Meridian 1

Software conversion procedures

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Release 7.0x was omitted.

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Standard, release 4.0x. This document was reissued for updates and changes for X11 Release 16. 0x.

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Standard, release 2.0x. This document was reissued for updates and changes for X11 Release 15.

Release 3.0x. was omitted.

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Standard, Release 1.0x.

Contents

Introduction

This document is a global document. Contact your system supplier or your Nortel Networks representative to verify that the hardware and software described is supported in your area.

Use this document to convert Release 19.0x or later software to Release 25.0x on Options 51C, 61C, 81, 81C. For software conversion procedures to Release 19.0x, refer to POxxxx.

THIS DOCUMENT IS FOR SOFTWARE CONVERSION AND MEMORY UPGRADES ONLY. The procedures in this document are not for any other purpose.

Specific machine types, as they are supported by X11 software releases, are shown in Table 3.

CAUTION

Do not convert a system unless you are thoroughly familiar with it and with conversion procedures. You must read through the procedure before starting.

Note: Converting software on single CPU systems disrupts call processing and allows service only to those telephones connected to Power Failure Transfer Units (PFTUs). Established calls may not be affected.

CAUTION

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on Meridian 1 equipment.

Follow Pre-conversion and Post-conversion procedures for every system conversion.

Throughout this document the term **media** refers to tape, disk, or CD-ROM, whichever applies to your system.

The term **Source** refers to the software that you are **currently** running. **Target** refers to the new software that you are converting to.

CAUTION

Read "Conversion notes" on page 15 before performing any operations.

It contains information crucial to the conversion process.

Related documentation

The following documents may be required when performing software conversion.

— *Product Compatibility* (553-3001-156)

— *Hardware Upgrade Procedures* (553-3001-258)

— *X11 Features and Services (553-3001-306)*

— *X11 Maintenance (553-3001-511)*

— *NT5D61 IODU/C Reference Guide*

— *General Release Bulletins* provide hardware requirements and advisory notes for a given software release.

Conversion notes

Conversion procedures vary with the system type and **Source** release of software.

Table 1 shows the X11 releases supported by Automatic Inline Conversion.

Table 1
Automatic Inline Conversion

From (minimum) Source release/issue	Directly to Target release
10.xx	14, 15
11.xx	12, 13, 14, 15
12.xx	13, 14, 15
13.xx	14, 15
14.xx	15
15.xx	16, 17, 18
16.xx	17, 18
17.xx	18, 19
18.xx	19
19.xx	20, 21, 22, 23, 24, 25
20.xx	20, 21, 22, 23, 24, 25
X81 Phase 7 A, B, or C	20, 21, 23, 24, 25
X81 Phase 8, A0, A1& A2	20, 21, 23, 24, 25

Table 1
Automatic Inline Conversion (Continued)

From (minimum) Source release/issue	Directly to Target release
X81 Phase 8, B0, B1& B2	20, 21, 23, 24, 25
21.xx	22, 23, 24, 25
22.xx	23, 24, 25
23.xx	24, 25
24.xx	25

It may be more time- and cost-effective to simply load new software and reenter system data, rather than going through all the procedures that a conversion requires. To determine the best option and how to take advantage of Target software features and services, consult your Nortel Networks representative.

CAUTION
Always load LD 43 from the **Source** (current) media. That is, the media containing the software currently running your system.

The media received contains the conversion program (LD 66) for converting your current data to the format required for the next release. Check the labels on the media for accuracy. The conversion label contains the following information:

X mmm Z nnn where

X = Machine type number (see Table 3)

mmm = **Source** software release and minimum issue

Z = Conversion tape vintage

nnn = **Target** software release and minimum issue

Conversion media

For X11 release 24 and later systems, the following media is required for new software installations:

- CD-ROM— A generic CD-ROM that contains all software generics.
- Security device — Provides a unique program for each system. The device does not contain feature or software release specific information.
- Install diskette — Activates the Software Installation Tool. The Software Installation Kit contains three Install diskettes to support each Call Processor card. Use the Install diskette that corresponds with your CP card type.
- Keycode diskette — Consists of “keycodes” that contain software feature data. The keycodes must validate against the security device.
- 2 MB customer database diskettes —A blank DOS formatted disk for archiving the customer database.
- Database transfer utility diskette — Supports the transfer of 4 MB databases to 2 MB.

The keycode contains the X11 software information. For new features or Incremental Software Management (ISM) limits, a new keycode is required (a new CD-ROM, security device, or install diskette is not required).

Software packaging

Remember to check your system packages prior to conversion. Be sure **Target** software contains all the packages required to support system operation.

General conversion information

This document supports conversions for ST, STE, NT, RT, XT, 21, 21E, 51, 51C, 61, 61C, 71, 81, and 81C systems only.

Note: Conversion from X37 to X11 is not supported.

Be sure your system has enough memory to complete the conversion. If not, go to “Procedure 4: Increasing memory” on page 71 **before you begin.** Refer to *Capacity Engineering* (553-3001-149) for details concerning system capacity requirements.

To monitor the CPUs during parallel reload procedures, install a temporary Serial Data Interface (SDI) card, and connect a local TTY (or modem for remote TTY access). Refer to the parallel reload procedures for more information.

In systems equipped with superloops, calls will drop during initialization when Peripheral Software Download (PSDL) occurs. The Superloop Network (NT8D04) and Controller (NT8D01) cards download peripheral software prior to initialization completion. This may extend the duration of the system initialization when completing a conversion.

When a software upgrade is performed to add new feature packages, a sysload or parallel reload is required to enable the new software.

If a Force Download occurs during a parallel reload, initialization can take up to 15 minutes. Calls in process will be interrupted.

When QPC742D FDI Cards are used, install disks in both disk drives before powering up the system. This is not required with later vintages of the FDI card.

If you have Auxiliary Processors working with your system, be sure they are powered up after you complete your conversion.

CAUTION

Do not attempt backward data dumping between software versions, upissues, or releases. It will corrupt your data.

DN Expansion

Software conversion is designed to convert data blocks with the smaller DN fields on the **Source** disk to data blocks with expanded DN fields, irrespective of the DN Expansion package on the **Target** disk/system.

CDR Expansion is **not** required to enable DN expansion. However, in order for Call Detail Records to accurately reflect system activity, CDR Expansion must be enabled as well as DN Expansion. If DN Expansion is equipped and CDR Expansion is not, system operation is not affected, but CDR records will be inaccurate.

Upgrading from disk drives to CD-ROM

Upgrading a drive unit to CD-ROM requires the existing 4 MB database to be converted to 2 MB. The database is converted to 2 MB is using one of the following methods:

- using the Database Transfer utility (for systems equipped with IOP/CMDU or separate IOP and CMDU cards only)
- sending the database to Nortel Networks for conversion
- using the “Copy Database from Redundant Disk” command in the Meridian 1 Software Installation Tool (for redundant systems equipped with IOP/CMDU or separate IOP and CMDU cards)

Integrated Services Digital Network (ISDN)

Any ISDN site upgrading to X11 release 15 or higher must be configured with the QPC757 vintage C, D-channel Handler (DCHI) card.

When performing a parallel reload, ISDN Primary Rate Interface (PRI) calls are dropped during initialization of **Target** software.

X11 release 18 and later support the NT6D80 Multi-purpose Serial Data Link (MSDL) card for D-channel interfaces.

X11 release 18 and later do not support even numbered port assignments on the NT6D11 International ISDN D-channel card. The even port assignments must be updated to odd port assignments in LD 17 prior to converting. If not done, the D-channel will not be reestablished after service change. Only QPC757 D-channel mode is supported.

Options 51C, 61C, and 81 require clock controller QPC471 vintage H or later, or QPC775 vintage C or later.

Option 81C requires clock controller QPC471 vintage H or later, or QPC775 vintage E or later.

ISDN Calling Line ID (CLID) enhancements

The Calling Line ID Enhancements feature delivers enhanced functionality pertaining to the construction and generation of Calling Line ID, and allows more program flexibility for Meridian 1 sets pertaining to CLID.

Prior to X11 Release 22.0x, CLID supported a single Listed Directory Number (LDN), a single Home NXX, and single Home Location Code. The Calling Line ID was built from key 0 of a set, or the LDN.

The CLID enhancement parameters have been enhanced to include multiple NXXs, multiple Home Locations Codes (HLOCs), multiple Numbering Plan Areas (NPAs), multiple Local Steering Codes (LSCs), and multiple Listed Directory Numbers (LDNs). The calling Line ID enhancement now allows more flexible CLID generation than prior releases.

With the CLID Enhancement feature, the system now supports:

- A new table driven feature with up to 4000 entries.
- Any entry number can be programmed against any DN on a per DN basis.
- Existing LDN can be used on a per DN key, per set basis.
- The existing Individual Directory Number (IDN) key of an ACD set can be sent as the CLID.
- The active DN key determines the CLID that is sent for conference and transfer.
- Supports the flexibility of 2-3 or 5-7 digits DNs.

During conversion, two CLID entries (0 and 1) are created in the customer data block. The entries are configured with ISDN CLID information from the existing customer data block, such as HNPA, HNXX, HLOC, etc. Entry 0 is used for the keys/sets that have a DID number. Entry 1 is used for the keys/sets that do not have a DID number.

Refer to *X11 Features and Services* (553-3001-306) for more information on the CLID Enhancement feature.

Converting ISDN systems

New software may contain changes to the ISDN D-channel parameters that are downloaded to the DCHI or MSDL card. The system software automatically downloads the new parameters upon SYSLOAD if a parallel reload is not performed.

Ensure that the Release ID in the D-channel parameters (LD 17) at the far end is changed to the lowest release in you site configuration.

When a DCHI port is configured as a TTY port, INI messages may be truncated when printed after sysload. System performance is not affected, but you should view your history file for the entire message.

D-channel monitor

When the D-channel monitor is software-enabled and deactivated with a maintenance telephone, a data dump and sysload reactivate the monitor. To avoid this situation, software-disable the D-channel monitor prior to datadump and sysload.

Incremental Software Management

Incremental Software Management (ISM) defines the maximum number of Terminal Numbers, Automatic Call Distribution (ACD) Directory Numbers, ACD positions (agents and supervisors), and AST sets allowed in a system. Before upgrading to X11 Release 15.55 or higher, read the ISM section in *X11 Features and Services* (553-3001-306).

X11 Release 19.0x and later include Meridian Packet Handlers (MPH) as part of ISM tracking.

Note: DSL, LTID, and MPH are part of ISDN Basic Rate Interface (BRI). Refer to *ISDN Basic Rate Interface: Product Description* (553-3901-100) for more details.

CAUTION
System information will be lost.
With Incremental Software Management (ISM) in X11 Release 15.55 and higher, if SYS message 4327, 4328, 4329, or 4330 appears at sysload. Reload **Source** system disks. Order ISM disks with sufficient system parameters configured.

Patches

For Options 51C, 61C, 81, and 81C systems, **patches are deleted** when converting to a new X11 software release, or when performing a software upissue. Software **patches are not deleted** when the same software release is reinstalled in the system.

If a patch is included in your software, a plus sign (+) will appear next to the software issue number in LD 22.

X11 Release 25.0x

X11 Release 25 supports Automatic Inline Conversion from X11 Release 19, 20, 21, 22, 23, 24, X81 Phase 7 and X81 Phase 8 in system Options 51C, 61C, 81or 81C. Software installation and conversion is supported on CD-ROM using an IODU/C or MMDU drive.

Release 25 introduces Fiber Network Fabric. Fiber Network allows the expansion of Meridian 1 option 81 and 81C systems from five to eight Network groups. The Intergroup cards and module in current Meridian 1 systems are replaced by a Dual Ring fiber optic network. This Fiber Network provides complete non-blocking communication between the network groups, which eliminates the incidence of busy signals for calls switched between groups.

With release 25, option 51C, 61C, 81, and 81C systems can use any of the following processors available:

- 68060E NT5D03 CP card
- 68060 NT5D10 CP card
- 68040 NT9D19 CP card

Important - Release 25 introduces new Flash and DRAM memory requirements. Call Processor cards that meet the “total” memory requirement, may not meet the individual Flash and DRAM memory requirement. Refer to Table 2 for the Release 25 flash and DRAM memory requirements.

Table 2
Release 25 memory requirements

System type	Minimum memory requirement		
	Flash memory requirement	**DRAM memory requirement**	**Total memory requirement**
option 51C/61C	32 MB	48 MB	80 MB
option 81/81C • option 81/81c systems operating on Call Processor 68060 or 68060E with 5 or fewer network groups (including Fiber Network Fabric systems) • any option 81/81C systems operating on Call Processor 68040	32 MB	64 MB	96 MB
option 81/81C • option 81/81c systems operating on Call Processor 68060 or 68060E with 6 or more network groups	32 MB	80 MB	112 MB

X11 release supported by machine type

Table 3 shows the X11 release associated with each system and its available release levels. The last two digits in the "X11 system number" column indicate the software generic (X11); the first one or two digits indicate the system type. For example, the system number for system option 81C is 1911.

Table 3
Software generic by machine type (Part 1 of 2)

System type	X11 system number	Lowest supported X11 release	Highest supported X11 release
ST	1011	9	17
STE	1511	18	21
NT	1111	8	21
XT	1211	8	21
RT	1311	12	21
Option 21	1011	15	17
Option 21E	1511	18	21
Option 51	1111	15	21
Option 51C equipped with NT6D66 CP card	1711	20	23
Option 51C equipped with NT9D19 CP Card	2211	22	25
Option 51C equipped with NT5D10 CP card	2411	23	25
Option 51C equipped with NT5D03 CP card	2811	23.5X	25
Option 61	1111	15	21
Option 61C equipped with NT6D66 CP card	1811	19	24

Table 3
Software generic by machine type (Part 2 of 2)

System type	X11 system number	Lowest supported X11 release	Highest supported X11 release
Option 61C equipped with NT9D19 CP card	2311	22	25
Option 61C equipped with NT5D10 CP card	2511	23	25
Option 61C equipped with NT5D03 CP card	2911	23.5X	25
Option 81 equipped with NT6D66 CP card*	1611	18	24
Option 81 equipped with NT9D19 CP card*	1911	21	25
Option 71	1211	15	21
Option 81 equipped with NT5D10 CP card*	2611	23	25
Option 81 equipped with NT5D03 CP card*	3011	23.5X	25
Option 81C equipped NT6D66 CP card**	1611	21	24
Option 81C equipped with NT9D19 CP card**	1911	21	25
Option 81C equipped with NT5D10 CP card**	2611	23	25
Option 81C equipped with NT5D03 CP card**	3011	23.5X	25
Note 1: *Option 81 systems require software option 298. ***Note 2:*** **Option 81C systems require software option 299.			

Procedure 1:
Preconversion procedure

Read the Conversion notes section in this document before beginning your conversion procedures. The conversion procedure used depends on the release of the **Source** and **Target** software. Make sure you have all the necessary hardware and software. Save a copy of your data dumped **Source** software until you are sure that all site data converted successfully.

Use this procedure to begin all software conversions. When you complete this procedure, refer to “Procedure 2: IODU/C software conversion” on page 37, or appropriate. After you have completed your conversion, perform the post-conversion steps in “Procedure 5: Postconversion procedure” on page 91.

The following items should be available before proceeding:

— the Controlled Release Bulletin for the new software

— the appropriate software and conversion media

— the CD-ROM, and diskettes (as required)

— a temporary SDI card and a local TTY or remote TTY modem required to perform parallel reload in dual CPU systems

— new memory, if required

Preconversion steps

1 Perform an overall system check. Make sure the system is performing normal call processing.

2 Get software information from LD 22.

LD 22

REQ ISS

******** to exit overlay

Patches do not need to be removed prior to conversion. When data dumping (EDD), an EHM500 message is printed, rather than a list of patch numbers.

If a patch is included in your software and you are running on Release 19 or higher, a plus sign (+) will appear next to the software issue number in LD 22.

3 Load the configuration record (LD 17) to find the storage currently available in the Protected and Unprotected Data Store (PDATA and UDATA). Check the General Release Bulletin to see if additional memory is required for the new software or for any option packages being added.

4 Print system data listed in Table 4. Verify all information is correct. Make corrections if necessary.

5 If additional memory is required for the conversion, change the MSPT, MEM, or MTYP prompts in the configuration record (LD 17). See “Procedure 4: Increasing memory” on page 71.

6 Perform a template audit. The template audit reviews the templates in your system and cleans up any duplicate or corrupted templates. The following is an example of the information generated by the system during the audit. **This may take an extended period of time on large systems**. It is recommended that it be run during a low traffic period.

WARNING

Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

LD 01 The audit begins as soon as LD 01 is entered.

TEMPLATE AUDIT
STARTING PBX TEMPLATE SCAN
TEMPLATE 0001 USER COUNT LOW CHECKSUM OK
TEMPLATE 0002 USER COUNT HIGH CHECKSUM OK
TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN
TEMPLATE 0001 USER COUNT OK CHECKSUM OK
•
•
TEMPLATE 0120 USER COUNT OK CHECKSUM OK
TEMPLATE AUDIT COMPLETE

7 To ensure backup, perform a data dump to the **Source** system media currently in the drive. If the data dump is not successful, do not proceed with the conversion. The data dump problem must be corrected. Contact your Nortel Networks technical support.

LD 43

EDD DATADUMP COMPLETE (or DATABASE BACKUP COMPLETE) is printed when the data dump has been successfully completed. Investigate any EDD messages. Refer to *X11 Maintenance* (553-3001-511).

8 If parallel reload is to be used during the conversion, go to or "Procedure 2: IODU/C software conversion" on page 37. Be sure to perform the correct parallel reload procedure for your system.

Note: To monitor the CPUs during parallel reload procedures, install a temporary Serial Data Interface (SDI) card, and connect a local TTY (or modem for remote TTY access). Refer to the parallel reload procedures for more information.

If parallel reload is not required (single CPU system) then perform one or more of the following conversion procedures. Remember to perform the post-conversion steps (“Procedure 5: Postconversion procedure” on page 91) to complete the conversion.

— “Procedure 3: Call Processor PII software conversion” on page 71

— “Procedure 4: Increasing memory” on page 71

Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Table 4
Print site data (Part 1 of 2)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20 (LD 22 prior to Release 16)	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	LD 20
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	LD 21
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN

Table 4
Print site data (Part 2 of 2)

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue, ROM and tape ID	LD 22	
	REQ	ISS
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
	.	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Procedure 2:
IODU/C software conversion

CAUTION
To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static wrist strap when working on or near Meridian 1 equipment.

Use the procedures in this section if your system is equipped with NT5D61 Input Output Disk Unit with CD-ROM (IODU/C) card(s). If your system is not equipped with the IODU/C card, do not use these procedures.

The procedures in this section describe how to:

- convert one X11 release to a later release
- perform a software upissue within in the same X11 release
- add new features
- modify Incremental Software Management (ISM) limits

To better understand the process, read through the entire procedure before you begin.

Parallel reload the 61C/81/81C

> ***Note:*** This procedure does not include instructions for installing new IODU/C cards. To use this procedure, your system must already be equipped with IODU/C cards.

Use the parallel reload procedures to convert from one X11 release to a later release or to upissue software within the same X11 release. These parallel reload procedures are for software conversions only. Do *not* use this procedure for any other purpose. Parallel reloads can be done from either CPU. For the purposes of this document, we begin with CPU 0.

Table 5 summarizes the required steps to perform this procedure.

Table 5
Options 61C, 81, 81C parallel reload summary

Step	Page
1. Verify memory	page 39
2. Perform a data dump	page 39
3. STAT the hardware	page 40
4. Split the Cores	page 41
5. Install software on Core/Net 1	page 42
6. Check for peripheral software download	page 45
7. Switch call processing from Core/Net 0 to Core/Net 1	page 47
8. Test Core/Net 1	page 47
9. Install software on Core/Net 0	page 48
10. Exit split mode	page 49
11. Test Core/Net 0 and 1	page 50
12. Synchronize the hard disks	page 51
13. Perform a data dump	page 52

Verify memory

Determine whether your system requires additional memory. Refer to “Procedure 4: Increasing memory” on page 71 for memory requirements and upgrade procedures.

Perform a data dump

1 Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43 to load the program

2 When “EDD000” appears on the terminal, enter

EDD to begin the data dump

3 When “DATABASE BACKUP COMPLETE” or “DATADUMP COMPLETE” appears on the terminal, enter

******** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

STAT the hardware

1 Load LD 137 and get status of the hard disks.

Note: Be sure the hard disks are synchronized. If not, synchronize before proceeding.

LD 137

STAT	Get the status of the hard disks
SYNC	Synchronize hard disks if necessary. Synchronization may take up to 50 minutes
TEST CMDU	Performs hard and floppy disk test.
********	exit program

2 Load LD 135 and get status of the CPs, CNIs and memories.

LD 135

STAT CPU	Get the status of both CPs and memory
STAT CNI	Get the status of all configured CNIs

3 Test the standby (inactive) CP. Then switch CPs, and test again.

TEST CPU	Test standby (inactive) CP

Wait until the terminal returns a complete test message. The message "HWI533 or HWI534" does not mean the test has completed!

SCPU	Switch CPs
TEST CPU	Test the standby (inactive) CP

Note: Testing the CPs can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

Split the Cores

1 Be sure CP 0 is active and CP1 is standby. You may need to switch CPs again:

STAT CPU

******** exit program

2 Verify that IODU/C 0 is active. You may need to switch IODU/Cs.

LD 137

STAT Get the status of IODU/C

SWAP Switch IODU/Cs if necessary

******** exit program

3 Connect a terminal to the CPSI port in Core/Net 1 to J25 of the I/O panel at the back of the Core/Net. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

7 data bits, 1 stop bit, Space parity, Full duplex, XON protocol

4 Place CP 0 in Maintenance by setting the MAINT/NORM switch to MAINT.

5 In Core/Net 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

Install software on Core/Net 1

1 Place the CP Install disk that corresponds with the installed CP card type into the IODU/C in Core/Net 1.

2 Install the CD-ROM into the CD drive:

- press the button on the CD-ROM drive to open the CD-ROM disk holder
- place the CD-ROM disk into the holder with the disk label showing
- use the four tabs to secure the CD-ROM drive
- press the button again to close the CD-ROM disk holder (don't push the holder in by hand)

3 In Core/Net 1, perform the following three steps in uninterrupted sequence:

- press and hold the MAN RST button on the CP card
- set the MAINT/NORM switch on the CP card to MAINT
- release the MAN RST button

A sysload will begin (cold start). Wait for the Main Menu to appear on the terminal before proceeding.

Note 1: If the CD-ROM is not in the CD drive of the IODU/C, the installation procedure will not continue. Please insert the CD-ROM into the drive to continue.

Note 2: If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue; contact your technical support organization.

4 Press <CR> to continue.

5 Log into the system and enter the time and date, when prompted.

6 Initiate the database installation by selecting the following command from the menu:

<u> to Install menu

7 Remove the CP Install Program diskette and insert the Keycode diskette, when prompted.

<a> to continue with keycode validation

<y> to confirm that the keycode matches the CD-ROM release

8 When the Install Menu is displayed, select the following options

<b> to install software, database, CP-BOOT ROM, and IOP-ROM

<a> to verify that the CD-ROM is now in drive

The Installation Status Summary screen appears that lists the options to be installed.

<y> Yes, start Installation

<a> Continue with Upgrade

9 Select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six PSDL files

<1> Global 10 Languages

<2> Western Europe 10 Languages

<3> Eastern Europe 10 Languages

<4> North America 6 Languages

<5> Rls24 up-issue

<6> North America 6 Languages (Duplicate of **<4>**)

The languages contained in each selection are outlined as follows:

- 1 – English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – English, French, German, Spanish, Swedish, Norwegian, Danish, Finnish, Italian, Brazilian Portuguese.
- 3 – English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – English, Spanish, French, Brazilian Portuguese, Japanese Katakana, German.
- 5 – English, French, German, Spanish, Swedish, Italian, Norwegian, Portuguese, Finnish, Japanese Katakana.
- 6 – English, Spanish, French, Brazilian Portuguese, Japanese Katakana, German.

10 Continue with ROM and IOP-ROM upgrade when prompted.

11 Select a database to install.

When the installation is complete, the Installation Status Summary table appears. Press <CR> to continue.

When the Install Menu appears, select:

<d> To install Database only

When the database installation screen appears, insert the first 2 MB database diskettes in the IODU/C.

<a> to install the customer database

<y> to start installation

Follow the instructions to install the database and update the ROM.

The Installation Status Summary screen appears. Verify that CD to disk, disk to ROM, Database, CP-BOOTROM, and IOP-ROM were installed.

<cr> press return to continue

<q> to quit (remove any diskettes from the floppy drive)

<y> Yes, to confirm quit

<a> to reboot the system

The system will automatically perform a sysload during which several messages will appear on the system terminal. Wait for "DONE" and then "INI" messages to be displayed before continuing.

If the system fails to load, or system messages indicate data corruption, back out of the parallel reload process by performing the steps in "Backing out of the parallel reload on Options 61C, 81, 81C" on page 52.

Check for peripheral software download

1 Load LD 22 and print Target peripheral software version. The Source peripheral software version was printed during the pre-conversion procedure. If there is a difference between the Source and Target peripheral software version, a forced download will occur during initialization when coming out of parallel reload. System initialization will take longer and established calls on IPE will be dropped.

LD 22

REQ PRT

TYPE	PSWV
********	exit program

Switch call processing to Core/Net 1

> **CAUTION**
> **Call Processing will be interrupted!** Perform these next steps carefully. This is the point at which your service is interrupted. Calls in process will be interrupted, especially if Peripheral Software Download takes place. Some calls may be dropped.

Perform the next four steps in succession. Call processing will be switched from Core/Net 0 to Core/Net 1.

1 In Core/Net 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS.

2 In Core/Net 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

3 In Core/Net 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

4 In Core/Net 1, press the MAN INT button.

Note: Call processing is now switched from Core/Net 0 to Core/Net 1.

Test Core/Net 1

1 Test Call Processing. This includes, but is not limited to the following:

- Check for dial tone.
- Make internal, external, and network calls.
- Check attendant console activity.
- Check DID trunks.
- Check any auxiliary processors.

Note: From this point forward you will be upgrading Core/Net 0 with new software.

Install software on Core/Net 0

1 Move the CPSI port cable from J25 on Core/Net 1 to J25 on Core/Net 0.

2 Set the IODU/C faceplate switch to ENB.

3 Insert the CP Install diskette into Core/Net 0.

4 Press the MAN RST button on the CP card in Core/Net 0 to reboot the system and start the Software Installation Tool. (The terminal displays SYSLOAD messages during file loading. When SYSLOAD is completed, the NT logo appears.)

5 When the NT logo appears, press <CR> to continue.

6 When the Main Menu appears, select the following options in sequence:

<u> to Install menu

7 Remove the CP Install Program diskette and insert the Keycode diskette. Select the following when prompted:

<a> to continue with keycode validation

<y> to confirm that the keycode matches the CD-ROM release

8 When the Install Menu appears, select the following options in sequence to copy the software form Core/Net 1 to Core/Net 0, install CP-software, ROMs, and transfer the database to the redundant disk:

<o> to copy system software from the other core

<a> to copy /p partition from Core1 to Core 0

<a> to continue with upgrade

When the software has copied successfully, you must install CP-software from the hard disk to Flash EEPROM, and install CP-BOOT ROM.

<CR> press <CR> when you are ready to continue

<y> to start installation

<a> to continue with ROM upgrade

<y> to start installation

<a> to continue with ROM upgrade.

When the installation is complete, the Installation Status Summary screen appears.

<CR> to return to the Install Menu

When the Install Menu appears, install IOP-ROM:

<f> to install IOP-ROM only

When the Installation Status Summary screen appears:

<y> to start installation

<y> to continue installing IOP-ROM

<a> to continue with ROM upgrade

When the installation is complete, the Installation Status Summary screen appears.

<CR> to return to the Install Menu

When the Install Menu appears, install the database:

<d> to install database only

<d> to copy database from the redundant disk

When the Installation Status Summary screen appears:

<y> to start installation

<a> to continue transferring the database from the redundant disk

When the Installation Status Summary screen appears, press:

<CR> to return to the Install Menu

When the Install Menu appears, remove any diskettes in the floppy before rebooting the system:

<q> to quit

<y> to confirm quit

<a> to reboot the system

Wait for "DONE" and then "INI" messages to be displayed before continuing.

Exiting split mode

1 **Connect CPSI port or maintenance SDI port**

1 **Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0**.

2 Perform the following in uninterrupted sequence:

- **Press and release the MAN RST button in Core/Net 0.**
- **When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.**

In 60 seconds, the LCD will display and confirm your processes with:

RUNNING ROM OS
ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

3 **In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM**.

Test Core/Net 1 and Core/Net 0

1 Perform a redundancy sanity test using the following sequence:

LD 135	
STAT CNI	Get status of CNI cards
STAT CPU	Get status of CPU and memory
TEST CPU	Test the inactive Core/Net
TEST CNI c s	Test each inactive CNI card

2 Switch Cores and test the other side (Core/Net 0)

SCPU	Switch cores
TEST CPU	Test the inactive Core/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP the memory is automatically synchronized.

3 Clear the display and minor alarms on both Cores.

CDSP	Clear the displays on the Cores
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

4 Get the status of the Cores, CNIs, and memory.

STAT CPU	Get the status of both Cores
STAT CNI	Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

********	exit program

Synchronize the hard disks

1 Load LD 137 and synchronize the hard disks. Synchronization may take up to 50 minutes. To be sure that the contents of IODU/C 1 are copied to IODU/C 0, verify that IODU/C 0 is disabled.

LD 137

STAT	Get the status of the IODU/C and redundancy
SYNC	Enter "Yes" to synchronize disks. Wait until the memory synchronization successfully completes before continuing.
TEST CMDU	Performs hard and floppy disk test.

2 Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT	Get the status of IODU/C and redundancy
SWAP	Switch CMDU if necessary
STAT CMDU	Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active.
********	exit program

Perform a data dump

Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43 to load the program

3 When "EDD000" appears on the terminal, enter

EDD to begin the data dump

4 When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter

******** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

Backing out of the parallel reload on Options 61C, 81, 81C

1 Place the original **Install disk** 1 into the IODU/C in Core/Net 1.

2 In Core/Net 1, press the MAN RST button.

3 Select <u> to initiate the Install Tool.

4 Remove the CP Install diskette and insert the source keycode diskette.

5 Select <a> to continue with keycode validation.

6 When the install screen appears, select the following options in sequence, and insert the **source** database diskette when you are prompted to do so.

<b> to install software, database, CP-BOOT ROM, and IOP-ROM

<a> to start installation

<a> continue with upgrade

7 When the database installation screen appears, select the following:

<c> to transfer the previous system database (DBMT) (choose this option if the database was converted on-site)

or

<a> to install customer database (choose this option if the database was sent to Nortel Networks for conversion)

<a> to continue with the database install

<y> to delete the hardware infrastructure database files from the hard disk

8 When the ROM installation screen appears, select the following:

<a> to continue with the ROM upgrade

9 Following the database installation, upgrade the ROMs:

<a> to continue with ROM upgrade (CP-BOOT)

<y> to start installation

<a> to continue with ROM upgrade (IOP-ROM)

10 Remove the disk from the IODU/C in Core/Net 1.

11 From the main menu, select the following options to quit and reload the system:

<q> to quit

<y> to confirm quit

12 Remove any diskettes from the floppy drive, and type

<a> to reboot the system

13 In Core/Net 1, perform the following steps:

- enable the CNI cards by setting the ENB/DIS faceplate switches to ENB
- press and release the MAN RST button on the CP card

When SYS700 messages appear on the CP 1 LCD display

- set CP 1 MAINT/NORM switch to NORM.

Within 60 seconds, the LCD will display the following messages, confirming the process.

RUNNING ROM OS
ENTERING CP VOTE

An "HWI534" message from the CPSI or SDI port indicates the start of memory synchronization. Within 10 minutes, an "HWI533" message on Core/Net 0 CPSI or SDI TTY indicates the memory synchronization is complete. Wait until the memory synchronization is complete before continuing.

14 In Core/Net 0, set the MAINT/NORM switch on the CP card to NORM.

15 Perform a redundancy sanity test.

LD 135	
TEST CPU	Test the standby (inactive) Core/Net.
SCPU	Switch the Cores.
CDSP	Clear display.
TEST CPU	Test the standby (inactive) Core/Net.
SCPU	Switch the Cores.

Note: Testing the CPs can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

16 Load LD 137 and synchronize hard disks. Synchronization may take up to 50 minutes. To be sure the contents of CMDU 0 are copied to CMDU 1, use the STAT command to verify that CMDU 1 is disabled.

LD 137	
STAT CMDU	Get the status of both CMDUs.
SYNC	Synchronize disks.
TEST CMDU	Performs hard and floppy disk test.

You are now out of the parallel reload process, and have returned to the **Source** software.

Option 51C software conversion

Use this procedure to convert from one X11 software release to another on Option 51C systems only.

Table 5 summarizes the required steps to perform this procedure.

Table 6
Option 51C software conversion summary

Step	Page
1. Verify memory	page 39
2. Perform a data dump	page 39
3. STAT the hardware	page 40
4. Install software	page 42
5. Check for peripheral software download	page 45
6. Test the system	page 47
7. Perform a data dump	page 52

Verify memory

Determine whether your system requires additional memory. Refer to "Procedure 4: Increasing memory" on page 71 for memory requirements and upgrade procedures.

Perform a data dump

1 Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43 to load the program

2 When "EDD000" appears on the terminal, enter

EDD to begin the data dump

3 When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter

******** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

STAT the hardware

1 Load LD 137 and get status of the hard disk.

LD 137

STAT	Get the status of the hard disks

2 Load LD 135 and get status of the CP, CNI and memory.

LD 135

STAT CPU	Get the status of the CP and memory
STAT CNI	Get the status of the CNI

Install software

1. Select the CP Install diskette which matches the Call Processor (CP) type on your system.
2. Insert the CP Install diskette into the floppy drive of the IODU/C.
3. Press MAN RST on the CP card.

   The system will be booted from the floppy and the Install tool will be automatically invoked. The following screen appears
4. Press <CR> to continue.
5. Log into the system and enter the time and date, when prompted.
6. Initiate the database installation by selecting the following command from the menu:

   <u> to Install menu
7. Remove the CP Install Program diskette and insert the Keycode diskette, when prompted.

   <a> to continue with keycode validation

   <y> to confirm that the keycode matches the CD-ROM release

8 When the Install Menu is displayed, select the following options in sequence when you are prompted to do so

<b> to install software, database, CP-BOOT ROM, and IOP-ROM

<a> to verify that the CD-ROM is now in drive

The Installation Status Summary screen appears that lists the options to be installed.

<y> Yes, start Installation

<a> Continue with Upgrade

When the ROM installation screen appears, select the following prompts in sequence:

<a> Continue with ROM Upgrade

The following message appears:

Software Release XXXX was installed successfully. All files were copied from CDROM to the hard disk.

Please press <CR> to when ready...

<a> Continue with ROM upgrade

<a> Yes, start Installation

<a> Continue with ROM upgrade

When the Installation Status Summary screen appears, press <CR> when ready...

When the INSTALL MENU appears:

<d> To install Database only

When the database installation screen appears, insert the first 2 MB database diskettes in the IODU/C.

<a> to install the customer database

<y> to start installation

<a> to continue the database installation

<y> to load the database

<a> to continue with ROM upgrade

<cr> Are you sure you want to continue with IOP ROM

<a> to install the IOP-ROM from hard disk

<y> Yes, start installation

<a> to continue with ROM upgrade

The Installation Status Summary screen appears. Verify that CD to disk, disk to ROM, Database, CP-BOOTROM, and IOP-ROM were installed.

<cr> press return to continue

<q> to quit (remove any diskettes from the floppy drive)

<y> Yes, to confirm quit

<a> to reboot the system

The system will automatically perform a sysload during which several messages will appear on the system terminal. Wait for "DONE" and then "INI" messages to be displayed before continuing.

Check for Peripheral Software Download

1 Load LD 22 and print Target peripheral software version. The Source peripheral software version was printed during the pre-conversion procedure. If there is a difference between the Source and Target peripheral software version, a forced download will occur during initialization when coming out of parallel reload. System initialization will take longer and established calls on IPE will be dropped.

LD 22

REQ	PRT
TYPE	PSWV

Test call processing

1 Test Call Processing. This includes, but is not limited to the following:

- Check for dial tone.
- Make internal, external, and network calls.
- Check attendant console activity.
- Check DID trunks.
- Check any auxiliary processors.

Complete the upgrade

1 Perform a redundancy sanity test using the following sequence:

LD 135	
STAT CNI	Get status of CNI card
STAT CPU	Get status of CPU and memory

2 Clear the display and minor alarms..

CDSP	Clear the displays on the Cores
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms
********	exit program

The software conversion is complete.

Adding features

Adding new features and/or modifying Incremental Software Management (ISM) limits requires the installation of a new keycode. Keycodes are delivered via diskette or electronic file transfer and installed using the key management commands in LD 143 or the Meridian 1 Software Installation Tool.

This section describes how to install a keycode to activate features and/or modify ISM limits using the commands listed in Table 7.

Table 7
LD 143 commands

Keycode delivery	Keycode Installation command
Diskette	Use the KNEW F0 or KNEW F1 command in LD 143
Electronic file on a PC	Use the KUPL command in LD 143, followed by the KNEW HD command (see note)
Faxed to the customer site (paper-based keycode)	Use the KMAN command in LD 143, followed by the KNEW HD command
Note: If the keycode is downloaded from the Keycode Distributor Server (KDS), use the KUPL command to install the keycode. Refer to the "Distributor Keycode Application" section in this document for more information about KDS.	

Using keycode diskettes

With multi-users, access to LD 143 is limited to the system administrator or support personnel. Limited Access Password (LAPW) defines the users to this overlay to limit access to the configured database.

Note: If the keycode currently resides on the PC hard drive, copy the keycode to a standard 2 MB formatted diskette before beginning the following procedure.

Verify the keycode diskette

1 Insert the keycode diskette into the floppy drive on the IODU/C card in the active Core.

2 In LD 143, print the pending keycode contents.

LD 143	to load the program
KSHO F1 (or F0)	print the contents of the candidate keycode in the floppy drive on the active Core. Where: F1 = Core 1 F0 = Core 0

3 Perform the KDIF command.

KDIF F1 (or F0) REC	to print the differences between the candidate and the current keycodes on the active Core. Where: F1 = Core 1 F0 = Core 0
********	to exit LD 143

Install the new keycode

1 Place the system in split mode. If you have a redundant system, you must put the system in split mode before activating the new keycode:

Note: **For single CPU systems only**: access LD 143 and enter KNEW F0. If there are validation errors, repeat the KNEW F0 command. If validation is not successful, contact your technical support organization. The keycode with new capabilities will be activated at the next restart (sysload). To minimize service impact, manually restart the system at an appropriate time to enable new capabilities.

a Be sure CP 0 is active and CP1 is standby. You may need to switch CPs:

LD 135

STAT CPU

SCPU	to switch CPUs if necessary
********	exit program

2 Verify that IODU/C 0 is active. You may need to switch IODU/Cs.

LD 137	
STAT	Get the status of IODU/C
SWAP	Switch IODU/Cs if necessary
********	exit program

3 Connect a terminal to the CPSI port in Core 1 to J25 of the I/O panel at the back of the Core. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port: 8 data bits, no parity, one stop bit, Full duplex, XON protocol

4 In Core 0, set the CP card MAINT/NORM switch to MAINT.

5 In Core 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

6 In Core 1, set the MAINT/NORM switch on the CP card to MAINT.

Install the new keycode in Core 1

1 Log into the system and enter the date and time.

2 Load overlay 143:

LD 143	to load the Keycode Management overlay
KNEW F1	to validate the new keycode on the hard drive in Core 1

Ensure that the new keycode does not lower ISM limits or reduce features compared with the existing keycode.

The uploaded keycode is validated against the Security Device, software version, release and issue. It will reside on the your hard disk, and be backed up on a floppy disk upon the next archive command.

Note: If you are changing CP type, software version, release, or issue, use the Software Install Tool rather than KNEW.

3 If there are validation errors, refer to the *Fault Isolation* section.

4 If successful, exit the overlay and go the next step.

- Exit.

******** to exit the program

5 Press the MAN RST button in Core 1.

When the system completes the cold restart, the new keycode will be activated.

Switch call processing

Perform the next four steps in succession to switch call processing from Core 0 to Core 1.

> **CAUTION**
> **Call Processing will be interrupted!** Perform these next steps carefully and quickly. This is the point at which your service is interrupted. Calls in process will be interrupted, especially if Peripheral Software Download takes place. Some calls may be dropped.

1 In Core 0, software disable the IODU/C card.

DIS CMDU 0 to disable the IODU/C in Core 0

2 In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS.

3 In Core 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS. Call Processing will be interrupted.

4 In Core 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.

5 In Core 1, press the MAN INT button. Call processing will be switched from Core 0 to Core 1 when the warm restart is completed.

Return the system to redundant mode

1 Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

2 Press and release the MAN RST button in Core/Net 0.

3 Set the MAINT/NORM switch to NORM in Core/Net 0. Memory shadowing is automatically restored after a short delay. Wait until memory shadowing is complete before continuing.

4 In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

Synchronize the hard disks

1 When the NT logo appears, log into the system and enter the date and time.

2 Load LD 137 and synchronize the hard disks. Synchronization may take up to 50 minutes. To be sure that the contents of IODU/C 1 hard disk are copied to IODU/C 0 hard disk, verify that IODU/C 0 is disabled.

LD 137

STAT	Get the status of the IODU/C and redundancy
SYNC	Enter "Yes" to synchronize disks. Wait until the memory synchronization successfully completes before continuing.

3 Get the status of the IODU/Cs and be sure IODU/C 0 is active. Switch if necessary.

STAT	Get the status of IODU/C and redundancy
SWAP	Switch IODU/C if necessary
STAT CMDU	Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active.
********	exit program

4 Perform a data dump in LD 143.

The keycode installation by the diskette method is complete.

Using electronic keycode files

Note: To perform this procedure, a PC running Windows 95® is required.

In this procedure, an electronic keycode file is "copied" from a PC and then "pasted" into the Meridian 1 system using LD 143. The new keycode must reside on the PC prior to performing the following procedures.

1 On the PC, access the Meridian 1 system (via a modem) with a communication application.

2 Shrink the Meridian 1 system window and move it to one side of the screen.

3 Load the Keycode Management Program (LD 143).

LD 143	to load program
KUPL	upload keycode to the target system

4 On the PC, from the Start menu:

- select the Program header,
- select the Main header,
- open the File Manager
- then open the keycode folder.

Note: The entire keycode must be copied. This includes the information header that proceeds the keycode.

5 Move the cursor from the keycode folder to the keycode file.

6 Select the File header and then select Rename to rename the keycode file with an extension (i.e., keycode.txt). This will allow you to associate the file to a text application.

7 Select Association under the File header and associate the file with a text application (i.e., Note pad).

8 Double click the keycode.txt file and it will now open as a text file to view the content.

9 Shrink the window and move it to one side of the screen, adjacent to the Meridian 1 system window.

10 Highlight the keycode file or on the Edit menu "Select All" and then select "Copy" to copy the keycode.

11 In the Meridian 1 system window, "paste" the new keycode into LD 143.

12 Press <CR> in the system window. This will upload the keycode. The new keycode file will be saved onto the Meridian 1 system hard disk.

13 The menu will prompt you to store the new keycode on a floppy diskette. This is an option, you may select to save the keycode by choosing <y>, or if not, select <n>. Complete the step if <y> is selected.

Insert a new floppy diskette or all data will be erased on the diskette currently in the system.

- Remove the backup disk.
- Insert a new floppy diskette (not the backup diskette) for the new keycode.
- Select <y> on the screen menu and press enter. The new keycode will be stored in the floppy diskette
- Remove the keycode diskette and replace it with the database diskette. Label the keycode diskette.

14 If there are no validation errors, use the command.

CAUTION

The keycode will be enabled at the next sysload if the KNEW command is executed. To provide appropriate site support, it is highly recommended that execution of KNEW be conducted onsite prior to sysload and not conducted remotely.

KNEW HD to validate the new keycode.

The uploaded keycode is validated against the security device. It will reside on the user's hard disk and on a backed up floppy disk.

15 If there are validation errors, repeat steps. If validation is not successful, contact your technical support organization.

16 If successful, exit the overlay and go the next step.

- Exit.

******** to exit the program

17 The new keycode with new capabilities will be activated at the next restart (sysload). To minimize service impact, manually restart the system at an appropriate time to enable new capabilities.

Entering the keycode manually

Before beginning this procedure, you must have a copy of the keycode. The keycode can reside on paper or as an electronic file. To enter the keycode manually, you will type the keycode in LD 143 as 21 lines, 16 characters per line.

1 Log into the system.

2 Load the Keycode Management Program (LD 143).

LD 143 to load program

KMAN manually enter the keycode to the target system

3 Type keycode file, 21 lines of 16 characters each. Press return to go to the next line.

Note: When entering the keycode, do not enter the header information that proceeds the keycode.

4 Type “end” at line 22 to end the process.

5 Press enter. The new keycode file will be saved on the hard disk.

6 If there are no validation errors, use the command.

KNEW to validate the new keycode.

The uploaded keycode is validated against the security device. It will reside on the user’s hard disk and can be backed up on a floppy disk.

7 If there are validation errors, repeat steps 2- 6. If validation is not successful, contact your technical support organization. If successful, continue to the next step.

8 The menu will prompt you the option of storing the new keycode on a floppy diskette.

Insert a new floppy diskette or all data will be erased on the diskette currently in the system.

- Remove the backup diskette.
- Insert a new floppy diskette (not the backup diskette) for the keycode.
- Select <y> on the screen menu and press enter. The new keycode will be stored in the floppy diskette
- Remove the keycode diskette and replace it with the database diskette. Label the keycode diskette.
- Exit.

******** to exit the program

9 The new keycode with new capabilities will be activated at the next restart (sysload). To minimize service impact, manually restart the system at an appropriate time to enable new capabilities.

Procedure 4:
Increasing memory

X11 Release 25

To install Release 25, your system must be operating with the required CP Flash and DRAM memory. If your system is not operating with the minimum memory requirement, the CP card(s) memory must be upgraded before installing Release 25 software.

Release 25 supports a078611, NT9D19 (68040), NT5D10 (68060), and NT5D03 (68060E) Call Processor cards. The minimum memory requirement for each system option is listed in Table 8.

Note: Memory upgrades are not supported on A078611 CP PII Call Processor cards.

Table 8
Release 25.0x memory requirements

System type	Minimum memory requirement		
	Flash memory requirement	**DRAM memory requirement**	**Total memory requirement**
Options 51C,61C	32 MB	48 MB	80 MB
Options 81,81C • Options 81/81C systems operating on Call Processor 68060 or 68060E with 5 or fewer network groups (including Fiber Network Fabric systems) • any Option 81/81C system operating on Call Processor 68040	32 MB	64 MB	96 MB
Options 81,81C • Options 81/81C systems operating on Call Processor 68060 or 68060E with 6 or more network groups	32 MB	80 MB	112 MB

Increasing memory on NT9D19, NT5D10 CP and NT5D03 CP cards

DRAM SIMM memory upgrades are supported on NT5D03, NT5D10, and NT9D19 CP cards. Flash Memory upgrades are supported on NT5D03 and NT5D10 CP cards.

Memory upgrades consist of installing memory SIMMs on your existing NT9D19 or NT5D10 or NT5D03 CP card, or installing new, complete CP card(s) depending on memory requirements. Flash memory upgrades consist of installation new Flash modules on your existing NT5D10 or NT5D03 CP card.

> ***Note:*** Memory upgrades are not supported on A0786611 CP PII Call Processor cards.

Several system upgrades to option 51C, 61C, 81, and 81C include procedures to upgrade CP card memory. If you are upgrading to one of these systems, do not use the procedures in this document; instead, locate the upgrade procedure that applies to your system (see *Hardware Configuration Procedures* (553-3001-258) and use the memory upgrade procedure contained therein.

CAUTION

Nortel Networks recommends that only properly trained distributor personnel perform this memory SIMM upgrade. Upgrade memory on NT9D19, NT5D10, or NT5D03 CP cards involves some risk of damage to SIMMs and CP cards; personnel performing this upgrade do so at their own risk. Personnel should have spare CP cards on hand or risk installation delay or system down time. Nortel Networks assumes no responsibility for any damage incurred, installation delays due to board damage, or loss due to damage or system down time.

Determine your Call Processor memory configuration

Before upgrading the Call Processor memory, determine the existing flash and DRAM SIMM configuration. This is accomplished through visual inspection (product labeling) or through Overlay 22.

Use the following procedure to determine your Call Processor memory configuration.

1 Log into your Meridian 1 system.

2 Load Overlay 22:

LD 22

PRT

CEQU

3 The example below shows the output for a 128 MB configuration:.

MCFN	S1B0	S1B1	S2B0	S2B1	S2B0	S3B1	S3B0	S3B1	FLSH	TOTL
	016	000	016	000	016	016	000	000	64	128

where:

- MCFN represents the call processor memory configuration
- S1 Slot 1 is the DRAM SIMM connector at position X5
- S2 Slot 2 is the DRAM SIMM connector at position X6
- S3 Slot 3is the DRAM SIMM connector at position X7
- S4 Slot 4 is the DRAM SIMM connector at position X8
- B0 Bank 0 represents the DRAM memory at logical Bank 0
- B1 Bank 1 represents the DRAM memory at logical Bank 1
- FLSHis the total amount of Flash memory populated on the Call Processor board
- TOTL is the total Flash and DRAM memory populated on the Call Processor board

To determine the amount of DRAM memory in a particular slot, add the Bank 0 and Bank 1 values for that slot number.

In the example in Procedure 3, the DRAM and Flash configuration is:

- X5 (DRAM memory) = 16 MB - the value 16 in S1Bo plus the value in 0 S1B1
- X6 (DRAM memory) = 16 MB - the value 16 in S2B0 plus the value 0 in S2B1

- X7 (DRAM memory) = 32 MB - the value 16 in S3B0 plus the value 16 in S3B1
- X8 (DRAM memory) = (empty slot) - the value 0 in S4B0 plus the value 0 in S4B1
- Flash Memory is 64 MB - the value 64 in FLSH
- Total Memory on the Call Processor card is 128 MB - the addition of all Flash and DRAM memory

When you determine the Call Processor memory configuration, proceed with the memory upgrade.

NT5D03, NT5D10, NT9D19 CP cards

Use the procedures in this section to complete the upgrade, or refer to "Install the DRAM SIMMs" on page 79 and "Install the Flash memory" on page 82 for detailed upgrade instructions.

Table 9 defines the memory upgrade paths for the following Motorola-based Call Processor cards:

•68060E

•68040

•68030

To perform a DRAM and/or Flash upgrade:

- Locate your existing processor vintage in Table 9.

•Locate the target processor vintage in Table 9.

- Compare the existing SIMM configuration with the target configuration.
- Determine what SIMMs must be added or deleted from the existing location.
- Add or delete DRAM SIMMs as required to achieve the target memory configuration (see Figure 1 for the DRAM and Flash SIMM slot locations).
- Install the Flash memory modules in an available Flash connector.
- Install the label and label inserts. Discard all unused labels.

The upgrade is complete..

Table 9
Supported memory upgrade configurations

Total Memory	Total FLASH	Total DRAM	Call Processor			Slot 0	Slot 1	Slot 2	Slot 3
			68040**	68060	68060E	X5	X6	X7	X8
48	32	16	NT9D19AA NT9D19AB	NT5D10AA	NT5D03AA	16	0	0	0
64	32	32	NT9D19CA NT9D19CB	NT5D10CA	NT5D03BA	16	16	0	0
						32	0	0	0
80	32	48	NT9D19EA NT9D19EB	NT5D10EA	NT5D03CA	16	16	16	0
						16	32	0	0
96	32	64	NT9D19TA NT9D19TB	NT5D10TA	NT5D03TA	16	16	16	16
						16	16	32	0
						32	32	0	0
112*	32	80	NT9D19UA NT9D19UB	NT5D10UA	NT5D03UA	16	16	16	32
						16	32	32	0
128*	32	96	NT9D19VA NT9D19VB	NT5D10VA	NT5D03VA	16	16	32	32
						32	32	32	0
96	64	32	NT9D19HA NT9D19HB	N/A	N/A	16	16	0	0
						32	0	0	0

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

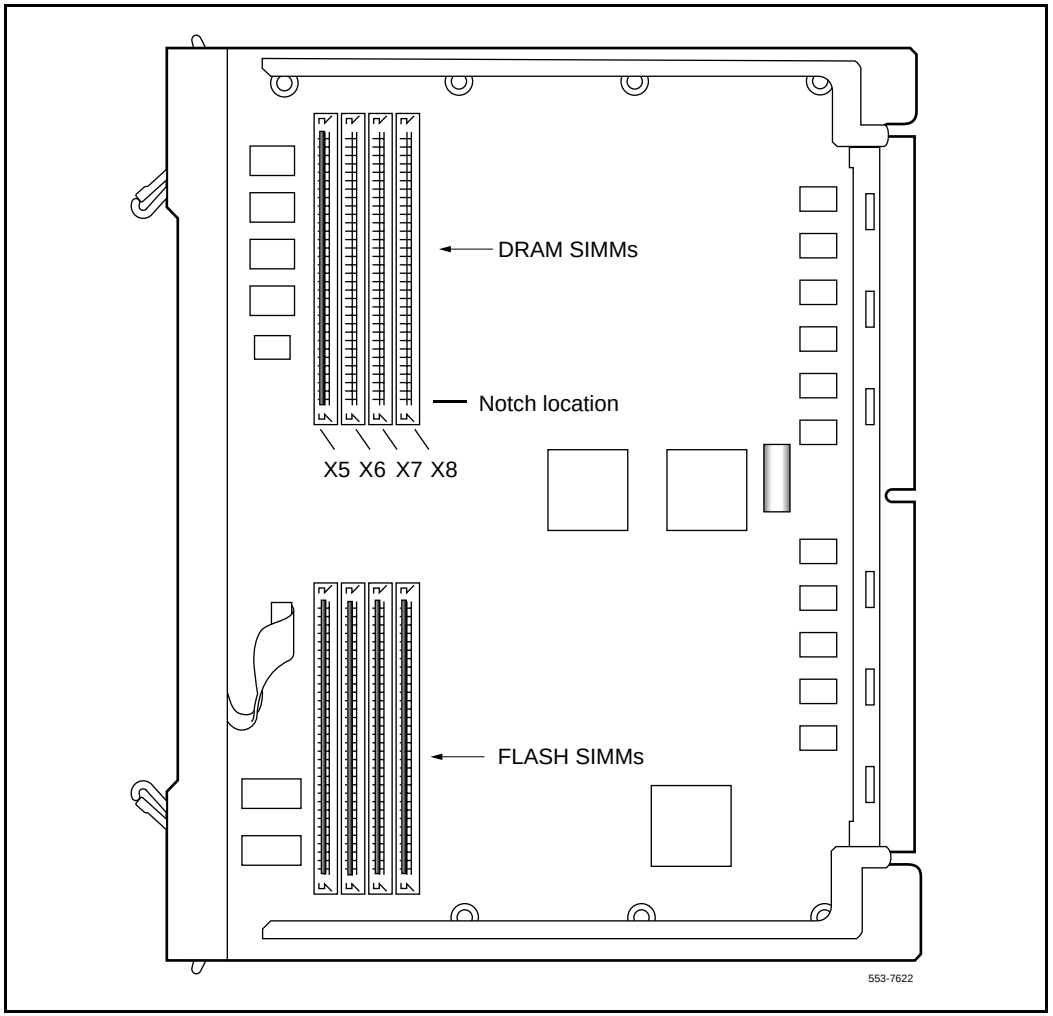
Table 9
Supported memory upgrade configurations

Total Memory	Total FLASH	Total DRAM	Call Processor			Slot 0	Slot 1	Slot 2	Slot 3
			68040**	68060	68060E	X5	X6	X7	X8
112	64	48	NT9D19JA NT9D19JB	NT5D10JA	NT5D03EA	16	16	16	0
						16	32	0	0
128	64	64	N/A	N/A	NT5D03FA	16	16	16	16
128	64	64	NT9D19FA NT9D19FB	NT5D10FB	NT5D03FB	16	16	16	16
						16	16	32	0
						32	32	0	0
144*	64	80	NT9D19NA NT9D19NB	NT5D10NA	NT5D03NA	16	16	16	32
						16	32	32	0
160*	64	96	NT9D19PA NT9D19PB	NT5D10PB	NT5D03PB	16	16	32	32
						32	32	32	0

* This configuration requires Release 24 or later.

** The 68040 CP card is available in A and B vintages. When labeling the CP card, use the appropriate vintage suffix.

Figure 1
NT9D19, NT5D10 or NT5D03 DRAM and Flash location



Install the DRAM SIMMs

1 Place the CP card SIMM-side up on the antistatic mat.

2 Locate the DRAM SIMM connectors (see Figure 1 on page 78).

3 Determine if your memory upgrade requires you to remove an existing DRAM SIMM (see.) If removal is required, remove the SIMM from the highest numbered slot available first (X8, X7, X6, etc.) To remove the DRAM SIMM:

a Use a nonconducting screw driver to carefully move each latch away first from one end of the SIMM, and then the other end. The SIMM pivots away from the others until it is at approximately a 50- to 70-degree angle to the board (see Figure 1).

b If the SIMM does not release from the latches, use your thumbnails, one on each latch, to release the latches. If the board has plastic latches, the latches are located on the side facing the card faceplate. If the board has metal latches, the levers protrude from each latch. Carefully move the latches outward simultaneously until the SIMM pivots away from the others and is at approximately a 50- to 70-degree angle to the board (see Figure 1 on page 78).

CAUTION

Do not mix-up the 32 MB DRAM SIMM with the 16 MB DRAM SIMM. The 16 MB DRAM SIMM is labeled A0662646 or A0614334; the 32 MB DRAM SIMM is labeled A0634230. Older 16 MB DRAM SIMMs may not be labeled.

4 Working from left to right, install the 32 MB SIMM(s) in the SIMM location designated X5, X6, X7 or X8 where appropriate:

a Orient the new SIMM so that the notch at one end of the SIMM aligns with the key at one end of the SIMM socket. Hold the SIMM at approximately a 50- to 70-degree angle and gently insert the SIMM into the socket. See Figure 2.

5 Using your thumbs and index fingers only (at the upper corners of the SIMM), carefully lean the SIMM toward the others until it is upright and the latch at each end of the SIMM snaps into place. If necessary, use a nonconducting screwdriver to help open each latch while you move the SIMM into the upright position.Apply the generic label over the existing label.

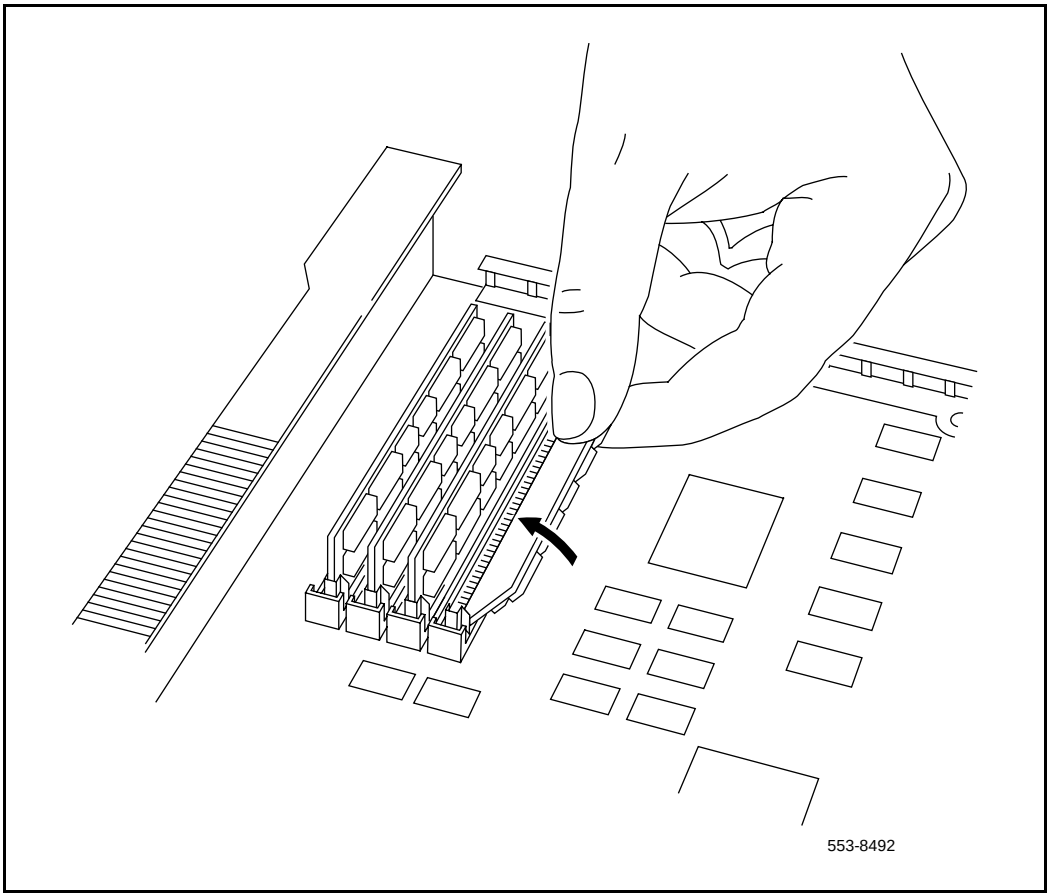
6 Select the correct labels for your CP card from the sheet provided.

7 Place the CP/memory configuration label at the top of the faceplate.

8 Place the engineering code/release level label on the bottom of the faceplate.

9 Discard unused labels.

Figure 2
NT9D19, NT5D10, NT5D03 card DRAM SIMM installation



Install the Flash memory

CAUTION

Do not remove the existing Flash SIMMS from the Call Processor board.

1. Place the CP card SIMM-side up on the antistatic mat.
2. Determine the location of the new Flash SIMM connectors.
3. Install the new 32 MB Flash SIMM module in the appropriate slot:
   - **a** Orient the new SIMM so that the notches on the bottom of the SIMM align with the notches on the connector.
   - **b** Gently guide the Flash SIMM toward the connector socket.
   - **c** When the Flash SIMM makes contact with the connector, apply pressure to one end of the Flash SIMM and close the latch connector.
   - **d** Apply pressure to the other end of the Flash SIMM and close the latch connector.
4. Apply the generic label over the existing label.
5. Select the correct labels for your CP card from the sheet provided.
6. Place the CP/memory configuration label at the top of the faceplate.
7. Place the engineering code/release level label on the bottom of the faceplate.
8. Discard unused labels.
9. Update the Flash ROM using the Software Install Tool:

   Note: For dual CPU systems, verify that the system is operating in split mode before activating the Software Install Tool.

   - **a** To activate the Software Install Tool, insert the Install disk into the inactive the IODU/C (or IOP/CMDU). Press the MAN RST button on the Call Processor card in the inactive Core.
   - **b** From the Main Menu, select <G>, to update the Flash ROMs from the hard disk.
   - **c** Select <Y> to confirm installation.

d Press <CR> to return to the Install Menu.

e Upon successful installation of software on the Flash ROMs, select <E> to update the CP-BOOT ROM.

f Repeat this procedure for the second Core.

The Flash memory upgrade is complete.

Installing new NT9D19, NT5D10 or NT5D03 CP cards on systems

The following procedures describe how to increase the CP card memory by installing a new CP card with higher memory capacity. It can be used to replace and upgrade the following CP cards:

- **80 MB** NT9D19EA card with a new **96 MB** NT9D19CA card
- **80 MB** NT5D10CA card with a new **112 MB** NT5D10DA card
- **80 MB** NT5D03DA card with a new **128 MB** NT5D03EA card

Before starting the procedure, make a backup copy of the customer database using the data dump routine:

1 Log into the system.

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43 to load the program

3 When "EDD000" appears on the terminal, enter

EDD to begin the data dump

4 When "DATABASE BACKUP COMPLETE" or "DATADUMP COMPLETE" appears on the terminal, enter

******** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

5 Check total memory allocation before the upgrade.

LD 10 to load the program

When the header for overlay 10 is displayed, note the value associated with Total Memory. After the upgrade, compare Total Memory before and after the upgrade. Total Memory should be greater after the upgrade.

Exit the program:

******** to exit the program

Split the cores

1 To access the Core during the replacement procedure, connect a terminal to the system. The CP card you are replacing must be in the inactive Core. Check the status of the NT5D10 or NT5D03 Call Processor card:

LD 135

STAT CPU determine which CP card is active

If necessary, switch Cores:

SCPU switch Cores

******** exit LD 135

2 Set the NORM/MAINT switch on the NT5D10 or NT5D03 Call Processor card to MAINT on the *active* Core.

3 Set the ENB/DIS switch on all CNI cards on the *inactive* Core to DIS.

4 Perform the following three steps on the *inactive* Core in an uninterrupted sequence:

- Press and hold down the MAN RST button on the CP card on the inactive Core.
- Set the NORM/MAINT switch to MAINT.
- Release the MAN RST button.

The system is now in split mode where each Core is functioning independently and the automatic switchover has been disabled.

Installing equipment

1 Set the NORM/MAINT switch to MAINT on the replacement card.

2 Insert the CP Install Program diskette which corresponds with the NT5D10 or NT5D03 Call Processor (68060 or 68060E).

3 Remove the current CP card and put it in a static bag and box.

4 Insert the CP replacement card into its vacated slot and hook the locking devices.

5 Press the MAN RST button on the replacement CP card.

6 When the NT Logo Screen appears on the terminal, press <CR>.

7 Press <CR> to continue.

8 Log into the system and enter the time and date, when prompted.

9 Initiate the database installation by selecting the following command from the menu:

<u> to Install menu

10 Remove the CP Install Program diskette and insert the Keycode diskette, when prompted.

<a> to continue with keycode validation

<y> to confirm that the keycode matches the CD-ROM release

11 When the Install Menu appears, select the following options in sequence:

<g>	to reinstall CP software
<y>	to start installation
<a>	to continue ROM upgrade
<cr>	to return to the Install Menu

12 When the Install Menu appears, select the following options in sequence

<e>	to install CP-BOOTROM
<y>	to start installation
<a>	to continue with the upgrade

13 A Status Summary is displayed indicating what was installed. Press <CR> to return to the Install Menu.

14 **Remove the diskette** from the IODU/C.

15 Select the following options to quit the Install Tool:

<q>	to quit
<y>	to confirm quit
<a>	to reboot the system.

Note: The system will reboot. Wait for the "INI" and "DONE" messages to display before continuing. It will take at least 70 seconds between the "DONE" and "INI" messages.

After the system initialization has finished (INI messages are no longer displayed on the system terminal), check for dial tone on a telephone set.

16 Following a successful dial tone test, perform the following basic sanity tests:

- Make sure calls can be placed
- Check for error messages, line noise, chatter, or other problems. Track sources and resolve problems as necessary.

To place the system back in the redundant (normal) mode with automatic switchover capability. Perform the following five steps in uninterrupted sequence on the *inactive* Core (the Core with the replaced CP card):

17 Press and hold down the MAN RST button on the CP card of the *inactive* Core.

18 While holding down the MAN RST button, set the NORM/MAINT switch on the same CP card to NORM.

19 Enable all CNI switches in the inactive Core.

20 Release the MAN RST button.

21 Set the CP card in the active Core to NORM.

After several minutes, an "HWI533" message is issued by the *active* Core indicating that the *inactive* Core memory is being synchronized with the *active* Core memory.

22 Log into the system through the terminal, then check the status of the replacement CP card from the active side:

LD 135	load LD 135
STAT CPU	obtain the CPU status

23 If there are CCED messages generated by the STAT CPU command on the replacement CP card, set the NORM/MAINT switch to MAINT, press the reload (MAN RST) button and set the NORM/MAINT switch back to NORM. **(**It may take 2 to 4 minutes for memory synchronization to take place.)

After the HWI0533 message is displayed, test the replacement CP card from the active CPU:

TEST CPU	the test causes a cold start on the inactive CPU

If the test results in:

CCED014	"Test failed because unable to enter SPLIT mode"

On the active CP card set the NORM/MAINT switch to NORM, and from the active side enter:

TEST CPU	to test the CP card

24 Set the NORM/MAINT switch to NORM on the active CP card (if not already set).

25 Check the status of the CPUs:

```
STAT CPU
```

26 Test the CPU.

```
TEST CPU
```

27 Check the status of the CNIs:

```
STAT CNI
```

28 Switch Cores and exit the program:

SCPU	
********	exit LD 135

Note: If, using the non-conductive screw driver, the SIMM does not release from the latches, use your thumbnails, one on each latch, to release the latches: for plastic latches, the latches are located on the ends of each SIMM; for metal latches, levers protrude from each latch. Carefully move the latches outward simultaneously until the SIMM pivots away from the others and it is at approximately a 50- to 70-degree angle to the board.

Procedure 5: Postconversion procedure

This procedure verifies that the conversion process was successful, and system data converted completely. This is the last part of the total conversion procedure. Perform these steps **after** you have completed all other procedures for your system.

The site data should be printed before and after conversion (see Table 10). If the data has changed, make the necessary updates on the **Target** release, and datadump to the new system media. You must print out the items marked with an asterisk (*) to be sure everything converted properly. All other items on Table 10 are provided if you want to print them.

Check the General Release Bulletin (GRB), and the Conversion notes (earlier in this document) to verify any database updates that need to be made as a result of conversion. Be sure to verify all SYSxxx messages that may appear during the conversion process. These messages may indicate some database updates are required.

CAUTION

Test call processing thoroughly. This may include more testing than is described in this procedure, depending on system configuration. This procedure is intended to show some of the basic tests performed to complete the conversion process.

Note: When parallel reload is complete, the attendant consoles will be in Night mode. If you are performing these procedures during the day, contact the attendant. If these procedures are taking place during the evening, you may not want to perform these call processing steps.

Postconversion steps

1. Print system data listed in Table 10, “Print site data,” on page 95. Verify that all information matches the printouts created before conversions. Make changes if necessary.
2. From any unrestricted telephone, dial the access code for an outside line (usually 9), and dial the listed Directory Number (DN) for the customer. Verify that the correct Incoming Call Indicator (ICI) lights at the attendant console.
3. If the customer is equipped with more than one console, transfer the call to another console.
4. Extend the call to a telephone, and release the call from the console.
5. From the called telephone, transfer the call back to the attendant.
6. Answer and release the call.
7. From any telephone dial the DN for the attendant. Verify that the correct ICI lights at the console, then release the call.
8. Busy-out one trunk group using a Trunk Group Busy (TGB) key on the console.
9. From any telephone with TGAR 0-7, dial the access code of the busied-out trunk group, to verify that the call is intercepted to the console and receives either overflow tone or a recorded announcement.
10. Restore the trunk group to the in-service state using the Trunk Group Busy (TGB) key on the console.
11. During the conversion procedure the Central Office may have busied-out the DID trunks. If DID trunks are equipped, from any unrestricted telephone, dial the access code for an outside line, and dial a DID number into the system.
12. If a private network is used, from any unrestricted telephone, dial the network access code and place a CDP, ESN, BARS/NARS, or ISDN call as applicable to your system.

13 If not done previously, set the time and date. Note that if Call Detail Recording (CDR) is used, system message ERR225 will appear. This is normal.

LD 02
STAD dd mm yyyy hh mm ss
dd = day (for example, 05 for the fifth)
mm = month (for example, 09 for September)
yyyy = year (last 2 or all four digits, for example, 92 or 1992)
hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
mm = minute (for example, 25)
ss = seconds (for example, 00)

14 If you have auxiliary processors working with your system, be sure they are powered up. Be sure the Application Module Links (AML) are up. DCH and AML messages may indicate problems during the conversion. Investigate any of these messages.

15 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return your original software to Nortel Networks through your distribution channel.

16 Load LD 135 to test and switch CPUs. (Omit this step for Option 51C.)

LD 135

TEST CPU	Test CPU.
SCPU	Switch CPUs.
********	To abort overlay.

17 Load LD 137 to get the status of the CMDUs and IOPs.

LD 137

STAT	Get the status of both CMDUs and IOPs.
********	To abort overlay.

18 Load LD 43 to back up the other set of B1 disks. Insert the B1 disk in the active CMDU.

LD 43
BKO Back up to the backup disks and the active CMDU.

19 If not done previously, set the time and date. Note that if Call Detail Recording (CDR) is used, system message ERR225 will appear. This is normal.

LD 02
STAD dd mm yyyy hh mm ss
dd = day (for example, 05 for the fifth)
mm = month (for example, 09 for September)
yyyy = year (last 2 or all four digits, for example, 92 or 1992)
hh = hour (in 24-hour time, for example, 13:00 for 1:00 pm)
mm = minute (for example, 25)
ss = seconds (for example, 00)

20 If you have auxiliary processors working with your system, be sure they are powered up. Be sure the Application Module Links (AML) are up. DCH and AML messages may indicate problems during the conversion. Investigate any of these messages.

21 Keep one copy of the **Source** software, as it was backed up in the pre-conversion procedure, in case it becomes necessary to reconvert. After the **Target** software has been running well for a few weeks, return your original software to Nortel Networks through your distribution channel.

Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Table 10
Print site data (Part 1 of 2)

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20 (LD 22 prior to Release 16)	
	REQ	PRT
	TYPE	DNB
	CUST	<cr>
Attendant Console data block for all customers	LD 20	
	REQ	PRT
	TYPE	ATT, 2250
	CUST	<cr>
*Customer data block for all customers	LD 21	
	REQ	PRT
	TYPE	CDB
	CUST	<cr>
Route data block for all customers	LD 21	
	REQ	PRT
	TYPE	RDB
	CUST	Customer number
	ROUT	<cr>
	ACOD	<cr>
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software Packages	LD 22	
	REQ	PRT
	TYPE	PKG

Table 10
Print site data (Part 2 of 2)

Site data	Print command	
* Software Issue, ROM and tape ID	LD 22	
	REQ	ISS
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version	LD 32	
(peripheral controller, superloop network and controller cards)	.	IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0–158)
	APPL	<cr>
	PH	<cr>
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB

Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

Procedure 6: Upgrading to a new Call Processor card

CAUTION

Personnel performing this upgrade do so at their own risk. Personnel should have spare CP cards on hand or risk installation delay and/or system down time. Nortel Networks assumes no responsibility for any damage incurred, system down time, or loss due to damage or down time.

This section contains procedures for performing CP card upgrades on Options 51C, 61C, 81, or 81C systems running X11 release 25 or later software.

Note: The procedures in the section can be used for NT9D19, NT5D10, and NT5D03 CP card memory configurations.

Note: There should be an SDI TTY connection at J30, which should remain connected at all times to monitor system status.

Upgrading to a new CP card in Options 61C, 81, or 81C

Use the following instructions if you are converting a system to release 24 and are installing NT9D19, NT5D10 or NT5D03 CP cards.

Installing a new CP card in an Option 61C, 81, or 81C consists of:

— splitting the CPUs

— installing a new CP card in Core 1

— upgrading the system software and CP ROMs on Core 1

— swapping CPUs

— installing a new CP card in Core 0

— upgrading the system software and CP ROMs on Core 0

— synchronizing the hard disks

Performing a data dump

Before starting the upgrade, make a backup copy of the customer database on 2MB diskettes using the data dump routine:

1 Log into the system.

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43 to load the program

3 When "EDD000" appears on the terminal, enter

EDD to begin the data dump

4 When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter

******** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

Splitting the cores

1 Verify that the disk drives are synchronized:

LD 137	to load the program
STAT	to get the status of the disk drives

If the disks are synchronized, proceed with step 2. If they are not synchronized, execute the SYNC command:

SYNC	to synchronize the drives
********	to exit the program

2 Verify that clock controller 0 is active. If it is not, switch to clock controller 0:

LD 60	to load the program
SSCK 0	to get the status of clock controller 0
SWCK	to switch to clock controller 0 (if necessary)
********	to exit the program

3 Verify that Core 0 is the active Core:

LD 135	to load the program
STAT CPU	to check CPU status
TEST CPU	to test the CPU

If Core 0 is active, proceed with step 5. If Core 0 is not the active CPU, swap Cores and verify again:

SCPU	to swap CPUs
STAT CPU	to check CPU status

4 Verify that CMDU 0 is active. You may need to switch CMDUs.

LD 137	
STAT	Get the status of IODU/C
SWAP	Switch IODU/Cs (if necessary).

5 Set the MAINT/NORM switch on the CP card in Core 0 to MAINT.

6 Set the ENB/DIS switch on all CNI cards in Core 1 to DIS.

7 Perform the following three steps in uninterrupted sequence:

- press and hold the MAN RST button on the CP card in Core 1
- set the MAINT/NORM switch on the CP card in Core 1 to MAINT
- release the MAN RST button

Upgrading Core 1

At this time you will install the new CP card and X11 system software on Core 1 if it is not already installed on the hard drive.

1 Connect a terminal to the CPSI port in Core 1 to J25 of the I/O panel at the back of the core. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

- 7 data bits
- 1 stop bit
- Space parity
- Full duplex
- XON protocol

2 Disengage the lock latches and remove the CP card from Core 1.

3 Insert the CP Install Program diskette which corresponds to the CP card to which you are upgrading into IODU/C 1 (68030, 68040, 68060 or 68060E).

4 Install the CD-ROM disk into the CD-ROM drive on the IODU/C in Core 1. To install the CD-ROM:

- press the button on the CD-ROM drive to open the CD-ROM disk holder
- place the CD-ROM disk into the holder with the disk label showing
- press the button again to close the CD-ROM disk holder (don't push the holder in by hand)

5 Verify that the MAINT/NORM switch on the new NT9D19, NT5D10 or NT5D03 CP card is set to MAINT.

6 Insert the new CP card in the same slot in Core 1 and secure the lock latches.

A sysload will begin (cold start). Wait for the Main Menu to appear on the terminal before proceeding.

7 Press <CR> to continue.

8 Log into the system and enter the time and date, when prompted.

9 Initiate the database installation by selecting the following command from the menu:

<u> to Install menu

10 Remove the CP Install Program diskette and insert the Keycode diskette, when prompted.

<a> to continue with keycode validation
<y> to confirm that the keycode matches the CD-ROM release

11 When the Install Menu is displayed, select the following options in sequence when you are prompted to do so

<a> to install software, CP-BOOTROM, and IOP-ROM
<a> to verify that the CD-ROM is now in drive

The Installation Status Summary screen appears that lists the options to be installed.

<y> Yes, start the installation
<a> continue with upgrade

When the ROM installation screen appears, select the following prompts in sequence:

<a> to install CP-ROM from hard disk

<a> to continue with ROM upgrade

When all files are copied from the CD-ROM to hard disk, press <CR> to continue.

<a> to install the IOP-ROM from hard disk

<y> Yes, start installation

<a> to continue with ROM upgrade

The Installation Status Summary screen appears. Verify that CD to disk, disk to ROM, CP-BOOTROM, and IOP-ROM were installed.

<cr> press return to return to the Install Menu.

<q> to quit (remove any diskettes from the floppy drive)

<y> Yes, to confirm quit

<a> to reboot the system

The system will automatically perform a sysload during which several messages will appear on the system terminal. Wait for "DONE" and then "INI" messages to be displayed before continuing.

Note: SYS4695 is not an error message. This message is cleared when you perform a data dump.

12 Set the ENB/DIS switches on all CNI cards in Core 1 to ENB.

CAUTION

Disabling CNI cards in Core 0 will momentarily interrupt call processing. Calls established or in process will be dropped. Call processing will resume after the "SYSTEM INI" messages appear on the system terminal (approximately 1 minute).

13 Perform the following three steps in uninterrupted sequence:

- set the DIS/ENB faceplate switch on the IODU/C card in Core 0 to DIS
- set the ENB/DIS switch on all CNI cards in Core 0 to DIS
- press and release the MAN INT button on the CP card in Core 1

After the system initialization has finished (INI messages are no longer displayed on the system terminal), check for dial tone on a telephone set.

14 Following a successful dial tone test, perform the following basic sanity tests:

- Make sure calls can be placed.
- Check for error messages, line noise, chatter, or other problems. Track sources and resolve problems as necessary.

Upgrading Core 0

Once the CP card in Core 1 is upgraded, upgrade the CP card in Core 0 and install system software:

1 Connect a terminal to the CPSI port in Core 0 to J25 of the I/O panel at the back of the core. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

- 7 data bits
- 1 stop bit
- Space parity
- Full duplex
- XON protocol

2 Verify that the MAINT/NORM switch on the CP card in Core 0 is set to MAINT.

3 Verify that the ENB/DIS switches on all CNI cards in Core 0 are set to DIS.

4 Disengage the lock latches and remove the CP card from Core 0.

5 Insert the Install diskette that corresponds with the CP card you will be installing into IODU/C 0.

6 Verify that the MAINT/NORM switch on the new NT9D19, NT5D10 or NT5D03 CP card is set to MAINT.

7 Insert the new CP card in the same slot in Core 0 and secure the lock latches.

The system will perform a sysload and load the IODU/C Software Installation Tool.

8 When the NT Logo Screen appears on the terminal, the Software Installation Tool has loaded. Press **<CR>** to go to the Install Main Menu.

9 Set the system date and time. When prompted to enter the time and date, enter it in the following format. A space or dash can be used to separate the items.

dd mm yyyy
hh mm ss
or
dd-mm-yyyy
hh-mm-ss

10 At the Main menu select **<u>** to go to the Install menu.

11 Insert the Keycode diskette when prompted and select **<a>** to continue with the keycode validation.

Once the keycode is validated against the Security Device, the Install menu is displayed.

12 When the Install menu appears, select the following options in sequence when you are prompted to do so:

<o>	to copy system software from Core 1 to Core 0.
<y>	to start installation
<a>	to continue with upgrade

13 At the Install menu, select the following options to install CP-BOOTROM:

<e>	to install CP-BOOTROM

<y>	to start the upgrade
<a>	to upgrade CP-BOOTROM from the hard disk drive

14 At the Install menu, select the following options to install IOP-ROM:

<f>	to install IOP-ROM
<y>	to start the upgrade
<a>	to upgrade IOP-ROM from the hard disk drive

15 **Remove the diskette** from IODU/C 0.

16 Select the following options to quit and reload the system:

<q>	to quit
<y>	to confirm quit
<a>	to reboot the system

The system will automatically perform a sysload and system initialization during which several messages will appear on the system terminal. Wait until initialization has finished (INI messages are no longer displayed on the system terminal) before continuing.

17 In Core 0, enable the NT6D65 CNI cards by setting the ENB/DIS faceplate switches to ENB.

18 Connect a terminal to the CPSI port in Core 1 to J25 of the I/O panel in the back of the core.

19 In Core 0, perform the following steps in uninterrupted sequence:

- press and release the MAN RST button
- when SYS700 messages appear on CP 0 LCD display, **set the MAINT/NORM switch to NORM**.

Within 60 seconds, the LCD will display the following messages, confirming the process.

RUNNING ROM OS
ENTERING CP VOTE

An "HWI534" message from the CPSI or SDI port indicates the start of memory synchronization. Within 10 minutes, an HWI533 message on Core 1 CPSI or SDI TTY indicates the memory synchronization is taking place. Wait until the memory synchronization is complete before continuing.

20 Set the MAINT/NORM switch on the CP card in Core 1 to NORM.

21 Synchronize the disk drives:

LD 137	to load the overlay
STAT	to get the status of both CMDUs, IOPs and redundancy
SYNC	to synchronize the disk drives
TEST CMDU	Performs hard and floppy disk test.
********	to exit the program

Completing the upgrade

To complete the upgrade, verify CPU and CNI status and perform a data dump.

1 Verify CPU redundancy and CNI function:

LD 135	to load the overlay
STAT CPU	to check the status of the CPU
STAT CNI	to verify function of the CNIs
TEST CPU	to test the CPU
SCPU	switch CPUs
STAT CPU	to check the status of the CPU
STAT CNI	to verify function of the CNIs
TEST CPU	to test the CPU
SCPU	switch to CPUs
********	to exit the program

Backup the customer database on 2MB diskettes.

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43	to load the program

3 When "EDD000" appears on the terminal, enter

EDD	to begin the data dump

4 When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter

********	to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

5 Evaluate the number of call registers and telephone buffers that are configured for the system. Refer to *Capacity Engineering* (553-3001-149).

The CP card upgrade is complete.

Upgrading to a new CP card in an Option 51C.

CAUTION

Installing the NT9D19, NT5D10 or NT5D03CP card in the Option 51C will require system downtime. Schedule for this when planning the system upgrade.

Power to the entire column must be shut off to perform this upgrade. This will cause loss of service to the whole telephone system. Plan the upgrade for a time when the impact to the telephone users will be minimal.

Installing an NT9D19, NT5D10 or NT5D03 CP card in an Option 51C system consists of:

— installing a new CP card in the Core module

— upgrading the system software and CP ROMs

Performing a data dump

Before starting the upgrade procedure, make a backup copy of the customer database using the data dump routine:

1 Log into the system.

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43 to load the program

3 When “EDD000” appears on the terminal, enter

EDD to begin the data dump

4 When “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” appear on the terminal, enter

******** to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

Installing the new CP card and system software

At this time you will install the new CP card and system software if it is not already installed on the hard drive.

1 Connect a terminal to the CPSI port in the Core module to J25 of the I/O panel at the back of the core. Be sure it is configured as follows. The recommended baud rate is 9600, to be the same as the CPSI port.

- 7 data bits
- 1 stop bit
- Space parity
- Full duplex
- XON protocol

2 Set the NORM/MAINT switch to MAINT, disengage the lock latches and remove the CP card from the Core module.

3 Insert the Install diskette that corresponds to the CP card you will be installing into the IODU/C.

4 Install the CD-ROM disk into the CD-ROM drive. To install the CD-ROM:

- press the button on the CD-ROM drive to open the CD-ROM disk holder
- place the CD-ROM disk into the holder with the disk label showing
- press the button again to close the CD-ROM disk holder (don't push the holder in by hand)

5 Verify that the MAINT/NORM switch on the new NT9D19, NT5D10 or NT5D03 CP card is set to NORM.

6 Verify that the ENB/DIS switch on the CNI card is set to ENB.

7 Insert the new CP card in the same slot in the Core module and secure the lock latches.

The system will automatically load the software install program.

8 When the NT Logo Screen appears on the terminal, the Software Installation Tool has loaded. Press **<CR>** to go to the Install Main Menu.

9 Set the system date and time. When prompted to enter the time and date, enter it in the following format. A space or dash can be used to separate the items.

dd mm yyyy
hh mm ss
or
dd-mm-yyyy
hh-mm-ss

10 At the Main menu select **<u>** to go to the Install menu.

11 Insert the Keycode diskette when prompted and select **<a>** to continue with the keycode validation.

Once the keycode is validated against the Security Device, the Install menu is displayed.

12 When the Install menu appears, select the following options in sequence when you are prompted to do so:

<a>	to install software, CP-BOOT ROM and IOP-ROM
<y>	to start installation
<a>	to continue with the upgrade

13 Following the software installation, install the CP-BOOT and IOP-ROMs. From the menu select the following:

<a>	to continue with ROM upgrade
<a>	to continue with ROM upgrade (CP-BOOT ROM)
<y>	to start installation
<a>	to continue with ROM upgrade (IOP-ROM)

14 **Remove the diskette** from the IODU/C.

15 Select the following options to quit and reload the system:

<q>	to quit
<yes>	to confirm quit
<a>	to reboot the system

The system will automatically perform a sysload and system initialization during which several messages will appear on the system terminal. Wait until initialization has finished (INI messages are no longer displayed on the system terminal) before continuing.

Note: SYS4695 is not an error message. This message is cleared when you perform a data dump.

Note: If you are converting from a software release prior to release 24, the following message appears on the system terminal:

DATA CONVERSION
X11 RELEASE XX.xx TO RELEASE YY.yy

16 Verify that the “DONE” message appears on the system terminal.

Note: The SYSTEM INI message may take 70 seconds or more to appear.

Completing the upgrade

To complete the CP card upgrade, verify CPU and CNI status.

1 Verify CPU and CNI functionality:

LD 135	to load the overlay
STAT CPU	to check the CPU status
STAT CNI	to verify CNI functionality
********	to exit the program

Backup the customer database to 2MB diskettes:

2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43	to load the program

3 When "EDD000" appears on the terminal, enter

EDD	to begin the data dump

4 When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter

********	to exit the program

CAUTION

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

5 Evaluate the number of call registers and telephone buffers that are configured for the system. Refer to *Capacity Engineering* (553-3001-149).

The CP card upgrade is complete.

Procedure 7: CD-ROM Software Installation Tool

This chapter details the screen displays and options of the CD-ROM Software Installation Tool (hereafter referred to as "Software Installation Tool") that is compatible on Option 51C, 61C, 81, and 81C systems equipped with the NT5D61 Input/Output Disk Unit with CD-ROM (IODU/C).

This tool is based on the existing Software Installation Tool, but has notable differences in menus as well as new functionality to support installation of software from CD-ROM, copying of system software from Core to Core, copying of database from Core to Core, and Keycode installation.

The IODU/C card no longer uses a Security Cartridge, but instead uses both a Security Device and an electronic **keycode** file. This keycode file is stored on a 2MB diskette and must be inserted into the IODU/C floppy drive and authenticated each time the Software Installation Tool is loaded and the Install Menu is accessed.

On systems equipped with an IODU/C, the database is stored on 2MB diskettes, not 4MB diskettes. A Database Transfer Utility diskette, specific to Call Processor type, is available to convert a 4MB database to a 2MB database. Refer to *NT5D61 IODU/C Reference Guide* or *Hardware Replacement* (553-3001-520) for procedures on replacing CMDU or IOP/CMDU cards with IODU/C.

The Tools Menu has new options for finding the CD-ROM status (option <g>), printing the Keycode (option <h>), printing information about the Security Device (option <i>), checking the customer-specific CD-ROM data (<j>), manually creating a Keycode diskette (<k>), and archiving the database (<s>).

Do not turn off the system during the installation process. If you need to quit the installation process, do so from within the Software Installation Tool before powering off the system.

Read the entire procedure before attempting to perform an installation.

Before the Software Installation Tool is activated, verify that the system is in split mode (not applicable for Option 51C) and that a terminal is connected to CPSI port J25 on the I/O panel (in the inactive Core for dual CPU systems). Option 51C systems will be taken out of service.

To activate the Software Installation Tool, insert the Install diskette specific to your Call Processor type and the CD-ROM containing system software (if you will be installing that component). Press the MAN RST button on the CP card in the same Core.

The IODU/C Software Installation Tool requires the following items:

- 2MB diskettes (used to store, backup, and restore the database)
- an Install diskette specific to the system's Call Processor card
- a Keycode diskette
- a CD-ROM containing system software

Note: If you will be installing system software from CD-ROM (options <a>, <b>, or <c> from the Install Menu), then insert the CD into the CD-ROM drive before loading the Software Installation Tool.

CAUTION

The screens shown in this procedure are examples. They are not intended to exactly represent the displays that will appear for your system, nor do the choices entered represent those you should necessarily choose. Be sure to watch the terminal display, and follow the on-screen instructions.

Pay close attention to the menus when they appear; they display the options available at any given stage.

Status Summary Charts

Status Summary Charts are displayed for the purpose of informing the user about what items will be installed or have been installed. This example is shown when option <b> (all components) is chosen from the Install Menu.

Note: Your screen may differ from the below example.

INSTALLATION STATUS SUMMARY

Option	Choice	Status	Comment
SW: CD to disk	yes		from xxxx to xxxx
SW: disk to ROM	yes		
Database	yes		
CP-BOOTROM	yes		
IOP-ROM	yes		

Please enter:
<CR> -> <y> - Yes, start Installation.
<n> - No, stop Installation. Return to the Main Menu.

Enter Choice> **y**

553-7731

The possible values and meanings for each column are defined below.

— Choice

- **yes** indicates the item will be installed
- **no** indicates the item was not selected, and will not be updated.

— Status

- **quit** indicates the quit option was used, and the process was exited.
- **ok** indicates the choice was installed successfully.
- **error** indicates the installation was not successful. A system message is given when the Software Installation Tool encounters a problem. Follow the actions required by the message.
- **ignore** applies to the CP ROM and IOP-ROM upgrade only. This appears when the process was exited when asked to replace a release and issue with the same release and issue.
- **blank** indicates the status is not yet determined if Choice = Yes. If Choice = No, the field remains blank.

— Comment

- **from rel <number> to rel <number>** gives the Source and Target release and issue numbers.

Messages

When the Software Installation Tool encounters a problem, a system message appears on the terminal display. These messages fall into two categories: warning and non-warning.

Warning messages are not critical errors. The Software Installation Tool proceeds with the installation following the appearance of this message. Refer to *X11 Administration* (553-3001-311) for details regarding these messages.

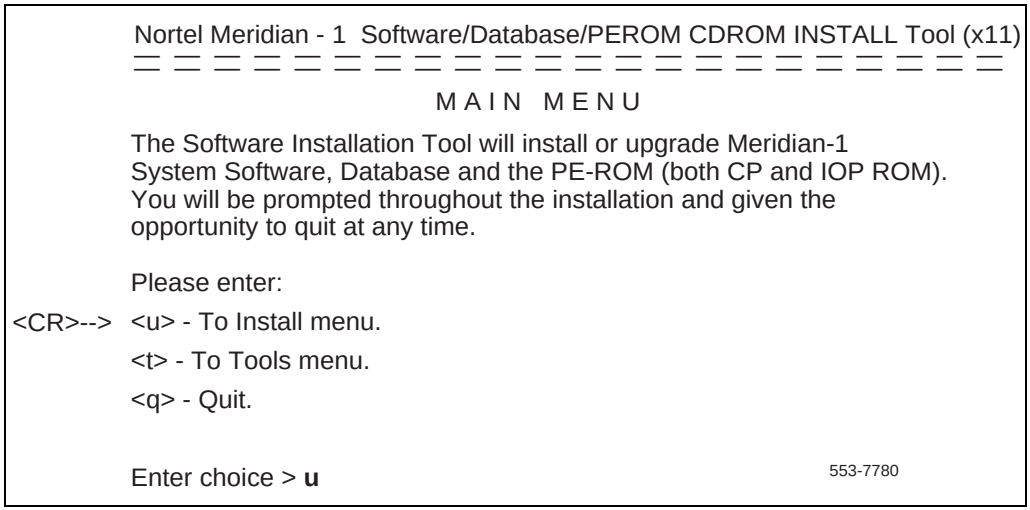
Non-warning messages appear when a critical problem is encountered. The Software Installation Tool stops the process, and an action is recommended. When the action is complete, the Software Installation Tool can be restarted. In some cases, the tool allows you to restart by pressing the carriage return <CR>.

Installation messages (INST) are defined fully in *X11 Administration* (553-3001-311). Refer to that document for more details.

Introductory Screen

The first screen that appears after loading the NT5D61 Software Installation Tool is the NT Logo Screen.

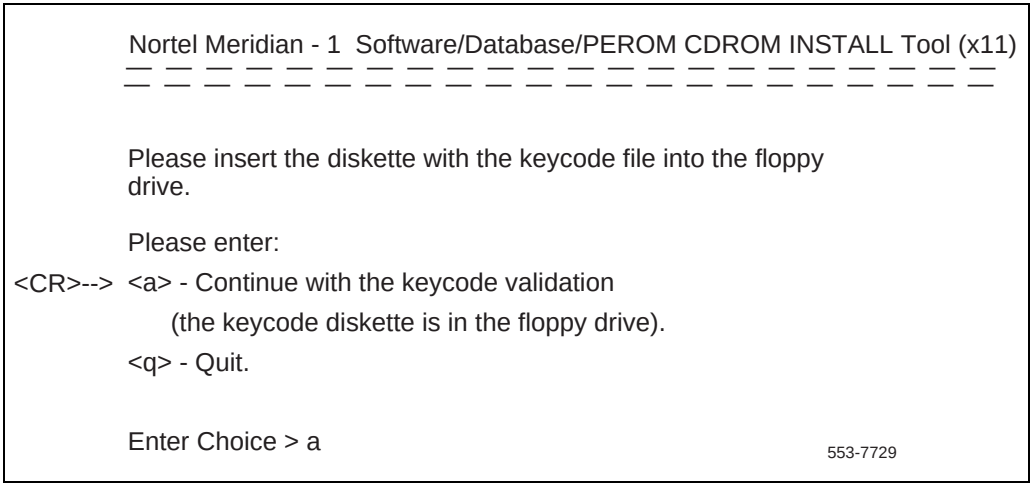
This screen is displayed after the user presses <CR> from the NT Logo Screen. From this screen, the user may select option <u> to go to the Install Menu, or <t> to go to the Tools Menu. Alternately, option <q> to quit is available at this screen.



Install Menu

Note: A Keycode diskette is required before accessing the Install Menu.

Before the Install Menu screen is displayed, an intermediary screen shown below prompts the user to insert their Keycode diskette for validation against the Security Device.



Following successful Keycode validation, the Install Menu screen is displayed, as shown below.

Note: If the Software Installation Tool is loaded on a Core equipped with an NT5D61BA IODU/C (which lacks a CD-ROM drive), options <a>, <b>, and <c> will not appear.

```
Nortel Meridian - 1  Software/Database/PEROM CDROM INSTALL Tool (x11)
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                        INSTALL MENU

The Software Installation Tool will install or upgrade Meridian-1
System Software, Database and the PE-ROM (both CP and IOP ROM).
You will beprompted throughout the installation and given the
opportunity to quit at any time.

Please enter:
<CR>--> <a> - To install Software, CP-BOOTROM, IOP-ROM.
        <b> - To install Software, Database, CP-BOOTROM, IOP-ROM.
        <c> - To install Software only.
        <d> - To install Database only.
        <e> - To install CP-BOOTROM only.
        <f> - To install IOP-ROM only.
        <g> - To reinstall CP-Software.
        <o> - To copy System Software from the other Core.
        <t> - To go to the Tools menu.
        <k> - To install Keycode only.
              For Feature Expansion, use OVL143.
        <q> - Quit.

                                                        553-7789
        Enter Choice >
```

Each option from the Install Menu is described in the following pages.

Installing Software, CP-BOOTROM, and IOP-ROM

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

This option is selected for the sequential installation of software, CP-BOOTROM, and IOP-ROM. This option differs from option <b> in that the database is not installed. Use option <a> when going to a later X11 release or for a software upissue.

Installing Software, Database, CP-BOOTROM, and IOP-ROM

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

This option is selected when you wish to sequentially install all components - software, database, CP-BOOTROM, and IOP-ROM.

Option <b> is used during the upgrade procedures from NT5D20 IOP/CMDU, NT6D63 IOP and NT6D64 CMDU, NT9D33 SMDU, NTND16 FDU, NT8D69 MDU, and NTND16 MDU cards to NT5D61 IODU/C cards.

Installing Software only

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

This option is selected when you wish to install system software from the CD-ROM to the hard drive. When selecting option <c>, IOP-ROM and CP-BOOTROM are not installed.

Installing Database only

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

The Database Menu of the Software Installation Tool is accessed by the <d> option on the Install Menu. The following options are available for installing a database:

```
        Nortel Meridian - 1  Software/Database/PEROM CDROM INSTALL Tool (x11)
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        You will now perform the database installation.

        Note: If you are installing the Database from a floppy disk,
              please insert the correct disk now.


        Please enter:
<CR>--> <a> - Install CUSTOMER Database
           (the customer database diskette must be in the Core 1 disk drive).
        <b> - Install DEFAULT Database
           (the installation CDROM must be in the Core 1 disk drive).
        <d> - Copy Database from the redundant disk.
        <e> - Check the Database that exists on the hard disk.
        <q> - Quit.

        Enter Choice > a                                          553-7779
```

- Option <a> is to install the backup customer database from one or more 2MB diskettes.
- Option <b> allows installation from the CD-ROM containing the default database. This option is used on new systems which have no existing database.
- Option <d> copies the existing database from the redundant Core. This option is used when the database has already been installed on one Core. This option is used when upgrading from IOP/CMDU to IODU/C cards.

- Option <e> displays the version and issue of the current database residing on the Core. If database files are missing, error messages will be printed.

CAUTION

Before upgrading the system database, be sure a backup of the previous (source) database is on hand. Should any problems arise, it may be necessary to return to the previous database.

Install CP-BOOTROM

Note: Installation of CP-BOOTROM is available on systems with NT9D19, NT5D10 or NT5D03 Call Processor cards only. For systems with the NT6D66 Call Processor card, CP-ROM is installed instead of CP-BOOTROM. See page 122 for installing CP-ROM on a system equipped with an NT6D66.

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <e> is for installing new CP-BOOTROM. This option is used to install CP-BOOTROM while on Core 0 in a software upgrade, when software has already been installed using options <a> or <b> on Core 1, and software has already been copied onto Core 0 using option <o>.

The next screen displayed after selecting option <e> will show the version of CP-BOOTROM being replaced and version being installed, and the card slot where the CP-BOOTROM is being installed. The user is prompted to select <a> to continue with the CP-BOOTROM upgrade.

Install CP-ROM (NT6D66 CP cards only)

Note: Installation of CP-ROM is available on systems with NT6D66 Call Processor cards only. For systems with the NT9D19, NT5D10 or NT5D03 Call Processor cards, CP-BOOTROM is installed instead of CP-ROM. See page 122 for installing CP-ROM on a system equipped with an NT6D66.

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <e> is for installing new CP-ROM. This option is used to install CP-ROM while on Core 0 in a software upgrade, when software has already been installed using options <a> or <b> on Core 1, and software has already been copied onto Core 0 using option <o>.

The next screen displayed after selecting option <e> will prompt the user to choose whether to install the CP-ROM from the hard disk (option <a>), or from CD-ROM (option <b>). If software has just been installed successfully, then option <a> should be used. However, if software was not installed, select option <b> to install from CD-ROM.

Install IOP-ROM

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <f> is for installing new IOP-ROM. This option is used to install IOP-ROM while on Core 0 in a software upgrade, when software has already been installed using options <a> or <b> on Core 1, and software has already been copied onto Core 0 using option <o>, and CP-BOOTROM has been installed using option <e>.

The next screen displayed after selecting option <f> will show the version of IOP-ROM being replaced and version being installed, and the card slot where the IOP-ROM is being installed. The user is prompted to select <a> to continue with the IOP-ROM upgrade.

Reinstalling CP-Software

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

This option is used if a flash programming error occurs during software installation through options <a>, <b>, or <c>. Option <g>, which assumes that software files have already been installed on the hard disk, copies these files from the hard disk to the Flash EEPROM.

To copy system software from the other Core

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Option <o> is used during a software upgrade when software has already been installed on Core 1, and the Software Installation Tool has been loaded on Core 0.

Note: This option does not perform the installation of CP-BOOTROM (option <e>) or IOP-ROM (option <f>).

To go to the Tools Menu

Option <t> displays the Tools Menu and its options, which are described beginning on page 126.

To Install Keycode only

Option <k> is used when you wish to replace an existing Keycode.

To quit

Note: For dual-CPU systems, verify that the system is operating in split mode before activating the Software Installation Tool.

Throughout the installation process, the option to quit is always available. Quitting with the Software Installation Tool quit commands is preferable to pressing the MAN RST button on the CP card, since quitting from the tool will erase unneeded temporary files.

When you are done using the NT5D61 Software Install Tool remove the diskette from the IODU/C and select option <q> to quit from the Main Menu. The terminal displays a confirmation to quit. Pressing <y> confirms the quit.

```
Nortel Meridian - 1  Software/Database/PEROM CDROM INSTALL Tool (x11)
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You selected to Quit. Please confirm.

Please enter:
<CR>--> <y> - Yes, Quit.
<n> - No, DO NOT Quit.

Enter choice > y                                          553-7751
```

The final screen displayed before quitting reminds the user that the Install diskette should be removed from the IODU/C floppy drive before pressing <a> to reboot the system.

```
Nortel Meridian - 1  Software/Database/PEROM CDROM INSTALL Tool (x11)
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You have selected to Quit the Software Installation Tool
You may reboot the system or return to the Main Menu.
Before rebooting the system, remove Install diskette from the floppy drive.

-----------------------------------------------
DO NOT REBOOT USING BUTTON!!
-----------------------------------------------

Please enter:
<a> - Reboot the system.
<CR>--> <m> - Return to the Main menu.

Enter Choice > a                                          553-7752
```
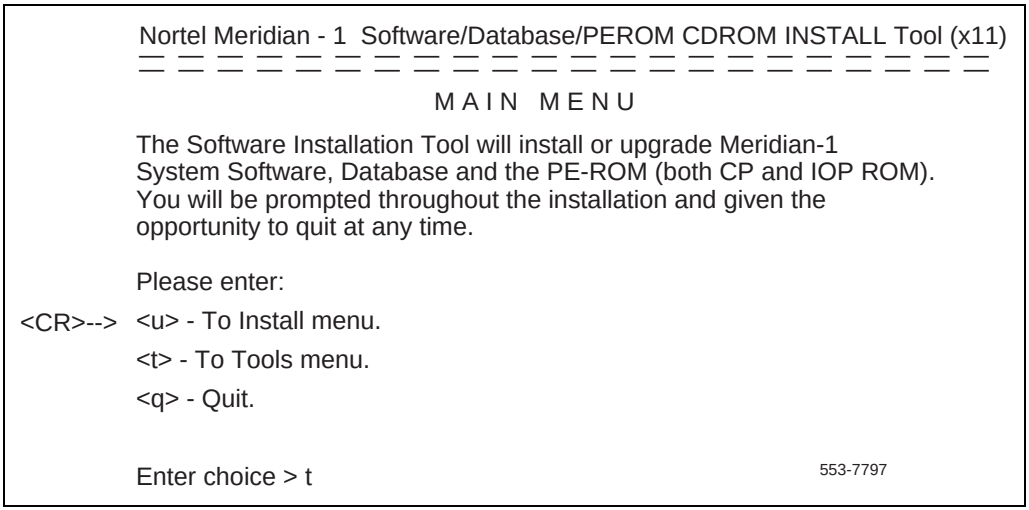

Tools Menu

To load the Software Installation Tool which contains the Tools Menu, insert the Install diskette which is compatible with your Call Processor card. Press the MAN RST button on the CP card to load the tool.

The first screen that appears after loading the NT5D61 Software Installation Tool is the NT Logo Screen.

This screen is displayed after the user presses <CR> from the NT Logo Screen. From this screen, selecting option <t> brings the user to the Tools Menu.



Note: Insertion of the Keycode diskette is not required for accessing the Tools Menu.

The Tools Menu has new options for finding the CD-ROM status (option <g>), printing the Keycode (option <h>), printing information about the Security Device (option <i>), checking the customer-specific CD-ROM data (<j>), manually creating a Keycode diskette (<k>), and archiving the database (<s>).

The Tools Menu is displayed below.

```
Nortel Meridian - 1  Software/Database/PEROM CDROM INSTALL Tool (x11)

                              TOOLS MENU

        This is the Tools Menu for Install. You can select the tool that
        is appropriate. Please select one of the options below.

        Please enter:
<CR>--> <a> - To set the system date and time.
        <b> - To partition the hard disk.
        <c> - To display the partition size of hard disk.
        <d> - To regenerate PDT Password.
        <g> - To print CDROM content.
        <h> - To print Keycode content.
        <i> - To print Security Device content.
        <j> - To Check the customer specific part of CDROM.
        <k> - To manually create Keycode floppy diskette.
        <r> - To install Keycode only.
        <s> - To archive existing database.
        <z> - To check MDU connection.
        <m> - To return to the Main Menu
                                                          553-7796

        Enter choice >
```

Each option from the Tools Menu is described in the following pages.

Setting the system date and time

This option is used to change the system date and time for the system's internal clock. The correct date and time will ensure that files are time-stamped accurately.

```
Nortel Meridian - 1  Software/Database/PEROM CDROM INSTALL Tool (x11)

You have selected the option to set the system date and time.
This will change the internal clock of your system to a new data
and time.

The system date and time are also used by Install to time-stamp the new files
created.

Pressing the carriage return at the prompt below will leave the
system date or time unchanged.

Please enter the new date or time.


Current date is: Tuesday 04-29-1997
Enter new date (dd mm yyyy) ? 30 4 1997
Date is set to: Wednesday 04-30-1997

Current time is: 15:52:00
Enter new time (hh mm ss) ? 15 05 45
Time is set to: 15 05 45

System Date and Time now is:
Wednesday 04-30-1997, 15:05:46
```

553-7743

Partitioning the hard disk

Note: Option <b> requires a password, and should only be performed by Nortel Networks support personnel.

WARNING
Partitioning a disk erases all files from it.

Displaying the hard disk partition size

Option <c> displays the partition sizes of the hard disk. The manufacturer and model number of the hard disk are also displayed.

```
IODU 0
Hard Disk from: MAXTOR:7120SCS, Size:124MB,Sectors:248502
Unprotected     Part Size:30MB,  Sectors: 60000
Spare           Part Size:30MB,  Sectors: 60000
CardId          Part Size:1MB,  Sectors: 2000
Protected       Part Size:60MB,  Sectors: 120000
                                                    553-7742
```

Regenerate the PDT password

Note: Option <d> requires a password, and should only be performed by Nortel Networks support personnel.

To install CP-software at a specified slot

Note: Option <e> requires a password, and should only be performed by Nortel Networks support personnel.

To print the CD-ROM content

Option <g> is used to find whether a CD-ROM exists on each IODU/C, and whether its sectors are readable. After selecting <g>, three options are available:

- **Fast** readability test, which takes about 17 seconds for each CD-ROM and reads 1/30th of the CD-ROM sectors.
- **Extensive** readability test, which takes about 3 minutes for each CD-ROM and reads 1/4th of the CD-ROM sectors.
- **Total** readability test, which takes about 6 minutes for each CD-ROM and reads all sectors of the CD-ROMs.

Note: The failure of a CD-ROM drive to read a known good CD-ROM may indicate a problem with the CD-ROM drive.

To print the Keycode content

Option <h> is used when you wish to display the information contained in the current Keycode. The information displayed includes machine type, software version, ISM limits, and which feature packages are enabled.

```
System Serial Number          :  46379
Software Version              :  1811
System Type                   :  Option 61C
Call Processor                :  CP68030
Release                       :  23
Issue                         :  30G
NTI Order Number              :  000000000000
NT SDID - 1                   :  00000000
NT SDID - 2                   :  00000000
Date and Time of Manufacture  :  06/03/1998 - 14:53:38

Note:  ( ) indicates that information is not available

ISM Limits:
  Loop Limit        :  32
  Sys TNs Limit     :  32767
  ACD Agt Limit     :  32767
  ACD DNs Limit     :  24000
  AST Limit         :  32767
  DSL Limit         :  100
  LTID Limit        :  100
  DCH Limit         :  64
  AML Limit         :  16
  MPH DSL Limit     :  100
  RAN CON Limit     :  32767
  RAN RTE Limit     :  512
  MUS CON Limit     :  1000
  Brand Index       :  1

Options Packages:
   0-2 4-5 7-25 28-29 232-55 57-65
   67 70-77 79-81 84 86 88-93
   95 98-105 107-109 111 113-121 125
  127 129 132-134 136 139-140 145-151
  153-155 157-160 162 164 170 172-175
  178-181 186 191-192 196 202-212 214-216
   218-219 222-225 227-229 231 233-235 240
   242-243 245-248 250-251 253-256 258-259 262-263
   286 290-293 296-297 301-303 305-310 313-316
   321 323-324 327-335
```

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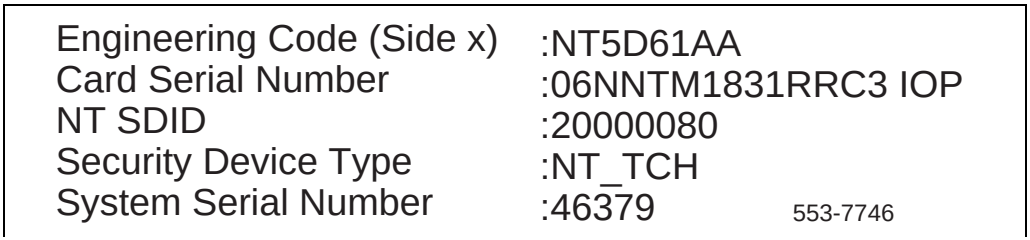
To print the Security Device content

Option <i> shows specific information about the Security Device, such as Serial Number. This enables the user to find information about the Security Device without removing the NT5D61 IODU/C card.



To check the customer-specific part of the CD-ROM

Option <j> is used to check the readability of the Keycode-specified system software on the CD-ROM drive. Once all files have been checked successfully, the message "Checking directory /cdx/xxxx_DMR.Nxx ended successfully" is displayed to indicate completion.

To manually create a Keycode diskette

Option <k> is used to manually type in a keycode and save it to a 2MB diskette. Upon selecting this option, you may enter the characters into 21 Keycode entry lines of 16 characters each, which will compose the Keycode file to be saved on a 2MB diskette in the floppy drive.

Characters may be entered on the Keycode entry lines in one of two ways:

- manually entering each 16-character line followed by a **<CR>** or
- "pasting" each individual 16-character line, then pressing **<CR>** (available on a PC running Windows 95 ®, using the Copy command (Control-C) to copy a line of characters from a keycode file, positioning the cursor on the current Keycode entry line, and using the Paste command (Control-V) to paste the line).

If a line is entered which does not have 16 characters, a message will be displayed informing the user to reenter the line correctly.

To archive the existing database

This option is one of the methods (the ABKO and BKO commands from overlay 143 are other methods) that is available to backup the customer database to 2MB diskettes. The size of the backup files and the estimated number of 2MB diskettes required to store the database will be displayed.

To go back to the Main Menu

Option <m> is selected to return the user from the Tools Menu to the Main Menu, where the user may select to quit (<q>) or go to the Install Menu (<u>).

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Meridian 1

Software conversion procedures

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.
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