message for the failure reason.

MSDL025

There is currently maintenance activity on the application in question.

ACTION: Wait a few minutes and try again.

MSDL026

Disabling the MSDL when the active TTY is supported by it, is not allowed.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation.

MSDL027

Time out waiting for the self tests to complete.

ACTION: Wait at least five minutes, then try again.

Under certain unusual circumstances, the self-tests can take approximately five minutes, but this should only occur when the flash EPROM on the card is new or has been completely erased.

MSDL028

Cannot enable the card because it is not present in the system.

ACTION: If the card in question is believed to be present, check if the switch settings on the card agree with the device number entered in this command.

MSDL029

Incorrect password entered in response to the ENL MSDL x DBG command.

ACTION: Check to make sure that your data is correct and re-enter the command.

MSDL030

The debug option for this card has already been turned on.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation.

MSDL031

The ENL MSDL x ALL command is only valid when the MSDL is in the ENBL or MAN DSBL state.

ACTION: Check to make sure that your data is correct and that you have entered the right command for this situation.

MSDL032

The MSDL card was removed from its slot, or the card reset itself during the self-tests.

ACTION: If the card was removed, execute the self-tests again and do not remove the card from its slot until the tests are complete. If the card was not removed, execute the self-tests again. If this message appears more than twice, replace the MSDL card.

MSDL0033

Device locked by the Russian Call Monitoring feature. The MSDL card cannot be enabled or disabled.

ACTION: Action: Contact your technical support group.

MSDL100 x

The CSTAT and CSUBSTAT fields on MSDL x indicate the card is Manually Disabled. The Meridian 1 believes the card is Enabled. The card is placed in the System Disabled - Self- tests Passed state, and within the next few minutes, the Meridian 1 will attempt to enable the card.

ACTION: Information only, no action required.

MSDL101 x

The CSTAT field on MSDL x indicates the card is no longer Enabled. The Meridian 1 will attempt to return the card to an Enabled state within a few minutes. Under certain conditions, this message is output at the same time as MSDL302.

ACTION: Information only, no action required.

MSDL102 x

No response was received from MSDL x to a background polling message sent periodically to each MSDL card. The purpose of this message is to ensure that the card is capable of receiving and sending messages.

ACTION: To find out why the card did not respond, use RST MSDL x, or use the SLFT MSDL x to start a self test. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL103 x

An Overlay was waiting for a message from MSDL x. Most likely, the Overlay is no longer loaded. The message the Overlay was waiting for was never received.

ACTION: Re-enter the command. If the card still does not respond, use RST MSDL x, or use the SLFT MSDL x to start a self test. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL104 x

The MSDL background audit sent a message to MSDL x, and did not receive a response.

ACTION: To find out why the card did not respond, use RST MSDL x, or use the SLFT MSDL x to start a self test. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL105

The CSTAT value read from the MSDL is invalid. This indicated one of two error conditions:

The card has encountered a severe hardware fault so that it is unable to report the error to the Meridian 1.

There may be multiple cards in the system with the same device number (switch settings) as the MSDL. When the CSTAT is read from the MSDL, it may not be the MSDL card that is responding.

ACTION: Be sure no other cards in the system share the device number. If so, change the device numbers. If not, replace the card.

MSDL106 x appl

The MSDL audit detected that there was no response to a maintenance message originated by an application **appl** on MSDL x.

ACTION: To find out why the card did not respond, use RST MSDL **x**, or use the SLFT MSDL **x** to start a self test. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL107 x appl y

The Meridian 1 was unable to determine if downloading was necessary. An SDL error message should accompany this message and describe the reason for the failure. Three fields accompany this message: **x** = device number (LD 17 DNUM), **appl** = the application name, and **y** is for design use only.

ACTION: See the accompanying SDL error message.

MSDL108 x appl

An application on MSDL **x** needs to be downloaded to the card. Downloading begins as soon as there is no Overlay loaded. Where: **x** = device number (LD 17 DNUM) and **appl** = the application name.

ACTION: Use END or **** to end the overlay.

MSDL112 x

MSDL **x** has been reset in order to begin automatic recovery. Immediately following this message, the card is executing self tests. When they are finished, provided they pass, the Meridian 1 will attempt to enable the card. Where: **x** = device number (LD 17 DNUM).

ACTION: If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL201 x appl

MSDL **x** sent a message to the Meridian 1 indicating an application data space has been corrupted. Where: **x** = device number (LD 17 DNUM) and **appl** = the application name.

ACTION: Contact your technical support group.

MSDL202 x appl

MSDL **x** sent a message to the Meridian 1 indicating that an application on the card unexpectedly disabled itself (performed a “close”). Where: **x** = device number (LD 17 DNUM) and **appl** = the application name.

ACTION: Contact your technical support group.

MSDL204 x appl

The Meridian 1 searched the system disk to find a version of an application for MSDL x and found none. Where: **x** = device number (LD 17 DNUM) and **appl** = the application name.

ACTION: Contact your technical support group.

MSDL205 x appl y z

An error was encountered when searching the system disk to find a version of an application for MSDL x.

Where: **x** = device number (LD 17 DNUM) and **appl** = the application name. (**y** and **z** are for design use only)

ACTION: Refer to an accompanying SDL error message for the exact error reason. This message indicates that the Meridian 1 will attempt to enable the application in question if a version exists on the card.

MSDL206 x appl y z

An error was encountered when comparing a version of an application on the system disk with the version on MSDL x. Where: **x** = device number (LD 17 DNUM) and **appl** = the application name. (**y** and **z** are for design use only)

ACTION: Refer to the accompanying SDL error message for the exact error reason. This message indicates that the Meridian 1 will attempt to enable the application if a version exists on the card.

MSDL207 x appl y z

An error was encountered when downloading an application to MSDL x. Where: **x** = device number (LD 17 DNUM) and **appl** = the application name. (**y** and **z** are for design use only)

ACTION: Refer to the accompanying SDL error message for the exact error reason. The entire enable sequence has been aborted.

MSDL208 x

When preparing to download the base software to MSDL x, the card indicated that some kind of fatal error was encountered. Where: **x** = device number (LD 17 DNUM).

ACTION: To find out why the card did not respond, use RST MSDL x, or use the SLFT MSDL x to start a self test. If the test fails, replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL209 x y z

Some memory was reclaimed within the MSDL for future use. An application on MSDL x requested that a buffer pool be freed. When this occurred, there was at least one outstanding buffer. The basecode waited for the buffer(s) to be returned to the pool before freeing the buffers, but it never returned. The buffer pool was forcibly freed by the basecode. Where: **x** = device number (LD 17 DNUM) (y and z are for design use only).

ACTION:

MSDL210

Failed to enable the MSDL for one of the following reasons:

The card in question is not an MSDL card. For example, there may be a card in the system with switch settings that correspond to the MSDL, but is in fact not an MSDL card.

There is at least one other card in the system with switch setting identical to the MSDLS.

ACTION: Remove the card with the same device number as the MSDL.

MSDL0211 DO NOT PRINT

An attempt to enable the T1E1 application during ENLL, timed out.

ACTION: Action: RST TMDI in overlay 96 and then try again.

MSDL0212 DO NOT PRINT

The TMDI card could not enable the T1E1 application.

ACTION: Action: RST TMDI in overaly 96 and then try again.

MSDL0213 DO NOT PRINT

The T1E1 application is in a transient stte and could note be enabled.

ACTION: Action: Wait and then try ENLL again.

MSDL0214 DO NOT PRINT

A request to enable the DTI port has failed.

ACTION: Action: RST TMDI in overlay 96 and then try again.

MSDL0215 DO NOT PRINT

A request to disable the DTI port on the TMDI failed.

ACTION: Action: RST TMDI in overlay 96 and then try again.

MSDL300 data

The MSDL background audit has changed the card state. In the cases where the card was previously enabled and now is no longer enabled, another MSDL message will indicate the reason for the state change. When making a state transition due to a fatal error on the card, the reason for the fatal error is displayed in this message. This is an informational message and requires no action by the craftsperson.

Output data: **MSDL300 x FROM: aaaa TO: bbbb TIME time REASON cccc**

Where:

x = MSDL card number (in decimal)

aaaa = the status of the MSDL prior to the state change

bbbb = the state of the card after the state change

time = the time of the state change

cccc = reason for the error (only when **TO: SYS DSBL - FATAL ERROR**)

ACTION: Information only, no action required.

MSDL301 x y z

An expedited data unit was received. The Meridian 1 is not expecting MSDL **x** to generate any messages in its current state. However, immediately following a state transition to a disabled state, a pending message may cause this message to be displayed. This informational message indicates that the incoming message from the card was not processed due to the state change. No action is required.

Where: **x** = device number (LD 17 DNUM) and **appl** = the application name. (**y** and **z** are for design use only)

ACTION: Information only, no action required.

MSDL302 x y

Access to the memory space shared by the Meridian 1 and the MSDL (Shared RAM) has been momentarily suspended by MSDL **x**. There is no specific action to be taken as a result of this message; however, it indicates that message transfer between the Meridian 1 and the card ceased momentarily.

Where: **x** = device number (LD 17 DNUM) and **y** = the reason for the suspension. Currently the only reason supported is the value "1," which indicates that some kind of buffer corruption was detected.

ACTION: Information only, no action required.

MSDL303 x y

The Meridian 1 detected corruption in either the receive ring or the transmit ring or both, causing access to the memory space shared by the Meridian 1 CPU and MSDL **x** (Shared RAM) to be momentarily suspended.

Take no action because of this message; however, it indicates that message transfer between the Meridian 1 and the card ceased momentarily.

Where: **x** = device number (LD 17 DNUM) and **y** = a decimal number indicating where the corruption was detected. 1 means receive ring, 2 means transmit ring, and 3 means both receive and transmit rings.

ACTION: Information only, no action required.

MSDL305 x y

The Meridian 1 received 100 or more messages from MSDL **x** within two seconds. At this level of message transfer, there may be some impact to the overall system performance. The level of message transfer does not warrant removing the card from service.

Where: **x** = device number (LD 17 DNUM) and **y** = the rate of message transfer from the card to the Meridian 1 (in terms of messages per second)

ACTION: Information only, no action required.

MSDL306 x y

The Meridian 1 has received 100 or more messages from MSDL **x** within one second. At this level of message transfer, there may be some impact to the overall system performance. The level of message transfer warrants removing the card from service.

Where: **x** = device number (LD 17 DNUM) and **y** = the rate of message transfer from the card to the Meridian 1 (in terms of messages per second)

ACTION: Information only, no action required.

MSDL307 x data

MSDL **x** encountered a fatal error. Where: **x** = device number (LD 17 DNUM). The data following **x** is information read from the card regarding the error and is intended for design use only.

ACTION: Replace the card as per steps in the *Hardware replacement* guide. After replacing the card verify the fault is cleared.

MSDL308 x y appl data

MSDL **x** reported that it received a message with an invalid (bad) socket ID. Where:

x = device number (LD 17 DNUM)

y = the socket ID

appl = the application name

data = up to eight words of hex data representing the message sent

ACTION:

MSDL0309 DO NOT PRINT

The TMDI output buffer is still in queue.

ACTION: Action: Try the operation again, or RST TMDI in overlay 96.

MSDL0310 DO NOT PRINT

The TMDI output has not been sent to the card.

ACTION: Action: Try the operation again or RST TMDI in overlay 96.


MSDL450

When an SDI port is configured on an MSDL and the Meridian 1 initializes, it may be discovered, during initialization, that the MSDL basecode or SDI application needs to be downloaded. If so, there will be a period of time following the INIT (1 to 5 minutes) where the SDI port will not function. The port automatically enables itself once downloading has completed.

ACTION: Information only, no action required.

MSDL0485

The Meridian1 recieved 200 or more messages from the MSDL port. Port put into Lockout for overload protection.

ACTION: Action: Identify the cause of the problem. Manually disable the AML, SDI or DCH configured on the MSDL port with one of the following commands: DIS AML x; for an AML Link, DIS TTY x; for an SDI or DIS DCH x; for a D channel. Enable the port with one of the following commands: ENL AML x; for an AML Link, ENL TTY x; for an SDI or ENL DCH x; for a D channel. 

MWL — LD 61 Message Waiting Lamps

How the MWL works

The program can be invoked automatically by the system as part of the daily routine or manually from an input device. It deactivates all active message waiting lamps on user telephones and resets the associated status in the system. MWL messages identify problems.

Reset lamp status

Only when message centers close and attendant consoles enter Night Service, does the program reset lamp status.

How applied to digital sets

This program does not work on digital sets.

Input when manually loaded

After manually loading LD 61, type **G** to initiate the program.

MWL messages

MWL000

Program has been loaded.

ACTION: The MWL program is loaded and ready for you to enter commands.

MWL001

Invalid command.

ACTION: Check to make sure your data is correct and re-enter the command.

MWL002

Cannot deactivate MW lamps until all MC agents out-of-service.

ACTION: Operate each Night Key on all MC attendant consoles to take them out-of-service.


MWL003

Cannot deactivate MW lamps until all attendants in Night Service.

ACTION: Operate each Night Key on all MC attendant consoles to take them out-of-service.


MWL500 dn tn

The TN specified has been flagged as having a faulty lamp. The unit status has been set to normal.

ACTION: Use PBXT in LD 32 to check the lamp(s) or check them visually. If you need help with the commands or system responses go to the *NPR* chapter in this guide. 

NACD — Network Automatic Call

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ACD and ESN Northern Telecom Publications for details. 

NCT — Network Call Trace

For messages and descriptions, refer to the *maintenance input/output guide*.

Refer to ISDN Northern Telecom Publications for details. 

NPR — LD 32 Checking loops, shelves,

In this chapter

How the NPR works	852
Overlay link enhancement	853
ENET — Network	854
Network loop commands	855
PB — Peripheral Buffer	857
DL LP BFR — Dual Loop Peripheral Buffer	858
PE shelf commands	859
PE shelf commands	859
PE shelf commands	859
NET — Superloop network	866
Superloop commands	868
Cont 2/4 — Peripheral Equipment Controller	872
Peripheral Controller faceplate code information .	873
PEC commands	876
IPE shelf commands	878
Intelligent Peripheral Equipment cards	878
IPE shelf commands	878
IPE shelf commands	878
PS/Periph Sgnl — Peripheral Signaling	885
Group, Loop and Periph Sgnl card relationship	886
Peripheral Signaling commands	887
NPR Message makeup	888
NPR Messages	889

Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards*, found in the *Hardware maintenance tools* chapter in this guide.

How the NPR works

The Network Peripheral Replacement (NPR) Overlay (LD 32), performs checks and maintenance functions on Network and Peripheral Signaling Equipment.

You can use LD 32 commands on XTD cards. The STAT command will append XTD, LDC or LGD where required.

LD 32 has the following uses:

- ◆ printing the status of Peripheral Signaling (PS), Controller and Network cards
- ◆ printing the status of Peripheral Equipment (PE) shelves cards and units
- ◆ disabling and enabling PS, Controller and Network cards
- ◆ disabling and enabling PE shelves, cards and units
- ◆ testing Message Waiting Lamps on 500 and 2500 sets
- ◆ listing TNs of 500 and 2500 sets with faulty Message Waiting Lamps on a specified shelf (not applicable from X11 Release 5.24 and later)
- ◆ testing Message Waiting Lamps on 2500 sets during midnight routines from Release 8 and later
- ◆ printing set and card IDs on superloops
- ◆ converting TNs in hex format to the loop, shelf, card, unit format

Overlay link enhancement

With Release 19 and later software, Overlay programs 10, 11, 20 and 32 are linked, making it possible to add, print and get the status of a set without having to exit one overlay and load another.

The input processing has also been enhanced for prompts ending with a colon (:) allowing the user to enter either of the following:

- ◆ A question mark (?) followed by a carriage return (<cr>) to get a list of valid responses to that prompt.
- ◆ An abbreviated response, where the system then responds with the nearest match. For example, N for NEW. If there is more than one possible match, the system responds with **SCH0099** and the input, followed by a question mark and a list of possible responses. The user can then enter the valid response.

ENET — Network



553-0195T ENET(CL)

Purpose

Dual Loop Network cards for matching timeslots are used on the Meridian SL-1S, SN and MS systems. Enhanced Network cards for random timeslots are used for Meridian SL-1N, NT, ST, XT, and can also be used in Options 21, 51, 51C, 61, 61C, 71 and 81.

Function

Each network shelf or module can contain up to six network cards, or 12 multiplex loops. Each loop has 30 timeslots available for speech.

When specified as single density, these loops can drive up to four Peripheral Equipment (PE) modules or shelves equipped with single-density line cards. Double-density loops can drive up to two PE modules or shelves equipped with double-density line cards. Quad-density loops can drive one PE module or shelf equipped with quad-density line cards.

The network card establishes connections to its Peripheral Equipment, to provide the time and space switching of voice and data PCM between telephones, analog trunks, digitone receivers.

Features

The faceplate includes:

- ◆ two 36-pin faceplate connectors: J1 for even numbered loops, J2 for odd numbered loops. J1 and J2 are used for interconnection with 18-pair cables to carry PCM, data, clock signals and line circuit enables to the peripheral buffer on the PE shelf
- ◆ two LEDs. When lit, the LEDs indicate that even or odd loops are disabled
- ◆ an ENB/DIS switch to hardware enable or disable both loops on the card

The network cards are slot addressed.

Reflected fault tip

As some PE faults can reflect back to the network equipment and disable the network loop, it may be wise to check the status of the loop involved as a first step in troubleshooting a PE fault.

Network loop commands

Command	Description	Release
---------	-------------	---------

Check status of network loop

STAT (loop)	Give status of one or all loops.	basic-1
--------------------	----------------------------------	---------

Response is one of the following:

x BUSY, y DSBL = loop enabled with **x** channels busy and **y** channels disabled.

UNEQ = loop unequipped; not programed in LD 17.

CTYF: I1 I2 = loop specified in STAT command is unable to receive data from loops I1, I2, etc. (i.e., continuity test failed in most recent LD 45 loop test). Probable fault in network card.

DSBL: NOT RESPONDING = loop disabled. Network card not responding. Card missing, disabled by switch or faulty.

DSBL: RESPONDING = loop disabled but the network card responds. Loop may have been disabled due to:

- manual request (DISL)
- associated Peripheral Signaling card being disabled
- overload condition on associated loop

See OVD chapter for conditions indicated by OVD messages. An attempt to enable a loop which was disabled due to overload may result in a recurrence of the overload condition: the system's service may be impaired for about 2 minutes.

FAULTY HW: NO RESPONSE = loop identified as faulty by the LRIP function. Refer to the FHW chapter.

FAULTY HW: OVERLOAD = loop identified as faulty by the LOIP function. Refer to the FHW chapter.

Network loop commands (continued)		
Command	Description	Release
Disable a network loop		
DISL loop	<p>Disable network loop. When operation is complete system responds with a line feed and a dot.</p> <p>All units on a loop go into maintenance busy mode when disabled using the DISL command. The shelves on a loop must be individually re-enabled through the ENLS command. Any telephones that were in lockout mode show as idle, then go into lockout mode again 30 seconds after any unit on the shelf requests dial tone.</p>	basic-1
DISN loop	<p>Disables a network card, where loop is the number of the even or odd loop. Not applicable to superloops. When operation is complete system responds with a line feed and a dot.</p>	basic-1
Enable a network loop		
ENLL loop	<p>Enable network loop. When operation is complete system responds with OK line feed and a dot. Past releases respond with line feed and a dot.</p> <p>The shelves on a loop must be individually re-enabled through the ENLS command. Any telephones that were in lockout mode show as idle, then go into lockout mode again 30 seconds after any unit on the shelf requests dial tone.</p> <p>When enabling a network loop serving ISDL cards, the ISDL cards must be individually disabled then re-enabled to ensure that service is restored to digital telephones. Service may also be restored to digital telephones by disconnecting, and then connecting the telephone line cord.</p>	basic-1

PB — Peripheral Buffer

Purpose

The Peripheral Buffer (PB) provides interface between the network card and the PE circuits. The PB also supplies power for the PE cards, much the same as the 5/12V converter does for the CE cards.

Function

The PB provides the PE cards with the following:

- ◆ $\pm 6V$, $+5V$, and $+2.5V$ derived from $-48V$ and $\pm 10V$ supply
- ◆ card enable signals used to enable 10 PE cards
- ◆ unit enable signals used to enable 16 units

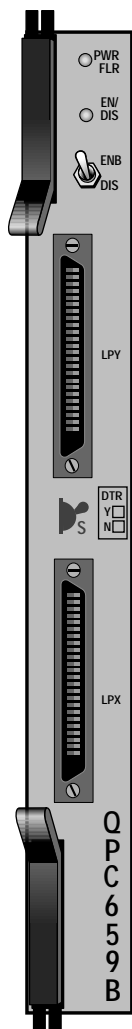
Features

The PB faceplate includes:

- ◆ a LED, labeled SIG FLR. When lit the LED indicates that timing or sync signals have failed
- ◆ a LED, labeled PWR. When lit, the LED indicates that there is no output from the PB power supplies
- ◆ an ENB/DIS switch to hardware enable or disable the card. Signal and Voltage Monitor circuitry check for $\pm 6V$ power transients, ensures power is applied in the proper sequence, and that clock and sync signals are present; if not LEDs are lit. Toggling the switch will manually restore the circuitry
- ◆ a bottom connector (J3) which interconnects the shelf 0 PB card to the network loop
- ◆ a top connector (J4) which interconnects the shelf 0 PB card to the shelf 1 PB card (J3)

A switch on the component side of the card allows you to change the frequency and level of the ringing voltage, and the line-card density supported by the PB card.

DL LP BFR — Dual Loop Peripheral Buffer



553-0196T DLPB(CL)

Purpose

The Dual Loop Peripheral Buffer (DLPB) provides interface and supplies power to the PE cards.

The card can be optioned in two modes:

- ◆ Single-loop mode, where one loop can drive all the cards on a PE shelf. It can be daisy-chained to the buffer card in a second PE shelf, provided the shelves are configured for single or double-density PE cards.
- ◆ Dual-loop mode, where one loop can drive the left half of the PE shelf cards and another loop can drive the right half. The dual-loop mode is used when quad-density PE cards are configured.

The card can hold a dual or quad Digitone Receiver Daughterboard, used on a 10-card PE shelf optioned for dual-loop mode, or on an eight-card PE shelf optioned for either the dual or single-loop mode.

Function

Except for the Digitone Receiver, the DLPB functions as the aforementioned Peripheral Buffer.

Features

The DLPB faceplate includes:

- ◆ a LED, labeled PWR FLR. When lit the LED indicates that timing or sync signals or power have failed
- ◆ a LED, labeled EN, DIS. When lit the LED indicates an enabled or disabled card
- ◆ an ENB, DIS switch to hardware enable or disable the card
- ◆ a connector labeled LPY in the single loop mode, is used to daisy-chain loop control to a second PE shelf. In the dual loop mode, it allows a loop to drive the last five cards, labeled Y, on a shelf. For a SL-1ST QCA66 PE shelf, the connector labeled LPY is used to drive the last four cards

- ◆ a connector labeled LPX, used in the single-loop mode to allow a loop to drive PE shelf 0. Used in the dual-loop mode to allow a loop to drive the first five cards labeled X on a PE shelf, or the first four cards on a SL-1ST QCA66 PE shelf

A connector, P2, on the component side of the card allows a dual or quad Digitone Receiver daughterboard to be mounted.

About Peripheral Equipment shelf commands

When you enable or disable the PE shelf, the Peripheral Buffer is responding to the commands.

PE shelf commands		
Command	Description	Release
Check status of PE shelf		
STAT I s	Get idle, busy or disabled status of units on specified shelf. Where I = loop and s = shelf Displays number of units idle, busy, disabled and maintenance busy for the specified shelf.	basic-1
Disable a PE shelf		
DISS I s	Disable specified shelf. Where I = loop and s = shelf. When operation is complete system responds with a line feed and a dot.	basic-1
Enable a PE shelf		
ENLS I s	Enable specified shelf. Where I = loop and s = shelf. When operation is complete system responds with a line feed and a dot. If the shelf is disabled by overload, the overload status entry is cleared.	basic-1

PE shelf commands (continued)		
Command	Description	Release
List TNs of units on PE shelf		
LBSY I s	List TNs of all busy units on specified shelf. Where I = loop and s = shelf	basic-1
LDIS I s	List TNs of all disabled units on specified shelf. Where I = loop and s = shelf	basic-1
LIDL I s	List TNs of all idle units on specified shelf. Where I = loop and s = shelf	basic-1
LLBD I s	List TNs of 500/2500 sets with defective MWLs. Where I = loop and s = shelf	basic-1
	Lists TNs of all 500/2500-type units for specified loop and shelf with message waiting lamps seen by the system as defective. Not available after Release 5. 24.	
LMNT I s	List TNs of all maintenance busy units on specified shelf. Where I = loop and s = shelf	basic-1

About Peripheral Equipment card commands

Included are telephone set line cards and analog trunk cards. Although Digitone Receivers are housed in PE shelves, and they are not included with this chapter as they function in a different manner from line and trunk cards. For Digitone Receivers refer to the *TDS* chapter (LD 34) in this guide.

PE card commands		
Command	Description	Release
Check status of PE card		
STAT I s c	<p>Get status of specified card. Where I = loop, s = shelf and c = card</p> <p>When getting the status of a card relating to a trunk error (STAT), the term RVSD may appear with the trunk information. RVSD indicates that the software detected a reversed wired trunk for that unit.</p> <p>Response example as follows:</p> <p>00 = UNIT 00 is IDLE - no active call</p> <p>01 = UNIT 01 is BUSY - active with a call</p> <p>02 = UNIT 02 is MBSY - maintenance busy</p> <p>03 = UNIT 03 is DSBL - disabled</p> <p>04 = UNIT 04 is UNEQ - unequipped</p> <p>05 = UNIT 05 is UNEQ - unequipped</p> <p>06 = UNIT 06 is UNEQ - unequipped</p> <p>07 = UNIT 07 is UNEQ - unequipped</p>	basic-1
Disable a PE card		
DISC I s c	Disable specified card. When operation is complete system responds with a line feed and a dot.	basic-1

PE card commands (continued)		
Command	Description	Release
Disable a PE card		
DISI I s c	<p>Disable specified card when it is idle. When operation is complete system responds with a line feed and a dot.</p> <p>Disabled DID trunks are placed in the answer state while disabled.</p> <p>If Recorded Telephone Dictation (RTDT) cards are to be software enabled or disabled, the Out-of-Service (OS) lead should be connected to ground. On completion of the task, ground can be removed.</p>	basic-1
Enable a PE card		
ENLC I s c	<p>Enable specified card. When operation is complete system responds with a line feed and a dot.</p> <p>If the card resides on a disabled shelf, the status is output and enable is not performed. If card has been disabled by overload, the overload status entry is cleared.</p> <p>After making any changes to the route data block, IPE TRUNK CARDS MUST BE DOWNLOADED by issuing the ENLC I s c command.</p> <p>When the Trunk Failure Monitor (TFM) cardage is enabled, a failed trunk is displayed as BUSY. The enable/disable command does not enable or disable the failed trunk unit (it stays in the BUSY state).</p>	basic-1

About Peripheral Equipment unit commands

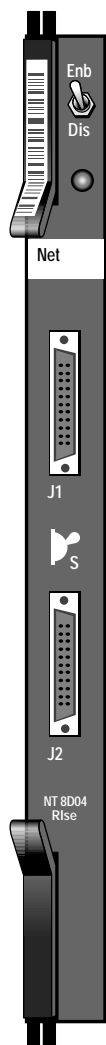
The number of units on a PE card is known as density. There is a different number of units on the same density of line and trunk cards. Refer to *Equipment Ordering Information* for a description of the cards including number of units.

PE unit commands		
Command	Description	Release
Check status of a unit		
STAT I s c u	<p>Get status of specified unit.</p> <p>Response is one of the following:</p> <p>IDLE = idle</p> <p>MBSY = Maintenance Busy</p> <p>DSBL = Disabled</p> <p>BUSY = In use by Call Processing</p> <p>UNEQ = terminal not defined in software</p> <p>L500 = line is 500/2500 type</p> <p>MBCS = Maintenance Set</p> <p>BCS = Business Communication Set or Meridian 1 proprietary telephone set</p> <p>TRK = Trunk</p> <p>ATTN = Attendant Console</p> <p>DTR = Digitone Receiver</p>	basic-1

PE unit commands (continued)		
Command	Description	Release
Check status of a unit		
STAT I s c u	<p>PWR = Console Power unit</p> <p>SIG FAULT = Outgoing signal circuitry fault detected on PS card under examination.</p> <p>Abnormal responses:</p> <p>CARD x DSBL (OVD) = Card x disabled due to overload.</p> <p>DND xxx xxx = Do-Not-Disturb feature is active.</p> <p>SHELF DSBL (OVD) = Shelf Disabled due to overload.</p> <p>WARNING: CRPTR NOT IN RANGE = TN's data is corrupted. Check BUG messages relating to the TN. BUG messages indicate software faults.</p> <p>See Convert a carded TN, after the next list.</p> <p>Responses caused by invalid equipment choice:</p> <p>EXT DSBL = extender disabled</p> <p>LOOP NOT TERM = loop is not a terminal loop</p> <p>LOOP UNEQ = loop is unequipped</p> <p>SHELF UNEQ = shelf is unequipped</p> <p>SHELF UNEQ W/PBX CARDS = no 500 cards on shelf</p> <p>CARD UNEQ = card is unequipped</p> <p>CARD NOT PBX = card is not a PBX card</p> <p>UNIT UNEQ FOR MW = unequipped for Message Waiting</p> <p>PER UNEQ = PS card is unequipped</p> <p>UNIT UNEQ = unit is unequipped</p>	basic-1
Convert a carded TN		
CONV tn,	Convert carded TN to I s c u.	xpe-15
CONV I s c u	Convert I s c u to carded TN	xpe-15
	<p>TN formats are associated with BUG messages. BUG messages indicate software errors, and are generally beyond the scope of on-site technicians. The second line of some BUG messages has a TN after the colon (:). These TNs appear in many formats, uncarded or normal TN, e.g., 10 0 1 0, carded TN, e.g., 0A04, and carded and uncarded hexadecimal formats. The carded TN is not necessarily a hexadecimal number, as its makeup is dependent upon the density of the PE cards assigned to the loop.</p>	xpe-15

PE unit commands (continued)		
Command	Description	Release
Disable a unit		
DISU I s c u	<p>Disable specified unit. When operation is complete system responds with a line feed and a dot.</p> <p>Disabled DID trunks are placed in the answer state while disabled.</p> <p>If Recorded Telephone Dictation (RTDT) cards are to be software enabled or disabled, the Out-of-Service (OS) lead should be connected to ground. On completion of the task, ground can be removed.</p>	basic-1
Enable a unit		
ENLU I s c u	<p>Enable specified unit.</p> <p>If the unit resides on a disabled shelf or card, the status is output and enable is not performed. If the unit to be enabled is a 500/2500 message waiting telephone, test the unit prior to enabling.</p> <p>When the Trunk Failure Monitor (TFM) cardage is enabled, a failed trunk is displayed as BUSY. The enable/disable command does not enable or disable the failed trunk unit (it stays in the BUSY state).</p>	basic-1

NET — Superloop network



553-0197T NET(CL)

A Superloop card can be installed in a NE UEM or an existing enhanced network shelf of a Meridian SL-1ST, NT, or XT, and requires a minimum of Release 15 software. Release 15 software is not supported on SL-1 N, XN systems.

The Superloop occupies one card slot on the shelf, and will provide four consecutive network loops, starting at loop 0. This means that some card slots used by superloops are not physically occupied by a Superloop card. These unoccupied card slots can be utilized for non-loop network cards, such as SDI or DTI cards.

Superloop cards can be placed to physically cover off the first pair of consecutive loops (left-hand side) or the second pair of the consecutive loops (right-hand side). Software identifies the location of the Superloop card.

If an ENET card is inadvertently placed into an empty consecutive slot of a Superloop, the ENET card does not respond to PS polling. To address the four loops of a superloop, the PS polls the even loop of the slot into which the Superloop card is plugged.

Purpose

The Superloop provides the time and space switching between any two PE terminals, and loop-to-CPU interface through the PS card. It interfaces the network through a 2.048 M bps bit interleaved PCM bus and Signaling (SSD) bus to byte-interleaved DS-30Y protocol used by the IPE.

Features

The Superloop card faceplate includes:

- ◆ Two 24-pin faceplate connectors (J1 and J2), with J2 used to connect the Superloop to an Intelligent Peripheral Equipment (IPE) module, and J1 used to connect a second IPE module to the same Superloop card.

- ◆ One red LED, which when lit steadily indicates that the card switch is in the Dis position. When the switch is set to Enb the MPU does a self test. A passed self test causes the LED to blink three times, remaining on until the software turns it off. A failed test causes the CPU to run a maintenance diagnostic and blink the LED at a one Hz. rate.
- ◆ An Enb/ Dis switch to enable or disable the card.

The Superloop cards are slot addressed in groups of four, starting at loop 0.

About Superloop commands

The following commands are available for Meridian 1 STE, NT, XT, Options 21, 21E, 51, 61, and 71 equipped with Superloop Network cards and Intelligent Peripheral Equipment (IPE).

Superloop commands		
Command	Description	Release
Check status of a Superloop		
STAT (loop)	<p>Give status of one or all Superloops.</p> <p>Response is one of the following:</p> <p>x BUSY, y DSBL = loop enabled with x channels busy and y channels disabled.</p> <p>UNEQ = loop unequipped; not programed in LD 17.</p> <p>CTYF: I1 I2 = loop specified in STAT command is unable to receive data from loops I1, I2, etc. (i.e., continuity test failed in most recent LD 45 loop test). Probable fault in network card.</p> <p>DSBL: NOT RESPONDING = loop disabled. Network card not responding. Card missing, disabled by switch or faulty.</p> <p>DSBL: RESPONDING = loop disabled but the network card responds. Loop may have been disabled due to:</p> <ul style="list-style-type: none">— manual request (DISL)— associated Peripheral Signaling card being disabled— overload condition on associated loop <p>For overload conditions are indicated by OVD messages. An attempt to enable a loop which was disabled due to overload may result in a recurrence of the overload condition: the system's service may be impaired for about 2 minutes.</p>	basic-1

Superloop commands (continued)

Command	Description	Release
---------	-------------	---------

Test a Superloop

XNTT loop	Do self-test of Network card for specified superloop. The Network card must be disabled before the self-test. Response as follows: TEST PASSED XPE0 CONNECTED XPE1 NOT CONNECTED	xpe-15
------------------	--	--------

Print Superloop data

SUPL (loop)	Print data for all or specified superloop(s). Response as follows: TYPE = XNET XPE_x = c ss es x is module 0 or 1, c is the PEC, ss is the starting IPE segment and es is the ending IPE segment. SLOT = RIGHT or LEFT	xpe-15
--------------------	---	--------

Print MISP or Superloop card ID

IDC loop	Print MISP or superloop card ID.	bri-18
IDC I s c	Print MISP or XPE card ID.	bri-18

Superloop commands (continued)		
Command	Description	Release

Print MISP or Superloop card ID

The Superloop card ID output format is:

```
XNET VERS => xxx
RUNNING FROM yyy
FW IS SANE
CCCCCCCC-RRSSSS

XPEC0 VERS => xxx
RUNNING FROM yyy
FW IS SANE
XPECz CCCCCCCC-RRSSSS

XPEC1 VERS => xxx
RUNNING FROM yyy
FW IS SANE
XPECz CCCCCCCC-RRSSSS
```

where:
xxx = loadware version
yyy = RAM or ROM
z = 2 or 4
CCCCCCCC = order code
RR = release number
SSSS = is the serial number

The MISP card ID output format is:

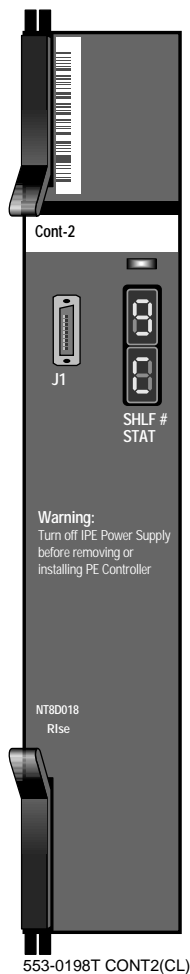
```
CARDID: xxx. . . x
BASECODE VERSION: xxx. . . x
BRI LINE/TRUNK VERSION: xxx. . . x
BOOTCODE VERSION: xxx. . . x
```

Disable a Superloop

DISL loop	Disable Superloop. System responds by listing XPE modules connected to the superloop and the IPE cards programed for that XPE module. When operation is complete system responds with a line feed and a dot.	basic-1
-----------	--	---------

Superloop commands (continued)		
Command	Description	Release
Enable a Superloop		
ENLL loop	<p>Enable network loop. When operation is complete system responds with OK, line feed and a dot. Past releases respond with line feed and a dot.</p> <p>When enabling a network loop serving ISDL cards, the ISDL cards must be individually disabled then re-enabled to ensure that service is restored to digital-telephones. Service may also be restored to digital-telephones by disconnecting, and then reconnecting the telephone line cord.</p> <p>Response as follows:</p> <p>TEST PASSED</p> <p>XPE0 CONNECTED</p> <p>XPEC1 NOT CONNECTED</p> <p>XNET HAS RECEIVED ENABLE MSG</p> <p>PROCESSING TN. . . .</p> <p>XPE0</p> <p>CARD00</p> <p>CARD01</p> <p>OK</p>	basic-1

Cont 2/4 — Peripheral Equipment Controller



553-0198T CONT2(CL)

The Peripheral Equipment Controller (PEC) is available in two versions: the PEC2, which will control up to two Superloop cards and the PEC4 which will handle up to four Superloop cards. Both versions use the same printed circuit board, with the PEC2 having a partially populated board and the PEC4 using a fully assembled board.

The PEC and IPE cards sit on a DS-30X bus, consisting of 16 TX buses for line cards to the PEC, and 16 RX buses for PEC to line cards. Each IPE card position has a unique hard wired slot address so the PEC can determine the card position. Also on this backplane are clock buses and a serial bus used by the CARD LAN.

Purpose

A PEC is used to interface the DS-30Y loop protocol used by the Superloop cards and the DS-30X PE bus protocol used by the IPE cards.

The PEC will recognize and support the signaling format as well as perform the format conversion for signaling messages between the PEC and the following:

- ◆ Digital Line card, [VVVVVVVVSSDDDDDDDDSS] X11 format. V = a voice bit. S = a signaling bit. D = a data bit.
- ◆ Message Waiting Analog Line card, Universal card and E&M Trunk card, [VVVVVVVVSSxxxxxxxxxx] A10 format. x = a blank bit

The PEC also provides up to 64 gain or loss pads, and maintenance functions.

Features

The PEC faceplate includes:

- ◆ a LED, when lit indicating a disabled card
- ◆ a DB9 connector, J1, as a proprietary maintenance port for use with a data scope
- ◆ a two digit alphanumeric display which has two modes
- ◆ normal operation will display alternately the controller number and the port on which the controller clock is tracking
- ◆ self testing, where if a test fails the code is displayed for 0.5 seconds and the test sequence is repeated until all tests pass.

Peripheral Controller faceplate code information

The NT8D01 Controller faceplate has a two-digit hexadecimal display. The display has two modes of operation: normal operation and power on reset self-test.

Normal operation

During normal operation the display alternately shows:

- ◆ The Controller number (1-95) in hexadecimal.
- ◆ The port on which the Controller clock is tracking. The tracking is indicated by the decimal points before and after the digit. The possible tracking modes are:

C0 = Controller tracking to the network connected to port 0.

C1 = Controller tracking to the network connected to port 1.

C2 = Controller tracking to the network connected to port 2.

C3 = Controller tracking to the network connected to port 3.

CF = Controller not tracking any network.

Refer to LD 30 in this guide for the following commands:

CPED — clear Peripheral Controller maintenance displays

RPED — read Peripheral Controller maintenance displays

Self-tests

During the self-tests, the display quickly shows the following:

02 to 09

0A to 0F

10 to 19

1A to 1F

20 to 28

and **EE**

Self-test failures

The Controller card indicates faults by displaying any of the following codes at 0.5 second intervals.

PEC faceplate hex codes

02 to 0F

Integrated circuit A31 failed a test.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

10 to 16

Integrated circuit R72 failed a test.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

17 to 1A

Integrated circuit R71 failed a test.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

1B to 1C

DUART integrated circuit failed a test.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

1D to 23

Integrated circuit R72 failed a test.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

24 to 27

Integrated circuit R71 failed a test.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

28

Checksum error.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

EE

Bus error, exception errors and various other errors.

ACTION: Replace the Peripheral Controller following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

About Peripheral Equipment Controller commands

The Peripheral Equipment Controller (PEC) controls the IPE shelf and the superloop. Both the PEC and IPE shelf have separate commands.

PEC commands		
Command	Description	Release
Check status of PEC		
XPEC (x)	Print data for all or specified Controller(s). Displays the IPE segments controlled by the PEC, physical location of the PEC in the column and tier, and the enable/disable status of the PEC.	xpe-15
Test a PEC		
XPCT x	Do self test on Controller x. Response is TEST PASSED Note: The NT8D01 Controller must be disabled before the self-test.	xpe-15
Disable a PEC		
DSXP x	Disable specified PEC. System responds by listing the IPE cards programed for that PEC. When operation is complete system responds with a line feed and a dot.	basic-1
Enable a PEC		
ENXP x (v)	Enable Controller x and associated PE cards, download software version v. Enable all PE cards connected to Controller x and the Controller itself. If version v is not specified, the software downloaded to the Controller is current (c) or latest (l) version as defined in LD 97. Response as follows: TEST PASSED XPEC HAS RECEIVED ENABLE MSG PROCESSING TN. . . CARD00 CARD01 OK	xpe-15

PEC commands (continued)		
Command	Description	Release
Enable a PEC		
ENXP XPC x (v)	<p>Enable Controller x, do not enable the associated PE cards, download software version v.</p> <p>The cards connected to the Controller are not enabled by this command. If version v is not specified, the software downloaded to the Controller is current (c) or latest (l) version as defined in LD 97.</p> <p>Response same as ENXP x (v).</p>	xpe-15
ENXP x (v)	<p>Enable Controller x and associated PE cards, download software version v.</p> <p>Enable all PE cards connected to Controller x and the Controller itself. If version v is not specified, the software downloaded to the Controller is current (c) or latest (l) version as defined in LD 97.</p> <p>Response same as ENXP x (v).</p>	xpe-15

About Intelligent Peripheral Equipment shelf commands

The IPE shelf is controlled by the Peripheral Equipment Controller (PEC).

IPE shelf commands		
Command	Description	Release
Check status of IPE shelf		
STAT I s	Get idle, busy or disabled status of units on specified shelf. Where I = loop and s = shelf. Displays number of units idle, busy, disabled and maintenance busy for the specified shelf.	basic-1
Disable an IPE shelf		
DISS I s	Disable specified shelf. Where I = loop and s = shelf. When operation is complete system responds with a line feed and a dot.	basic-1
Enable an IPE shelf		
ENLS I s	Enable specified shelf. Where I = loop and s = shelf. When operation is complete system responds with a line feed and a dot. If the shelf is disabled by overload, the overload status entry is cleared.	basic-1

Intelligent Peripheral Equipment cards

IPE card segments

An IPE module will house up to 16 analog or digital or trunk cards. Cards are located in the shelf slots 0 to 15.

The IPE is arranged into segments of four cards each, starting with card slot 0, for a total of four segments per IPE UEM. The segments are numbered from 0 to 3.

TNs per IPE Line card

The NT8D02AA Digital Line Card supports 16 voice and 16 data TNs, making a total of 32.

The NT8D09AA Analog Message Waiting Line Card supports 16 voice TNs.

TNs per IPE Trunk card

The NT8D14AA Universal Trunk Card supports 8 TNs.

The NT8D15AA E&M Trunk Card supports 4 TNs.

Maximum TN Density

The maximum TN Density per segment is 128 TNs.

The maximum TN Density per IPE module is 512 TNs.

The maximum TN density assumes all slots are equipped with digital line cards with 16 voice and 16 data TNs provisioned. A typical mix of line and trunk cards yields a nominal density of 64 TNs per segment, and 256 TNs per IPE module.

About Intelligent Peripheral Equipment card commands

Included are telephone set line cards and analog trunk cards. Although Digitone Receivers are housed in PE shelves, they are not included with this section as they function in a different manner than line and trunk cards.

IPE card commands		
Command	Description	Release

Check status of IPE card

STAT I s c	Get status of specified card. Where I = loop, s = shelf and c = card Response example as follows: 00 = UNIT 00 is IDLE - no active call 01 = UNIT 01 is BUSY - active with a call 02 = UNIT 02 is MBSY - maintenance busy 03 = UNIT 03 is DSBL - disabled 04 = UNIT 04 is UNEQ - unequipped 05 = UNIT 05 is UNEQ - unequipped 06 = UNIT 06 is UNEQ - unequipped 07 = UNIT 07 is UNEQ - unequipped	basic-1
-------------------	---	---------

Print card ID

IDC I s c	Print MISP or XPE card ID. The MISP card ID output format is: CARDID: xxx. . . x BASECODE VERSION: xxx. . . x BRI LINE/TRUNK VERSION: xxx. . . x BOOTCODE VERSION: xxx. . . x The XPE card ID output format is: XXXX CCCCCCCC-RRSSSS where: XXXX = card type (, XDTR, XUT, etc.) CCCCCCCC = order code RR = release number SSSS = is the serial number	bri-18
------------------	--	--------

IPE card commands (continued)		
Command	Description	Release
Print card ID		
IDCS x	<p>Print card ID for all cards on shelf controlled by Controller x.</p> <p>The card ID for all cards in shelf controlled by Controller x is output.</p> <p>The XPE card ID output format is:</p> <p>XXXX CCCCCCCC-RRSSSS</p> <p>where:</p> <p>XXXX = card type (i.e., XDTR, XUT, etc.)</p> <p>CCCCCCCC = order code</p> <p>RR = release number</p> <p>SSSS = is the serial number</p>	xpe-15
Disable an IPE card		
DISC I s c	Disable specified card. When operation is complete system responds with a line feed and a dot.	basic-1
DISI I s c	Disable specified card when it is idle. When operation is complete system responds with a line feed and a dot.	basic-1
Enable an IPE card		
ENLC I s c	<p>Enable specified card. When operation is complete system responds with a line feed and a dot.</p> <p>If the card resides on a disabled shelf, the status is output and enable is not performed. If card has been disabled by overload, the overload status entry is cleared.</p> <p>When the Trunk Failure Monitor (TFM) cardage is enabled, a failed trunk is displayed as BUSY. The enable/disable command does not enable or disable the failed trunk unit (it stays in the BUSY state).</p>	basic-1

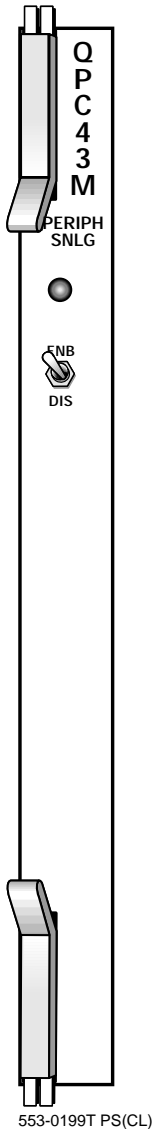
About Intelligent Peripheral Equipment unit commands

IPE unit commands		
Command	Description	Release
Check status of an IPE unit		
STAT I s c u	<p>Get status of specified unit.</p> <p>Response is one of the following:</p> <p>IDLE = Idle</p> <p>MBSY = Maintenance Busy</p> <p>DSBL = Disabled</p> <p>BUSY = in use by Call Processing</p> <p>UNEQ = terminal not defined in software</p> <p>L500 = line is 500/2500 type</p> <p>MBCS = maintenance set</p> <p>BCS = Business Communication Set or Meridian 1 proprietary telephone set</p> <p>TRK = Trunk</p> <p>ATTN = Attendant Console</p> <p>DTR = Digitone Receiver</p> <p>PWR = console power unit</p> <p>Abnormal responses:</p> <p>CARD x DSBL (OVD) = Card x disabled due to overload</p> <p>DND xxx xxx = Do not disturb feature is active</p> <p>SHELF DSBL (OVD) = Shelf disabled due to overload</p> <p>SIG FAULT = Outgoing signal circuitry fault detected on PS card under examination</p> <p>WARNING: CRPTR NOT IN RANGE = TN's data is corrupted. Check BUG messages relating to the TN. BUG messages indicate software faults.</p> <p>See Convert a carded TN, after the next list.</p> <p>Responses caused by invalid equipment choice:</p> <p>EXT DSBL = Extender Disabled</p> <p>LOOP NOT TERM = loop is not a terminal loop</p> <p>LOOP UNEQ = loop is unequipped</p> <p>SHELF UNEQ = shelf is unequipped</p> <p>SHELF UNEQ W/PBX CARDS = no 500 cards on shelf</p> <p>CARD UNEQ = card is unequipped</p> <p>CARD NOT PBX = card is not a PBX card</p> <p>UNIT UNEQ FOR MW = unequipped for Message Waiting</p> <p>PER UNEQ = PS card is unequipped</p> <p>UNIT UNEQ = unit is unequipped</p>	basic-1

IPE unit commands (continued)		
Command	Description	Release
Print set ID		
IDU I s c u	<p>Print set ID. Non-Option 11 format</p> <p>Print ID applies to the following set types: M2006, M2008, M2016, M2216 and M2616.</p> <p>The output format of the set ID (M2008 for example) is:</p> <p>ARIES TN: I s c u TN ID CODE: M2008 NT CODE: NT2K08WC COLOR CODE: xx RLS CODE: xx</p> <p>The color codes are: 03 = black 35 = chameleon ash 93 = dolphin</p>	xpe-15
Convert a carded TN		
CONV tn,	Convert carded TN to I s c u.	xpe-15
CONV I s c u	Convert I s c u to carded TN	xpe-15
	<p>TN formats are associated with BUG messages. BUG messages indicate software errors, and are generally beyond the scope of on-site technicians. The second line of some BUG messages has a TN after the colon (:). These TNs appear in many formats, uncarded or normal TN, e.g., 10 0 1 0, carded TN, e.g., 0A04, and carded and uncarded hexadecimal formats. The carded TN is not necessarily a hexadecimal number, as its makeup is dependent upon the density of the PE cards assigned to the loop.</p>	
Disable an IPE unit		
DISS I s	<p>Disable specified shelf. Where I = loop and s = shelf.</p> <p>When operation is complete system responds with a line feed and a dot.</p>	basic-1

IPE unit commands (continued)		
Command	Description	Release
Enable an IPE unit		
ENLS I s	<p>Enable specified shelf. Where I = loop and s = shelf. When operation is complete system responds with a line feed and a dot.</p> <p>If the shelf is disabled by overload, the overload status entry is cleared.</p>	basic-1
List TNs of units on an IPE shelf		
LBSY I s	<p>List TNs of all busy units on specified shelf.</p> <p>Where I = loop and s = shelf</p>	basic-1
LDIS I s	<p>List TNs of all disabled units on specified shelf.</p> <p>Where I = loop and s = shelf</p>	basic-1
LIDL I s	<p>List TNs of all idle units on specified shelf.</p> <p>Where I = loop and s = shelf</p>	basic-1

PS/Periph Sgnl — Peripheral Signaling



The CPU communicates with the terminal equipment through the Peripheral Signaling card. One Peripheral Signaling card is required per network shelf, each controlling up to 16 loops in a 32 loop group. The Peripheral Signaling circuitry is combined with other circuitry on some single group systems.

Purpose

The Peripheral Signaling card has two functions:

- ◆ to provide a signaling interface between the parallel CPU bus and the serial bit stream required by the PE equipment
- ◆ to generate and distribute timing signals for synchronous PCM transmission throughout the system

Function

Signaling a change of state such as Off-Hook or dialing, on a PE card generates a 16 bit MESSIN, setting a flag. During TS 0 the network loop scans each of its terminals for flags and enables the flagged terminal during subsequent TS 0s. The PS enables each network loop in turn during TS 0 and when it detects a MESSIN, locks on and receives the 16 bits. It takes 29 successive TS 0s to gather the MESSIN and generate an interrupt. The CPU recovers the 16 bits by reading the MESSIN Register of the PS card, and this action allows the PS card and the network card to resume scanning.

When the CPU writes into the PS MESSOUT Register, the PS card serially shifts out the 16 bit MESSOUT through the network loop to the PE card.

Timing a 16.384 m Hz oscillator on the PS card is divided down to obtain the 2.048 m Hz clock and 4 k Hz for CODEC synchronization. In a single-group enhanced SL-1, the PS card associated with the active CPU is the master clock source. In multi-group systems, each PS card obtains its master clock from the System Clock Generator through the Intergroup Switch card.

Features

The Peripheral Signaling card faceplate includes the following features:

- ◆ a LED, when lit indicating a disabled card
- ◆ an ENB/ DIS switch to hardware enable or disable the card

Group, Loop and Periph Sgnl card relationship

Group	Shelf	PS	Loops
0	0	0	0 to 15
0	1	1	16 to 31
1	0	2	32 to 47
1	1	3	48 to 63
2	0	4	64 to 79
2	1	5	80 to 95
3	0	6	96 to 111
3	1	7	112 to 127
4	0	8	128 to 143
4	1	9	144 to 159

Peripheral Signaling commands

Peripheral Signaling commands		
Command	Description	Release
Check status of PS		
STAT PER x	<p>Get status of PS card x (0 to 9).</p> <p>Possible responses:</p> <p>DSBL: NOT RESPONDING = Peripheral Signaling card is disabled and not responding. The PS is either missing, disabled through its faceplate switch or faulty.</p> <p>Note: If there is a fault in the extender pair for the network shelf, the status of the PS card will also be DSBL: NOT RESPONDING.</p> <p>DSBL: RESPONDING = The PS card is disabled and responding to the CPU. The PS may have been disabled by manual request (DSPS) or the associated extender pair may have been manually disabled. If neither of these conditions exist, the card may have been disabled because of an overload condition on the associated loop.</p> <p>Check for OVD messages appearing in previous TTY output. An attempt to enable a PS card which was disabled because of an overload may result in a recurrence of the</p>	basic-1
Disable PS		
DSPS x	Disable PS card x (0 to 9).	basic-1
Enable PS		
ENPS x	Enable PS card x (0 or 1).	basic-1
Stop test		
END	Stop current operation or test.	basic-1

NPR Message makeup

The NPR Messages fall into the three following categories:

- ◆ Interactive messages that report non-admissible user input.
- ◆ Peripheral Equipment messages that report on the condition of the PE.
- ◆ Network messages that report on the condition of the equipment located in the network shelves.

Using the NPR message table to clear faults

To clear most network and peripheral faults, the NPR action suggests that you use the LD 32 overlays found in this chapter. A few NPR actions refer you to overlay loads located outside this chapter.

NPR Messages

NPR000

LD 32 program identifier.

ACTION: The NPR program is loaded and ready for you to enter commands.

NPR001

An illegal character is in the command.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR002

Wrong number of input parameters for command.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR003

An illegal command. The command cannot be used in this situation.

ACTION: Ensure that this is the command you wanted to use.

NPR004

A loop or group parameter is out-of-range. Loops on multi-group systems range from 0 to 159. Loops on single group systems range from 0 to 31.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR005

A shelf parameter is out-of-range. Units 0 to 3 only are allowed.

ACTION: Check to make sure your data is correct and re-enter the command. Refer to the *Network card* in this guide.

NPR006

A card parameter is out-of-range. Cards are numbered from 1 to 10 on PE shelves. IPE shelf cards are numbered from 0 to 15.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR007

A unit parameter is out-of-range. Single density line units are 0 to 3. Double density line units are 0 to 7. Quad density line units are 0 to 15.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR008

A command is valid from a Meridian 1 proprietary telephone set (BCS) only and cannot output from a TTY.

ACTION: Use a Meridian 1 proprietary telephone set (BCS). Refer to the *You should know this* chapter in this guide.

NPR009

The unit requested is not a trunk.

ACTION: Ensure that this is the command you wanted to use. Enter the STAT l s c command.

NPR010

A command is ignored as an active input device would be disabled.

ACTION: Abort the program and enter the command again from the TTY.

NPR011

A requested card is no longer busy and has been disabled. This is an indication that the DISI L S C command has been completed.

ACTION: Information only, no action required.

NPR012

A requested trunk is busy.

ACTION: Try the command later.

NPR013

A serious data error has been detected.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

NPR014

The seizure of a RAN or AIOD trunk is not allowed by this program.

ACTION: Refer to the *TRK* chapter in this guide and use LD 36 TRK command.

NPR015**1.** Specified loop not responding.

ACTION: Ensure that the card faceplate switch is in the Enb position.

If the fault persists, start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

2. A network, or conference or tone and digit switch card(s) may be faulty.

ACTION: Use STAT I to get the status of the network loops, STAT L of LD 34 for TDS loops and STAT L of LD 38 for conference loops. Use ENLL I to enable network loops, ENLL L of LD 34 for TDS loops and ENLL L of LD 38 for conference loops. Run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS* chapter for tone and digit switch help or the *CFN* chapter in this guide for conference help.

3. The CE EXT may be faulty.

ACTION: Check and replace the Segmented Bus Extender card or the 3 Port Extender card following the steps in the *Hardware replacement* guide, or the cable between the two extenders associated with the standby CPU and the network shelf, where the IGS card indicated in the message is located. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

4. Other network, or conference or Tone and Digit switch (TDS) cards on the same shelf, may be faulty.

ACTION: Use STAT I to get the status of the network loops, STAT L of LD 34 for TDS loops and STAT L of LD 38 for conference loops. Use ENLL I 32 to enable network loops, ENLL L of LD 34 for TDS loops and ENLL L of LD 38 for conference loops. Run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses *TDS* chapter for Tone and Digit switch help or the *CFN* chapter in this guide for conference help.

NPR016

Loop already enabled.

ACTION: Information only, no action required.

NPR017

Specified loop is a tone and digit switch.

ACTION: Refer to the *TDS* chapter in this guide and use the LD 34 commands.

NPR018

A DISI command is still pending. Only one request is allowed at a time.

ACTION: Enter END to cancel the last DISI and enter a new DISI command.

NPR0019

Carrier Remote superloop (LCI) did not respond to the request to disable/enable the RTE superloop.

ACTION: Ensure that the LCI is installed and that the faceplate switch is in the enabled position.

NPR020

A specified Peripheral Signaling card is out-of-range. Cards 1 to 10 only, are allowed.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR021

The specified Peripheral Signaling card did not respond.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. Check the enable switch on the faceplate of the Peripheral Signaling card.

ACTION: The switch should be in the ENB position.

2. If the fault still exists then suspect the Peripheral Signaling card.

ACTION: Use STAT PER x to get the status of the PS cards. Use ENPS x to enable the PS card and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

3. Suspect a CPU, or CMA, card which connect the two CPUs.

ACTION: Use STAT CPU in LD 35 to check the status of the CPU or FN card. Use TCPU in LD 35 to test the idle CPU or FN card. Use STAT CMA x in LD 35 to check the CMA card. If a CPU or FN shows faulty or if the CMAs do not enable, replace the appropriate card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

NPR022

The Peripheral Signaling card is already enabled. No action is required.

ACTION: Ensure that this is the command you wanted to use.

NPR023

The clock on a specified Peripheral Signaling card is not responding.

ACTION: Refer to the action for code NPR021 in this chapter.

NPR024

The specified Peripheral Signaling card is being used by the active CPU for a clock.

ACTION: Caution: *Use of the following command during heavy traffic periods can cause the system to reload.* Use SCPU in LD 35 to switch the CPU, then return to LD 32 and try the command again.

NPR025

1. It cannot be determined which CPU is active.

ACTION: Use STAT CPU in LD 35 to check the status of the CPU or FN card. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

2. Indicates either a fault on bus 0.

ACTION: If the CPU and CMA cards are not faulty, replace the backplane following the steps in the *Hardware replacement* guide.

3. A faulty CMA which must be repaired before continuing.

ACTION: Use STAT CMA x in LD 35 to check the CMA card. If the CMA card does not enable, replace it following the steps in the *Hardware replacement* guide that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

NPR026 n

An interrupt fault is present on Peripheral Signaling card **n**. If there is no card identified, the system cannot determine the fault source. No PS cards may be enabled while this fault persists. Probable fault causes are as follows:

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. Peripheral Signaling card(s) (card **n**, if specified) may be faulty.

ACTION: Use STAT PER x to get the status of the PS cards. Use ENPS x to enable the PS card and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

2. An active MISC card may be faulty.

ACTION: Use STAT CPU in LD 35 to check status of MISC or IF card when this card is not active. *The use of the SCPU command during heavy traffic periods can cause the system to reload.* Use SCPU in LD 35 to switch CPU. Use TCPU in LD 35 to verify that the fault is cleared. If the MISC or IF card does not enable and the fault does not clear, replace the MISC or IF card following the steps in the *Hardware replacement* guide.

3. The CE extender may be faulty.

ACTION: Use STAT SBE in LD 35 to check the Segmented Bus Extender cards and 3 Port Extender cards. Enable any disabled cards and run TEST in LD 45 to verify that the fault is cleared. If the SBE or 3PE cards do not enable and the fault does not clear, replace the card(s) following the steps in the *Hardware replacement* guide. If the

cards are good and the fault does not clear, replace the cable between the two extenders. If you need help with commands or system responses refer to the *CED* chapter in this guide.

NPR027

A fault in the outgoing signaling on the Peripheral Signaling card is being examined.

ACTION: Use STAT PER x to get the status of the PS cards. Use ENPS x to enable the PS card and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

NPR028

The unit to be tested must be a PBX set with a Message Waiting Lamp.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NPR029

The unit specified is either maintenance busy or busy.

ACTION: Try the command later.

NPR030

The unit to be tested is unequipped. You are trying to test a unit that does not exist in the database.

ACTION: Ensure that this is the command you wanted to use. If this is the correct command, refer to the *administration input/output guide* to program the unit.

NPR031

1. The requested PS card cannot be disabled until all associated loops have been disabled.

ACTION: Use DISL to disable all loops on the same shelf as the PS card and then re-enter the command. If you need help with the commands or system responses refer to the *TDS* chapter for tone and digit switch help or the *CFN* chapter in this guide for conference help.

2. Loop is a remote loop. ENLL and DISL not allowed.

ACTION: Use LD 53 (2.0 Mb/s RPE) to bring loop L up and down.

NPR032

The card does not respond.

ACTION: Try again. If the card still does not respond, use the `STAT l s c` command to obtain the status.

NPR036

Peripheral Signaling card is already disabled.

ACTION: Information only, no action required.

NPR050

That command is only valid for superloops.

ACTION: Ensure that this is the command you wanted to use.

NPR051

That command is not valid for superloops.

ACTION: Ensure that this is the command you wanted to use.

NPR070

Specified equipment could not be enabled due to the extender being disabled.

ACTION: Use `STAT SBE` in LD 35 to check the Segmented Bus Extender cards and the 3 Port Extender cards. Enable any disabled cards and run `TEST` in LD 45 to verify that the fault is cleared. If the SBE or 3PE cards do not enable and the fault does not clear, replace the card(s) following the steps in the *Hardware replacement* guide. If the cards are good and the fault does not clear, replace the cable between the two extenders. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

NPR080

The Peripheral Controller number is out-of-range. Peripheral Controllers range from 1 to 95.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR081

The Peripheral Controller requested is not defined. You are trying to test a unit that does not exist in the data base.

ACTION: Ensure that this is the command you wanted to use.

NPR082

The Peripheral Controller is already enabled.

ACTION: Ensure that this is the command you wanted to use.

NPR083

An enabled Network Card that is connected to the Controller cannot be found.

ACTION: Use ENLL to enable one or both of the Network Cards and try again.

NPR084

A message cannot be sent to a Network Card. Wait and retry the command later.

ACTION: Try the command later. If this error occurs again check the Network Card and the associated cabling.

NPR085

This command is not valid for Network/DTR Card (NT8D18).

ACTION: Use the DISL or ENLL commands instead.

NPR086

Superloop numbers must be a multiple of 4, starting at loop 0.

ACTION: Check to make sure your data is correct and re-enter the command.

NPR087

The NT8D PE shelf is either unoccupied by superloops or contains incorrect superloop numbers. There is a possible data corruption in the Controller block.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

NPR209

1. A nonexistent customer.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

2. The Command, CMIN ALL, will clear all minor alarms.

ACTION: This action is optional. If attendant minor alarms are an annoyance, refer to the *administration input/output guide*. Use LD 17 prompt ALRM and input NO.

NPR210

A TTR unit request is out-of-range (SD=0, DD=0,2, QD=0,2,4,6).

ACTION: Check to make sure your data is correct and re-enter the command.

NPR300 l s c (u)

The specified loop, shelf, card and/or unit cannot be tested because it is disabled.

ACTION: Use ENLL, ENLS, ENLC and/or ENLU to enable the card(s) and try again.

NPR301 loop

Loop is a Digital Trunk Interface or Primary Rate Interface; use LD 60.

ACTION: Information only, no action required.

NPR302

Conference loop. Use LD 38.

ACTION: Information only, no action required.

NPR303

An unrecognizable status code has been sent. Undefined Link/DCHI state.

ACTION: Refer to the *maintenance input/output guide*, use LD 60 and the *BRI Maintenance Guide*.

NPR310

Receive micro of ISDLC memory fault.

ACTION: Try the test again. If the results are the same, use DISC and ENLC to replace the card.

NPR311

Receive micro of ISDLC lost a message.

ACTION: Try the test again.

NPR314

Transmit micro of ISDLC memory fault.

ACTION: Try the test again. If the results are the same, use DISC and ENLC to replace the card.

NPR315

Transmit micro of ISDLC output queue problem lost messages.

ACTION: Try the test again.

NPR317

ISDLC card reset.

ACTION: Information only, no action required.

NPR318

No response from ISDLC card.

ACTION: Try the test again. If the results are the same, use DISC and ENLC to replace the card.

NPR319

All units on the card are enabled. A self test of the ISDLC card is not performed as one or more units on the ISDLC card are busy.

ACTION: If a self-test is mandatory, disable the card first.

NPR320

This command is only allowed for the ISDLC card.

ACTION: Ensure that this is the command you wanted to use.

NPR321

This command is only allowed for M3000 sets.

ACTION: Ensure that this is the command you wanted to use.

NPR325

A card self test cannot be performed, because one or more units are busy.

ACTION: Try again later.

NPR326

There is no response from the card.

ACTION: Try the test again. If the results are the same, use DISC and ENLC to replace the card. Release 19.25 software sends an NPR318 and fully enables all ports on the card.

NPR327

There is no response from the Network Card.

ACTION: Retry the command several times. If the problem persists, use STAT NWK 1 to get the status of the Network card. If the card does not respond and the fault does not clear, replace the Network card or the associated cabling following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

NPR328

The superloop must be disabled before using that command.

ACTION: Use DISL 1 to disable the superloop and re-enter the command.

NPR329

The card self test failed. The card was not enabled.

ACTION: Try to enable the card again, using ENLC. If the problem persists, use DISC and ENLC to replace the card.

NPR330

No acknowledgment returned for a message sent to the Network. Card/Controller (NT8D04/NT8D01). The command has been terminated.

ACTION: Retry the command later. If the problem persists, contact your technical support group.

NPR331

Time-out waiting for Peripheral Software Download (PSDL) to complete the download function.

ACTION: Check the maintenance terminal for SDL messages. If messages are present refer to the *SDL* chapter in this guide.

NPR332

Specified Peripheral Software (PSW) version number is out-of-range (1-99).

ACTION: Check to make sure your data is correct and re-enter the command.

NPR333

Specified Peripheral Software (PSW) version (1-99) was not found on the mass storage device.

ACTION: Refer to the *administration input/output guide*.

Use LD 22 command PRT PSWV to determine the available software versions.

NPR334

There is a Peripheral Software Download (PSDL) failure.

ACTION: Try again. If the problem persists, contact your technical support group.

NPR500 dn l s c u

The unit has failed the PBXT test.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. There are several set states that would prevent successful completion of the test. For example, ringing or set is Off-Hook.

ACTION: Try again. If the problem persists, contact your technical support group.

2. Check for ERR500 messages that indicate the same unit.

ACTION: Refer to the *ERR* chapter in this guide.

3. ERR500 messages do not indicate this unit to be in trouble.

ACTION: Try the test again.

4. If the fault indicates only one unit, suspect a faulty lamp in the telephone.

ACTION: Replace the telephone.

5. If all units are on one card, suspect a faulty line card.

ACTION: Use DISC and ENLC to replace card.

NPR501

The telephone ID cannot be printed because the TN is not equipped, or the TN is not a voice TN on a Meridian Modular set.

ACTION: Ensure that this is the command you wanted to use.

NPR502

No call registers available for IDU.

ACTION: Try again later.

NPR503

The response timeout from IDU is 2 seconds.

ACTION: Try again. If the problem persists, contact your technical support group.

NPR504

This Command is not allowed for Conference/TDS/MFS cards.

ACTION: Determine if the hardware you are testing is a Conference/TDS/MFS card and refer to those chapters in this guide for commands.

NPR505

The Superloop Network or the Controller card may be faulty.

ACTION: Use XNTT 1 to self-test the Superloop card. Use XPCT x to self-test the Controller card. If the tests do not pass, replace the Superloop or Controller card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If the problem persists, check the associated cable and repeat the command.

NPR506

The Extended shelf is not equipped.

ACTION: Ensure that this is the command you wanted to use.

NPR508

The APNSS virtual loops cannot be disabled.

ACTION: Refer to the *DPNSS1 Maintenance Guide*.

NPR509

The DSL configuration download failed.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR510

The DSL is already enabled.

ACTION: Ensure that this is the command you wanted to use.

NPR511

This shelf contains at least one BRI line card.

ACTION: You must wait 45 seconds before enabling the shelf or loop.

NPR512

A command is in progress. No input is allowed except aborting.

ACTION: Wait until the command action is finished or abort the command.

NPR514

The software failed to enable the unit.

ACTION: Try again. If the problem persists, try replacing the card and if this fails, contact your technical support group.

NPR515

The BRI line card did not send an activation acknowledgment for the DSL(s).

ACTION: Try again. If the problem persists, contact your technical support group.

NPR516

The BRI line card self test failed to be invoked.

ACTION: Try again. If the problem persists, contact your technical support group.

NPR517

The line card self test failed. The line card enabling sequence is aborted.

ACTION: Try to enable the card again, using ENLC. If the problem persists, use DISC and ENLC to replace card.

NPR519

There is no response from the ISDN BRI line card.

ACTION: Try the test again. If the results are the same use DISC and ENLC to replace card.

NPR522

The MISP is not responding. Aborting command.

ACTION: Refer to the *input/output maintenance guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR533

The MISP application did not acknowledge the requested “Line Card State Change”.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR534

The MISP application did not acknowledge the requested “DSL State Change”.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR551

Invalid message or invalid environment in which to send the message to the MISP.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR555

The expedited output queue is full.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR556

The MISP output buffer is not available, possibly because the MISP has not read off the previous output message yet.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR561

Only valid for MISP and superloops.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR562

Cannot send a message to the line card.

ACTION: Try again. If the problem persists, try replacing the card and if that fails, contact your technical support group.

NPR570

Cannot read the applications' information blocks from the MISP card.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR600

The Peripheral Signaling card cannot be disabled if DTCS is enabled.

ACTION: Refer to the *DPNSSI Maintenance Guide*.

NPR601

A non-terminal loop TN, cannot be converted.

ACTION: This command is intended for terminal loops only.

NPR605

That application is not configured on this MISP.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR606

The DSL needs to be in RELEASED state.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR607

The DSL needs to be in ESTABLISHED state.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR608

The DSL needs to be in TEST mode.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR609

The DSL needs to be in REMOTE LOOPBACK mode.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR610

The DSL needs to be ENABLED.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR611

The DSL configuration is not a TIE trunk type, nor a Meridian 1 interface type.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR612

The Application on MISP is disabled.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR620

This is not a BRI Line Card.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR621

This not a valid Trunk DSL.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR622

The MISP loop is disabled.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR623

The Trunk DSL is enabled but released (is in code already).

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR624

A command in LD 32 is pending completion.

ACTION: Wait for the command to finish, or enter two asterisks (**) to abort the overlay completely.

NPR626

An invalid case value for example, INTPM, PARPM.

ACTION: Contact your technical support group.

NPR627

Failed to get the Interface Type.

ACTION: Contact your technical support group.

NPR628

Failed to get the Interface TN.

ACTION: Contact your technical support group.

NPR629

MPH OVL PTR is NIL.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR630

The protected loop PTR is NIL.

ACTION: Contact your technical support group.

NPR631

MPH NET IFC PTR is NIL.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR632

The USID number is out-of-range (enter 0-15).

ACTION: Check to make sure your data is correct and re-enter the command.

NPR633

The B-channel number is out-of-range (enter 1 or 2).

ACTION: Check to make sure your data is correct and re-enter the command.

NPR634

The protected card PTR is NIL.

ACTION: Contact your technical support group.

NPR635

This must be a BRI line card.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR636

The protected line PTR is NIL.

ACTION: Contact your technical support group.

NPR637

That must be a digital telephone.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NPR638

FUNC DATA PTR returned NIL PTR.

ACTION: Contact your technical support group.

NPR639

BRI USID MAPPTR is NIL.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR640

That must be an MISP loop.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR641

An invalid MISP TN.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR642

BRI USID TSPTTR is NIL.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR643

Invalid MPH terminal type.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR644

That must be a superloop.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NPR645

An invalid channel type.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NPR646

TOD2SEC Time-out waiting for message.

ACTION: Re-enter the command.

NPR663

Cannot enable or disable this ISDN BRI line card or DSL because the line card is not associated with a BRSC or MISP.

ACTION: Refer to the *PRA/DCHI Maintenance Guide*.

NPR664

BRSC Cards do not have units associated with them.

ACTION: Refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR665

This command is not valid on phantom loops, since phantom loops do not physically exist. When phantom TNs are used the loop cards are not installed. Therefore you cannot test hardware that is not in the system.

ACTION: For further information, refer to the *Software feature guide, Phantom TNs*.

NPR666

The loop must be configured as a MISP.

ACTION: Re-enter the command with a valid MISP loop number.

NPR667

A MISP basecode must be enabled.

ACTION: Enable the MISP card using the ENLL 111 command.

If you need help with commands or system responses refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR668

The BRIE Application is not configured on the MISP.

ACTION: Re-enter the command with a MISP loop that has the BRIE application configured. If you need help with commands or system responses refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR669

There was no downloadable Interface defined on the MISP.

ACTION: Configure an UIPE Trunk DSL in Overlay 27 and then try the command again. If you need help with commands or system responses refer to the *maintenance input/output guide* and the *ISDN Basic Rate Interface, Maintenance*.

NPR670

All Interfaces are “active”; there are enabled DSLs of each Interface type. An Interface must be “inactive” before the data can be downloaded.

ACTION: Disable the corresponding DSLs, or the BRIE application by using the DISL BRIE 111 command. Enter the command again.

NPR671

An invalid selection.

ACTION: Check to make sure your data is correct and if applicable, re-enter one of the choices offered.

NPR672

Interface is “active”; there are enabled DSLs of this Interface type. An Interface must be “inactive” before the data can be downloaded.

ACTION: Disable the corresponding DSLs, or the BRIE application by the DISL BRIE 111 command. Enter the command again.

NPR673

A UIPE BRI Trunk DSL/Line Card is expected for this command.

ACTION: Re-enter the command with UIPE BRI Trunk DSL/Line Card TN.

NPR674

The specified unit is out-of-service, or may be a console power unit. It cannot be enabled or disabled.

ACTION: To change a console power unit, you must remove it with an OUT command and re-enter it with a NEW command.

NPR675

DSL is not of the correct application type or the line card does not have a DSL of the correct application type for this command.

ACTION: Check the configuration in LD 27 and re-enter the command with a DSL/Linecard of the correct application

NPR678

DSL does not have GF capability

ACTION: Contact your technical support group.

NPR679

Invalid call reference number.

ACTION: Contact your technical support group.

NPR0686

XCMC hardware pack self-test failed.

ACTION: Replace the XCMC hardware pack.

NPR0688

Device locked by the Russian Call Monitoring feature. The command was not executed.

ACTION: Action: Contact your technical support group.

NPR0705

IDC/IDU is busy with another request.

ACTION: Contact your technical support group. 

NWS — LD 30 Network Signaling

In this chapter

How the NWS works	914
NWS Runs as background or daily routine.	914
NWS Run manually	915
About the NWS commands	916
NWS common commands	916
About regular network commands	920
Regular network commands.	920
About superloop commands.	921
Superloop commands.	921
NWS messages.	922

Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards*, found in the *Hardware maintenance tools* chapter.

How the NWS works

LD 30 is used to test network loops. It may be run automatically in the background and daily routines, or loaded manually to enter commands. NWS messages report network signaling problems.

NWS Runs as background or daily routine

When invoked automatically by the system, the program performs the following tests:

- ◆ tests the network memory of each enabled network card
- ◆ tests the continuity of the speech path to each PE shelf (for enabled loops only)
- ◆ tests the signaling channel to each line or trunk card (on enabled loops only)
- ◆ tests the signaling channel through each Integrated Services Digital Line Card (ISDLC) to each digital-telephone or data TN
- ◆ switches the system clocks

Digital telephones that pass the signaling test have their date and time updated to match the system clock.

Any Meridian 1 proprietary set or line card that fails the signaling test may be disabled by this program. Use LD 32 to re-enable them.

If two or more PE cards are disabled on a loop, an NWS101 message is printed without the associated NWS301 messages to indicate card failures. However, the shelves that failed are identified by a NWS201 message. Therefore, the state of the individual cards can be determined by manually re-testing using the SHLF command.

If NWS301 indicates a failure of the Peripheral buffer or Controller card, the message may not be correct. Therefore the card should be re-tested using the SHLF command.

This program does not test attendant consoles or Automatically Identified Outward Dialing (AIOD) trunks. Equipment which has been disabled due to overload or manual request is not tested.

NWS Run manually

When manually invoked the program may be used for the following:

- ◆ to conduct a complete test, as when the program is invoked automatically, except for switching the clocks
- ◆ to conduct a test on a specific PE shelf
- ◆ to get the enable/disable status of network loops
- ◆ to enable or disable network loops
- ◆ to clear alarm indications and the maintenance display
- ◆ to download peripheral software on superloops
- ◆ to clear contents of the Controller maintenance display
- ◆ to read contents of the Controller maintenance display

Note: For systems running Release 15 and later, signaling tests are performed in LD 30. Including LD 30 is recommended if LD 45 is running as a background or midnight routine. By including LD 30, fault isolation improves as LD 30 detects network memory faults before LD 45 runs continuity tests.

About the NWS commands

The following commands apply to both regular networks and superloops.

NWS common commands		
Command	Description	Release
Clear display - alarms		
CDSP	Clear the maintenance display on active CPU to 00 or blank.	basic-1
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
Check status of loop		
STAT	Gives status of network circuits indicating how many are enabled and how many are disabled. Response is: x ENBL, y DSBL	basic-1

NWS common commands (continued)

Command	Description	Release
Clear display - alarms		
STAT loop	<p>Get status of a network loop.</p> <p>Response is one of the following:</p> <ol style="list-style-type: none"> 1. UNEQ = loop is unequipped. 2. DSBL: RESPONDING = loop is disabled and the Network card is responding. The loop may have been disabled because of: <ol style="list-style-type: none"> a. DISL command b. associated Peripheral Signaling card is disabled c. overload condition on associated loop. In this case an OVD message is output. An attempt to enable the loop may result in a recurrence of the overload. 3. DSBL: NOT RESPONDING = loop is disabled and the Network card is not responding. The card is missing, disabled by the faceplate switch or is faulty. 4. x BUSY, y DSBL = loop is enabled with x channels busy, y channels disabled. 5. CTYF 11, 12... = loop specified in the STAT command cannot receive speech from one or more loops (I1, I2). This usually indicates the LD 30 continuity test failed. Probable fault is the network card. 6. FAULTY HW: OVERLOAD = loop is identified as faulty by the LOIP function. Refer to the FHW chapter. 7. FAULTY HW: NO RESPONSE = loop is identified as faulty by the LRIP function. Refer to the FHW chapter. 	basic-1
Disable a loop		
DISL loop	<p>Disable network loop. When operation is complete system responds with a line feed and a dot. All calls in progress on this loop are disconnected. Peripheral cards remain software enabled and no LEDs are lit.</p>	basic-1

NWS common commands (continued)

Command	Description	Release
---------	-------------	---------

Enable a loop

ENLL loop	Enable network loop. Enables the network, performs a network memory test and tests continuity and signaling to all shelves on the loop. If it passes the test, OK is output. This does not re-enable any disabled cards on the loop. Use LD32 ENLS or ENXP commands or enable each card individually. When enabling a network loop serving ISDL cards, the ISDL cards must be individually disabled, then re-enabled to ensure that service is restored to digital telephones. Service may also be restored to digital telephones by disconnecting and then reconnecting the telephone's line cord.	basic-1
-----------	---	---------

NWS common commands (continued)

Command	Description	Release
List disabled/enabled loop		
LDIS	List disabled loops. Response is: l1, l2, ln — l is a disabled loop, or NONE — if no cards are disabled.	basic-1
LENL	List enabled loops. Response is: l1, l2, ln — l is an enabled loop, or NONE — if no cards are enabled.	basic-1
Test loop and memory		
LOOP loop, ALL	Test network memory on one or all loops. Performs a network memory test, continuity test and signaling test on the specified loop, which can be either a value from 0 to 159 or ALL. If ALL is specified, every loop currently enabled is tested. All shelves on each loop are tested (except for attendant consoles). If no errors are detected, OK is output.	basic-1
SHLF l s	Test loop l, shelf s.	basic-1
END	Abort current test. If no test is in progress, message NWS002 is output.	basic-1

About regular network commands

The following commands apply to non superloop networks:

Regular network commands		
Command	Description	Release
Test time switch memory		
TTSM loop x y z	<p>Test Time Switch Memory (TSM) of a loop. Tests the Time Switch Memory (TSM) of the network card, where:</p> <p>loop = the network loop that may have a faulty TSM.</p> <p>x = the network loop of the transmitting party.</p> <p>y = the junctor used on the transmitting side of the call. Its value has a range of 0 to 7, unless the two loops are in the same group, in which case the junctor value to be entered is 15.</p> <p>z = the timeslot used on the transmitting side of the call. Its value has a range of 2 to 31.</p> <p>Note: The values normally used in this command are the same values that appeared in the ERR3036 or ERR3037 message during call processing.</p>	basic-1
Test time switch memory		
TTWI loop x y z	<p>Test TSM when the timeslot junctor is idle.</p> <p>The command is usually used if error message NWS800 is output in response to TTSM.</p> <p>loop = the network loop that may have a faulty TSM.</p> <p>x = the loop ID (range 0 to 159) of the transmitting party.</p> <p>y = the junctor used on the transmitting side of the call. Its value has a range of 0 to 7, unless the two loops are in the same group, in which case the junctor value to be entered is 15.</p> <p>z = the timeslot (2-31) used on the transmitting side of the call.</p> <p>Note: This command waits for timeslot z and junctor y to become available and will then execute the command.</p>	basic-1

About superloop commands

The following commands are used with Controllers (NT8D01) and Network Cards (NT8D04 or NT8D18):

Superloop commands		
Command	Description	Release
Enable superloop		
ENLL loop (v)	Enable superloop, download peripheral software version v. If version v is not specified, the software downloaded is current (c) or latest (l) version as defined in LD 97.	xpe-15
Clear controller display		
CPED I s	Clear contents of Controller Maintenance Display on loop I shelf s . This also clears the buffer printed with the command RPED.	xpe-15
Read controller display		
RPED I s	Read contents of the Controller Maintenance Display. This command lists the current and last 15 clock tracking states of the NT8D01 Controller. The tracking is indicated on the Controller maintenance display by decimal points before and after the digit. The possible tracking modes are: C0 = Controller is tracking to the network connected to port 0. C1 = Controller is tracking to the network connected to port 1. C2 = Controller is tracking to the network connected to port 2. C3 = Controller is tracking to the network connected to port 3. CF = Controller is not tracking any network.	xpe-15
Test card or unit		
UNTT I s c (u)	Do a signaling test on specified card or unit controlled or connected to this superloops.	xpe-15

NWS messages

NWS000

Program 30 has been loaded.

ACTION: The NWS program is loaded and ready for you to enter commands.

NWS002

An invalid command was entered.

ACTION: Ensure that this is the command you wanted to use.

NWS003

The command contained an invalid parameter.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The loop, shelf or customer number is out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command.

2. The loop or shelf specified is disabled.

ACTION: Check to ensure that the faceplate switch is in the re-enter position on network loop and peripheral buffer cards. Use ENLL 1 and ENLS 1 s in LD 32 to enable loops and shelves or controllers.

3. The loop or shelf specified is unequipped.

ACTION: If this is the correct command, refer to the *administration input/output guide*. Use LD 22 CFN to check the configuration record for loop programming. Check to make sure your data is correct and re-enter the command.

4. The customer number specified does not exist.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NWS004

Yellow alarm is set or a loop is being audited.

ACTION: Refer to the *ISDN Basic Rate Interface* NTP and use LD 60.

NWS005

There is no free channel for a signaling test.

ACTION: Try the command later.

NWS006

A loop is being audited or there is no channel equipped.

ACTION: Try the command later.

NWS007

Attempted to enter a command other than END, while the previous command was still being executed.

ACTION: Enter END to abort the current command.

NWS008

A serious data error has been detected.

ACTION: Contact your technical support group.

NWS009

Start at the first or most likely cause and refer down the list until the fault is cleared. If the fault does not clear, call your technical support group. An ENLL has been issued to:

1. An already enabled network loop.

ACTION: Ensure that this is the command you wanted to use.

2. A network loop associated with a disabled PS card. The command is ignored by the system.

ACTION: If the Peripheral Signaling card is disabled, use ENLPS in LD 32 to re-enable the PS card. If the PS card does not enable, replace the PS card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

NWS010

No response from Network card or no acknowledgment returned for previous message sent to the Network or Controller card (NT8D04/NT8D01).

ACTION: Try the command several times. If you get the same results, replace the listed cards one at a time following the steps in the *Hardware replacement* guide. After replacing each card, see if this message reappears. If it does reappear replace another card.

NWS013

A serious data error has been detected by NWS.

ACTION: Contact your technical support group.

NWS019

Carrier Remote superloop (LCI) did not respond to the request to disable/enable the RTE superloop.

ACTION: Ensure that the LCI is installed and that the faceplate switch is in the enabled position.

NWS020

During execution of the signaling test, an input buffer overflow was detected and some input messages were lost.

ACTION: Check for OVD messages, and if present, go to the *OVD* chapter in this guide and follow the action for that OVD message. If there is no OVD message, the signaling test was terminated with no fault implied by this message and you may want to retry this test later.

NWS023 loop

During the execution of the signaling test, a large number of line faults were detected, but storing the fault information required too much memory space. Testing of the PS card associated with this **loop** was terminated.

ACTION: Beginning with the specified loop, use LOOP x to separately test each of the remaining loops located on the same shelf as the PS card. Replace the cards one at a time following the steps in the *Hardware replacement* guide. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card. This message does not necessarily imply a fault on the specified loop.

NWS024

The Network Card fault list is full.

ACTION: Use DISL 1 in LD 32 to disable and ENLL 1 to enable the network card.

NWS025

A serious data error has been detected by Network Card fault list management routines. The test is terminated.

ACTION: Contact your technical support group.

NWS030

The clock switching function was not performed as it could not be determined which clock was active. If you do not have DTI hardware, ignore this message.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The QPC411 SCG may be faulty.

ACTION: Refer to *ISDN Basic Rate Interface NTP*, and use LD 60.

2. The CE EXT connecting the active CPU to the network shelf may be faulty.

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. The cables connecting the above cards via the Junctor may be faulty.

ACTION: Replace the cables, one at a time, between the IGS cards and the junctor board following the steps in the *Hardware replacement* guide. After replacing each cable run the test again to verify that the fault is cleared.

NWS031

The clock switching function was not performed. One or both of the QPC411 SCG cards are disabled. No fault is implied.

ACTION: Re-enable the SCG using ENL SCG x in LD 39. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

NWS031

Receiving NWS031 error messages during midnight routines.

ACTION: Check to see if the package 75 (DTI) software is equipped, but no hardware is installed.

NWS042

The Network Card interface test failed and the PE continuity test was not performed

ACTION: Try the command several times. If you get the same results, use DISL x and ENLL x to test the cards one at a time. If the test fails, replace that card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

NWS043

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

The requested PE cannot be tested because:

1. The Peripheral Controller is disabled.

ACTION: Use ENXP in LD 32 to enable the controller. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. The PE is not defined for the superloop.

ACTION: If applicable, refer to the *administration input/output guide*, and use LD 10 or 11 to program the PE.

3. The PE shelf connected to the superloop is empty.

ACTION: Check the PE shelf for cards.

NWS061 c p1 p2

The clock switching function was not performed. One or both QPC411 SCGs are disabled. No fault is implied. Check for message ISR061.

ACTION: Refer to the *IGS* chapter in this guide and follow the action for message ISR061.

NWS101 ps loop1 loop2 loopn

The **loop1**, **loop2**, etc. associated with Peripheral Signaling card **ps** failed the signaling test. Error code NWS201 is implied for these loops.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The MISC card on the active CPU may be faulty.

ACTION: Replace the MISC or IF card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. Try the tests again. If this message reappears, replace the loops listed in the message one at a time following the steps in the *Hardware replacement* guide. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card.

2. The CE EXT between the active CPU and affected network shelf may be faulty.

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. The network, conference and TDS cards in the same group may be faulty.

ACTION: Replace the listed cards one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card.

4. The CPU cards may be faulty. Loops may be tested separately using the LOOP L command.

ACTION: Replace the CPU or FN card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

NWS102

The Real-time clock on the peripheral signaling card has failed.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The peripheral signaling card is may be faulty.

ACTION: Replace the peripheral signaling card following the steps in the *Hardware replacement* guide. After replacing the card run the test again to verify that the fault is cleared.

2. The MISC or IF card on the active CPU may be faulty.

ACTION: Replace the MISC or IF card following the steps in the *Hardware replacement* guide. After replacing the card run the test again to verify that the fault is cleared.

NWS103 ps

A fault has been detected in outgoing signaling on the Peripheral Signaling card **ps**. The system is still able to signal using the bad card but the outgoing signaling rate may be reduced. Repeat the LOOP ALL test, or test any terminal loop associated with the **ps** card several times.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

If this message reappears, the probable fault is on:

1. the PS card

ACTION: Replace the Peripheral Signaling card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. the CPU card

a) If the fault indication appears when one CPU is active but not when the other is active and the fault affects all groups, on either CE EXT connecting the affected network shelf to the active CPU, or in the cable between the extenders, execute the following actions:

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) or cables following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses go to the *CED* chapter in this guide.

b) other PS cards

ACTION: Replace the peripheral signaling card following the steps in the *Hardware replacement* guide. After replacing the card run the test again to verify that the fault is cleared.

c) the MISC of the CPU which is active when the fault indication appears

ACTION: Replace the MISC or IF card following the steps in the *Hardware replacement* guide. After replacing the card run the test again to verify that the fault is cleared.

NWS141 c

The IGS card **c** failed to respond.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The IGS card **c** may be faulty.

ACTION: Replace the IGS card following the steps in the *Hardware replacement* guide. After replacing the card run the test again to verify that the fault is cleared.

2. The CE EXT connecting active CPU to network shelf may be faulty.

ACTION: . Use STATEXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. Other IGS cards may be faulty.

ACTION: Replace the IGS cards one at a time following the steps in the *Hardware replacement* guide. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card.

4. Associated cables may be faulty.

ACTION: Replace the cables, one at a time, between the IGS cards and the junctor board following the steps in the *Hardware replacement* guide. After replacing each cable run the test again to verify that the fault is cleared.

NWS142 c

The clocks could not be switched when the System Clock Generator (SCG) was the providing clock.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The SCG may be faulty.

ACTION: Refer to *ISDN Basic Rate Interface* NTP, use LD 60.

2. The cables connecting the SCG cards via the Junctor, may be faulty.

ACTION: Refer to *ISDN Basic Rate Interface* NTP, use LD 60.

3. CE EXT connecting active CPU to network shelf

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) or cables following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

NWS143 n

You cannot switch the clock controllers because the standby clock controller **n** is software disabled.

ACTION: Refer to *ISDN Basic Rate Interface* NTP. Use LD 60 to enable it, provided it is operational.

NWS201 loop s1 s2 sn

Two or more shelves **s1**, **s2**, on the **loop** failed the signaling test. All cards failed the test on each shelf. Refer to the action provided for code NWS301 in this chapter. If the loop is an RPE loop, refer to the *maintenance input/output* guide. Use LD 33.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The network card for the **loop** may be faulty.

ACTION: Replace the Network card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

2. The **loop** cable to the PE shelves may be faulty.

ACTION: Replace the cables, one at a time, between the Network cards and the Peripheral Buffer cards following the steps in the *Hardware replacement* guide. After replacing each cable run the test again to verify that the fault is cleared.

3. There may be faults on shelves **s1** to **s4**, depending on card density.

ACTION: Replace the peripheral buffer cards, one at a time, following the steps in the *Hardware replacement* guide. After replacing each card run the test again to verify that the fault is cleared.

4. The network extenders may be faulty.

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) or cables following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses go to the *CED* chapter in this guide.

5. The CPU cards may be faulty.

ACTION: Replace the CPU or FN card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

NWS202 loop s1 s2

Continuity test failed on this loop, shelves **s1**, **s2**. Signaling test was completed in spite of the fault.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The peripheral buffer or the controller on the shelves listed, may be faulty.

ACTION: Replace the peripheral buffer or controller cards, one at a time, following the steps in the *Hardware replacement* guide. After replacing each card run the test again to verify that the fault is cleared.

2. The interconnecting cable to the PE shelves may be faulty.

ACTION: Replace the cables, one at a time, between the network cards and the peripheral buffer cards following the steps in the *Hardware replacement* guide. After replacing each cable run the test again to verify that the fault is cleared.

3. The network card may be faulty.

ACTION: Replace the network card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

4. The peripheral signaling cards may be faulty.

ACTION: Replace the peripheral signaling cards, one at a time, following the steps in the *Hardware replacement* guide. After replacing each card run the test again to verify that the fault is cleared.

5. The network, conference and TDS cards in the same group may be faulty

ACTION: Replace the listed cards one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card.

6. The network extenders may be faulty.

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) or cables following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

7. The CPU cards may be faulty.

ACTION: Replace the CPU or the FN card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

Note: ERR3036 also occurs if a loop on the QPC414 Network card is not configured. This is not an error condition. To prevent ERR3036 occurring in this case, define the loop in LD 17. The unused loop should be disabled.

NWS202

Receiving NWS202 10:0 codes every night after converting loop 16 from a TERD to a TERQ.

ACTION: Check the switch setting on the peripheral buffer card to match Quad Density format. Refer to the *Circuit Pack Installation and Testing* chapter in the *Installation Guide*.

NWS203 loop

The memory test on this **loop** has failed and timeslots associated with faulty memory locations are disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The network card is probably faulty.

ACTION: Replace the network card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

2. If a LOOP L command produces this response only in one of the CPUs, the fault may be in the CE EXT connecting the network group (in which loop is located) to the CPU which is active when this message appears, or in the cable connecting these extenders

ACTION: Replace the SBE or 3PE card(s) or cables following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

NWS204 loop

The network circuit for this **loop** failed to respond to an ENLL, DISL, LOOP or SHLF command.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. Check whether the network card is missing.

ACTION: If it is missing, install a network card by following the steps in the *Hardware replacement* guide.

2. Check whether the network card has been disabled from the faceplate switch.

ACTION: Set the Enb/Dis switch to Enb.

3. The network card may be faulty.

ACTION: Replace the network card by following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

4. The peripheral signaling card may be faulty.

ACTION: Replace the peripheral signaling card, following the steps in the *Hardware replacement guide*. After replacing the card, test again to verify that the fault is cleared.

5. The network, conference and TDS cards in the same group may be faulty.

ACTION: Replace the listed cards one at a time for this group following the steps in the *Hardware replacement guide*. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card.

6. The network extenders may be faulty.

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) or cables following the steps in the *Hardware replacement guide*. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

7. The CPU card may be faulty.

ACTION: Replace the CPU or FN card following the steps in the *Hardware replacement guide*. Run the test again to verify that the fault is cleared.

NWS211 loop s1 s2 sn

One or more shelves **s1**, **s2**, failed the signaling test. At least one unit passed the signaling test. Refer to the action provided for code NWS301 in this chapter. If **loop** is an RPE loop, refer to LD 33.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The Network card may be faulty.

ACTION: Replace the network card following the steps in the *Hardware replacement guide*. Run the test again to verify that the fault is cleared.

2. The loop cable to the PE shelves may be faulty.

ACTION: Replace the cables, one at a time, between the network cards and the peripheral buffer cards following the steps in the *Hardware replacement* guide. After replacing each cable run the test again to verify that the fault is cleared.

3. There may be a fault on shelves **s1** to **s4**, depending on card density.

ACTION: Replace the peripheral buffer cards, one at a time, following the steps in the *Hardware replacement* guide. After replacing each card run the test again to verify that the fault is cleared.

4. The Network, Conference and TDS cards in the same group may be faulty.

ACTION: Replace the listed cards one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card.

5. The Network Extenders may be faulty.

ACTION: Use STAT EXT in LD 35 to determine which extender is faulty. Replace the SBE or 3PE card(s) or cables following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

6. The CPU cards may be faulty.

ACTION: Replace the CPU or FN card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

NWS3011 s, c1, c2, cn

Two or more PE cards **c1**, **c2**, on loop **l** shelf **s** failed the signaling test, or the results of the shelf test varied. LD 30 automatically tests each shelf two ways. If a card number is preceded by a minus sign, one or more units on that card were disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. There may be a fault in cards **c1** or **c2**, or other cards.

ACTION: Replace the listed cards one at a time for this group following the steps in the *Hardware replacement* guide. After replacing each card, run the test again to see if this message reappears. If it does reappear replace another card.

2. The Peripheral buffer or controller for shelf 2 may be faulty.

ACTION: Replace the peripheral buffer or controller cards, one at a time, following the steps in the *Hardware replacement* guide. After replacing each card run the test again to verify that the fault is cleared.

3. The loop cable to PE shelf 3 may be faulty.

ACTION: Replace the cable, between the network card and the peripheral buffer card following the steps in the *Hardware replacement* guide. After replacing the cable run the test again to verify that the fault is cleared.

4. The network card may be faulty.

ACTION: Replace the network card following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

5. If only one card is listed, an intermittent PE card fault is possible.

ACTION: Replace the PE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

NWS302 Is

Less than half the cards on the specified shelf could not be tested because they were either busy or disabled, or there were no Meridian 1 proprietary sets on the shelf. This is not a fault condition.

ACTION: Repeat the test if desired.

NWS303 Is

For single density loops, more than half the cards on specified shelf s could not be tested because they were busy or disabled. For double or quad density loops, “some” of the cards in the shelf could not be tested because they were busy or disabled.

ACTION: Use ENLC x in LD 32 to enable the cards and run the test again. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

NWS401 l s c: u1 u2 un

A fault has been detected on PE card **l s c**, (**u1** and **u2**, do not appear in the message), or PE unit **l s c u1**, **u2**. If a card or unit number is preceded by a minus sign, the card or unit was disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The PE card **l s c** may be faulty.

ACTION: Replace the PE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. The peripheral buffer on the shelf 2 may be faulty.

ACTION: Replace the peripheral buffer or controller card, following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

3. Meridian 1 proprietary sets associated with units **u1** or **u2** or other units may be faulty.

ACTION: Replace the Meridian 1 proprietary sets, following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

NWS501 l s c u

The telephone at **l s c u** failed the signaling test. If the unit number is preceded by a minus sign, the set was disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The Peripheral Equipment card may be faulty.

ACTION: Replace the PE card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. The Meridian 1 proprietary set may be faulty.

ACTION: Replace the Meridian 1 proprietary set, following the steps in the *Hardware replacement* guide. Run the test again to verify that the fault is cleared.

NWS502

The network loop is not configured.

ACTION: Check to make sure your data is correct and then re-enter the command.

NWS601 loop

The **loop** requested is a Digital Trunk Interface (DTI) or Digital Link Interface (DLI).

ACTION: Refer to the *ISDN Basic Rate Interface* NTP, use LD 60.

NWS602

The DTI/DLI loop failed the signaling test.

ACTION: Refer to the *ISDN Basic Rate Interface* NTP.

NWS603

A previously faulty DTI/DLI loop passed the signaling test.

ACTION: Information only, no action is required.
Refer to *ISDN Basic Rate Interface* NTP.

NWS604

The DTI loop is in a waiting state. A reset red alarm message has been sent.

ACTION: Refer to the *ISDN Basic Rate Interface* NTP, use LD 60.

NWS608

There has been a Peripheral Software Download (PSDL) failure.

ACTION: Check the SDL messages.

NWS609

The XNET or XPND network card has a problem.

ACTION: Check the card and its associated cable and repeat the command. If the problem persists, pull the card out and plug it back in. If the problem persists with the same command again, replace the XNET or XPND network card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

NWS610

A time-out occurred while waiting for the PSDL to complete the download function.

ACTION: Repeat the command.

NWS611

You cannot use this command when the card is in an overload condition.

ACTION: Look for an OVD message and follow the action for that message in the *OVD* chapter in this guide.

NWS612

Command parameter error; for NT8D02 Digital Line Card use, UNTT l s c u, for all others use, UNTT l s c.

ACTION: Re-enter the command.

NWS613

The proper card is not equipped.

ACTION: Check the card slot for the proper hardware.

NWS614

That command cannot be completed.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. For the NT8D02 Digital Line card:

a) The unit is busy.

ACTION: Be patient.

b) The unit is manually disabled.

ACTION: Use ENLC x in LD 32 to enable the card. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

c) The unit is not defined.

ACTION: Ensure that this is the command you wanted to use. If this is the correct command, refer to the *administration input/output guide* to program the unit.

2. For all others,

a) The card is manually disabled.

ACTION: Use ENLC x in LD 32 to enable the card. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

b) No unit is defined on the card.

ACTION: Ensure that this is the command you wanted to use. If this is the correct command, refer to the *administration input/output guide* to program the unit.

NWS615

Loop must be a superloop.

ACTION: Ensure that this is the command you wanted to use.

NWS617

The expanded shelf is not equipped.

ACTION: Information only, no action required.

NWS620

The express output queue is full and the CPU cannot send the message to the MISP.

ACTION: Wait and re-enter the command.

NWS621

The MISP output buffer is not available, possibly because the MISP has not read off the previous output message yet.

ACTION: Refer to *ISDN Basic Rate Interface NTP*.

NWS622

Invalid message or invalid environment in which to send the message to the MISP.

ACTION: Refer to *ISDN Basic Rate Interface NTP*.

NWS623

The message cannot be sent to the line card.card.

ACTION: Refer to *ISDN Basic Rate Interface NTP*.

NWS624

Since this shelf contains at least one BRI line card, you must wait 45 seconds before enabling the shelf/loop.

ACTION: Refer to *ISDN Basic Rate Interface NTP*.

NWS625

A database error. Protected pointers are missing.

ACTION: Refer to *ISDN Basic Rate Interface NTP*.

NWS626

The self test command only applies to the MISP network cards and BRI line cards. Make sure you specify the correct card.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS627

The MISP card must be in the MANUAL DISABLED state to perform the self-test.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS628

Line card must be disabled to invoke the self-test.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS630

The loop is unequipped.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS631

The loop is not responding.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS632

The self-test failed.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS633

The MISP status is undefined (MISP SLSTAT bit combination).

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS635

There is no response from the line card.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS636

A MISP self-test cannot be invoked.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS637

The self-test passed.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS638

A unit is not equipped.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS639

The TEI test could not be performed.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS640

There is no response from the MISP.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS641

Cannot execute command on MISP.

ACTION: Refer to *ISDN Basic Rate Interface* NTP.

NWS650

This command is not allowed for XCT loops.

ACTION: Ensure that this is the command you wanted to use.

NWS652

This command is not valid on phantom loops, since phantom loops do not physically exist. When phantom TN's are used the loop cards are not installed; therefore, you cannot test hardware that is not in the system.

ACTION: For further information, refer to the *Phantom TNs* section in the *Software Feature Guide*.

NWS653

The command cannot be executed the on BCS Phantom loop. When phantom TN's are used the loop cards are not installed. Therefore you cannot test hardware that is not in the system.

ACTION: For further information, refer to the *Phantom TNs* section in the *Software Feature Guide*.

NWS654

No Memory Test on BCS Phantom Loop. When phantom TN's are used the loop cards are not installed. Therefore you cannot test hardware that is not in the system.

ACTION: For further information, refer to the *Phantom TNs* section in the *Software Feature Guide*.

NWS800

The timeslot or junctor is busy and the test was not completed.

ACTION: Try again later.

NWS801

The continuity test failed.

ACTION: Re-enter the command, and if the problem continues replace the card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

NWS802

The Network Card (NT8D04) failed to respond.

ACTION: Replace the Network card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

NWS803

Superloop number must be a multiple of 4.

ACTION: Check to make sure your data is correct and re-enter the command.

NWS804

The shelf number is not equipped.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NWS805

The message cannot be sent to Network Card (NT8D04).

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NWS888

Invalid input. The loop or junctor number is out-of-range or the command is not allowed on superloops, or the terminating or transmitting party is disabled.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NWS927

Network Card (NT8D04) failed to respond within 10 seconds after sending a request to read or clear a Peripheral Controller (NT8D01) maintenance display.

ACTION: If the command fails a second time, use STAT 1 in LD 32 to get the status of the superloop.

NWS928

The superloop number must be a multiple of 4.

ACTION: Check to make sure your data is correct and re-enter the command.

NWS929

The shelf number is not equipped.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

NWS930

Cannot send CPED or RPED message to Network Card (NT8D04).

ACTION: Make sure the network card is installed and use STAT 1 in LD 32 to enable the network card.

NWS931

Cannot determine if the XTRUNK value is a Universal Trunk or E&M/Dictation Trunk (NT8D14/NT8D15).

ACTION: Use DISC 1 s c in LD 32 to disable and then re-enable the trunk card. Next perform an IDC to determine the trunk value. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

NWS940

Wrong number of parameters.

ACTION: Check to make sure your data is correct and re-enter the command.

NWS941

The loop number is out of range.

ACTION: Check to make sure your data is correct and re-enter the command.

NWS942

The active input device will be disabled. The command is ignored.

ACTION: Enter END to abort the program and re-enter the command from the maintenance telephone.

NWS943

A serious data error has been detected by NWS.

ACTION: Contact your technical support group.

NWS944

The loop is already enabled.

ACTION: Ensure that this is the command you wanted to use.

NWS945

There is no response from the maintenance interface

ACTION: Verify that the proper hardware is installed in the shelf. Re-enter the command.

NWS946

No acknowledgment returned for a previous message sent to the Network or Controller. The current command has been terminated.

ACTION: Retry the command later. If the problem persists, contact the supplier.

NWS947

Time out from Peripheral Software Download (PSDL).

ACTION: Try the command again. If this message appears repeatedly or is associated with a system problem, contact your technical support group.

NWS948

Specified Peripheral Software (PSW) version number is out-of-range (1-99)

ACTION: Try again.

NWS949

Specified Peripheral Software (PSW) version (1-99) not found on the mass storage device.

ACTION: Use LD 22 PRT and PSWV to determine the available PSW versions and try again.

NWS950

Unrecoverable error from Peripheral Software Download (PSDL).
The command is aborted.

ACTION: Try again. If the problem persists, replace the card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

NWS955

Peripheral Software (PSW) number in hardware and protected memory do not match.

ACTION: Use DISL 1 in LD 32 to disable the superloop and then enable it with the software download option (ENLL <pswid>). Use LD 22 to determine the correct software version.

NWS956

The card type is not found.

ACTION: Use LD 22 to find the card type for the Peripheral Software (PSW) version and try again.

NWS957

There is a disk access error.

ACTION: Check the disk for the fault and try again. 