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**Nortel Communication Server 1000**

Nortel Communication Server 1000 Release 4.5

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# **Communication Server 1000M and Meridian 1**

## **Large System Upgrade Procedures (Book 2 of 3)**

Document Number: 553-3021-258

Document Release: Standard 6.00

Date: July 2006

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## Revision history

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### July 2006

Standard 6.00. This document is up-issued with corrections from CR Q001354732.

### May 2006

Standard 5.00. This document is up-issued with corrections from CRs Q01215486 and Q01347637.

### January 2006

Standard 4.00. This document is up-issued with corrections from CR Q01231173.

### August 2005

Standard 3.00. This document is up-issued to support CP PIV and Communication Server 1000 Release 4.5.

### September 2004

Standard 2.00. This document is up-issued for Communication Server 1000 Release 4.0.

### October 2003

Standard 1.00. This document is a new NTP for Succession 3.0. It was created to support a restructuring of the Documentation Library. This document contains information previously contained in the following legacy document, now retired: *Upgraded Systems Installation: Upgrade to Options 51C, 61C, 81C* (553-3001-258).



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## Finding the latest updates on the Nortel web site

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The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for CS 1000 Release 4.5, click one of the links below.

<a href="#">Latest Software</a>	Takes you directly to the Nortel page for CS 1000 Release 4.5 software.
<a href="#">Latest Documentation</a>	Takes you directly to the Nortel page for CS 1000 Release 4.5 documentation.



# How to get help

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This section explains how to get help for Nortel products and services.

## Getting help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

[www.nortel.com/support](http://www.nortel.com/support)

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. More specifically, the site enables you to:

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

## Getting help over the telephone from a Nortel Solutions Center

If you don't find the information you require on the Nortel Technical Support Web site, and have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

[www.nortel.com/callus](http://www.nortel.com/callus)

## **Getting help from a specialist by using an Express Routing Code**

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

[www.nortel.com/erc](http://www.nortel.com/erc)

## **Getting help through a Nortel distributor or reseller**

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.



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## About this document

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

### Subject

Use this document to perform upgrades on Meridian 1 Large Systems. This document also contains information on database transfers, Call Processor card upgrades, and network group upgrades.

This document also contains information on converting Release 19.0x or later software to CS 1000 Release 4.5 or later on Meridian 1 Options 51C, 61C, 81, 81C, CS 1000M SG and CS 1000M MG systems. For software conversion procedures prior to Release 19.xx, refer to the *Software conversion procedures* (553-2001-320) NTP for software Release 24.



#### IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61, 71, STE, NT, and XT must be completed by Nortel's Software Conversion Lab. Consult the current Nortel price book for cost and contact information.

#### Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Nortel Communication Server 1000 Release 4.5 software. For more information on legacy products and releases, click the **Technical Documentation** link under **Support** on the Nortel home page:

[www.nortel.com/](http://www.nortel.com/)

## Applicable systems

This document applies to the following systems:

- Communication Server 1000M Half Group (CS 1000M HG)
- Communication Server 1000M Single Group (CS 1000M SG)
- Communication Server 1000M Multi Group (CS 1000M MG)
- Meridian 1 PBX 51C
- Meridian 1 PBX 61C
- Meridian 1 PBX 81
- Meridian 1 PBX 81C

***Note:*** When upgrading software, memory upgrades may be required on the Signaling Server, the Call Server, or both.

### System migration

When particular Meridian 1 systems are upgraded to run CS 1000 Release 4.5 software and configured to include a Signaling Server, they become CS 1000M systems. Table 1 lists each Meridian 1 system that supports an upgrade path to a CS 1000M system.

**Table 1**  
**Meridian 1 systems to CS 1000M systems**

This Meridian 1 system...	Maps to this CS 1000M system
Meridian 1 PBX 51C	CS 1000M Half Group
Meridian 1 PBX 61C	CS 1000M Single Group
Meridian 1 PBX 81	CS 1000M Multi Group
Meridian 1 PBX 81C	CS 1000M Multi Group

## Upgrade paths

This document contains information on the following Large System upgrades:

- Meridian 1 Options 51, 61, 71, 51C, 61C, 81C, CS 1000M SG, and CS 1000M MG
- upgrades to FNF
- software upgrades
- network additions

The upgrades documented in this NTP are structured as source platform to target platform upgrades.

## Intended audience

This document is intended for individuals responsible for upgrading Large Systems.

This document is intended for individuals responsible for software conversion and memory upgrades.

## Conventions

### Terminology

The following systems are referred to generically as “Large System”:

- Communication Server 1000M Half Group (CS 1000M HG)
- Communication Server 1000M Single Group (CS 1000M SG)
- Communication Server 1000M Multi Group (CS 1000M MG)
- Meridian 1 PBX 51C
- Meridian 1 PBX 61C
- Meridian 1 PBX 81
- Meridian 1 PBX 81C

## NTP feedback

Nortel strives to provide accurate documentation for our customers. However, if you feel there are errors or omissions in this document, your feedback is welcome.

Send comments via email to [gntsdoc@nortel.com](mailto:gntsdoc@nortel.com) or open a problem report via the normal procedures.

Please provide as much information as possible including the NTP number, standard version and date of the document, as well as the page, problem description, and any supporting documentation and capture files.

## Related information



### CAUTION — Data Loss

Only personnel who are familiar with the system and with conversion procedures should perform the conversion.

Read the applicable procedures carefully before beginning any the conversion.

**Note:** Converting software on single CPU systems disrupts call processing and allows service only to those telephones connected to Power Failure Transfer Units (PFTU).



### CAUTION WITH ESD DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected antistatic wrist strap when working on system equipment.

Follow pre-conversion and post-conversion procedures for every system conversion.

Throughout this document the term *media* refers to tape, disk, CD-ROM or Compact Flash (CF), whichever applies to the system.

The term **source** refers to the hardware and software that is currently running. The term **target** refers to the new hardware and software to which the system is converting.

**CAUTION — Data Loss**

Read “General software conversion information” in Book 1 before performing any operations.

It contains information vital to the conversion process.

## NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (553-3001-156)
- *Converging the Data Network with VoIP* (553-3001-160)
- *Circuit Card: Description and Installation* (553-3001-211)
- *Signaling Server: Installation and Configuration* (553-3001-212)
- *IP Peer Networking: Installation and Configuration* (553-3001-213)
- *Features and Services* (553-3001-306)
- *Software Input/Output: Administration* (553-3001-311)
- *Element Manager: System Administration* (553-3001-332)
- *IP Trunk: Description, Installation, and Operation* (553-3001-363)
- *IP Line: Description, Installation, and Operation* (553-3001-365)
- *ISDN Basic Rate Interface: Features* (553-3001-380)
- *Software Input/Output: Maintenance* (553-3001-511)
- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)
- *Communication Server 1000M and Meridian 1: Large System Installation and Configuration* (553-3021-210)
- *Communication Server 1000M and Meridian 1: Large System Maintenance* (553-3021-500)

- *Communication Server 1000S: Overview (553-3031-010)*
- *Communication Server 1000S: Installation and Configuration (553-3031-210)*
- *Communication Server 1000S: Upgrade Procedures (553-3031-258)*

## Online

To access Nortel documentation online, click the **Technical Documentation** link under **Support** on the Nortel home page:

[www.nortel.com](http://www.nortel.com)

## CD-ROM

To obtain Nortel documentation on CD-ROM, contact your Nortel customer representative.

## Technical support

For technical support contact information, see “Technical Assistance service” on [page 969](#).

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# Upgrading from Meridian 1 Option 71

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## Contents

This section contains information on the following topics:

Meridian 1 Option 71 upgrade to Option 81C CP PIV/FNF. ....	40
Prepare for upgrade .....	40
Perform the upgrade .....	65

## Meridian 1 Option 71 upgrade to Option 81C CP PIV/FNF

### Prepare for upgrade

#### Introduction

This document uses a source-to-target approach to performing an upgrade. It is important to correctly identify the source platform, target platform and maintenance window required to perform the upgrade.

Each chapter features check boxes that indicate which condition the system should be in at that stage of the upgrade. If the system is not in the proper condition you must take corrective action.

Each section is written to maintain dial tone where possible and limit service interruptions.

The source platform is an Meridian 1 Option 71 equipped with NT8D34 shelves.

The target platform, Meridian 1 Option 81C CP PIV with FNF, must meet the requirements of Product Bulletins P-2002-1658-NA and PAA-2003-0199-NA for firmware 19. Highlights of the bulletins include:

- PB requires NTRB53AA Clock Controller.
- shortest Fiber cable should be used.



- cables from group 0 - 1 must be same length.
- Distance between each ring from group 0 - group 1 must not exceed 50 ft.

**IMPORTANT!**

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Before attempting any software or hardware upgrade field personnel should follow the steps in for Table 2.

**Table 2**  
**Prepare for upgrade steps (Part 1 of 2)**

Procedure Step	Page
Plan the upgrade	<a href="#">42</a>
Upgrade checklists	<a href="#">43</a>
Prepare	<a href="#">43</a>
Identifying the proper procedure	<a href="#">43</a>
Connect a terminal	<a href="#">44</a>
Check the Core ID switches	<a href="#">45</a>
Print site data	<a href="#">47</a>
Perform a template audit	<a href="#">50</a>
Back up the database (data dump and ABKO)	<a href="#">52</a>

**Table 2**  
**Prepare for upgrade steps (Part 2 of 2)**

Procedure Step	Page
Transferring the database from floppy disk to CF (customer database media converter tool)	<a href="#">58</a>
Identify two unique IP addresses	<a href="#">64</a>
Check requirements for CNI to 3PE cables (NTND14)	<a href="#">65</a>

## Plan the upgrade

Planning for an upgrade includes the following details.

- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure Sufficient power for new columns/modules or applications
- Identify all applications that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel.
- A contingency plan for backing out of the upgrade.



### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## Upgrade checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 957](#). Engineers may print this section for reference during the upgrade.

. Engineers may print this section for reference during the upgrade.

## Prepare

Preparing for an upgrade includes the following details.

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Current patch or Dep lists installed at the source platform.
- Required patch or Dep lists at the target platform.
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.
- Secure the source software and keycode.
- Secure the target software and keycode.
- Verify the new keycode using the DKA program.
- Print site data.

## Identifying the proper procedure

Each procedure has been written in a source-to-target format. Each procedure features warning boxes and check boxes placed at critical points. Changing

the procedure or ignoring the warning boxes could cause longer service interruptions.



**IMPORTANT!**

Preserve database backup information for a minimum of 5 days.

## Connect a terminal

### Procedure 1 Connecting a terminal

A maintenance terminal is required to access the CPU modules during the upgrade procedure.

- 1    Connect a terminal to the J25 port on the I/O panel in the *inactive* CPU module.
- 2    The settings for the terminal are:
  - a.   9600 Baud
  - b.   8 data
  - c.   parity none
  - d.   1 stop bit
  - e.   full duplex
  - f.   XOFF
- 3    If only one terminal is used for both CPU modules, connect the terminal from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

---

**End of Procedure**

---

## Check the Core ID switches

### Procedure 2 Checking the Core ID switches

Each CP NT4N40 Core/Net card cage or module is identified as “Core 0” or “Core 1”. This setting is made by a set of option switches on the System Utility card. The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



#### CAUTION — Service Interruption

##### System Failure

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

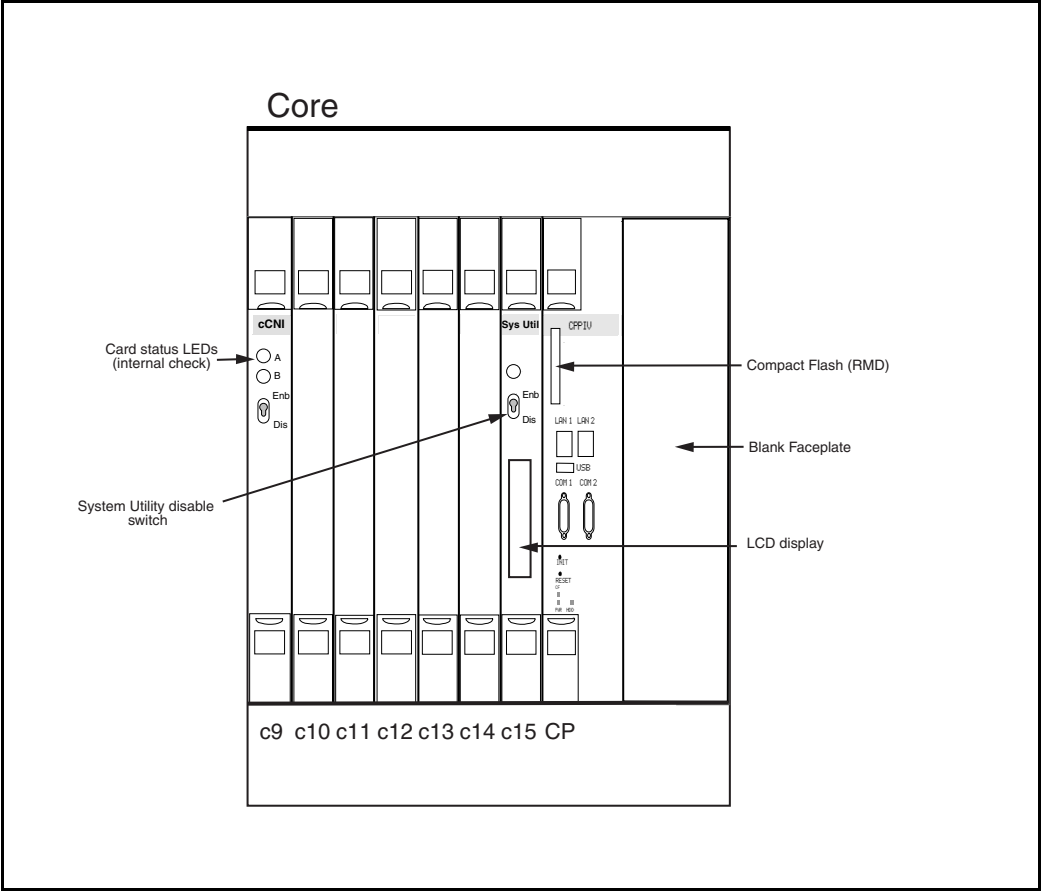
- 1 Pull the System Utility card (NT4N48) far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 3.
- 3 Reinstall the System Utility card.
  - a. Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.
  - b. Push in the top and bottom latches on the card to lock it in place.

————— End of Procedure —————

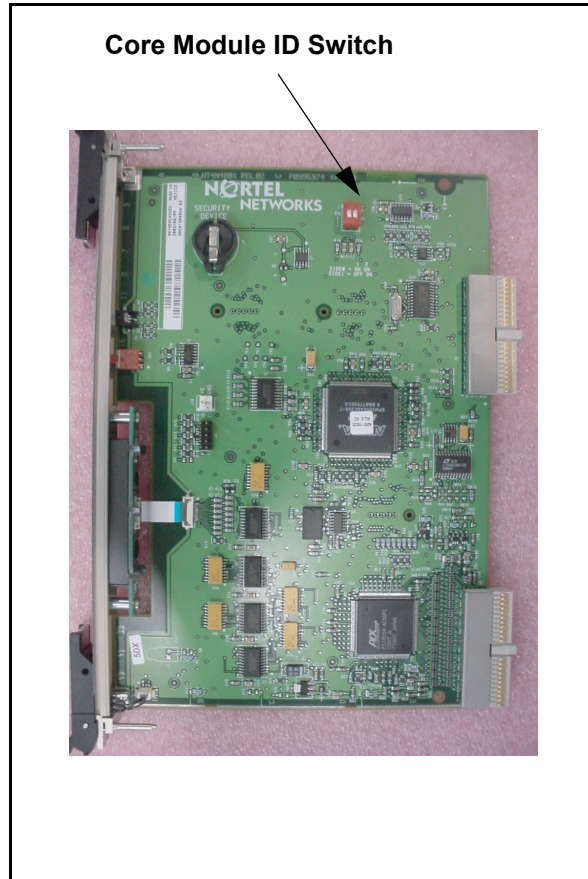
**Table 3**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

**Figure 1**  
**Core card placement in the NT4N40 Core/Net card cage (front)**



**Figure 2**  
**Core Module ID switch**



## **Print site data**

Print site data to preserve a record of the system configuration (Table 4 on [page 48](#).). Verify that all information is correct. Make corrections as necessary.

**Note:** Items marked with an asterisk (\*) are required. Other items are recommended for a total system status.

**Table 4**  
**Print site data (Part 1 of 3)**

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	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 3)**

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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

**Table 4**  
**Print site data (Part 3 of 3)**

Site data	Print command	
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<b>Note:</b> Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

## Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

**Note:** The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.

**CAUTION — Service Interruption****Loss of Data**

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

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

**TEMPLATE AUDIT****STARTING PBX TEMPLATE SCAN**

<b>TEMPLATE 0001 USER COUNT</b>	<b>CHECKSUM</b>
<b>LOW</b>	<b>OK</b>

<b>TEMPLATE 0002 USER COUNT</b>	<b>CHECKSUM</b>
<b>HIGH</b>	<b>OK</b>

**TEMPLATE 0003 NO USERS FOUND**

**STARTING SL1 TEMPLATE SCAN**

<b>TEMPLATE 0001 USER COUNT OK</b>	<b>CHECKSUM</b>
	<b>OK</b>

•

•

<b>TEMPLATE 0120 USER COUNT OK</b>	<b>CHECKSUM</b>
	<b>OK</b>

**TEMPLATE AUDIT COMPLETE**

## Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

- 1    Perform a data dump to save all system memory to the hard disk.
- 2    Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

### Procedure 3

#### Performing a data dump

- 1    Log into the system.
- 2    Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**                      Load program

- 3    When "EDD000" appears on the terminal, enter:

**EDD**                      Begin the data dump



#### CAUTION

##### Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4    The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

\*\*\*\*                      Exit program

---

**End of Procedure**

---

**Procedure 4****Performing an ABKO (save the database to floppies)**

- 1 Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

**Note:** If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2 Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

**LD 143**            Load program

- 3 Run the ABKO backup (LD 143).

**ABKO**            Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4 If there are validation errors, repeat the procedure.

**CAUTION****Loss of Data**

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PIV.

- 5 Once the backup is complete, type:

**\*\*\*\***            Exit program



### **IMPORTANT!**

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility below.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel in the software conversion lab.

### **Procedure 5**

#### **Converting the 4 MB database media to 2 MB database media**

Before the system is upgraded to CP PIV, the database must reside on a 2 MByte floppy disk for conversion to CF. Systems with an IODU/C drive already have 2 MByte floppy drive and can skip this procedure.

If the database is on a 4 MByte floppy (the system has an IOP/CMDU), the 4 MByte customer database must be transferred to a 2 MByte floppy disk.

- 1**    Split the Cores and transfer call processing to Core 0.
- 2**    Install the Database Transfer Utility diskette into the floppy drive on the IOP/CMDU in Core 1.
- 3**    Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



### **CAUTION — Service Interruption**

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:

<b>&lt;t&gt;</b>	Go to the Tools menu.
<b>&lt;s&gt;</b>	Archive existing database.
<b>&lt;cr&gt; &lt;a&gt;</b>	Continue with archive (insert blank 2 MByte diskette from the software kit into the floppy drive in Core 1).
<b>&lt;cr&gt; &lt;a&gt;</b>	Diskette is now in floppy drive in Core 1.
- 5 The message displays "Database backup complete!" and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MByte customer database diskette from the floppy drive of the IOP/CMDU. Do not reboot the system at this point.

---

**End of Procedure**

---

## Making the RMD bootable



### CAUTION — Data Loss

The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

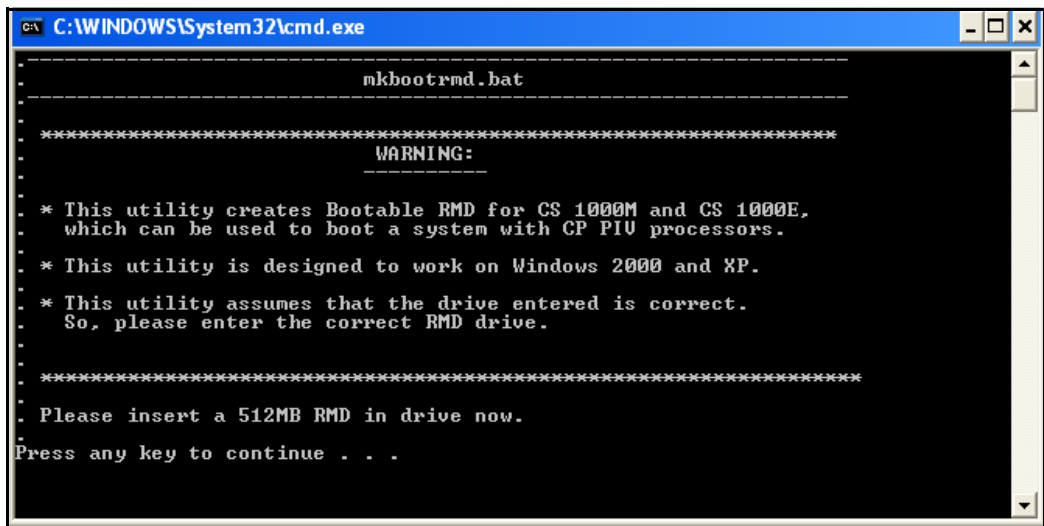
**Note:** This utility is supported by all versions of Microsoft Windows.

The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 6 on [page 56](#).

**Procedure 6**  
**Making the RMD bootable**

- 1    After downloading the software image file, unzip it to a directory on your PC.
- 2    Open the utilities folder.
- 3    Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 3).

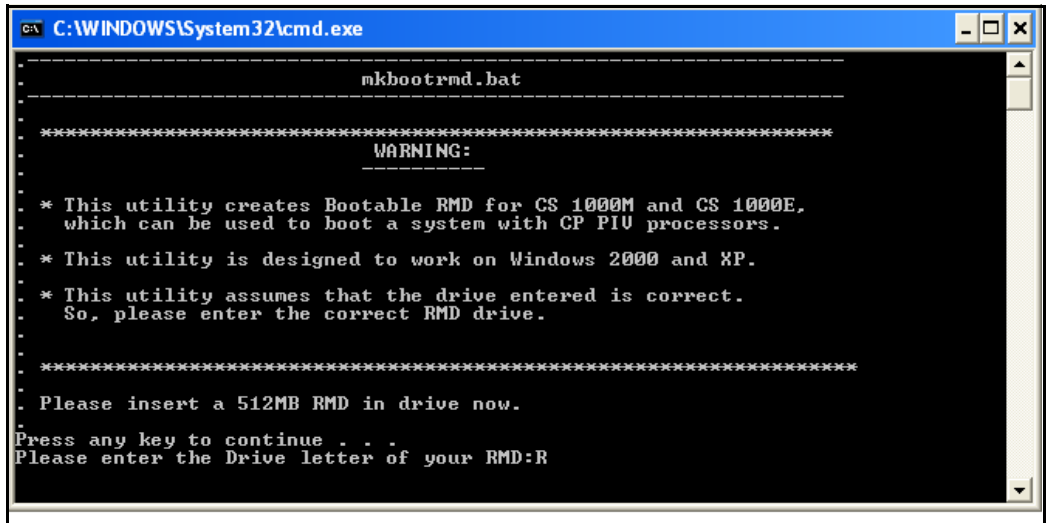
**Figure 3**  
**mkbootrmd.bat**





- 4 Enter the correct drive letter of the RMD (see Figure 4).

Figure 4  
mkbootrmd.bat



```
C:\WINDOWS\System32\cmd.exe
mkbootrmd.bat

*****
WARNING:
*****

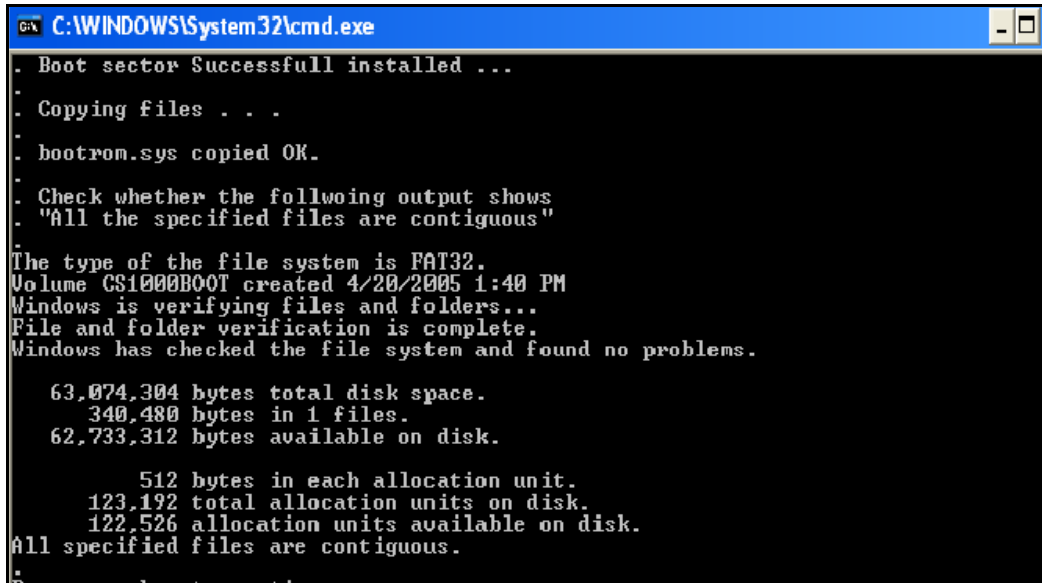
* This utility creates Bootable RMD for CS 1000M and CS 1000E,
  which can be used to boot a system with CP PIU processors.
* This utility is designed to work on Windows 2000 and XP.
* This utility assumes that the drive entered is correct.
  So, please enter the correct RMD drive.

*****

Please insert a 512MB RMD in drive now.
Press any key to continue . . .
Please enter the Drive letter of your RMD:R
```

- 5    The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 5).

**Figure 5**  
**Boot sector successfully installed**



```

C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
. Copying files . . .
. bootrom.sys copied OK.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
.
The type of the file system is FAT32.
Volume CS1000B00T created 4/20/2005 1:40 PM
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

    63,074,304 bytes total disk space.
      340,480 bytes in 1 files.
    62,733,312 bytes available on disk.

        512 bytes in each allocation unit.
    123,192 total allocation units on disk.
    122,526 allocation units available on disk.
All specified files are contiguous.
  
```

---

End of Procedure

---

## Transferring the database from floppy disk to CF (customer database media converter tool)



### IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

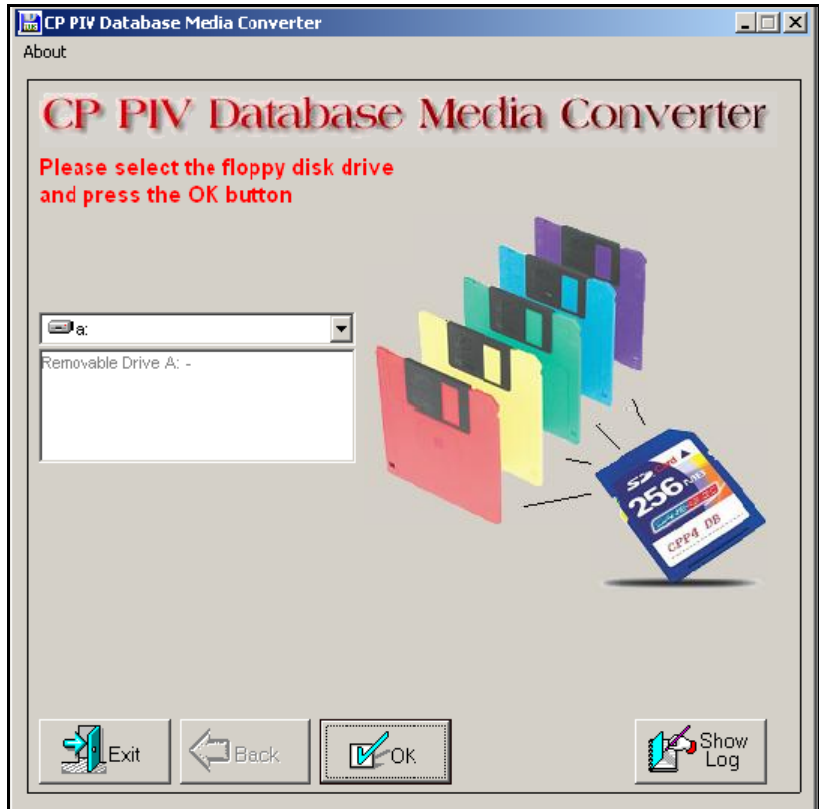
Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

**Procedure 7****Transferring the customer database from floppy disk to CF**

This procedure requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

- 1** Insert the floppy disk containing the backed up customer database from Procedure 3 on [page 52](#).
- 2** Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 3** Start the Database Media Converter utility. The first screen (Figure 6 on [page 60](#)) prompts you to select the correct drive letter for the floppy disk drive.

**Figure 6**  
**Select the floppy disk drive**



- 4 The utility then prompts you to insert the floppy disk (diskette 1) and click OK (see Figure 7 on [page 61](#)).

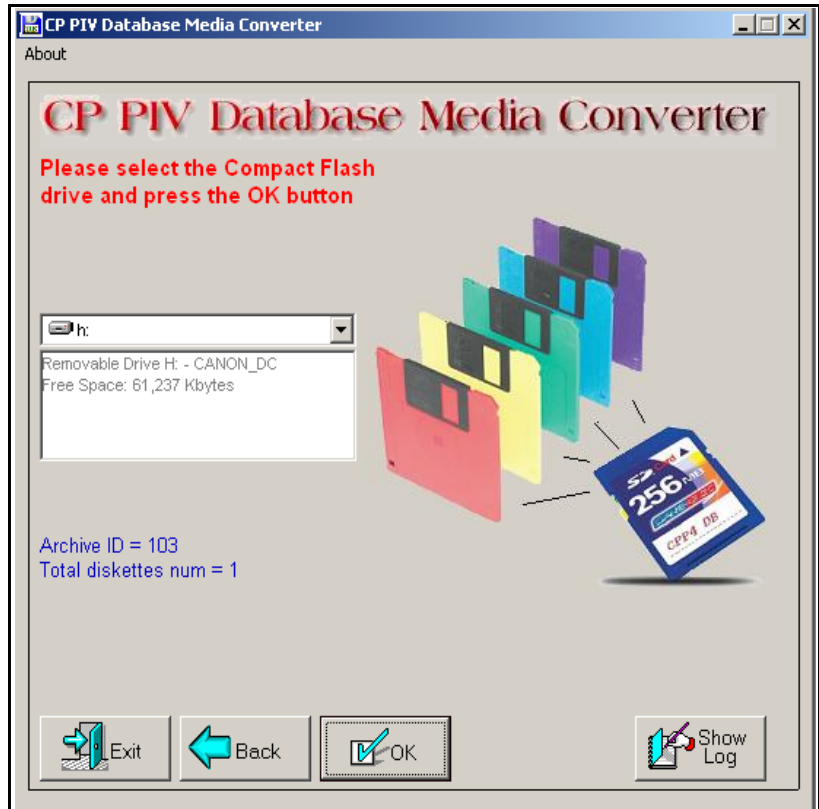
**Figure 7**  
**Insert diskette 1**



- 5 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 8 on [page 62](#)).

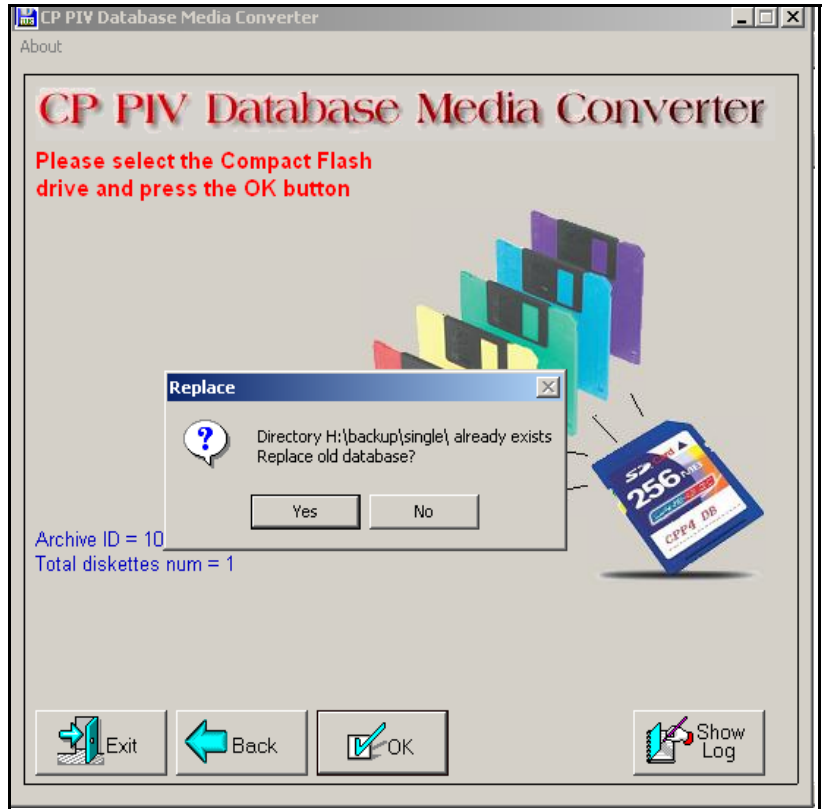
**Note:** if the database is on more than 1 floppy, the utility prompts you to insert the next floppy until the entire database is read.

**Figure 8**  
**Select the CF drive**



- 6 At this point, 2 options are available:
- If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 9 on [page 63](#)). Click yes to replace old database.
  - If the CF card is blank, the database is backed up to the CF card.

**Figure 9**  
**Replace database on CF drive**



- 7 The utility completes the transfer to CF and prompts you to copy another or EXIT.

**Figure 10**  
**Copy another or exit**



---

**End of Procedure**

---

## Identify two unique IP addresses

Each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this



configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 132](#).

## Check requirements for CNI to 3PE cables (NTND14)



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

## Perform the upgrade

### Introduction

The target upgrade to Meridian 1 Option 81C CP PIV with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0MB) support
- Both NTRC46 cables must be the same length



### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

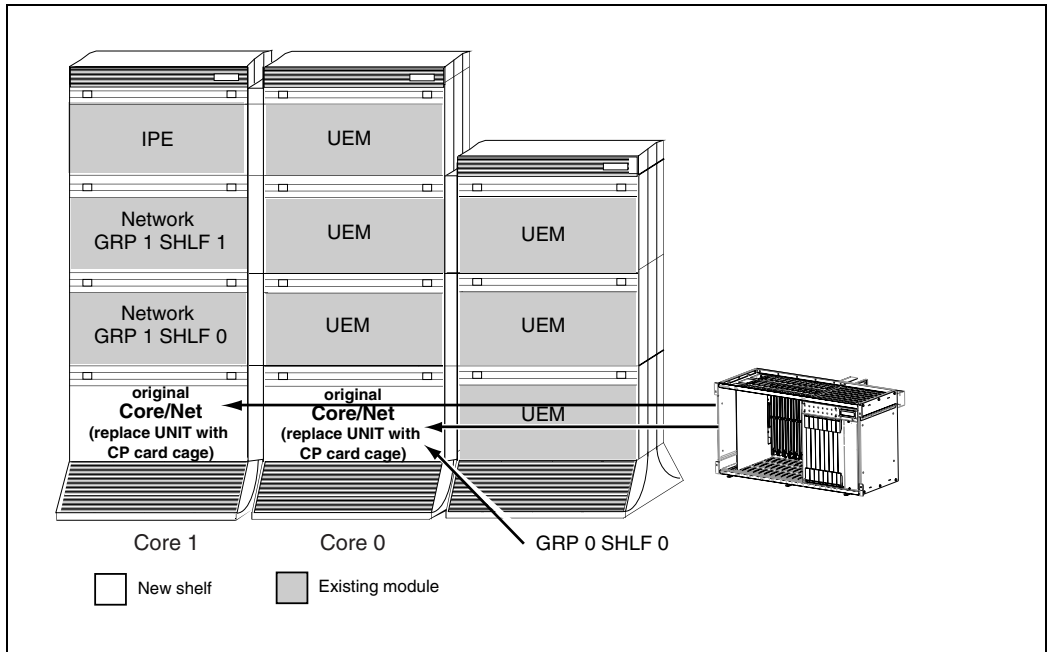
## Meridian Mail Cables

Each shelf containing a Meridian Mail node must be assigned to the same network group and have the same length of cables between the ENET cards and the Meridian Mail Node. Failure to comply may result in intermittent static.

**Note:** CallPilot's architecture does not have this limitation.

Figure 11 shows an upgrade from a Meridian 1 Option 71/IGS to a Meridian 1 Option 81C CP PIV with FNF.

**Figure 11**  
**Meridian 1 Option 71 to Meridian 1 Option 81C CP PIV with FNF**



This upgrade takes a Meridian 1 Option 71/IGS to a Meridian 1 Option 81C CP PIV with FNF. Additional groups can be added by following the procedures for adding a network group in Book 3.

To upgrade a Meridian 1 Option 71/IGS system to a Meridian 1 Option 81C CP PIV with FNF:

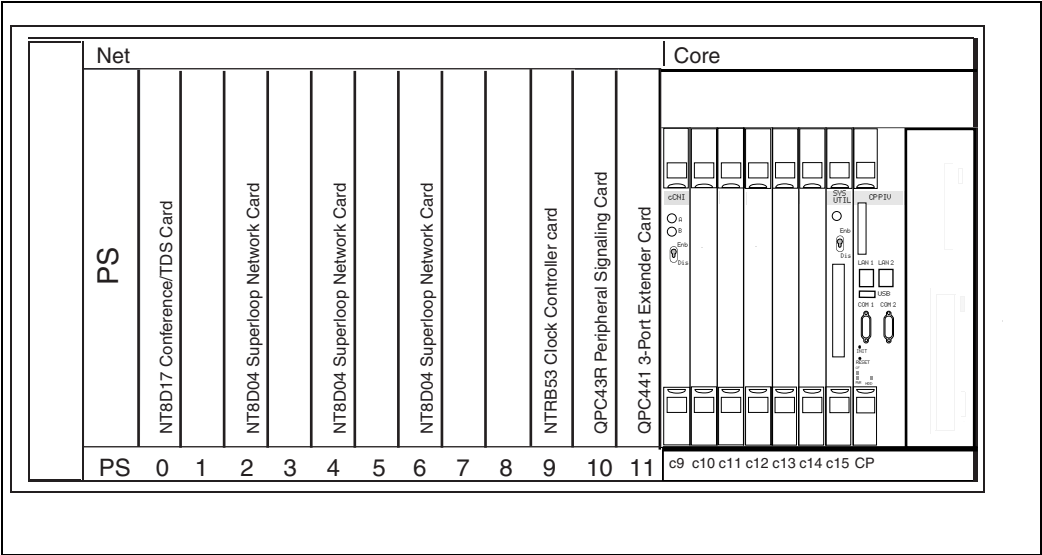
- Two card cages in the existing CPU modules are replaced with two NT4N40 CP card cages.
- New CP PIV cards are located in the Core/Net modules or card cage.
- Existing network cards are relocated to the CP card cages.

- The existing Clock Controllers are moved from the Core/Net to the Network shelves.

**Note:** Clock Controller cards must be NTRB53AA.

- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.
- An IPE module can be installed on top of CP Core/Net 0 module.

Figure 12  
CP PIV Core/Net Module



## Review upgrade requirements

This section describes the **minimum** equipment required for CP PIV with FNF. Additional equipment can also be installed during the upgrade. Verify that *all* equipment has been received.

### Check equipment received

Before the upgrade, check that the equipment on the order form is also on the packing slip. Check that all equipment has been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



#### **CAUTION — Service Interruption**

##### **Service Interruption**

DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

### Check required software

The following software packages are required to upgrade a system to Meridian 1 Option 81C with CP PIV:

- CORENET Core Network Module Package 299
- FIBN Fiber Network Package 365
- Compact Flash Software Install Kit, containing the following items:
  - One CF (512 MByte) card containing:
    - Install Software files
    - CS 1000 Release 4.5 software
    - Dep. Lists ( PEPs)
    - Key code File
  - One blank CF card for database backup
  - One Nortel CS 1000 Release 4.5 Documentation CD

### Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP PIV.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53AA Clock Controller cards must be minimum vintage A.
- NTRB33 Fiber Junctor Interface (FIJI) Card minimum vintage AC
- NT5D12AC, AD, and AG (1.54MB)
- NT5D97AB, AD (2.0MB)

*Note:* QPC720 PRI cards require NT8D79 cables. NT5D12 Dual PRI/DTI cards require NTCG03 cables.

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If equipment does not meet the requirements, replace it before you begin the upgrade.



#### **CAUTION — Service Interruption**

##### **Service Interruption**

Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.

### Check required hardware

Table 5 describes the **minimum** equipment required to upgrade a system to CP PIV. Additional equipment for increased Network capacity must be ordered separately.

**Table 5**

**Minimum requirements for Meridian 1 Option 81C CP PIV with FNF systems (Part 1 of 2)**

<b>Order number</b>	<b>Description</b>	<b>Quantity per system</b>
NT4N39	CP PIV Call Processor Card (512mb Memory)	2
NT4N40AA	CP Core/Network Card Cage AC/DC	2
NT4N65AB	CP Core Network Interface Card (2 ports)	2
NT4N48	System Utility Card	2
NT4N88AA	CP to I/O Panel DTE Cable (48 in.)	2
NT4N88BA	CP to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP to I/O Panel Ethernet Cable (48 in.)	2
*NT8D01BC	Controller - Four Card	1
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft.)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft.)	

**Table 5**  
**Minimum requirements for Meridian 1 Option 81C CP PIV with FNF systems (Part 2 of 2)**

Order number	Description	Quantity per system
*NT8D91AD	Network to Controller Cable (6 ft.)	
*NT8D99AD	CPU to Network Cable (6 ft.)	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC17BA	CP Ethernet to Ethernet Cable (8.5 ft.)	2
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft. - 8 ft.))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRC49AA	Clock - Clock Sync Cable	1
NTRE39AA	Optical Cable Management Card (OCMC)	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP Card Slot Filler Panel	Determined by system configuration
<b>Note:</b> *Customer supplied from existing system.		

The equipment room must provide the appropriate number of 30 Ampere outlets. One 175-264 Vac, 47-63 Hz, 30 Ampere outlet is required for every pedestal or column.



If supporting additional Meridian 1 modules, order additional top cap & pedestal packages (NTWB15BA). One top cap and pedestal package supports up to 4 modules.

To cover all exposed module sides and to connect modules side-to-side, additional NT9D18AA module side covers and NT8D49AA column spacer kits must be ordered separately.

The NTHU44AA and DA packages contain common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

These packages are designed for computer floor installation, with all cables exiting from the pedestal. If the installation requires overhead cabling, order NT7D0009 top egress panel, one per column.

An NT8D49AA Spacer kit is provided to allow for a side-by-side installation of core/network modules. This arrangement will require an additional top cap and pedestal package and must be ordered separately.

Intelligent peripheral equipment must be ordered separately. Order NTWB15DA for any additional AC IPE Modules required.

Peripheral equipment (PE) or Enhanced peripheral equipment (EPE) is not supported on systems with Pentium Processors.

### **Check required power equipment**

Table 6 lists the equipment required for DC-powered systems. Table 7 on [page 74](#) lists the equipment required for AC-powered systems.

**Table 6**  
**DC power requirements for Meridian 1 Option 81C CP PIV with FNF upgrades**

<b>Order number</b>	<b>Description</b>	<b>Quantity per system</b>
NT6D41CA	Core/Network Power Supply DC	2

**Table 7**

**AC power requirements for Meridian 1 Option 81C CP PIV with FNF upgrades**

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2

## Tools

Table 8 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed in that procedure.

**Table 8**

**List of recommended tools**

Digital Multimeter (DMM)	Electric drill and drill bits
Pliers, needlenose	Hammer and sheet metal center punch
Pliers, standard	1/4" socket wrench
Screwdriver, 3/16" flat blade	3/8" socket wrench
Screwdriver, #2 Phillips	1/4" nut driver
Wire cutters	7/16" socket driver
Electrical insulation tape	11/32 Deep Socket
5/16" socket wrench	Flashlight

## Check personnel requirements

Nortel recommends that a minimum of two people perform the card cage upgrade.

## Database requirements

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion..



### IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61, 71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.

All systems can be converted by Nortel in the software conversion lab.

## CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120) for CS 1000 Release 4.5 product compatibility.

## Install Core/Net 1 hardware

### Procedure 8

#### Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 13 on [page 77](#):

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:  
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10-c12, which do not contain cCNIs.

**Note:** In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.

- 2    Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3    NT4N48 System Utility (Sys Util) card is located in slot c15. Check side ID switch settings for SU card in Core/Net 1 according to Table 9.

**Table 9**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

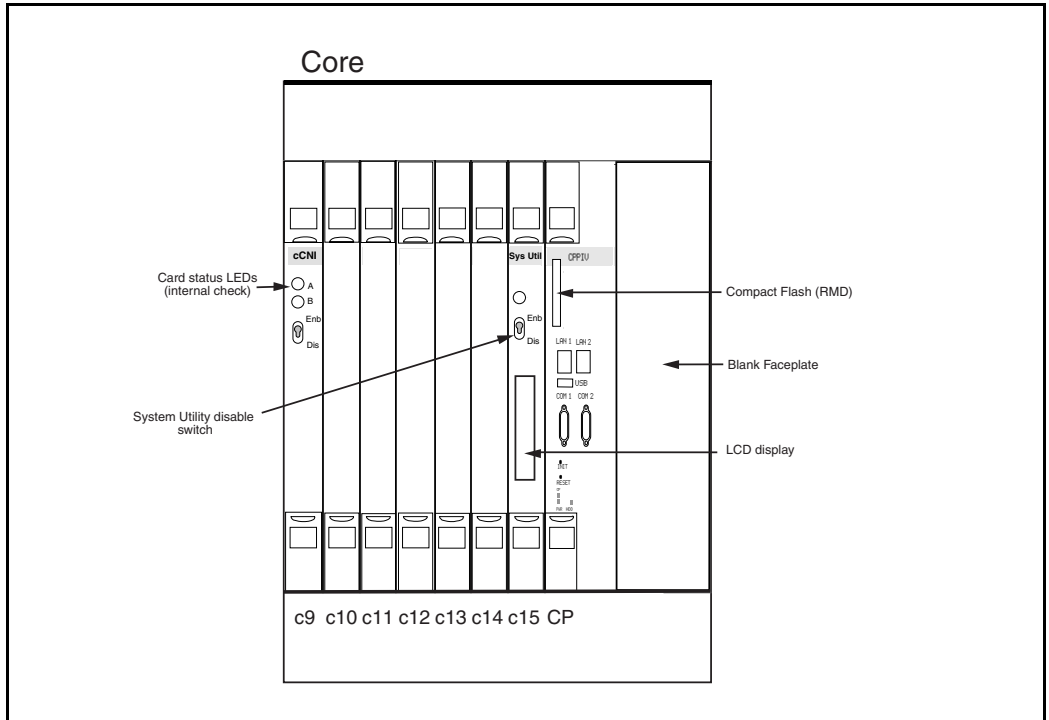
- 4    NT4N39 CP PIV is located in the Call Processor slot.
- 5    The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

---

**End of Procedure**

---

**Figure 13**  
**Core card placement in the NT4N41 Core/Net Module (front)**



### Check for the shelf power cable

Check that the NT4N4405 Shelf Power Cable is installed in the CP card cage backplane. See Figure 14 on [page 78](#) for cable location.

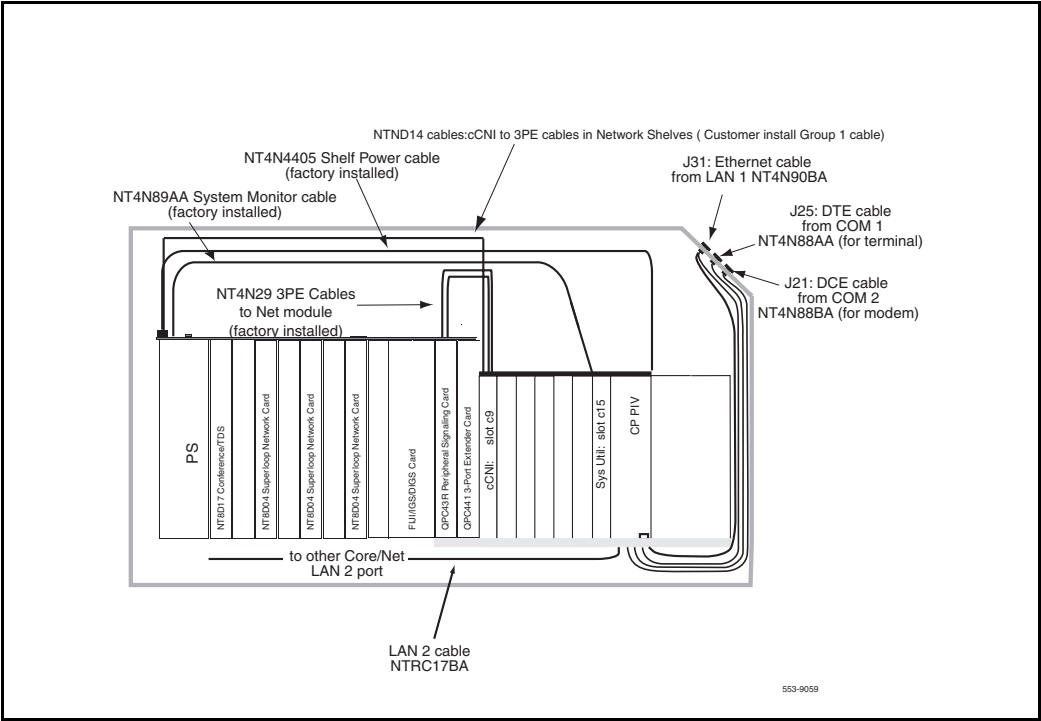
Check factory-installed cables

Table 10 lists factory-installed cables.

Table 10  
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Figure 14  
Core/Net cable connections (top view)



**Check factory-installed cables**

Table 11 lists factory-installed cables. See Figure 14 on [page 78](#).

**Table 11**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

## Disable Core 1

### Procedure 9

#### Checking that Core 0 is active

Get the status of the CPU, CMA or OCMA, extenders, and memory. Verify that all common equipment is enabled.

- 1    Verify that Core 0 is active.

**LD 35**            Load the program.

**STAT CPU**        Get the status of both CPUs.

**STAT MEM**        Get the memory status.

- 2    Test and switch CPUs.

**TCPU CPU**        Test the CPUs.

**SCPU**            Switch the CPUs.

- 3    If Core 1 is active, make Core 0 active:

**SCPU**            Switch to Core 0.

**\*\*\*\***            Exit the program.

- 4    Place CPU 0 into maintenance by setting the NORM/MAINT faceplate switch on the CP card in CPU 0 to MAINT.

- 5    Faceplate disable CNI card in **Core 1**.

---

**End of Procedure**

---



**Procedure 10****Checking that Clock Controller 0 is active**

- 1** Check the status of the Clock Controllers:

**LD 60** Load the program.

**SSCK 0** Get the status of Clock Controller 0.

**SSCK 1** Get the status of Clock Controller 1.

- 2** If Clock Controller 1 is active, switch to Clock Controller 0 and software disable Clock Controller 1.

**SWCK** If necessary, switch to Clock Controller 0.

**DIS CC 1** Disable Clock Controller 1.

**\*\*\*\*** Exit the program.

- 3** Faceplate disable Clock Controller 1.

- 4** Verify the status of both CPUs. Verify that CPU 0 is enabled and CPU 1 is in standby.

**LD 35** Load the program.

**STAT CPU** Get the status of both CPUs.

**\*\*\*\*** Exit the program.

---

**End of Procedure**

---

**Procedure 11**

**Checking that Clock Controller 0 is active**

- 1**    Check the status of the Clock Controllers:

**LD 60**            Load the program.

**SSCK 0**        Get the status of Clock Controller 0.

**SSCK 1**        Get the status of Clock Controller 1.

- 2**    If Clock Controller 1 is active, switch to Clock Controller 0.

**SWCK**            If necessary, switch to Clock Controller 0.

**DIS CC 1**        Disable Clock Controller 1.

**\*\*\*\***            Exit the program.

- 3**    Faceplate disable Clock Controller 1.

- a.**    Set the ENB/DIS switch on each QPC215 SBE card in CPU 1 to DIS.
- b.**    Label and disconnect the cable from connector J12 in the NT8D36 InterGroup module at the junctor board. Then disconnect the cable from faceplate connector J3 on the clock controller card. If primary and secondary clock reference cables are connected to the faceplate of the clock controller card, disconnect them last.
- c.**    Set the ENB/DIS switch on the FDI, MSI, or EMSI card in CPU 1 to DIS.
- d.**    Set the NORM/MAINT switch on the QPC580 Omega I/F card in CPU 1 to MAINT to split the CPUs.

- 4**    Verify the status of both CPUs. Verify that CPU 0 is enabled, and CPU 1 is disabled.

**LD 35**            Load the program.

**STAT CPU**        Get the status of both CPUs.

**\*\*\*\***            Exit the program.

---

**End of Procedure**

---

## Disable IGS

### Procedure 12 Disabling IGS

- 1 Determine the number of the IGS/DIGS card, refer to Table 12.

**Table 12**  
**Shelf 1 IGS/DIGS card locations**

Network Group 0	Shelf 1	IGS/DIGS 1 & 3
Network Group 1	Shelf 1	IGS/DIGS 5 & 7
Network Group 2	Shelf 1	IGS/DIGS 9 & 11
Network Group 3	Shelf 1	IGS/DIGS 13 & 15
Network Group 4	Shelf 1	IGS/DIGS 17 & 19
<b>Note:</b> The DIGS card should be located in slot 9 of the network shelf.		

- 2 Disable the IGS/DIGS cards located in each network group shelf 1.

**LD 39** Load the program.

**DIS IGS X** X = IGS cards located in each network group shelf 1

\*\*\*\* Exit the program.

---

**End of Procedure**

---

**Procedure 13**  
**Moving Clock Controller 1**



**CAUTION — Service Interruption**

Clock controller cards must be NTRB53AA Clock Controller cards.



**CAUTION — Service Interruption**

**Service Interruption occurs if wrong Clock Controller is removed!**

Move only Clock Controller 1 at this point in the upgrade.

Do not move Clock Controller 0 at this time.

If the system has a QPC471 or QPC775 Clock Controller, replace it with NTRB53 Clock Controller and verify settings according to Table 13 on [page 85](#).

Move Clock Controller 1 from Slot 14 of the NT8D34 CPU module to network shelf 1, any group, slot 13.

- 1    Label and disconnect the clock to clock cable from Clock Controller 1.
- 2    If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, label and disconnect them last.
- 3    Unseat and remove Clock Controller 1.
- 4    Set the new NTRB53 Clock Controller 1 switch settings according to Table 13 on [page 85](#).  
  
**Note:** If the NTRC49AA cable is used, set switches 3 and 4 to 0-14 feet.  
If the NTRC49BA cable is used, set switches 3 and 4 to 15-20 feet.
- 5    Place Clock Controller 1 in any Network Shelf 1, slot 13. Do NOT seat the Clock Controller 1 and do not faceplate-enable the card.

**6** Re-connect reference cable(s).

**Note:** If possible, Clock Controllers 0 and 1 should be located in different Network groups in different columns.

---

**End of Procedure**

---

**Table 13**  
**Clock Controller switch settings for NTRB53AA**

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi Group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
<b>Note:</b> Switch 7 and 8 are not used.						

## Software disable Network cards in Core/Net 1 from Core/Net 0



### **CAUTION — Service Interruption**

#### **Service Interruption**

At this point, the upgrade interrupts service.

### **Procedure 14**

#### **Software disabling cards of Core/Net 1 from Core/Net 0**

- 1** In CPU 1 only, software disable all network and I/O cards such as XNET, TTY, Conf/TDS and ISDN cards.

- a.** In CPU 1 only, disable XNET.

**LD 32**                      Load the program.

**DISL sl**                    Disable the XNET, where sl = the superloop number of the XNET card.

**\*\*\*\***                      Exit the program.

- b.** In CPU 1 only, disable ENET.

**LD 32**                      Load the program.

**DISL X**                    Disable the ENET, where X= the loop number of the ENET card.

**\*\*\*\***                      Exit the program.

- c.** In CPU 1 only, software disable each port on the SDI cards.

**LD 37**                      Load the program.

**DIS TTY x**                Disable each port, where x = the number of the interface device attached to a port.

**\*\*\*\***                      Exit the program.

d. In CPU 1 only, disable DTI cards.

**LD 60** Load the program.

**DISL x** Disable DTI card, where x = the loop number of the DTI port.

**\*\*\*\*** Exit the program.

e. In CPU 1 only, disable PRI cards.

**LD 60** Load the program.

**DISL x** Disable PRI card, where x = the loop number PRI port.

**\*\*\*\*** Exit the program.

f. In CPU 1 only, disable MSDL cards.

**LD 48** Load the program.

**DIS MSDL x** Disable MSDL card, where x = the MSDL card number. System will respond with group 0.

**\*\*\*\*** Exit the program.

g. In CPU 1 only, disable XCT cards.

**LD 34** Load the program.

**DISX x** Disable XCT card, where x = the superloop number of the XCT card.

**\*\*\*\*** Exit the program.

**2** In CPU 1 only, software disable the QPC43 Peripheral Signaling Card:

**LD 32** Load the program.

**DSPS x** Disable QPC43 card. Table 14 lists Peripheral Signaling Card numbers.

**\*\*\*\*** Exit the program.

**Table 14**  
**Peripheral Signaling Card numbers**

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled		
0 / 0	0	0	—	15
0 / 1	1	16	—	31
1 / 0	2	32	—	47
1 / 1	3	48	—	63
2 / 0	4	64	—	79
2 / 1	5	80	—	95
3 / 0	6	96	—	111
3 / 1	7	112	—	127
4 / 0	8	128	—	143
4 / 1	9	144	—	159
5 / 0	10	160	—	175
5 / 1	11	176	—	191
6 / 0	12	192	—	207
6 / 1	13	208	—	223
7 / 0	14	224	—	239
7 / 1	15	240	—	255

- 3** In CPU 1 only, faceplate disable the 3PE, Per Sig and all network cards.
- 4** Faceplate disable all IGS/DIGS cards in each network shelf 1.

---

**End of Procedure**

---



**CAUTION — Service Interruption**

**Service Interruption**

The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.



**Procedure 15****Removing the system monitors from Core 0 and Core 1**

**Note:** This procedure applies to both AC and DC systems.

- 1 In **Core 0**, software disable the master system monitor (NT8D22):

**LD 37** Load the program.

**DIS TTY #** Disable the master system monitor TTY interface.

- 2 Remove J3 and J4 cables on Core 0 and Core 1 system monitors.

**Note:** Do *not* turn off the blower units in the front of the pedestals

- 3 Remove the system monitor from the rear of the pedestal on Core 0 and Core 1.

---

**End of Procedure**

---

**Power down Core/Net 1****CAUTION — Service Interruption****Service Interruption**

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

**DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

## Procedure 16

### Removing Core 1 cables and card cage

- 1    Label and disconnect all cables from the front of the module.
- 2    Tape over the contacts to avoid grounding.
- 3    Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4    Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5    Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6    Tag and disconnect all plugs, wires, and cables to the backplane.

**Note:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7    Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP card cage.

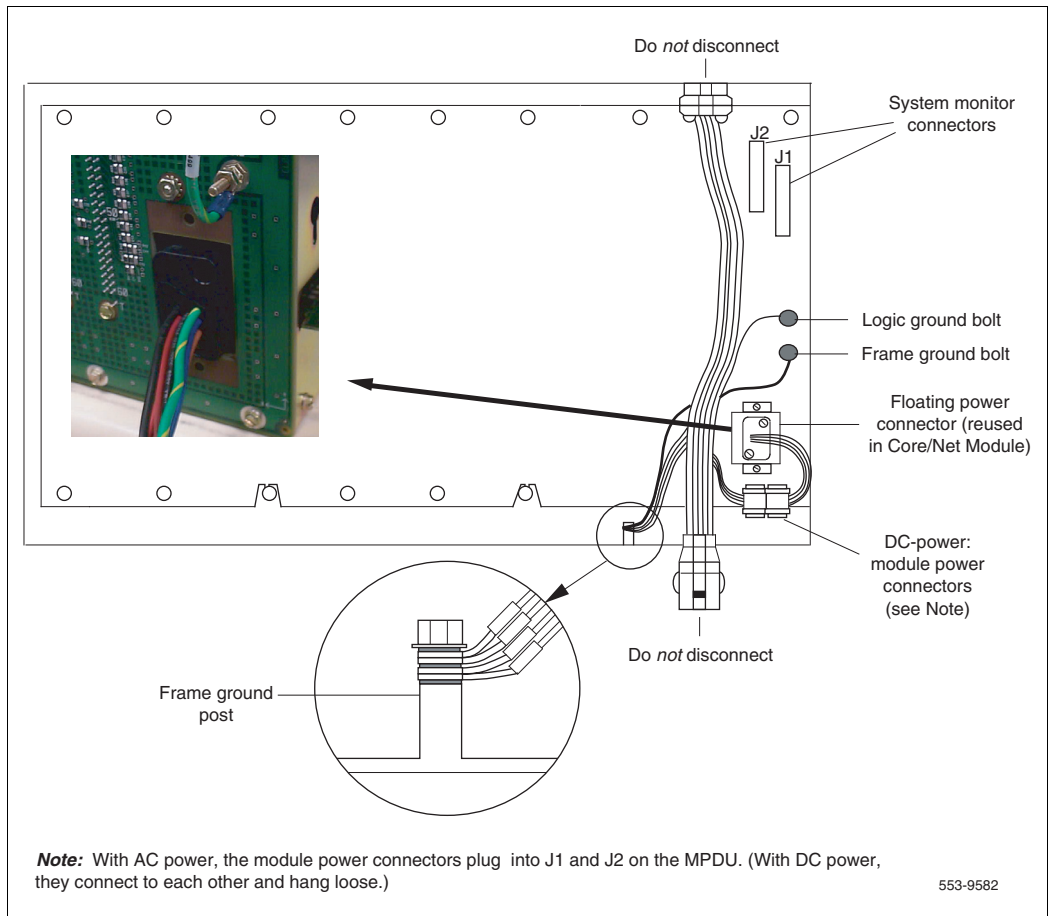


#### **CAUTION — Service Interruption**

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

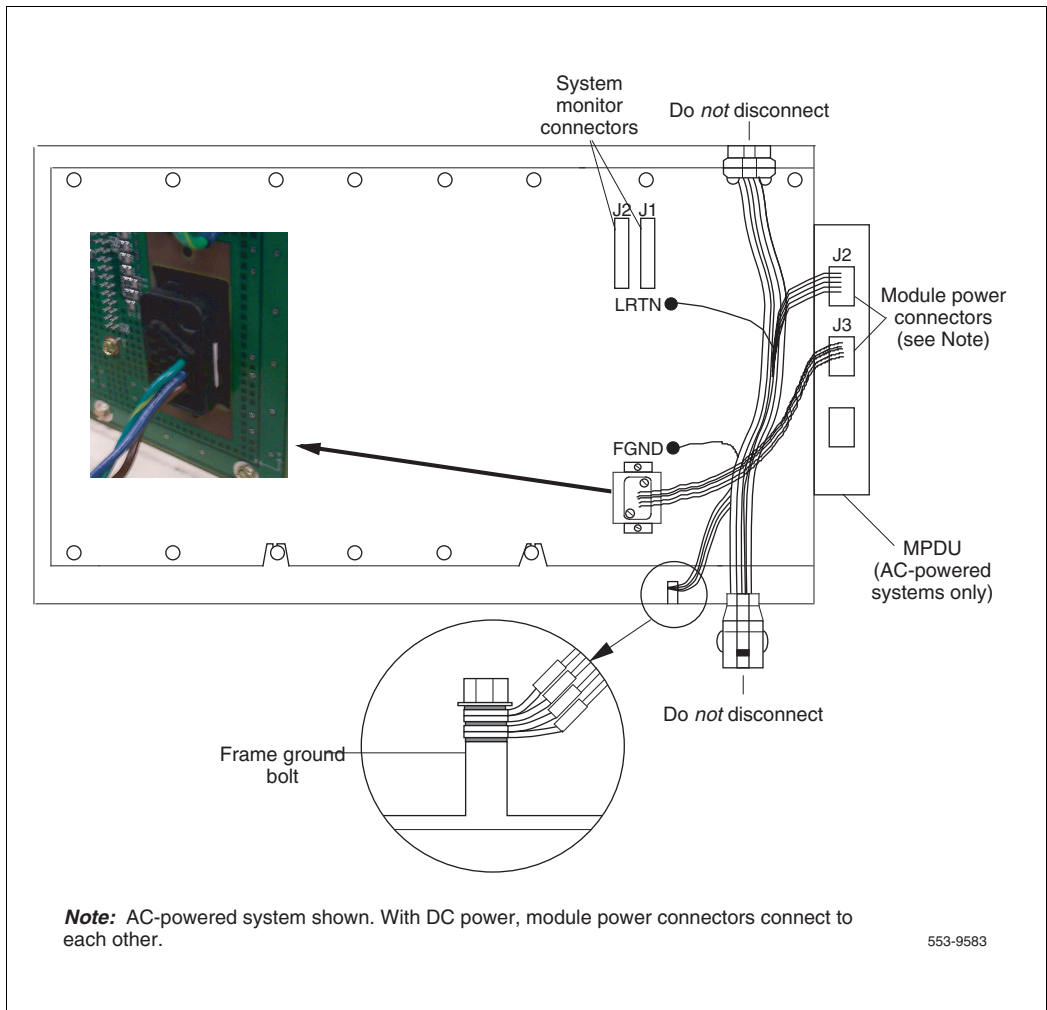
- 8    Remove the front trim panels on both sides of the card cage.
- 9    Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP card cage.
- 10   Pull the card cage forward until it is halfway out of the module.
- 11   Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12   Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. See Figure 15 on [page 91](#) for DC power connectors. See Figure 16 on [page 92](#) for AC power connectors.
- 13   Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

**Figure 15**  
**DC power connectors on the Core module backplane**



- 14** Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15** Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16** Remove the Core card cage from the module.

**Figure 16**  
**AC power connectors on the Core module backplane**



- 17** Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
  - For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.
- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.

**WARNING**

If you do not tape the EMI shield in position, you will not be able to install the card cage in the module correctly.

**CAUTION — Service Interruption****Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

Install the CP card cage in Core 1

**Procedure 17**  
**Installing the CP card cage in Core 1**

- 1 Check that the card cage is configured as Core 1. See Table 15 for instructions.

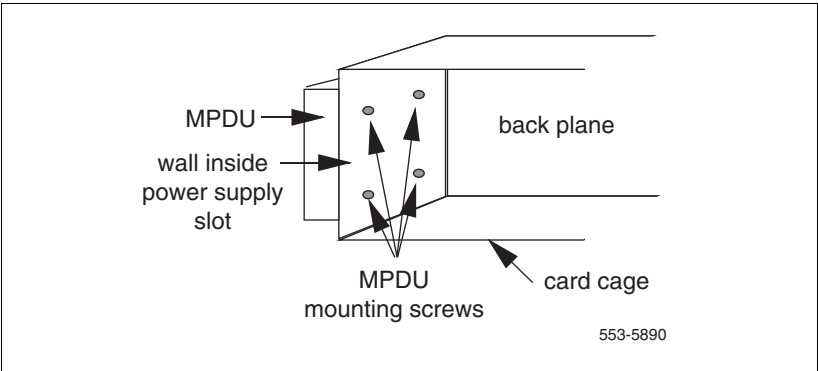
**Table 15**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 2 For AC-powered systems only, attach the MPDU, part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 17.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

**Figure 17**  
**Location of the screws for the MPDU**



- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).



### CAUTION — Service Interruption

## Damage to Equipment

Check for and remove any debris (such as screws) that may have fallen into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
  - c. Attach the system monitor ribbon cables:
    - i. Connect the ribbon cable that goes down to the column to connector J1 on the backplane.
    - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
  - d. Use a 11/32" socket wrench to attach the green ground wire to the frame ground bolt on the module. Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.
- Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" socket wrench.)

- 7    Secure the card cage and EMI shield to the module re-using the existing screws.
- 8    Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a.    Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b.    Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 9    Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 10   Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 18**

#### **Installing the power supply**

- 1    Unpack the power supply.
- 2    Faceplate disable the power supply.
- 3    Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### **Procedure 19**

#### **Relocating Network cards to CP PIV Core/Net 1**

### **Procedure 20**

#### **Relocating Network cards to CP PIV Core/Net 1**

- 1    Move any existing cards from slots 0-11 of the old Core/Net 1 card cage to the same slots (0-11) in the new NT4N40 Core/Net 1 card cage.
- 2    Connect the tagged cables to the relocated cards.
- 3    When you move the 3PE card, check the switch settings and jumpers. See Table 16 on [page 97](#).



- a. All 3PE cards must be vintage F or later.
- b. Check that the RN27 Jumper is set to "A".
- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves. Table 16 shows the 3PE settings for cards installed in CP Core/Net Modules.

**Table 16**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper settings. Set Jumper RN27 at E35 to "A".</b>									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PIV)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

---

**End of Procedure**

---

## Install the Security Device

### Procedure 21

#### Installing the Security Device

The Security Device fits into the System Utility card (see Figure 18 on [page 99](#).) To install the Security Device, do the following.

- 1    If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.    Unlock the latches and remove the IODU/C card.
  - b.    Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

Or

If the original system did not have an IODU/C, use the Security Device provided with the Software Install Kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

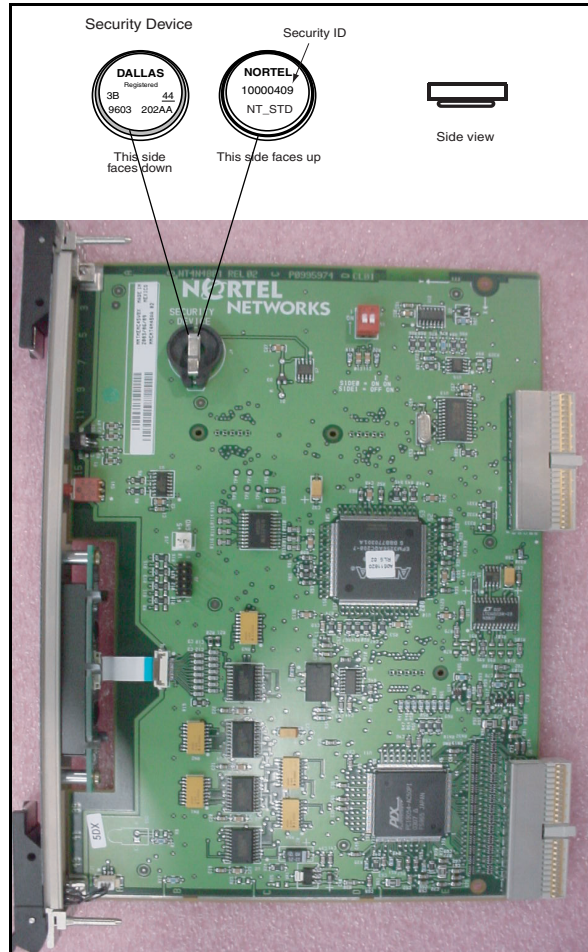
- 2    Check that the Security Device is securely in place.

---

**End of Procedure**

---

**Figure 18**  
**Security Device**

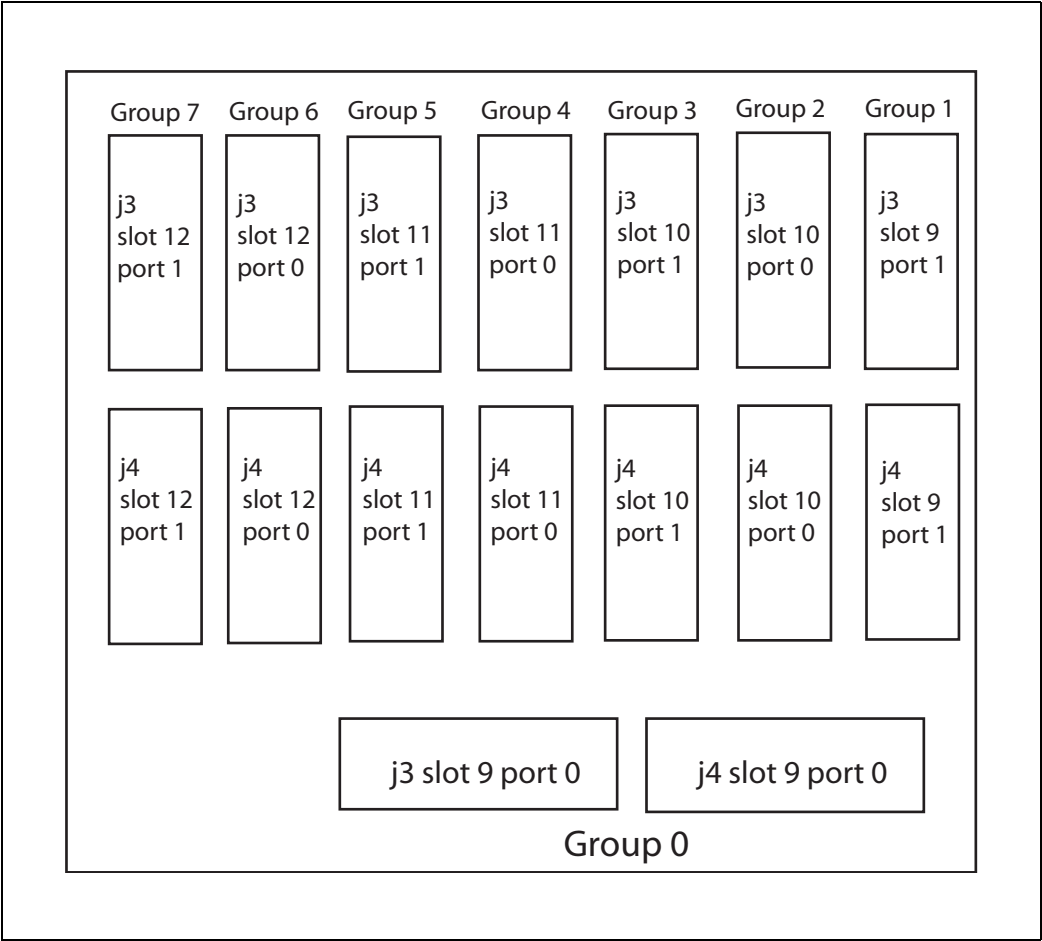


## Cable Core 1

### In Core 1, inspect factory installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 1. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

**Figure 19**  
**Connectors for CNI-3PE cables to the Fanout panel**



### In Core 1, route and connect the CNI to 3PE (NTND14) cables

The existing NTND14 cables may be reused if they meet the requirements of the Important box below. If it is determined that existing NTND14 cables must be replaced on side 1, remove the existing cables and replace with the correct length cables. Connect the NTND14 cables to the Fanout panel in Core/Net 1 and the 3PE cards in each equipped network shelf 1. See Figure 20 on [page 105](#) and Table 17 on [page 103](#).



#### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PIV, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from

the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Table 17 on [page 103](#).



**WARNING**

**Damage to Equipment**

Do not pry the against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

**Table 17**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1. See Figure 20 on [page 105](#).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 20 on [page 105](#).

## Add Side 1 FIJI hardware

### Procedure 22 Add Side 1 FIJI hardware

- 1 Tag and disconnect the IGS/DIGS cables.
- 2 Remove the IGS/DIGs cards from Side 1.
- 3 Faceplate disable the FIJI cards.

- 4    Insert the FIJI cards in Side 1. **DO NOT seat the FIJI cards.**

**Note:** FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.

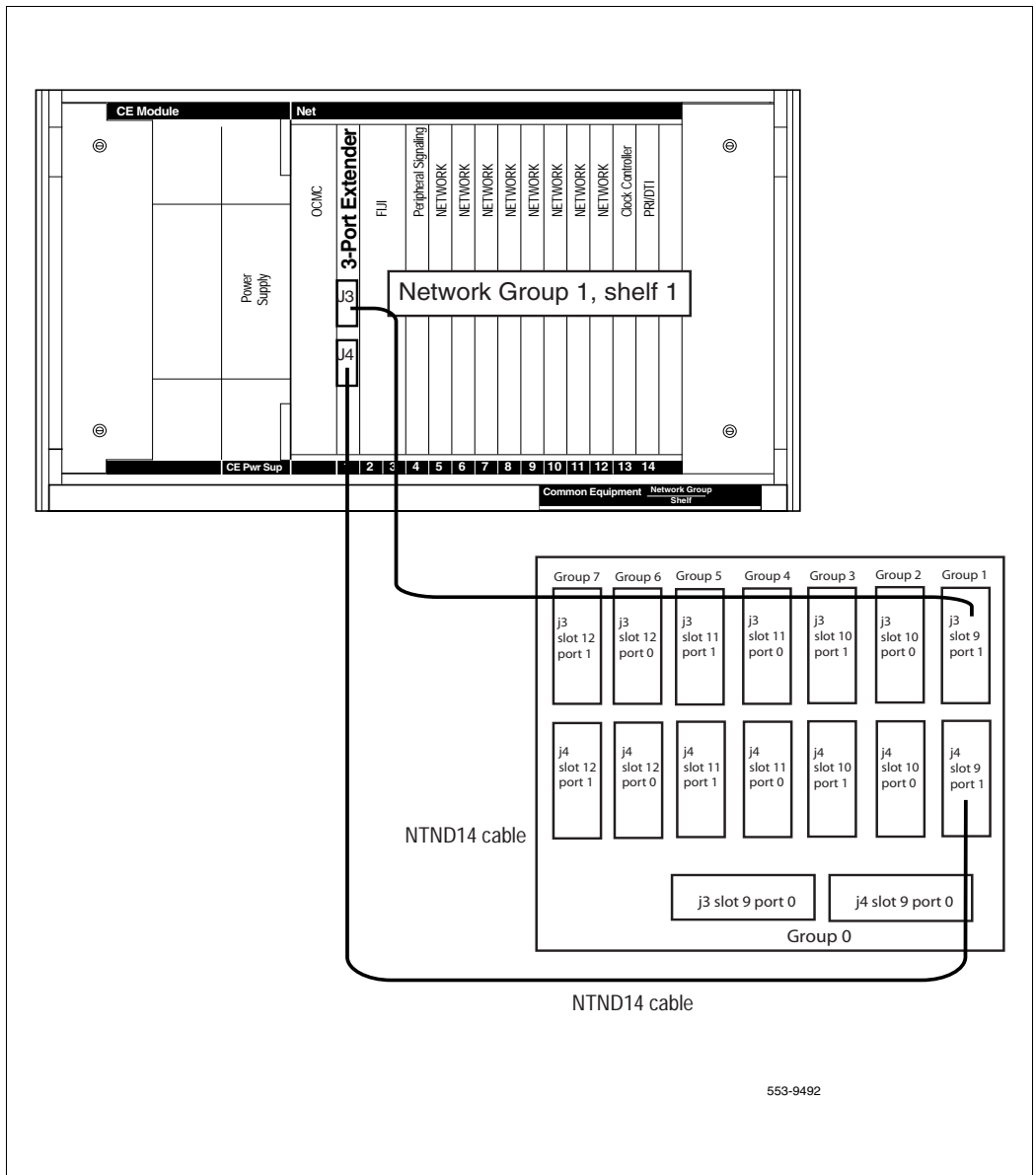
---

**End of Procedure**

---



**Figure 20**  
**3PE Fanout Panel connections**



**Procedure 23**  
**Connecting the shelf 1 FIJI Ring cables (descending)**



**IMPORTANT!**

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (Figure 21 on [page 107](#).)

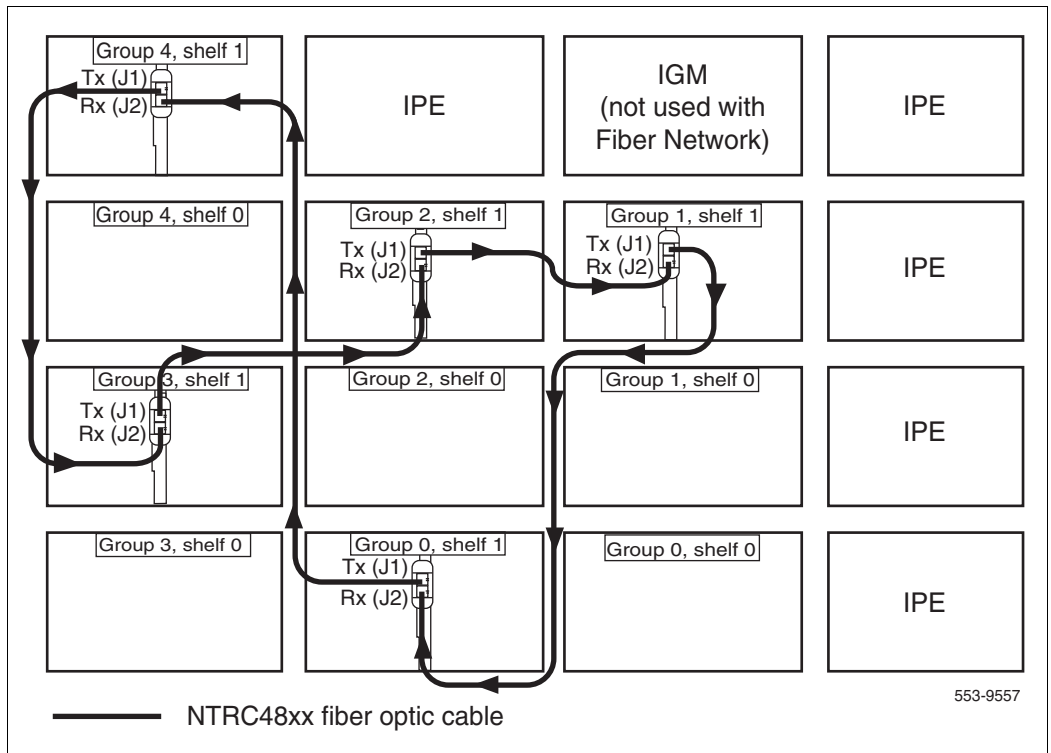
Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1** Start with Network group 0, shelf 1.
- 2** Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 1** to the Rx (J2) port of the FIJI card in the **highest Network group, shelf 1**.
- 3** Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.
- 4** Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 1 of each Network group. Connect these cables in **descending** order of Network groups.

**Figure 21**

**Shelf 1 *descending* fiber-optic Ring (Meridian 1 Option 81C 5 group example)**



- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

**Note:** Connect the Side 1 FIJI Ring cables only.

**Table 18**  
**FIJI Ring 1 connections**

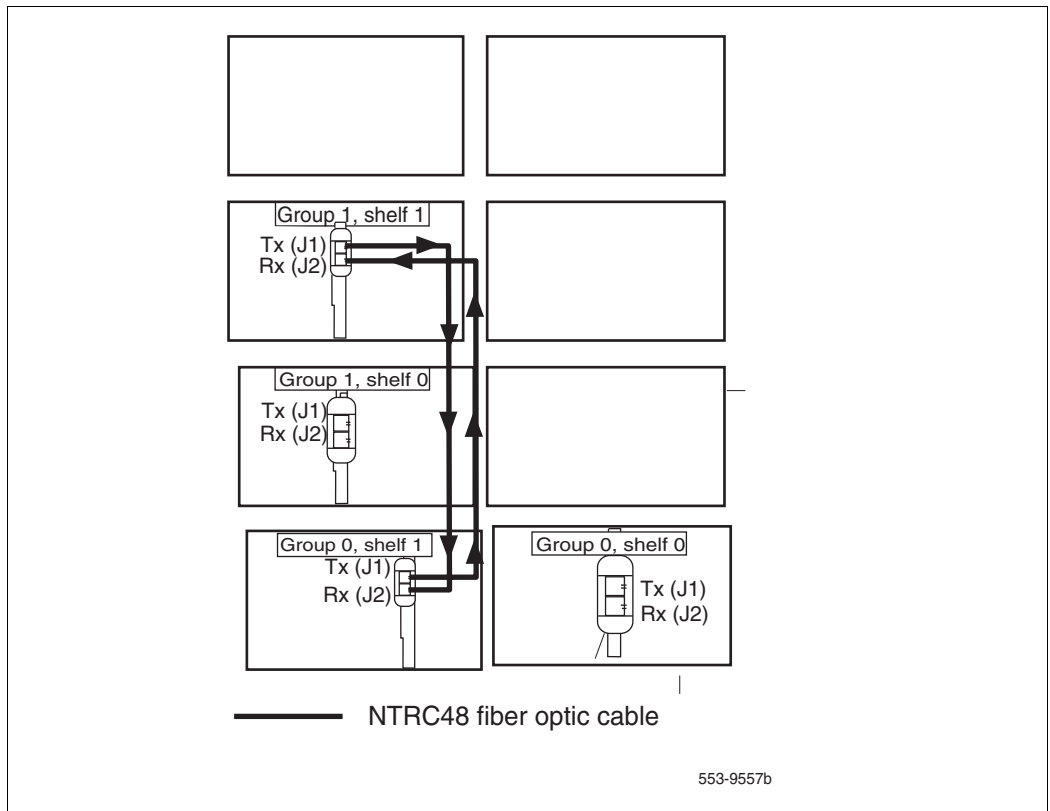
Groups 0 - X are cabled in descending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/1	P1	Tx
7/1	P2	Rx
7/1	P1	Tx
6/1	P2	Rx
6/1	P1	Tx
5/1	P2	Rx
5/1	P1	Tx
4/1	P2	Rx
4/1	P1	Tx
3/1	P2	Rx
3/1	P1	Tx
2/1	P2	Rx
2/1	P1	Tx
1/1	P2	Rx
1/1	P1	Tx
0/1	P2	Rx

---

**End of Procedure**

---

**Figure 22**  
**Shelf 1 descending fiber-optic Ring (Meridian 1 Option 81 2 group example)**



**Procedure 24**  
**Cable the Clock Controller 1 to FIJI hardware**

Connect the cables to the Clock Controller 1 as shown in Figure 23 on [page 111](#).

- 1 Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2 Connect P2 of the NTRC46 cable from Clock 1 to J3 of the FIJI card in group 0, shelf 1.

**End of Procedure**

## Power up Core 1

### Procedure 25

#### Preparing for power up

- 1 Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core.
- 3 Check the terminal settings as follows:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

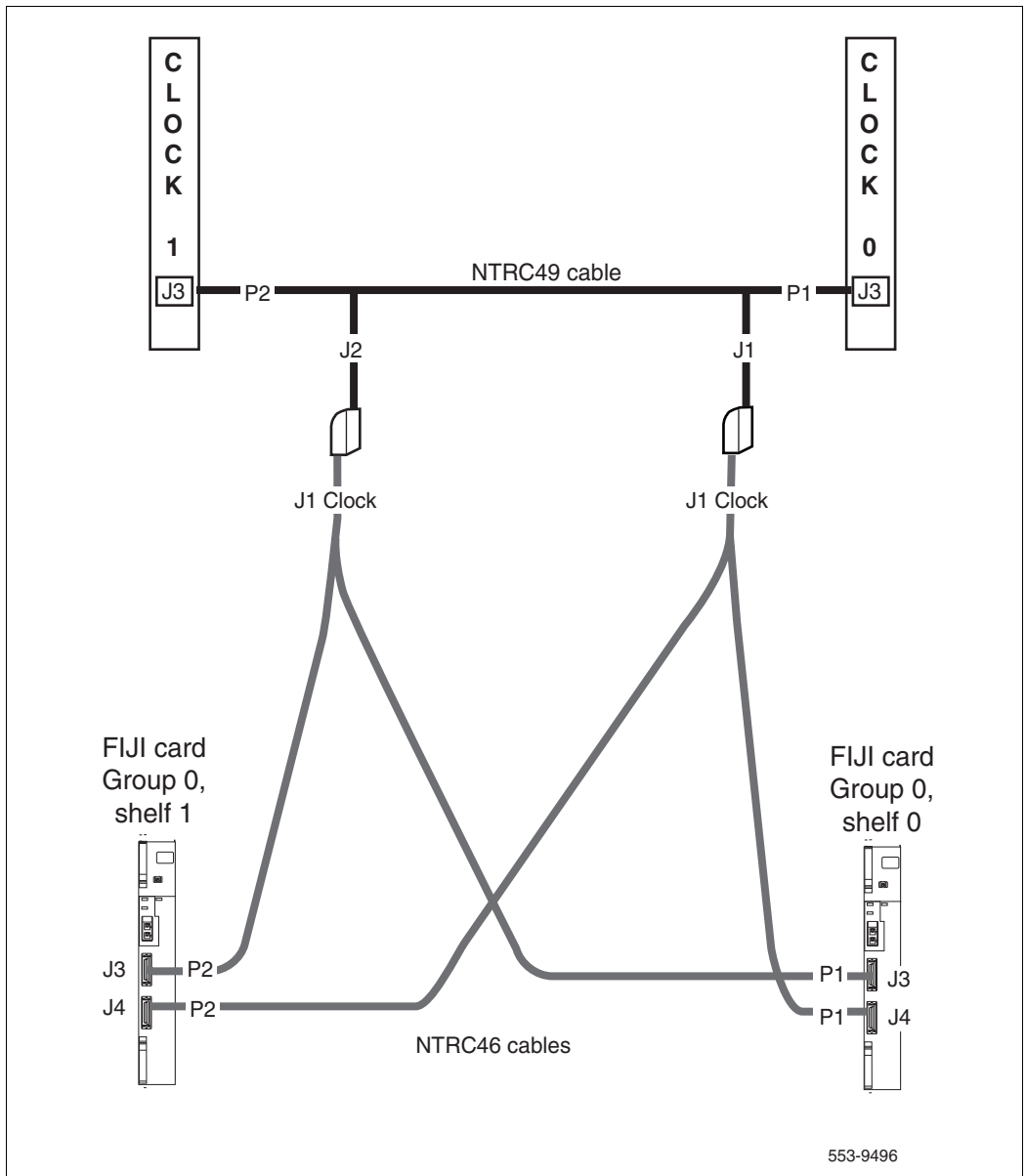
- 4 Faceplate *enable* all core and network cards.
- 5 Faceplate *enable* the power supply.

---

**End of Procedure**

---

**Figure 23**  
**Clock Controller cable configuration**



## Power up Core cards

### Procedure 26

#### Powering up core cards

- 1 For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2 For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

---

**End of Procedure**

---

## Restore power

### Procedure 27

#### Restoring power

- 1 Restore power to Core/Net 1.
- 2 Wait for the system Load/initialize.
- 3 Check that the Network and I/O cards have working power.



System is in split mode, CP 0 is active, Clock 0 is active.

## CS 1000 Release 4.5 upgrade

### Upgrading the software

Procedure 28 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

### Procedure 28

#### Upgrading the software

- 1 Check that a terminal is now connected to COM 1.
- 2 Insert the RMD into the CF card slot.



- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
and size ...
    Number of partitions  0:
    Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

The Fix Media Device on Core x is blank.

Install cannot continue unless the FMD is partitioned.

Note: INSTALL WILL REBOOT AFTER THIS PROCEDURE AND

FIX MEDIA WILL BE EMPTY AFTER YOU PARTITION IT.

INSTALL REMOVABLE MEDIA MUST BE IN THE DRIVE AT THIS TIME.

Please enter:

<CR> -> <a> - Partition the Fix Media Device.

Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32

    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...

Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2

    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...

fdiskDevCreate(/dev/hda2)

/dev/hda2: partTablePtr = 0x12d5ff0c

Found partition 2, nodePtr = 0x12d30a4c

Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:

Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
FAT

    Sectors reserved 32, hidden 63, FAT sectors
1216

    Root dir entries 0, sysId VX5DOS32, serial
number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```
Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...
```

**6**    The system then enters the Main Menu for keycode authorization.

```

                                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
          <t> - To Tools menu.
          <q> - Quit.

Enter Choice> <u>
```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

          <CR> -> <a> - RMD is now in the drive.
          <q> - Quit.

Enter choice>
```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "y" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd  1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7    Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8    The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

           <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

           <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```



- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L      M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **<b>**

- 10 The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the  
drive on Core x.

Please enter:

          <CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

          <q> - Quit.

Enter choice> **<CR>**

- 11 If the RMD containing the software is already in the drive, select option “<a> - RMD is now in drive. Continue with s/w checking.” (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 12** The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

The RMD contains System S/W version xxxx.

Please enter:

<CR> -> <y> - Yes, this is the correct version. Continue.

<n> - No, this is not the correct version. Try another RMD or a different keycode.

Enter choice> **<CR>**

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13** The Dependency List menus appear.

```
Do you want to install Dependency Lists?  
  
Please enter:  
  
<CR> -> <y> - Yes, Do the Dependency Lists  
installation  
  
<n> - No, Continue without Dependency Lists  
installation  
  
Enter choice> y  
  
>Processing the install control file ...  
  
>Installing release xxxx
```

14 The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	SW: RMD to FMD		yes	install for rel XXXXX
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	Dependency Lists		yes	
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	IPMG Software		yes	install for rel XXXXX
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	DATABASE		yes	
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	CP-BOOTROM		yes	

- 15 Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.


        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```

- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>

```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```

The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>

```

19 Continue with database installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

      <CR> -> <a> - Continue with database
install.

      <q> - Quit.

Enter choice> a or <CR>
```

The installtion summary screen appears. Verify successful installation and enter <CR> when ready.

```
-----
                        INSTALLATION STATUS SUMMARY
-----

+-----+-----+-----+-----+
| option | choice | status | comment |
+-----+-----+-----+-----+
| Sw: RMD to FMD | yes | OK | install for rel 04xxx |
+-----+-----+-----+-----+
| Dependency Lists | yes | OK | |
+-----+-----+-----+-----+
| AUTO-CSU Feature | no | | AUTO-CSU Disabled |
+-----+-----+-----+-----+
| IPMG Software: | no | | |
+-----+-----+-----+-----+
| Database | yes | OK | conversion from xxxx |
+-----+-----+-----+-----+
| CP-BOOTROM | yes | OK | |
+-----+-----+-----+-----+

Please press <CR> when ready ...
```



**20** Upon returning to the main install menu, enter **q** to quit.

```

      I N S T A L L   M E N U

      The Software Installation Tool will
      install or upgrade Succession Enterprise System
      Software, Database and the CP-BOOTROM. You will be
      prompted throughout the installation and given the
      opportunity to quit at any time.

      Please enter:

      <CR> -> <a> - To install Software, CP-BOOTROM.
              <b> - To install Software, Database, CP-
      BOOTROM.
              <c> - To install Database only.
              <d> - To install CP-BOOTROM only.
              <t> - To go to the Tools menu.
              <k> - To install Keycode only.

              For Feature Expansion, use OVL143.

      <p> - To install 3900 set Languages.
      <q> - Quit.

      Enter Choice> q
```

- 21 The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.

    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.

-----

DO NOT REBOOT USING BUTTON!!!

-----

    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

---

**End of Procedure**

---

## Verify the upgraded database

### Procedure 29

#### Verifying the upgraded database

- 1 Print ISSP (system software issue and patches)

**LD 22** Load program

**REQ** ISSP

**\*\*\*\*** Exit program

- 2 Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22** Load program

**REQ** PRT

**TYPE** CFN

**\*\*\*\*** Exit program

- 3 Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22** Load program

**REQ** SLT

**\*\*\*\*** Exit program

- 4    Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program

## Configuring IP addresses

### Procedure 30 Configuring the IP addresses

Two unique IP address are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1    Use the following to check the status of the system's IP address:

<b>LD 117</b>	Load program
<b>PRT HOST</b>	Print the configured host information

If the system returns with host names "active" and "inactive", go to "Check for Peripheral Software Download to Core 1" on [page 133](#). If the system returns no host names, complete the steps below.

- 2    Contact your System Administrator to identify IP address and subnet mask information.
- 3    Configure the primary (*active*) and secondary (*inactive*) IP addresses:

<b>LD 117</b>	Load program
<b>NEW HOST NAME 1 IP ADDRESS</b>	Define the first IP address: "name 1" is an alias for the IP address such as "primary" (The IP address is the IP number)
<b>CHG ELNK ACTIVE NAME 1</b>	Assign the "name 1" address to the <i>active</i> Core

**NEW HOST 'NAME 2' 'IP ADDRESS'**

Define the second IP address: "name 2" is an alias for the IP address such as "secondary" (The IP address is the IP number)

**CHG ELNK INACTIVE NAME 2**

Assign the "name 2" address to the *inactive* Core.

**CHG MASK XXX.XXX.XXX.XXX**

Set the sub-net per local site (This number allows external sub-nets to connect to the system)

**4 Enable the new Ethernet interface.**

<b>LD 137</b>	Load program
<b>update dbs</b>	Update the ELINK database
<b>dis elnk</b>	<i>Disable</i> the old IP interface values
<b>enl elnk</b>	<i>Enable</i> the new IP interface values

---

**End of Procedure**

---

**Check for Peripheral Software Download to Core 1**

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in "Print site data" on [page 47](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Load LD 22 and print Target peripheral software version.

<b>LD 22</b>	
<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## For systems with fewer than eight groups, delete CNIs

### Procedure 31 Deleting CNIs

Software has configured the system for eight groups. If the system has eight groups, skip this procedure. If the system has fewer than eight groups, you must software remove the CNIs not used in the system configuration:

- 1 In Core/Net 1, disable all cCNI cards using LD 135:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get status of all cCNI cards
<b>DIS CNIP x s p</b>	Disable cCNI ports where: x = Core number (0 or 1) s = card slot (9-12) p = port (0 or 1)
<b>DIS CNI x s</b>	Disable cCNI cards where: x = Core number (0 or 1) s = card slot (9-12)
<b>STAT CNI</b>	Confirm that cCNI cards are disabled
<b>****</b>	Exit program

- 2 Use LD 17 to remove the extra cCNI cards.

<b>LD 17</b>	Load program
<b>CHG</b>	CFN
<b>TYPE</b>	CEQU
<b>CEQU</b>	
<b>carriage return to EXT0</b>	
<b>EXT0 3PE</b>	Core/Net 0 extended to 3PE

**CNI s p x**                      Out the cCNI card, where:  
    s = card slot (9-12)  
    p = port (0 or 1)  
    x = out network group

**EXTI 3PE**                      Core/Net 1 extended to 3PE

**CNI s p x**                      Out the cCNI card, where:  
    s = card slot (9-12)  
    p = port (0 or 1)  
    x= out network group

**carriage return to end  
of program**

\*\*\*\*                              Exit program

**3**    Use LD 135 to re-enable cCNI cards:

**LD 135**                      Load program

**STAT CNI**                      Get status of all cCNI cards

**ENL CNI x s**                      Enable cCNI cards where:  
    x= Core number (0,1)  
    s = card slot (9-12)

**ENL CNIP x s  
p**                              Enable cCNI ports where:  
    x= Core number (0,1)  
    s = card slot (9-12)  
    p = port (0 or 1)

**STAT CNI**                      Confirm that cCNI cards are enabled (see note  
    below)

\*\*\*\*                              Exit program

**Note:** At this point, cCNI cards in Core 1 are controlled by the active call processor in Core 0. Therefore, it remains disabled.

---

**End of Procedure**

---



---

## Reconfigure I/O ports and call registers

### Procedure 32

#### Reconfiguring I/O ports and call registers

- 1 Remap all I/O ports (except CPSI ports) to the proper groups.  
The group number of these ports is determined by the physical location of the card. The configuration information must match the CNI configuration

```
LD 17          Load program
CHG            CFN
TYPE          ADAN CHG AAA X G
carriage
return to end
of program
```

```
****          Exit program
```

- 2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 1000 and 20000 (respectively). If changes are required, reconfigure the values in LD 17:

```
LD 17          Load program
CHG            CFN
TYPE          PARM
carriage
return to end
of program
```

```
****          Exit program
```

---

**End of Procedure**

---

**Procedure 33**  
**Rebooting Core 1**



**CAUTION**

**Service Interruption**

The INI may take up to 15 minutes to complete.



**CAUTION**

**Service Interruption**

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

At this stage, Core 0 is still the active call processor with Clock Controller 0 active. The following procedure will transfer call processing from Core 0 to Core 1, switching Clock Controller from 0 to 1 and switching from IGS/DIGS to FIJI.

- 1    In Core/Net 0 only, faceplate disable the CNI cards.
- 2    In Core/Net 0 only, faceplate disable the IODU/C card.
- 3    In Core/Net 0 only, unseat the Core Processor card.
- 4    Faceplate disable Clock Controller 0 and unseat the card.
- 5    Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.
- 6    Seat and faceplate enable Clock Controller 1.
- 7    Seat and faceplate enable all FIJI cards in shelf 1.
- 8    Press the 'RESET' button on the CP PIV card faceplate to initialize the system.

- 9 Wait for “DONE” and then “INI” messages to display before you continue.

**CAUTION****Service Interruption**

Allow the system to recover from all downloads after the INI completes.

**Note:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring; downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets. Upon INI completion, RING 1 is full, FIJI Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.



Call Processing is now active on Call Processor 1 (except for network cards on Core/Net 0).

**End of Procedure**

## Disable and remove equipment from Core/Net 0

**Note:** At this point, the active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

### Procedure 34

#### Faceplate disabling cards of Core/Net 0:

- 1 In Core/Net 0 only, faceplate disable the 3PE, Per Sig and all network cards.
- 2 Faceplate disable all IGS/DIGS cards in each network shelf 0.

---

**End of Procedure**

---

**Table 19**

**Shelf 0 IGS/DIGS card locations**

Network Group 0	Shelf 0	IGS/DIGS 0 & 2
Network Group 1	Shelf 0	IGS/DIGS 4 & 6
Network Group 2	Shelf 0	IGS/DIGS 8 & 10
Network Group 3	Shelf 0	IGS/DIGS 12 & 14
Network Group 4	Shelf 0	IGS/DIGS 18 & 20
<b>Note:</b> The DIGS card should be located in slot 9 of the network shelf.		

**Procedure 35**  
**Moving Clock Controller 0****CAUTION**

Clock controller cards must be NTRB53 Clock Controller cards.

**CAUTION****Service Interruption**

Move only Clock Controller 0 at this point in the upgrade.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 20 on [page 142](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1** Label and disconnect the Clock Controller 1.
- 2** Disconnect the cable from the Clock Controller 1 faceplate card.
- 3** If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4** Remove QPC Clock Controller 1 from the Network Module.
- 5** Set the Clock Controller 1 switch settings according to and Table 20 on [page 142](#).
- 6** Place the NTRB53 Clock Controller in the Network Shelf and slot. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.

## 7 Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group 1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PIV is upgraded to more than two Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 20**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft)		
		On	Off	6.4–10.1 m (21–33 ft)		
		On	On	10.4–15.2 m (34–50 ft)		
<b>Note:</b> Switch 7 and 8 are not used.						

————— **End of Procedure** —————

**Procedure 36**  
**Cabling the Clock Controllers**

**Note:** Earlier in the upgrade, you checked that Clock Controller 1 is installed in Network 1 shelf 1, slot 13; and Clock Controller 0 has been moved to Network group 1 shelf 0, slot 13.

**Note:** Connect the cables to the Clock Controllers as shown in Figure 24 on [page 144](#):

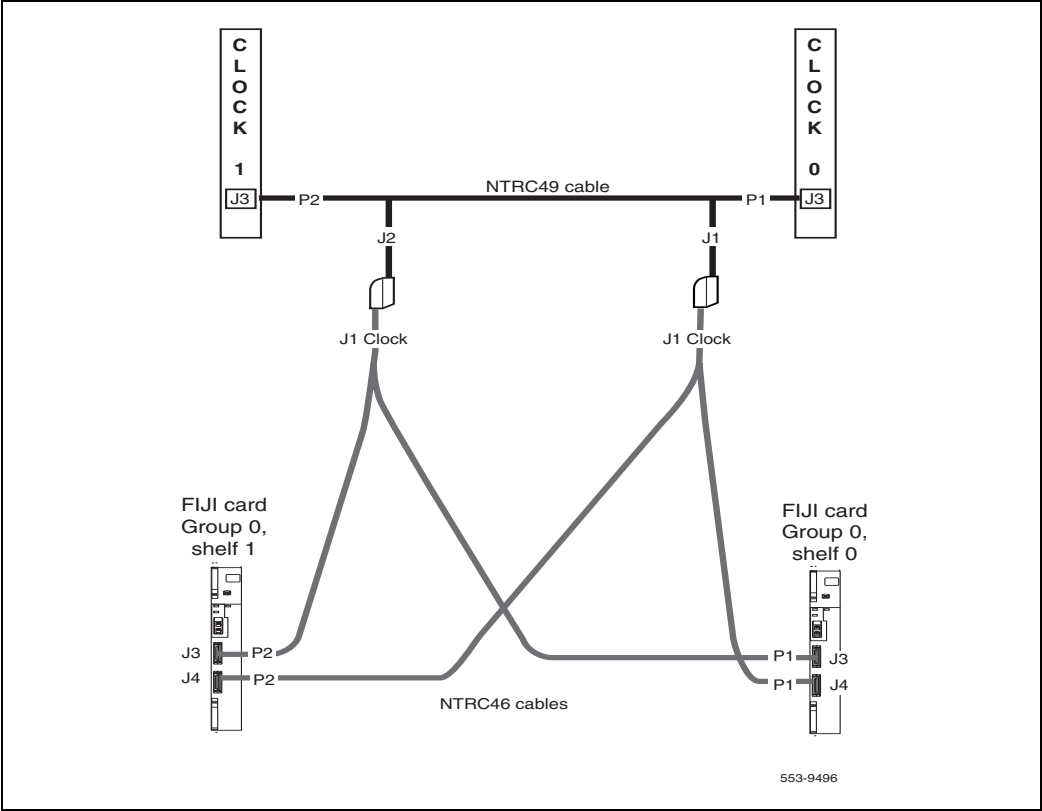
- 1** Connect the Clock to Clock cable:
  - a.** Connect J1 of the NTRC49 cable to port J3 of Clock Controller 0.
  - b.** Connect J2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2** Connect a Clock 0 to FIJI cable:
  - a.** Connect J2 of the NTRC46 cable from Clock 0 to J4 of the FIJI card in Group 0, shelf 1.

---

**End of Procedure**

---

**Figure 24**  
**Clock Controller cable configuration**





## Power down Core/Net 0



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



### DANGER OF ELECTRIC SHOCK

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

### Procedure 37

#### Removing Core 0 cables and card cage

- 1 Label and disconnect all cables to the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7    Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting. Keep the screws for use with the CP card cage.

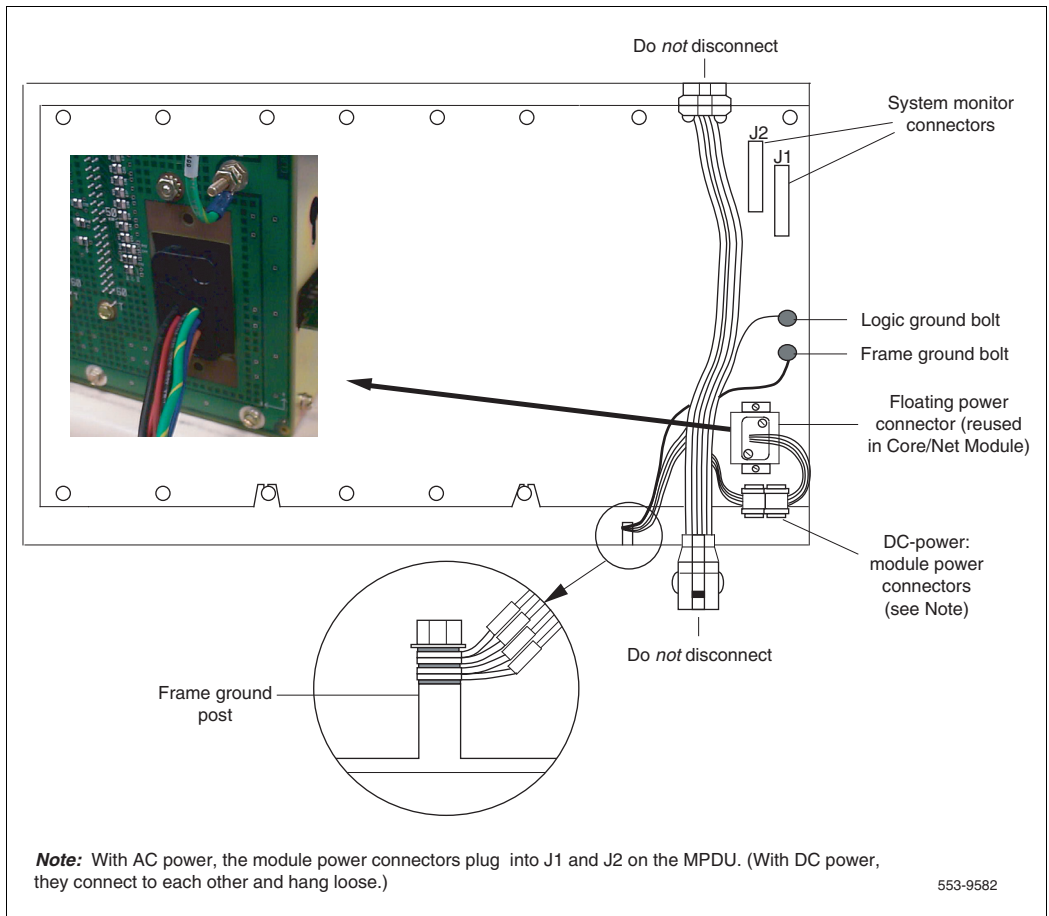


**CAUTION**

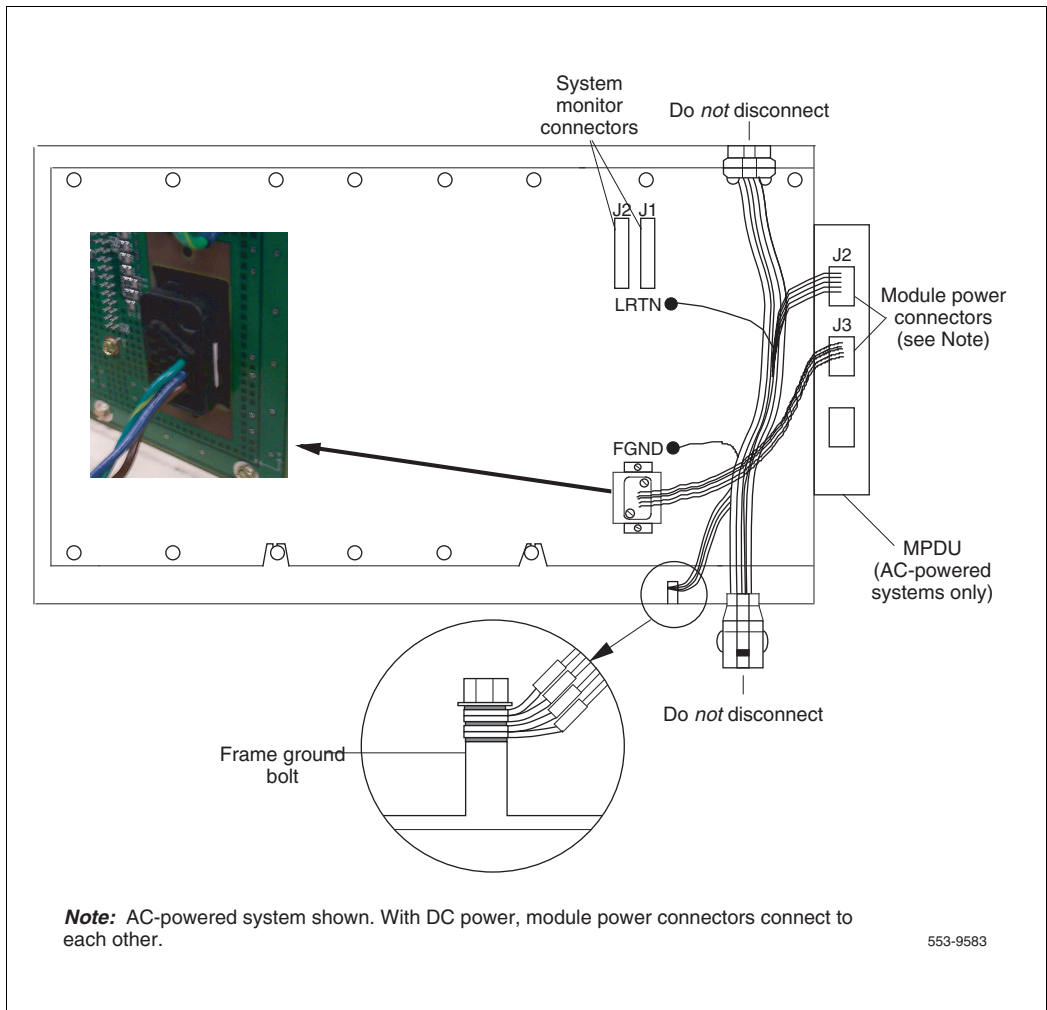
Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

- 8    Remove the front trim panels on both sides of the card cage.
- 9    Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP card cage.
- 10   Pull the card cage forward until it is halfway out of the module.
- 11   Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12   Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful not to drop the nut or lock washer into the pedestal. See Figure 25 on [page 147](#) for DC power connectors. See Figure 26 on [page 148](#) for AC power connectors.
- 13   Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14   Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15   Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16   Remove the Core card cage from the module.

**Figure 25**  
**DC power connectors on the Core module backplane**



**Figure 26**  
**AC power connectors on the Core module backplane**



- 17** Remove the power harness and reserve it for reinstallation as part of installing the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.

**WARNING**

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

## Upgrade Core 0 hardware

### Check that the main Core cards (front side) are installed

#### Procedure 38

#### Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 27 on [page 151](#).

- 1 NT4N65AC CP PII Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65AC cCNI card per Core/Net module.  
The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65AC Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
  - a. Check side ID switch settings for SU card in Core/Net 0 according to Table 21.

**Table 21**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

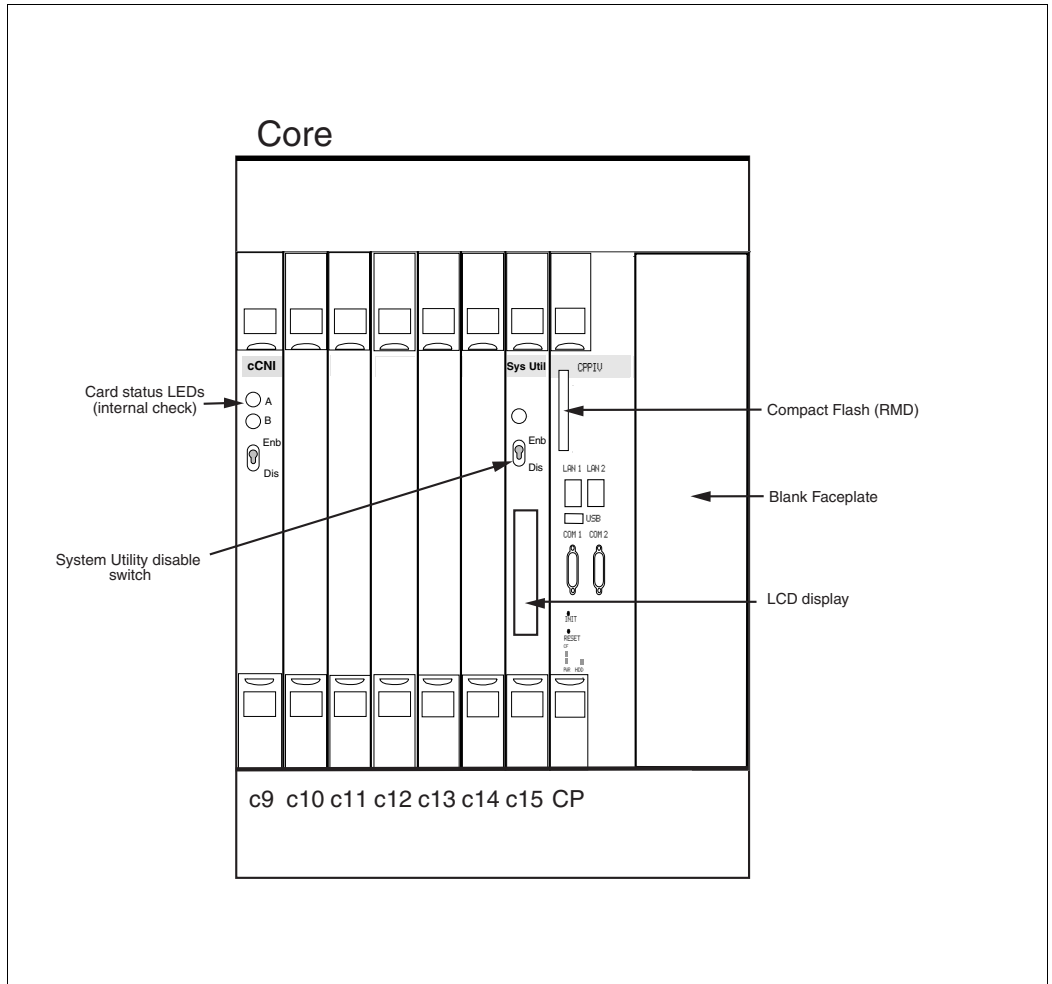
- 4 NT4N39 CP PIV is located in the Call Processor slot.

---

**End of Procedure**

---

**Figure 27**  
**Core card placement in the NT4N41 Core/Net Module (front)**



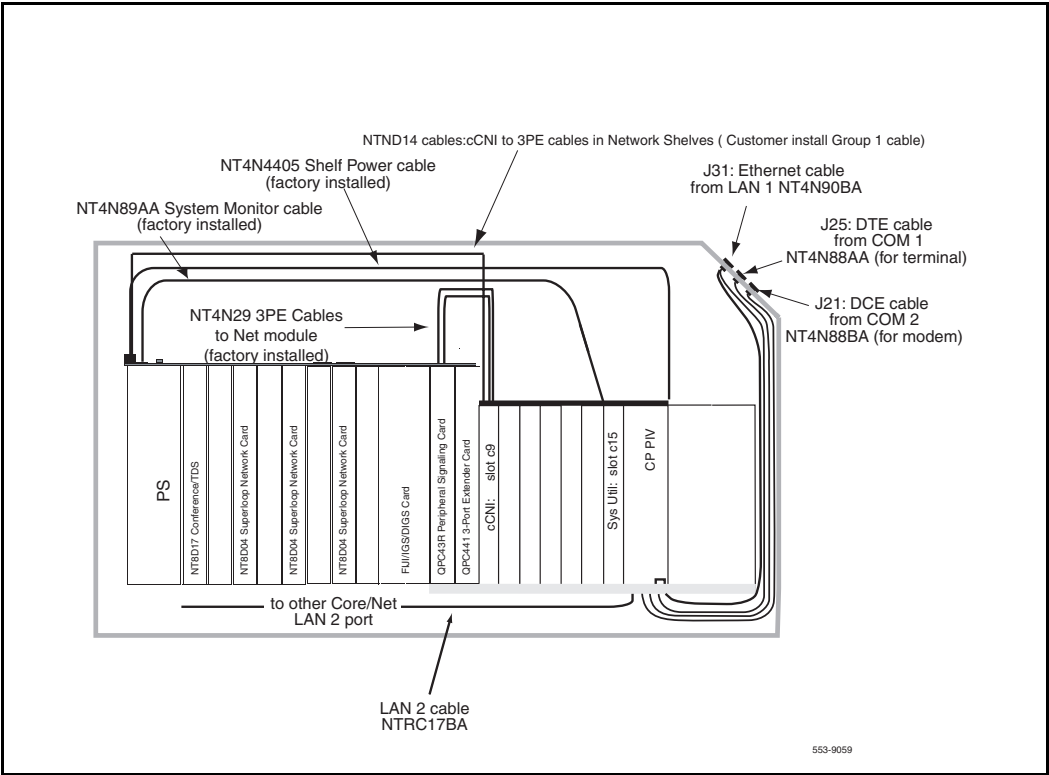
Check factory-installed cables

Table 22 lists factory-installed cables. See Figure 28.

Table 22  
 Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Figure 28  
 Core/Net cable connections





## Install the Security Device

### Procedure 39

#### Installing the Security Device

The Security Device fits into the System Utility card (see Figure 29 on [page 154](#)).

To install the Security Device:

- 1** If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.** Unlock the latches and remove the IODU/C card.
  - b.** Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

OR

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2** Check that the Security Device is securely in place.

**Figure 29**  
**Security Device**



## Install the CP card cage in Core 0

### Procedure 40

#### Installing the CP card cage in Core 0

- 1 Check that the card cage is configured as Core 0. See Table 23 for instructions.

**Table 23**

**Core module ID switch settings (System Utility card)**

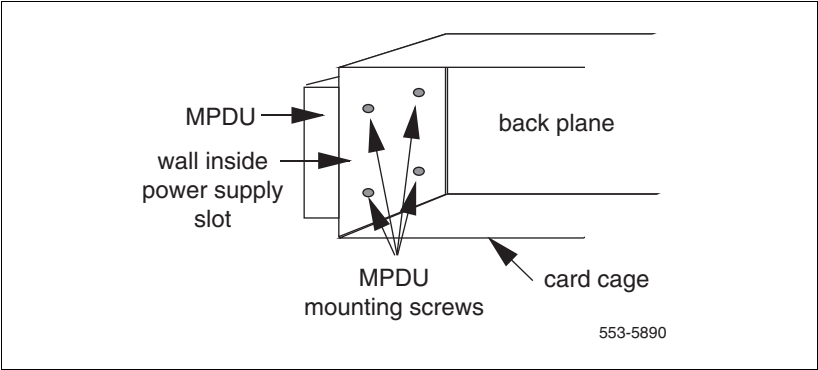
	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 2 For AC-powered systems only, install the new MPDU (part of the CP PIV Upgrade kit) to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 30 on page 156.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.

**Figure 30**  
**Location of the screws for the MPDU**



- a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).



## Damage to Equipment

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- b.** In DC-powered systems, connect the module power connectors to each other.
- c.** Attach the system monitor ribbon cables:
  - i.** Connect the ribbon cable that goes down to the pedestal to connector J1 on the backplane.
  - ii.** Connect the ribbon cable that goes up the column to J2 on the backplane.
- d.** Attach the green ground wire to the frame ground bolt on the module. (an 11/32" socket wrench is used to attach the wire.) Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.

**Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.

- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" or 2/8" socket wrench.)

- 6 Slide the card cage all the way into the module.
- 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.

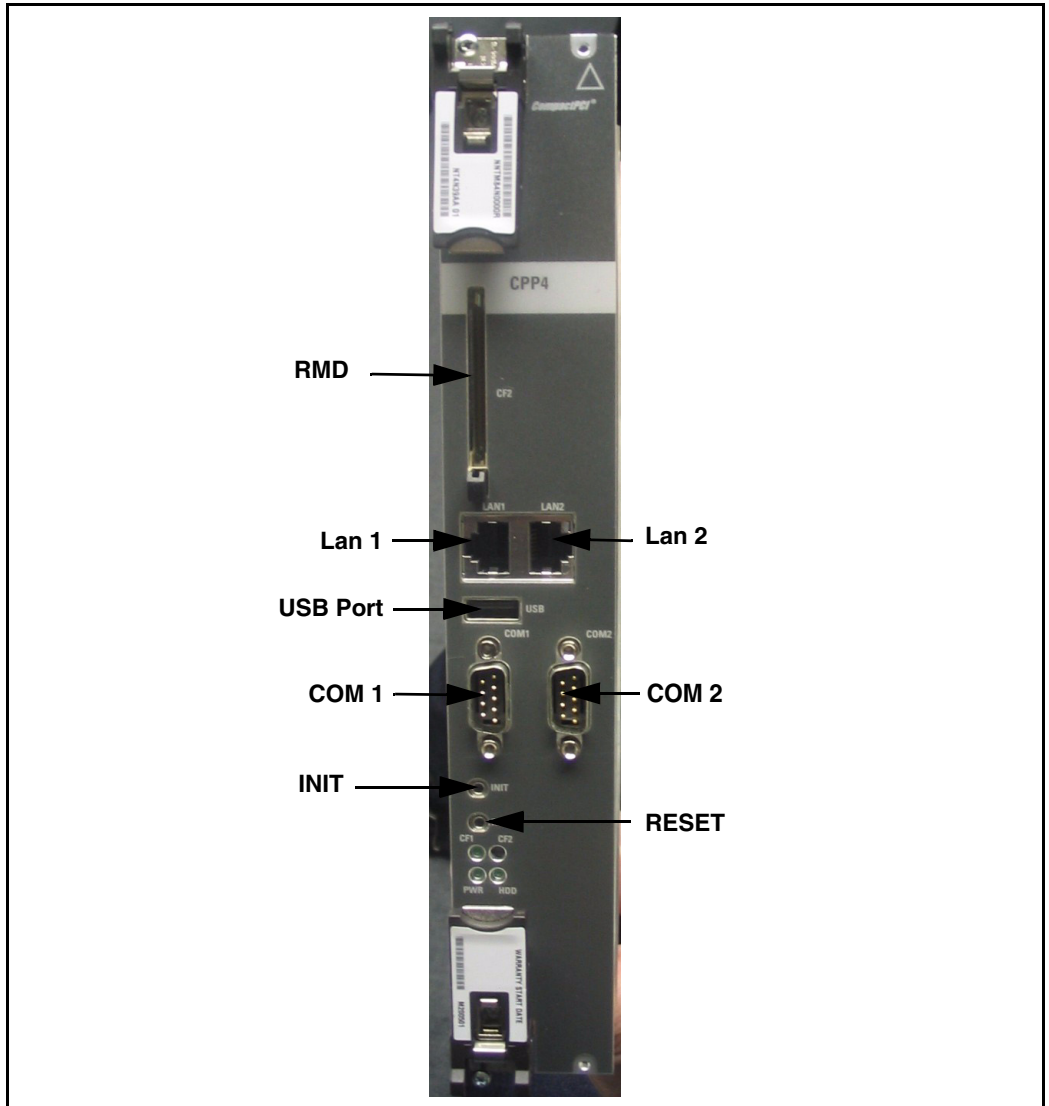
- 8**    Secure the card cage and EMI shield to the module re-using the existing screws.
- 9**    Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a.**    Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b.**    Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10**   Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11**   Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

**Figure 31**  
**CP PIV call processor card (front)**



## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 41 Installing the power supply**

- 1    Unpack the power supply.
- 2    Faceplate disable the power supply.
- 3    Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### **Procedure 42 Relocating Network cards to CP Core/Net 0**

- 1    Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 0 **except for the IGS/DIGS cards**.
- 2    When you move the 3PE card, check the switch settings and jumpers. See Table 24 on [page 161](#).
  - a.   All 3PE cards must be vintage F or later.
  - b.   Check that the RN27 Jumper is set to "A".
  - c.   The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 24 on [page 161](#) shows the 3PE settings for cards installed in CP Core/Net Modules.
- 3    Reinstall each removed card in the same network slot in the CP Core/Net 0.



**4** Connect the tagged cables to the relocated cards.**Table 24**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

**Cable Core 0****Cable COM 1 and COM 2 to the I/O panel**

- 1** Connect COM1 on the CP PIV faceplate to J25 on the I/O panel with cable NT4N88AA.
- 2** Connect COM2 on the CP PIV faceplate to J21 on the back of the I/O panel with cable NT4N88BA.

### **Connect a terminal and modem to the I/O panel**

- 1    Connect J25 to a terminal for use during the upgrade. Use a separate terminal for each Core if available. J25 can also be connected to an A/B box to share a terminal between both Cores.
- 2    Connect J21 to the device connected in the original system (such as a modem or A/B box).

### **Connect LAN 1**

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM. The options for the LAN 1 connections are shown in Figure 32 on [page 163](#).

#### **Procedure 43**

##### **If the system will be connected to a LAN**

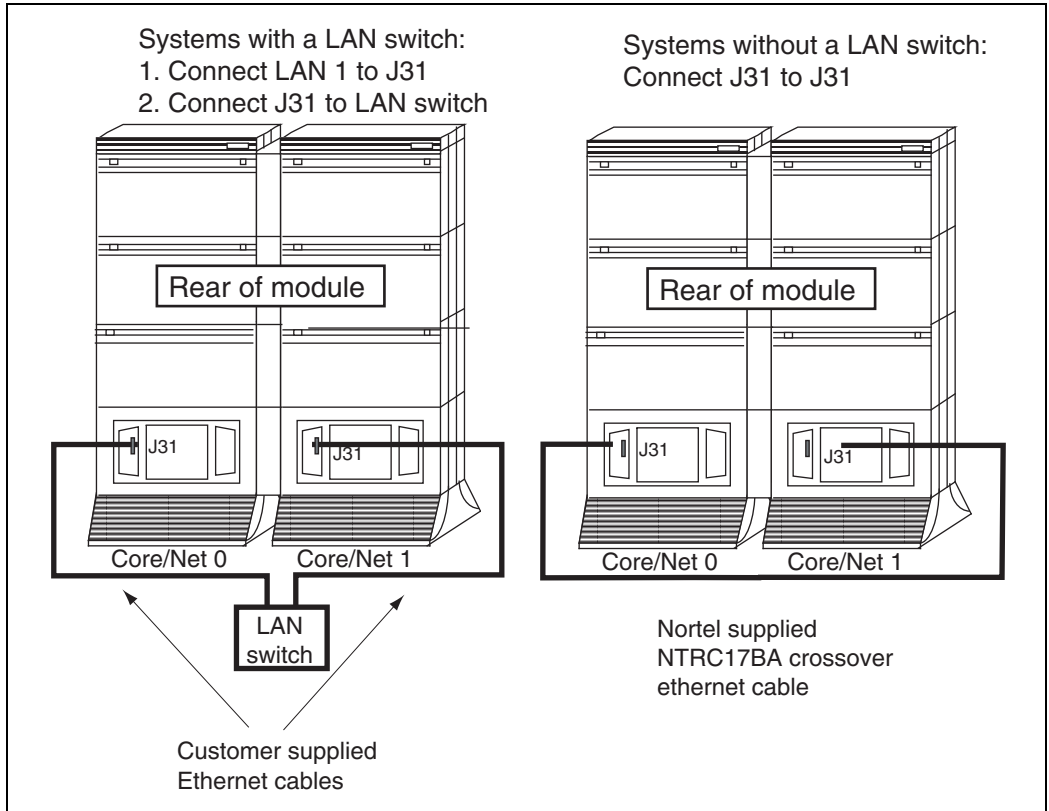
- 1    Connect the “Dual Ethernet Adapter (RJ-45) for I/O Panel” (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2    Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3    Connect J31 to a LAN switch.
- 4    If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by NTRC17BA cable.

---

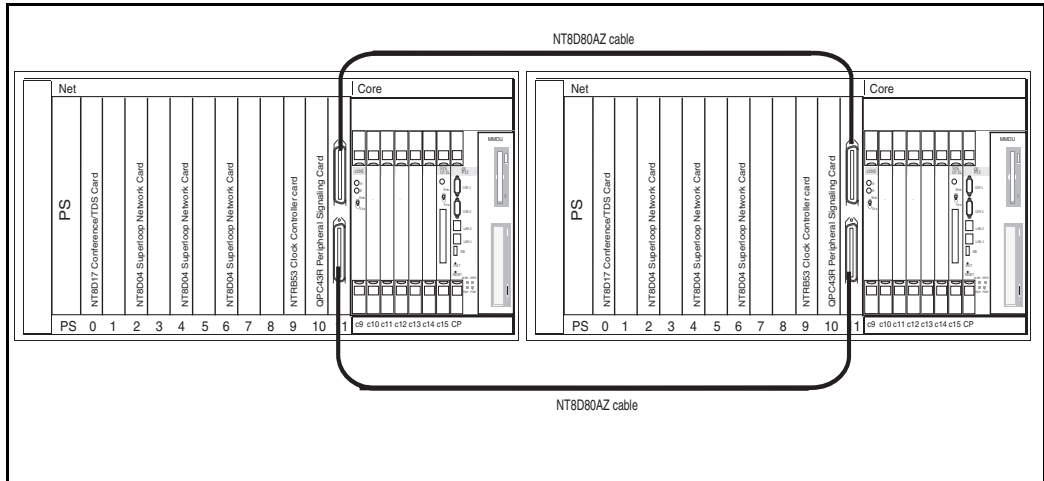
**End of Procedure**

---

**Figure 32**  
**Options for LAN 1 connection**



**Figure 33**  
**3PE card connections**



## In Core 0, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 0. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

## Installing intermodule cables

### Procedure 44

#### Installing intermodule cables

- 1 Connect the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 34 on [page 165](#)).

- 3 Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 35 on [page 166](#)).
- 4 If the system has XSDI cards, reinstall the cards and attach the cables.

**End of Procedure**

**Figure 34**  
**Fanout Panel connections on the CP Core/Net backplane**

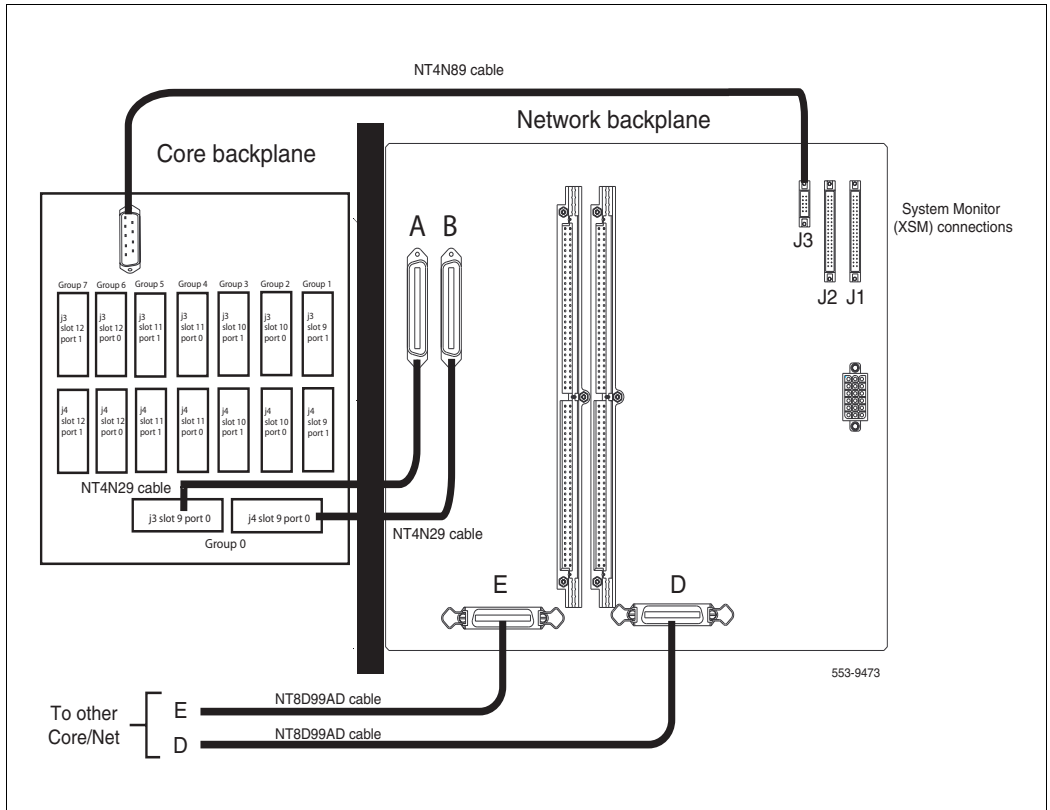
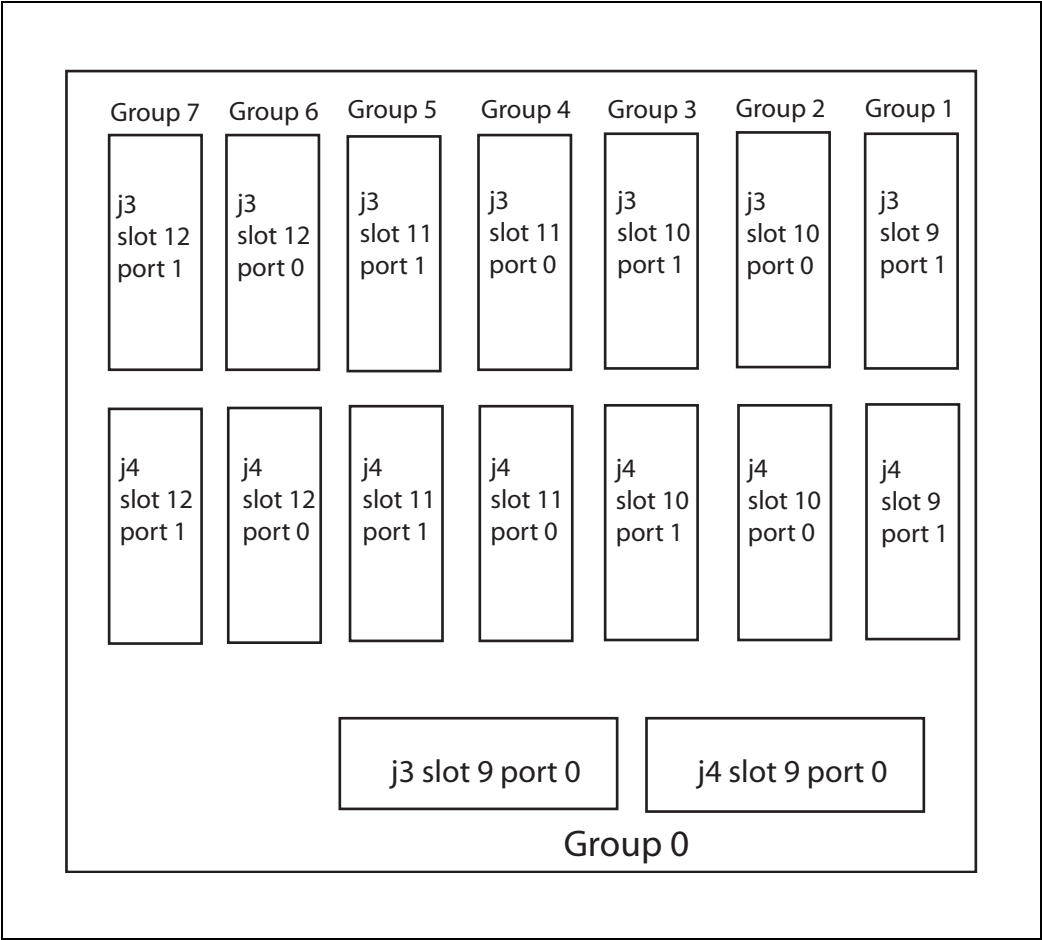


Figure 35  
Fanout panel connectors



**In Core 0, route and connect the cCNI to 3PE (NTND14) cables**

The existing NTND14 cables can be reused for Network groups 1-7. Connect the NTND14 cables to the Fanout Panel in Core/Net 0. See Figure 36 on [page 169](#) and Table 25 on [page 168](#).

**IMPORTANT!**

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- Check existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PIV, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 36 on [page 169](#).



## WARNING

### Damage to Equipment

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

**Table 25**  
**Fanout Panel to 3PE card connectors**

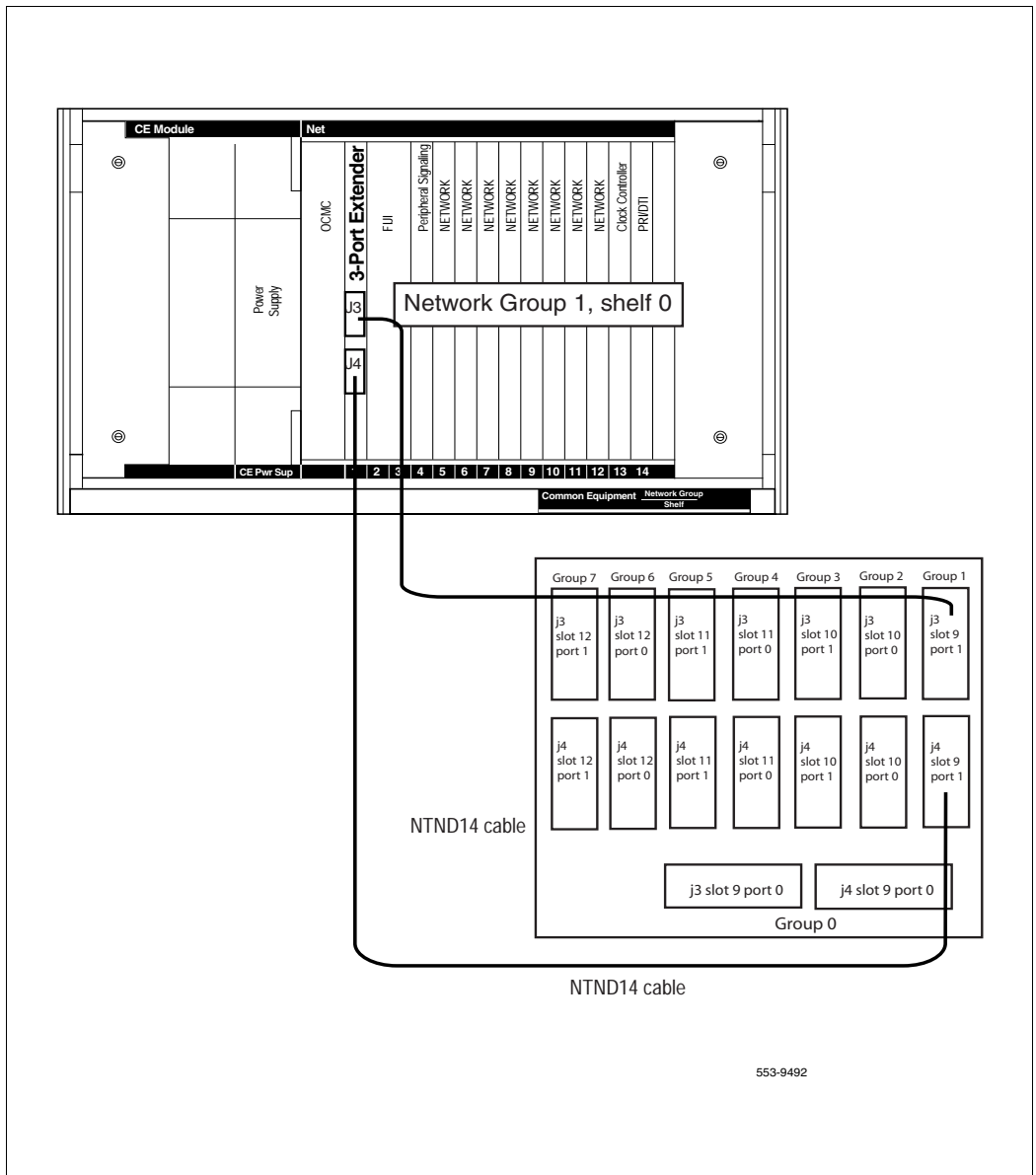
Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1 (see Figure 36 on [page 169](#)).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 36 on [page 169](#))



**Figure 36**  
**3PE Fanout Panel connections**



## Add Side 0 FIJI hardware

### Procedure 45

#### Install Side 0 FIJI cards

- 1 Tag and disconnect the IGS/DIGS cables.
- 2 Remove the IGS/DIGS cards from Side 0.
- 3 Unpack and install FIJI cards (NTRB33).
- 4 Faceplate disable the NTRB33 cards.
- 5 Insert and the FIJI cards in Side 0.
- 6 Do not seat the FIJI cards at this point.

---

**End of Procedure**

---

### Procedure 46

#### Connect the FIJI to FIJI cables

- 1 Connect P2 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 0, except group 0.
- 2 Connect P1 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 1, except group 0.

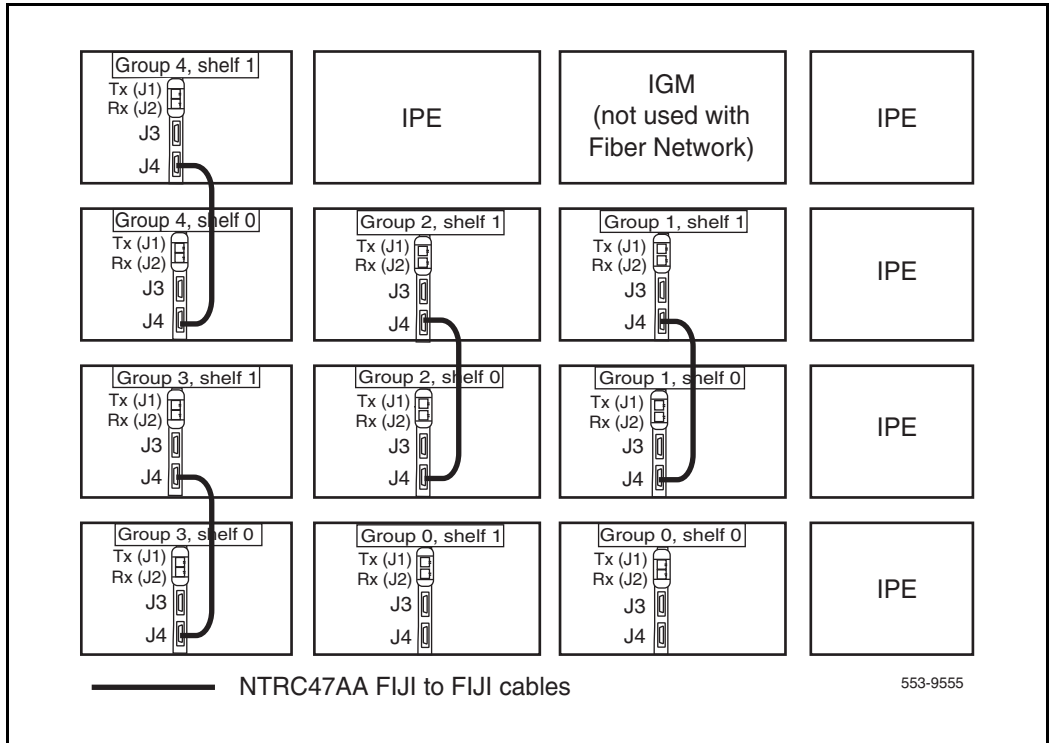
**Note:** The FIJI cards in Group 0 do not receive a FIJI to FIJI cable.

---

**End of Procedure**

---

**Figure 3**  
**FIJI shelf 0 to FIJI shelf 1 connections**



#### Procedure 47

##### Connecting the shelf 0 FIJI Ring cables (ascending)

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 37 on page 173 and Figure 38 on page 175).



#### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

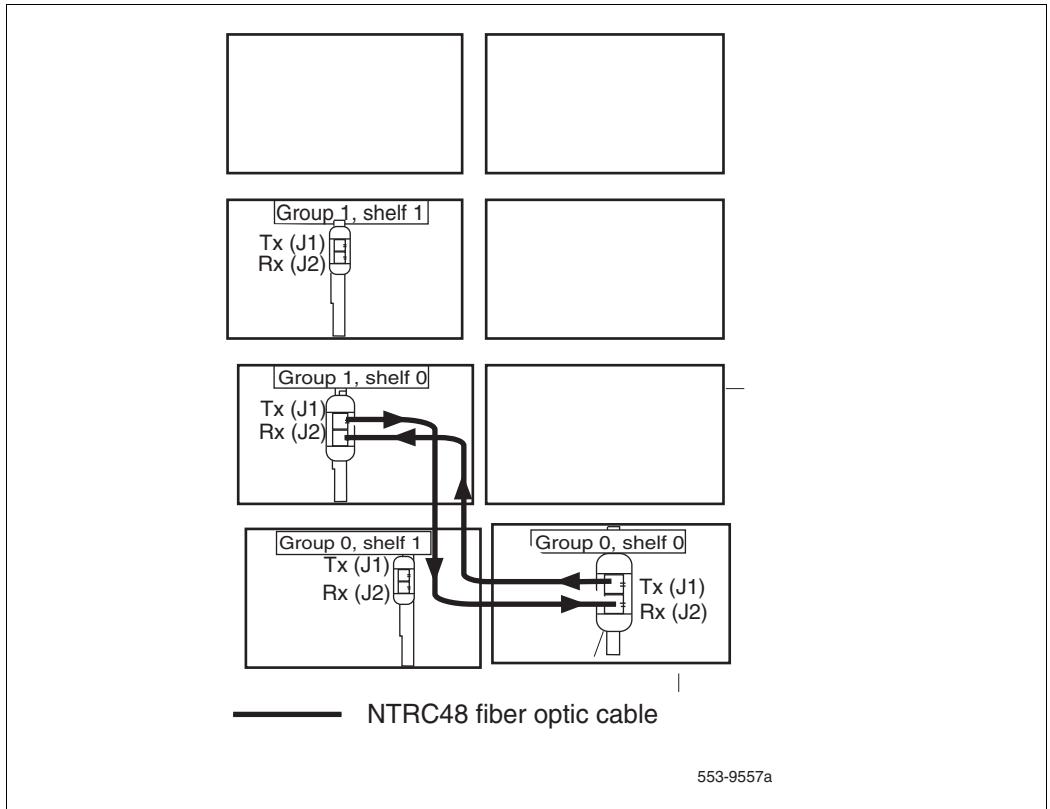
**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1 Start with group 0, shelf 0.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 0** to the Rx (J2) port of the FIJI card in **Group 1, shelf 0**.
- 3 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 1, shelf 0** to the Rx (J2) port of the FIJI card in **Group 2, shelf 0**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 0 of each Network group. Connect these cables in **ascending** order of Network groups.

**Figure 37**  
**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



- 5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0**.

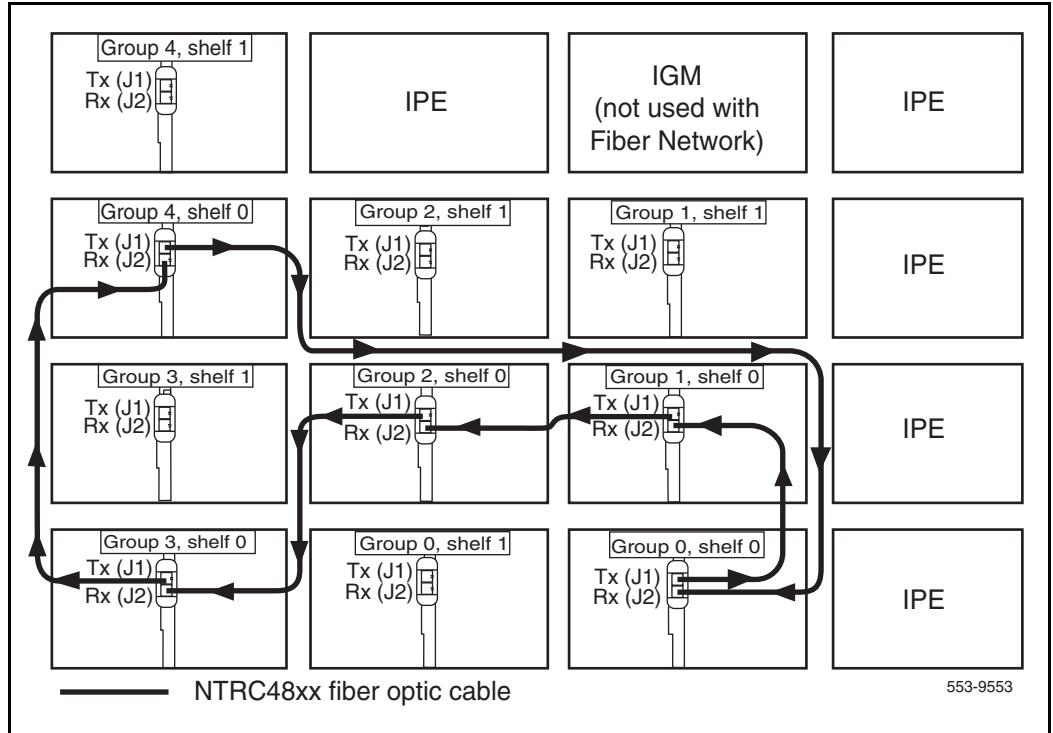
**Table 26**  
**FIJI Ring 0 connections**

Groups X - 0 are cabled in ascending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/0	P1	Tx
1/0	P2	Rx
1/0	P1	Tx
2/0	P2	Rx
2/0	P1	Tx
3/0	P2	Rx
3/0	P1	Tx
4/0	P2	Rx
4/0	P1	Tx
5/0	P2	Rx
5/0	P1	Tx
6/0	P2	Rx
6/0	P1	Tx
7/0	P2	Rx
7/0	P1	Tx
0/0	P2	Rx

---

**End of Procedure**

---

**Figure 38**
**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)**

**Procedure 48**
**Cabling the Clock Controllers to FIJI card**

Connect the cables to the Clock Controllers as shown in Figure 39 on [page 177](#):

- 1 Connect the Clock 0 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.
- 2 Connect a Clock 1 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0**.

— **End of Procedure** —

## Power up Core 0

### Procedure 49

#### Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 0.
- 3 Check the terminal settings as follows:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

- 4 Seat and Faceplate enable Clock Controller 0 and ALL FIJI on Shelf 0.
- 5 Faceplate enable all core and network cards.

---

**End of Procedure**

---

## Power up Core cards

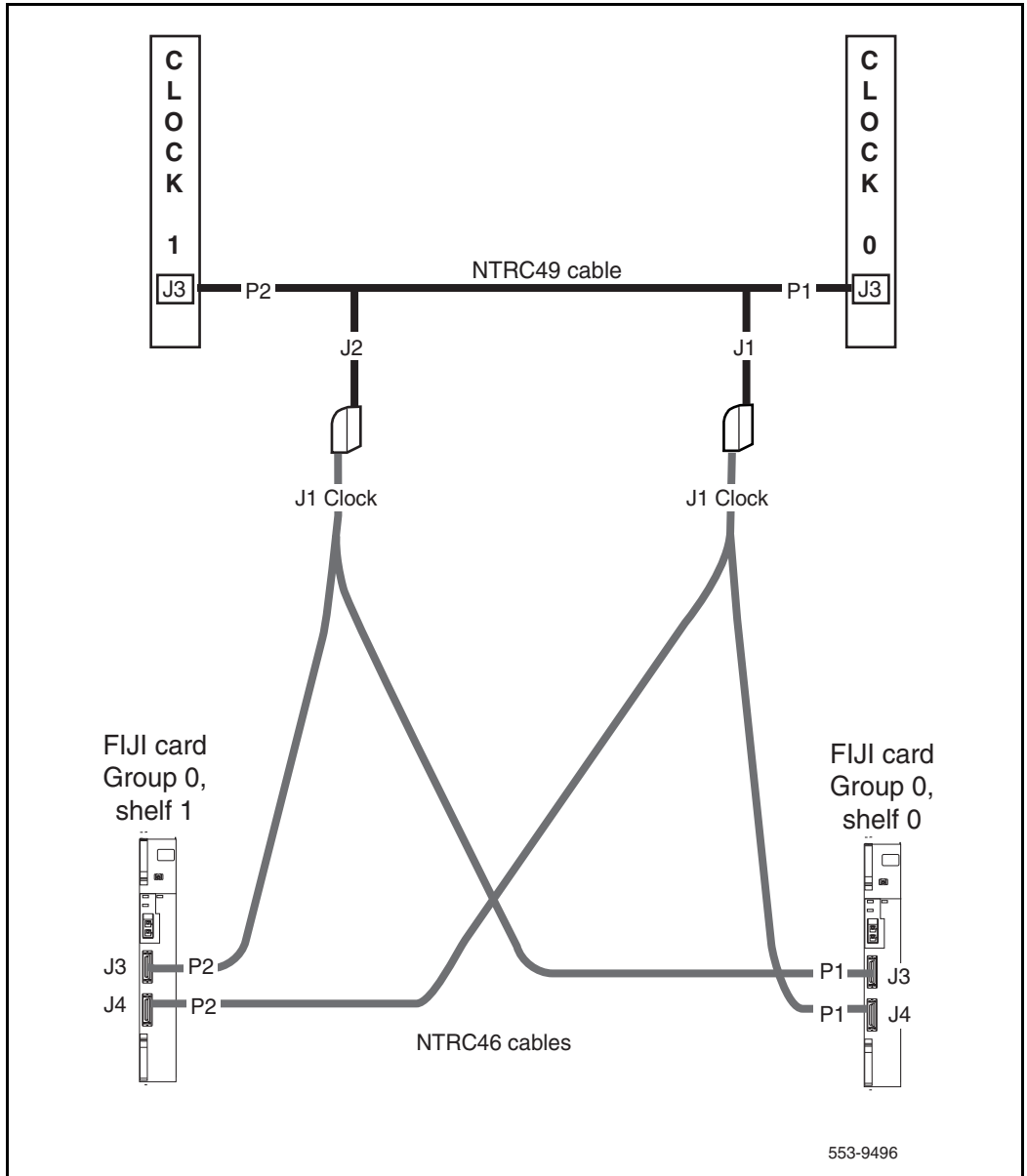
### Procedure 50

#### Powering up core cards

- 1 Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.
- 2 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).



**Figure 39**  
**Clock Controller cable configuration**



- 3    For DC-powered systems: faceplate enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 4    10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.
- 5    Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

---

**End of Procedure**

---

**Procedure 51**  
**Testing Core/Net 1**

- 1    Check dial-tone.
- 2    Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a.    Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>ENL RING 0</b>	Enable Ring 0
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b.    Restore the Rings to Normal State:

<b>RSET</b>	Reset both Rings
<b>RSTR</b>	Restore both Rings to HALF state
<b>ARCV ON</b>	Turn Auto Recovery on

c. Check that the Rings operate correctly:

**STAT RING 0**      Check status of Ring 0 (HALF/HALF)

**STAT RING 1**      Check status of Ring 1 (HALF/HALF)

\*\*\*\*                  Exit program

3 Stat network cards:

**LD 32**              Load program

**STAT x**             Stat the network card, where x = loop number

\*\*\*\*                  Exit program

4 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

**LD 60**              Load program

**SSCK x**             To get the status of the clock controllers  
(x is "0" or "1" for Clock 0 or Clock 1)

**SWCK**              Switch Clock (if necessary)

\*\*\*\*                  Exit program

b. Verify that the clock controllers are switching correctly:

**SWCK**              Switch Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK**              Switch Clock again

\*\*\*\*                  Exit program

5    Stat D-channels:

**LD 96**

**STAT DCH**            Stat all D-channels

\*\*\*\*                    Exit program

6    Stat all T1 interfaces:

**LD 60**

**STAT**                 Stat all DTI and PRI

\*\*\*\*                    Exit program

7    Stat network cards:

**LD 32**

**STAT x**                x = loop number

\*\*\*\*                    Exit program

8    Print status of all controllers:

**LD 97**

**REQ**                  PRT

**TYPE**                 XPE (returns status of all controller cards)

\*\*\*\*                    Exit program

9    Make internal, external and network calls.

10   Check attendant console activity.

11   Check DID trunks.

12   Check applications (CallPilot, Symposium, Meridian Mail, and so on.)

---

**End of Procedure**

---

## **CS 1000 Release 4.5 upgrade**

### **Upgrading the software**

Procedure 52 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

#### **Procedure 52**

##### **Upgrading the software**

- 1** Check that a terminal is now connected to COM 1.
- 2** Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
      Validate number of hard drive partitions
and size ...
      Number of partitions  0:
      Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
      errNo : 0xd0001
      Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
      Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
      Please press <CR> when ready ...
```

The Fix Media Device on Core x is blank.

Install cannot continue unless the FMD is partitioned.

Note: INSTALL WILL REBOOT AFTER THIS PROCEDURE AND

FIX MEDIA WILL BE EMPTY AFTER YOU PARTITION IT.

INSTALL REMOVABLE MEDIA MUST BE IN THE DRIVE AT THIS TIME.

Please enter:

<CR> -> <a> - Partition the Fix Media Device.

Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```



```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...
fdiskDevCreate(/dev/hda2)
/dev/hda2: partTablePtr = 0x12d5ff0c
Found partition 2, nodePtr = 0x12d30a4c
Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
    FAT

    Sectors reserved -15421, hidden -1010580541,
    FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
    number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
    FAT

    Sectors reserved 32, hidden 63, FAT sectors
    1216

    Root dir entries 0, sysId VX5DOS32, serial
    number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```

Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...

```

**6** The system then enters the Main Menu for keycode authorization.

```
                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.
Enter Choice> <u>
```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

        <CR> -> <a> - RMD is now in the drive.
        <q> - Quit.
Enter choice>
```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "<y>" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd   1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7 Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...  
  
Copying "/cf2/keycode/KCport60430m.kcd" to "/u/  
keycode" -  
  
Copy OK: 1114 bytes copied  
  
The provided keycode authorizes the install of  
xxxx software (all subissues) for machine type  
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8 The system requests keycode validation.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please confirm that this keycode matches the  
System S/W on the RMD.

Please enter:

<CR> -> <y> - Yes, the keycode matches.  
Go on to Install Menu.

<n> - No, the keycode does not match.  
Try another keycode.

Enter choice>

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L     M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.  
          <b> - To install Software, Database, CP-  
BOOTROM.  
          <c> - To install Database only.  
          <d> - To install CP-BOOTROM only.  
          <t> - To go to the Tools menu.  
          <k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.  
<q> - Quit.

Enter Choice> **<b>**

- 10** The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the drive on Core x.

Please enter:

<CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

<q> - Quit.

Enter choice> **<CR>**

- 11** If the RMD containing the software is already in the drive, select option "<a> - RMD is now in drive. Continue with s/w checking." (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 12 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>
```

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13 The Dependency List menus appear.

```
Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice> y

>Processing the install control file ...

>Installing release xxxx
```



**14** The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
SW: RMD to FMD	yes		install for rel XXXXX	
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
Dependency Lists	yes			
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
=====+=====+=====+=====				
DATABASE	yes			
Option	Choice	Status	Comment	
=====+=====+=====+=====				
CP-BOOTROM	yes			

- 15    Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.

        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```

- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>
```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```
The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>
```

## 19 Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

        <CR> -> <a> - Continue with database
install.

        <q> - Quit.

Enter choice> a or <CR>

```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

----- INSTALLATION STATUS SUMMARY -----			
option	choice	status	comment
Sw: RMD to FMD	yes	OK	install for rel 04xxx
Dependency Lists	yes	OK	
AUTO-CSU Feature	no		AUTO-CSU Disabled
IPMG Software:	no		
Database	yes	OK	conversion from xxxx
CP-BOOTROM	yes	OK	

Please press <CR> when ready ...

- 20** Upon returning to the main install menu, enter **q** to quit.

```

                I N S T A L L   M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will be
    prompted throughout the installation and given the
    opportunity to quit at any time.

    Please enter:

    <CR> -> <a> - To install Software, CP-BOOTROM.
           <b> - To install Software, Database, CP-
    BOOTROM.
           <c> - To install Database only.
           <d> - To install CP-BOOTROM only.
           <t> - To go to the Tools menu.
           <k> - To install Keycode only.

           For Feature Expansion, use OVL143.

           <p> - To install 3900 set Languages.
           <q> - Quit.

    Enter Choice> q
```

- 21** The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.


    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.


-----

DO NOT REBOOT USING BUTTON!!!

-----


    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

---

**End of Procedure**

---

## **Verify the upgraded database**

### **Procedure 53**

#### **Verifying the upgraded database**

- 1    Print ISSP (system software issue and patches)

**LD 22**                      Load program

**REQ**                        ISSP

**\*\*\*\***                        Exit program

- 2    Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22**                      Load program

**REQ**                        PRT

**TYPE**                      CFN

**\*\*\*\***                        Exit program

- 3    Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22**                      Load program

**REQ**                        SLT

**\*\*\*\***                        Exit program



**4** Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program



Core 1 is now active, clock 1 is active, FIJI 1 is active (if equipped), CNI is disabled in Core 0.

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 0

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 47](#).

If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

### LD 22

<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## Making the system redundant

At this point, Core/Net 0 is ready to be synchronized with Core/Net 1.

**Procedure 54****Making the system redundant**

- 1** Attach the LAN 1 and LAN 2 cables to the CP PIV faceplate connectors on Call Server 0 and Call Server 1.
- 2** Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

**LD 135**                      Load program

**JOIN**                      Join the 2 CPUs together to become redundant

- 3** Once the synchroization of memories and drives is complete, STAT the CPU and verify that the CPUs are in a true redundant state.

**LD 135**

**STAT CPU**                Get status of CPU and memory

**\*\*\*\***                      Exit the program

```
.stat cpu

cp 0 16 PASS -- STDBY

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar  3 2005, 16:26:40
  Side = 0, DRAM SIZE = 512 MBytes

cp 1 16 PASS -- ENBL

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar  3 2005, 16:26:40
  Side = 1, DRAM SIZE = 512 MBytes
```

- 4 Tier 1 and Tier 2 health of both Cores must be identical in order to successfully switch service from Core 1 to Core 0. CPUs.

**LD 135**

**STAT HEALTH** Get status of CPU and memory

\*\*\*\* Exit the program

```
.stat health
Local (Side 0, Active, Redundant):
Components without TIER 1 Health contribution:
=====

    disp 0 15 1:In Service
    sio2 0 15 1:In Service
        cp 0 16:In Service
            ipb 0:In Service
TIER 1 Health Count Breakdown:
=====

    sio8 0 16 1: 0002
    sio8 0 16 2: 0002
        sutl 0 15: 0002
            strn 0 15: 0002
    xsmp 0 15 1: 0002
    cmdu 0 16 1: 0008
        eth 0 16 0: 0002
Local TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:
=====

ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Local AML over ELAN Total Health:4
Local Total IPL Health = 6

IPL connection history:3 3 3 3 3 3 3 3 3 3 3 3 3
3 3 3 3 3 3

Local TIER 2 Health Total:10

Remote (Side 1, Inactive, Redundant):
Components without TIER 1 Health contribution:
    disp 1 15 1:In Service
    sio2 1 15 1:In Service
    cp 1 16:In Service
    ipb 1:In Service
TIER 1 Health Count Breakdown:
    sio8 1 16 1: 0002
    sio8 1 16 2: 0002
    sutl 1 15: 0002
    strn 1 15: 0002
    xsmp 1 15 1: 0002
    cmdu 1 16 1: 0008
    eth 1 16 0: 0002
Remote TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Remote AML over ELAN Total Health:4
Remote Total IPL health = 6

Remote TIER 2 Health Total:10
```



The system is now operating in full redundant mode with Core/Net 1 active.

**Note:** On FNF based systems after the INI:  
A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

---

### End of Procedure

---

## Complete the CP PIV upgrade

### LD 137

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are used in LD 137.

- STAT FMD  
display text: **Status of both Fixed Media Devices (FMD)**  
command parameter: none
- STAT FMD  
display text: **Status of the specified Fixed Media Device**  
command parameter: "core #" with values of 0 or 1
- STAT RMD  
display text: **Status of both Removable Media Devices (RMD)**  
command parameter: none
- STAT RMD  
display text: **Status of the specified Removable Media Device**  
command parameter: "core #" with values of 0 or 1

### Testing the Cores

#### Procedure 55

##### Testing Core/Net 1

At this point in the upgrade, Core/Net 0 is tested from active Core/Net 1. Upon successful completion of these tests, call processing is switched and the same tests are performed on Core/Net 1 from active Core/Net 0. As a final step, call processing is then switched again to Core/Net 1.



From Core/Net 1, perform these tests:

**1** Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

**2** Test the System Utility card and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility card
<b>TEST SUTL</b>	Test the System Utility card
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**3** Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)

**4** Install the two system monitors. Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit program

5    Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms

6    Test the clocks:

a.    Verify that the clock controller is assigned to the *active* Core:

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

b.    Verify that the Clock Controllers are switching correctly:

<b>SWCK</b>	Switch Clock
<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.	
<b>SWCK</b>	Switch Clock again

7    Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

**LD 39**                      Load program

**STAT RING 0**          Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**          Check the status of Ring 1 (HALF/HALF)

- b. If necessary, restore the Rings to Normal State:

**RSTR**                      Restore both Rings to HALF state

- c. Check that the Rings operate correctly:

**STAT RING 0**          Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**          Check the status of Ring 1 (HALF/HALF)

- 8** Check the status of the FIJI alarms:

**STAT ALRM**              Query the alarm condition for all FIJI cards in  
all Network Groups

**\*\*\*\***                      Exit program

- 9** Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

- 10** Check dial tone.

---

**End of Procedure**

---

## Switch call processing

### Procedure 56 Switching call processing

<b>LD 135</b>	Load program
<b>SCPU</b>	Switch call processing from Core/Net 1 to Core/Net 0



Core/Net 0 is now the active call processor.

### Procedure 57 Testing Core/Net 0

From Core/Net 0, perform these tests:

**1**    Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

**2**    Test the System Utility card and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility card
<b>TEST SUTL</b>	Test the System Utility card
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**3** Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)

**4** Install the two system monitors. Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit program

**5** Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms

6    Test the clocks:

- a.    Verify that the clock controller is assigned to the *active* Core:

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

- b.    Verify that the Clock Controllers are switching correctly:

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again

7    Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a.    Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b.    If necessary, restore the Rings to Normal State:

<b>RSTR</b>	Restore both Rings to HALF state
-------------	----------------------------------

- c.    Check that the Rings operate correctly:

<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- 8 Check the status of the FIJI alarms:

**STAT ALRM**      Query the alarm condition for all FIJI cards in all Network Groups

**\*\*\*\***              Exit program

- 9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

- 10 Check dial tone.

---

**End of Procedure**

---

### Switch call processing

#### Procedure 58

##### Switching call processing

**LD 135**              Load program

**SCPU**                Switch call processing from CoreNet 0 to CoreNet 1



Core/Net 1 is now the active call processor.

### Perform a customer backup data dump (upgraded release)

#### Procedure 59

##### Performing a data dump to backup the customer database

- 1 Log into the system.
- 2 Insert a CF card into the active Core/Net RMD slot to back up the database.

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

**LD 43**            Load program.

**.**                EDD

- 4    When “EDD000” appears on the terminal, enter:

**EDD**            Begin the data dump.



#### **CAUTION**

##### **Loss of Data**

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

**\*\*\*\***            Exit program

The Meridian 1 Option 71 upgrade to Meridian 1 Option 81C CP PIV with FNF is complete.



---

# Upgrading from Meridian 1 Option 81

---

## Contents

This section contains information on the following topics:

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## Meridian 1 Option 81/IGS upgrade to Option 81C CP PIV with FNF

### Prepare for upgrade

This document implements a “source- to-target” approach to performing an upgrade. It is important to correctly identify the source platform, target platform, and maintenance window required to perform the upgrade.



#### **IMPORTANT!**

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and Compact Flash (CF) reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 27.

**Table 27**  
**Prepare for upgrade steps (Part 1 of 2)**

Procedure Step	Page
Plan upgrade	<a href="#">219</a>
Upgrade Checklists	<a href="#">220</a>
Prepare	<a href="#">220</a>
Identifying the proper procedure	<a href="#">221</a>
Connect a terminal	<a href="#">221</a>

**Table 27**  
**Prepare for upgrade steps (Part 2 of 2)**

<b>Procedure Step</b>	<b>Page</b>
Check the Core ID switches	<a href="#">222</a>
Print site data	<a href="#">224</a>
Perform a template audit	<a href="#">227</a>
Back up the database (data dump)	<a href="#">229</a>
Transferring the database from floppy disk to CF (customer database media converter tool)	<a href="#">236</a>
Identify two unique IP addresses	<a href="#">242</a>
Check requirements for cCNI to 3PE cables (NTND14)	<a href="#">243</a>

## **Plan upgrade**

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail, and so on) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan for backing out of the upgrade.



#### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## **Upgrade Checklists**

Upgrade checklists can be found in “Upgrade checklists” on [page 957](#). Engineers may print this section for reference during the upgrade.

### **Prepare**

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform. See *Meridian 1 installation planning* (553-3001-120).
- Verify proper cable lengths for the target platform.
- Determine and note current patch or Dep lists installed at the source platform.
- Determine required patch or Dep lists at the target platform for all system-patchable components (Call Server, Voice Gateway Media Cards, Signaling Servers and so on).
- Determine the required patches or DEP lists installed on all applications (CallPilot, Symposium Call Center Server, Meridian Mail, OTM, and so on).
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.

- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

## Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

## Connect a terminal

### **Procedure 60** **Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

---


**End of Procedure**

---

## Check the Core ID switches

**Procedure 61**  
**Checking the Core ID switches**

Each NT4N40 Core/Net card cage or module is identified as “Core 0” or “Core 1”. This setting is made by a set of option switches on the System Utility card. The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



**CAUTION — Service Interruption**

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

- 1 Pull the NT4N48 System Utility card far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 28.
- 3 Reinstall the System Utility card.
  - a. Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.
  - b. Push in the top and bottom latches on the card to lock it in place.

---

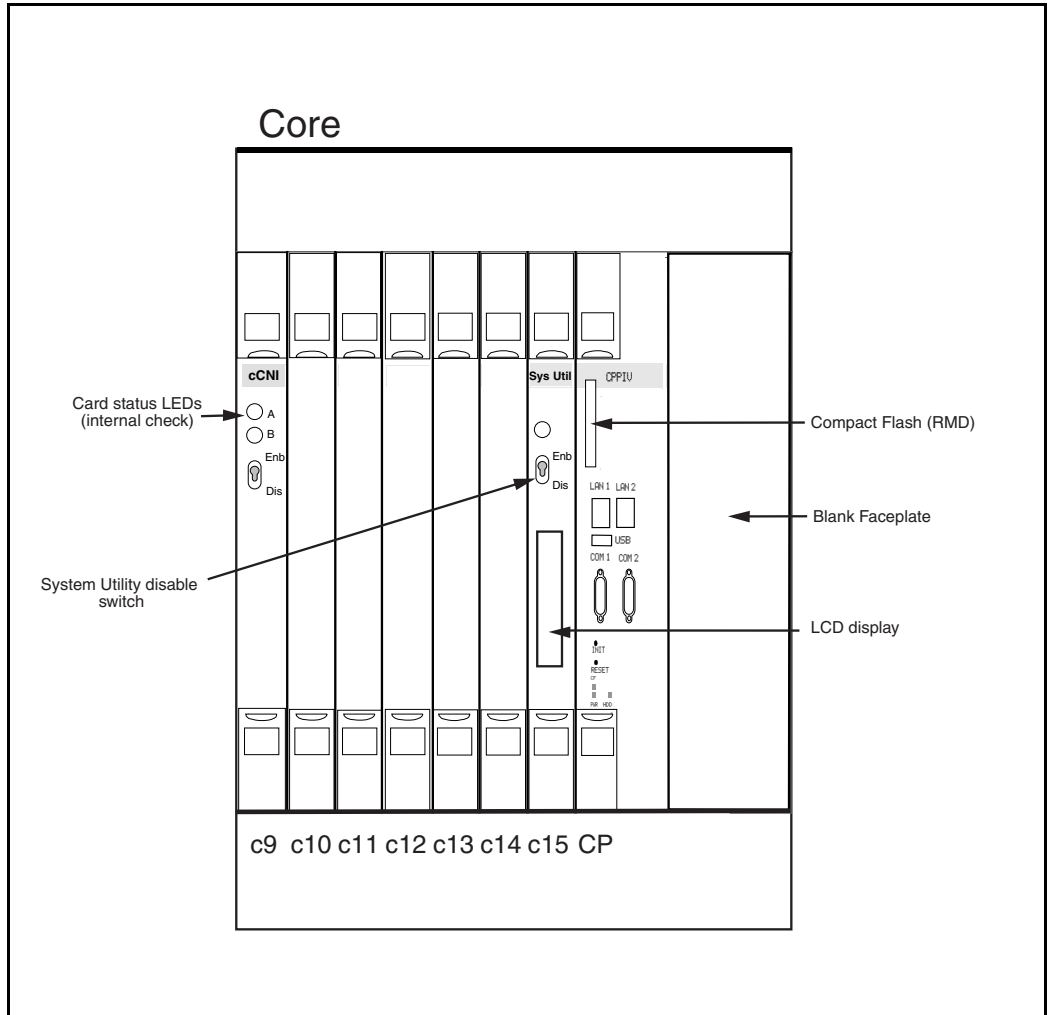
**End of Procedure**

---

**Table 28**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

**Figure 40**  
**Core card placement in the NT4N40 Core/Net card cage (front)**



**Figure 41**  
**Core Module ID switch**



**Print site data**

Print site data to preserve a record of the system configuration (Table 29 on [page 225](#)). Verify that all information is correct. Make corrections as necessary.



**Note:** Items marked with an asterisk (\*) are required. Other items are recommended for a total system status.

**Table 29**  
**Print site data (Part 1 of 3)**

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	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 29**  
**Print site data (Part 2 of 3)**

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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

**Table 29**  
**Print site data (Part 3 of 3)**

Site data	Print command	
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<b>Note:</b> Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

## Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

*Note:* The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.



**CAUTION**

**Loss of Data**

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**

<b>TEMPLATE 0001 USER COUNT</b>	<b>CHECKSUM</b>
<b>LOW</b>	<b>OK</b>

<b>TEMPLATE 0002 USER COUNT</b>	<b>CHECKSUM</b>
<b>HIGH</b>	<b>OK</b>

**TEMPLATE 0003 NO USERS FOUND**

**STARTING SL1 TEMPLATE SCAN**

<b>TEMPLATE 0001 USER COUNT OK</b>	<b>CHECKSUM</b>
	<b>OK</b>

- 
- 

<b>TEMPLATE 0120 USER COUNT OK</b>	<b>CHECKSUM</b>
	<b>OK</b>

**TEMPLATE AUDIT COMPLETE**

## Back up the database (data dump)

To back up system data, perform a data dump to save all system memory to the hard disk.

### Procedure 62

#### Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**                      Load program

- 3 When "EDD000" appears on the terminal, enter:

**EDD**                      Begin the data dump



#### CAUTION

##### Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4 The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

\*\*\*\*                      Exit program

- 5 Remove and label the floppy disk.



#### IMPORTANT!

Database backup information should be preserved for a minimum of 5 days.

---

**End of Procedure**

---

### Procedure 63

#### Performing an ABKO (save the database to floppies)

- 1    Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

**Note:** If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2    Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

**LD 143**                    Load program

- 3    Run the ABKO backup (LD 143).

**ABKO**                    Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4    If there are validation errors, repeat the procedure.



#### **CAUTION**

##### **Loss of Data**

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PIV.

- 5 Once the backup is complete, type:

\*\*\*\*

Exit program

---

**End of Procedure**

---



**IMPORTANT!**

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility below.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel in the software conversion lab.

**Procedure 64**

**Converting the 4 MB database media to 2 MB database media**

Before the system is upgraded to CP PIV, the database must reside on a 2 MByte floppy disk for conversion to CF. Systems with an IODU/C drive already have 2 MByte floppy drive and can skip this procedure.

If the database is on a 4 MByte floppy (the system has an IOP/CMDU), the 4 MByte customer database must be transferred to a 2 MByte floppy disk.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive on the IOP/CMDU in Core 1.

- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



**CAUTION — Service Interruption**

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:

- |          |  |
|----------|--|
| <t>      | Go to the Tools menu.  |
| <s>      | Archive existing database.   |
| <cr> <a> | Continue with archive (insert blank 2 MByte diskette from the software kit into the floppy drive in Core 1). |
| <cr> <a> | Diskette is now in floppy drive in Core 1.   |

- 5 The message displays “Database backup complete!” and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MByte customer database diskette from the floppy drive of the IOP/CMDU. Do not reboot the system at this point.

---

**End of Procedure**

---



## Making the RMD bootable



### CAUTION — Data Loss

The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

**Note:** This utility is supported by all versions of Microsoft Windows.

The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 65 on [page 233](#).

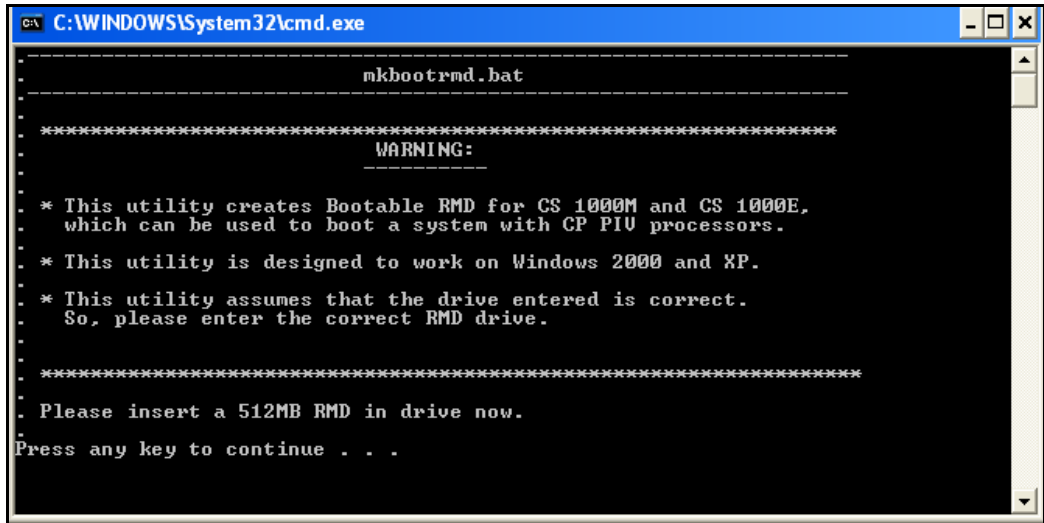
### Procedure 65

#### Making the RMD bootable

- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder.

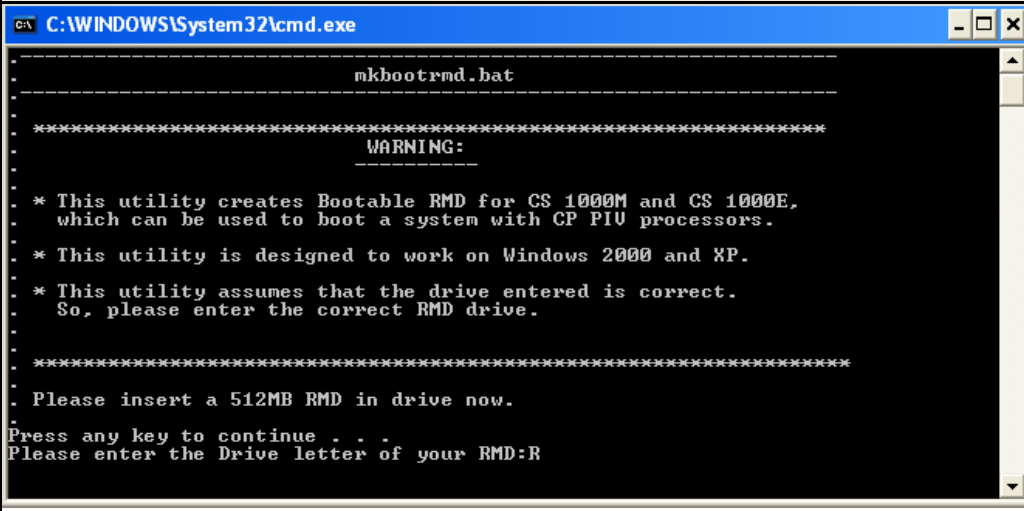
- 3     Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 42).

**Figure 42**  
**mkbootrmd.bat**



- 4 Enter the correct drive letter of the RMD (see Figure 43).

Figure 43  
mkbootrmd.bat



```
C:\WINDOWS\System32\cmd.exe
mkbootrmd.bat

*****
WARNING:
*****

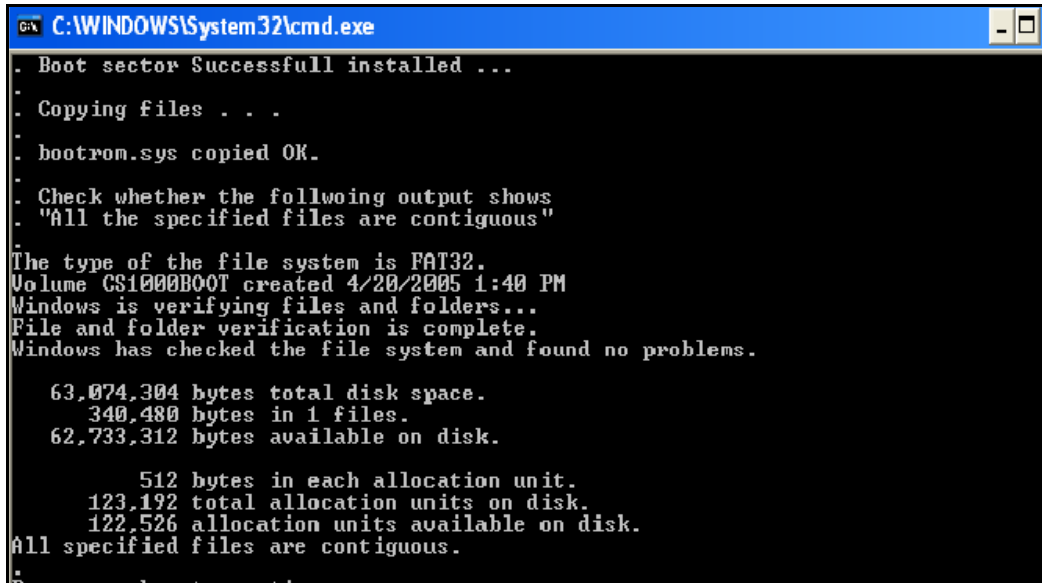
* This utility creates Bootable RMD for CS 1000M and CS 1000E,
  which can be used to boot a system with CP PIU processors.
* This utility is designed to work on Windows 2000 and XP.
* This utility assumes that the drive entered is correct.
  So, please enter the correct RMD drive.

*****

Please insert a 512MB RMD in drive now.
Press any key to continue . . .
Please enter the Drive letter of your RMD:R
```

- 5    The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 44).

**Figure 44**  
**Boot sector successfully installed**



```

C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
. Copying files . . .
. bootrom.sys copied OK.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
.
The type of the file system is FAT32.
Volume CS1000000T created 4/20/2005 1:40 PM
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

    63,074,304 bytes total disk space.
        340,480 bytes in 1 files.
    62,733,312 bytes available on disk.

        512 bytes in each allocation unit.
    123,192 total allocation units on disk.
    122,526 allocation units available on disk.
All specified files are contiguous.
  
```

————— End of Procedure —————

## Transferring the database from floppy disk to CF (customer database media converter tool)



### IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

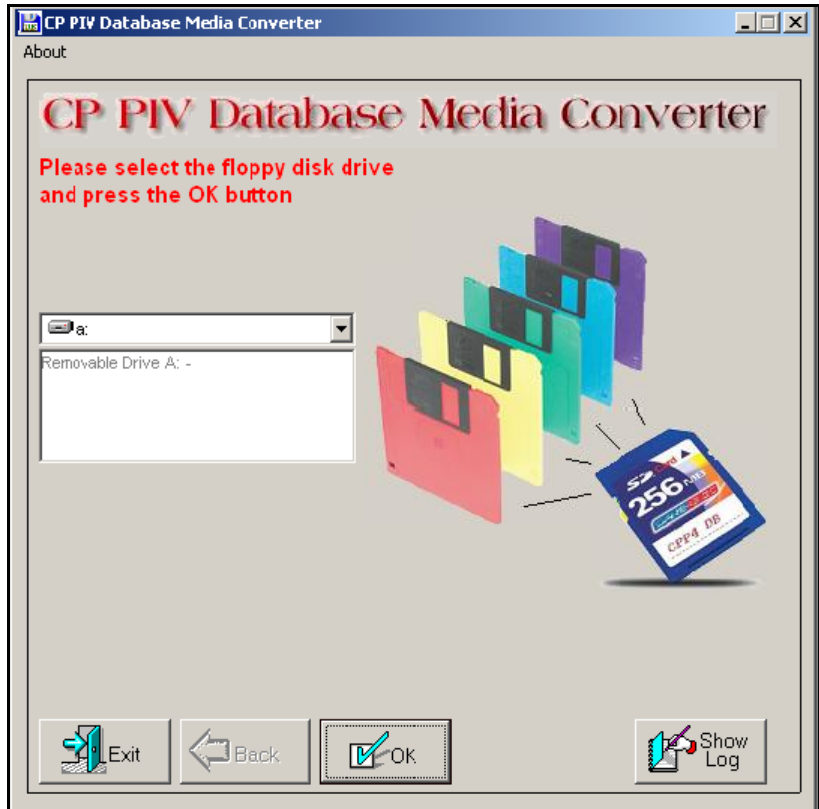
Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

**Procedure 66****Transferring the customer database from floppy disk to CF**

This procedure requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

- 1** Insert the floppy disk containing the backed up customer database from Procedure 62 on [page 229](#).
- 2** Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 3** Start the Database Media Converter utility. The first screen (Figure 45 on [page 238](#)) prompts you to select the correct drive letter for the floppy disk drive.

**Figure 45**  
**Select the floppy disk drive**



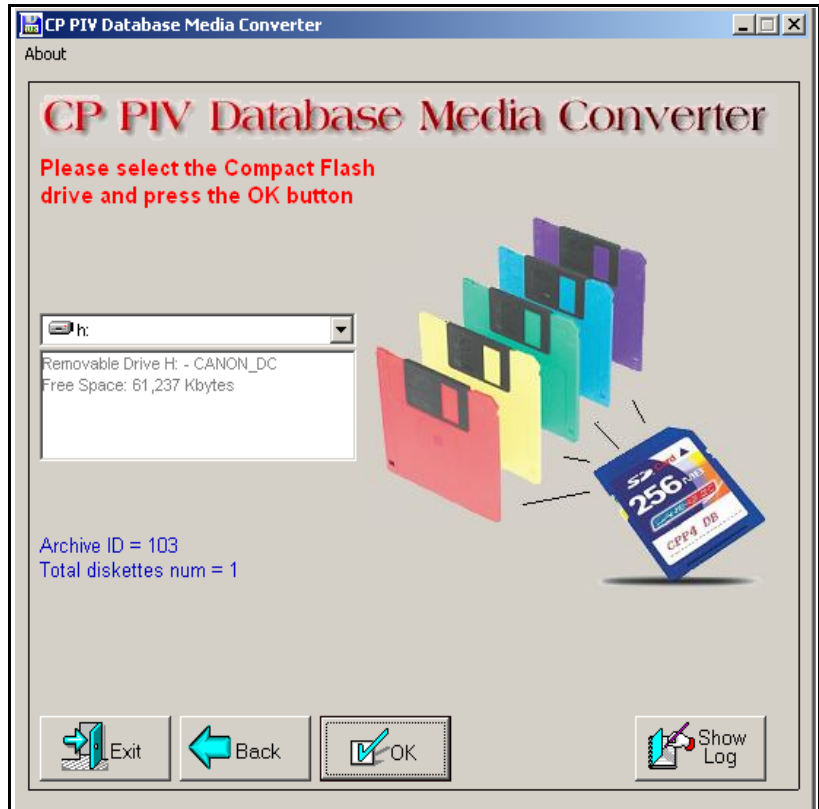
- 4 The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 46 on [page 239](#)).

**Figure 46**  
**Insert diskette 1**



- 5 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 47 on [page 240](#)).

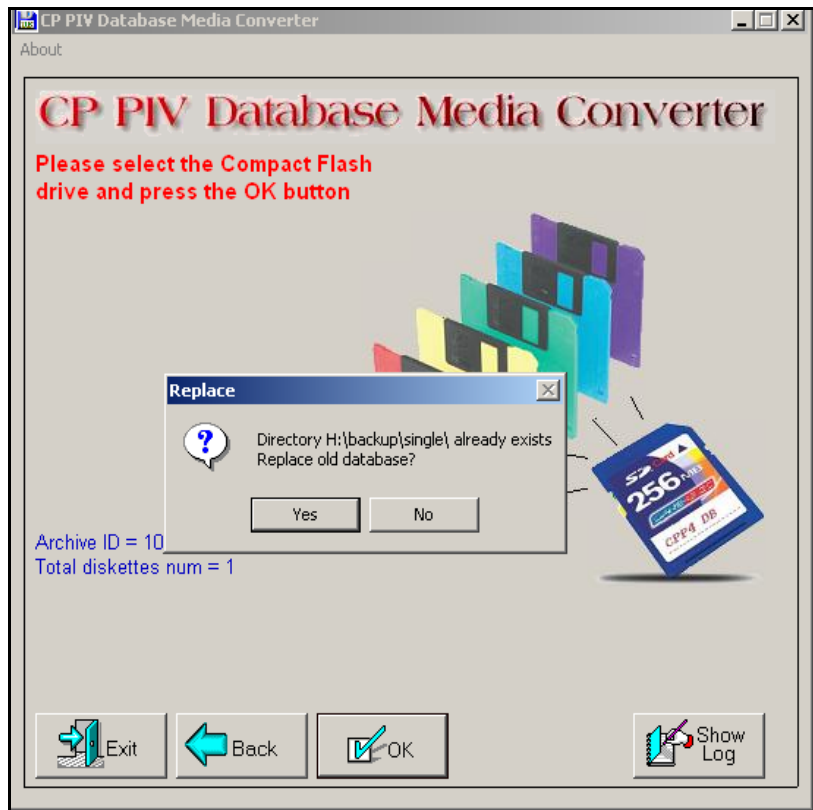
**Figure 47**  
**Select the CF drive**



- 6 At this point, 2 options are available:
- a. If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 48 on [page 241](#)). Click yes to replace old database.
  - b. If the CF card is blank, the database is backed up to the CF card.



**Figure 48**  
**Replace database on CF drive**



- 7 The utility completes the transfer to CF and prompts you to copy another or EXIT.

**Figure 49**  
**Copy another or exit**



---

**End of Procedure**

---

## Identify two unique IP addresses

Each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your System Administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 311](#). These CP PII instructions are identical for CP PIV.

## Check requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

## Perform upgrade

The target upgrade to Meridian 1 Option 81C CP PIV with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0 MByte) support
- Both NTRC46 cables must be the same length



### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

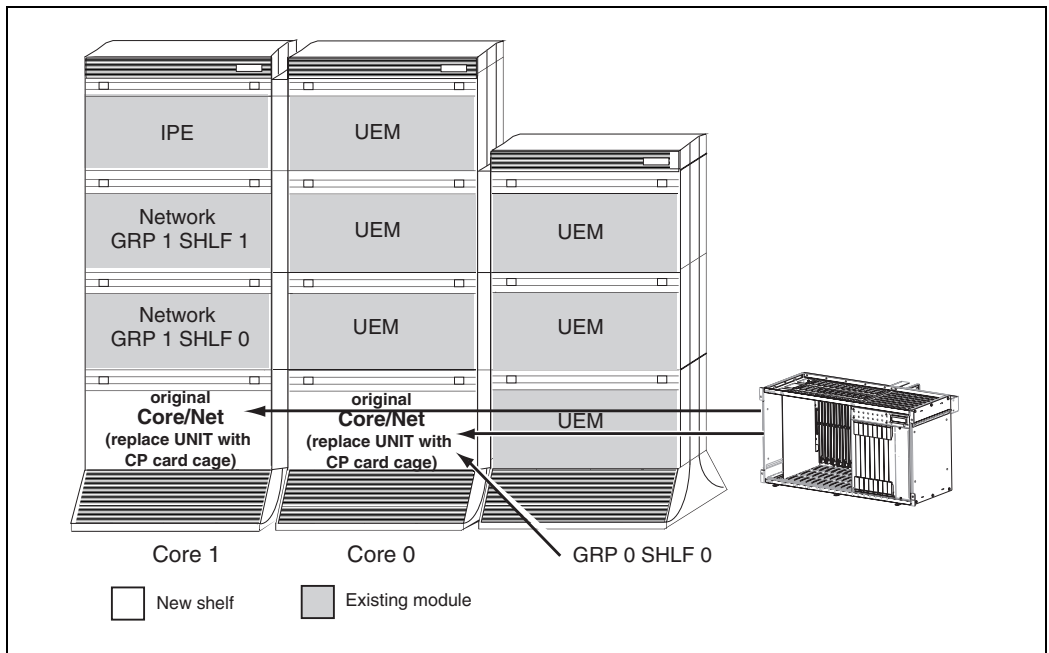


### DANGER OF ELECTRIC SHOCK

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

Figure 50 shows an upgrade from a Meridian 1 Option 81/IGS to a Meridian 1 Option 81C with CP PIV and Fiber Network Fabric.

**Figure 50**  
**Meridian 1 Option 81/IGS to Meridian 1 Option 81C CP PIV with FNF**

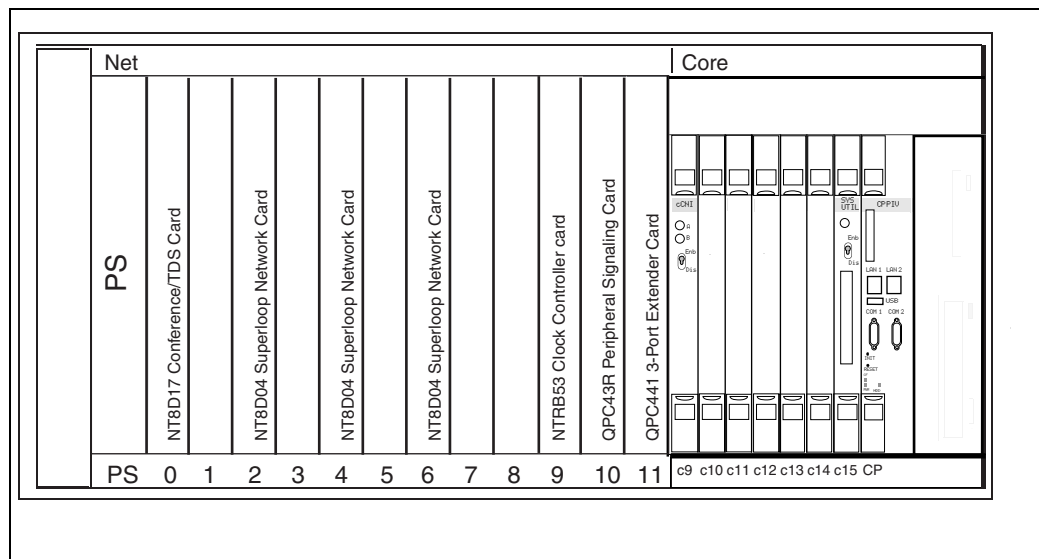


This upgrade takes a Meridian 1 Option 81/IGS to a Meridian 1 Option 81C CP PIV with FNF. Additional groups can be added by following the procedures “Adding a Network Group (NT4N46)” and “Adding a Network Group (NT4N40)” in Book 3.

## To upgrade a Meridian 1 Option 81/IGS system to a Meridian 1 Option 81C CP PIV with Fiber Network Fabric:

- Two card cages in the existing Core/Net modules are replaced with two NT4N40 CP card cages.
- New CP PIV cards are located in the Core/Net modules or card cage.
- Existing network cards are relocated to the CP card cages.
- Clock Controller cards must be NTRB53AA.
- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

**Figure 51**  
**CP Core/Net Module**



## Check software received

## Compact Flash Software Install Kit (CP PIV)

The Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:

- Install Software files
  - CS 1000 Release 4.5 software
  - Dep. Lists ( PEPs)
  - Key code File
- One blank CF card for database backup
  - One Nortel CS 1000 Release 4.5 Documentation CD

## Check equipment received

This section describes the **minimum** equipment required for CP PIV with FNF. Additional equipment can also be installed during the upgrade. Verify that *all* equipment has been received.

Before the upgrade, check that the equipment on the order form is also on the packing slip. Check that all equipment has been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



### **CAUTION**

#### **Service Interruption**

DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

## Check vintage requirements for existing hardware

Make sure that existing hardware meets the following minimum vintage requirements for CP PIV:

- The NT4N65AC cCNI card must be minimum vintage of AC
- The NT4N48 System Utility card must be minimum vintage AA
- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The existing QPC471 Clock Controller cards must be minimum vintage H or the QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.

- NT6D41CA (DC) Power Supply
- NT8D29BA (AC) Power Supply
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If any of the equipment listed does not meet the requirements, replace the equipment before you begin the upgrade.



### CAUTION

#### Service Interruption

Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.

Table 30 describes the *minimum* equipment required to upgrade a system to CP PIV. Table 31 on [page 250](#) and Table 32 on [page 250](#) list the DC and AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

**Table 30**  
**Minimum requirements for Meridian 1 Option 81C CP PIV with FNF systems (Part 1 of 3)**

Order number	Description	Quantity per system
NT4N39	CP PIV Call Processor Card (512 MByte memory)	2
N0026096	MMDU replacement faceplate	2
NT4N40AA	CP Core/Network Card Cage AC/DC	2
NT4N65AC	CP Core Network Interface Card (2 ports)	2
NT4N48	CP System Utility Card	2
NT4N88AA	CP to I/O Panel DTE Cable (48 in.)	2
NT4N88BA	CP to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP to I/O Panel Ethernet Cable (48 in.)	2
*NT8D01BC	Controller - Four Card	1



**Table 30****Minimum requirements for Meridian 1 Option 81C CP PIV with FNF systems (Part 2 of 3)**

<b>Order number</b>	<b>Description</b>	<b>Quantity per system</b>
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft)	
*NT8D91AD	Network to Controller Cable (6 ft)	
*NT8D99AD	CPU to Network Cable (6 ft)	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC17BA	CP Ethernet to Ethernet Cable (8.5 ft)	2
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft - 8 ft))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRC49AA	Clock - Clock Sync Cable	1

**Table 30**  
**Minimum requirements for Meridian 1 Option 81C CP PIV with FNF systems (Part 3 of 3)**

Order number	Description	Quantity per system
NTRE39AA	Optical Cable Management Card (OCMC)	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP Card Slot Filler Panel	Determined by system configuration
<b>Note:</b> *Customer supplied from existing system.		

### Check required power equipment

Table 31 lists the equipment required for DC-powered systems. Table 32 lists the equipment required for AC-powered systems.

**Table 31**  
**DC power requirements for Meridian 1 Option 81C CP PIV with FNF upgrades**

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2
NTHU50DA	CP PIV Upgrade Kit DC (Misc. Card Cage Components)	2

**Table 32**  
**AC power requirements for Meridian 1 Option 81C CP PIV with FNF upgrades**

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NTHU50AA	CP PIV Upgrade Kit AC (Misc. Card Cage Components)	2

**Check required tools**

Table 33 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed with that procedure.

**Table 33****List of recommended tools**

- Digital Multimeter (DMM)
- Pliers, needlenose
- Pliers, standard
- Screwdriver, 3/16" flat blade
- Screwdriver, #2 Phillips
- Wire cutters
- Electrical insulation tape
- 5/16" socket wrench
- Electric drill and drill bits
- Hammer and sheet metal center punch
- 1/4" socket wrench
- 3/8" socket wrench
- 1/4" nut driver
- 7/16" socket driver
- 11/32 Deep Socket
- Flashlight

**Check personnel requirements**

Nortel recommends that a minimum of two people perform the card cage upgrade.

## Database requirements

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IOP/CMDU cards, the database must be converted with the Database Transfer utility. See Database Transfer in Book 3

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

**Note:** All of the above listed system types can be converted by Nortel in the software conversion lab. Please check the current price manual for the requirements of this service.

## Install Core/Net 1 hardware

### Procedure 67

#### Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 52 on [page 254](#):

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65AC cCNI card per Core/Net module.  
The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65AC Core to Network Interface (cCNI) Card in slot c9 must be configured as "group 0." Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.

- a. Check side ID switch settings for SU card in Core/Net 1 according to Table 34.

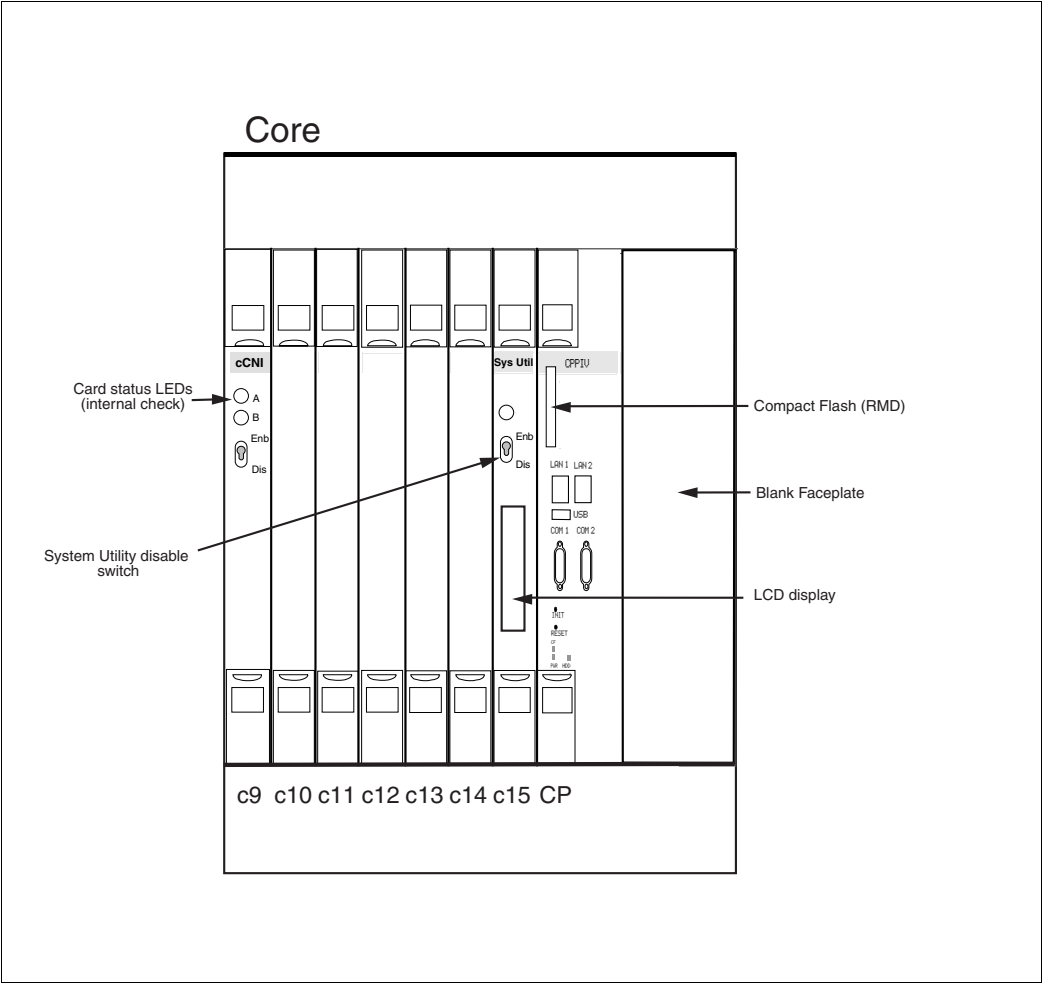
**Table 34**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 MMDU faceplate is located in the extreme right-hand slot next to the CP PIV card.

**End of Procedure**

**Figure 52**  
**Core card placement in the NT4N41 Core/Net Module (front)**



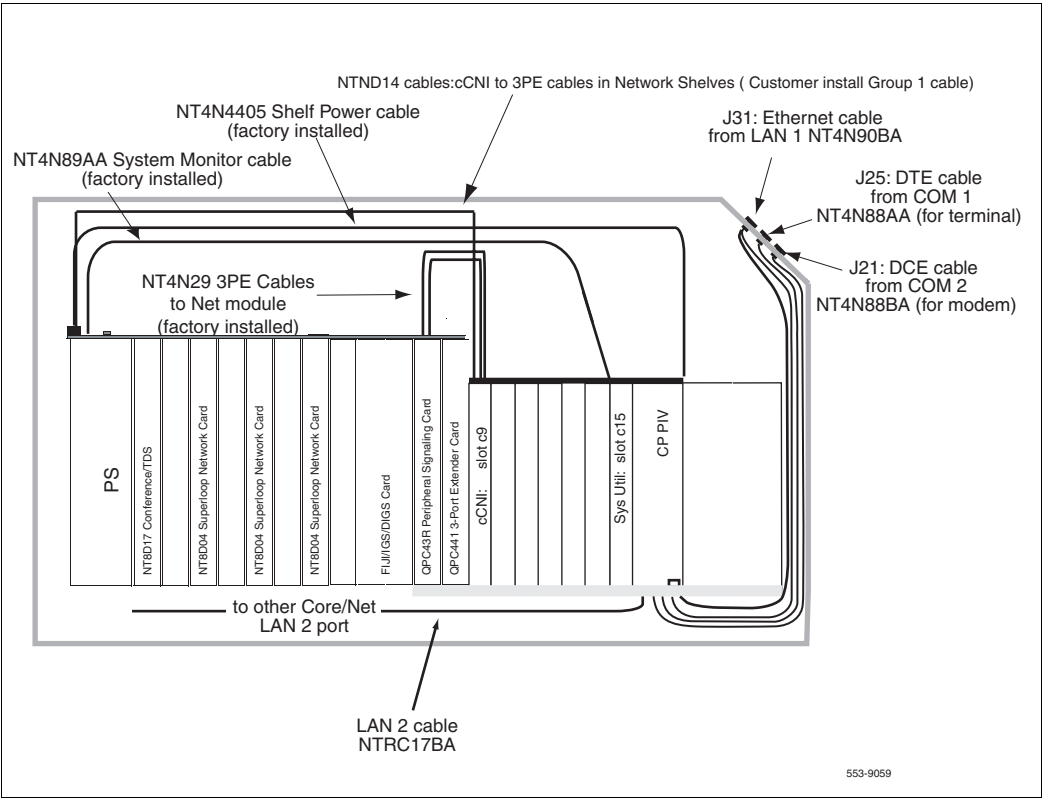
## Check factory-installed cables

Table 35 lists factory-installed cables. See Figure 53 on [page 256](#).

**Table 35**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

**Figure 53**  
**Core/Net cable connections**





---

## Disable Core 1

### Procedure 68

#### Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing:

- 1 Verify that Core 0 is active.

**LD 135** Load program

**STAT CPU** Get status of the CPUs

- 2 If Core 1 is active, make Core 0 active:

**SCPU** Switch to Core 0 (if necessary)

**\*\*\*\*** Exit program

---

**End of Procedure**

---

### Procedure 69

#### Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

**LD 60** Load program

**SSCK 0** Get the status of Clock Controller 0

**SSCK 1** Get the status of Clock Controller 1

- 2 If Clock Controller 1 is active, switch to Clock Controller 0.

**SWCK** Switch to Clock Controller 0 (if necessary)

**DIS CC 1** Disable Clock Controller 1

**\*\*\*\*** Exit the program

- 3 Faceplate disable Clock Controller 1.

---

**End of Procedure**

---

## Disable IGS

### Procedure 70 Disable IGS

- 1    Disable the IGS/DIGS cards located in each network group shelf 1:

```
LD 39           Load program

DIS IGS X      X = IGS cards located in each network group
               shelf 1

****          Exit program
```

**Note:** To determine the number of the IGS/DIGS card, refer to Table 36.

**Table 36**  
**Shelf 1 IGS/DIGS card locations**

Network Group 0	Shelf 1	IGS/DIGS 1 & 3
Network Group 1	Shelf 1	IGS/DIGS 5& 7
Network Group 2	Shelf 1	IGS/DIGS 9 & 11
Network Group 3	Shelf 1	IGS/DIGS 13 & 15
Network Group 4	Shelf 1	IGS/DIGS 17 & 19
<b>Note:</b> The DIGS card should be located in slot 9 of the network shelf.		

---

**End of Procedure**

---

**Procedure 71**  
**Moving Clock Controller 1****CAUTION**

Clock controller cards must be NTRB53 Clock Controller cards.

**CAUTION — Service Interruption**

**Service Interruption occurs if wrong Clock Controller is removed!**

Move only Clock Controller 1 at this point in the upgrade.

Do not move Clock Controller 0 at this time.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 37 on [page 260](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1** Label and disconnect the Clock Controller 1.
- 2** Disconnect the cable from the Clock Controller 1 faceplate card.
- 3** If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4** Remove QPC Clock Controller 1 from the Network Module.
- 5** Set the Clock Controller 1 switch settings according to and Table 37 on [page 260](#).
- 6** Place the NTRB53 Clock Controller in the Network Shelf and slot. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.

## 7 Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PIV is upgraded to more than 2 Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 37**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
<b>Note:</b> Switch 7 and 8 are not used.						

## End of Procedure

### Procedure 72 Splitting the Cores

- 1 In Core 0, set the NORM/MAINT switch on the Call Processor card to MAINT.
- 2 In Core 1, set the ENB/DIS switch on all NT6D65 CNI cards to DIS.

- 3 In Core 1, set the NORM/MAINT switch on the Call Processor card to MAINT.



The system is now in split mode, with call processing on Core 0 with Clock Controller 0 active and IGS in Shelf 0 is active.

---

**End of Procedure**

---

### Software disable Network cards in Core/Net 1 from Core/Net 0



#### **CAUTION**

##### **Service Interruption**

At this point, the upgrade interrupts service.

#### **Procedure 73**

##### **Software disabling cards of Core/Net 1 from Core/Net 0**

- 1 In Core/Net 1 only, software disable all network and I/O cards such as XNET, TTY, Conf/TDS and ISDN cards:

- a. In Core/Net 1 only, disable XNET.

**LD 32** Load program

**DISL sl** Disable the XNET, where sl = the superloop number of the XNET card

\*\*\*\* Exit program

- b. In Core/Net 1 only, disable ENET.

**LD 32** Load program

**DISL X** Disable the ENET, where X= the loop number of the ENET card

\*\*\*\* Exit program

c. In Core/Net 1 only, software disable each port on the SDI cards:

**LD 37**            Load program

**DIS TTY x**        Disable each port, where x = the number of the interface device attached to a port

\*\*\*\*            Exit program

d. In Core/Net 1 only, disable DTI cards.

**LD 60**            Load program

**DISL x**            Disable DTI card, where x = the loop number of the DTI port

\*\*\*\*            Exit program

e. In Core/Net 1 only, disable DCH and PRI cards.

**LD 96**            Load program

**DIS DCH x**        Disable DCH, where x = associated D-Channel

\*\*\*\*            Exit program

**LD 60**            Load program

**DISL x**            Disable PRI card, where x = the loop number PRI port

\*\*\*\*            Exit program

f. In Core/Net 1 only, disable MSDL cards.

**LD 48**            Load program

**DIS MSDL x**      Disable MSDL card, where x = the MSDL card number. System will respond with group 0

\*\*\*\*            Exit program

**g.** In Core/Net 1 only, disable XCT cards.

**LD 34** Load program

**DISX x** Disable XCT card, where x = the superloop number of the XCT card

**\*\*\*\*** Exit program

**2** In Core/Net 1 only, software disable the QPC43 Peripheral Signaling Card:

**LD 32** Load program

**DSPS x** Disable QPC43 card. Table 38 lists Peripheral Signaling Card numbers

**\*\*\*\*** Exit the program

**Table 38**  
**Peripheral Signaling Card numbers**

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled		
0 / 0	0	0	—	15
0 / 1	1	16	—	31
1 / 0	2	32	—	47
1 / 1	3	48	—	63
2 / 0	4	64	—	79
2 / 1	5	80	—	95
3 / 0	6	96	—	111
3 / 1	7	112	—	127
4 / 0	8	128	—	143
4 / 1	9	144	—	159
5 / 0	10	160	—	175
5 / 1	11	176	—	191
6 / 0	12	192	—	207
6 / 1	13	208	—	223
7 / 0	14	224	—	239
7 / 1	15	240	—	255

- 3    In Core/Net 1 only, faceplate disable the 3PE, Per Sig and all network cards.
- 4    Faceplate disable all IGS/DIGS cards in each network shelf 1.

---

**End of Procedure**

---



### **CAUTION**

#### **Service Interruption**

The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.

### **Procedure 74**

#### **Removing the system monitors from Core 0 and Core 1**

**Note:** This procedure applies to both AC and DC systems.

- 1    In **Core 0**, software disable the master system monitor (NT8D22):

**LD 37**                    Load program

**DIS TTY #**            Disable master system monitor TTY interface

- 2    Remove J3 and J4 cables on Core 0 and Core 1 system monitors.

**Note:** Do *not* turn off the blower units in the front of the pedestals.

- 3    Remove the system monitor from the rear of the pedestal on Core 0 and Core 1.

---

**End of Procedure**

---



### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.



## Power down Core/Net 1



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

### Procedure 75

#### Removing Core 1 cables and card cage

- 1 Label and disconnect all cables from the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP card cage.

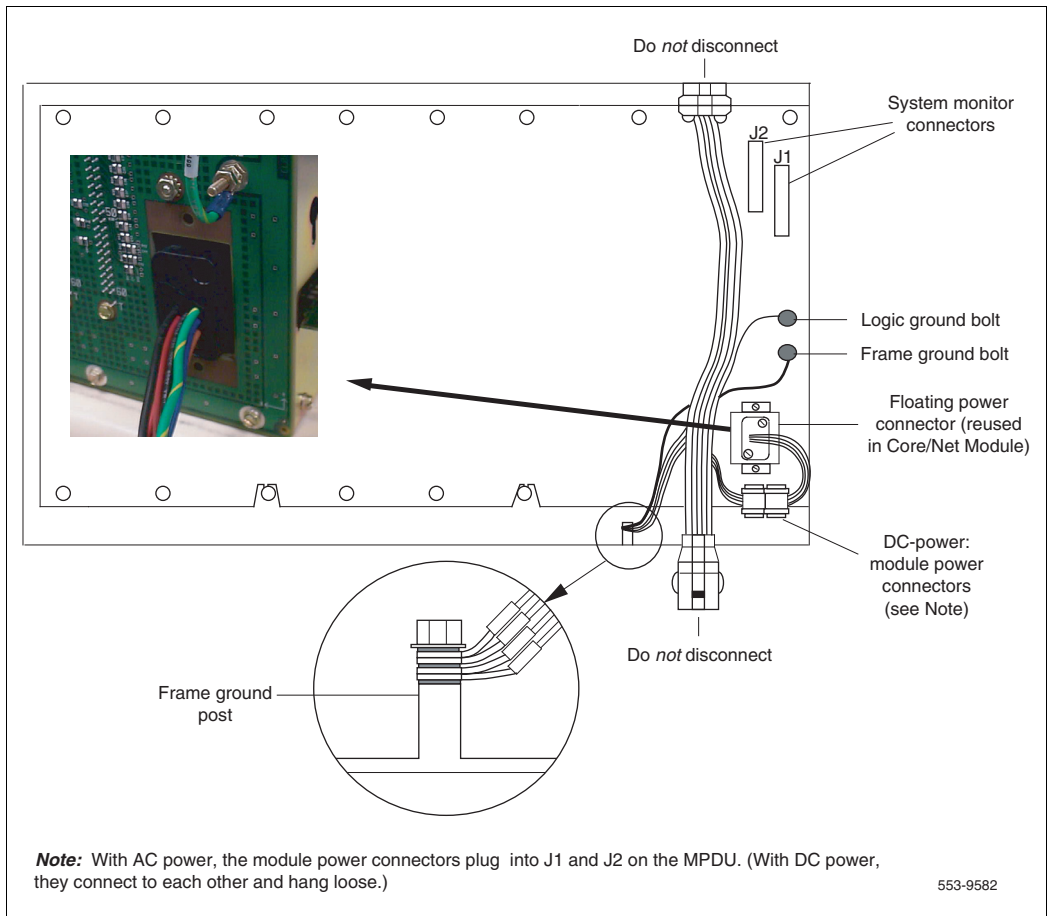


**CAUTION**

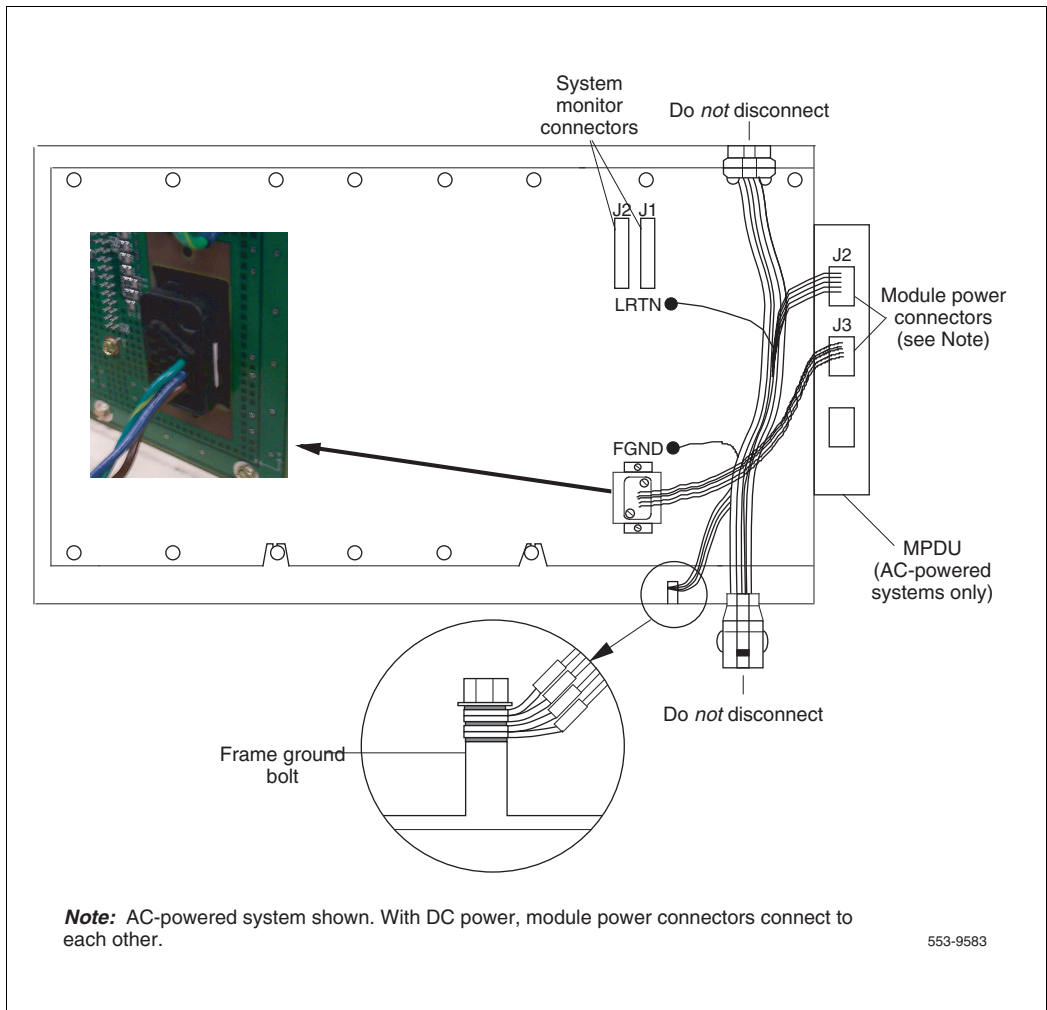
Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful not to drop the nut or lock washer into the pedestal. See Figure 54 on [page 267](#) for DC power connectors. See Figure 55 on page 268 for AC power connectors.
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.
- 17 Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
  - For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.

**Figure 54**  
**DC power connectors on the Core module backplane**



**Figure 55**  
**AC power connectors on the Core module backplane**



- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.

**WARNING**

If you do not tape the EMI shield in position, you will not be able to install the card cage in the module correctly.

**CAUTION**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

## Install the CP card cage in Core 1

**Procedure 76**  
**Installing the CP card cage in Core 1**

- 1
- Check that the card cage is configured as Core 1. See Table 39 for instructions.

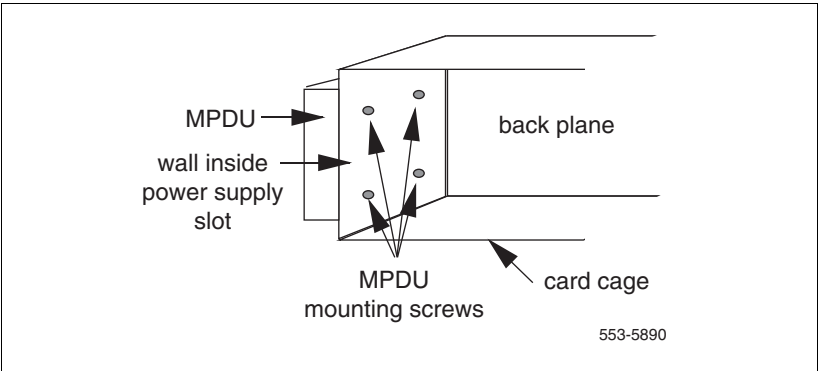
**Table 39**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 2
- For AC-powered systems only, attach the MPDU, part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 56.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

**Figure 56**  
**Location of the screws for the MPDU**



- 3
- Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- 4 Slide the CP card cage halfway into the module.
- 5 Hold the card cage firmly and make the following connections at the rear of the module.
  - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that may have fallen into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
      - c. Attach the system monitor ribbon cables:
        - i. Connect the ribbon cable that goes down to the column to connector J1 on the backplane.
        - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
      - d. Use a 11/32" socket wrench to attach the green ground wire to the frame ground bolt on the module. Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.
  - Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.

    - e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" socket wrench.)
- 6 Slide the card cage all the way into the module.

- 7**    Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8**    Secure the card cage and EMI shield to the module re-using the existing screws.
- 9**    Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a.**    Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b.**    Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10**   Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11**   Do not connect the NTRC17BA crossover ethernet cable at this time.

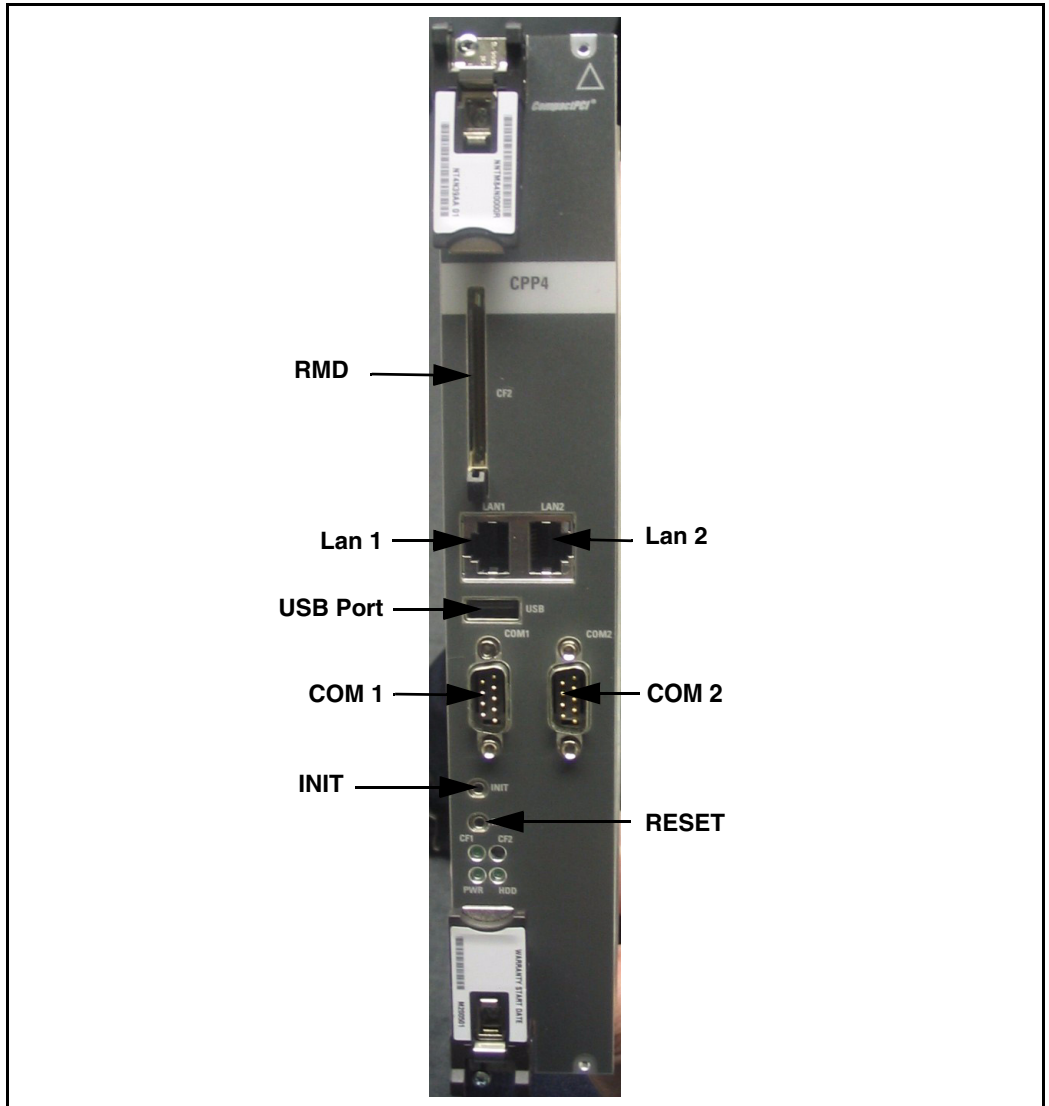
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**End of Procedure**

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**Figure 57**  
**CP PIV call processor card (front)**



## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 77 Installing the power supply**

- 1**    Unpack the power supply.
- 2**    Faceplate disable the power supply.
- 3**    Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### **Procedure 78 Relocating Network cards to CP PIV Core/Net 1**

- 1**    Remove all remaining network cards from the Meridian 1 Option 81 Core/Net 1 except for the IGS/DIGS cards.
- 2**    Connect the tagged cables to the relocated cards.
- 3**    When you move the 3PE card, check the switch settings and jumpers. See Table 40 on [page 275](#).
  - a.**    All 3PE cards must be vintage F or later.
  - b.**    Check that the RN27 Jumper is set to "A".

- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 40 shows the 3PE settings for cards installed in CP Core/Net Modules.

**Table 40**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PIV)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— End of Procedure —————

**Procedure 79**  
**Installing the Security Device**

The Security Device fits into the System Utility card (see Figure 58 on [page 277](#)). To install the Security Device, do the following.

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a. Unlock the latches and remove the IODU/C card.
  - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

Or

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

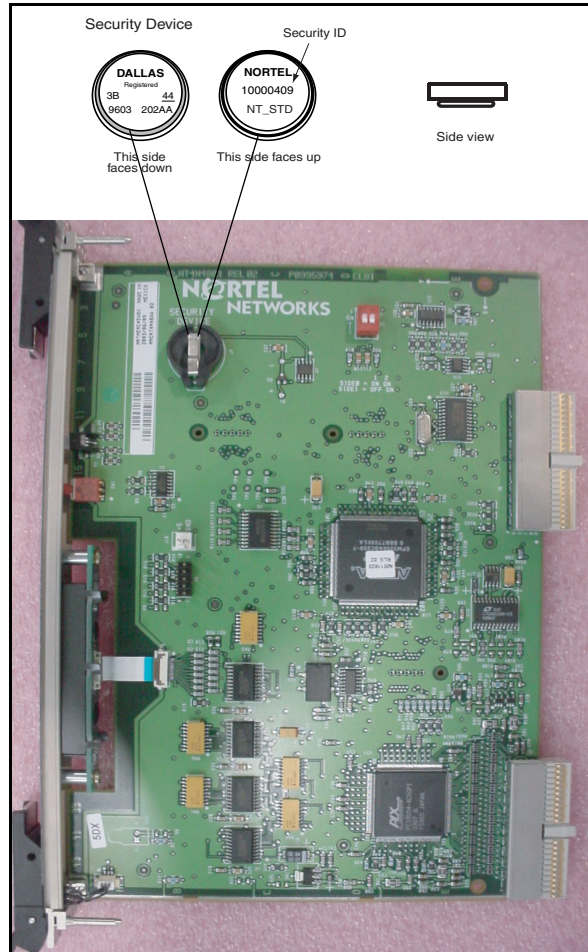
- 2 Check that the Security Device is securely in place.

---

**End of Procedure**

---

**Figure 58**  
**Security Device**

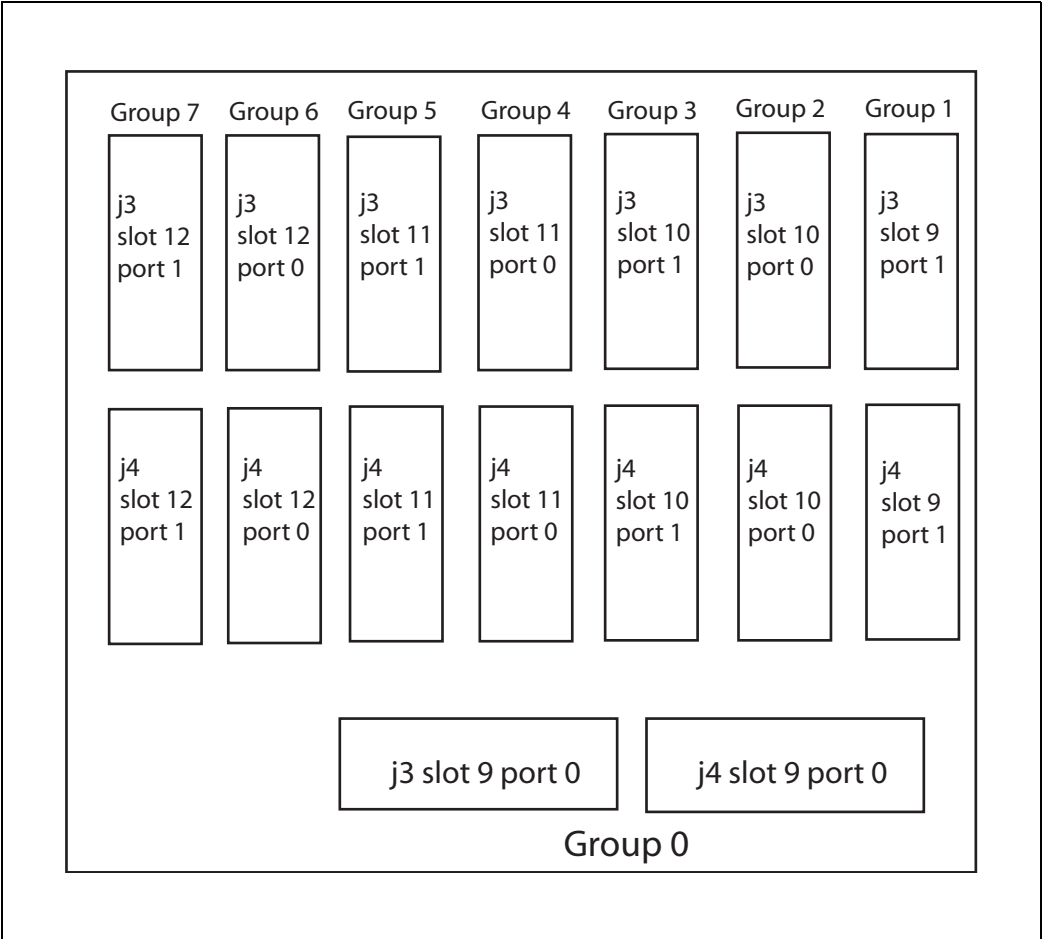


## Cable Core 1

### In Core 1, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 1. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

**Figure 59**  
**Connectors for CNI-3PE cables to the Fanout panel**



### In Core 1, route and connect the cCNI to 3PE (NTND14) cables

The existing NTND14 cables may be reused if they meet the requirements of the Important box below. If it is determined that existing NTND14 cables must be replaced on side 1, remove the existing cables and replace with the correct length cables. Connect the NTND14 cables to the Fanout panel in Core/Net 1 and the 3PE cards in each equipped network group shelf 1. See Table 41 on [page 281](#) and Figure 60 on [page 283](#).



#### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PIV, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from

the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 59 on [page 278](#).



**WARNING**

**Damage to Equipment**

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.



**Table 41**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1. See Figure 60 on [page 283](#).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 60 on [page 283](#).

## **Adding Side 1 FIJI hardware**

### **Procedure 80**

#### **Adding Side 1 FIJI hardware**

Follow the procedures below in sequence:

- 1**    Tag and disconnect the IGS/DIGS cables.
- 2**    Remove the IGS/DIGS cards from Side 1.
- 3**    Faceplate disable the FIJI cards.
- 4**    Insert the FIJI cards in Side 1. **DO NOT seat the FIJI cards.**

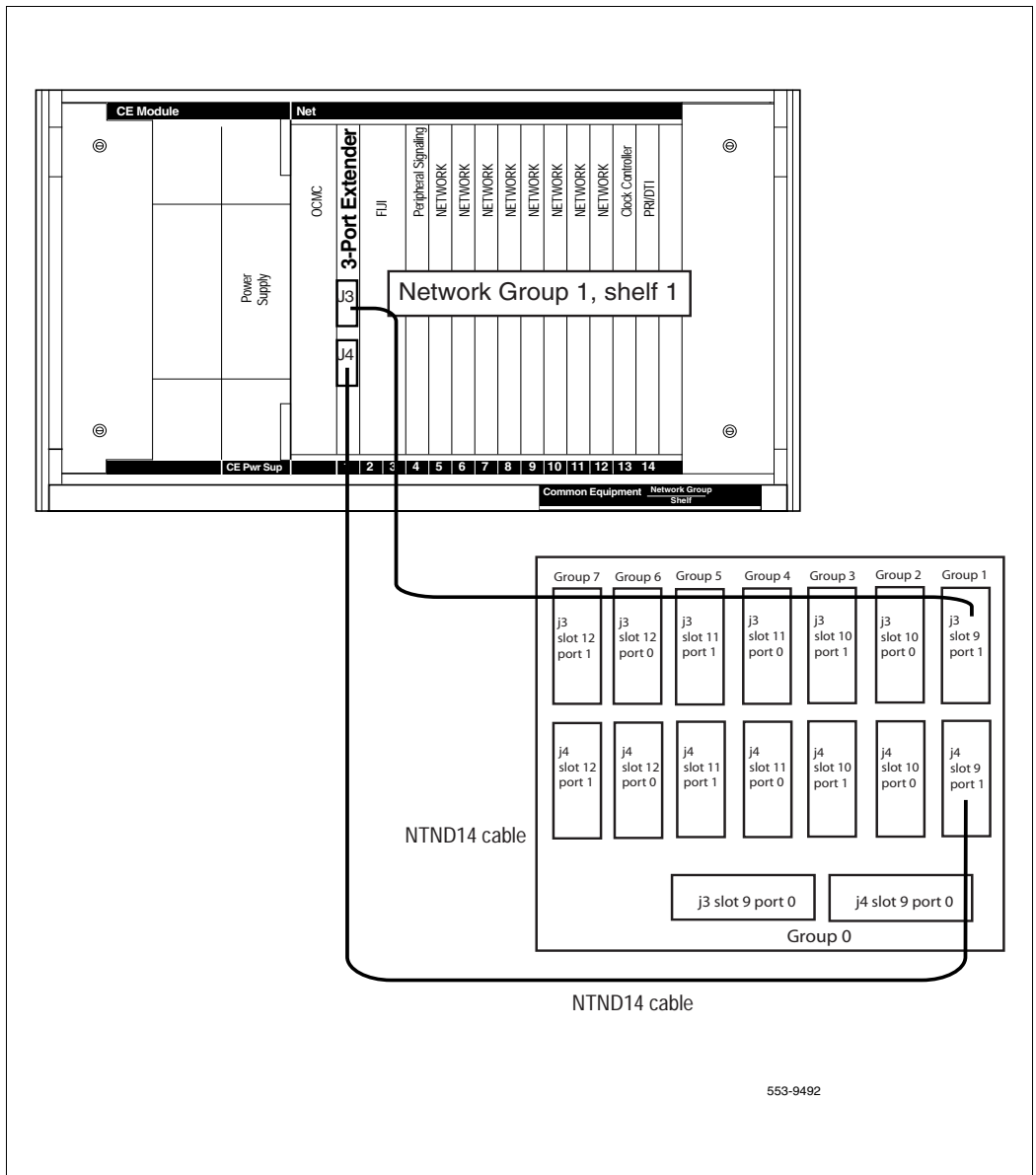
**Note:** FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.

---

**End of Procedure**

---

**Figure 60**  
**3PE Fanout Panel connections**



553-9492

**Procedure 81**  
**Connecting the shelf 1 FIJI Ring cables (descending)**



**IMPORTANT!**

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

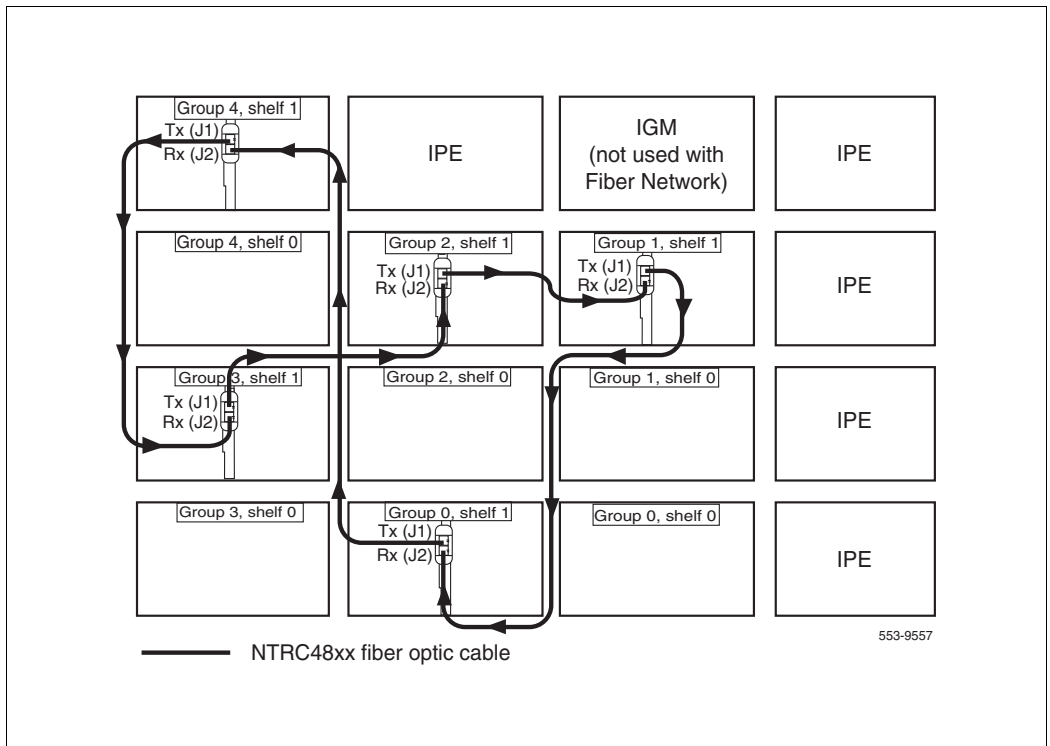
Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (see Figure 61 on [page 285](#) and Table 42 on [page 286](#)).

Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled "Tx" or Rx" in the factory.

- 1 Start with Network group 0, shelf 1.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 1** to the Rx (J2) port of the FIJI card in the **highest Network group, shelf 1**.
- 3 Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 1 of each Network group. Connect these cables in **descending** order of Network groups.

**Figure 61**  
**Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 5 group example)**



- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

**Note:** Connect the Side 1 FIJI Ring cables only.

**Table 42**  
**FIJI Ring 1 connections**

Groups 0 - X are cabled in descending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/1	P1	Tx
7/1	P2	Rx
7/1	P1	Tx
6/1	P2	Rx
6/1	P1	Tx
5/1	P2	Rx
5/1	P1	Tx
4/1	P2	Rx
4/1	P1	Tx
3/1	P2	Rx
3/1	P1	Tx
2/1	P2	Rx
2/1	P1	Tx
1/1	P2	Rx
1/1	P1	Tx
0/1	P2	Rx

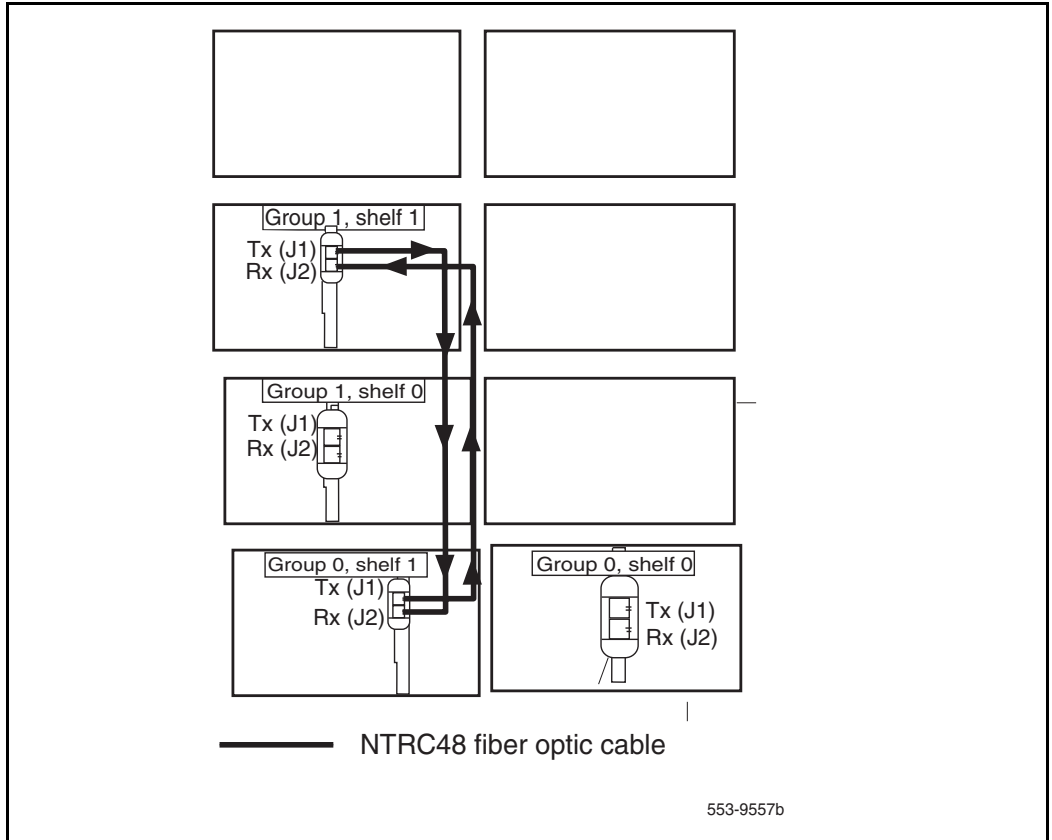
---

**End of Procedure**

---

**Figure 62**

**Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



## Cable the Clock Controller 1 to FIJI

### Procedure 82

#### Cabling the Clock Controller 1 to FIJI

Connect the cables to the Clock Controller 1 as shown in Figure 63 on [page 289](#):

- 1    Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2    Connect P2 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, shelf 1.

---

**End of Procedure**

---

## Power up Core 1

### Procedure 83

#### Preparing for power up

- 1    Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

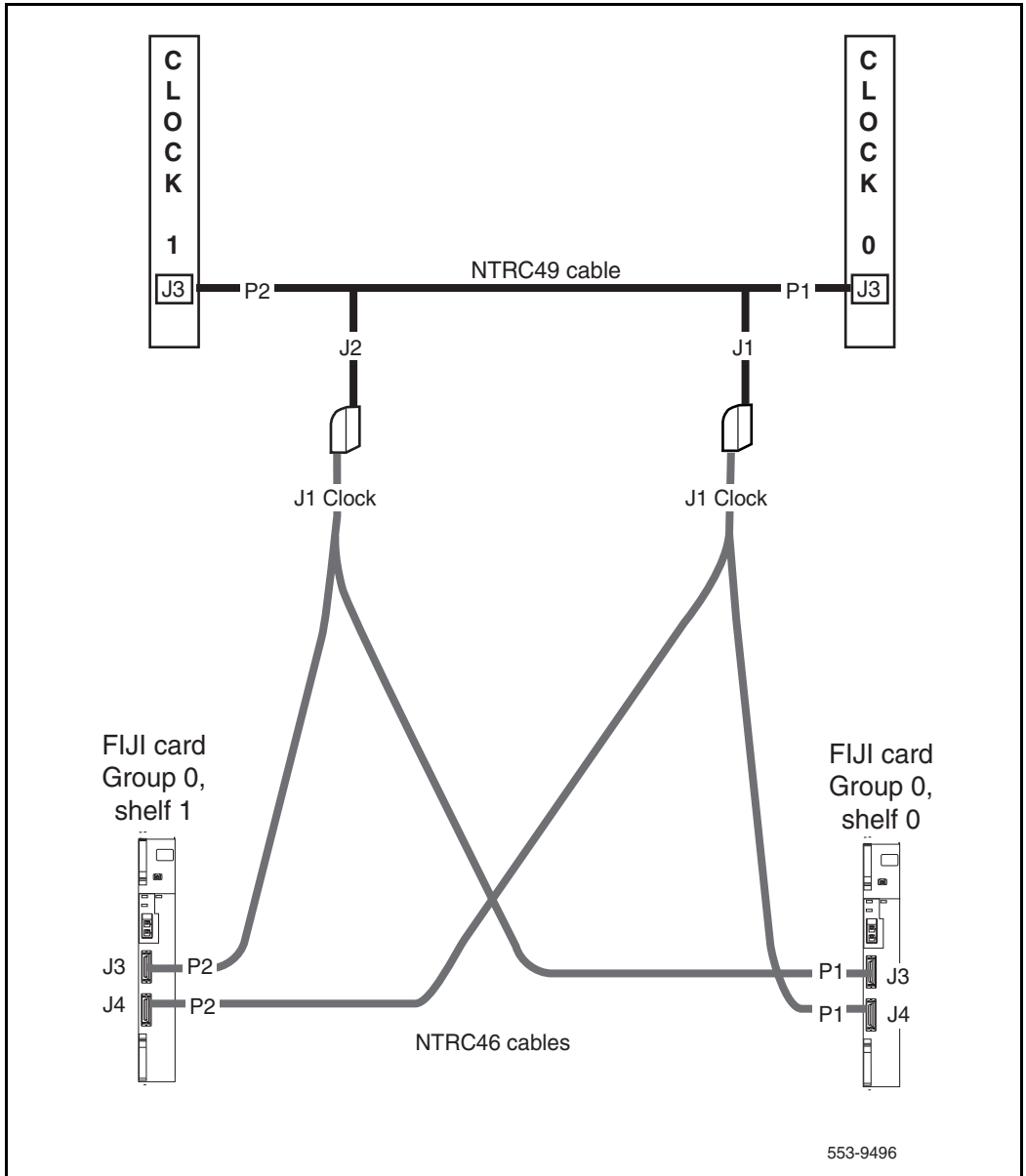
- 2    Connect a terminal to the J25 port on the I/O panel in the *inactive* Core.
- 3    Check the terminal settings as follows:
  - a.   9600 Baud
  - b.   8 data
  - c.   parity none
  - d.   1 stop bit
  - e.   full duplex
  - f.   XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side to side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

- 4    Faceplate *enable* all core and network cards.



**Figure 63**  
**Clock Controller cable configuration**



- 5    Faceplate *enable* the power supply.

---

**End of Procedure**

---

## Power up Core cards

### Procedure 84

#### Powering up core cards

- 1    For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2    For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

---

**End of Procedure**

---

## Restore power

### Procedure 85

#### Restoring power

- 1    Restore power to Core/Net 1.
- 2    Wait for the system to load/initialize.
- 3    Check that the Network and I/O cards have working power.



System is in split mode, CP 0 is active, clock 0 is active, all network cards in shelf 1 are software disabled.

---

**End of Procedure**

---

## **CS 1000 Release 4.5 upgrade**

### **Upgrading the software**

Procedure 86 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

#### **Procedure 86**

##### **Upgrading the software**

- 1** Check that a terminal is now connected to COM 1.
- 2** Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
    and size ...
    Number of partitions  0:
    Disk check failed: three partitions
    expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

The Fix Media Device on Core x is blank.

Install cannot continue unless the FMD is partitioned.

Note: INSTALL WILL REBOOT AFTER THIS PROCEDURE AND

FIX MEDIA WILL BE EMPTY AFTER YOU PARTITION IT.

INSTALL REMOVABLE MEDIA MUST BE IN THE DRIVE AT THIS TIME.

Please enter:

<CR> -> <a> - Partition the Fix Media Device.

Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...
fdiskDevCreate(/dev/hda2)
/dev/hda2: partTablePtr = 0x12d5ff0c
Found partition 2, nodePtr = 0x12d30a4c
Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
FAT

    Sectors reserved 32, hidden 63, FAT sectors
1216

    Root dir entries 0, sysId VX5DOS32, serial
number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```

Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...

```



**6** The system then enters the Main Menu for keycode authorization.

```

                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.
Enter Choice> <u>

```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

        <CR> -> <a> - RMD is now in the drive.
        <q> - Quit.
Enter choice>

```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "<y>" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd   1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7 Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...  
  
Copying "/cf2/keycode/KCport60430m.kcd" to "/u/  
keycode" -  
  
Copy OK: 1114 bytes copied  
  
The provided keycode authorizes the install of  
xxxx software (all subissues) for machine type  
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8 The system requests keycode validation.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please confirm that this keycode matches the  
System S/W on the RMD.

Please enter:

<CR> -> <y> - Yes, the keycode matches.  
Go on to Install Menu.

<n> - No, the keycode does not match.  
Try another keycode.

Enter choice>

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L     M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.  
          <b> - To install Software, Database, CP-  
BOOTROM.  
          <c> - To install Database only.  
          <d> - To install CP-BOOTROM only.  
          <t> - To go to the Tools menu.  
          <k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.  
<q> - Quit.

Enter Choice> **<b>**

- 10** The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the drive on Core x.

Please enter:

                  <CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

                  <q> - Quit.

Enter choice> **<CR>**

- 11** If the RMD containing the software is already in the drive, select option "<a> - RMD is now in drive. Continue with s/w checking." (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 12 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>
```

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13 The Dependency List menus appear.

```
Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice> y

>Processing the install control file ...

>Installing release xxxx
```

**14** The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
SW: RMD to FMD	yes		install for rel XXXXX	
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
Dependency Lists	yes			
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
=====+=====+=====+=====				
DATABASE	yes			
Option	Choice	Status	Comment	
=====+=====+=====+=====				
CP-BOOTROM	yes			

- 15    Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

           <n> - No, stop installation. Return to the
Main Menu.

           Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

           <CR> -> <a> - Continue with new system
install.

           <q> - Quit.

           Enter choice>
```



- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>
```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```
The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>
```

**19** Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>

```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

```

-----
                    INSTALLATION STATUS SUMMARY
-----

```

option	choice	status	comment
Sw: RMD to FMD	yes	OK	install for rel 04xxx
Dependency Lists	yes	OK	
AUTO-CSU Feature	no		AUTO-CSU Disabled
IPMG Software:	no		
Database	yes	OK	conversion from xxxx
CP-BOOTROM	yes	OK	

```

Please press <CR> when ready ...

```

- 20** Upon returning to the main install menu, enter **q** to quit.

```

                I N S T A L L   M E N U

The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database, CP-
BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools menu.
        <k> - To install Keycode only.

        For Feature Expansion, use OVL143.
        <p> - To install 3900 set Languages.
        <q> - Quit.

Enter Choice> q
```

- 21** The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.


    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.


-----

DO NOT REBOOT USING BUTTON!!!

-----


    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

---

**End of Procedure**

---

## Verify the upgraded database

### Procedure 87

#### Verifying the upgraded database

- 1    Print ISSP (system software issue and patches)

**LD 22**                      Load program

**REQ**                        ISSP

**\*\*\*\***                        Exit program

- 2    Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22**                      Load program

**REQ**                        PRT

**TYPE**                      CFN

**\*\*\*\***                        Exit program

- 3    Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22**                      Load program

**REQ**                        SLT

**\*\*\*\***                        Exit program

- 4 Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program

## Configuring IP addresses

### Procedure 88 Configuring the IP addresses

Two unique IP address are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following to check the status of the system's IP address:

<b>LD 117</b>	Load program
<b>PRT HOST</b>	Print the configured host information

If the system returns with host names "active" and "inactive", go to "Check for Peripheral Software Download to Core 1" on [page 312](#). If the system returns no host names, complete the steps below.

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

<b>LD 117</b>	Load program
<b>NEW HOST NAME 1 IP ADDRESS</b>	Define the first IP address: "name 1" is an alias for the IP address such as "primary" (The IP address is the IP number)
<b>CHG ELNK ACTIVE NAME 1</b>	Assign the "name 1" address to the <i>active</i> Core

<b>NEW HOST ‘NAME 2’ ‘IP ADDRESS’</b>	Define the second IP address: “name 2” is an alias for the IP address such as “secondary” (The IP address is the IP number)
<b>CHG ELNK INACTIVE NAME 2</b>	Assign the “name 2” address to the <i>inactive</i> Core.
<b>CHG MASK XXX.XXX.XXX.XXX</b>	Set the sub-net per local site (This number allows external sub-nets to connect to the system)

- 4    Enable the new Ethernet interface.

<b>LD 137</b>	Load program
<b>update dbs</b>	Update the ELINK database
<b>dis elnk</b>	<i>Disable</i> the old IP interface values
<b>enl elnk</b>	<i>Enable</i> the new IP interface values

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 224](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.



Load LD 22 and print Target peripheral software version.

**LD 22**

<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## For systems with fewer than eight groups, delete CNIs

### Procedure 89 Deleting CNIs

Software has configured the system for eight groups. If the system has eight groups, skip this procedure. If the system has fewer than eight groups, you must software remove the CNIs not used in the system configuration:

- 1 In Core/Net 1, disable all cCNI cards using LD 135:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get status of all cCNI cards
<b>DIS CNIP x s p</b>	Disable cCNI ports where: x = Core number (0 or 1) s = card slot (9-12) p = port (0 or 1)
<b>DIS CNI x s</b>	Disable cCNI cards where: x = Core number (0 or 1) s = card slot (9-12)
<b>STAT CNI</b>	Confirm that cCNI cards are disabled
<b>****</b>	Exit program

- 2 Use LD 17 to remove the extra cCNI cards.

<b>LD 17</b>	Load program
<b>CHG</b>	CFN
<b>TYPE</b>	CEQU
<b>CEQU</b>	
<b>carriage return to EXTO</b>	
<b>EXTO 3PE</b>	Core/Net 0 extended to 3PE

**CNI s p x**                      Out the cCNI card, where:  
    s = card slot (9-12)  
    p = port (0 or 1)  
    x = out network group

**EXTI 3PE**                      Core/Net 1 extended to 3PE

**CNI s p x**                      Out the cCNI card, where:  
    s = card slot (9-12)  
    p = port (0 or 1)  
    x= out network group

**carriage return to end  
 of program**

\*\*\*\*                              Exit program

**3**    Use LD 135 to re-enable cCNI cards:

**LD 135**                      Load program

**STAT CNI**                    Get status of all cCNI cards

**ENL CNI x s**                Enable cCNI cards where:  
    x= Core number (0,1)  
    s = card slot (9-12)

**ENL CNIP x s  
 p**                              Enable cCNI ports where:  
    x= Core number (0,1)  
    s = card slot (9-12)  
    p = port (0 or 1)

**STAT CNI**                    Confirm that cCNI cards are enabled (see note  
 below)

\*\*\*\*                              Exit program

**Note:** At this point, cCNI cards in Core 1 are controlled by the active call processor in Core 0. Therefore, it remains disabled.

---

**End of Procedure**

---

## Reconfigure I/O ports and call registers

### Procedure 90

#### Reconfiguring I/O ports and call registers

- 1 Remap all I/O ports (except CPSI ports) to the proper groups.  
The group number of these ports is determined by the physical location of the card. The configuration information must match the CNI configuration

```
LD 17          Load program
CHG            CFN
TYPE          ADAN CHG AAA X G
carriage
return to end
of program
****          Exit program
```

- 2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 1000 and 20000 (respectively). If changes are required, reconfigure the values in LD 17:

```
LD 17          Load program
CHG            CFN
TYPE          PARM
carriage
return to end
of program
****          Exit program
```

---

End of Procedure

---

**Procedure 91**  
**Rebooting Core 1****CAUTION****Service Interruption**

The INI may take up to 15 minutes to complete.

**CAUTION****Service Interruption**

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

At this stage, Core 0 is still the active call processor with Clock Controller 0 active. The following procedure will transfer call processing from Core 0 to Core 1, switching Clock Controller from 0 to 1 and switching from IGS/DIGS to FIJI.

- 1 In Core/Net 0 only, faceplate disable the CNI cards.
- 2 In Core/Net 0 only, faceplate disable the IODU/C card.
- 3 In Core/Net 0 only, unseat the Core Processor card.
- 4 Faceplate disable Clock Controller 0 and unseat the card.
- 5 Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.
- 6 Seat and faceplate enable Clock Controller 1.
- 7 Seat and faceplate enable all FIJI cards in shelf 1.
- 8 Press the 'RESET' button on the CP PIV card faceplate to initialize the system.

- 9    Wait for “DONE” and then “INI” messages to display before you continue.



**CAUTION**

**Service Interruption**

Allow the system to recover from all downloads after the INI completes.

**Note:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring; downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets. Upon INI completion, RING 1 is full, FIJI Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.



Call Processing is now active on Call Processor 1 (except for network cards on Core/Net 0).

---

**End of Procedure**

---

## Disable and remove equipment from Core/Net 0

**Note:** At this point, the active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

### Procedure 92

#### Faceplate disabling cards of Core/Net 0:

- 1 In Core/Net 0 only, faceplate disable the 3PE, Per Sig and all network cards.
- 2 Faceplate disable all IGS/DIGS cards in each network shelf 0.

---

**End of Procedure**

---

**Table 43**

**Shelf 0 IGS/DIGS card locations**

Network Group 0	Shelf 0	IGS/DIGS 0 & 2
Network Group 1	Shelf 0	IGS/DIGS 4 & 6
Network Group 2	Shelf 0	IGS/DIGS 8 & 10
Network Group 3	Shelf 0	IGS/DIGS 12 & 14
Network Group 4	Shelf 0	IGS/DIGS 18 & 20
<b>Note:</b> The DIGS card should be located in slot 9 of the network shelf.		

**Procedure 93**  
**Moving Clock Controller 0**



**CAUTION**

Clock controller cards must be NTRB53 Clock Controller cards.



**CAUTION**

**Service Interruption**

Move only Clock Controller 0 at this point in the upgrade.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 37 on [page 260](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1    Label and disconnect the Clock Controller 1.
- 2    Disconnect the cable from the Clock Controller 1 faceplate card.
- 3    If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4    Remove QPC Clock Controller 1 from the Network Module.
- 5    Set the Clock Controller 1 switch settings according to and Table 37 on [page 260](#).
- 6    Place the NTRB53 Clock Controller in the Network Shelf and slot. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.



**7** Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group 1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PIV is upgraded to more than two Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 44**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft)		
		On	Off	6.4–10.1 m (21–33 ft)		
		On	On	10.4–15.2 m (34–50 ft)		
<b>Note:</b> Switch 7 and 8 are not used.						

**End of Procedure**

**Procedure 94**  
**Cabling the Clock Controllers**

**Note:** Earlier in the upgrade, you checked that Clock Controller 1 is installed in Network 1 shelf 1, slot 13; and Clock Controller 0 has been moved to Network group 1 shelf 0, slot 13.

**Note:** Connect the cables to the Clock Controllers as shown in Figure 64 on [page 323](#):

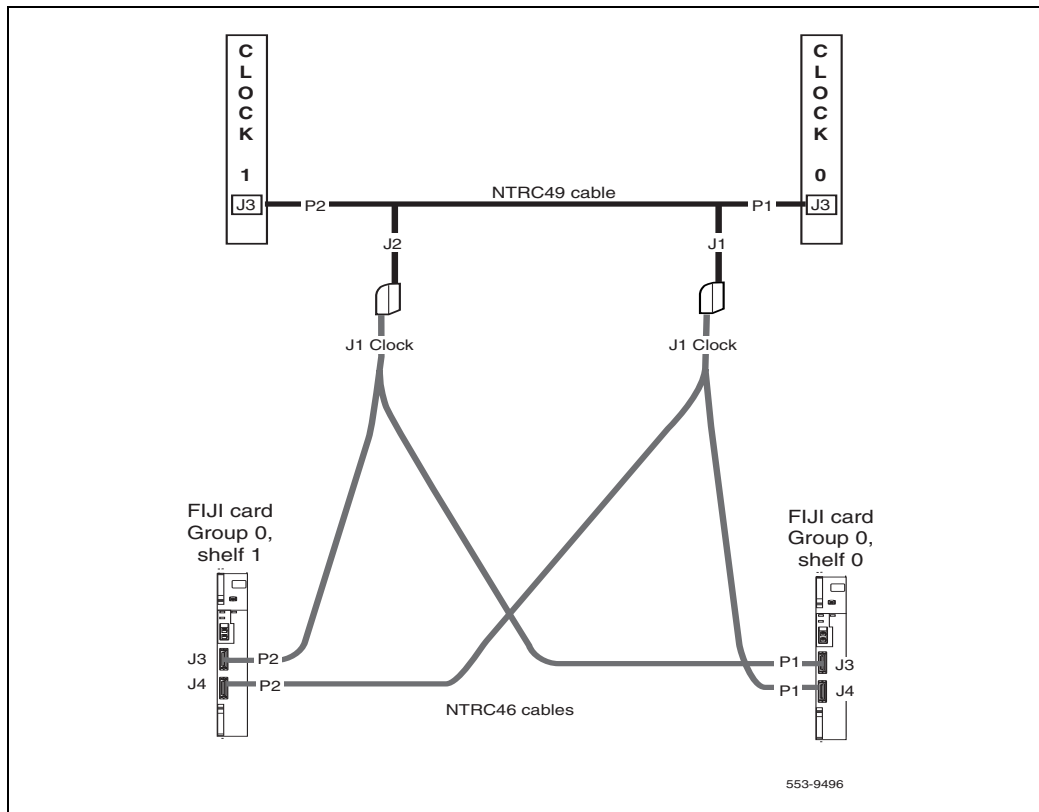
- 1    Connect the Clock to Clock cable:
  - a.    Connect J1 of the NTRC49 cable to port J3 of Clock Controller 0.
  - b.    Connect J2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2    Connect a Clock 0 to FIJI cable:
  - a.    Connect J2 of the NTRC46 cable from Clock 0 to J4 of the FIJI card in Group 0, shelf 1.

---

**End of Procedure**

---

**Figure 64**  
**Clock Controller cable configuration**



## Power down Core/Net 0



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



### DANGER OF ELECTRIC SHOCK

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

### Procedure 95

#### Removing Core 0 cables and card cage

- 1    Label and disconnect all cables to the front of the module.
- 2    Tape over the contacts to avoid grounding.
- 3    Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4    Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5    Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6    Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

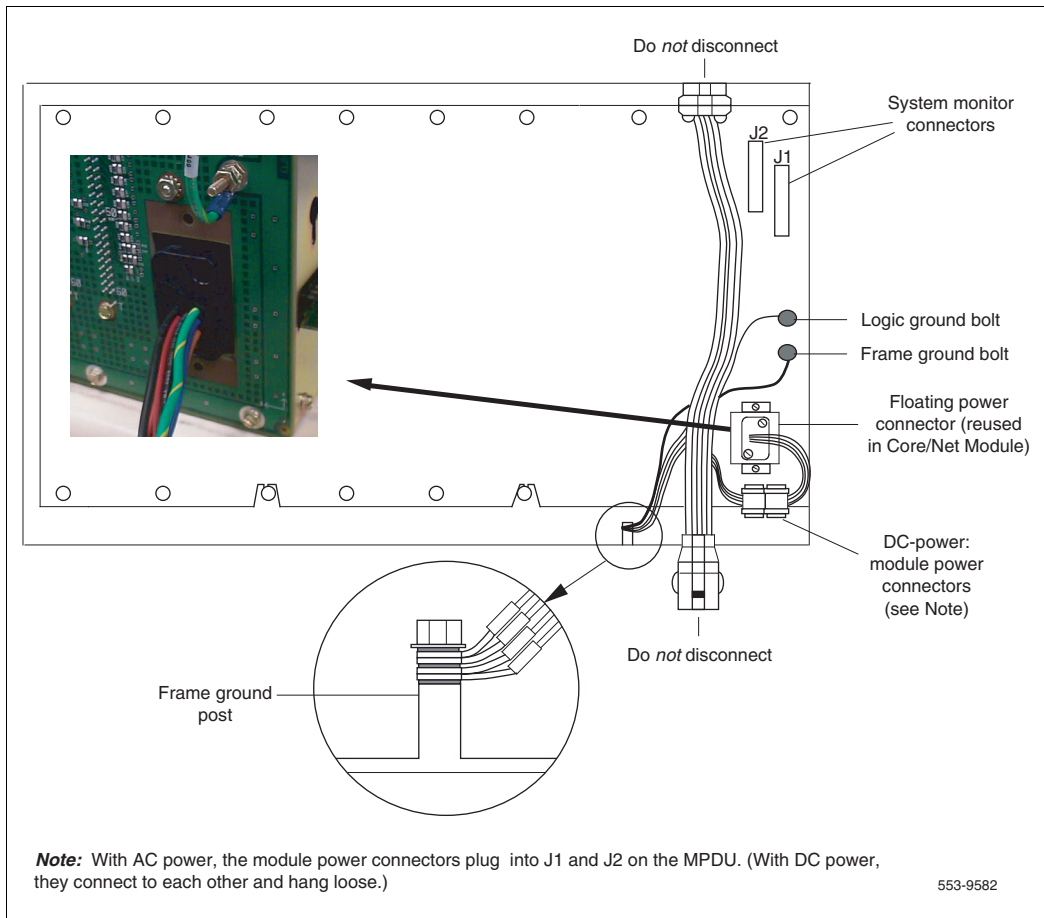
- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting. Keep the screws for use with the CP card cage.

**CAUTION**

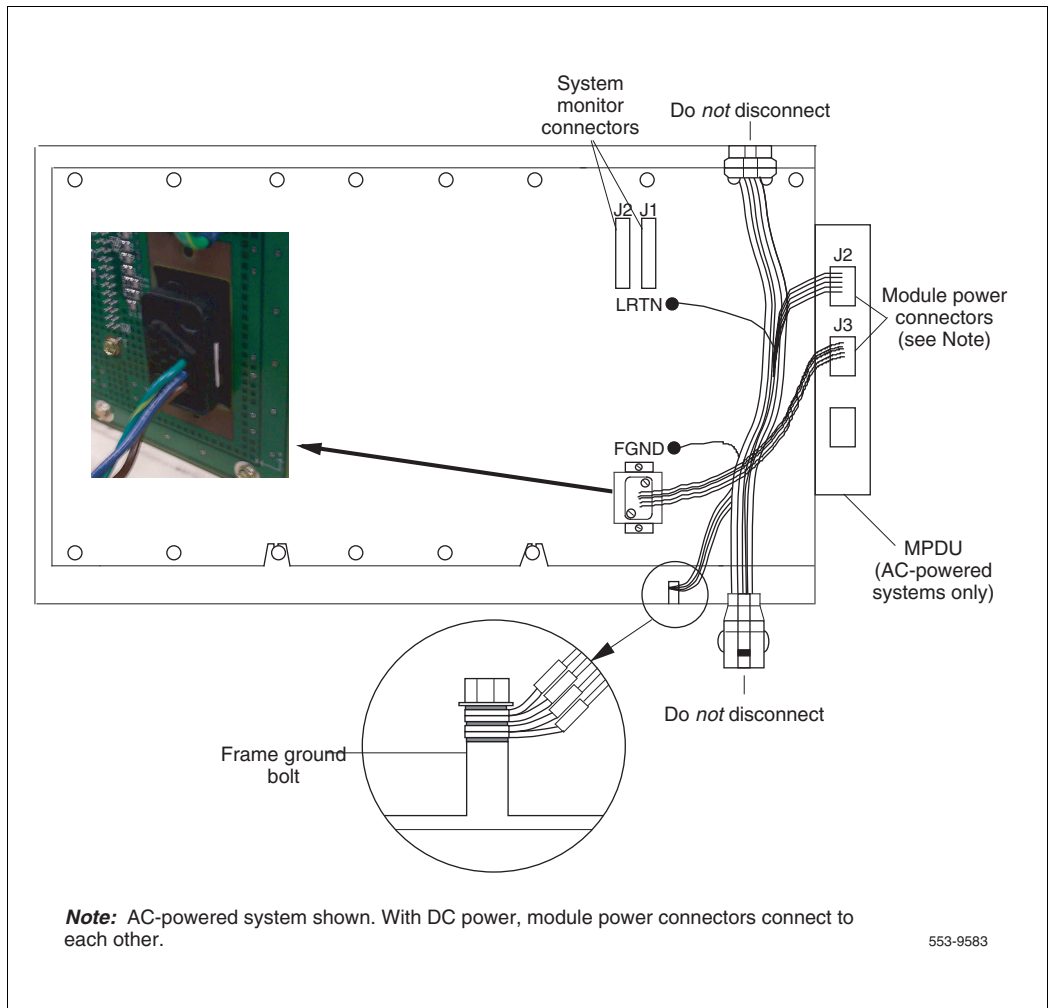
Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful not to drop the nut or lock washer into the pedestal. See Figure 65 on [page 326](#) for DC power connectors. See Figure 66 on [page 327](#) for AC power connectors.
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

**Figure 65**  
**DC power connectors on the Core module backplane**



**Figure 66**  
**AC power connectors on the Core module backplane**



- 17** Remove the power harness and reserve it for reinstallation as part of installing the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.



**WARNING**

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



**CAUTION**

**Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---



## Upgrade Core 0 hardware

### Check that the main Core cards (front side) are installed

#### Procedure 96

#### Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 67 on [page 330](#).

- 1 NT4N65AC CP PII Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65AC cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65AC Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
  - a. Check side ID switch settings for SU card in Core/Net 0 according to Table 45.

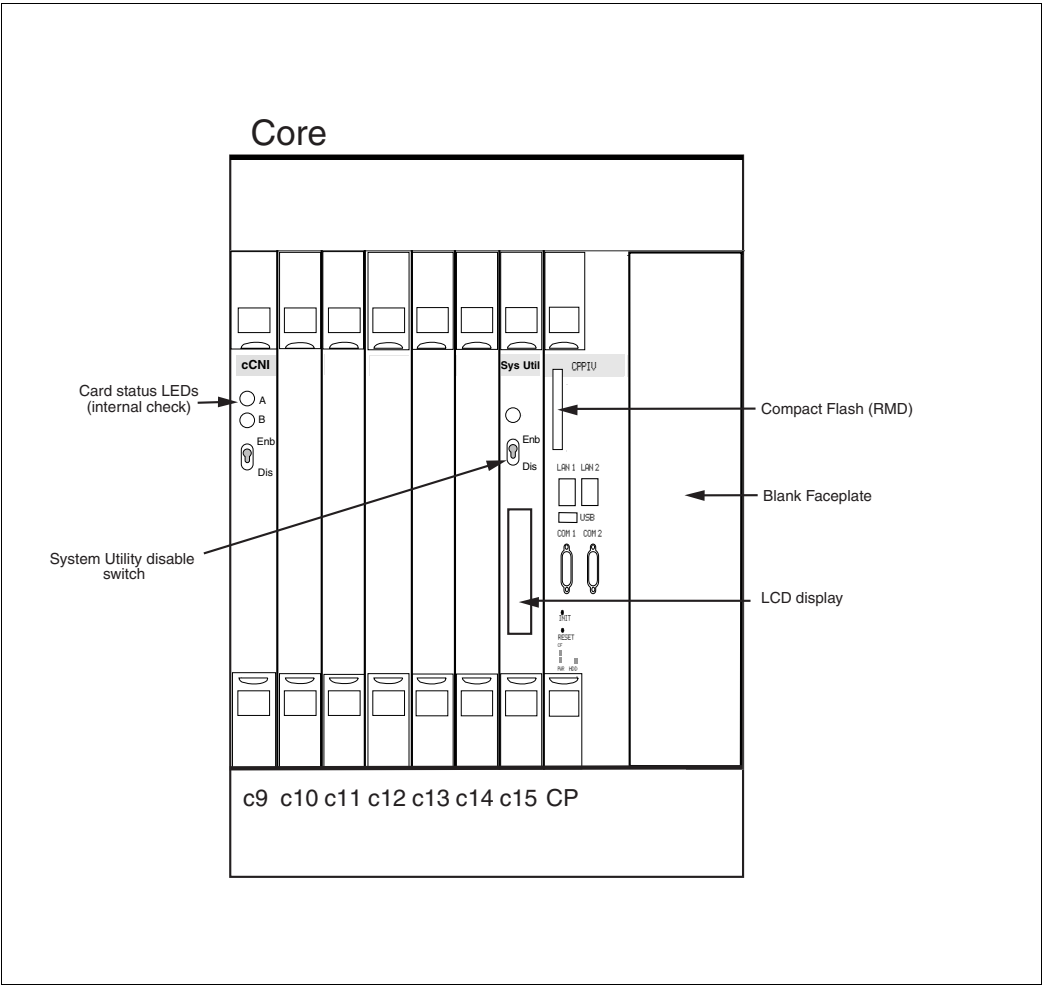
**Table 45**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.

————— End of Procedure —————

**Figure 67**  
**Core card placement in the NT4N41 Core/Net Module (front)**



## Check factory-installed cables

Table 46 lists factory-installed cables. See Figure 68 on [page 332](#).

**Table 46**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

## Install the Security Device

### **Procedure 97** **Installing the Security Device**

The Security Device fits into the System Utility card (see Figure 69 on [page 333](#)).

To install the Security Device:

- 1** If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.** Unlock the latches and remove the IODU/C card.
  - b.** Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

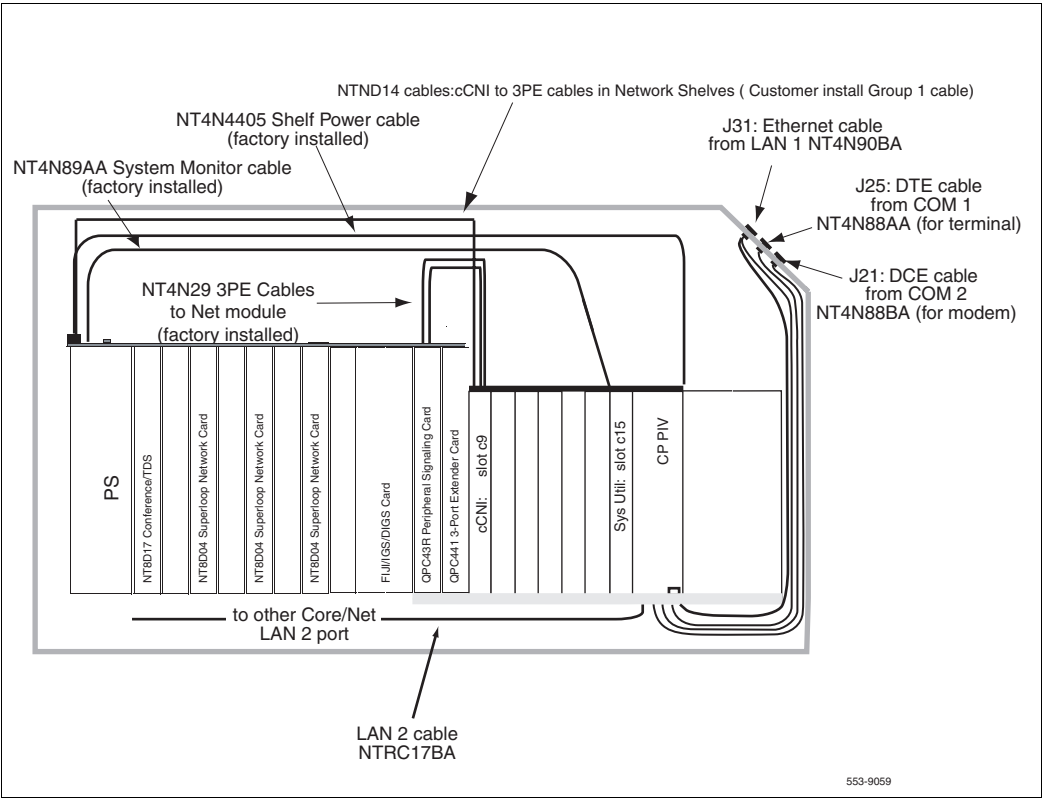
OR

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

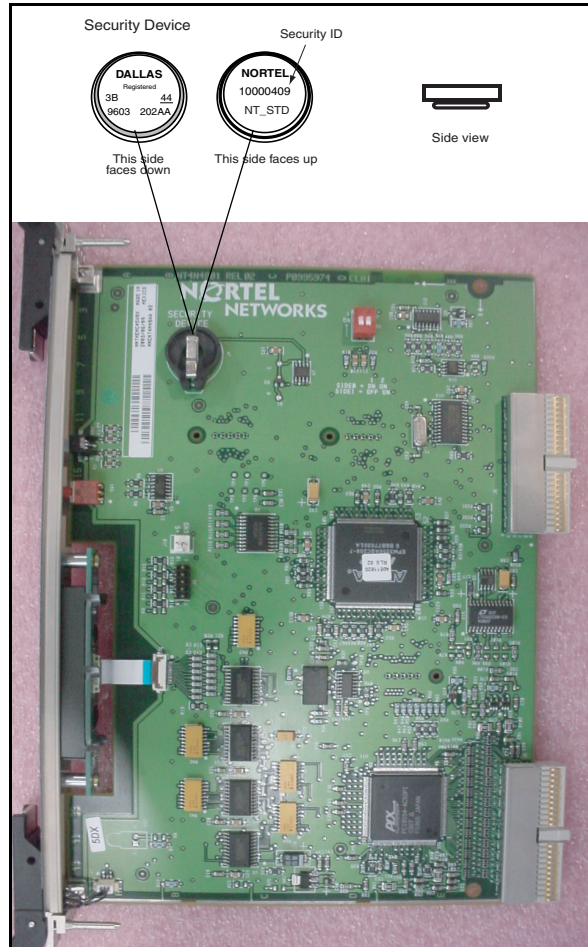
Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2** Check that the Security Device is securely in place.

**Figure 68**  
**Core/Net cable connections**



**Figure 69**  
**Security Device**



## Install the CP card cage in Core 0

### Procedure 98

#### Installing the CP card cage in Core 0

- 1 Check that the card cage is configured as Core 0. See Table 47 for instructions.

**Table 47**

**Core module ID switch settings (System Utility card)**

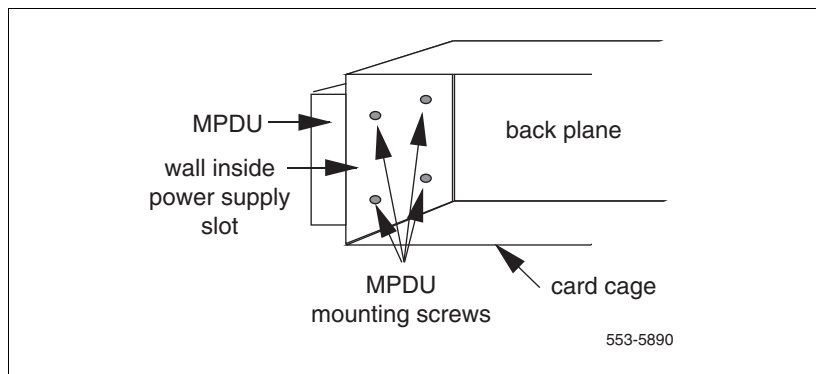
	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 2 For AC-powered systems only, install the new MPDU (part of the CP PIV Upgrade kit) to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 70 on page 335.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.

**Figure 70**  
**Location of the screws for the MPDU**



- 5 Hold the card cage firmly and make the following connections at the rear of the module.
  - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).



## CAUTION

### Damage to Equipment

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
  - c. Attach the system monitor ribbon cables:
    - i. Connect the ribbon cable that goes down to the pedestal to connector J1 on the backplane.
    - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
  - d. Attach the green ground wire to the frame ground bolt on the module. (an 11/32" socket wrench is used to attach the wire.) Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.
- Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" or 2/8" socket wrench.)
  - 6 Slide the card cage all the way into the module.
  - 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.



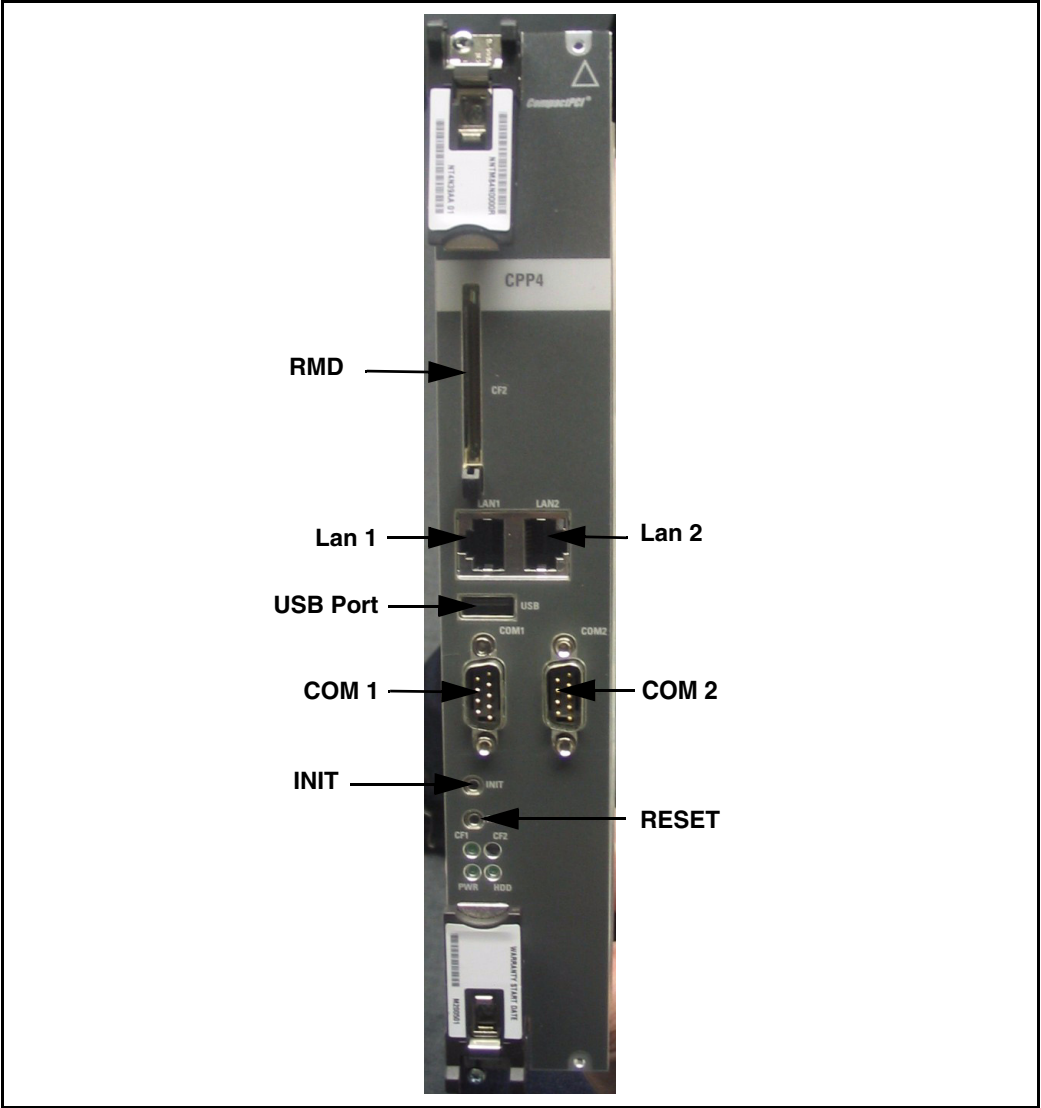
- 8** Secure the card cage and EMI shield to the module re-using the existing screws.
- 9** Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a.** Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b.** Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10** Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11** Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

**Figure 71**  
**CP PIV call processor card (front)**



## Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply

### Procedure 99 Installing the power supply

- 1 Unpack the power supply.
- 2 Faceplate disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### Procedure 100 Relocating Network cards to CP Core/Net 0

- 1 Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 0 **except for the IGS/DIGS cards**.
- 2 When you move the 3PE card, check the switch settings and jumpers. See Table 48 on [page 340](#).
  - a. All 3PE cards must be vintage F or later.
  - b. Check that the RN27 Jumper is set to "A".
  - c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 48 on [page 340](#) shows the 3PE settings for cards installed in CP Core/Net Modules.
- 3 Reinstall each removed card in the same network slot in the CP Core/Net 0.

- 4     Connect the tagged cables to the relocated cards.

**Table 48**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PIV)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

## Cable Core 0

### Cable COM 1 and COM 2 to the I/O panel

- 1     Connect COM1 on the CP PIV faceplate to J25 on the I/O panel with cable NT4N88AA.
- 2     Connect COM2 on the CP PIV faceplate to J21 on the back of the I/O panel with cable NT4N88BA.

**Connect a terminal and modem to the I/O panel**

- 1 Connect J25 to a terminal for use during the upgrade. Use a separate terminal for each Core if available. J25 can also be connected to an A/B box to share a terminal between both Cores.
- 2 Connect J21 to the device connected in the original system (such as a modem or A/B box).

**Connect LAN 1**

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM. The options for the LAN 1 connections are shown in Figure 72 on page 342.

**Procedure 101****If the system will be connected to a LAN**

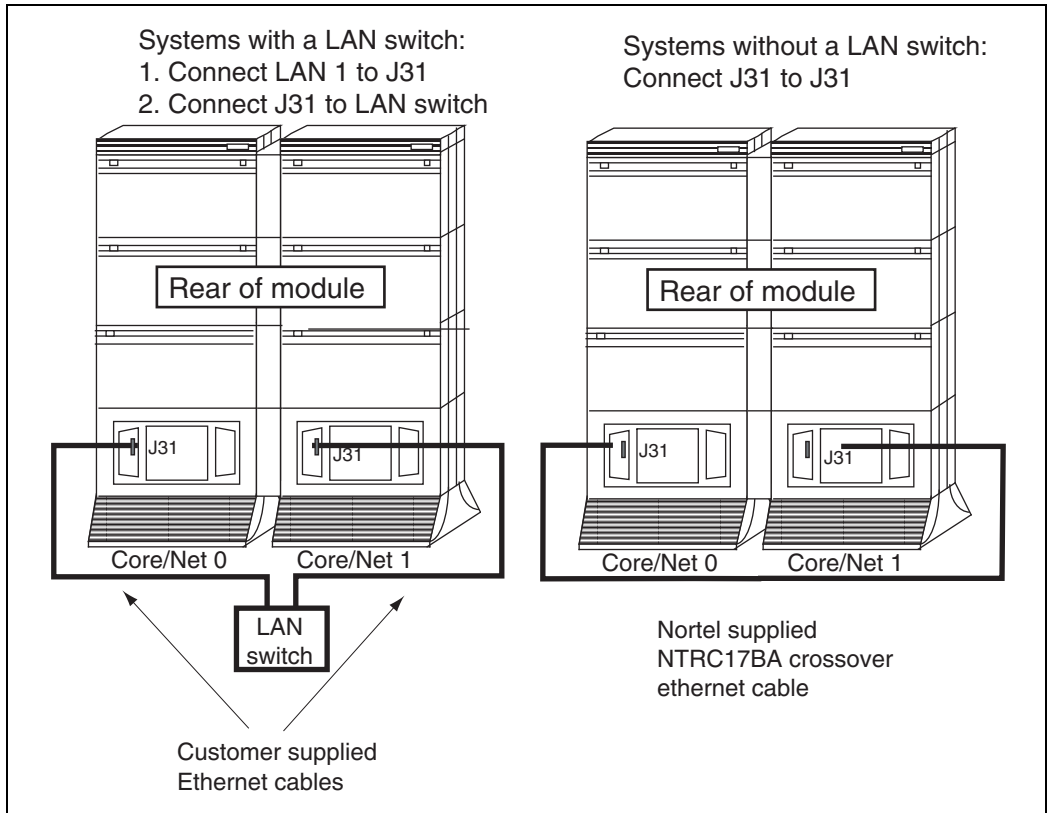
- 1 Connect the “Dual Ethernet Adapter (RJ-45) for I/O Panel” (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2 Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3 Connect J31 to a LAN switch.
- 4 If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by NTRC17BA cable.

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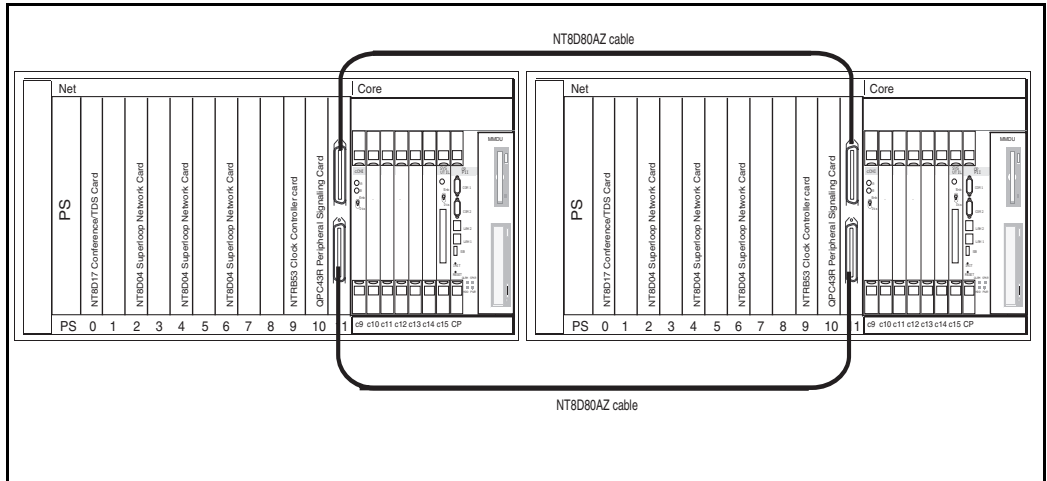
**End of Procedure**

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**Figure 72**  
**Options for LAN 1 connection**



**Figure 73**  
**3PE card connections**



## In Core 0, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 0. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

## Installing intermodule cables

### Procedure 102

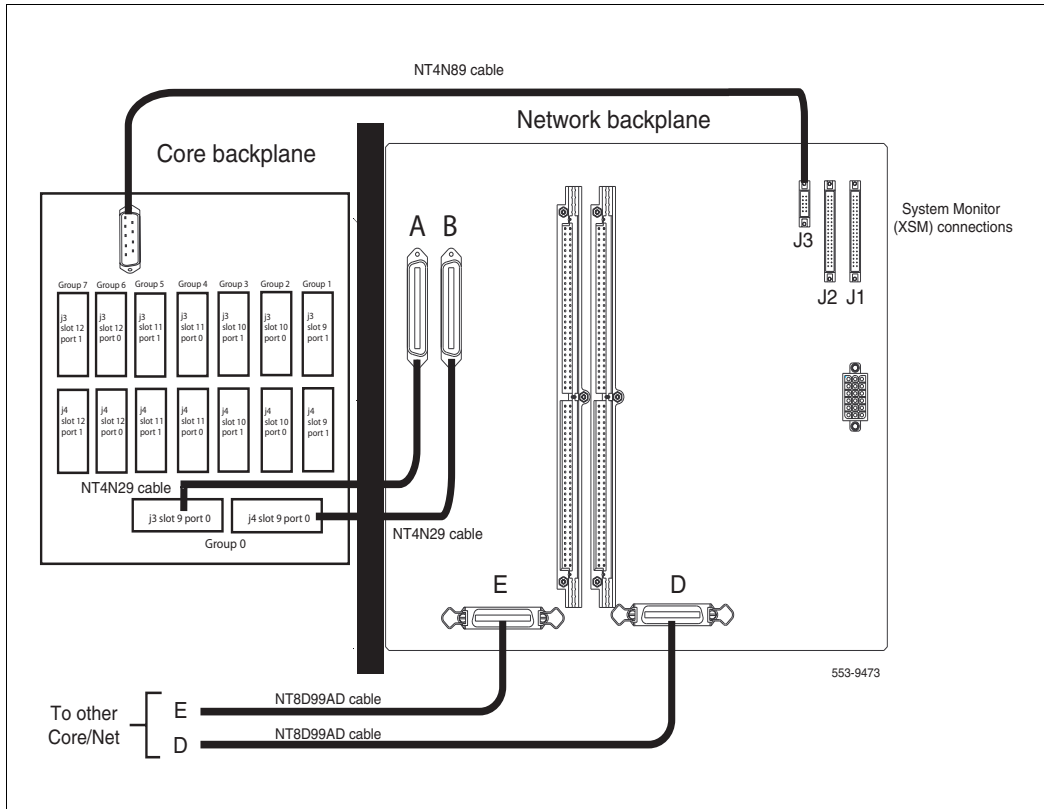
#### Installing intermodule cables

- 1 Connect the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 74 on [page 344](#)).

- 3    Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 75 on [page 345](#)).
- 4    If the system has XSDI cards, reinstall the cards and attach the cables.

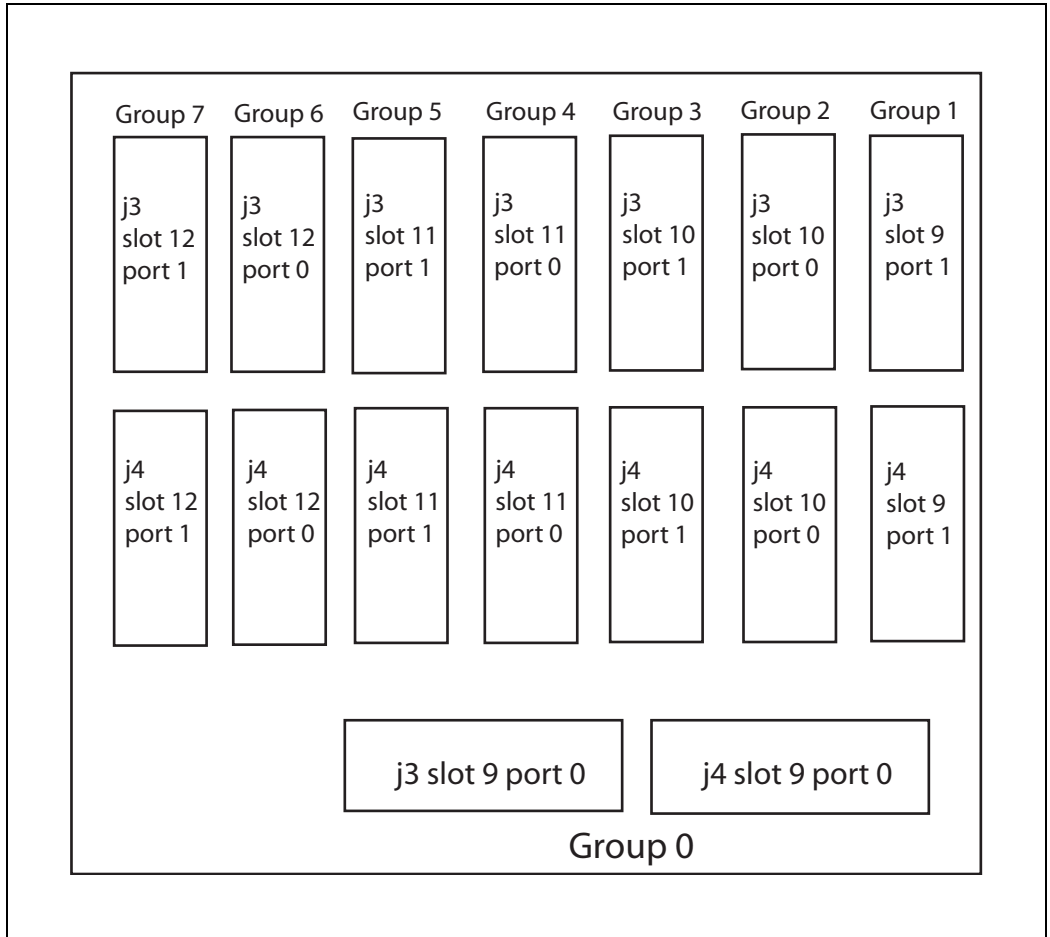
**End of Procedure**

**Figure 74**  
**Fanout Panel connections on the CP Core/Net backplane**





**Figure 75**  
**Fanout panel connectors**



### In Core 0, route and connect the cCNI to 3PE (NTND14) cables

The existing NTND14 cables can be reused for Network groups 1-7. Connect the NTND14 cables to the Fanout Panel in Core/Net 0. See Figure 76 on [page 348](#) and Table 49 on [page 347](#).



#### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- Check existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PIV, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 76 on [page 348](#).

**WARNING****Damage to Equipment**

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

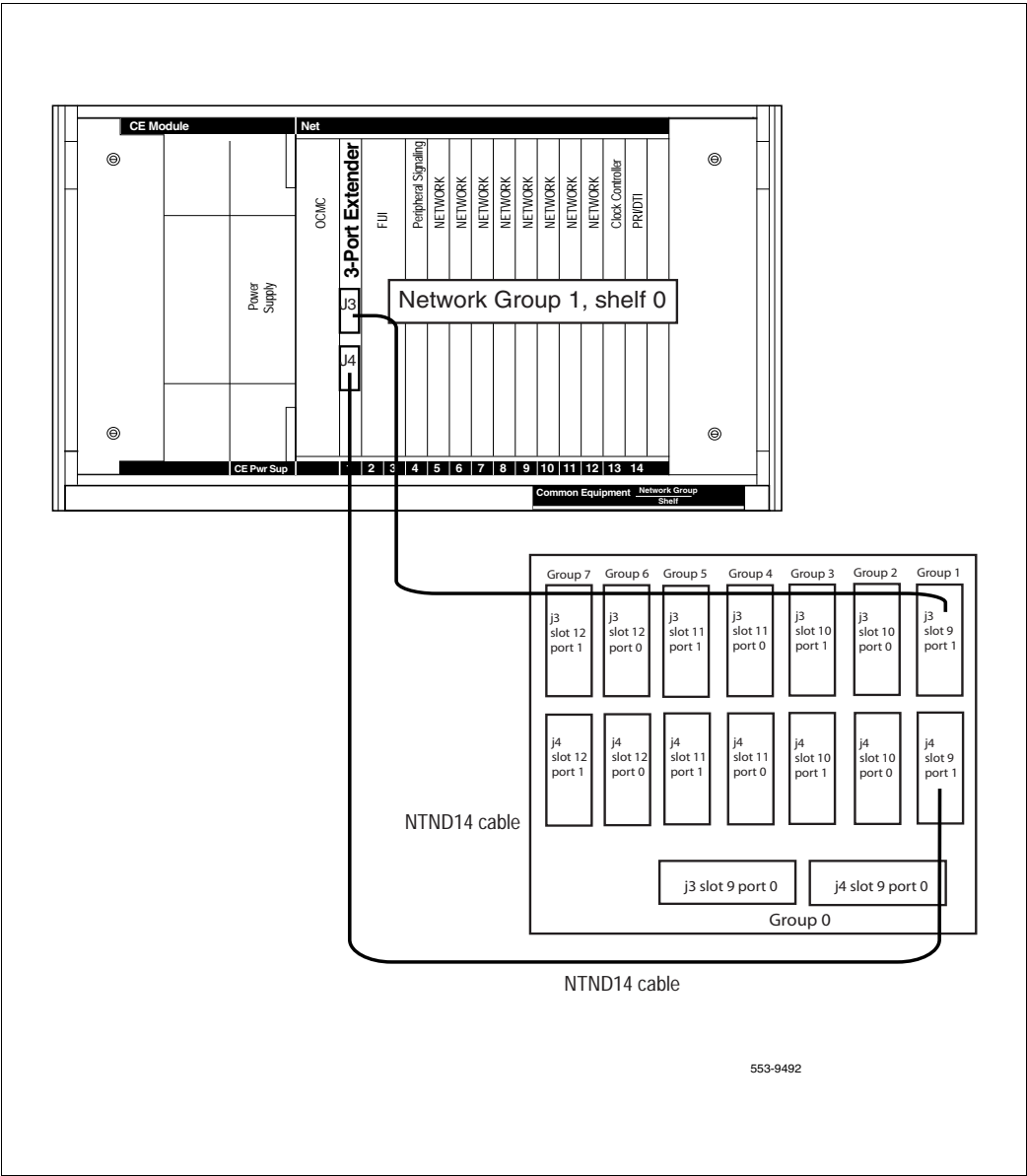
**Table 49**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1 (see Figure 76 on [page 348](#)).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 76 on [page 348](#))

**Figure 76**  
**3PE Fanout Panel connections**



## Add Side 0 FIJI hardware

### Procedure 103

#### Install Side 0 FIJI cards

- 1 Tag and disconnect the IGS/DIGS cables.
- 2 Remove the IGS/DIGS cards from Side 0.
- 3 Unpack and install FIJI cards (NTRB33).
- 4 Faceplate disable the NTRB33 cards.
- 5 Insert and the FIJI cards in Side 0.
- 6 Do not seat the FIJI cards at this point.

---

**End of Procedure**

---

### Procedure 104

#### Connect the FIJI to FIJI cables

- 1 Connect P2 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 0, except group 0.
- 2 Connect P1 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 1, except group 0.

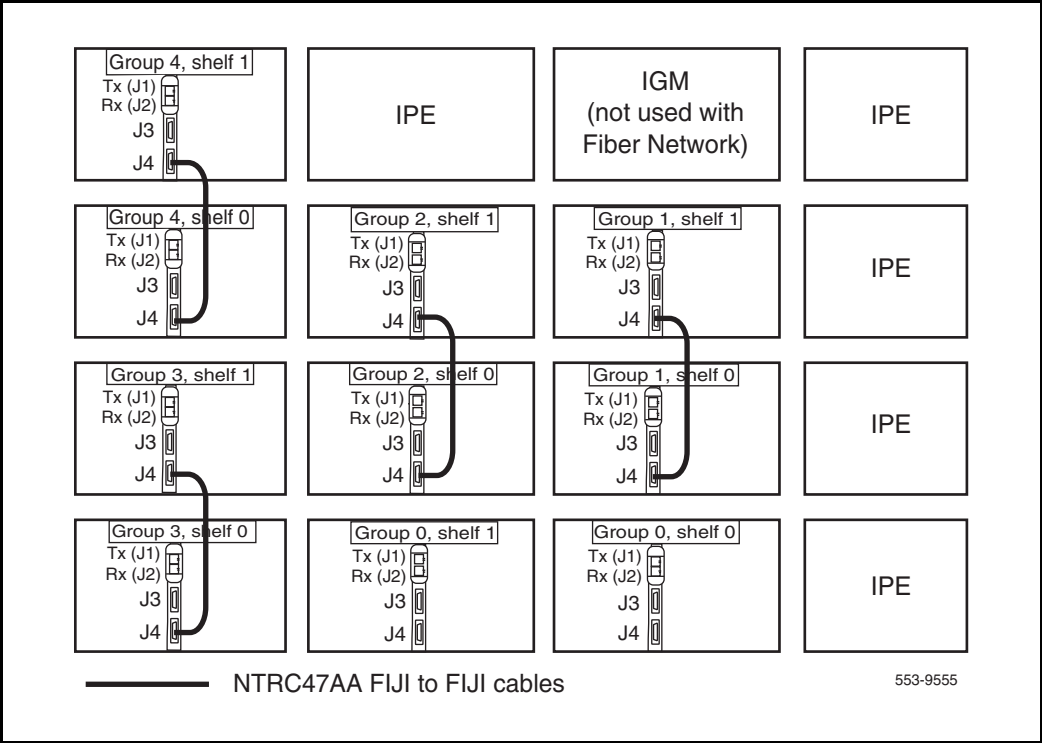
**Note:** The FIJI cards in Group 0 do not receive a FIJI to FIJI cable.

---

**End of Procedure**

---

**Figure 3**  
**FIJI shelf 0 to FIJI shelf 1 connections**



**Procedure 105****Connecting the shelf 0 FIJI Ring cables (ascending)**

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 77 on page 352 and Figure 78 on page 354).

**IMPORTANT!**

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

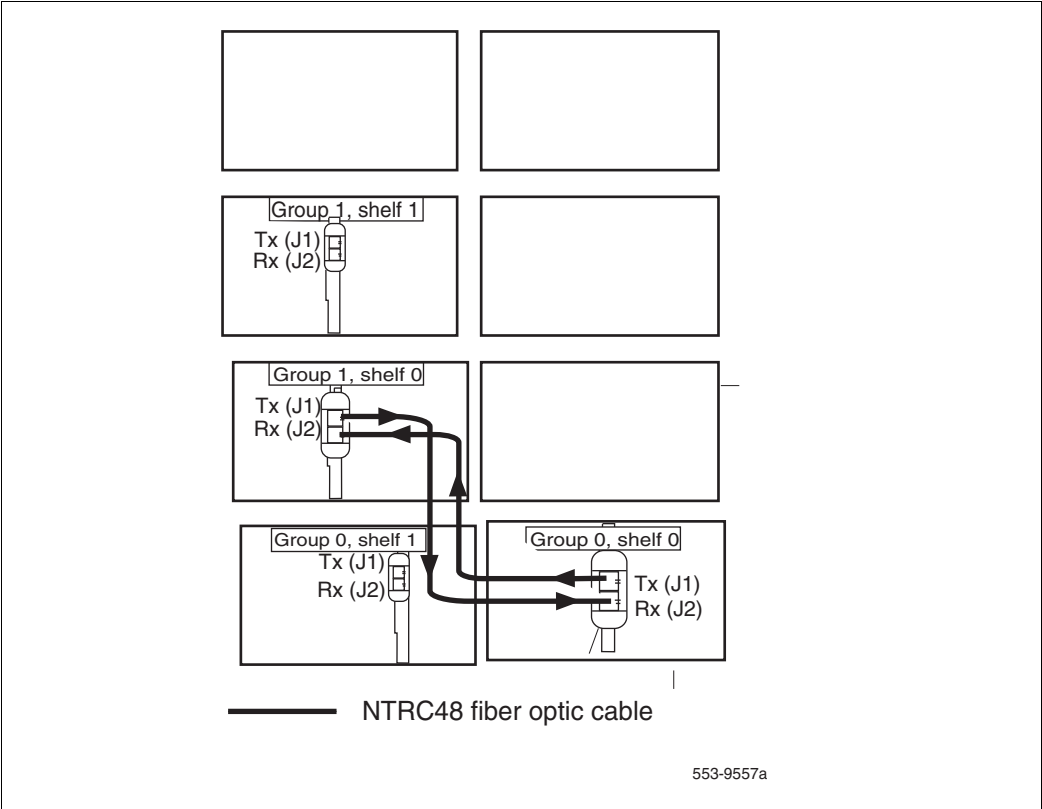
**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled "Tx" or Rx" in the factory.

- 1** Start with group 0, shelf 0.
- 2** Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 0** to the Rx (J2) port of the FIJI card in **Group 1, shelf 0**.
- 3** Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 1, shelf 0** to the Rx (J2) port of the FIJI card in **Group 2, shelf 0**.
- 4** Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 0 of each Network group. Connect these cables in **ascending** order of Network groups.

**Figure 77**  
**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 2 group example)**





- 5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0**.

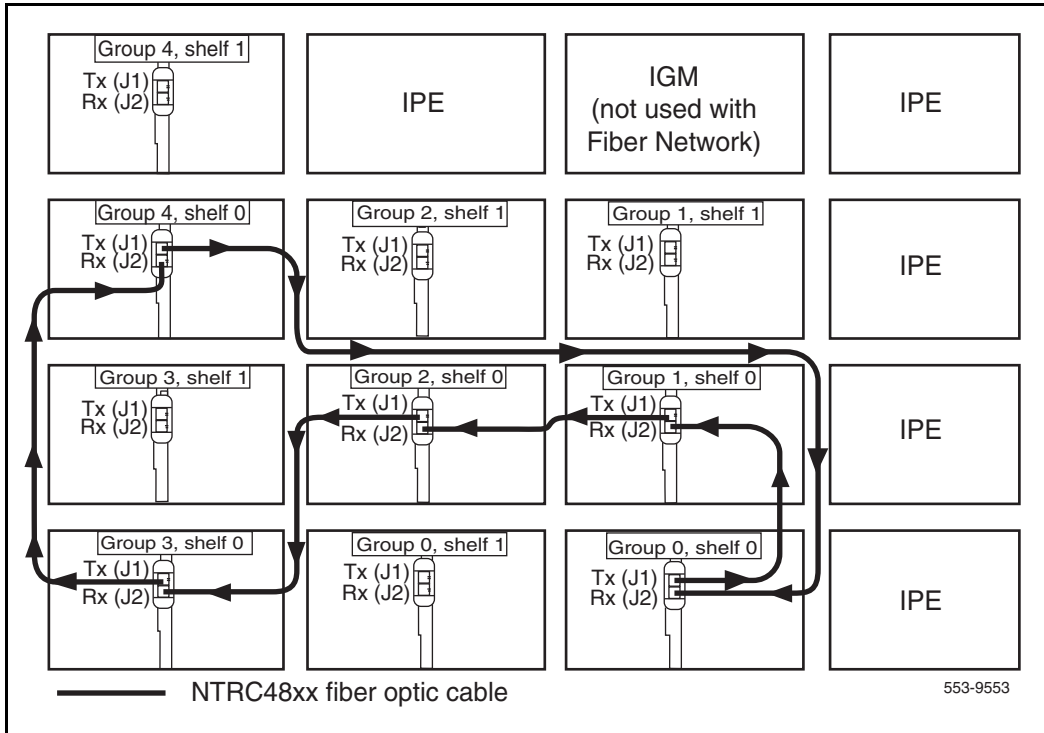
**Table 50**  
**FIJI Ring 0 connections**

<b>Groups X - 0 are cabled in ascending order</b>		
<b>Group/Shelf</b>	<b>FIJI Connector</b>	<b>Tx/Rx</b>
0/0	P1	Tx
1/0	P2	Rx
1/0	P1	Tx
2/0	P2	Rx
2/0	P1	Tx
3/0	P2	Rx
3/0	P1	Tx
4/0	P2	Rx
4/0	P1	Tx
5/0	P2	Rx
5/0	P1	Tx
6/0	P2	Rx
6/0	P1	Tx
7/0	P2	Rx
7/0	P1	Tx
0/0	P2	Rx

**End of Procedure**

**Figure 78**

**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)**



### Procedure 106

#### Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 79 on [page 356](#):

- 1 Connect the Clock 0 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.
- 2 Connect a Clock 1 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0**.

**End of Procedure**

## Power up Core 0

### Procedure 107

#### Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 0.
- 3 Check the terminal settings as follows:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

- 4 Seat and Faceplate enable Clock Controller 0 and ALL FIJI on Shelf 0.
- 5 Faceplate enable all core and network cards.

---

**End of Procedure**

---

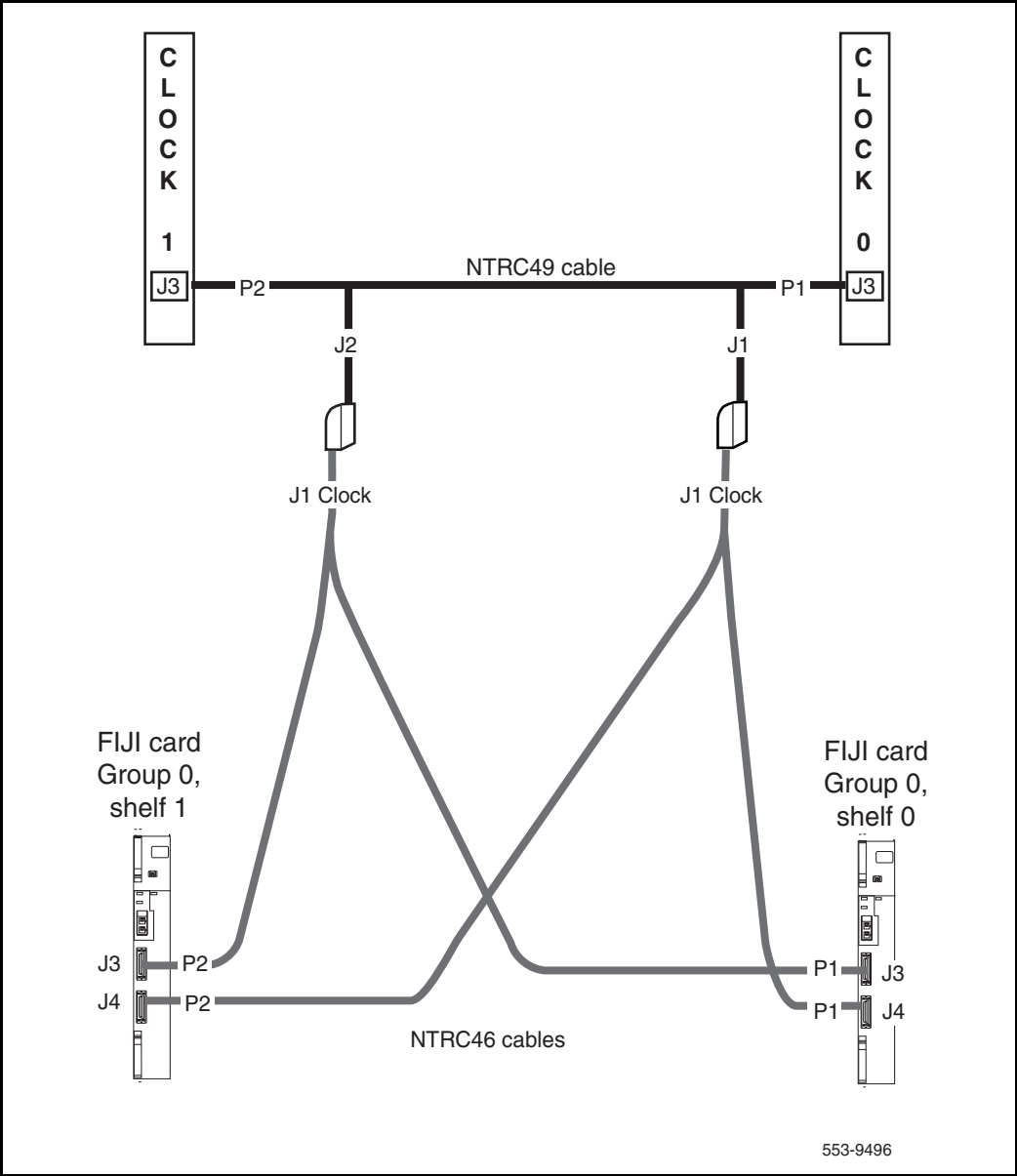
## Power up Core cards

### Procedure 108

#### Powering up core cards

- 1 Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.
- 2 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).

**Figure 79**  
**Clock Controller cable configuration**



- 3 For DC-powered systems: faceplate enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 4 10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.
- 5 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

---

### End of Procedure

---

#### Procedure 109 Testing Core/Net 1

- 1 Check dial-tone.
- 2 Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>ENL RING 0</b>	Enable Ring 0
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b. Restore the Rings to Normal State:

<b>RSET</b>	Reset both Rings
<b>RSTR</b>	Restore both Rings to HALF state
<b>ARCV ON</b>	Turn Auto Recovery on

c. Check that the Rings operate correctly:

**STAT RING 0**     Check status of Ring 0 (HALF/HALF)

**STAT RING 1**     Check status of Ring 1 (HALF/HALF)

\*\*\*\*                Exit program

3 Stat network cards:

**LD 32**             Load program

**STAT x**            Stat the network card, where x = loop number

\*\*\*\*                Exit program

4 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

**LD 60**             Load program

**SSCK x**            To get the status of the clock controllers  
(x is "0" or "1" for Clock 0 or Clock 1)

**SWCK**             Switch Clock (if necessary)

\*\*\*\*                Exit program

b. Verify that the clock controllers are switching correctly:

**SWCK**             Switch Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK**             Switch Clock again

\*\*\*\*                Exit program

**5** Stat D-channels:**LD 96****STAT DCH** Stat all D-channels

\*\*\*\* Exit program

**6** Stat all T1 interfaces:**LD 60****STAT** Stat all DTI and PRI

\*\*\*\* Exit program

**7** Stat network cards:**LD 32****STAT x** x = loop number

\*\*\*\* Exit program

**8** Print status of all controllers:**LD 97****REQ** PRT**TYPE** XPE (returns status of all controller cards)

\*\*\*\* Exit program

**9** Make internal, external and network calls.**10** Check attendant console activity.**11** Check DID trunks.**12** Check applications (CallPilot, Symposium, Meridian Mail, and so on.)

---

**End of Procedure**

---

## **CS 1000 Release 4.5 upgrade**

### **Upgrading the software**

Procedure 110 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

#### **Procedure 110**

##### **Upgradng the software**

- 1**    Check that a terminal is now connected to COM 1.
- 2**    Insert the RMD into the CF card slot.



- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
and size ...
    Number of partitions  0:
    Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

```
The Fix Media Device on Core x is blank.

      Install cannot continue unless the FMD
is partitioned.

      Note: INSTALL WILL REBOOT AFTER THIS
PROCEDURE AND

      FIX MEDIA WILL BE EMPTY AFTER YOU
PARTITION IT.

      INSTALL REMOVABLE MEDIA MUST BE IN
THE DRIVE AT THIS TIME.

      Please enter:

<CR> -> <a> - Partition the Fix Media Device.

      Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000
```

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...

fdiskDevCreate(/dev/hda2)

/dev/hda2: partTablePtr = 0x12d5ff0c

Found partition 2, nodePtr = 0x12d30a4c

Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:

Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
FAT

    Sectors reserved 32, hidden 63, FAT sectors
1216

    Root dir entries 0, sysId VX5DOS32, serial
number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```
Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...
```

**6**    The system then enters the Main Menu for keycode authorization.

```

                                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
          <t> - To Tools menu.
          <q> - Quit.

Enter Choice> <u>
```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

          <CR> -> <a> - RMD is now in the drive.
          <q> - Quit.

Enter choice>
```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "y" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd  1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7    Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8    The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

           <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

           <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```



- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L      M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **<b>**

- 10 The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the  
drive on Core x.

Please enter:

          <CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

          <q> - Quit.

Enter choice> **<CR>**

- 11 If the RMD containing the software is already in the drive, select option “<a> - RMD is now in drive. Continue with s/w checking.” (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 12 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>

```

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13 The Dependency List menus appear.

```

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice> y

>Processing the install control file ...

>Installing release xxxx

```

14 The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	SW: RMD to FMD		yes	install for rel XXXXX
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	Dependency Lists		yes	
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	IPMG Software		yes	install for rel XXXXX
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	DATABASE		yes	
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	CP-BOOTROM		yes	

- 15 Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.


        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```

- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>

```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```

The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>

```

**19** Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>
    
```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

```

-----
                INSTALLATION STATUS SUMMARY
-----
+-----+-----+-----+-----+
| option | choice | status | comment |
+-----+-----+-----+-----+
| Sw: RMD to FMD | yes | OK | install for rel 04xxx |
+-----+-----+-----+-----+
| Dependency Lists | yes | OK | |
+-----+-----+-----+-----+
| AUTO-CSU Feature | no | | AUTO-CSU Disabled |
+-----+-----+-----+-----+
| IPMG Software: | no | | |
+-----+-----+-----+-----+
| Database | yes | OK | conversion from xxxx |
+-----+-----+-----+-----+
| CP-BOOTROM | yes | OK | |
+-----+-----+-----+-----+

Please press <CR> when ready ...
    
```



**20** Upon returning to the main install menu, enter **q** to quit.

```

      I N S T A L L   M E N U

      The Software Installation Tool will
      install or upgrade Succession Enterprise System
      Software, Database and the CP-BOOTROM. You will be
      prompted throughout the installation and given the
      opportunity to quit at any time.

      Please enter:

      <CR> -> <a> - To install Software, CP-BOOTROM.
              <b> - To install Software, Database, CP-
      BOOTROM.
              <c> - To install Database only.
              <d> - To install CP-BOOTROM only.
              <t> - To go to the Tools menu.
              <k> - To install Keycode only.

              For Feature Expansion, use OVL143.
              <p> - To install 3900 set Languages.
              <q> - Quit.

      Enter Choice> q
```

- 21 The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.

    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.

-----

DO NOT REBOOT USING BUTTON!!!

-----

    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

---

**End of Procedure**

---

## Verify the upgraded database

### Procedure 111

#### Verifying the upgraded database

- 1 Print ISSP (system software issue and patches)

**LD 22** Load program

**REQ** ISSP

**\*\*\*\*** Exit program

- 2 Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22** Load program

**REQ** PRT

**TYPE** CFN

**\*\*\*\*** Exit program

- 3 Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22** Load program

**REQ** SLT

**\*\*\*\*** Exit program

4    Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program



Core 1 is now active, clock 1 is active, FIJI 1 is active (if equipped), CNI is disabled in Core 0.

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 0

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 224](#).

If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

### LD 22

<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## Making the system redundant

At this point, Core/Net 0 is ready to be synchronized with Core/Net 1.

**Procedure 112**  
**Making the system redundant**

- 1    Attach the LAN 1 and LAN 2 cables to the CP PIV faceplate connectors on Call Server 0 and Call Server 1.
- 2    Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

**LD 135**            Load program

**JOIN**             Join the 2 CPUs together to become redundant

- 3    Once the synchroization of memories and drives is complete, STAT the CPU and verify that the CPUs are in a true redundant state.

**LD 135**

**STAT CPU**        Get status of CPU and memory

**\*\*\*\***             Exit the program

```
.stat cpu

cp 0 16 PASS -- STDBY

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
Side = 0, DRAM SIZE = 512 MBytes

cp 1 16 PASS -- ENBL

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
Side = 1, DRAM SIZE = 512 MBytes
```

- 4 Tier 1 and Tier 2 health of both Cores must be identical in order to successfully switch service from Core 1 to Core 0. CPUs.

**LD 135**

**STAT HEALTH**     Get status of CPU and memory

\*\*\*\*                    Exit the program

```
.stat health
Local (Side 0, Active, Redundant):
Components without TIER 1 Health contribution:
=====

    disp 0 15 1:In Service
    sio2 0 15 1:In Service
        cp 0 16:In Service
            ipb 0:In Service
TIER 1 Health Count Breakdown:
=====

    sio8 0 16 1: 0002
    sio8 0 16 2: 0002
        sutl 0 15: 0002
            strn 0 15: 0002
    xsmp 0 15 1: 0002
    cmdu 0 16 1: 0008
        eth 0 16 0: 0002
Local TIER 1 Health Total: 20
```



TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2

ELAN 17 IP : 47.11.138.153 Health = 2

Local AML over ELAN Total Health:4

Local Total IPL Health = 6

IPL connection history:3 3 3 3 3 3 3 3 3 3 3 3 3  
3 3 3 3 3 3

Local TIER 2 Health Total:10

Remote (Side 1, Inactive, Redundant):

Components without TIER 1 Health contribution:

disp 1 15 1:In Service

sio2 1 15 1:In Service

cp 1 16:In Service

ipb 1:In Service

TIER 1 Health Count Breakdown:

sio8 1 16 1: 0002

sio8 1 16 2: 0002

sutl 1 15: 0002

strn 1 15: 0002

xsmp 1 15 1: 0002

cmdu 1 16 1: 0008

eth 1 16 0: 0002

Remote TIER 1 Health Total: 20

```
TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Remote AML over ELAN Total Health:4
Remote Total IPL health = 6

Remote TIER 2 Health Total:10
```



The system is now operating in full redundant mode with Core/Net 1 active.

**Note:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

---

**End of Procedure**

---

## Complete the CP PIV upgrade

### LD 137

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are used in LD 137.

- STAT FMD  
display text: **Status of both Fixed Media Devices (FMD)**  
command parameter: none
- STAT FMD  
display text: **Status of the specified Fixed Media Device**  
command parameter: “core #” with values of 0 or 1
- STAT RMD  
display text: **Status of both Removable Media Devices (RMD)**  
command parameter: none
- STAT RMD  
display text: **Status of the specified Removable Media Device**  
command parameter: “core #” with values of 0 or 1

### Testing the Cores

#### Procedure 113

##### Testing Core/Net 1

At this point in the upgrade, Core/Net 0 is tested from active Core/Net 1. Upon successful completion of these tests, call processing is switched and the same tests are performed on Core/Net 1 from active Core/Net 0. As a final step, call processing is then switched again to Core/Net 1.

From Core/Net 1, perform these tests:

**1**    Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

**2**    Test the System Utility card and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility card
<b>TEST SUTL</b>	Test the System Utility card
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**3**    Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)

**4**    Install the two system monitors. Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS

**STAT XSM**      Check the system monitors

**\*\*\*\***              Exit program

**5** Clear the display and minor alarms on both Cores:

**LD 135**           Load program

**CDSP**            Clear displays on the cores

**CMAJ**            Clear major alarms

**CMIN ALL**       Clear minor alarms

**6** Test the clocks:

**a.** Verify that the clock controller is assigned to the *active* Core:

**LD 60**            Load program

**SSCK x**           Get status of the clock controllers (*x* is “0” or “1”  
for Clock 0 or Clock 1)

**SWCK**            Switch the Clock (if necessary)

**\*\*\*\***              Exit program

**b.** Verify that the Clock Controllers are switching correctly:

**SWCK**            Switch Clock

**Note:** You must wait a minimum of one minute for  
clocks to synchronize.

**SWCK**            Switch Clock again

**7** Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more  
information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

**LD 39**                      Load program

**STAT RING 0**        Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**        Check the status of Ring 1 (HALF/HALF)

- b. If necessary, restore the Rings to Normal State:

**RSTR**                      Restore both Rings to HALF state

- c. Check that the Rings operate correctly:

**STAT RING 0**        Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**        Check the status of Ring 1 (HALF/HALF)

- 8 Check the status of the FIJI alarms:

**STAT ALRM**        Query the alarm condition for all FIJI cards in  
all Network Groups

**\*\*\*\***                      Exit program

- 9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

- 10 Check dial tone.

---

**End of Procedure**

---

## Switch call processing

### Procedure 114 Switching call processing

<b>LD 135</b>	Load program
<b>SCPU</b>	Switch call processing from Core/Net 1 to Core/Net 0



Core/Net 0 is now the active call processor.

### Procedure 115 Testing Core/Net 0

From Core/Net 0, perform these tests:

#### 1 Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

#### 2 Test the System Utility card and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility card
<b>TEST SUTL</b>	Test the System Utility card
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**3**    Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)

**4**    Install the two system monitors. Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit program

**5**    Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms



**6 Test the clocks:**

- a.** Verify that the clock controller is assigned to the *active* Core:

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

- b.** Verify that the Clock Controllers are switching correctly:

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again

**7 Test the Fiber Rings:**

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a.** Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b.** If necessary, restore the Rings to Normal State:

<b>RSTR</b>	Restore both Rings to HALF state
-------------	----------------------------------

- c.** Check that the Rings operate correctly:

<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- 8    Check the status of the FIJI alarms:

**STAT ALRM**        Query the alarm condition for all FIJI cards in  
                         all Network Groups

**\*\*\*\***                Exit program

- 9    Check applications (CallPilot, Symposium, Meridian Mail, and so on.).
- 10   Check dial tone.

---

**End of Procedure**

---

### Switch call processing

#### Procedure 116 Switching call processing

**LD 135**            Load program

**SCPU**             Switch call processing from CoreNet 0  
                         to CoreNet 1



Core/Net 1 is now the active call processor.

### Perform a customer backup data dump (upgraded release)

#### Procedure 117 Performing a data dump to backup the customer database:

- 1    Log into the system.
- 2    Insert a CF card into the active Core/Net RMD slot to back up the database.

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

**LD 43** Load program.

**.** EDD

- 4 When "EDD000" appears on the terminal, enter:

**EDD** Begin the data dump.

**CAUTION****Loss of Data**

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

**\*\*\*\*** Exit program

The Meridian 1 Option 81 IGS upgrade to Meridian 1 Option 81C CP PIV with FNF is complete.



---

# Upgrading from Meridian 1 Option 81C

---

## Contents

This section contains information on the following topics:

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# Meridian 1 Option 81C/IGS upgrade to Option 81C CP PII/FNF

## Prepare for upgrade

This document implements a “source- to-target” approach to performing an upgrade. It is important to correctly identify the source platform, target platform and maintenance window required to perform the upgrade.

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 51 below:

**Table 51**  
**Prepare for upgrade steps (Part 1 of 2)**

Procedure Step	Page
Plan upgrade	<a href="#">399</a>
Upgrade Checklists	<a href="#">400</a>
Prepare	<a href="#">400</a>
Identifying the proper procedure	<a href="#">400</a>
Connect a terminal	<a href="#">401</a>
Check the Core ID switches	<a href="#">402</a>
Print site data	<a href="#">405</a>
Perform a template audit	<a href="#">408</a>
Back up the database (data dump and ABKO)	<a href="#">409</a>

**Table 51**  
**Prepare for upgrade steps (Part 2 of 2)**

Procedure Step	Page
Identify two unique IP addresses	<a href="#">412</a>
Check requirements for cCNI to 3PE cables (NTND14)	<a href="#">413</a>

## Plan upgrade

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail, etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan for backing out of the upgrade.



### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## Upgrade Checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 957](#). Engineers may print this section for reference during the upgrade.

### Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Determine the current patch or Dep lists installed at the source platform.
- Determine required patch or Dep lists at the target platform.
- Determine and communicate the required maintenance window, contingency plan, and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.
- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

### Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points.



Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

**IMPORTANT!**

Database backup information should be preserved for a minimum of 5 days.

## Connect a terminal

### Procedure 118

#### Connecting a terminal

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

---


**End of Procedure**

---

## Check the Core ID switches

**Procedure 119**  
**Checking the Core ID switches**

Each CP PII NT4N40 Core/Net card cage or module is identified as “Core 0” or “Core 1”. This setting is made by a set of option switches on the System Utility card. The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



**CAUTION — Service Interruption**

The CP PII Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

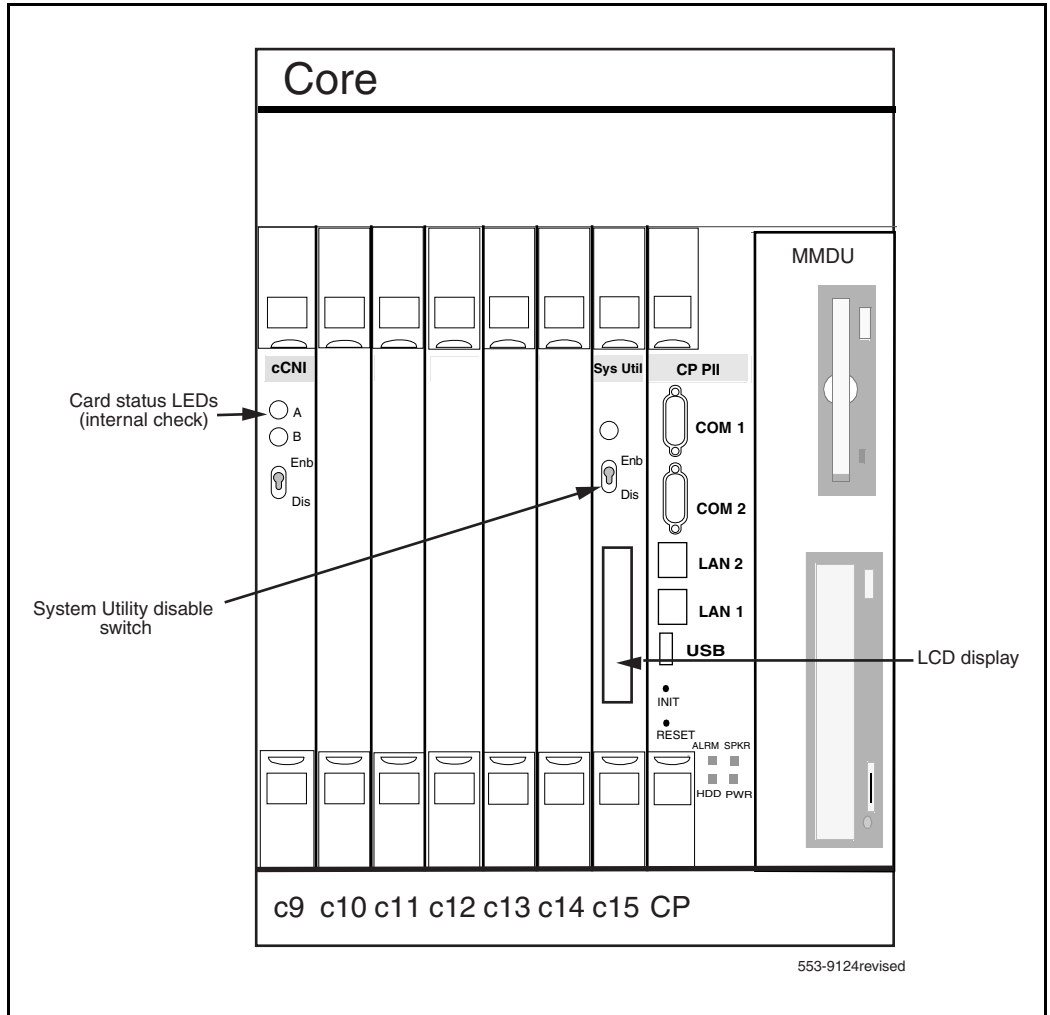
- 1 Pull the System Utility card (NT4N48) far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 52 on [page 402](#).
- 3 Reinstall the System Utility card.
  - a. Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.
  - b. Push in the top and bottom latches on the card to lock it in place.

————— **End of Procedure** —————

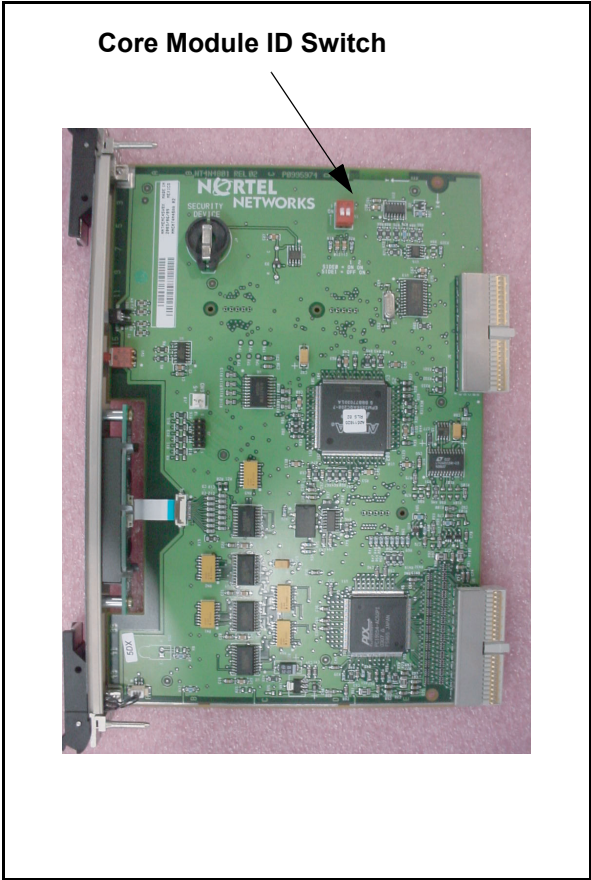
**Table 52**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

**Figure 80**  
**Core card placement in the NT4N40 Core/Net card cage (front)**



**Figure 81**  
**Core Module ID switch**



## Print site data

Print site data to preserve a record of the system configuration (Table 53 on page 405). Verify that all information is correct. Make corrections as necessary.

**Note:** Items marked with an asterisk (\*) are required. Other items are recommended for a total system status.

**Table 53**  
**Print site data (Part 1 of 3)**

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	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>

**Table 53**  
**Print site data (Part 2 of 3)**

Site data	Print command	
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
*Software issue and tape ID	LD 22	
	REQ	ISS
	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


**Table 53**  
**Print site data (Part 3 of 3)**

Site data	Print command	
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
DTI/PRI data block for all customers	PH	<cr>
	LD 73	
	REQ	PRT
Print the configured host information	TYPE	DDB
	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<b>Note:</b> Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

## Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

*Note:* The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.



**CAUTION**

**Loss of Data**

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**

<b>TEMPLATE 0001 USER COUNT</b>	<b>CHECKSUM</b>
<b>LOW</b>	<b>OK</b>

<b>TEMPLATE 0002 USER COUNT</b>	<b>CHECKSUM</b>
<b>HIGH</b>	<b>OK</b>

**TEMPLATE 0003 NO USERS FOUND**

**STARTING SL1 TEMPLATE SCAN**

<b>TEMPLATE 0001 USER COUNT OK</b>	<b>CHECKSUM</b>
	<b>OK</b>

- 
-



**TEMPLATE 0120 USER COUNT OK      CHECKSUM  
OK**

**TEMPLATE AUDIT COMPLETE**

## **Back up the database (data dump and ABKO)**

To back up system data, complete the following two procedures.

- 1** Perform a data dump to save all system memory to the hard disk.
- 2** Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

### **Procedure 120 Performing a data dump**

- 1** Log into the system.
- 2** Load the Equipment Data Dump Program (LD 43). At the prompt, enter:  
  
**LD 43**                      Load program
- 3** When “EDD000” appears on the terminal, enter:  
  
**EDD**                      Begin data dump



### **CAUTION**

#### **Loss of Data**

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4    The messages “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” will appear once the data dump is complete.

\*\*\*\*                      Exit program

---

**End of Procedure**

---

**Procedure 121**

**Performing an ABKO (save the database to floppies)**

- 1    Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

**Note:** If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2    Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

**LD 143**                      Load program

- 3    Run the ABKO backup (LD 143).

**ABKO**                      Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4    If there are validation errors, repeat the procedure.



**CAUTION**

**Loss of Data**

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

- 5 Once the backup is complete, type:

\*\*\*\* Exit program

---

**End of Procedure**

---



**IMPORTANT!**

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility below.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel in the software conversion lab.

**Procedure 122**

**Converting the 4 MB database media to 2 MB database media**

Before the system is upgraded to CP PII, you must convert the database to 2 MB media. Systems with an IODU/C drive already have 2 MB media and can skip this procedure.

If the database is on a 4 MB database media (the system has an IOP/CMDU), the 4 MB customer database must be transferred to 2 MB media.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive on the IOP/CMDU in Core 1.

- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



**CAUTION — Service Interruption**

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:

- |          |  |
|----------|--|
| <t>      | Go to the Tools menu.  |
| <s>      | Archive existing database.   |
| <cr> <a> | Continue with archive (insert blank 2MB diskette from the software kit into the floppy drive in Core 1). |
| <cr> <a> | Diskette is now in floppy drive in Core 1.   |

- 5 The message displays “Database backup complete!” and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MB diskette with the customer database from the floppy drive of the IOP/CMDU. Do not reboot the system at this point.

---

**End of Procedure**

---

## Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your System Administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 619](#).

## Check requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

## Perform upgrade

The target upgrade to Meridian 1 Option 81C CP PII with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0MB) support
- Both NTRC46 cables must be the same length



### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

**DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

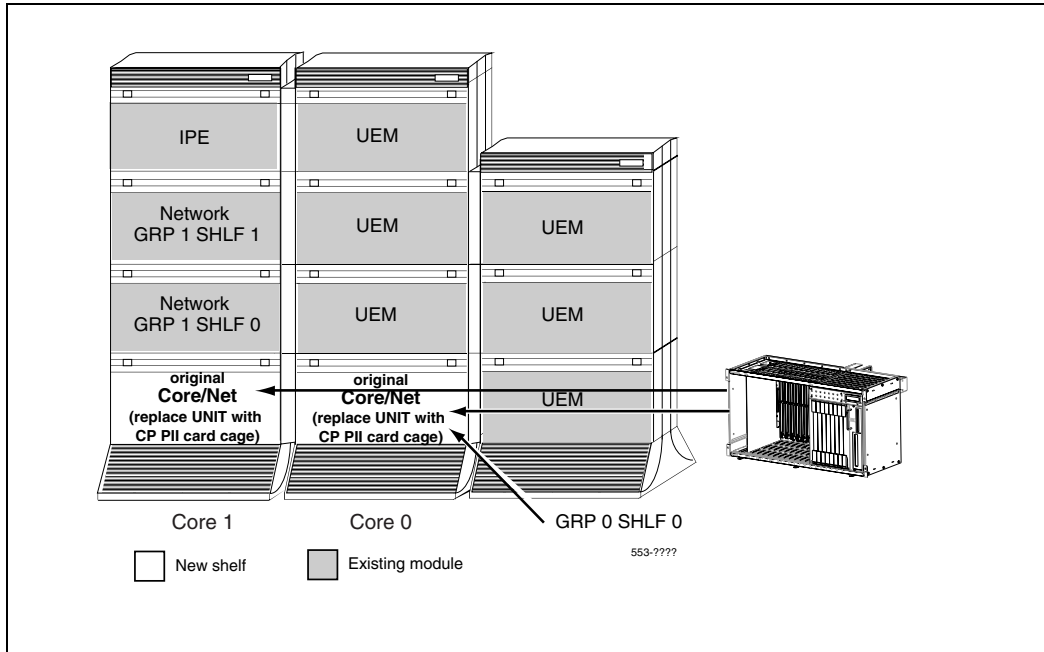
## Meridian Mail Cables

Each shelf containing a Meridian Mail node must be assigned to the same network group and have the same length of cables between the ENET cards and the Meridian Mail Node. Failure to comply may result in intermittent static.

*Note:* CallPilot's architecture does not have this limitation.

Figure 82 on [page 416](#) shows an upgrade from a Meridian 1 Option 81C/IGS to a Meridian 1 Option 81C with CP PII and Fiber Network Fabric.

**Figure 82**  
**Meridian 1 Option 81C/IGS to Meridian 1 Option 81C CP PII with FNF**



This upgrade takes a Meridian 1 Option 81C/IGS to a Meridian 1 Option 81C CP PII with FNF. Additional groups can be added by following the procedures “Adding a Network Group (NT4N46)” of Book 3 and “Adding a Network Group (NT4N40)” of Book 3.

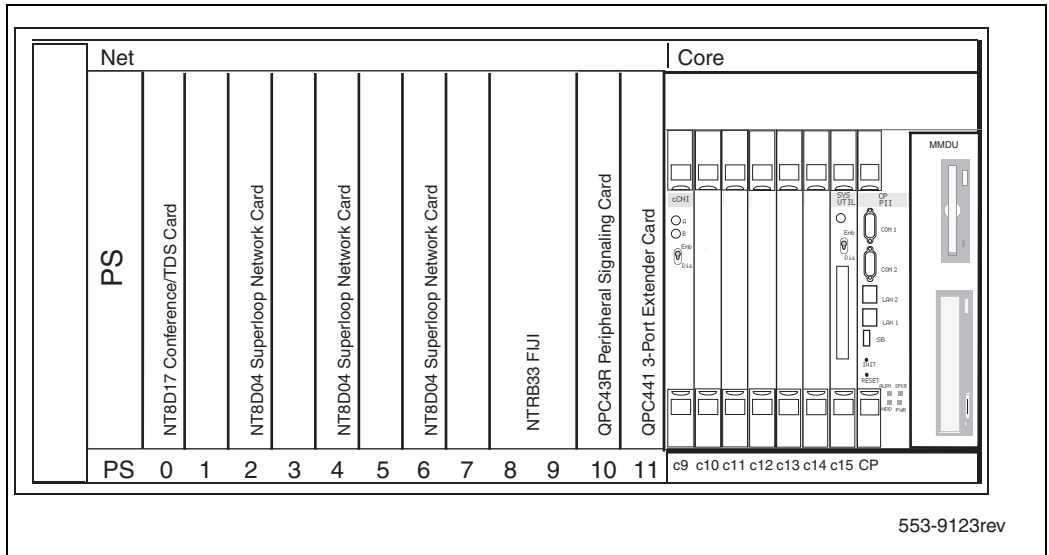
To upgrade a Meridian 1 Option 81C/IGS system to a Meridian 1 Option 81C CP PII with Fiber Network Fabric:

- Two card cages in the existing Core/Net modules are replaced with two NT4N40 CP PII card cage.
- New CP PII cards are located in the Core/Net modules or card cage.
- Existing network cards are relocated to the CP PII card cages.



- Clock Controller cards must be NTRB53AA.
- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

**Figure 83**  
**CP PII Core/Net Module**



## Review upgrade requirements

This section describes the **minimum** equipment required for CP PII with FNF. Additional equipment can also be installed during the upgrade. Verify that *all* equipment has been received.

### Check equipment received

Before the upgrade, check that the equipment on the order form is also on the packing slip. Check that all equipment has been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



#### CAUTION

##### Service Interruption

DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

### Check required software

The following software packages are required to upgrade a system to Meridian 1 Option 81C with CP PII:

- CORENET Core Network Module Package 299
- FIBN Fiber Network Package 365
- CS 1000 Release 4.5
- CPP\_CNI CP Pentium Backplane for Intel Machine Package 368
- Software Install Kit

## Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP PII.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage A.
- NTRB33 Fiber Junctor Interface (FIJI) Card minimum vintage AC.

- NT5D12AC, AD, and AG (1.54 MB)
- NT5D97AB, AD (2.0 MB)

**Note:** QPC720 PRI cards require NT8D79 cables. NT5D12 Dual PRI/DTI cards require NTCG03 cables.

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If any of the equipment listed does not meet the requirements, replace the equipment before you begin the upgrade.



### CAUTION

#### Service Interruption

Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.

### Check required hardware

Table 54 below describes the *minimum* equipment required to upgrade a system to CP PII. Table 55 on [page 421](#) and Table 56 on [page 422](#) list the DC and AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

**Table 54**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 1 of 3)**

Order number	Description	Quantity per system
NT4N64AA	CP PII Call Processor Card (256mb Memory)	2
NT4N43CA	CP PII Multi-Media Disk Unit	2
NT4N40AA	CP PII Core/Network Card Cage AC/DC	2
NT4N65AB	CP PII Core Network Interface Card (2 ports)	2
NT4N48	CP PII System Utility Card	2
NT4N88AA	CP PII to I/O Panel DTE Cable (48 in.)	2

**Table 54**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 2 of 3)**

Order number	Description	Quantity per system
NT4N88BA	CP PII to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP PII to I/O Panel Ethernet Cable (48 in.)	2
*NT8D01BC	Controller - Four Card	1
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft)	
*NT8D91AD	Network to Controller Cable (6 ft)	
*NT8D99AD	CPU to Network Cable (6 ft)	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC17BA	CP PII Ethernet to Ethernet Cable (8.5 ft)	2
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft - 8 ft))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration

**Table 54****Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 3 of 3)**

<b>Order number</b>	<b>Description</b>	<b>Quantity per system</b>
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRC49AA	Clock - Clock Sync Cable	1
NTRE39AA	Optical Cable Management Card (OCMC)	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP PII Card Slot Filler Panel	Determined by system configuration
<b>Note:</b> *Customer supplied from existing system.		

**Check required power equipment**

Table 55 below lists the equipment required for DC-powered systems.

Table 56 on [page 422](#) lists the equipment required for AC-powered systems.

**Table 55****DC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

<b>Order number</b>	<b>Description</b>	<b>Quantity per system</b>
NT6D41CA	Core/Network Power Supply DC	2
NT4N97BA	CP PII Upgrade Kit DC (Misc. Card Cage Components)	2

**Table 56**
**AC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NT4N97AA	CP PII Upgrade Kit AC (Misc. Card Cage Components)	2

**Check required tools**

For a list of required tools, see Table 93 on [page 713](#).

**Check personnel requirements**

Nortel recommends that a minimum of two people perform the card cage upgrade.

**Database requirements**

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IOP/CMDU cards, the database must be converted with the Database Transfer utility. See “Database transfer” of Book 2.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

**Note:** All of the above listed system types can be converted by Nortel in the software conversion lab. Please check the current price manual for the requirements of this service.

## Install Core/Net 1 hardware

### Procedure 123

#### Checking main Core card installation

The main Core cards, including the MMDU (with the cables for power and data), are installed in the factory as shown in Figure 84 on [page 424](#):

- 1 NT4N65AB CP PII Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP PII Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP PII Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
  - a. Check side ID switch settings for SU card in Core/Net 1 according to Table 57 below.

**Table 57**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

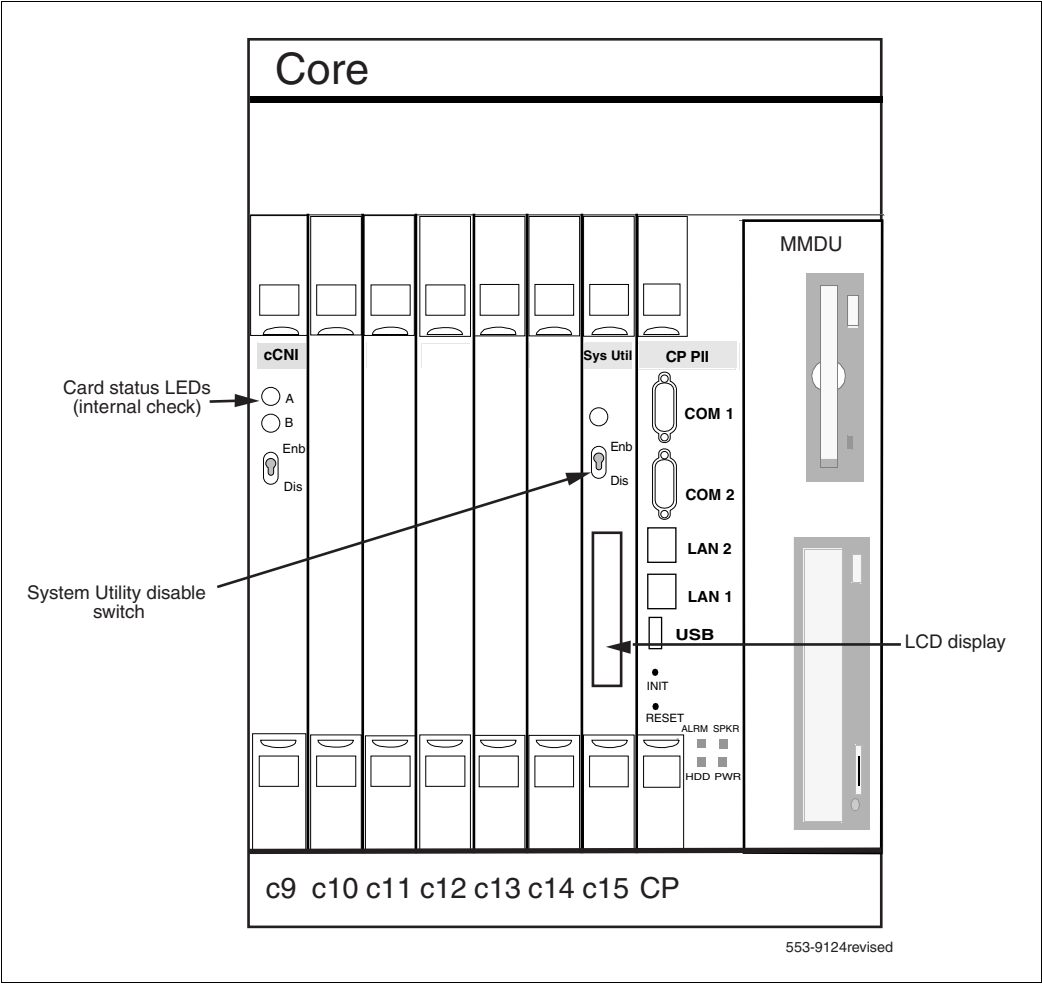
- 4 NT4N64AA CP PII is located in the Call Processor slot.
- 5 The NT4N43CA Multi-Media Disk Unit (MMDU) is located in the extreme right-hand slot next to the CP PII card. The MMDU contains the hard drive, floppy drive and CD-ROM drive.

---

**End of Procedure**

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**Figure 84**  
**Core card placement in the NT4N41 Core/Net Module (front)**





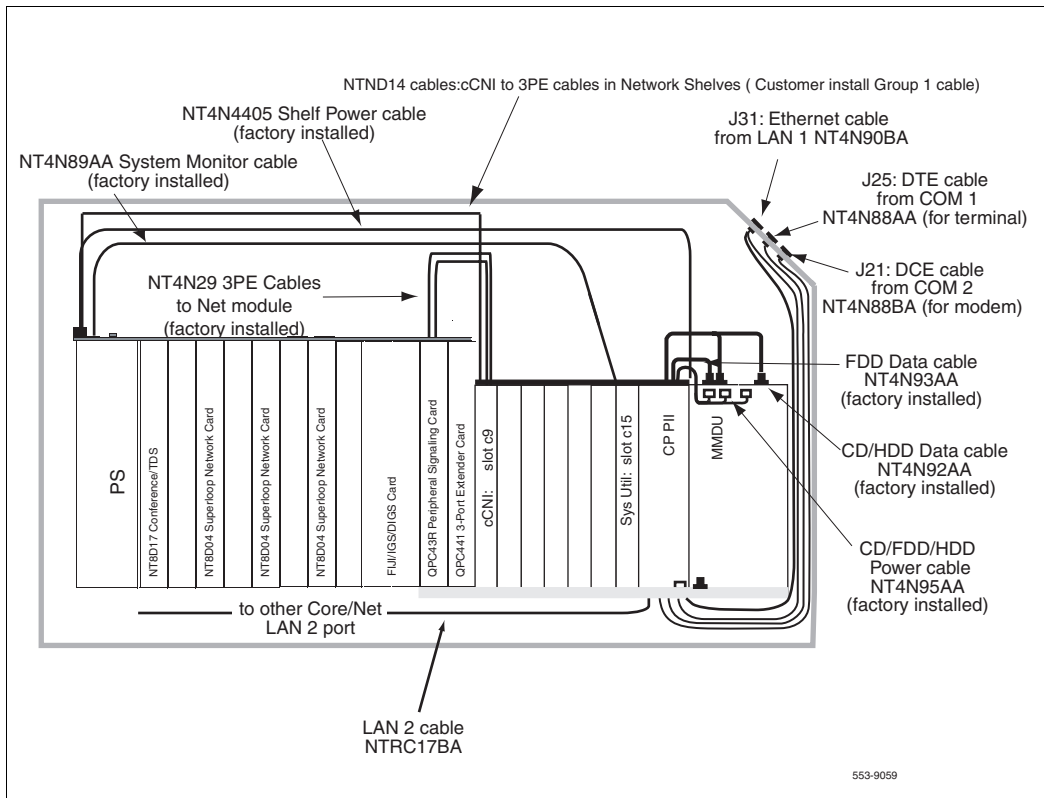
## Check factory-installed cables

Table 58 below lists factory-installed cables. See Figure 85 on page 426.

**Table 58**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

**Figure 85**  
**Core/Net cable connections**



## Disable Core 1

### Procedure 124

#### Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing:

- 1 Verify that Core 0 is active.

**LD 135** Load program

**STAT CPU** Get status of the CPUs

- 2 If Core 1 is active, make Core 0 active:

**SCPU** Switch to Core 0 (if necessary)

**\*\*\*\*** Exit program

---

**End of Procedure**

---

### Procedure 125

#### Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

**LD 60** Load program

**SSCK 0** Get the status of Clock Controller 0

**SSCK 1** Get the status of Clock Controller 1

- 2 If Clock Controller 1 is active, switch to Clock Controller 0.

**SWCK** Switch to Clock Controller 0 (if necessary)

**DIS CC 1** Disable Clock Controller 1

**\*\*\*\*** Exit the program

- 3 Faceplate disable Clock Controller 1.

---

**End of Procedure**

---

Disable IGS

Procedure 126  
 Disable IGS

1    Disable the IGS/DIGS cards located in each network group shelf 1:

**LD 39**                    Load program  
  
     **DIS IGS X**            X = IGS cards located in each network group shelf 1  
  
     **\*\*\*\***                    Exit program

***Note:*** To determine the number of the IGS/DIGS card, refer to Table 59 below.

Table 59  
 Shelf 1 IGS/DIGS card locations

Network Group 0	Shelf 1	IGS/DIGS 1 & 3
Network Group 1	Shelf 1	IGS/DIGS 5& 7
Network Group 2	Shelf 1	IGS/DIGS 9 & 11
Network Group 3	Shelf 1	IGS/DIGS 13 & 15
Network Group 4	Shelf 1	IGS/DIGS 17 & 19
<i><b>Note:</b></i> The DIGS card should be located in slot 9 of the network shelf.		

End of Procedure

**Procedure 127**  
**Moving Clock Controller 1****CAUTION**

Clock controller cards must be NTRB53 Clock Controller cards.

**CAUTION — Service Interruption**

**Service Interruption occurs if wrong Clock Controller is removed!**

Move only Clock Controller 1 at this point in the upgrade.

Do not move Clock Controller 0 at this time.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in the same Network Shelf and slot) and verify settings according to Table 60 on [page 430](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1** Label and disconnect the Clock Controller 1.
- 2** Disconnect the cable from the Clock Controller 1 faceplate card.
- 3** If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4** Remove QPC Clock Controller 1 from the Network Module.
- 5** Set the Clock Controller 1 switch settings according to and Table 60 on [page 430](#).
- 6** Place NTRB53 Clock Controller in the same Network Shelf and slot. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.

## 7 Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PII is upgraded to more than 2 Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 60**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
<b>Note:</b> Switch 7 and 8 are not used.						

## End of Procedure

### Procedure 128 Splitting the Cores

- 1 In Core 0, set the NORM/MAINT switch on the Call Processor card to MAINT.
- 2 In Core 1, set the ENB/DIS switch on all NT6D65 CNI cards to DIS.

- 3 In Core 1, set the NORM/MAINT switch on the Call Processor card to MAINT.



The system is now in split mode, with call processing on Core 0 with Clock Controller 0 active and IGS in Shelf 0 is active.

---

**End of Procedure**

---

### Software disable Network cards in Core/Net 1 from Core/Net 0



#### **CAUTION**

##### **Service Interruption**

At this point, the upgrade interrupts service.

#### **Procedure 129**

##### **Software disabling cards of Core/Net 1 from Core/Net 0**

- 1 In Core/Net 1 only, software disable all network and I/O cards such as XNET, TTY, Conf/TDS and ISDN cards:

- a. In Core/Net 1 only, disable XNET.

**LD 32** Load program

**DISL sl** Disable the XNET, where sl = the superloop number of the XNET card

\*\*\*\* Exit program

- b. In Core/Net 1 only, disable ENET.

**LD 32** Load program

**DISL X** Disable the ENET, where X= the loop number of the ENET card

\*\*\*\* Exit program

c. In Core/Net 1 only, software disable each port on the SDI cards:

**LD 37**            Load program

**DIS TTY x**        Disable each port, where x = the number of the interface device attached to a port

\*\*\*\*              Exit program

d. In Core/Net 1 only, disable DTI cards.

**LD 60**            Load program

**DISL x**            Disable DTI card, where x = the loop number of the DTI port

\*\*\*\*              Exit program

e. In Core/Net 1 only, disable PRI cards.

**LD 60**            Load program

**DISL x**            Disable PRI card, where x = the loop number PRI port

\*\*\*\*              Exit program

f. In Core/Net 1 only, disable MSDL cards.

**LD 48**            Load program

**DIS MSDL x**      Disable MSDL card, where x = the MSDL card number. System will respond with group 0

\*\*\*\*              Exit program

g. In Core/Net 1 only, disable XCT cards.

**LD 34**            Load program

**DISX x**            Disable XCT card, where x = the superloop number of the XCT card

\*\*\*\*              Exit program



- 2** In Core/Net 1 only, software disable the QPC43 Peripheral Signaling Card:

**LD 32** Load program

**DSPS x** Disable QPC43 card. Table 61 lists Peripheral Signaling Card numbers

**\*\*\*\*** Exit the program

**Table 61**  
**Peripheral Signaling Card numbers**

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled		
0 / 0	0	0	—	15
0 / 1	1	16	—	31
1 / 0	2	32	—	47
1 / 1	3	48	—	63
2 / 0	4	64	—	79
2 / 1	5	80	—	95
3 / 0	6	96	—	111
3 / 1	7	112	—	127
4 / 0	8	128	—	143
4 / 1	9	144	—	159
5 / 0	10	160	—	175
5 / 1	11	176	—	191
6 / 0	12	192	—	207
6 / 1	13	208	—	223
7 / 0	14	224	—	239
7 / 1	15	240	—	255

- 3** In Core/Net 1 only, faceplate disable the 3PE, Per Sig and all network cards.

- 4    Faceplate disable all IGS/DIGS cards in each network shelf 1.

---

**End of Procedure**

---



**CAUTION**

**Service Interruption**

The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.

**Procedure 130**

**Removing the system monitors from Core 0 and Core 1**

**Note:** This procedure applies to both AC and DC systems.

- 1    In **Core 0**, software disable the master system monitor (NT8D22):

**LD 37**                    Load program

**DIS TTY #**            Disable master system monitor TTY interface

- 2    Remove J3 and J4 cables on Core 0 and Core 1 system monitors.

**Note:** Do *not* turn off the blower units in the front of the pedestals.

- 3 Remove the system monitor from the rear of the pedestal on Core 0 and Core 1.

---

**End of Procedure**

---

**DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

**Power down Core/Net 1****CAUTION****Service Interruption**

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

### **Procedure 131**

#### **Removing Core 1 cables and card cage**

- 1 Label and disconnect all cables from the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP PII card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP PII card cage.



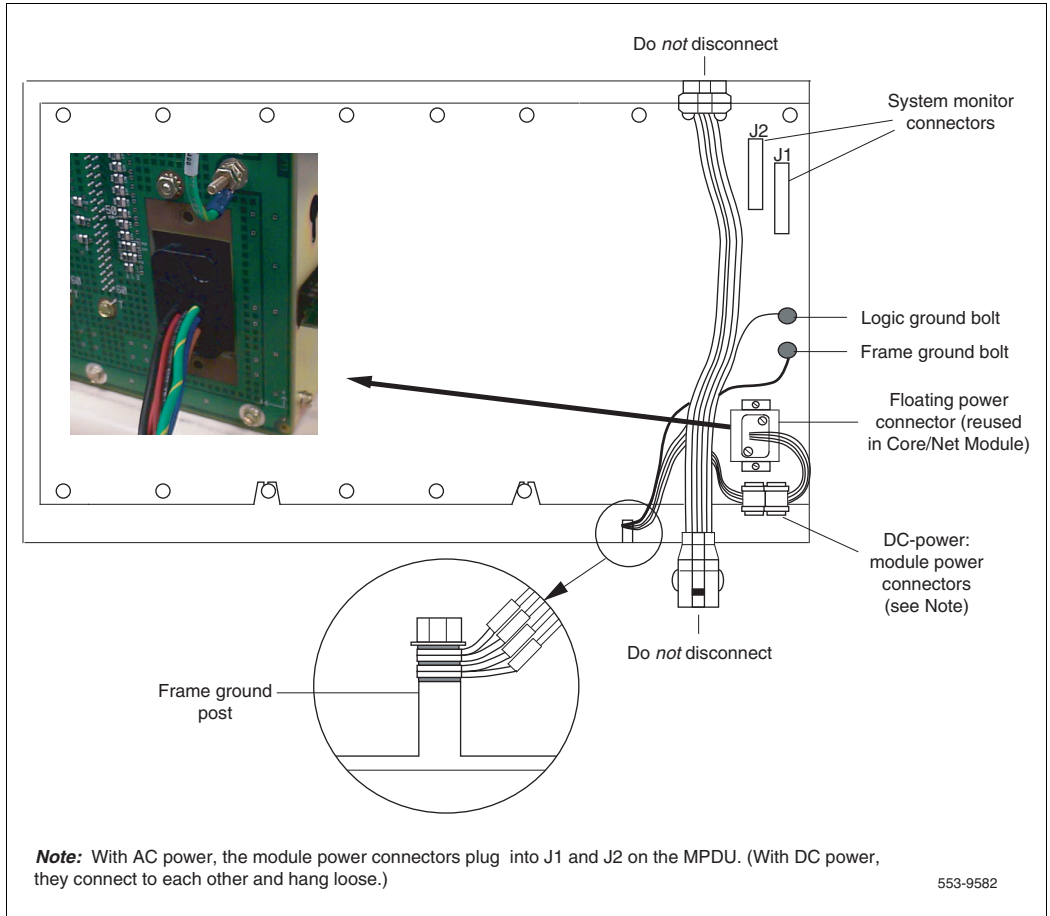
#### **CAUTION**

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP PII card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.

- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful not to drop the nut or lock washer into the pedestal. See Figure 86 for DC power connectors. See Figure 87 on page 438 for AC

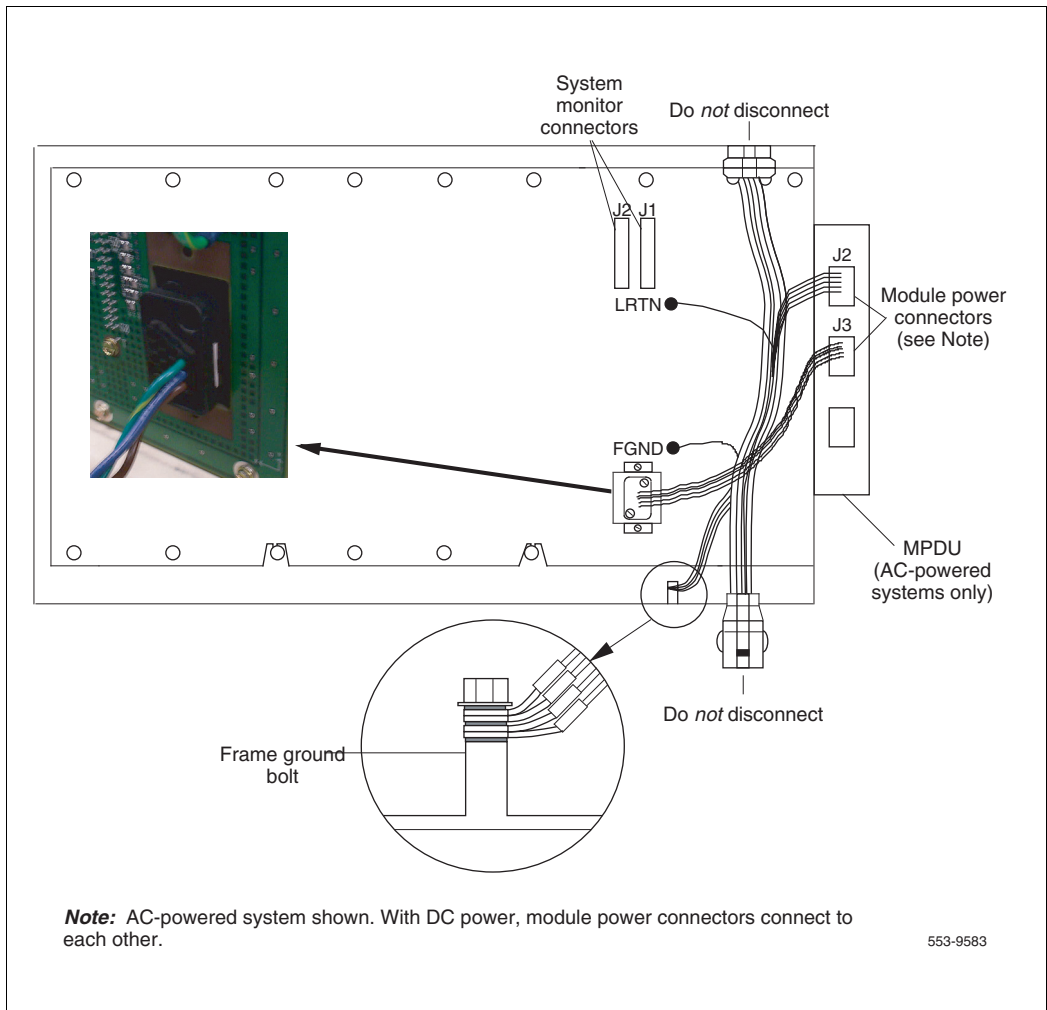
**Figure 86**  
**DC power connectors on the Core module backplane**



power connectors.

- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

**Figure 87**  
**AC power connectors on the Core module backplane**



- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.

- 15** Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16** Remove the Core card cage from the module.
- 17** Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
  - For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.
- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.

**WARNING**

If you do not tape the EMI shield in position, you will not be able to install the card cage in the module correctly.

**CAUTION**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

## Install the CP PII card cage in Core 1

### Procedure 132

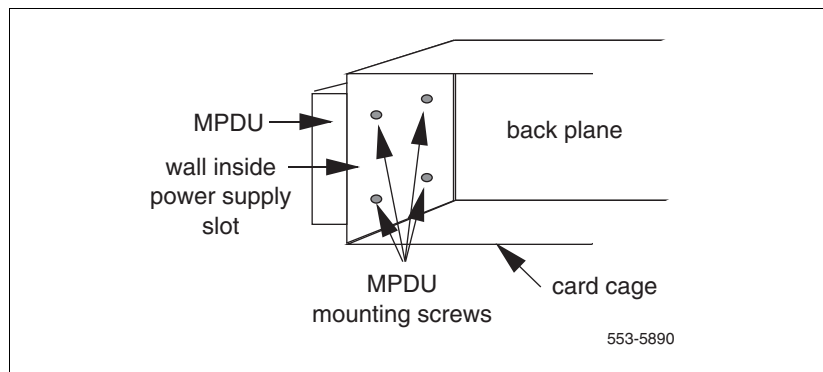
#### Installing the CP PII card cage in Core 1

- 1 Check that the card cage is configured as Core 1. See Table 57 on [page 423](#) for instructions.
- 2 For AC-powered systems only, attach the MPDU, part of the CP PII Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 88 below.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

**Figure 88**

**Location of the screws for the MPDU**



- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.
- 5 Hold the card cage firmly and make the following connections at the rear of the module.
  - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable



(the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that may have fallen into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
- c. Attach the system monitor ribbon cables:
  - i. Connect the ribbon cable that goes down to the column to connector J1 on the backplane.
  - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
- d. Use a 11/32" socket wrench to attach the green ground wire to the frame ground bolt on the module. Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.

**Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.

- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" socket wrench.)
- 6 Slide the card cage all the way into the module.
  - 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
  - 8 Secure the card cage and EMI shield to the module re-using the existing screws.
  - 9 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.

- a. Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b. Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10 Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11 Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 133**

#### **Installing the power supply**

- 1 Unpack the power supply.
- 2 Faceplate disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### **Procedure 134**

#### **Relocating Network cards to CP PII Core/Net 1**

- 1 Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 1 except for the IGS/DIGS cards.
- 2 Connect the tagged cables to the relocated cards.
- 3 When you move the 3PE card, check the switch settings and jumpers. See Table 62 on [page 443](#).
  - a. All 3PE cards must be vintage F or later.
  - b. Check that the RN27 Jumper is set to "A".

- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 62 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.

**Table 62**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

**Procedure 135**  
**Installing the Security Device**

The Security Device fits into the System Utility card (see Figure 89 on [page 445](#)). To install the Security Device, do the following.

- 1    If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.    Unlock the latches and remove the IODU/C card.
  - b.    Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

Or

If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

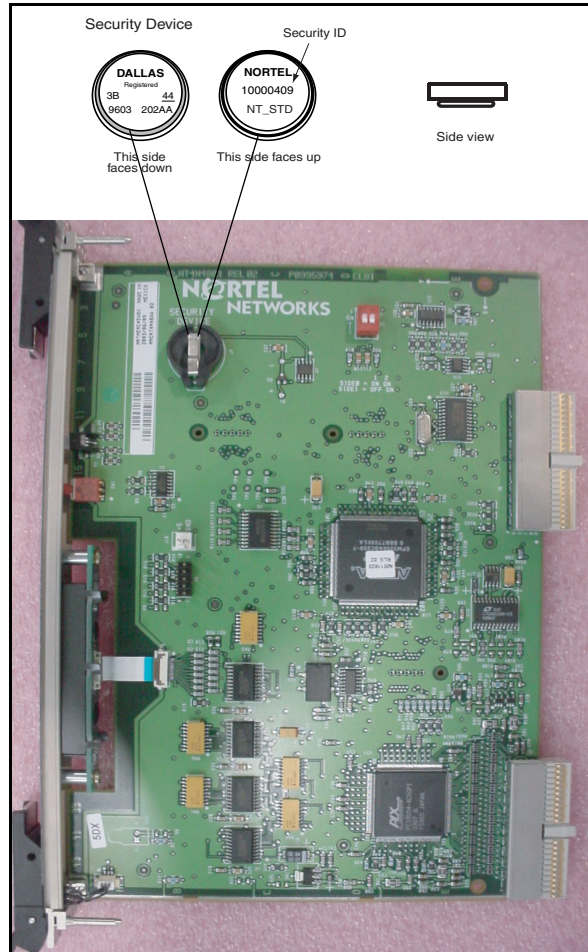
- 2    Check that the Security Device is securely in place.

---

**End of Procedure**

---

**Figure 89**  
**Security Device**

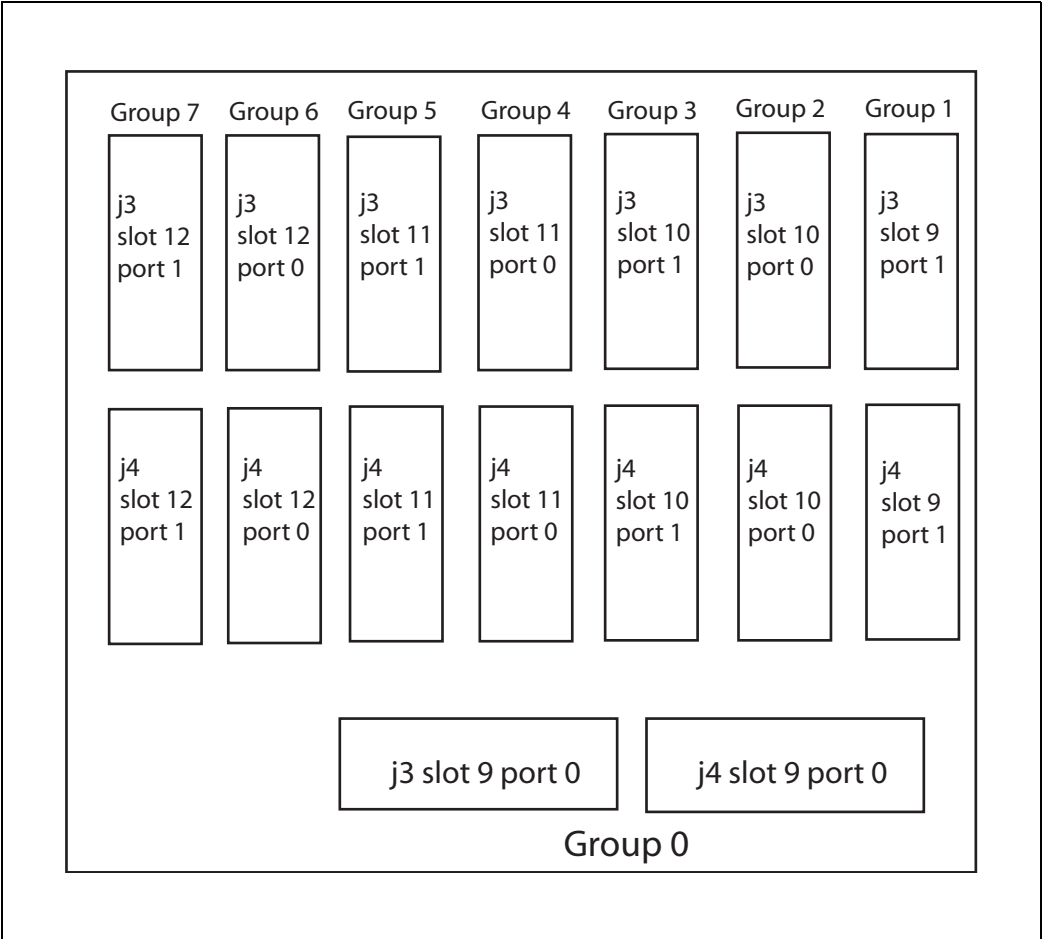


## Cable Core 1

### In Core 1, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 1. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

**Figure 90**  
**Connectors for CNI-3PE cables to the Fanout panel**



**In Core 1, route and connect the cCNI to 3PE (NTND14) cables**

The existing NTND14 cables may be reused if they meet the requirements of the Important box on [page 447](#). If it is determined that existing NTND14 cables must be replaced on side 1, remove the existing cables and replace with the correct length cables. Connect the NTND14 cables to the Fanout panel in Core/Net 1 and the 3PE cards in each equipped network group shelf 1. See Table 63 on [page 449](#) and Figure 91 on [page 450](#).

**IMPORTANT!**

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PII, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from

the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 95 on [page 489](#).



**WARNING**

**Damage to Equipment**

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.



**Table 63**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1. See Figure 90 on [page 446](#).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 91 on [page 450](#).

---

**End of Procedure**

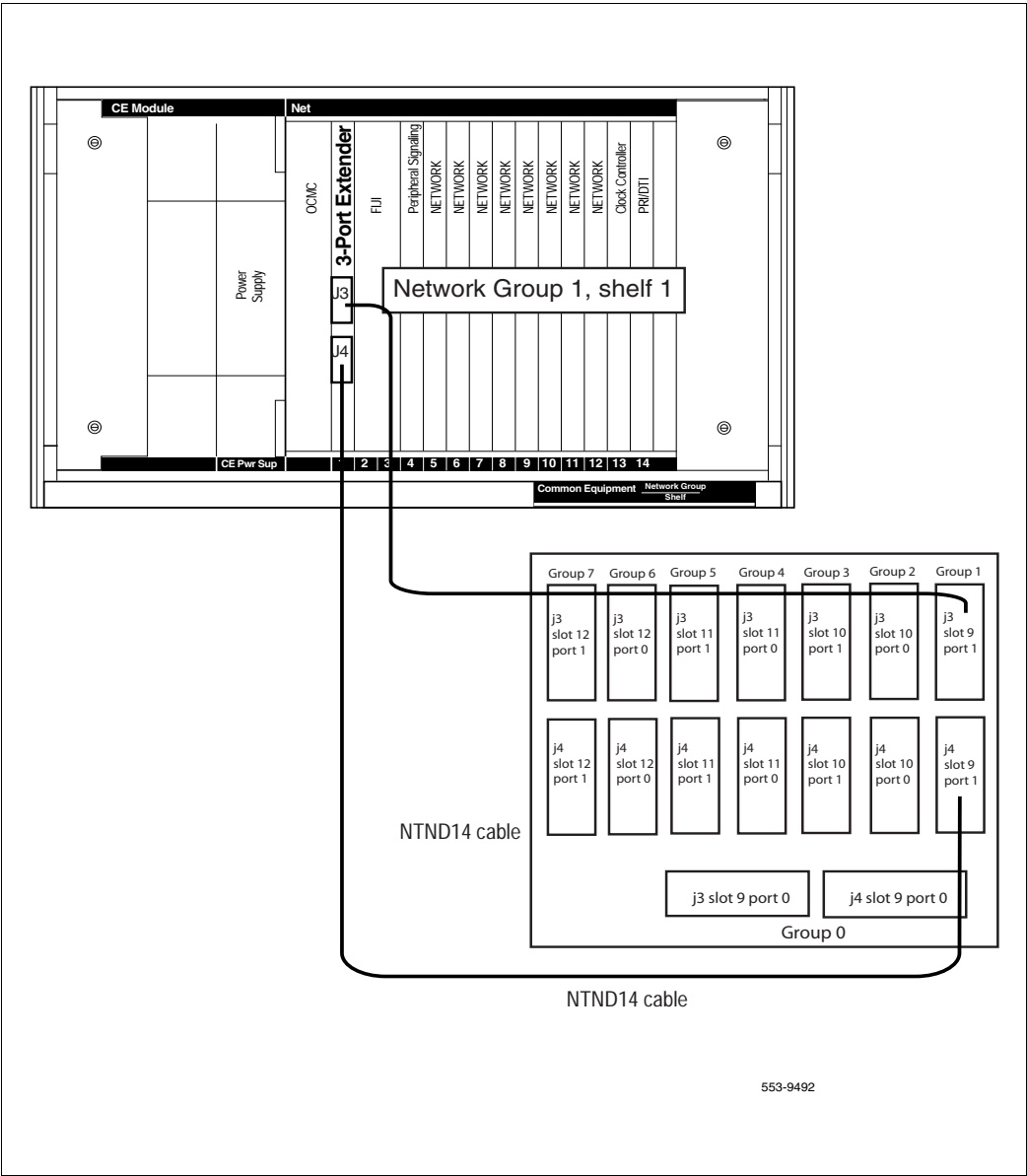
---

**Procedure 136**  
**Adding Side 1 FIJI hardware**

Follow the procedures below in sequence:

- 1 Tag and disconnect the IGS/DIGS cables.
- 2 Remove the IGS/DIGS cards from Side 1.

**Figure 91**  
**3PE Fanout Panel connections**



- 3 Faceplate disable the FIJI cards and set all jumpers to “open” or unused.

**CAUTION — Service Interruption**

If FIJI card jumpers j6 and j7 are not set to “open” or unused, numerous FIJI issues and ring failures may occur.

- 4 Insert the FIJI cards in Side 1. **DO NOT seat the FIJI cards.**

**Note:** FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.

---

**End of Procedure**

---

**Procedure 137****Connecting the shelf 1 FIJI Ring cables (descending)****IMPORTANT!**

The shortest Fiber Cable must always be used.

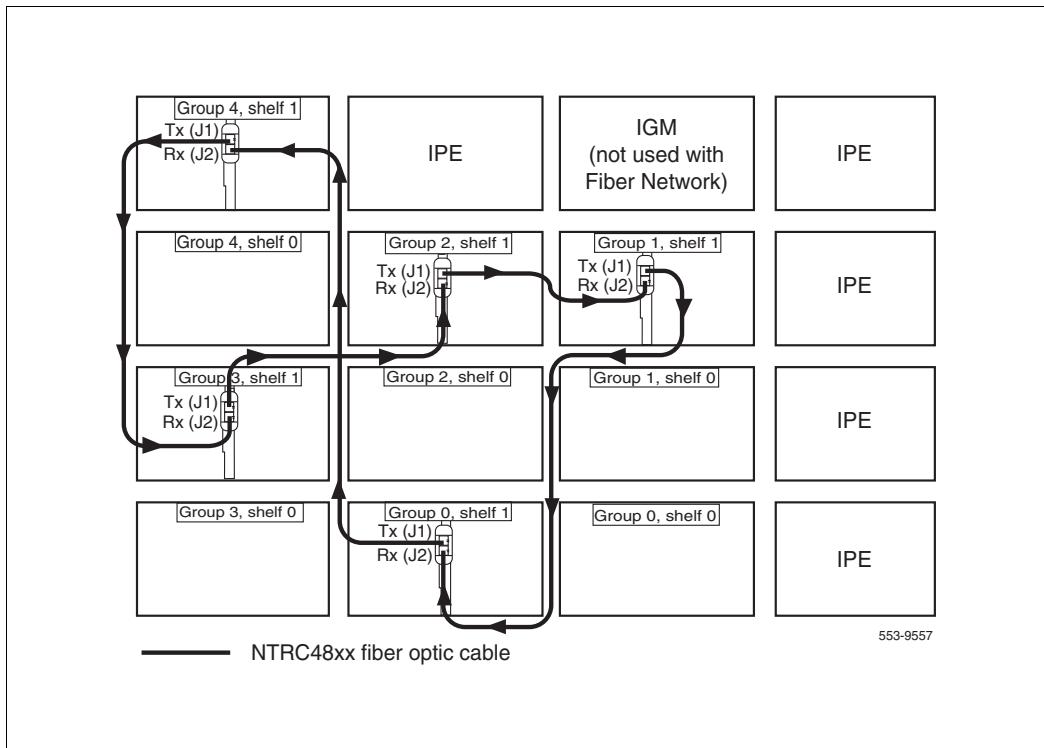
The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (see Figure 92 on [page 452](#) and Table 64 on [page 454](#)).

**Figure 92**  
**Shelf 1 *descending* fiber optic Ring (Meridian 1 Option 81C 5 group example)**



Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1 Start with Network group 0, shelf 1.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 1** to the Rx (J2) port of the FIJI card in the **highest Network group, shelf 1**.
- 3 Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.

- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 1 of each Network group. Connect these cables in **descending** order of Network groups.

- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

**Note:** Connect the Side 1 FIJI Ring cables only.

**Table 64**  
**FIJI Ring 1 connections**

Groups 0 - X are cabled in descending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/1	P1	Tx
7/1	P2	Rx
7/1	P1	Tx
6/1	P2	Rx
6/1	P1	Tx
5/1	P2	Rx
5/1	P1	Tx
4/1	P2	Rx
4/1	P1	Tx
3/1	P2	Rx
3/1	P1	Tx
2/1	P2	Rx
2/1	P1	Tx
1/1	P2	Rx
1/1	P1	Tx
0/1	P2	Rx

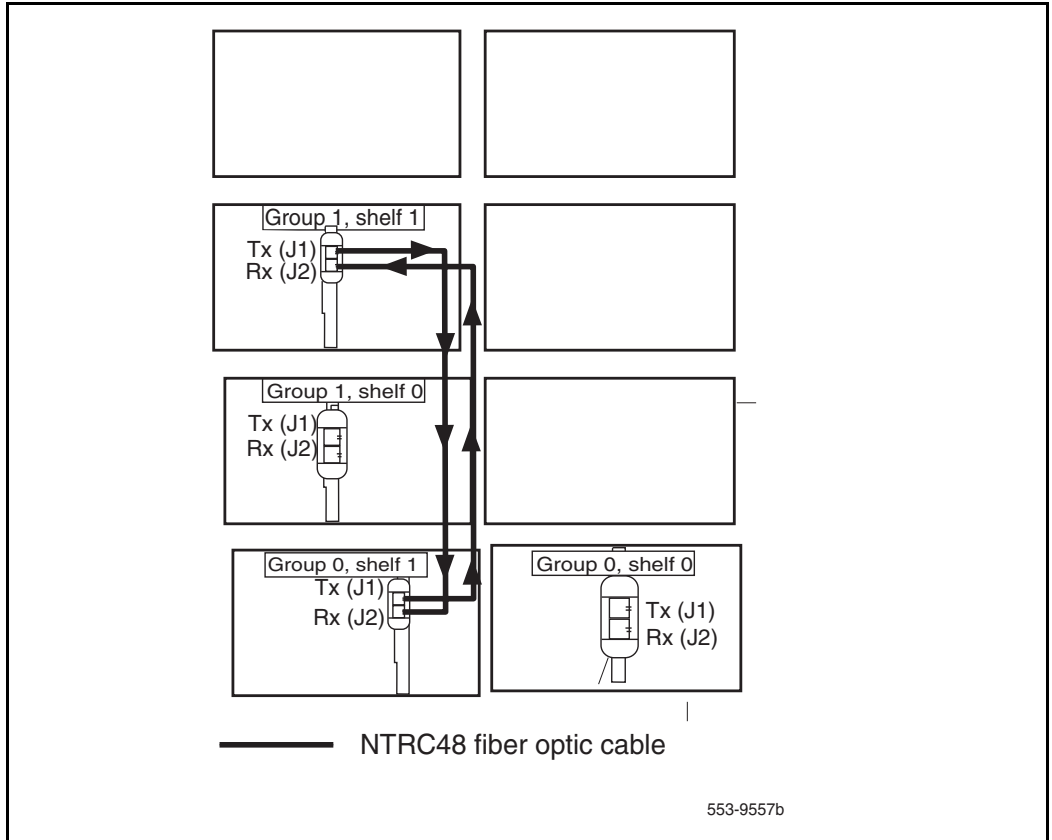
---

**End of Procedure**

---

**Figure 93**

**Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



## Cable the Clock Controller 1 to FIJI

### Procedure 138

#### Cabling the Clock Controller 1 to FIJI

Connect the cables to the Clock Controller 1 as shown in Figure 94 on [page 457](#):

- 1    Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2    Connect P2 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, shelf 1.

---

**End of Procedure**

---

## Power up Core 1

### Procedure 139

#### Preparing for power up

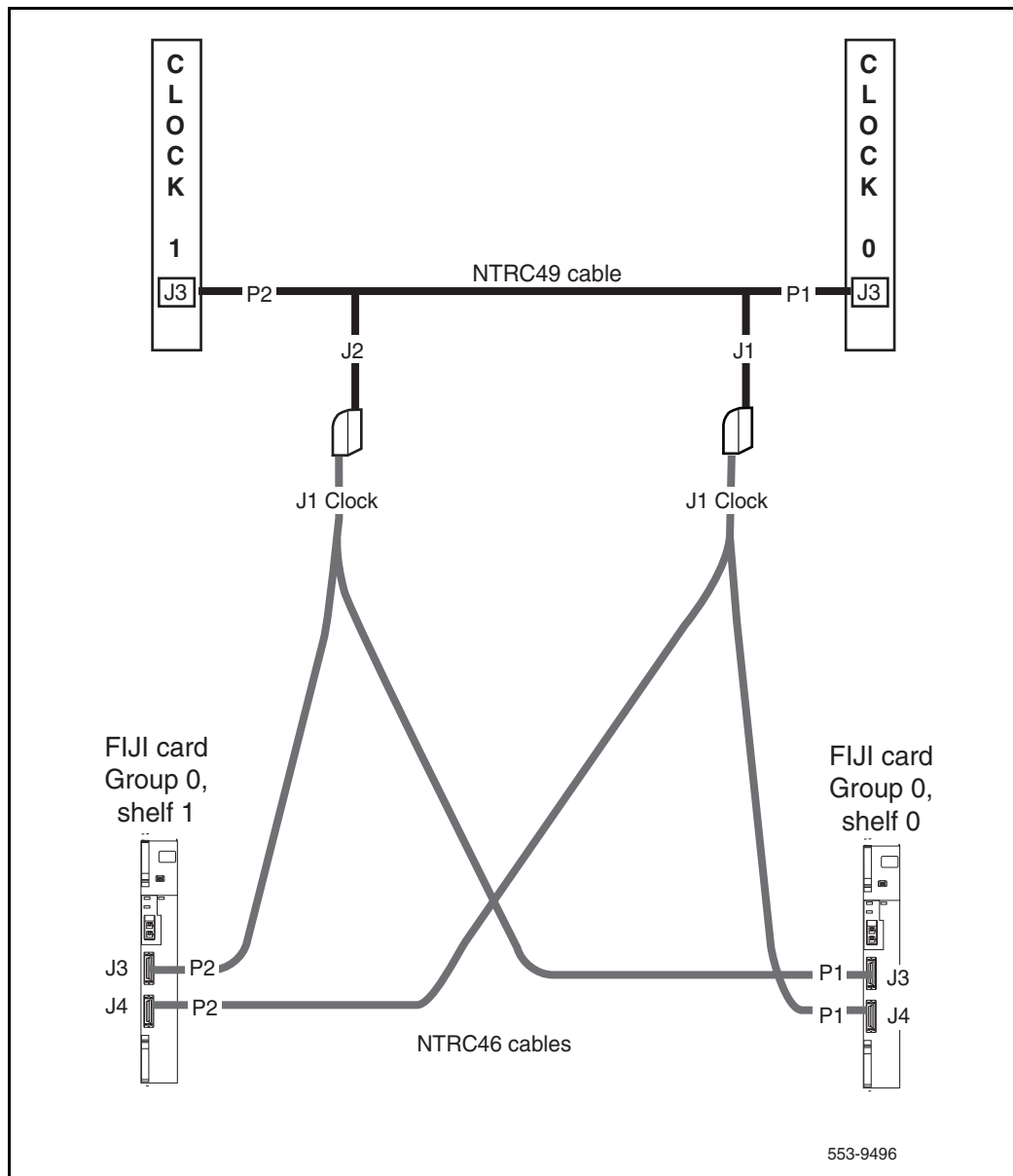
- 1    Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.  
  
**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.
- 2    Connect a terminal to the J25 port on the I/O panel in the *inactive* Core.
- 3    Check the terminal settings as follows:
  - a.   9600 Baud
  - b.   8 data
  - c.   parity none
  - d.   1 stop bit
  - e.   full duplex
  - f.   XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side to side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

- 4    Faceplate *enable* all core and network cards.



**Figure 94**  
**Clock Controller cable configuration**



- 5    Faceplate *enable* the power supply.

---

**End of Procedure**

---

## Power up Core cards

### Procedure 140

#### Powering up core cards

- 1    For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2    For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

---

**End of Procedure**

---

## Restore power

### Procedure 141

#### Restoring power

- 1    Restore power to Core/Net 1.
- 2    Wait for the system to load/initialize.
- 3    Check that the Network and I/O cards have working power.



System is in split mode, CP 0 is active, clock 0 is active, all network cards in shelf 1 are software disabled.

---

**End of Procedure**

---

## Install software and customer database on Core 1

### Procedure 142

#### Installing the software and converting the database

- 1 Check that a terminal is connected to J25 on Core/Net 1.
- 2 In Core/Net 1, install the CD-ROM into the CD-ROM drive in the MMDU:
  - a. Press the button on the CD-ROM drive to open the CD-ROM disk holder.
  - b. Place the CD-ROM disk into the holder with the disk label showing.
  - c. Press the button again to close the CD-ROM disk holder.  
Do not push the holder in by hand.

**Note:** If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 3 Place the CP PII Install floppy disk into the MMDU floppy drive.

**Note:** 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 the manual RESET button on the CP PII card faceplate.

Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 1
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 2
    0 percent done...1 percent done.....99
    percent done....100 percent completed!
```

```
Disk physical checking is completed!

Validate hard drive partition number and size...

There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte

Disk partitions and sectors checking is
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries
Ltd. All rights reserved

ver: X.X FCS

Disk Check In Progress...

    total disk space (bytes) : XX
    bytes in each allocation unit: XX
    total allocation units on disk: XX
    bad allocation units: XX
    available bytes on disk: XX
    available clusters on disk: XX
    maximum available contiguous chain (bytes):
    XX
    available space fragmentation (%): XX
    clusters allocated: XX

Done Checking Disk.

    checks for PART_X OK!

    pmDosFsCheck is completed!
```

**5** Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:  
    Day-Month-Year, Hour:Min:Sec  
    Succession Enterprise Software/Database/  
BOOTROM CDROM INSTALL Tool  
    Does this System have a Signaling  
Server.....? (Default - No)  
    Please enter:  
<CR> -> <n> - No  
    <y> - Yes  
    Enter Choice>
```

- 6    The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```

                                M A I N      M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will
    be prompted throughout the installation and
    given the opportunity to quit at any time.

    Please enter:

    <CR> -> <u> - To Install menu

           <t> - To Tools menu.

           <q> - Quit.

    Enter Choice> <CR>

>Validating Keycode

    The provided keycode authorizes the install of
    XXXXXXXX software

    (all subissues) for machine type XXXX

    (XXX processor on XXXX System)
```

**IMPORTANT!**

Remove install floppy disk at this time and insert the keycode diskette.

- 7 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

Please confirm that this keycode matches the  
CDROM Release

Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to  
Install Menu.

<n> - No, the keycode does not match. Try  
another keycode diskette.

Enter Choice> **<CR>**

>Obtain database file names

**8**    Enter **b** to install the Software, Database and CP-BOOTROM.

I N S T A L L       M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **b**



**9** Verify the CD-ROM version.

Please insert the installation CDROM into the drive on Core X.

The labeled side of the CDROM should be side up in the CDROM tray.

Please enter:

<CR> -> <a> - CDROM is now in drive. Continue with s/w checking.

<q> - Quit.

Enter Choice> <CR>

The installation CDROM contains version XXXXXXXX\_X.

Please enter:

<CR> -> <y> - Yes, this is the correct version. Continue.

<n> - No, this is not the correct version. Try another CDROM or keycode disk

Enter Choice> <CR>

>copying direct.rec from /cd0/0300\_KMR.N33/  
target/p/s11/direct.rec to /u/direct.rec

>Updating /u/direct.rec

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists installation

<n> - No, Continue without Dependency Lists installation

Enter choice> n

**Note:** To choose yes and install the Dependency Lists, proceed to step 10, otherwise proceed to step 11.

**10**   Choosing Yes for the Dependency Lists installation.

```
Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice>

The default choice is YES as shown in the prompt.

If the choice is no, then the following prompt
will appear for the confirmation:

Are you sure?

Please enter:

<CR> -> <n> - No, Go to the Dependency List menu

        <y> - Yes, Go to the next menu

Enter choice>

The default choice is NO which will return the
user to deplist menu.

The Installation Status Summary for the choices
entered is displayed as shown below:

-----
                INSTALLATION STATUS SUMMARY
                -----

Option           Choice  Status      Comment
SW: CD to disk   yes           install for rel 400
Dependency Lists yes
Database         no
CP-BOOTROM       yes
```

Please enter:

<CR> -> <y> - Yes, start installation.

<n> - No, stop installation. Return to the Main Menu.

The installation continues with the removal of the patch, reten and deplist directories and copying the files from the CD to the hard disk.

>Erasing old file "/u/patch/p12749\_1.cpp"

>Erasing old file "/u/patch/reten/reten.pch"

>Erasing old file "/u/patch/deplist/m16000\_3.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/p12749\_1.cpp" to "/u/patch/p12749\_1.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/deplist/m16000\_3.cpp" to "/u/patch/deplist/m16000\_3.cpp"

**Note:** The removal of patch, reten and deplist directories will happen only when it is a software upgrade or a new system installation regardless of the DepList installation menu selection.

The installation status summary after the installation will be as follows:

-----			
INSTALLATION STATUS SUMMARY			
-----			
Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel 400
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

**Note:** Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

-----			
INSTALLATION STATUS SUMMARY			
-----			
Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from 300 to 400
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from x210300 to x2103400
Database	no		
CP-BOOTROM	yes	ok	from x210300 to x210400
IOP-ROM	yes	ok	from 02.00 to 02.00

**Installation of DepList on an SSC system through software installation**

**The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.**

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

```
INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: slires
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.
```

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

```
Do you wish to install Dependency Lists? (y/n/[a]bort) : n
```

```
Are you sure? (y/n/[a]bort) : y
```

11   Confirm all options before installing the software.

```
>Processing the Install Control file

>Installing release XXXXX

      INSTALLATION STATUS SUMMARY

-----

      +-----+-----+-----+-----+
      | Option   | Choice | Status | Comment |
      +-----+-----+-----+-----+
      | SW: CD to disk | yes    |        | install for rel XXXXX|
      +-----+-----+-----+-----+
      | Option   | Choice | Status | Comment |
      +-----+-----+-----+-----+
      | Database  | yes    |        |          |
      +-----+-----+-----+-----+
      | Option   | Choice | Status | Comment |
      +-----+-----+-----+-----+
      | CP-BOOTROM | yes    |        |          |
      +-----+-----+-----+-----+

      Please enter:<CR> -> <y> - Yes, start
      Installation.

      <n> - No, stop Installation. Return to the
      Main Menu.

      Enter Choice> <CR>

>Checking System Configuration

You selected to upgrade the system from release:
XXXX to release: XXXXX.

This will erase all old system files.
```

```
Database files will NOT be erased. You may
continue installing the software or quit now and
leave your system unchanged.
```

```
Please enter:
```

```
<CR> -> <a> - Continue with Upgrade.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

```
>Starting Software Install
```

```
          >Upgrading from release XXXX to release
XXXXXX
```

- 12** After a number of files are copied over, 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>      Spare Group A
- <6>      Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

- 13** Continue with upgrade when prompted. Select a database to install.  
Confirm database transfer.

```
You selected to transfer the database from the
floppy disk - release: XXXX to the hard disk on
Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the
floppy disk drive.

        If you quit now, the database will be left
unchanged.

        Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> <CR>
```



The system then informs you of the database details and prompts you to confirm.

```
You have chosen to restore database dated:
Month Day Hour:Min:Sec:Year

Please confirm.

Please enter:

<CR> -> <y> - Yes, load.

        <n> - No, DO NOT load.

Enter Choice> <CR>
```

- 14** The system restores the database and provides a status summary.

**Note:** The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 15** Enter <CR> when prompted, returning the system to the Install Menu.

**16** Enter **q** to quit.

```

                I N S T A L L      M E N U

The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database, CP-
BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools menu.
        <k> - To install Keycode only.

        For Feature Expansion, use OVL143.
        <p> - To install 3900 set Languages.
        <q> - Quit.

Enter Choice> q
```

**17** The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

You may reboot the system or return to the Main
Menu.

Remove all disks from the system before rebooting.

-----

DO NOT REBOOT USING BUTTON!!!

-----

Please enter:

<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>
>Removing (temporary files)

>Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 1 to INI.

---

**End of Procedure**

---

# Configuring IP addresses

## Procedure 143 Configuring the IP addresses

Two unique IP address are required for the CP PII system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following to check the status of the system's IP address:

<b>LD 117</b>	Load program
<b>PRT HOST</b>	Print the configured host information

If the system returns with host names “active” and “inactive”, go to “Check for Peripheral Software Download to Core 1” on [page 477](#). If the system returns no host names, complete the steps below.

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

<b>LD 117</b>	Load program
<b>NEW HOST NAME 1 IP ADDRESS</b>	Define the first IP address: “name 1” is an alias for the IP address such as “primary” (The IP address is the IP number)
<b>CHG ELNK ACTIVE NAME 1</b>	Assign the “name 1” address to the <i>active</i> Core
<b>NEW HOST ‘NAME 2’ ‘IP ADDRESS’</b>	Define the second IP address: “name 2” is an alias for the IP address such as “secondary” (The IP address is the IP number)

**CHG ELNK INACTIVE**  
**NAME 2**

Assign the “name 2” address to the *inactive* Core.

**CHG MASK**  
**XXX.XXX.XXX.XXX**

Set the sub-net per local site (This number allows external sub-nets to connect to the system)

- 4 Enable the new Ethernet interface.

**LD 137**                      Load program

**DIS ELNK**                *Disable* the old IP interface values

**ENL ELNK**                *Enable* the new IP interface values

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 557](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Load LD 22 and print Target peripheral software version.

**LD 22**

**REQ**                      PRT

**TYPE**                    PSWV

<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## For systems with fewer than eight groups, delete CNIs

### Procedure 144 Deleting CNIs

Software has configured the system for eight groups. If the system has eight groups, skip this procedure. If the system has fewer than eight groups, you must software remove the CNIs not used in the system configuration:

- 1 In Core/Net 1, disable all cCNI cards using LD 135:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get status of all cCNI cards
<b>DIS CNIP x s p</b>	Disable cCNI ports where: x = Core number (0 or 1) s = card slot (9-12) p = port (0 or 1)
<b>DIS CNI x s</b>	Disable cCNI cards where: x = Core number (0 or 1) s = card slot (9-12)
<b>STAT CNI</b>	Confirm that cCNI cards are disabled
<b>****</b>	Exit program

- 2 Use LD 17 to remove the extra cCNI cards.

<b>LD 17</b>	Load program
<b>CHG</b>	CFN
<b>TYPE</b>	CEQU

**CEQU****carriage return to  
EXTO****EXTO 3PE**

Core/Net 0 extended to 3PE

**CNI s p x**Out the cCNI card, where:  
s = card slot (9-12)  
p = port (0 or 1)  
x = out network group**EXTI 3PE**

Core/Net 1 extended to 3PE

**CNI s p x**Out the cCNI card, where:  
s = card slot (9-12)  
p = port (0 or 1)  
x = out network group**carriage return to end  
of program****\*\*\*\***

Exit program

3    Use LD 135 to re-enable cCNI cards:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get status of all cCNI cards
<b>ENL CNI x s</b>	Enable cCNI cards where: x= Core number (0,1) s = card slot (9-12)
<b>ENL CNIP x s p</b>	Enable cCNI ports where: x= Core number (0,1) s = card slot (9-12) p = port (0 or 1)
<b>STAT CNI</b>	Confirm that cCNI cards are enabled (see note below)
<b>****</b>	Exit program

**Note:** At this point, cCNI cards in Core 1 are controlled by the active call processor in Core 0. Therefore, it remains disabled.

---

**End of Procedure**

---



---

## Reconfigure I/O ports and call registers

### Procedure 145

#### Reconfiguring I/O ports and call registers

- 1 Remap all I/O ports (except CPSI ports) to the proper groups.  
The group number of these ports is determined by the physical location of the card. The configuration information must match the CNI configuration

```
LD 17          Load program
CHG            CFN
TYPE          ADAN CHG AAA X G
carriage
return to end
of program
****          Exit program
```

- 2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 1000 and 20000 (respectively). If changes are required, reconfigure the values in LD 17:

```
LD 17          Load program
CHG            CFN
TYPE          PARM
carriage
return to end
of program
****          Exit program
```

**3**    Perform a data dump to save the customer database to the hard drive and floppy:

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

**LD 43**                    Load program

**b.**    When "EDD000" appears on the terminal, enter:

**EDD**                    Begin data dump

**c.**    When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter

**\*\*\*\***                    Exit program



### **CAUTION**

#### **Loss of Data**

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

---

**End of Procedure**

---

**Procedure 146**  
**Rebooting Core 1****CAUTION****Service Interruption**

The INI may take up to 15 minutes to complete.

**CAUTION****Service Interruption**

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

At this stage, Core 0 is still the active call processor with Clock Controller 0 active. The following procedure will transfer call processing from Core 0 to Core 1, switching Clock Controller from 0 to 1 and switching from IGS/DIGS to FIJI.

- 1** In Core/Net 0 only, faceplate disable the CNI cards.
- 2** In Core/Net 0 only, faceplate disable the IODU/C card.
- 3** In Core/Net 0 only, unseat the Core Processor card.
- 4** Faceplate disable Clock Controller 0 and unseat the card.
- 5** Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.
- 6** Seat and faceplate enable Clock Controller 1.
- 7** Seat and faceplate enable all FIJI cards in shelf 1.
- 8** Press the 'RESET' button on the CP PII card faceplate to initialize the system.

- 9     Wait for “DONE” and then “INI” messages to display before you continue.



**CAUTION**

**Service Interruption**

Allow the system to recover from all downloads after the INI completes.

**Note:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring; downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets. Upon INI completion, RING 1 is full, FIJI Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.

Call Processing is now active on Call Processor 1 (except for network cards on Core/Net 0).

---

**End of Procedure**

---

## Disable and remove equipment from Core/Net 0

**Note:** At this point, the active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

### Procedure 147

#### Faceplate disabling cards of Core/Net 0:

- 1 In Core/Net 0 only, faceplate disable the 3PE, Per Sig and all network cards.
- 2 Faceplate disable all IGS/DIGS cards in each network shelf 0.

---

**End of Procedure**

---

### Table 65

#### Shelf 0 IGS/DIGS card locations

Network Group 0	Shelf 0	IGS/DIGS 0 & 2
Network Group 1	Shelf 0	IGS/DIGS 4 & 6
Network Group 2	Shelf 0	IGS/DIGS 8 & 10
Network Group 3	Shelf 0	IGS/DIGS 12 & 14
Network Group 4	Shelf 0	IGS/DIGS 18 & 20
<b>Note:</b> The DIGS card should be located in slot 9 of the network shelf.		

**Procedure 148**  
**Moving Clock Controller 0**



**CAUTION**

Clock controller cards must be NTRB53 Clock Controller cards.



**CAUTION**

**Service Interruption**

Move only Clock Controller 0 at this point in the upgrade.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in the same Network Shelf and slot) and verify settings according to Table 66 on [page 487](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1    Label and disconnect the Clock Controller 0.
- 2    Disconnect the cable from the Clock Controller 0 faceplate card.
- 3    If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.
- 4    Remove QPC Clock Controller 0 from the Network Module
- 5    Set the Clock Controller 0 switch settings according to and Table 66 on [page 487](#).
- 6    Place NTRB53 Clock Controller in the same Network Shelf and slot. DO NOT seat the Clock Controller 0 and DO NOT faceplate enable the card.

**7** Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group 1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PII is upgraded to more than two Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 66**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft)		
		On	Off	6.4–10.1 m (21–33 ft)		
		On	On	10.4–15.2 m (34–50 ft)		
<b>Note:</b> Switch 7 and 8 are not used.						

**End of Procedure**

**Procedure 149**  
**Cabling the Clock Controllers**

**Note:** Earlier in the upgrade, you checked that Clock Controller 1 is installed in Network 1 shelf 1, slot 13; and Clock Controller 0 has been moved to Network group 1 shelf 0, slot 13.

**Note:** Connect the cables to the Clock Controllers as shown in Figure 95 on [page 489](#):

- 1    Connect the Clock to Clock cable:
  - a.    Connect J1 of the NTRC49 cable to port J3 of Clock Controller 0.
  - b.    Connect J2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2    Connect a Clock 0 to FIJI cable:
  - a.    Connect J2 of the NTRC46 cable from Clock 0 to J4 of the FIJI card in Group 0, shelf 1.

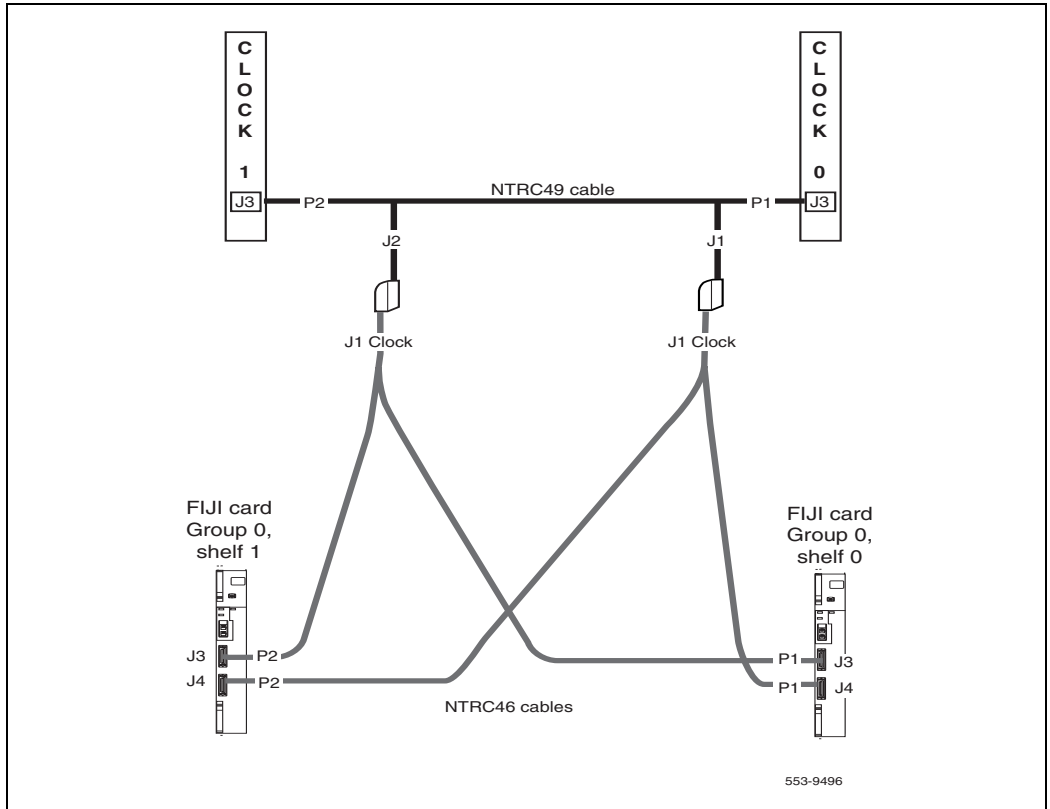
---

**End of Procedure**

---



**Figure 95**  
**Clock Controller cable configuration**



## Power down Core/Net 0



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



### DANGER OF ELECTRIC SHOCK

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

### Procedure 150

#### Removing Core 0 cables and card cage

- 1    Label and disconnect all cables to the front of the module.
- 2    Tape over the contacts to avoid grounding.
- 3    Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4    Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5    Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6    Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP PII card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

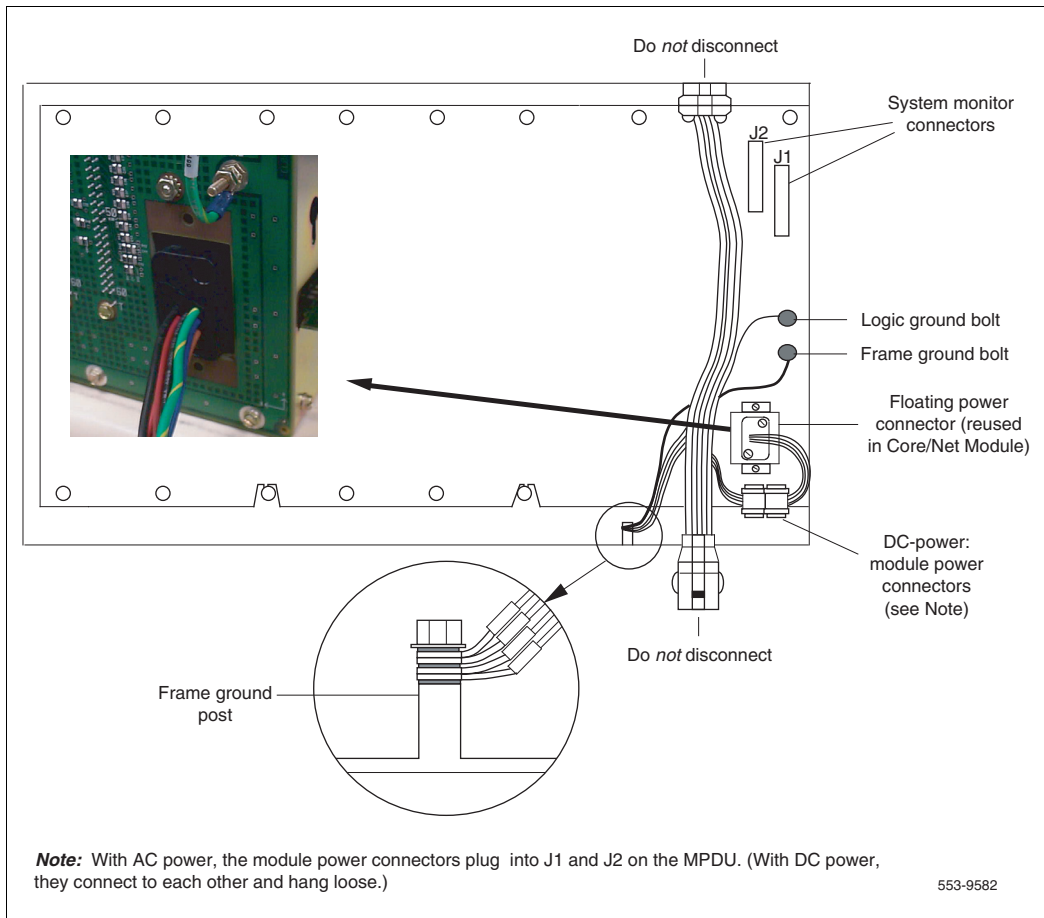
- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting. Keep the screws for use with the CP PII card cage.

**CAUTION**

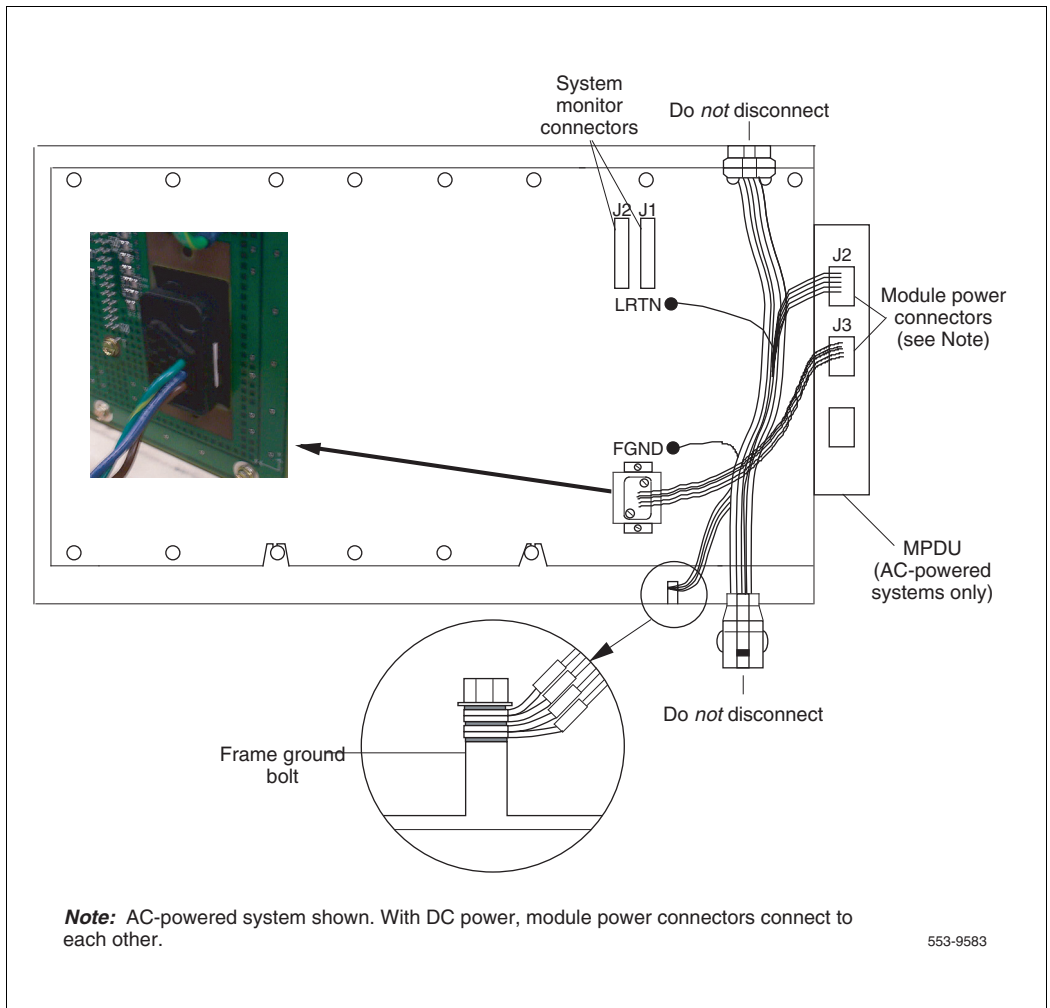
Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP PII card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful not to drop the nut or lock washer into the pedestal. See Figure 96 on [page 492](#) for DC power connectors. See Figure 97 on [page 493](#) for AC power connectors.
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

**Figure 96**  
**DC power connectors on the Core module backplane**



**Figure 97**  
**AC power connectors on the Core module backplane**



- 17** Remove the power harness and reserve it for reinstallation as part of installing the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.



**WARNING**

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



**CAUTION**

**Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

## Upgrade Core 0 hardware

### Check that the main Core cards (front side) are installed

#### Procedure 151

#### Checking main Core card installation

The main Core cards including the MMDU (with the cables for power and data), are installed in the factory as shown in Figure 98 on [page 496](#).

- 1 NT4N65AB CP PII Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP PII Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP PII Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
  - a. Check side ID switch settings for SU card in Core/Net 0 according to Table 67 below.

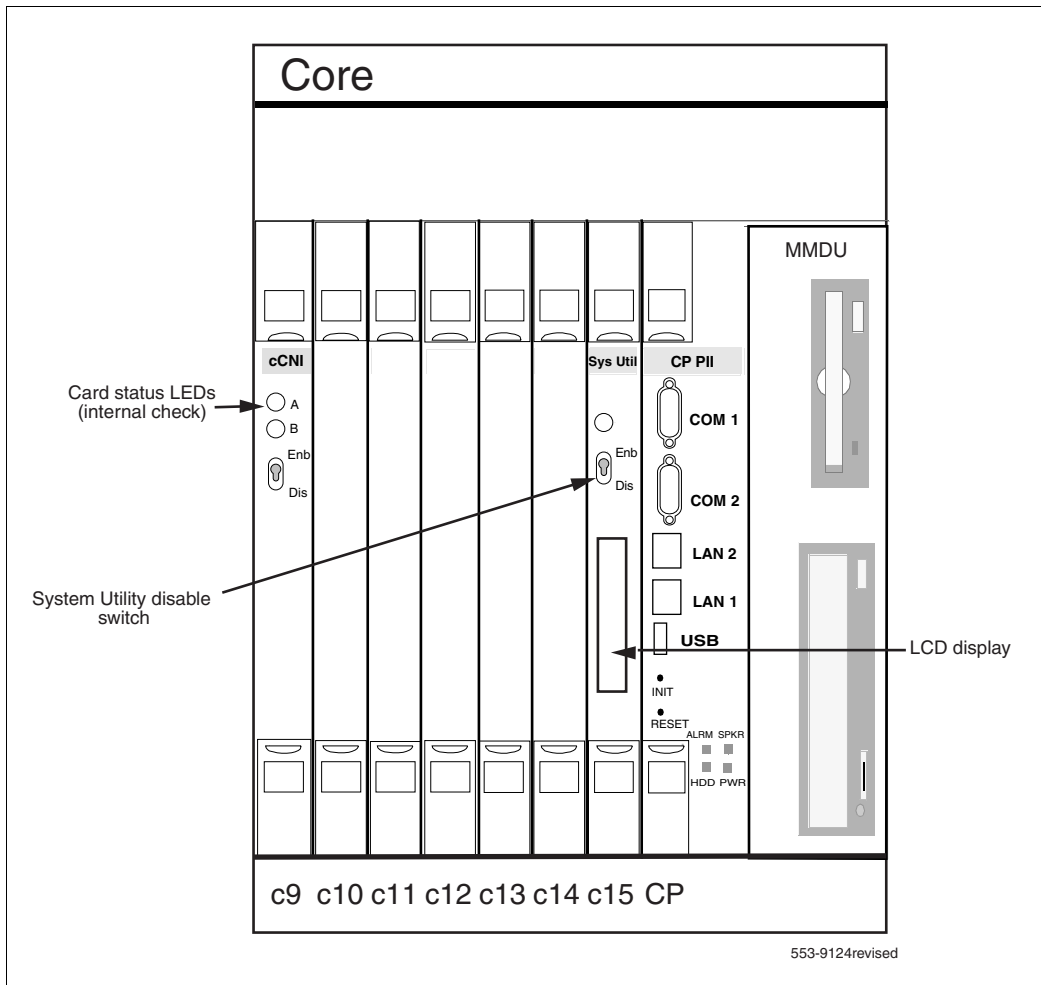
**Table 67**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 4 NT4N64AA CP PII is located in the Call Processor slot.

- 5    The NT4N43CA Multi-Media Disk Unit (MMDU) is located in the extreme right-hand slot next to the CP PII card. The MMDU contains the hard drive, floppy drive and CD-ROM drive.

**Figure 98**  
**Core card placement in the NT4N41 Core/Net Module (front)**



End of Procedure



## Check factory-installed cables

Table 68 below lists factory-installed cables. See Figure 99 on page 498.

**Table 68**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

## Install the Security Device

### **Procedure 152** **Installing the Security Device**

The Security Device fits into the System Utility card (see Figure 100 on [page 499](#)).

To install the Security Device:

- 1** If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.** Unlock the latches and remove the IODU/C card.
  - b.** Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

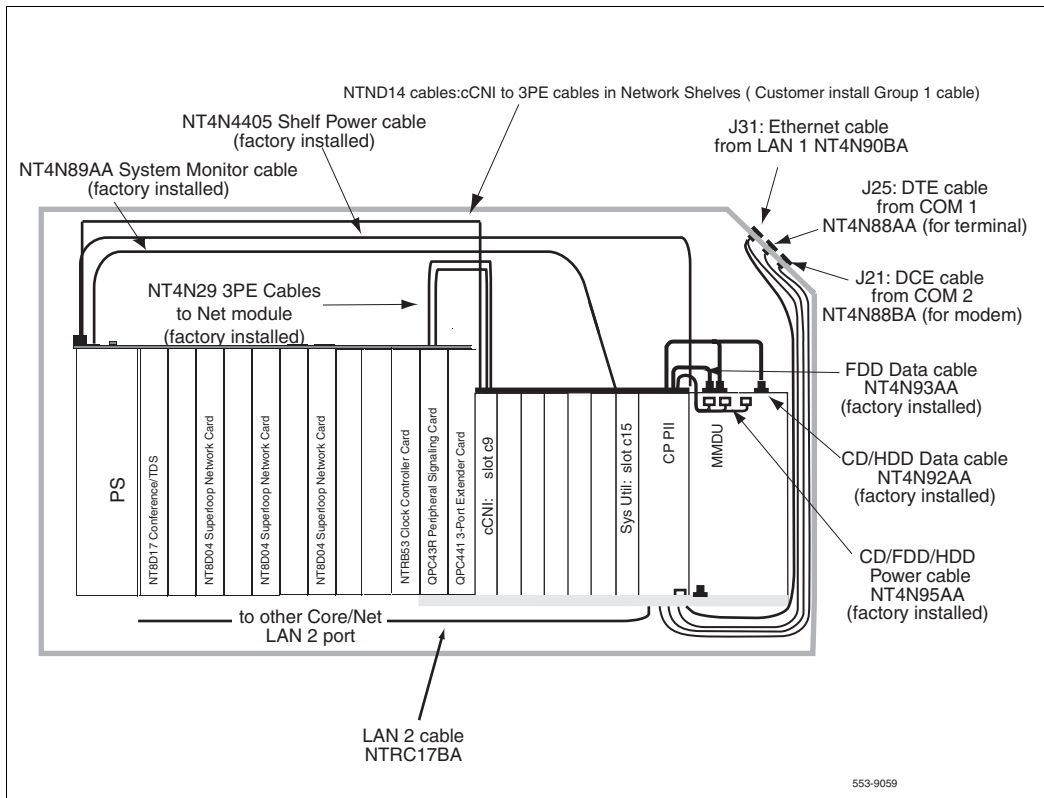
OR

If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

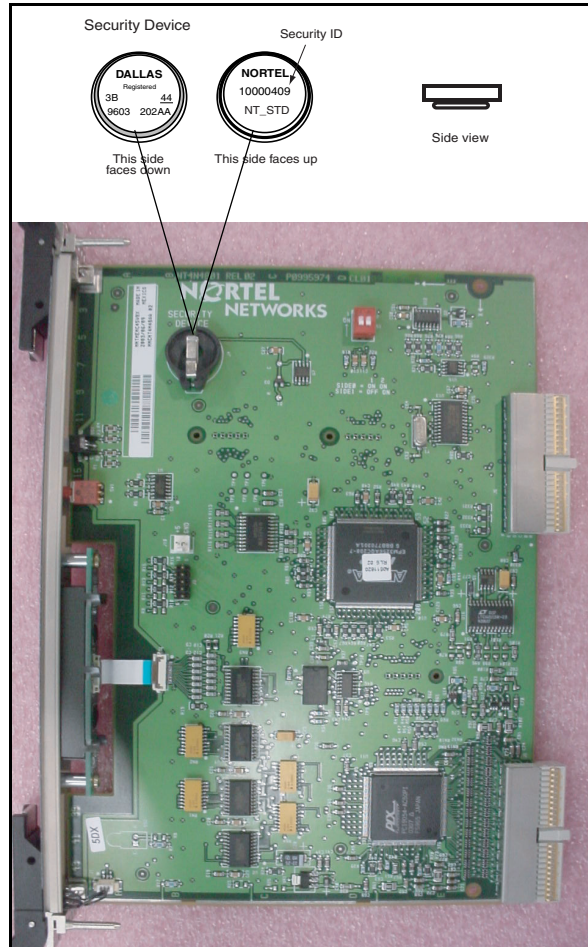
Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2** Check that the Security Device is securely in place.

**Figure 99**  
**Core/Net cable connections**



**Figure 100**  
**Security Device**



## Install the CP PII card cage in Core 0

### Procedure 153

#### Installing the CP PII card cage in Core 0

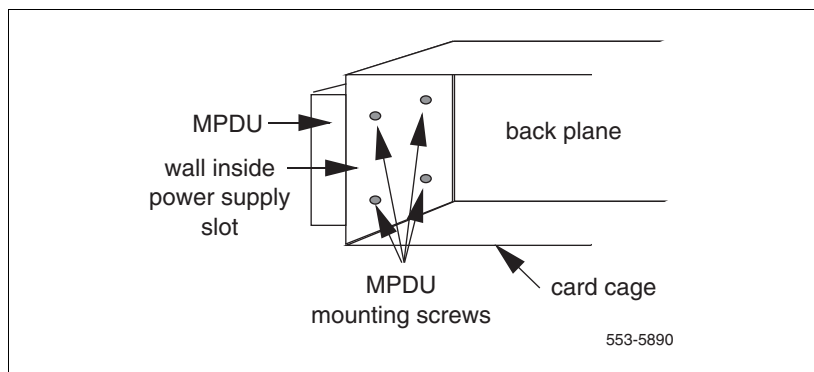
- 1 Check that the card cage is configured as Core 0. See Table 67 on [page 495](#) for instructions.
- 2 For AC-powered systems only, install the new MPDU (part of the CP PII Upgrade kit) to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 101 on page 500.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.

**Figure 101**

**Location of the screws for the MPDU**



- a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).



Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
  - c. Attach the system monitor ribbon cables:
    - i. Connect the ribbon cable that goes down to the pedestal to connector J1 on the backplane.
    - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
  - d. Attach the green ground wire to the frame ground bolt on the module. (an 11/32" socket wrench is used to attach the wire.) Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.
- Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" or 2/8" socket wrench.)

- 8    Secure the card cage and EMI shield to the module re-using the existing screws.
- 9    Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a.   Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b.   Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10   Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11   Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 154**

#### **Installing the power supply**

- 1    Unpack the power supply.
- 2    Faceplate disable the power supply.
- 3    Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

**Procedure 155****Relocating Network cards to CP PII Core/Net 0**

- 1** Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 0 **except for the IGS/DIGS cards.**
- 2** When you move the 3PE card, check the switch settings and jumpers. See Table 69 on [page 504](#).
  - a.** All 3PE cards must be vintage F or later.
  - b.** Check that the RN27 Jumper is set to "A".
  - c.** The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 69 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.
- 3** Reinstall each removed card in the same network slot in the CP PII Core/Net 0.

- 4     Connect the tagged cables to the relocated cards.

**Table 69**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to “A”.									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

## Cable Core 0

### Cable COM 1 and COM 2 to the I/O panel

- 1     Connect COM1 on the CP PII faceplate to J25 on the I/O panel with cable NT4N88AA.
- 2     Connect COM2 on the CP PII faceplate to J21 on the back of the I/O panel with cable NT4N88BA.



**Connect a terminal and modem to the I/O panel**

- 1 Connect J25 to a terminal for use during the upgrade. Use a separate terminal for each Core if available. J25 can also be connected to an A/B box to share a terminal between both Cores.
- 2 Connect J21 to the device connected in the original system (such as a modem or A/B box).

**Connect LAN 1**

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM. The options for the LAN 1 connections are shown in Figure 102 on [page 506](#).

**Procedure 156****If the system will be connected to a LAN**

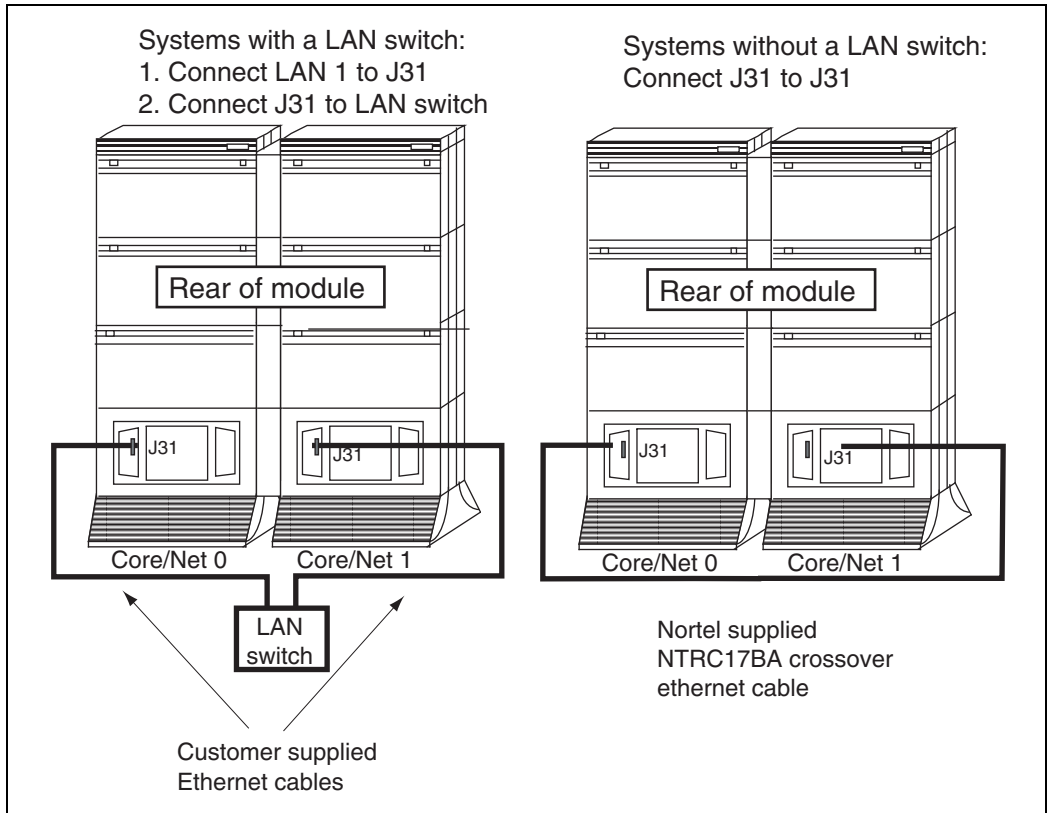
- 1 Connect the “Dual Ethernet Adapter (RJ-45) for I/O Panel” (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2 Connect LAN 1 (Ethernet) on the CP PII faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3 Connect J31 to a LAN switch.
- 4 If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by NTRC17BA cable.

---

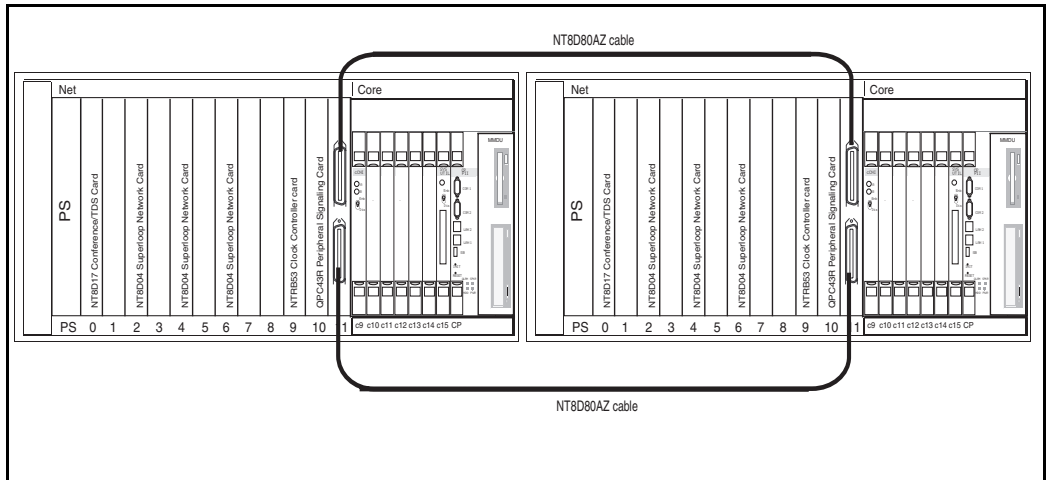
**End of Procedure**

---

**Figure 102**  
**Options for LAN 1 connection**



**Figure 103**  
**3PE card connections**



## In Core 0, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 0. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

## Installing intermodule cables

### Procedure 157

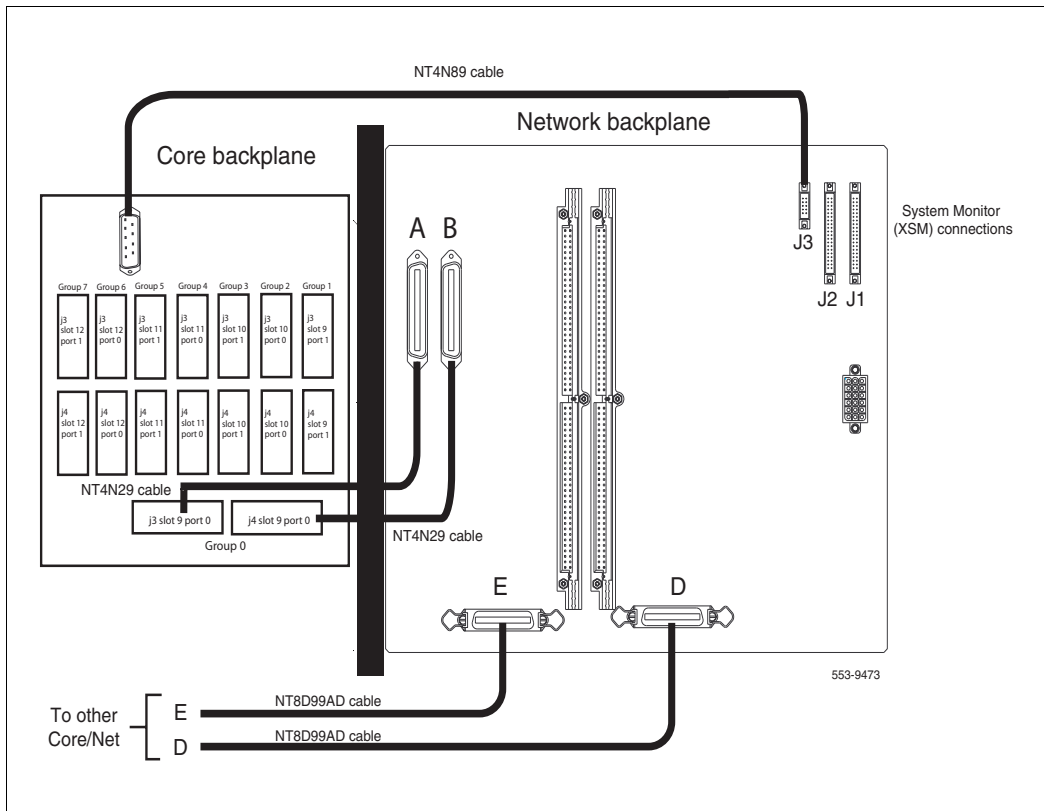
#### Installing intermodule cables

- 1 Connect the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 104 on [page 508](#)).

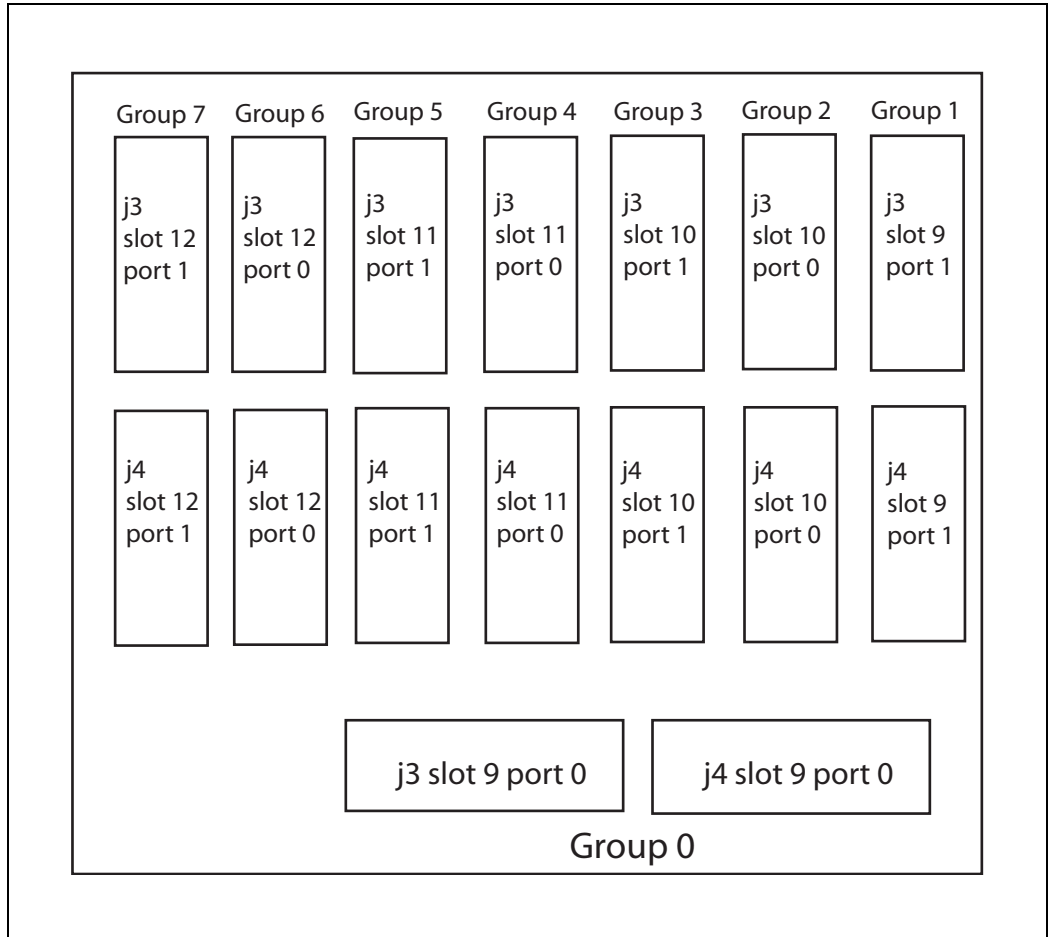
- 3    Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 103 on [page 507](#)).
- 4    If the system has XSDI cards, reinstall the cards and attach the cables.

**End of Procedure**

**Figure 104**  
**Fanout Panel connections on the CP PII Core/Net backplane**



**Figure 105**  
**Fanout panel connectors**



### In Core 0, route and connect the cCNI to 3PE (NTND14) cables

The existing NTND14 cables can be reused for Network groups 1-7. Connect the NTND14 cables to the Fanout Panel in Core/Net 0. See Figure 105 on [page 509](#) and Table 70 on [page 511](#).



#### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- Check existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PII, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 105 on [page 509](#).

**WARNING****Damage to Equipment**

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

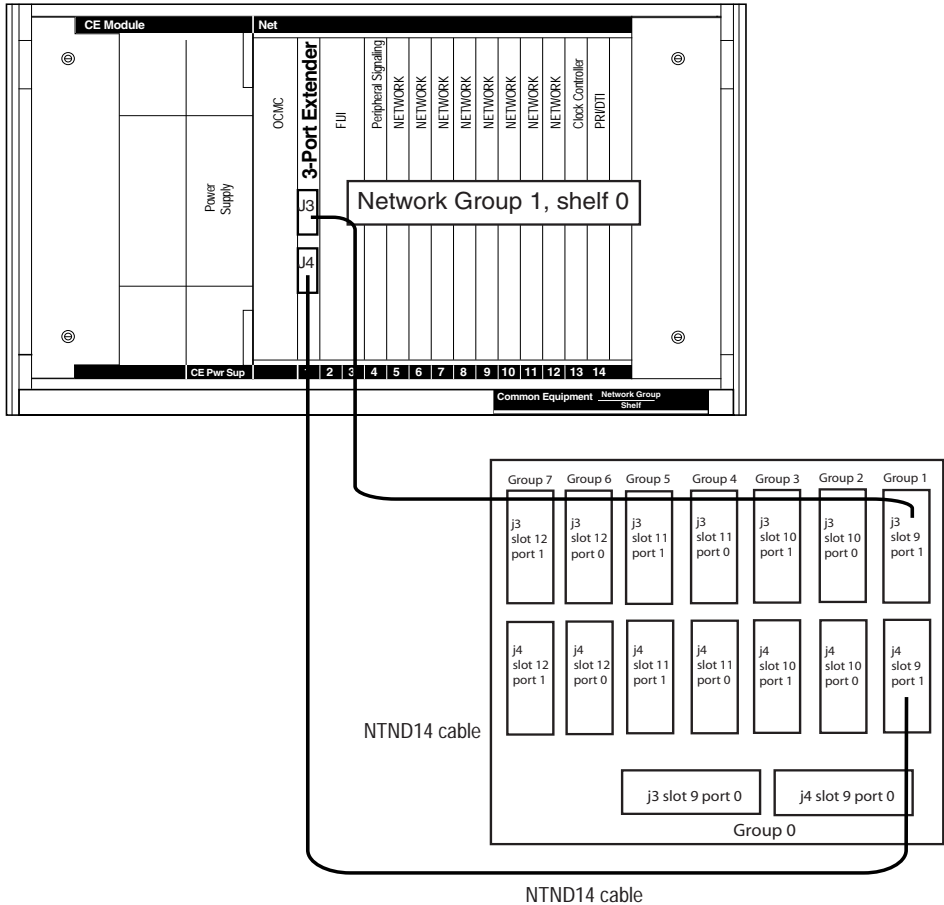
**Table 70**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1 (see Figure 105 on [page 509](#)).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 106 on [page 512](#))

### 3PE Fanout Panel connections



553-9492



## Add Side 0 FIJI hardware

### Procedure 158

#### Install Side 0 FIJI cards

- 1 Tag and disconnect the IGS/DIGS cables.
- 2 Remove the IGS/DIGS cards from Side 0.
- 3 Unpack and install FIJI cards (NTRB33).
- 4 Faceplate disable the NTRB33 cards.
- 5 Insert and the FIJI cards in Side 0.
- 6 Do not seat the FIJI cards at this point.

---

**End of Procedure**

---

### Procedure 159

#### Connect the FIJI to FIJI cables

- 1 Connect P2 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 0, except group 0.
- 2 Connect P1 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 1, except group 0.

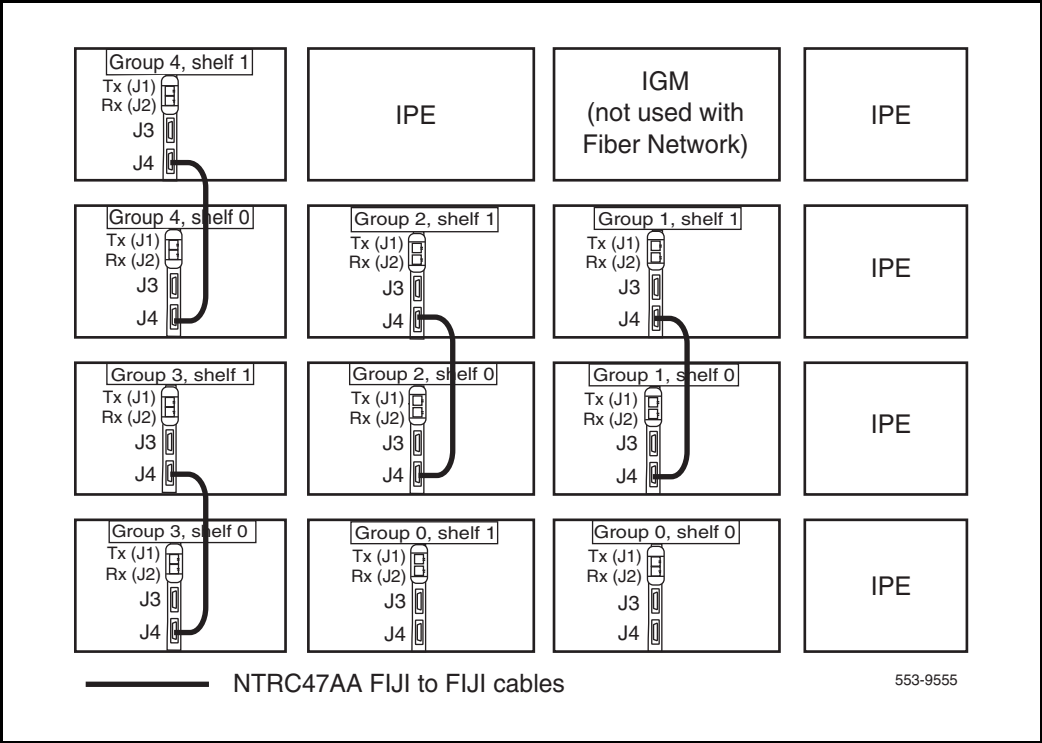
**Note:** The FIJI cards in Group 0 do not receive a FIJI to FIJI cable.

---

**End of Procedure**

---

**Figure 3**  
**FIJI shelf 0 to FIJI shelf 1 connections**



**Procedure 160****Connecting the shelf 0 FIJI Ring cables (ascending)**

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 107 on [page 516](#) and Table 71 on [page 517](#)).

**IMPORTANT!**

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

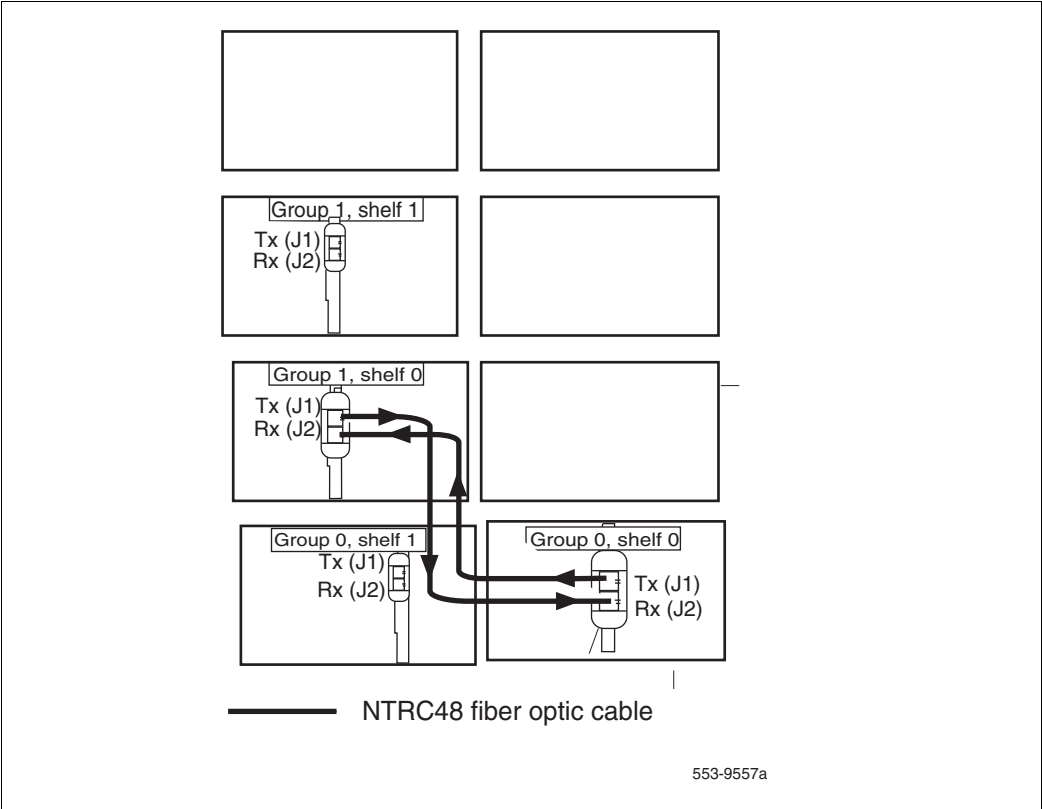
**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled "Tx" or Rx" in the factory.

- 1 Start with group 0, shelf 0.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 0** to the Rx (J2) port of the FIJI card in **Group 1, shelf 0**.
- 3 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 1, shelf 0** to the Rx (J2) port of the FIJI card in **Group 2, shelf 0**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 0 of each Network group. Connect these cables in **ascending** order of Network groups.

**Figure 107**  
**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



- 5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0**.

**Table 71**  
**FIJI Ring 0 connections**

<b>Groups X - 0 are cabled in ascending order</b>		
<b>Group/Shelf</b>	<b>FIJI Connector</b>	<b>Tx/Rx</b>
0/0	P1	Tx
1/0	P2	Rx
1/0	P1	Tx
2/0	P2	Rx
2/0	P1	Tx
3/0	P2	Rx
3/0	P1	Tx
4/0	P2	Rx
4/0	P1	Tx
5/0	P2	Rx
5/0	P1	Tx
6/0	P2	Rx
6/0	P1	Tx
7/0	P2	Rx
7/0	P1	Tx
0/0	P2	Rx

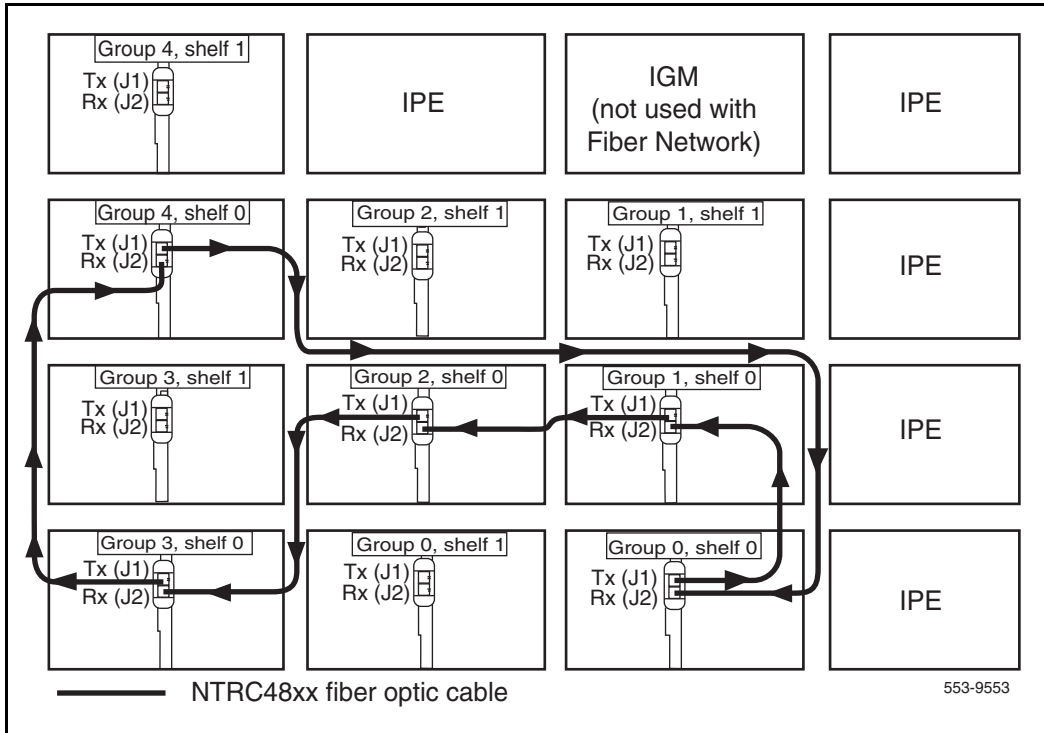
---

**End of Procedure**

---

**Figure 108**

**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)**



### Procedure 161

#### Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 109 on [page 520](#):

- 1 Connect the Clock 0 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.
- 2 Connect a Clock 1 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0**.

————— **End of Procedure** —————

## Power up Core 0

### Procedure 162

#### Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 0.

- 3 Check the terminal settings as follows:

- a. 9600 Baud
- b. 8 data
- c. parity none
- d. 1 stop bit
- e. full duplex
- f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

- 4 Seat and Faceplate enable Clock Controller 0 and ALL FIJI on Shelf 0.
- 5 Faceplate enable all core and network cards.

---

**End of Procedure**

---

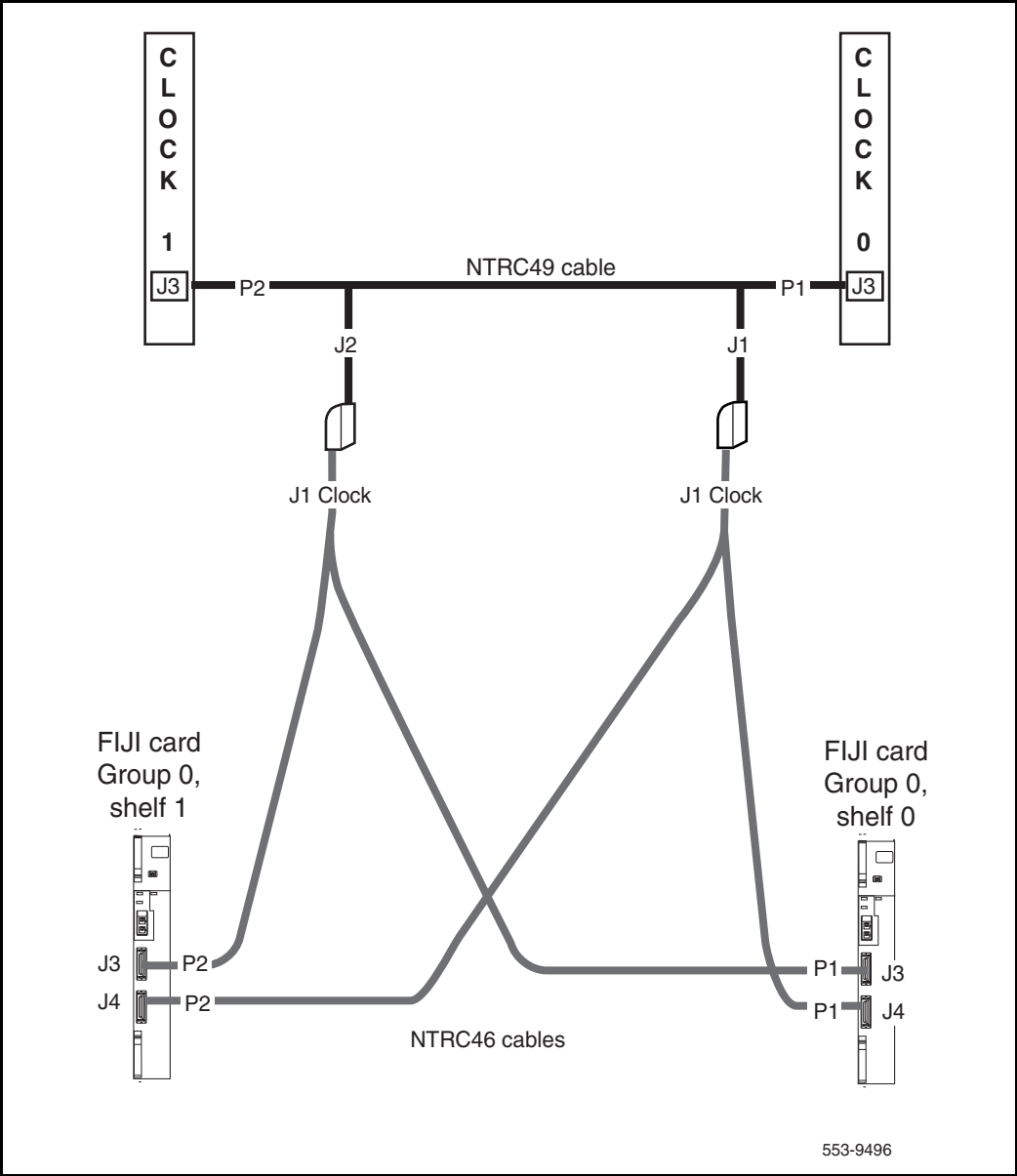
## Power up Core cards

### Procedure 163

#### Powering up core cards

- 1 Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.
- 2 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).

Figure 109  
Clock Controller cable configuration





- 3 For DC-powered systems: faceplate enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 4 10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.
- 5 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

---

### End of Procedure

---

#### **Procedure 164** **Testing Core/Net 1**

- 1 Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>ENL RING 0</b>	Enable Ring 0
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b. Restore the Rings to Normal State:

<b>RSET</b>	Reset both Rings
<b>RSTR</b>	Restore both Rings to HALF state
<b>ARCV ON</b>	Turn Auto Recovery on

c. Check that the Rings operate correctly:

**STAT RING 0**     Check status of Ring 0 (HALF/HALF)

**STAT RING 1**     Check status of Ring 1 (HALF/HALF)

\*\*\*\*                Exit program

2 Stat network cards:

**LD 32**             Load program

**STAT x**            Stat the network card, where x = loop number

\*\*\*\*                Exit program

3 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

**LD 60**             Load program

**SSCK x**            To get the status of the clock controllers  
(x is "0" or "1" for Clock 0 or Clock 1)

**SWCK**             Switch Clock (if necessary)

\*\*\*\*                Exit program

b. Verify that the clock controllers are switching correctly:

**SWCK**             Switch Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK**             Switch Clock again

\*\*\*\*                Exit program

---

**End of Procedure**

---

## Install software and customer database on Core 0

### Procedure 165

#### Installing the software and customer database

- 1 Check that a terminal is connected to J25 on Core/Net 0.
- 2 In Core/Net 0, install the CD-ROM into the CD-ROM drive in the MMDU:
  - a. Press the button on the CD-ROM drive to open the CD-ROM disk holder.
  - b. Place the CD-ROM disk into the holder with the disk label showing.
  - c. Press the button again to close the CD-ROM disk holder.  
Do not push the holder in by hand.

**Note:** If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 3 Place the CP PII Install floppy disk into the Core/Net 0 MMDU floppy drive.

**Note:** 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 the manual RESET button on the CP PII card faceplate in Core/Net 0.

Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0

    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 1

    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 2

    0 percent done...1 percent done.....99
    percent done....100 percent completed!
```

```
Disk physical checking is completed!

Validate hard drive partition number and size...

There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte

Disk partitions and sectors checking is
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries
Ltd. All rights reserved

ver: X.X FCS

Disk Check In Progress...

    total disk space (bytes) : XX
    bytes in each allocation unit: XX
    total allocation units on disk: XX
    bad allocation units: XX
    available bytes on disk: XX
    available clusters on disk: XX
    maximum available contiguous chain (bytes):
    XX
    available space fragmentation (%): XX
    clusters allocated: XX

Done Checking Disk.

        checks for PART_X OK!

        pmDosFsCheck is completed!
```

**5** Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:  
    Day-Month-Year, Hour:Min:Sec  
    Succession Enterprise Software/Database/  
BOOTROM CDROM INSTALL Tool  
    Does this System have a Signaling  
Server.....? (Default - No)  
    Please enter:  
<CR> -> <n> - No  
    <y> - Yes  
    Enter Choice>
```

- 6    The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```

                                M A I N       M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will
    be prompted throughout the installation and
    given the opportunity to quit at any time.

    Please enter:

    <CR> -> <u> - To Install menu

           <t> - To Tools menu.

           <q> - Quit.

    Enter Choice> <CR>

>Validating Keycode

    The provided keycode authorizes the install of
    XXXXXXXX software

    (all subissues) for machine type XXXX

    (XXX processor on XXXX System)
```

**IMPORTANT!**

Remove install floppy disk at this time and insert the keycode diskette.

- 7 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

Please confirm that this keycode matches the  
CDROM Release

Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to  
Install Menu.

<n> - No, the keycode does not match. Try  
another keycode diskette.

Enter Choice> **<CR>**

>Obtain database file names

**8**    Enter **b** to install the Software, Database and CP-BOOTROM.

```

I N S T A L L       M E N U

      The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

      Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

      <b> - To install Software, Database, CP-
BOOTROM.

      <c> - To install Database only.

      <d> - To install CP-BOOTROM only.

      <t> - To go to the Tools menu.

      <k> - To install Keycode only.

      For Feature Expansion, use OVL143.

      <p> - To install 3900 set Languages.

      <q> - Quit.

Enter Choice> b
```



**9** Verify the CD-ROM version.

Please insert the installation CDROM into the drive on Core X.

The labeled side of the CDROM should be side up in the CDROM tray.

Please enter:

<CR> -> <a> - CDROM is now in drive. Continue with s/w checking.

<q> - Quit.

Enter Choice> **<CR>**

The installation CDROM contains version XXXXXXXX\_X.

Please enter:

<CR> -> <y> - Yes, this is the correct version. Continue.

<n> - No, this is not the correct version. Try another CDROM or keycode disk

Enter Choice> **<CR>**

>copying direct.rec from /cd0/0300\_KMR.N33/  
target/p/s11/direct.rec to /u/direct.rec

>Updating /u/direct.rec

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists installation

<n> - No, Continue without Dependency Lists installation

Enter choice> n

**Note:** To choose yes and install the Dependency Lists, proceed to step 10, otherwise proceed to step 11.

**10** Choosing Yes for the Dependency Lists installation.

```
Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice>

The default choice is YES as shown in the prompt.

If the choice is no, then the following prompt
will appear for the confirmation:

Are you sure?

Please enter:

<CR> -> <n> - No, Go to the Dependency List menu

        <y> - Yes, Go to the next menu

Enter choice>

The default choice is NO which will return the
user to deplist menu.

The Installation Status Summary for the choices
entered is displayed as shown below:

-----
                INSTALLATION STATUS SUMMARY
                -----

Option           Choice  Status      Comment
SW: CD to disk   yes           install for rel 400
Dependency Lists yes
Database         no
CP-BOOTROM       yes
```

Please enter:

<CR> -> <y> - Yes, start installation.

<n> - No, stop installation. Return to the Main Menu.

The installation continues with the removal of the patch, reten and deplist directories and copying the files from the CD to the hard disk.

>Erasing old file "/u/patch/p12749\_1.cpp"

>Erasing old file "/u/patch/reten/reten.pch"

>Erasing old file "/u/patch/deplist/m16000\_3.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/p12749\_1.cpp" to "/u/patch/p12749\_1.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/deplist/m16000\_3.cpp" to "/u/patch/deplist/m16000\_3.cpp"

**Note:** The removal of patch, reten and deplist directories will happen only when it is a software upgrade or a new system installation regardless of the DepList installation menu selection.

The installation status summary after the installation will be as follows:

-----			
INSTALLATION STATUS SUMMARY			
-----			
Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel 400
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

**Note:** Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

-----			
INSTALLATION STATUS SUMMARY			
-----			
Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from 300 to 400
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from x210300 to x2103400
Database	no		
CP-BOOTROM	yes	ok	from x210300 to x210400
IOP-ROM	yes	ok	from 02.00 to 02.00

**Installation of DepList on an SSC system through software installation**

**The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.**

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

```
      INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: slires
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.
```

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

```
      Do you wish to install Dependency Lists? (y/n/[a]bort) : n
```

```
      Are you sure? (y/n/[a]bort) : y
```

11 Confirm all options before installing the software.

```
>Processing the Install Control file
  >Installing release XXXXX

      INSTALLATION STATUS SUMMARY
-----

=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| SW: CD to disk | yes | | install for rel XXXXX|
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| Database | yes | | |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| CP-BOOTROM | yes | | |

      Please enter:<CR> -> <y> - Yes, start
Installation.

      <n> - No, stop Installation. Return to the
Main Menu.

Enter Choice> <CR>

>Checking System Configuration

You selected to upgrade the system from release:
XXXX to release: XXXXX.

This will erase all old system files.
```

```
Database files will NOT be erased. You may
continue installing the software or quit now and
leave your system unchanged.
```

```
Please enter:
```

```
<CR> -> <a> - Continue with Upgrade.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

```
>Starting Software Install
```

```
          >Upgrading from release XXXX to release
XXXXXX
```

- 12** After a number of files are copied over, 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> Spare Group A
- <6> Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

- 13** Continue with upgrade when prompted. Select a database to install.  
Confirm database transfer.

```
You selected to transfer the database from the
floppy disk - release: XXXX to the hard disk on
Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the
floppy disk drive.

      If you quit now, the database will be left
unchanged.

      Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> <CR>
```



The system then informs you of the database details and prompts you to confirm.

```
You have chosen to restore database dated:
Month Day Hour:Min:Sec:Year

Please confirm.

Please enter:

<CR> -> <y> - Yes, load.

        <n> - No, DO NOT load.

Enter Choice> <CR>
```

- 14** The system restores the database and provides a status summary.

**Note:** The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 15** Enter <CR> when prompted, returning the system to the Install Menu.

**16** Enter **q** to quit.

```

                                I N S T A L L   M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will be
    prompted throughout the installation and given the
    opportunity to quit at any time.

    Please enter:

    <CR> -> <a> - To install Software, CP-BOOTROM.
           <b> - To install Software, Database, CP-
    BOOTROM.
           <c> - To install Database only.
           <d> - To install CP-BOOTROM only.
           <t> - To go to the Tools menu.
           <k> - To install Keycode only.

           For Feature Expansion, use OVL143.

           <p> - To install 3900 set Languages.
           <q> - Quit.

    Enter Choice> q
```

**17** The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

You may reboot the system or return to the Main
Menu.

Remove all disks from the system before rebooting.

-----

DO NOT REBOOT USING BUTTON!!!

-----

Please enter:

<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>
>Removing (temporary files)

>Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 0 to INI.

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 0

Load LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 557](#).

If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

### LD 22

<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

- 1 Perform a data dump to save the customer database to the hard drive and floppy disk. Insert a blank floppy into the Core/Net 0 MMDU.

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

**LD 43**            Load program

- b. When “EDD000” appears on the terminal, enter:

**EDD**            Begin data dump



**CAUTION**

**Loss of Data**

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

- 2 When "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" appear on the terminal, enter:

\*\*\*\* Exit program

---

**End of Procedure**

---

## Make the system redundant

### Procedure 166

#### Enabling system redundancy:

- 1    Connect NTRC17BA from LAN 2 of Core/Net 1 to Lan 2 of Core/Net 0.
- 2    Initialize (INI) Core/Net 0.



Once the INI is complete on the *inactive* Core (Core/Net 0), the system will operate in full redundant mode with Core/Net 1 active.

#### **Note:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

---

**End of Procedure**

---

---

## Complete the CP PII upgrade

### Procedure 167

#### Testing Core/Net 1

From Core/Net 1, perform these tests:

- 1 Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

- 2 Check the LCD states:

- a. Perform a visual check of the LCDs.

- b. Test LCDs:

<b>LD 135</b>	Load program
<b>TEST LCDs</b>	Test LCDs
<b>DSPL ALL</b>	

- 3 Test the System Utility cards and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get status of the System Utility (main and Transition) cards
<b>TEST SUTL</b>	Test System Utility (main and Transition) cards
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

- 4 Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy

**DATA RDUN**

**TEST CMDU**     Test the MMDU card

- 5     Install the two system monitors. Test that the system monitors are working:

**LD 37**             Load program

**ENL TTY x**        Enable the XMS, where x= system XMS

**STAT XSM**        Check the system monitors

**\*\*\*\***             Exit program

- 6     Clear the display and minor alarms on both Cores:

**LD 135**            Load program

**CDSP**             Clear displays on the cores

**CMAJ**             Clear major alarms

**CMIN ALL**        Clear minor alarms

- 7     Test the clocks:

- a.    Verify that the clock controller is assigned to the *active* Core:

**LD 60**             Load program

**SSCK x**            Get status of the clock controllers (x is “0” or “1” for Clock 0 or Clock 1)

**SWCK**             Switch the Clock (if necessary)

**\*\*\*\***             Exit program

- b.    Verify that the Clock Controllers are switching correctly:

**SWCK**             Switch Clock



**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK**            Switch Clock again

**8**    Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

**a.**    Check that the Fiber Rings operate correctly:

**LD 39**            Load program

**STAT RING 0**    Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**    Check the status of Ring 1 (HALF/HALF)

**b.**    If necessary, restore the Rings to Normal State:

**RSTR**            Restore both Rings to HALF state

**c.**    Check that the Rings operate correctly:

**STAT RING 0**    Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**    Check the status of Ring 1 (HALF/HALF)

**9**    Check the status of the FIJI alarms:

**STAT ALRM**      Query the alarm condition for all FIJI cards in  
all Network Groups

**\*\*\*\***            Exit program

**10**   Check applications (CallPilot, Symposium, Meridian Mail, etc.).

**11**   Check dial tone.

---

**End of Procedure**

---

## Switch call processing

### Procedure 168 Switching call processing

<b>LD 135</b>	Load program
<b>SCPU</b>	Switch call processing from Core/Net 1 to Core/Net 0

Core/Net 1 will INI and Core/Net 0 will become the active call processor.

### Procedure 169 Testing Core/Net 0

From Core/Net 0, perform these tests:

**1**    Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test the CPU

**2**    Check the LCD states:

**a.**    Perform a visual check of the LCDs.

**b.**    Test LCDs:

<b>LD 135</b>	Load program
<b>TEST LCDs</b>	Test LCDs
<b>DSPL ALL</b>	Display all

**3**    Test the System Utility cards and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility (main and Transition) cards

**TEST SUTL**     Test the System Utility (main and Transition) cards

**STAT CNI c s**     Get status of cCNI cards (core, slot)

**TEST CNI c s**     Test cCNI (core, slot)

**4**     Test system redundancy:

**LD 137**             Load program

**TEST RDUN**     Test redundancy

**DATA RDUN**

**TEST CMDU**     Test the MMDU card

**5**     Test that the system monitors are working:

**LD 37**             Load program

**STAT XSM**     Check the system monitors

**\*\*\*\***             Exit the program

**6**     Clear the display and minor alarms on both Cores:

**LD 135**

**CDSP**             Clear displays on the cores

**CMAJ**             Clear major alarms

**CMIN ALL**     Clear minor alarms

7    Test the clocks:

- a.    Verify that the clock controller is assigned to the *active* Core:

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get the status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

- b.    Verify that the Clock Controllers are switching correctly:

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again

8    Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a.    Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b.    If necessary, restore the Rings to Normal State:

<b>RSTR</b>	Restore both Rings to HALF state
-------------	----------------------------------

- c.    Check that the Rings operate correctly:

<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

**9** Check the status of the FIJI alarms:

**STAT ALRM**      Query the alarm condition for all FIJI cards in  
all Network Groups

\*\*\*\*              Exit program

**10** Check applications (such as CallPilot and Symposium).

**11** Check dial tone.

## Meridian 1 Option 81C/FNF upgrade to Option 81C CP PII/FNF

### Prepare for upgrade

This document implements a “source- to-target” approach to performing an upgrade. It is important to correctly identify the source platform, target platform, and maintenance window required to perform the upgrade.

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 72:

**Table 72**  
**Prepare for upgrade steps (Part 1 of 2)**

Procedure Step	Page
Plan upgrade	<a href="#">551</a>
Upgrade Checklists	<a href="#">552</a>
Prepare	<a href="#">552</a>
Identifying the proper procedure	<a href="#">552</a>
Connect a terminal	<a href="#">553</a>
Check the Core ID switches	<a href="#">554</a>
Print site data	<a href="#">557</a>
Perform a template audit	<a href="#">559</a>
Back up the database (data dump and ABKO)	<a href="#">561</a>

**Table 72**  
**Prepare for upgrade steps (Part 2 of 2)**

Procedure Step	Page
Identify two unique IP addresses	<a href="#">565</a>
Check requirements for cCNI to 3PE cables (NTND14)	<a href="#">565</a>

## Plan upgrade

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan for backing out of the upgrade.



### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## Upgrade Checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 957](#). Engineers may print this section for reference during the upgrade.

### Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Determine the current patch or Dep lists installed at the source platform.
- Determine the required patch or Dep lists at the target platform.
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.
- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

### Identifying the proper procedure

Each procedure has been written in a source-to- target format. Each procedure features warning boxes and check boxes placed at critical points. Changing



the procedure or ignoring the warning boxes could cause longer service interruptions.

**IMPORTANT!**

Database backup information should be preserved for a minimum of 5 days.

## Connect a terminal

### Procedure 170

#### Connecting a terminal

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

---


**End of Procedure**

---

## Check the Core ID switches

**Procedure 171**  
**Checking the Core ID switches**

Each CP PII NT4N40 Core/Net card cage or module is identified as “Core 0” or “Core 1”. This setting is made by a set of option switches on the System Utility card. The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



**CAUTION — Service Interruption**

The CP PII Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

- 1 Pull the System Utility card (NT4N48) far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 73.
- 3 Reinstall the System Utility card.
  - a. Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.
  - b. Push in the top and bottom latches on the card to lock it in place.

---

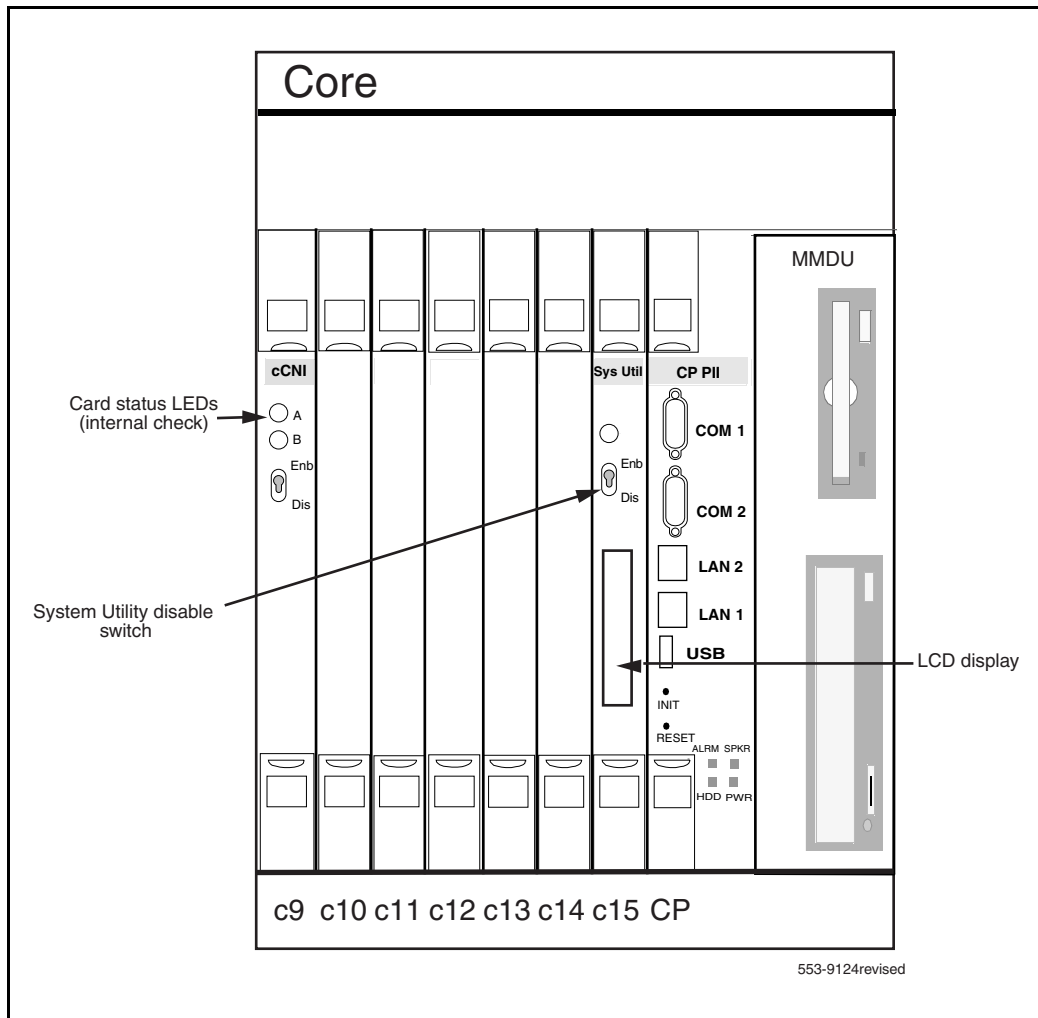
**End of Procedure**

---

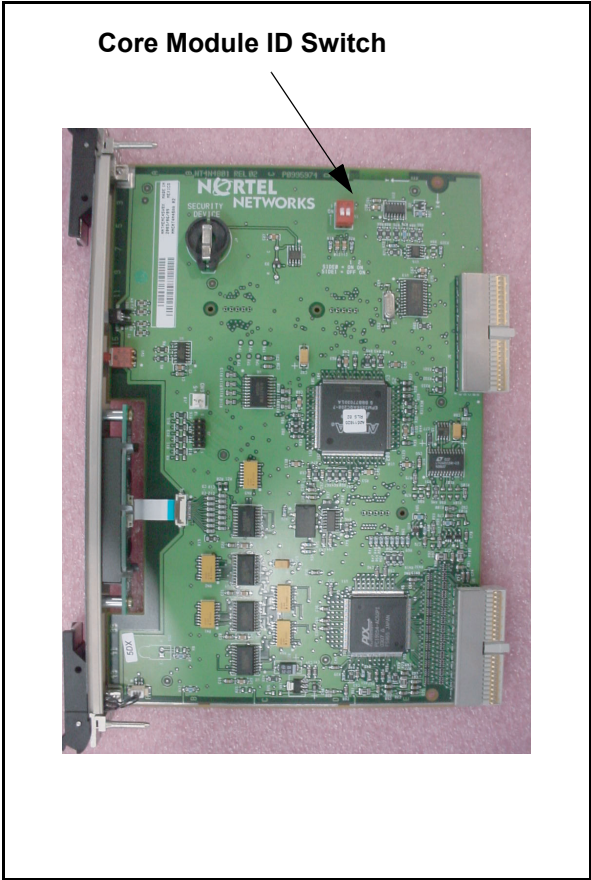
**Table 73**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

**Figure 110**  
**Core card placement in the NT4N40 Core/Net card cage (front)**



**Figure 111**  
**Core Module ID switch**



## Print site data

Print site data to preserve a record of the system configuration (Table 74). Verify that all information is correct. Make corrections as necessary.

**Note:** Items marked with an asterisk (\*) are required. Other items are recommended for a total system status.

**Table 74**  
**Print site data (Part 1 of 3)**

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	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>

**Table 74**  
**Print site data (Part 2 of 3)**

Site data	Print command	
*Configuration Record	LD 22	
	REQ	PRT
	TYPE	CFN
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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>

**Table 74**  
**Print site data (Part 3 of 3)**

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ TYPE SUPL	CHG SUPL Vxxx V stands for a virtual superloop and xxx is the number of the virtual superloop.  xxx = 0-252 in multiples of four for MG 1000E  xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<b>Note:</b> Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

## Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

*Note:* The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.



**CAUTION**

**Loss of Data**

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**

<b>TEMPLATE 0001 USER COUNT</b>	<b>CHECKSUM</b>
<b>LOW</b>	<b>OK</b>

<b>TEMPLATE 0002 USER COUNT</b>	<b>CHECKSUM</b>
<b>HIGH</b>	<b>OK</b>

**TEMPLATE 0003 NO USERS FOUND**

**STARTING SL1 TEMPLATE SCAN**

<b>TEMPLATE 0001 USER COUNT OK</b>	<b>CHECKSUM</b>
	<b>OK</b>

- 
- 

<b>TEMPLATE 0120 USER COUNT OK</b>	<b>CHECKSUM</b>
	<b>OK</b>

**TEMPLATE AUDIT COMPLETE**



## Back up the database (data dump and ABKO)

To back up system data, complete the following two procedures.

- 1 Perform a data dump to save all system memory to the hard disk.
- 2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

### Procedure 172

#### Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**                      Load program

- 3 When "EDD000" appears on the terminal, enter:

**EDD**                      Begin data dump



#### CAUTION

##### Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4 The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

\*\*\*\*                      Exit program

---

**End of Procedure**

---

**Procedure 173**

**Performing an ABKO (save the database to floppies)**

- 1    Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

**Note:** If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2    Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

**LD 143**                    Load program

- 3    Run the ABKO backup (LD 143).

**ABKO**                    Run the backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4    If there are validation errors, repeat the procedure.



**CAUTION**

**Loss of Data**

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PII.

- 5    Once the backup is complete, type:

\*\*\*\*                    Exit program

---

**End of Procedure**

---

**Procedure 174****Converting the 4 MB database media to 2 MB database media****IMPORTANT!**

Database conversion for Meridian 1 Options 21E, 51, 61, 71, STE, NT and XT must be completed by Nortel Software Conversion Lab. Consult the current Nortel price book for cost and contact information.

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility below.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel in the software conversion lab.

Before the system is upgraded to CP PII, you must convert the database to 2 MB media. Systems with an IODU/C drive already have 2 MB media and can skip this procedure.

If the database is on a 4 MB database media (the system has an IOP/CMDU), the 4 MB customer database must be transferred to 2 MB media.

- 1** Split the Cores and transfer call processing to Core 0.
- 2** Install the Database Transfer Utility diskette into the floppy drive on the IOP/CMDU in Core 1.

- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



**CAUTION — Service Interruption**

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive existing database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:

- |          |  |
|----------|--|
| <t>      | Go to the Tools menu.  |
| <s>      | Archive existing database.   |
| <cr> <a> | Continue with archive (insert blank 2MB diskette from the software kit into the floppy drive in Core 1). |
| <cr> <a> | Diskette is now in floppy drive in Core 1.   |

- 5 The message displays “Database backup complete!” and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MB diskette with the customer database from the floppy drive of the IOP/CMDU. Keep the diskette for use after you convert Core 1 to NT4N40 Core/Net 1. Do not reboot the system at this point.

---

**End of Procedure**

---

## Identify two unique IP addresses

Each CP PII system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your System Administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 476](#).

## Check requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

## Perform upgrade

The target upgrade to Meridian 1 Option 81C CP PII with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support
- NT5D97AB, AD (2.0MB) support
- both NTRC46 cables must be the same length



### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

**IMPORTANT!**

When configuring NTND14 cables, observe the following rules:

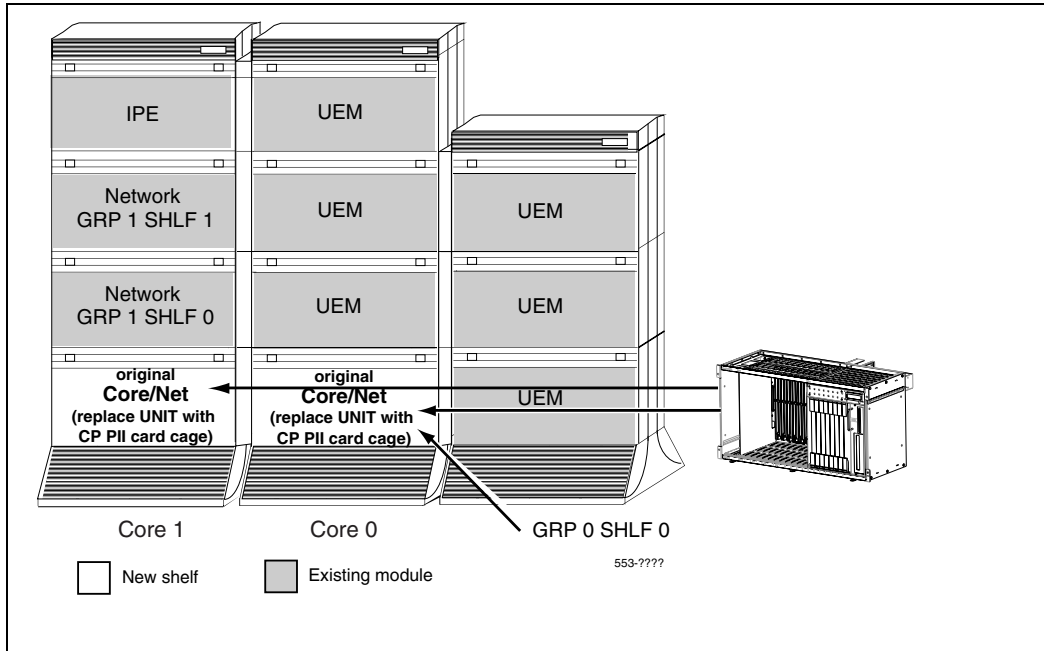
- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

**DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

**Figure 112**  
**Meridian 1 Option 81C to Meridian 1 Option 81C CP PII with FNF**



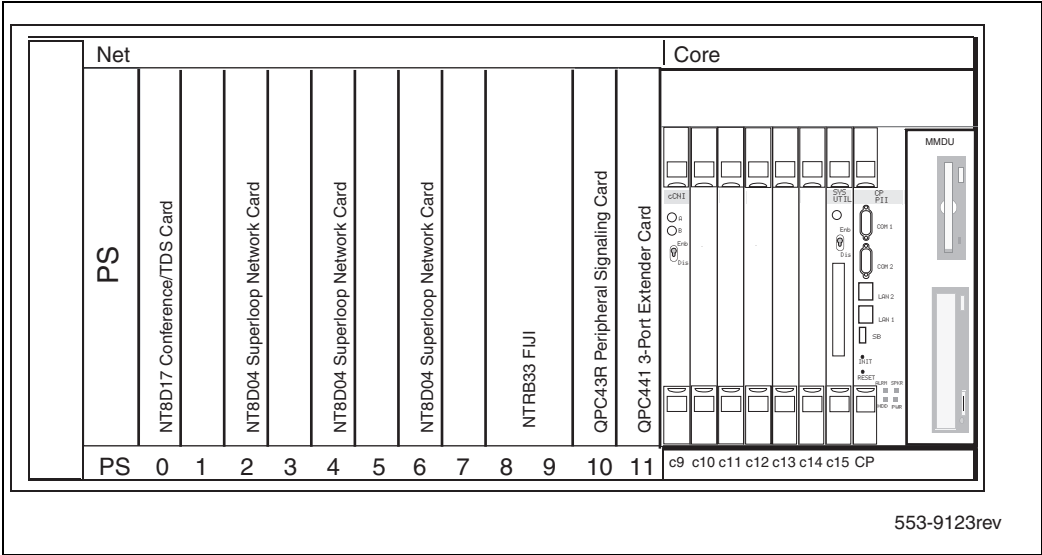
This upgrade takes a Meridian 1 Option 81C with FNF to a Meridian 1 Option 81C CP PII with FNF. Additional groups can be added by following the procedures “Adding a Network Group (NT4N46)” of Book 3 and “Adding a Network Group (NT4N40)” of Book 3.

To upgrade a Meridian 1 Option 81C with FNF system to a Meridian 1 Option 81C CP PII with Fiber Network Fabric:

- Two card cages in the existing Core/Net modules are replaced with two NT4N40 CP PII card cage.
- New CP PII cards are located in the Core/Net modules or card cage.
- Existing network cards are relocated to the CP PII card cages.



**Figure 113**  
**CP PII Core/Net Module**



### Review upgrade requirements

This section describes the **minimum** equipment required for CP PII with FNF. Additional equipment can also be installed during the upgrade. Verify that *all* equipment has been received.

### Check equipment received

Before the upgrade, check that the equipment on the order form is also on the packing slip. Check that all equipment has been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



### CAUTION

#### Service Interruption

DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

**Check required software**

The following software packages are required to upgrade a system to Meridian 1 Option 81C with CP PII:


- CORENET Core Network Module Package 299
- FIBN Fiber Network Package 365
- CS 1000 Release 4.5
- CPP\_CNI CP Pentium Backplane for Intel Machine Package 368
- Software Install Kit

**Check vintage requirements for existing hardware**

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP PII.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage A.  
*Note:* QPC720 PRI cards require NT8D79 cables. NT5D12 Dual PRI/DTI cards require NTCG03 cables.
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If any of the equipment listed does not meet the requirements, replace the equipment before you begin the upgrade.



**CAUTION**

**Service Interruption**

Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.

**Check required hardware**

Table 75 on [page 571](#) describes the *minimum* equipment required to upgrade a system to CP PII. Table 76 and Table 77 on [page 573](#) list the DC and AC

power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

**Table 75**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 1 of 2)**

<b>Order number</b>	<b>Description</b>	<b>Quantity per system</b>
NT4N64AA	CP PII Call Processor Card (256mb Memory)	2
NT4N43CA	CP PII Multi-Media Disk Unit	2
NT4N40AA	CP PII Core/Network Card Cage AC/DC	2
NT4N65AB	CP PII Core Network Interface Card (2 ports)	2
NT4N48	CP PII System Utility Card	2
NT4N88AA	CP PII to I/O Panel DTE Cable (48 in.)	2
NT4N88BA	CP PII to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP PII to I/O Panel Ethernet Cable (48 in.)	2
*NT8D01BC	Controller - Four Card	1
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft)	
*NT8D91AD	Network to Controller Cable (6 ft)	

**Table 75**
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 2 of 2)**

Order number	Description	Quantity per system
*NT8D99AB	CPU to Network Cable (2 ft)	2
*NT8D99AD	CPU to Network Cable (6 ft)	2
*NTRB33AA	Fiber Junctor Interface (FIJI) Card	
NTRC17BA	CP PII Ethernet to Ethernet Cable (8.5 ft)	2
*NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft - 8 ft))	
*NTRC47AA	FIJI - FIJI Sync Cable	
*NTRC48AA	FIJI Fiber Ring Cable (2M (6 ft))	
*NTRC49AA	Clock - Clock Sync Cable	
*NTRE39AA	Optical Cable Management Card (OCMC)	
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP PII Card Slot Filler Panel	10
<b>Note:</b> *Customer supplied from existing system.		

### Check required power equipment

Table 76 lists the equipment required for DC-powered systems. Table 77 on [page 573](#) lists the equipment required for AC-powered systems.

**Table 76**
**Dc power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2
NT4N97BA	CP PII Upgrade Kit DC (Misc. Card Cage Components)	2

**Table 77**  
**AC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NT4N97AA	CP PII Upgrade Kit AC (Misc. Card Cage Components)	2

## Check required tools

For a list of required tools, see Table 93 on [page 713](#).

## Check personnel requirements

Nortel recommends that a minimum of two people perform the card cage upgrade.

## Database requirements

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IOP/CMDU cards, the database must be converted with the Database Transfer utility. See “Database transfer” of Book 3.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

**Note:** All of the above listed system types can be converted by Nortel in the software conversion lab. Please check the current price manual for the requirements of this service.

## Service impact

This upgrade is for a source platform of 81C/FNF to a target platform of 81C CPP II with FNF.

The procedures are written with the intent of maintaining service to the system whenever possible. Those services located in Core/Net shelves are an exception. Critical services in the Core/Net shelves should be identified and moved prior to attempting this upgrade.

Nortel requires complete power removal from AC-powered columns before shelf change out occurs. This impact to service should be considered before and during the upgrade.



#### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## **Install Core/Net 1 hardware**

### **Procedure 175**

#### **Checking main Core card installation**

The main Core cards, including the MMDU (with the cables for power and data), are installed in the factory as shown in Figure 114 on [page 576](#):

- 1 NT4N65AB CP PII Core Network Interface (cCNI) cards: Each system contains 1-4 NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP PII Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP PII Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.

- a. Check side ID switch settings for SU card in Core/Net 1 according to Table 78.

**Table 78**  
**Core module ID switch settings (System Utility card)**

	<b>Position 1</b>	<b>Position 2</b>
Core/Net 0	On	On
Core/Net 1	Off	On

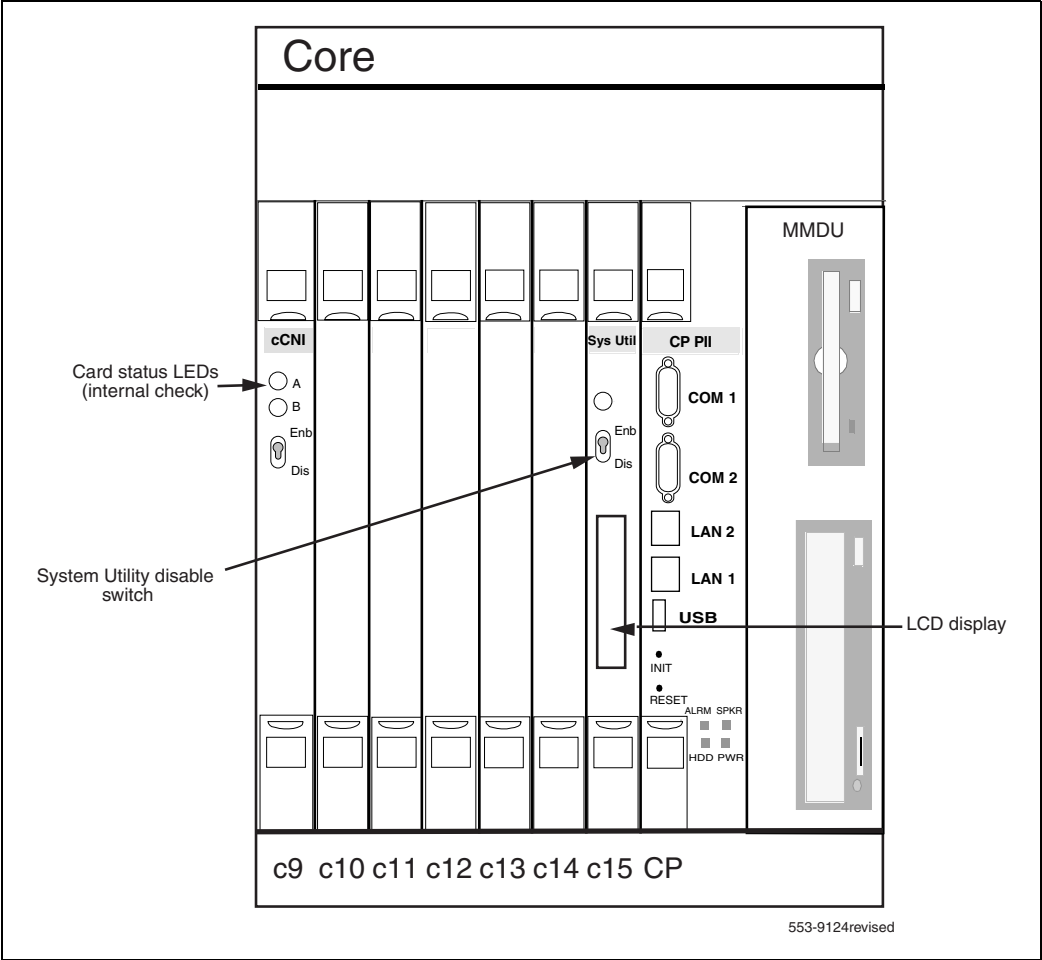
- 4 NT4N64AA CP PII is located in the Call Processor slot.
- 5 The NT4N43CA Multi-Media Disk Unit (MMDU) is located in the extreme right-hand slot next to the CP PII card. The MMDU contains the hard drive, floppy drive and CD-ROM drive.

---

**End of Procedure**

---

**Figure 114**  
**Core card placement in the NT4N41 Core/Net Module (front)**





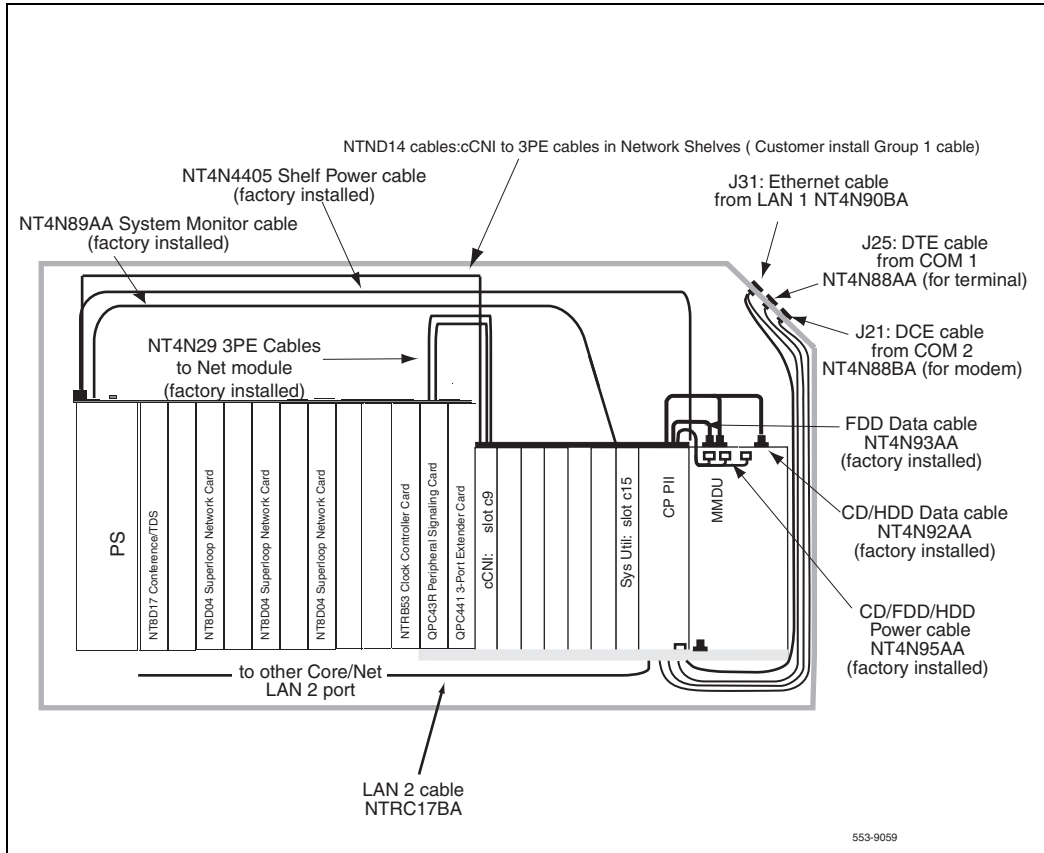
**Check factory-installed cables**

Table 79 lists factory-installed cables. See Figure 115 on [page 578](#).

**Table 79**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

**Figure 115**  
**Core/Net cable connections**



## Disable Core 1

### Procedure 176

#### Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing:

- 1 Verify that Core 0 is active.

**LD 135**            Load program

**STAT CPU**        Get status of the CPUs

- 2 If Core 1 is active, make Core 0 active:

**SCPU**            Switch to Core 0 (if necessary)

**\*\*\*\***            Exit program

---

**End of Procedure**

---

### Procedure 177

#### Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

**LD 60**            Load program

**SSCK 0**           Get the status of Clock Controller 0

**SSCK 1**           Get the status of Clock Controller 1

- 2 If Clock Controller 1 is active, switch to Clock Controller 0.

**SWCK**            Switch to Clock Controller 0 (if necessary)

**DIS CC 1**        Disable Clock Controller 1

**\*\*\*\***            Exit program

---

**End of Procedure**

---

**Procedure 178**

**Checking that Ring 0 is active**

- 1    Check the status of Ring 0.

**LD 39**            Load program

**STAT RING 0**    Get the status of Ring 0  
                              (Ring state should be HALF/HALF)

- 2    Disable Ring auto recovery.

**LD 39**            Load program

**ARCV OFF**        Set or reset auto-recovery operation for ring

- 3    Swap to Ring 0.

**LD 39**            Load program

**SWRG 0**          Switch call processing to ring 0

- 4    Disable Ring 1.

**LD 39**            Load program

**DIS RING 1**      Disable all FIJI cards on side 1

---

**End of Procedure**

---

**Procedure 179**

**Splitting the Cores**

- 1    In Core 0, set the NORM/MAINT switch on the Call Processor card to MAINT.
- 2    In Core 1, set the ENB/DIS switch on all NT6D65 CNI cards to DIS.

- 3 In Core 1, set the NORM/MAINT switch on the Call Processor card to MAINT.



The system is now in split mode, with call processing on Core 0 with Clock Controller 0 active and Ring 0 driving Full.

---

 **End of Procedure** 

---

## Software disable Network cards in Core/Net 1 from Core/Net 0



### CAUTION

#### Service Interruption

At this point, the upgrade interrupts service.

### Procedure 180

#### Software disabling cards of Core/Net 1 from Core/Net 0

- 1 In Core/Net 1 only, software disable all network and I/O cards such as XNET, TTY, Conf/TDS, and ISDN cards:

- a. In Core/Net 1 only, disable XNET.

**LD 32** Load program

**DISL sl** Disable the XNET, where sl = the superloop number of the XNET card

**\*\*\*\*** Exit program

- b. In Core/Net 1 only, disable ENET.

**LD 32** Load program

**DISL X** Disable the ENET, where X= the loop number of the ENET card

**\*\*\*\*** Exit program

c. In Core/Net 1 only, software disable each port on the SDI cards:

**LD 37**            Load program

**DIS TTY x**        Disable each port, where x = the number of the interface device attached to a port

\*\*\*\*              Exit program

d. In Core/Net 1 only, disable DTI cards.

**LD 60**            Load program

**DISL x**            Disable DTI card, where x = the loop number of the DTI port

\*\*\*\*              Exit program

e. In Core/Net 1 only, disable PRI cards.

**LD 60**            Load program

**DISL x**            Disable PRI card, where x = the loop number PRI port

\*\*\*\*              Exit program

f. In Core/Net 1 only, disable MSDL cards.

**LD 48**            Load program

**DIS MSDL x**      Disable MSDL card, where x = the MSDL card number (System will respond with group 0)

\*\*\*\*              Exit program

g. In Core/Net 1 only, disable XCT cards.

**LD 34**            Load program

**DISX x**            Disable XCT card, where x = the superloop number of the XCT card

\*\*\*\*              Exit program

- 2** In Core/Net 1 only, software disable the QPC43 Peripheral Signaling Card:

**LD 32** Load program

**DSPS x** Disable QPC43 card. Table 80 on [page 583](#) lists Peripheral Signaling Card numbers

**\*\*\*\*** Exit program

**Table 80**  
**Peripheral Signaling Card numbers**

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled		
0 / 0	0	0	–	15
0 / 1	1	16	–	31

- 3** In Core/Net 1 only, faceplate disable the FIJI, 3PE, Per Sig and all network cards.

---

**End of Procedure**

---



### **CAUTION**

#### **Service Interruption**

The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.

### Procedure 181

#### Removing the system monitors from Core 0 and Core 1

**Note:** This procedure applies to both AC and DC systems.

- 1 In Core 0, software disable the master system monitor (NT8D22):

**LD 37**                      Load program

**DIS TTY #**              Disable master system monitor TTY interface

- 2 Remove J3 and J4 cables on Core 0 system monitors.

**Note:** Do *not* turn off the blower units in the front of the pedestals.

- 3 Remove the system monitor from the rear of the pedestal on Core 0 and Core 1.

---

**End of Procedure**

---



#### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.



## Power down Core/Net 1



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

### Procedure 182

#### Removing Core 1 cables and card cage

- 1 Label and disconnect all cables from the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP PII card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7    Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP PII card cage.

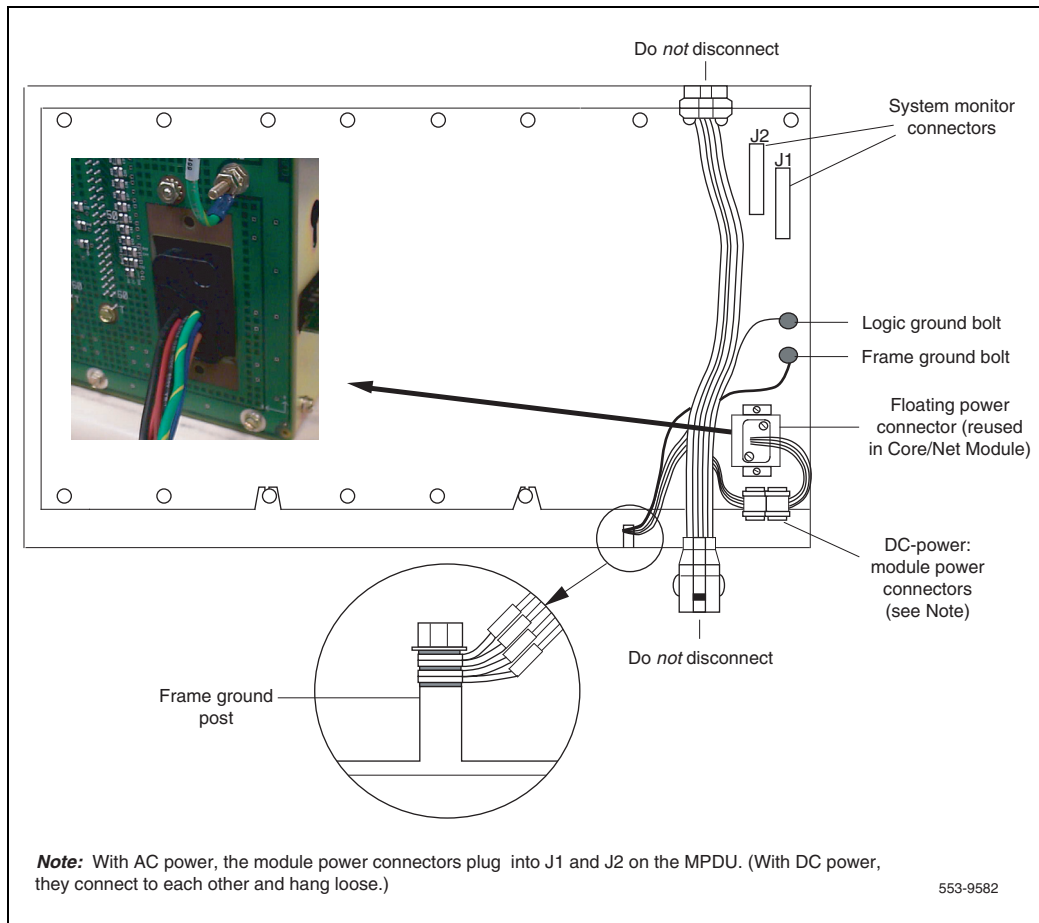


**CAUTION**

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

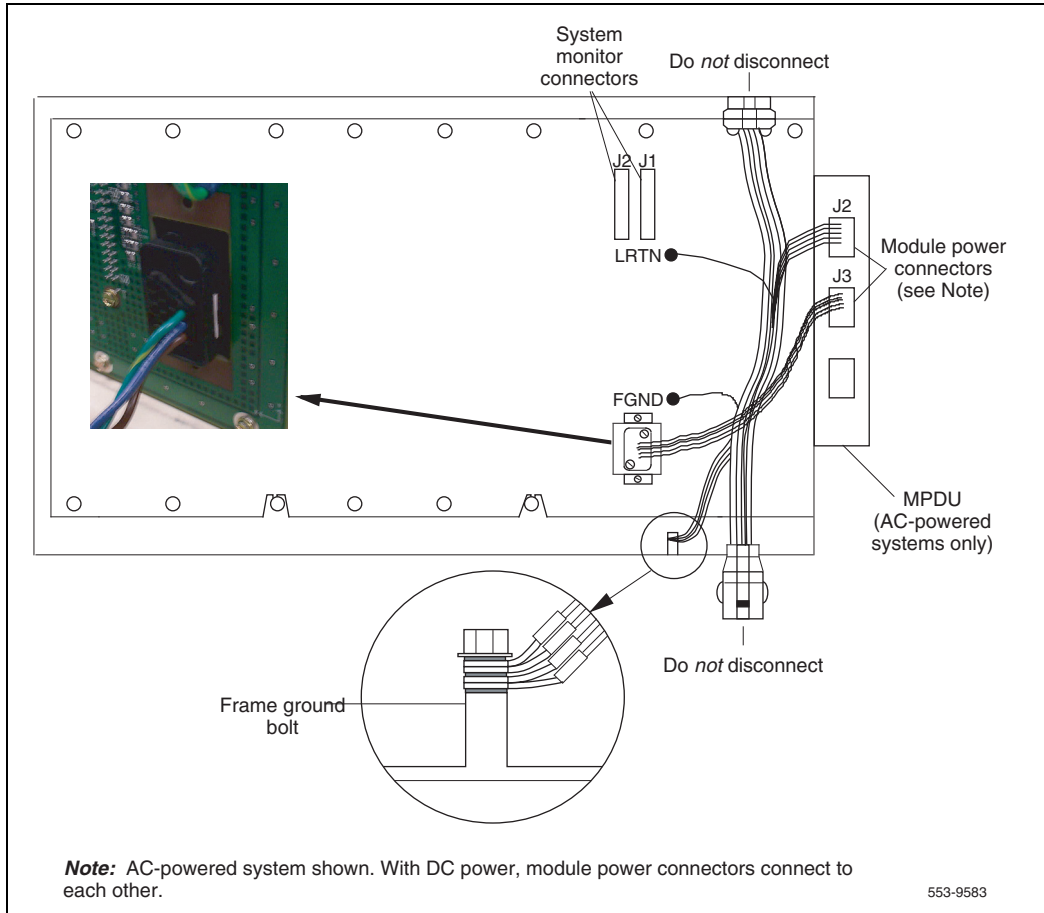
- 8    Remove the front trim panels on both sides of the card cage.
- 9    Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP PII card cage.
- 10   Pull the card cage forward until it is halfway out of the module.
- 11   Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12   Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. See Figure 115 below for DC power connectors. See Figure 117 on page 588 for AC power connectors.

**Figure 116**  
**DC power connectors on the Core module backplane**



- 13** Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14** Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15** Label and disconnect the system monitor ribbon cables to J1 and J2.

**Figure 117**  
**AC power connectors on the Core module backplane**



- 16** Remove the Core card cage from the module.
- 17** Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
  - For AC systems, relocate power harness NT8D80AM.
  - For DC systems, relocate power harness NT7D11.

- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.

**WARNING**

If you do not tape the EMI shield in position, you will not be able to install the card cage in the module correctly.

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

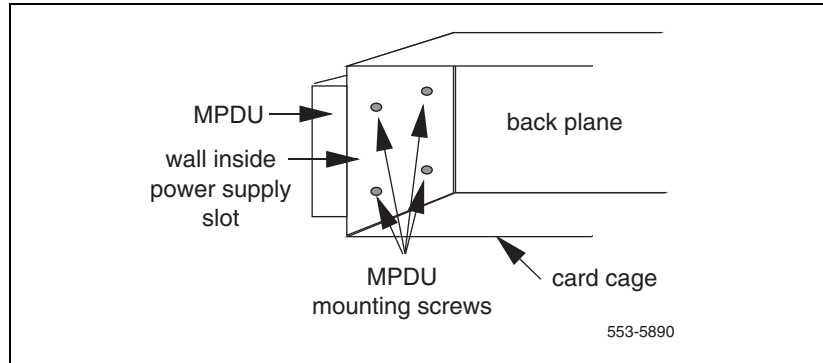
## Install the CP PII card cage in Core 1

**Procedure 183****Installing the CP PII card cage in Core 1**

- 1** Check that the card cage is configured as Core 1. See Table 78 on [page 575](#) for instructions.
- 2** For AC-powered systems only, attach the MPDU, part of the CP PII Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 118 on [page 590](#).

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

**Figure 118**  
**Location of the screws for the MPDU**



- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.
- 5 Hold the card cage firmly and make the following connections at the rear of the module.
  - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).



**CAUTION**

**Damage to Equipment**

Check for and remove any debris (such as screws) that may have fallen into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
    - c. Attach the system monitor ribbon cables:
      - i. Connect the ribbon cable that goes down to the column to connector J1 on the backplane.
      - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.

- d. Use a 11/32" socket wrench to attach the green ground wire to the frame ground bolt on the module. Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.

**Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.

- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" socket wrench.)

- 6 Slide the card cage all the way into the module.
- 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8 Secure the card cage and EMI shield to the module re-using the existing screws.
- 9 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a. Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b. Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10 Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11 Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 184 Installing the power supply**

- 1**    Unpack the power supply.
- 2**    Faceplate disable the power supply.
- 3**    Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### **Procedure 185 Relocating Network cards to CP PII Core/Net 1**

- 1**    Remove all remaining network cards from the Meridian 1 Option 81C Core 1 to the same network slots in the CP PII NT4N40 Core/Net 1 card cage.
- 2**    Connect the tagged cables to the relocated cards.
- 3**    When you move the 3PE card, check the switch settings and jumpers. See Table 81 on [page 593](#).
  - a.**    All 3PE cards must be vintage F or later.
  - b.**    Check that the RN27 Jumper is set to "A".
  - c.**    The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 81 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.

---

**End of Procedure**

---



**Table 81**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

## Install the Security Device

### Procedure 186

#### Installing the Security Device

The Security Device fits into the System Utility card (see Figure 119 on [page 595](#)). To install the Security Device, do the following.

- 1    If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.    Unlock the latches and remove the IODU/C card.
  - b.    Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

Or

If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

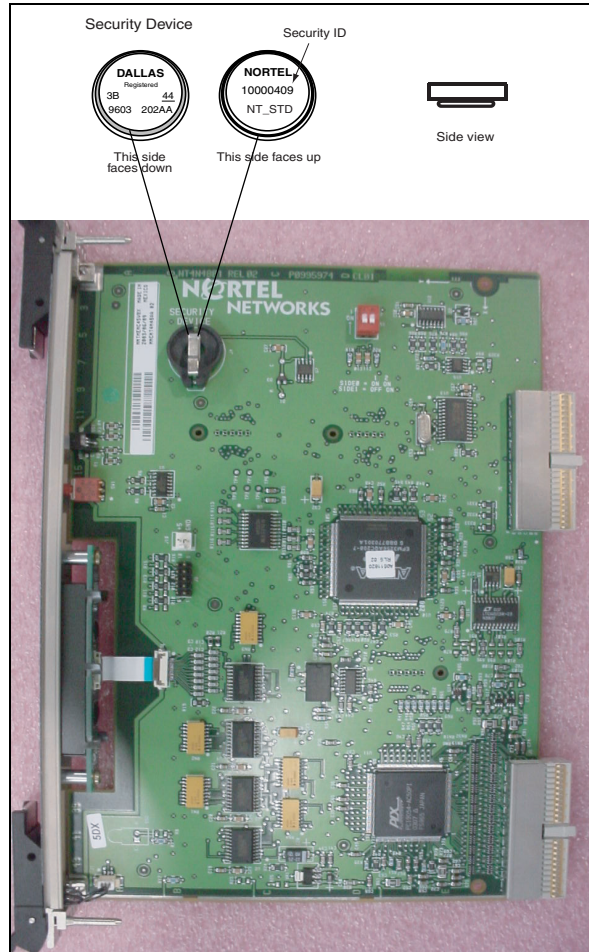
- 2    Check that the Security Device is securely in place.

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**End of Procedure**

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**Figure 119**  
**Security Device**

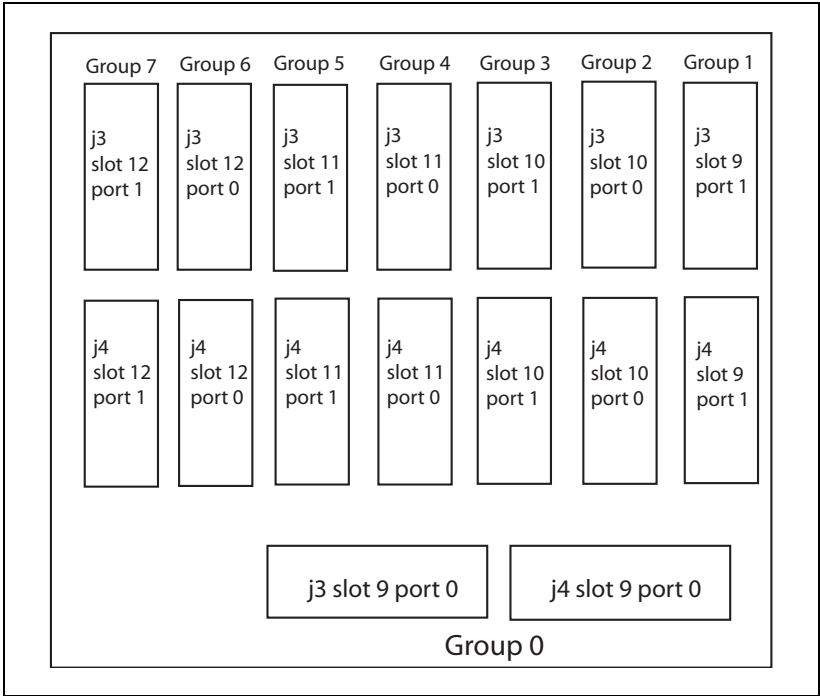


## Cable Core 1

### In Core 1, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 1. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

**Figure 120**  
**Connectors for CNI-3PE cables to the Fanout panel**



**In Core 1, route and connect the cCNI to 3PE (NTND14) cables**

The existing NTND14 cables can be reused for Network groups 1-7. Connect the NTND14 cables to the Fanout Panel in Core/Net 1. See Figure 121 on [page 599](#) and Table 82 on [page 598](#).

**CAUTION****Damage to Equipment**

When using the extraction tool, be careful not to damage the shrouds.

When upgrading to CP PII, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Table 82 below.



## WARNING

### Damage to Equipment

To unlock the connector, insert the extraction tool between the connector and the securing clip. Do not pry against the connector with the extraction tool. Prying may damage the connector or backplane pins.

**Table 82**  
**Fanout Panel to 3PE card connectors**

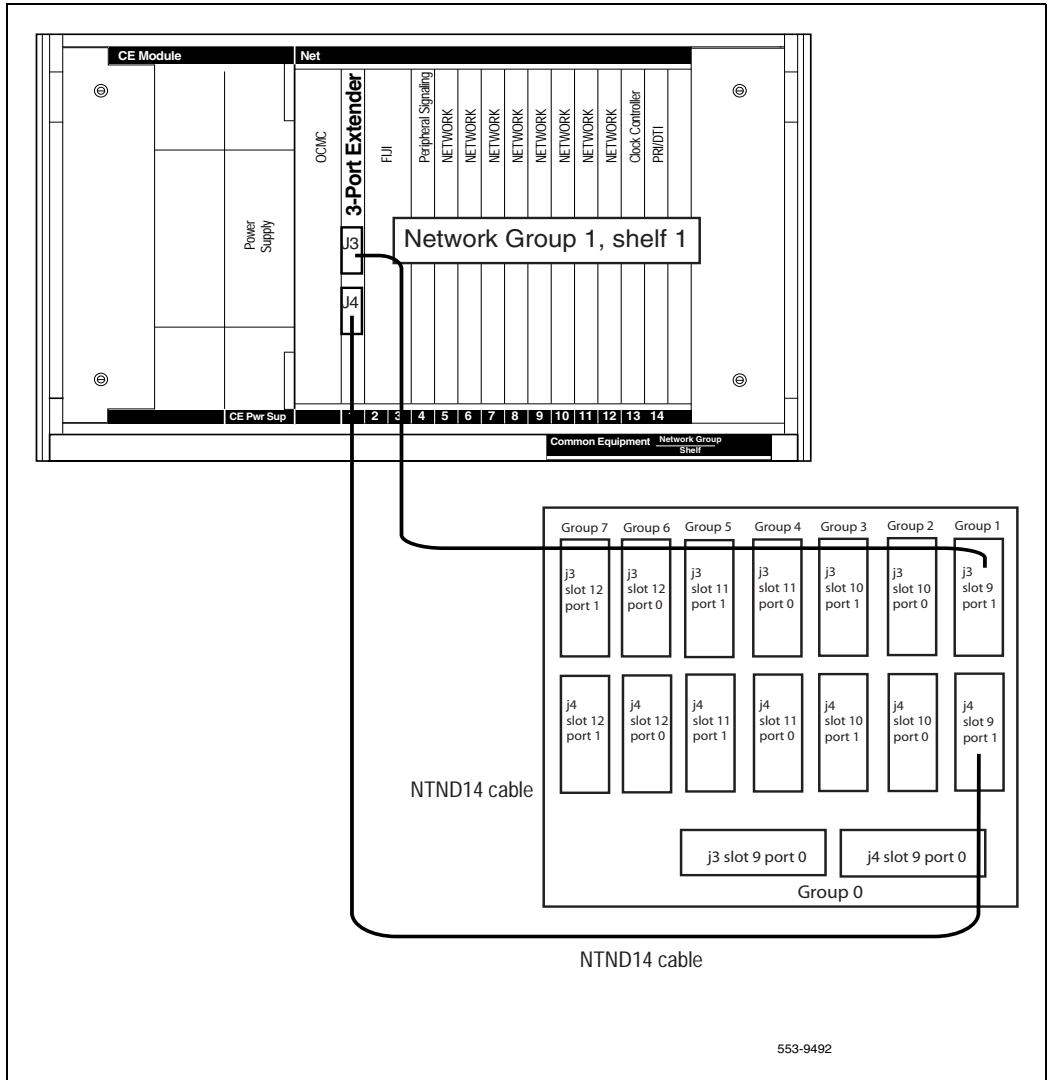
Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1. See Figure 120 on [page 596](#).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 121 on [page 599](#).

**End of Procedure**

**Figure 121**  
**3PE Fanout Panel connections**



## Power up Core 1

### Procedure 187

#### Preparing for power up

- 1 Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core.
- 3 Check the terminal settings as follows:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side to side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

- 4 Faceplate *enable* all core and network cards.

---

**End of Procedure**

---

## Power up Core cards

### Procedure 188

#### Powering up core cards

- 1 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2 For DC-powered systems (NT6D41CA): set the faceplate enable switch on the power supply to ON and then set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

---

**End of Procedure**

---



### Restore power

Restore power in the order below:

- 1 Restore power to Core/Net 1.
- 2 Wait for the system to load/initialize.



Network and I/O cards have working power but are software disabled.

---

End of Procedure

---

## Install software and customer database on Core 1

### Procedure 189

#### Installing the software and converting the database

- 1 Check that a terminal is connected to J25 on Core/Net 1.
- 2 In Core/Net 1, install the CD-ROM into the CD-ROM drive in the MMDU:
  - a. Press the button on the CD-ROM drive to open the CD-ROM disk holder.
  - b. Place the CD-ROM disk into the holder with the disk label showing.
  - c. Press the button again to close the CD-ROM disk holder.  
Do not push the holder in by hand.

**Note:** If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 3 Place the CP PII Install floppy disk into the MMDU floppy drive.

**Note:** 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 the manual RESET button on the CP PII card faceplate.

Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0

    0 percent done...1 percent done.....99
    percent done....100 percent done
```

```
Testing partition 1

    0 percent done...1 percent done.....99
    percent done....100 percent done
```

```
Testing partition 2

    0 percent done...1 percent done.....99
    percent done....100 percent completed!
```

```
Disk physical checking is completed!
```

---

```
Validate hard drive partition number and size...
```

```
There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
```

```
Disk partitions and sectors checking is
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries
Ltd. All rights reserved

ver: X.X FCS

Disk Check In Progress...

    total disk space (bytes) : XX
    bytes in each allocation unit: XX
    total allocation units on disk: XX
    bad allocation units: XX
    available bytes on disk: XX
    available clusters on disk: XX
    maximum available contiguous chain (bytes):
    XX
    available space fragmentation (%): XX
    clusters allocated: XX

Done Checking Disk.

    checks for PART_X OK!

    pmDosFsCheck is completed!
```

**5**    Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:
      Day-Month-Year, Hour:Min:Sec
      Succession Enterprise Software/Database/
BOOTROM CDROM INSTALL Tool
      Does this System have a Signaling
Server.....? (Default - No)
      Please enter:
<CR> -> <n> - No
      <y> - Yes
      Enter Choice>
```

- 6 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```

                M A I N      M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will
    be prompted throughout the installation and
    given the opportunity to quit at any time.

    Please enter:

    <CR> -> <u> - To Install menu

            <t> - To Tools menu.

            <q> - Quit.

    Enter Choice> <CR>

>Validating Keycode

    The provided keycode authorizes the install of
    XXXXXXXX software

    (all subissues) for machine type XXXX

    (XXX processor on XXXX System)
```

**IMPORTANT!**

Remove install floppy disk at this time and insert the keycode diskette.

- 7    The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

```
Please confirm that this keycode matches the
CDROM Release

      Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to
Install Menu.

      <n> - No, the keycode does not match. Try
another keycode diskette.

      Enter Choice> <CR>

      >Obtain database file names
```

**8 Enter **b** to install the Software, Database and CP-BOOTROM.**

## I N S T A L L M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **b**

9    Verify the CD-ROM version.

```
Please insert the installation CDROM into the
drive on Core X.

        The labeled side of the CDROM should be
side up in the CDROM tray.

        Please enter:

<CR> -> <a> - CDROM is now in drive. Continue with
s/w checking.

        <q> - Quit.

        Enter Choice> <CR>

The installation CDROM contains version XXXXXXXX_X.

        Please enter:

<CR> -> <y> - Yes, this is the correct version.
Continue.

        <n> - No, this is not the correct version.
Try another CDROM or keycode disk

        Enter Choice> <CR>

        >copying direct.rec from /cd0/0300_KMR.N33/
target/p/s11/direct.rec to /u/direct.rec

        >Updating /u/direct.rec

Do you want to install Dependency Lists?

        Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

        Enter choice> n

Note: To choose yes and install the Dependency Lists, proceed to
step 10, otherwise proceed to step 11.
```



**10 Choosing Yes for the Dependency Lists installation.**

```

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice>

The default choice is YES as shown in the prompt.

If the choice is no, then the following prompt
will appear for the confirmation:

Are you sure?

Please enter:

<CR> -> <n> - No, Go to the Dependency List menu

        <y> - Yes, Go to the next menu

Enter choice>

The default choice is NO which will return the
user to deplist menu.

The Installation Status Summary for the choices
entered is displayed as shown below:

-----
                INSTALLATION STATUS SUMMARY
                -----

Option           Choice  Status      Comment
SW: CD to disk   yes                install for rel 400
Dependency Lists yes
Database         no
CP-BOOTROM       yes

```

Please enter:

<CR> -> <y> - Yes, start installation.

<n> - No, stop installation. Return to the Main Menu.

The installation continues with the removal of the patch, reten and deplist directories and copying the files from the CD to the hard disk.

>Erasing old file "/u/patch/p12749\_1.cpp"

>Erasing old file "/u/patch/reten/reten.pch"

>Erasing old file "/u/patch/deplist/m16000\_3.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/p12749\_1.cpp" to "/u/patch/p12749\_1.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/deplist/m16000\_3.cpp" to "/u/patch/deplist/m16000\_3.cpp"

**Note:** The removal of patch, reten and deplist directories will happen only when it is a software upgrade or a new system installation regardless of the DepList installation menu selection.

The installation status summary after the installation will be as follows:

```

-----
INSTALLATION STATUS SUMMARY
-----

Option          Choice    Status    Comment
SW:CD to disk   yes      ok      install rel 400
Dependency Lists yes      ok      core Version 1
                                   Terminals Version 2
Database        no
CP-BOOTROM      yes      ok

```

**Note:** Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

```

-----
INSTALLATION STATUS SUMMARY
-----

Option          Choice    Status    Comment
SW: CD to disk   yes      ok      from 300 to
400
Dependency Lists yes      ok      None Available
SW: disk to ROM  yes      ok      from x210300 to
x2103400
Database        no
CP-BOOTROM      yes      ok      from x210300 to
x210400
IOP-ROM         yes      ok      from 02.00 to 02.00

```

**Installation of DepList on an SSC system through software installation**

**The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.**

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

INSTALLING NEW SOFTWARE AND FILES:

Erasing flash ROM

Installing new flash ROM software modules:

Programming: auxres

Programming: diskos

Programming: slires

Programming: ovlres

Programming: loadware

Programming: remupg

Calculating CRC-32 on flash ROM program store

Installing new directory record

Installing new files

Installing Dependency Lists

Building system loadware

Done.

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

Do you wish to install Dependency Lists? (y/n/[a]bort) : **n**

Are you sure? (y/n/[a]bort) : **y**

**11** Confirm all options before installing the software.

```

>Processing the Install Control file

>Installing release XXXXX

      INSTALLATION STATUS SUMMARY
-----

=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| SW: CD to disk | yes | | install for rel XXXXX|
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| Database | yes | | |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| CP-BOOTROM | yes | | |

      Please enter:<CR> -> <y> - Yes, start
Installation.

      <n> - No, stop Installation. Return to the
Main Menu.

Enter Choice> <CR>

>Checking System Configuration

You selected to upgrade the system from release:
XXXX to release: XXXXX.

This will erase all old system files.

```

```
Database files will NOT be erased. You may
continue installing the software or quit now and
leave your system unchanged.
```

```
Please enter:
```

```
<CR> -> <a> - Continue with Upgrade.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

```
>Starting Software Install
```

```
          >Upgrading from release XXXX to release
XXXXXX
```

- 12** After a number of files are copied over, 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>     Spare Group A

<6>     Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

- 13** Continue with upgrade when prompted. Select a database to install. Confirm database transfer.

```
You selected to transfer the database from the  
floppy disk - release: XXXX to the hard disk on  
Core X. release: XXXX.
```

```
This will erase the database on the hard disk.
```

```
The database diskette has been inserted into the  
floppy disk drive.
```

```
      If you quit now, the database will be left  
unchanged.
```

```
      Please enter:
```

```
<CR> -> <a> - Continue with Database Install.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

The system then informs you of the database details and prompts you to confirm.

```
You have chosen to restore database dated:
Month Day Hour:Min:Sec:Year

      Please confirm.

      Please enter:

<CR> -> <y> - Yes, load.

      <n> - No, DO NOT load.

Enter Choice> <CR>
```

- 14** The system restores the database and provides a status summary.

**Note:** The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 15** Enter <CR> when prompted, returning the system to the Install Menu.



**16** Enter **q** to quit.

## I N S T A L L M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **q**

**17** The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

You may reboot the system or return to the Main
Menu.

Remove all disks from the system before rebooting.

-----

DO NOT REBOOT USING BUTTON!!!

-----

Please enter:

<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>
>Removing (temporary files)

>Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 0 to INI.

---

**End of Procedure**

---

## Configuring IP addresses

### Procedure 190 Configuring the IP addresses

Two unique IP address are required for the CP PII system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following to check the status of the system's IP address:

**LD 117**                      Load program

**prt host**                    Print the configured host information

If the system returns with host names "active" and "inactive", go to "Check for Peripheral Software Download to Core 1" on [page 477](#). If the system returns no host names, complete the steps below.

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

**LD 117**                                      Load program

**NEW HOST NAME 1 IP ADDRESS**                      Define the first IP address:  
"name 1" is an alias for the IP address such as "primary" (The IP address is the IP number)

**CHG ELNK ACTIVE NAME 1**                      Assign the "name 1" address to the *active* Core

**NEW HOST 'NAME 2' 'IP ADDRESS'**                      Define the second IP address:  
"name 2" is an alias for the IP address such as "secondary" (The IP address is the IP number)

<b>CHG ELNK INACTIVE</b> <i>NAME 2</i>	Assign the “name 2” address to the <i>inactive</i> Core
<b>CHG MASK</b> <i>XXX.XXX.XXX.XXX</i>	Set sub-net per local site (This number allows external sub-nets to connect to the system)

- 4    Enable the new Ethernet interface.

<b>LD 137</b>	Load program
<b>DIS ELNK</b>	<i>Disable</i> the old IP interface values
<b>ENL ELNK</b>	<i>Enable</i> the new IP interface values

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 557](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

**Print Target peripheral software version**

<b>LD 22</b>	
<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

**For systems with fewer than eight groups, delete CNIs****Procedure 191**  
**Deleting CNIs**

Software has configured the system for eight groups. If the system has eight groups, skip this procedure. If the system has fewer than eight groups, you must software remove the CNIs not used in the system configuration:

- 1 In Core/Net 1, disable all cCNI cards using LD 135:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get the status of all cCNI cards
<b>DIS CNIP x s p</b>	Disable cCNI ports where: x = Core number (0 or 1) s = card slot (9-12) p = port (0 or 1)
<b>DIS CNI x s</b>	Disable cCNI cards where: x = Core number (0 or 1) s = card slot (9-12)
<b>STAT CNI</b>	Confirm that cCNI cards are disabled
<b>****</b>	Exit program

- 2**    Use LD 17 to remove the extra cCNI cards.
- LD 17**                      Load program
- CHG**                      CFN
- TYPE**                    CEQU
- CEQU**
- carriage return to**
- EXTO**
- EXTO 3PE**                Core/Net 0 extended to 3PE
- CNI s p x**                Out the cCNI card, where:  
                                      s = card slot (9-12)  
                                      p = port (0 or 1)  
                                      x = out network group
- EXTI 3PE**                Core/Net 1 extended to 3PE
- CNI s p x**                Out the cCNI card, where:  
                                      s = card slot (9-12)  
                                      p = port (0 or 1)  
                                      x= out network group
- carriage return to end**
- of program**
- \*\*\*\***                      Exit program

**3** Use LD 135 to re-enable cCNI cards:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get status of all cCNI cards
<b>ENL CNI x s</b>	Enable cCNI cards where: x= Core number (0,1) s = card slot (9-12)
<b>ENL CNIP x s p</b>	Enable cCNI ports where: x= Core number (0,1) s = card slot (9-12) p = port (0 or 1)
<b>STAT CNI</b>	Confirm that cCNI cards are enabled
<b>****</b>	Exit program

---

**End of Procedure**

---



At this point, cCNI cards in Core 1 are controlled by the active call processor in Core 0. Therefore, they remain disabled.

## Reconfigure I/O ports and call registers

### Procedure 192

#### Reconfiguring I/O ports and call registers

- 1 Remap all I/O ports (except CPSI ports) to the proper groups.  
The group number of these ports is determined by the physical location of the card. The configuration information must match the CNI configuration.

```
LD 17          Load program
CHG            CFN
TYPE          ADAN CHG AAA X G
carriage
return to end
of program
****          Exit program
```

- 2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 1000 and 20000 (respectively). If changes are required, reconfigure the values in LD 17:

```
LD 17          Load program
CHG            CFN
TYPE          PARM
carriage
return to end
of program
****          Exit program
```



**3** Perform a data dump to save the customer database to the hard drive:

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

**LD 43**                      Load program

- b. When “EDD000” appears on the terminal, enter

**EDD**                      Begin data dump



**CAUTION**

**Loss of Data**

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



**CAUTION**

**Service Interruption**

The INI may take up to 15 minutes to complete.

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

**\*\*\*\***                      Exit program



**CAUTION**

**Service Interruption**

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

**End of Procedure**

**Procedure 193**  
**Rebooting Core 1**

Core 0 is now the active call processor. Call processing is now transferred from Core 0 to Core 1.

- 1    Faceplate disable CNI card in Core/Net 0.
- 2    Faceplate disable IODUC card.
- 3    Unseat Core 0 CP Card.
- 4    Press RESET button on the CP PII card faceplate to reboot the system.
- 5    Wait for “DONE” and then “INI” messages to display before you continue.



**CAUTION**

**Service Interruption**

Allow the system to recover from all downloads after the INI completes.

**Note 1:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

**Note 2:** During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets.



Upon INI completion, RING 1 is full, FIJI 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.



Call Processing is now active on Call Processor 1 (except for network cards on Core/Net 0).

---

**End of Procedure**

---

## **Disable and remove equipment from Core/Net 0**

### **Procedure 194**

#### **Faceplate disabling cards of Core/Net 0:**

- 1** Faceplate disable all core and network cards in Core/Net 0.
- 2** Set the ENB/DIS switch on the 3PE card to DIS.

---

**End of Procedure**

---

## Power down Core/Net 0



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

### Procedure 195

#### Removing Core 0 cables and card cage

- 1    Label and disconnect all cables to the front of the module.
- 2    Tape over the contacts to avoid grounding.
- 3    Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4    Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5    Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6    Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP PII card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

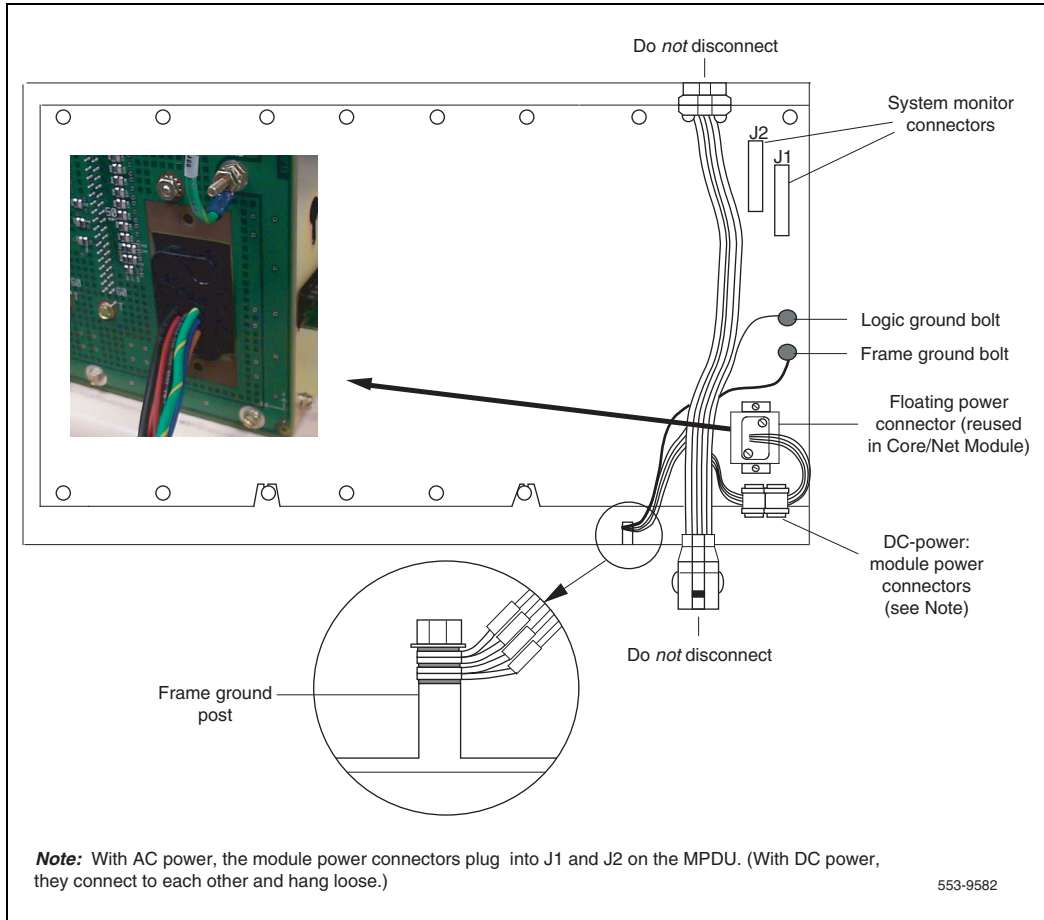
- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting. Keep the screws for use with the CP PII card cage.

**CAUTION**

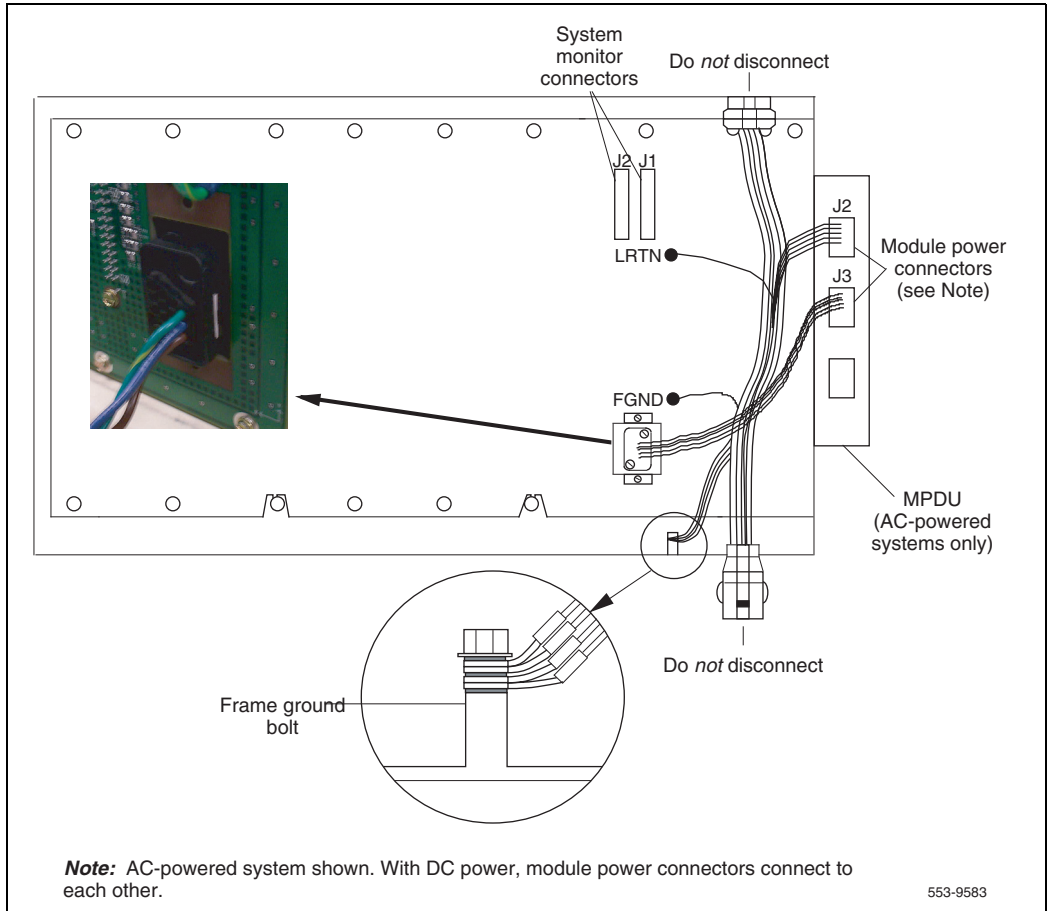
Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP PII card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. See Figure 122 on [page 630](#) for DC power connectors. See Figure 123 on [page 631](#) for AC power connectors.

**Figure 122**  
**DC power connectors on the Core module backplane**



**Figure 123**  
**AC power connectors on the Core module backplane**



- 13** Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14** Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15** Label and disconnect the system monitor ribbon cables to J1 and J2.

- 16 Remove the Core card cage from the module.
- 17 Remove the power harness and reserve it for reinstallation as part of installing the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
  - For AC systems, relocate power harness NT8D80.
  - For DC systems, relocate power harness NT7D11.



#### **WARNING**

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

- 18 Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



#### **CAUTION**

##### **Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---



## Upgrade Core 0 hardware

### Check that the main Core cards (front side) are installed

#### Procedure 196

#### Checking main Core card installation

The main Core cards, including the MMDU (with the cables for power and data), are installed in the factory as shown in Figure 124 on [page 634](#).

- 1 NT4N65AB CP PII Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP PII Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP PII Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
  - a. Check side ID switch settings for SU card in Core/Net 0 according to Table 83 below.

**Table 83**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

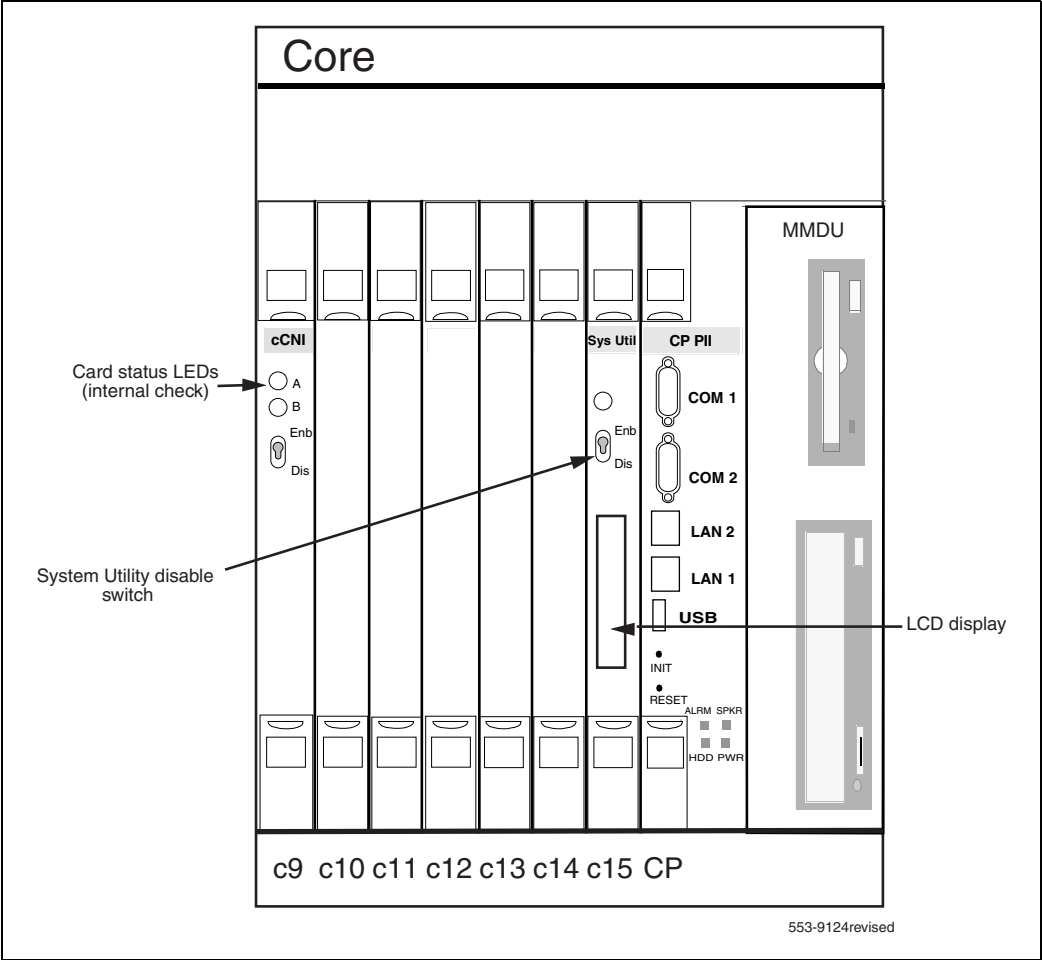
- 4 NT4N64AA CP PII is located in the Call Processor slot.

- 5
- The NT4N43CA Multi-Media Disk Unit (MMDU) is located in the extreme right-hand slot next to the CP PII card. The MMDU contains the hard drive, floppy drive and CD-ROM drive.

End of Procedure

Figure 124

Core card placement in the NT4N41 Core/Net Module (front)



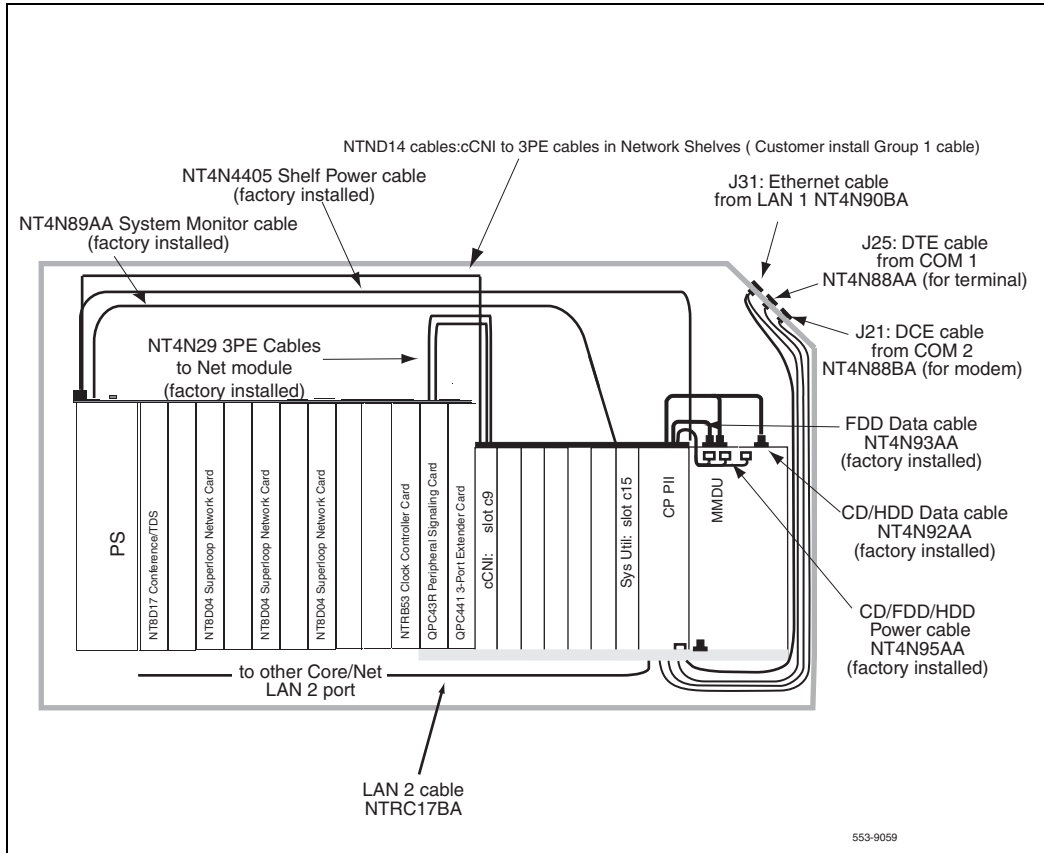
**Check factory-installed cables**

Table 84 below lists factory-installed cables. See Figure 125 on page 636.

**Table 84**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

**Figure 125**  
**Core/Net cable connections**



## Install the Security Device

### Procedure 197

#### Installing the Security Device

The Security Device fits into the System Utility card (see Figure 126 on [page 638](#)).

To install the Security Device:

- 1** If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.** Unlock the latches and remove the IODU/C card.
  - b.** Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

OR

If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

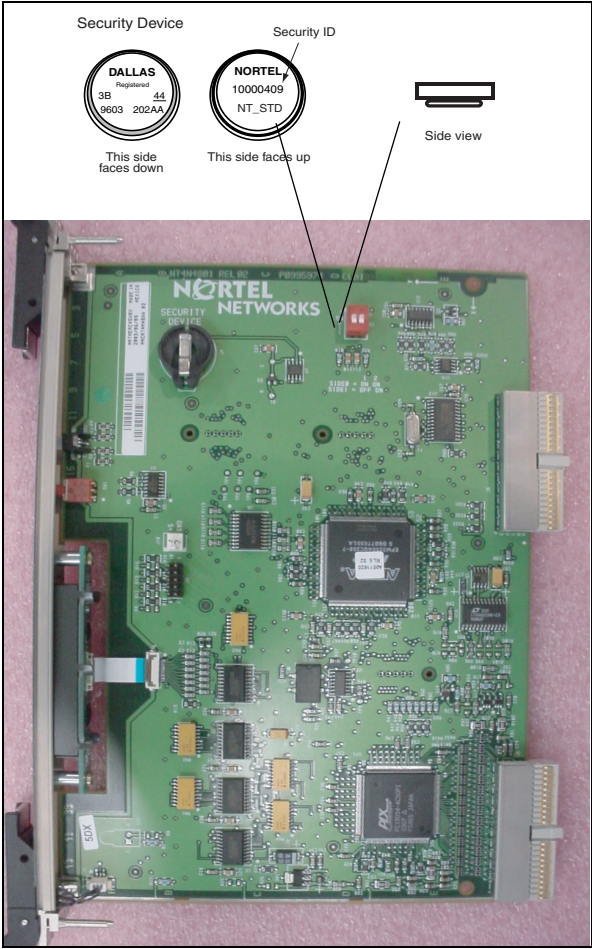
- 2** Check that the Security Device is securely in place.

---

**End of Procedure**

---

Figure 126  
Security Device



## Install the CP PII card cage in Core 0

### Procedure 198

#### Installing the CP PII card cage in Core 0

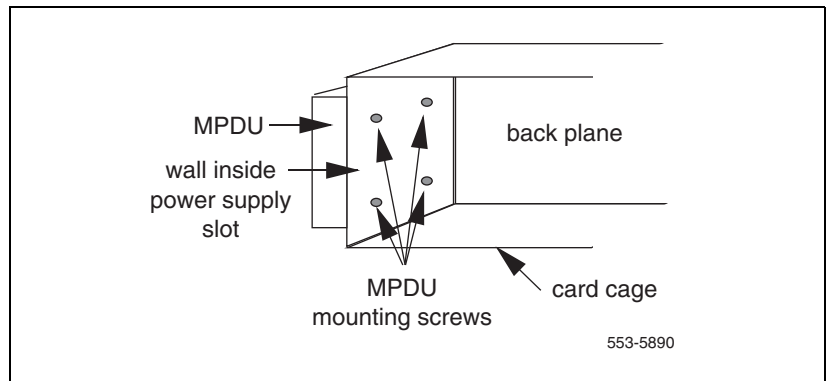
- 1 Check that the card cage is configured as Core 0. See Table 83 on [page 633](#) for instructions.
- 2 For AC-powered systems only, install the new MPDU (part of the CP PII Upgrade kit) to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 127 on [page 639](#).

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.

**Figure 127**

**Location of the screws for the MPDU**



- 5 Hold the card cage firmly and make the following connections at the rear of the module.
  - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).



## CAUTION

## Damage to Equipment

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
  - c. Attach the system monitor ribbon cables:
    - i. Connect the ribbon cable that goes down to the pedestal to connector J1 on the backplane.
    - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
  - d. Attach the green ground wire to the frame ground bolt on the module. (an 11/32" socket wrench is used to attach the wire.) Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.
- Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" or 2/8" socket wrench.)
- 6 Slide the card cage all the way into the module.
  - 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.



- 8 Secure the card cage and EMI shield to the module re-using the existing screws.
- 9 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a. Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b. Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10 Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11 Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 199**

#### **Installing the power supply**

- 1 Unpack the power supply.
- 2 Faceplate disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### **Procedure 200**

#### **Relocating Network cards to CP PII Core/Net 0**

- 1 Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 0.
- 2 When you move the 3PE card, check the switch settings and jumpers. See Table 85 on [page 642](#).
  - a. All 3PE cards must be vintage F or later.
  - b. Check that the RN27 Jumper is set to "A".

- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 85 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.
- 3 Reinstall each removed card in the same network slot in the CP PII Core/Net 0.
- 4 Connect the tagged cables to the relocated cards.

---

**End of Procedure**

---

**Table 85**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

## Cable Core 0

### Procedure 201

#### Cabling COM 1 and COM 2 to the I/O panel

- 1 Connect COM1 on the CP PII faceplate to J25 on the I/O panel with cable NT4N88AA.
- 2 Connect COM2 on the CP PII faceplate to J21 on the back of the I/O panel with cable NT4N88BA.

---

**End of Procedure**

---

### Procedure 202

#### Connecting a terminal and modem to the I/O panel

- 1 Connect J25 to a terminal for use during the upgrade. Use a separate terminal for each Core if available. J25 can also be connected to an A/B box to share a terminal between both Cores.
- 2 Connect J21 to the device connected in the original system (such as a modem or A/B box).

---

**End of Procedure**

---

## Connect LAN 1

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM. The options for the LAN 1 connections are shown in Figure 128 on [page 644](#).

### Procedure 203

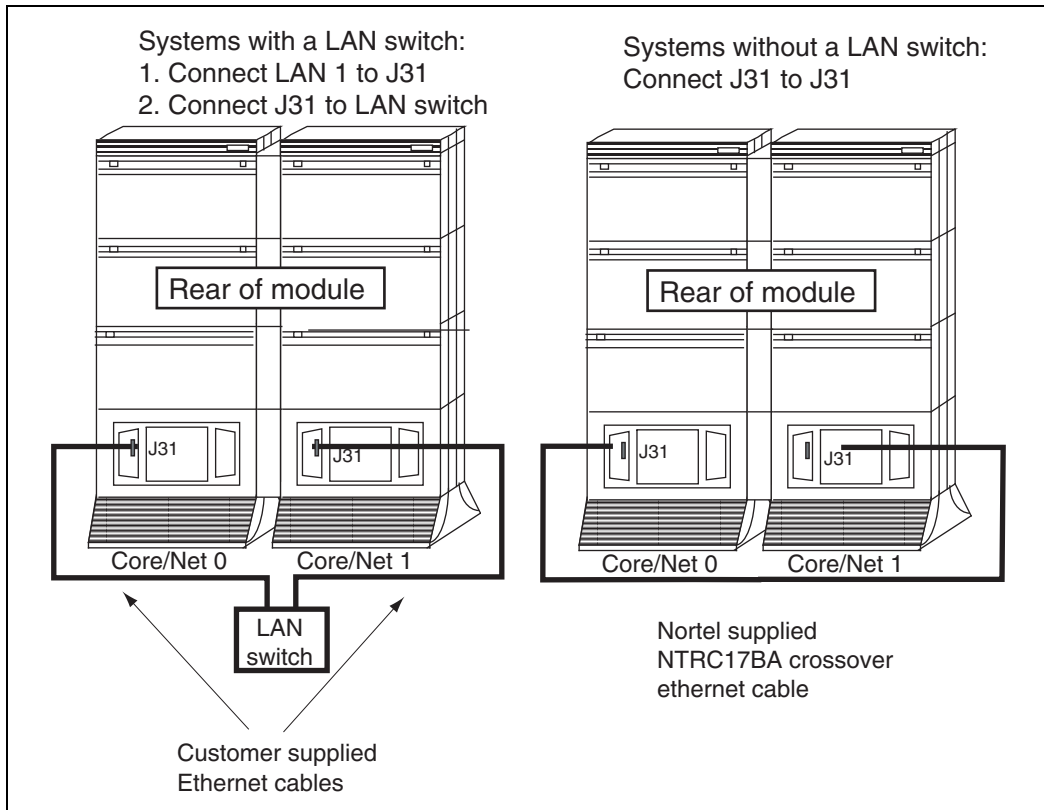
#### If the system will be connected to a LAN

- 1 Connect the “Dual Ethernet Adapter (RJ-45) for I/O Panel” (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2 Connect LAN 1 (Ethernet) on the CP PII faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).

**3**    Connect J31 to a LAN switch.

**Note:** If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by NTRC17BA cable.

**Figure 128**  
**Options for LAN 1 connection**



---

**End of Procedure**

---

## **In Core 0, inspect factory-installed cables**

The NT4N29AA cables should be installed for the existing network group in Core/Net 0. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

### **Installing intermodule cables**

#### **Procedure 204**

##### **Installing intermodule cables**

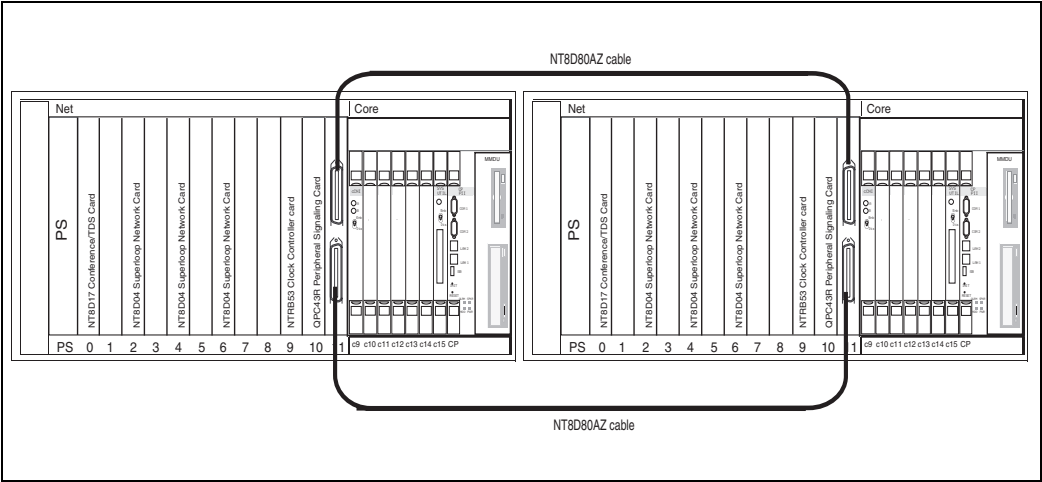
- 1** Connect the NT8D99AD and NT8D80BZ cables.
- 2** Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 130 on [page 647](#)).
- 3** Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 129 on [page 646](#)).
- 4** If the system has XSDI cards, reinstall the cards and attach the cables.

---

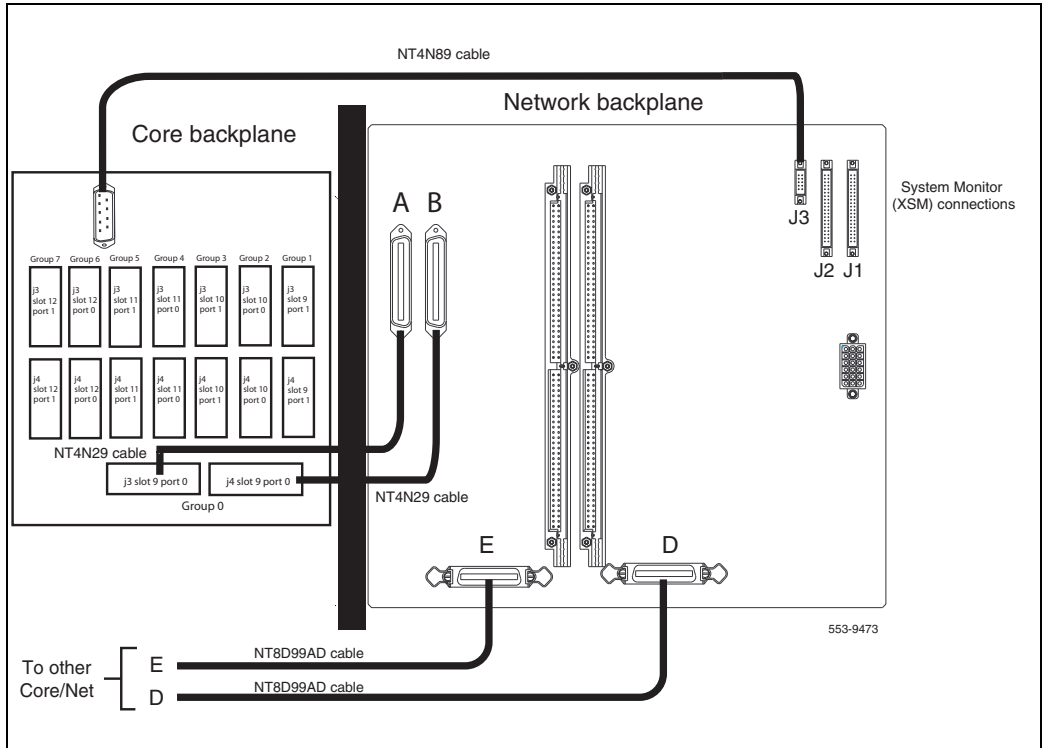
**End of Procedure**

---

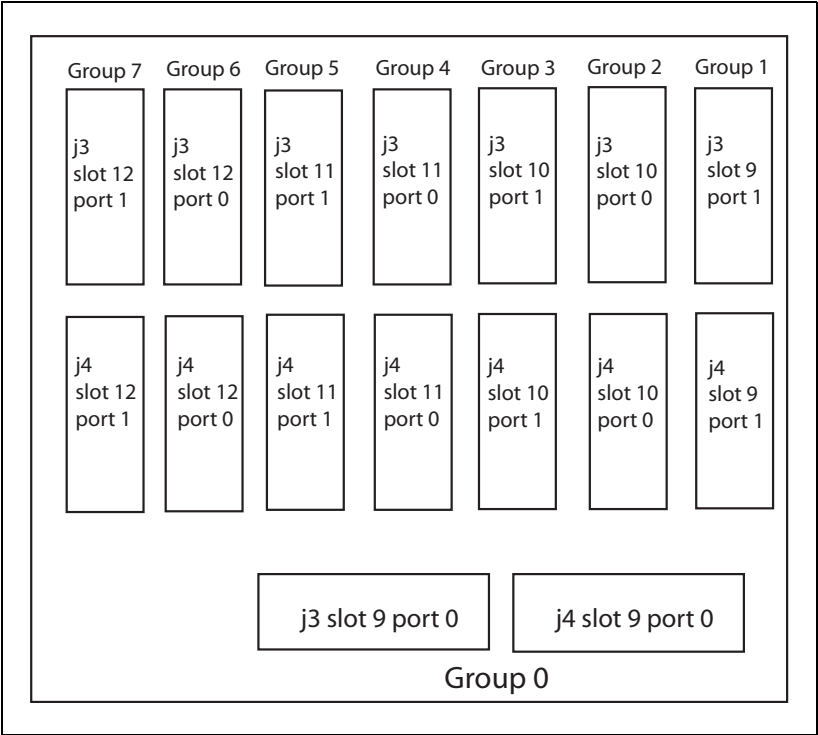
**Figure 129**  
**3PE card connections**



**Figure 130**  
**Fanout Panel connections on the CP PII Core/Net backplane**



**Figure 131**  
**Fanout panel connectors**



**In Core 0, route and connect the cCNI to 3PE (NTND14) cables**

The existing NTND14 cables can be reused for Network groups 1-7. Connect the NTND14 cables to the Fanout Panel in Core/Net 0. See Figure 131 on [page 648](#) and Table 86 on [page 650](#).

When upgrading to CP PII, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.



If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 131 on [page 648](#).

**WARNING****Damage to Equipment**

To unlock the connector, insert the extraction tool between the connector and the securing clip. Do not pry against the connector with the extraction tool. Prying may damage the connector or backplane pins.

**CAUTION****Damage to Equipment**

When using the extraction tool, be careful not to damage the shrouds.

**Table 86**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1 (see Figure 131 on [page 648](#)).

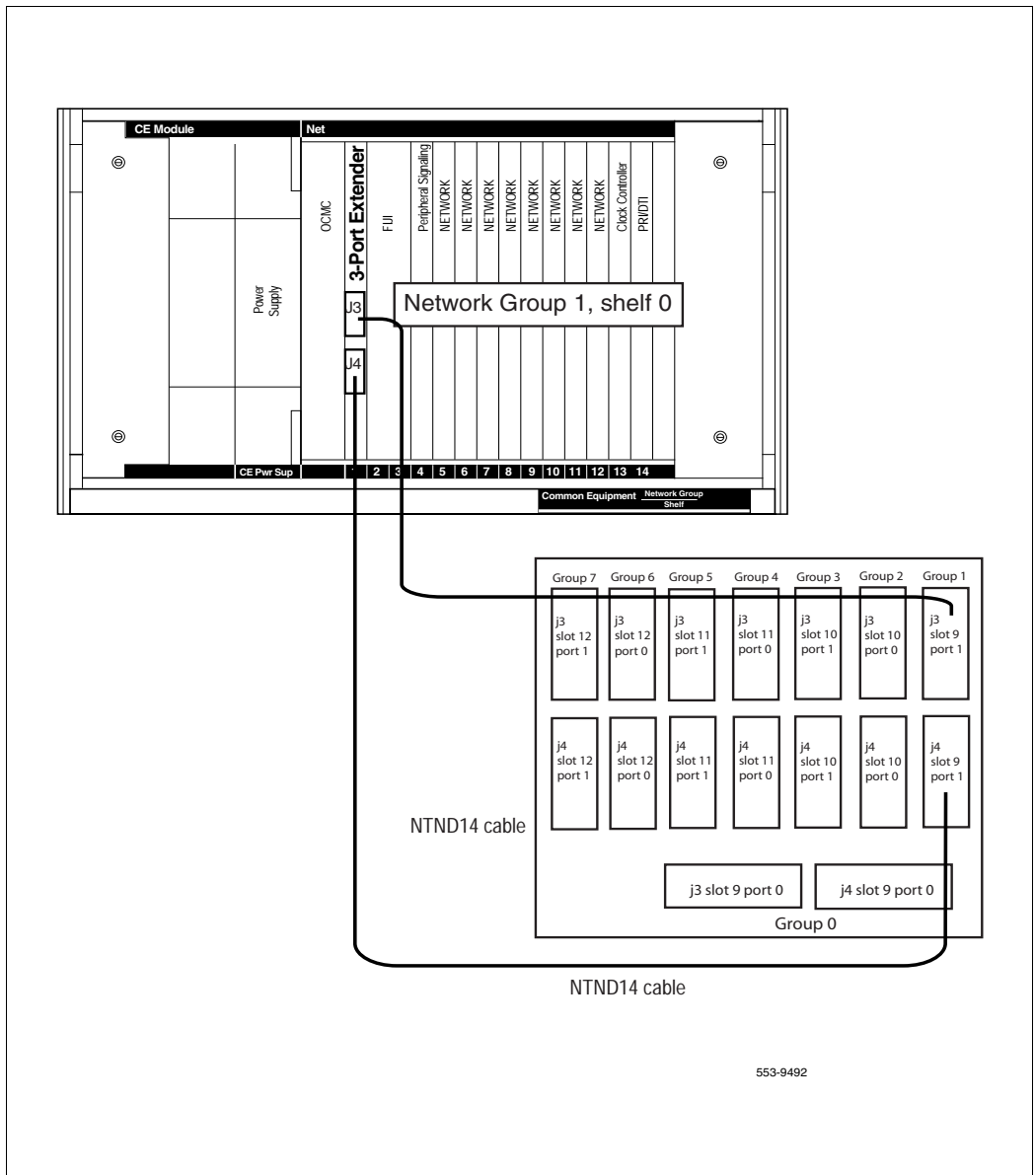
**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 132 on [page 651](#)).

---

**End of Procedure**

---

**Figure 132**  
**3PE Fanout Panel connections**



553-9492

## Restore power to Core/Net 0

### Prepare for power up

- 1 Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core.
- 3 Check the terminal settings as follows:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side to side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

- 4 Faceplate *enable* all core and network cards.

---

**End of Procedure**

---

### Power up Core cards

#### Procedure 205

#### Powering up core cards

- 1 Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.
- 2 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 3 For DC-powered systems (NT6D41CA): faceplate enable the power supply and then set the breaker for Core 0 module in the back of the column pedestal to ON (top position).

- 4 10 seconds after power up of Core/Net 0, press the manual INI button on the CP PII card faceplate in Core/Net 1.
- 5 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and 1 are enabled. Call processing is resumed.

---

**End of Procedure**

---

**Procedure 206**

**Test from Core/Net 1**

- 1 Test the Fiber Rings

*See Software Input/Output: Maintenance (553-3001-511) for more information on LD 39 commands.*

- a. Check that the Fiber Rings operate correctly:

**LD 39**                      Load program

**STAT RING 0**          Check status of Ring 0 (HALF/HALF)

**STAT RING 1**          Check status of Ring 1 (HALF/HALF)

- b. If necessary, restore the Rings to Normal State:

**RSTR**                      Restore both Rings to HALF state

- c. Check that the Rings operate correctly:

**STAT RING 0**          Check status of Ring 0 (HALF/HALF)

**STAT RING 1**          Check status of Ring 1 (HALF/HALF)

**\*\*\*\***                      Exit program

2    Stat network cards:

<b>LD 32</b>	Load program
<b>STAT x</b>	Stat the network card, where x = loop number
<b>****</b>	Exit program

3    Test the clocks:

a.    Verify that the clock controller is assigned to the *active* Core.

<b>LD 60</b>	Load program
<b>SSCK x</b>	Get the status of the clock controllers (x is "0" or "1" for Clock 0 or Clock 1)
<b>SWCK</b>	To switch the Clock (if necessary)
<b>****</b>	Exit program

b.    Verify that the clock controllers are switching correctly.

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again
<b>****</b>	Exit program

---

End of Procedure

---

## Install software and customer database on Core 0

### Procedure 207

#### Installing the software and customer database

- 1    Check that a terminal is connected to J25 on Core/Net 0.
- 2    In Core/Net 0, install the CD-ROM into the CD-ROM drive in the MMDU.

- a. Press the button on the CD-ROM drive to open the CD-ROM disk holder.
- b. Place the CD-ROM disk into the holder with the disk label showing.
- c. Press the button again to close the CD-ROM disk holder.  
Do not push the holder in by hand.

**Note:** If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 3 Place the CP PII Install floppy disk into the Core/Net 0 MMDU floppy drive.

**Note:** 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 the manual RESET button on the CP PII card faceplate in Core/Net 0.

Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 1
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 2
    0 percent done...1 percent done.....99
    percent done....100 percent completed!

Disk physical checking is completed!

Validate hard drive partition number and size...
```

```
There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte

Disk partitions and sectors checking is
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries
Ltd. All rights reserved

ver: X.X FCS

Disk Check In Progress...

    total disk space (bytes) : XX
    bytes in each allocation unit: XX
    total allocation units on disk: XX
    bad allocation units: XX
    available bytes on disk: XX
    available clusters on disk: XX
    maximum available contiguous chain (bytes):
    XX
    available space fragmentation (%): XX
    clusters allocated: XX

Done Checking Disk.

        checks for PART_X OK!

        pmDosFsCheck is completed!
```



**5** Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:  
    Day-Month-Year, Hour:Min:Sec  
    Succession Enterprise Software/Database/  
BOOTROM CDROM INSTALL Tool  
  
    Does this System have a Signaling  
Server.....? (Default - No)  
  
    Please enter:  
<CR> -> <n> - No  
    <y> - Yes  
    Enter Choice>
```

- 6    The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```

                                M A I N      M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will
    be prompted throughout the installation and
    given the opportunity to quit at any time.

    Please enter:

    <CR> -> <u> - To Install menu

           <t> - To Tools menu.

           <q> - Quit.

    Enter Choice> <CR>

>Validating Keycode

    The provided keycode authorizes the install of
    XXXXXXXX software

    (all subissues) for machine type XXXX

    (XXX processor on XXXX System)
```

**IMPORTANT!**

Remove install floppy disk at this time and insert the keycode diskette.

- 7 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

Please confirm that this keycode matches the  
CDROM Release

Please enter:

<CR> -> <y> - Yes, the keycode matches. Go on to  
Install Menu.

<n> - No, the keycode does not match. Try  
another keycode diskette.

Enter Choice> **<CR>**

>Obtain database file names

**8**    Enter **b** to install the Software, Database and CP-BOOTROM.

```

I N S T A L L       M E N U

      The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

      Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

      <b> - To install Software, Database, CP-
BOOTROM.

      <c> - To install Database only.

      <d> - To install CP-BOOTROM only.

      <t> - To go to the Tools menu.

      <k> - To install Keycode only.

      For Feature Expansion, use OVL143.

      <p> - To install 3900 set Languages.

      <q> - Quit.

Enter Choice> b
```

**9** Verify the CD-ROM version.

Please insert the installation CDROM into the drive on Core X.

The labeled side of the CDROM should be side up in the CDROM tray.

Please enter:

<CR> -> <a> - CDROM is now in drive. Continue with s/w checking.

<q> - Quit.

Enter Choice> **<CR>**

The installation CDROM contains version XXXXXXXX\_X.

Please enter:

<CR> -> <y> - Yes, this is the correct version. Continue.

<n> - No, this is not the correct version. Try another CDROM or keycode disk

Enter Choice> **<CR>**

>copying direct.rec from /cd0/0300\_KMR.N33/  
target/p/s11/direct.rec to /u/direct.rec

>Updating /u/direct.rec

Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists installation

<n> - No, Continue without Dependency Lists installation

Enter choice> n

**Note:** To choose yes and install the Dependency Lists, proceed to step 10, otherwise proceed to step 11.

**10**   Choosing Yes for the Dependency Lists installation.

```
Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice>

The default choice is YES as shown in the prompt.

If the choice is no, then the following prompt
will appear for the confirmation:

Are you sure?

Please enter:

<CR> -> <n> - No, Go to the Dependency List menu

        <y> - Yes, Go to the next menu

Enter choice>

The default choice is NO which will return the
user to deplist menu.

The Installation Status Summary for the choices
entered is displayed as shown below:

-----
                INSTALLATION STATUS SUMMARY
                -----

Option           Choice  Status      Comment
SW: CD to disk   yes                install for rel 400
Dependency Lists yes
Database         no
CP-BOOTROM       yes
```

Please enter:

<CR> -> <y> - Yes, start installation.

<n> - No, stop installation. Return to the Main Menu.

The installation continues with the removal of the patch, reten and deplist directories and copying the files from the CD to the hard disk.

>Erasing old file "/u/patch/p12749\_1.cpp"

>Erasing old file "/u/patch/reten/reten.pch"

>Erasing old file "/u/patch/deplist/m16000\_3.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/p12749\_1.cpp" to "/u/patch/p12749\_1.cpp"

>Copying "/cd0/0400\_UMR.N33/target/u/patch/deplist/m16000\_3.cpp" to "/u/patch/deplist/m16000\_3.cpp"

**Note:** The removal of patch, reten and deplist directories will happen only when it is a software upgrade or a new system installation regardless of the DepList installation menu selection.

The installation status summary after the installation will be as follows:

-----			
INSTALLATION STATUS SUMMARY			
-----			
Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel 400
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

**Note:** Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing ISSP command in LD 22. If there are NO DepLists available on the installation CD the summary should appear as shown below:

-----			
INSTALLATION STATUS SUMMARY			
-----			
Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from 300 to 400
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from x210300 to x2103400
Database	no		
CP-BOOTROM	yes	ok	from x210300 to x210400
IOP-ROM	yes	ok	from 02.00 to 02.00



**Installation of DepList on an SSC system through software installation**

**The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.**

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

```
      INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: slires
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.
```

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

```
      Do you wish to install Dependency Lists? (y/n/[a]bort) : n
```

```
      Are you sure? (y/n/[a]bort) : y
```

11   Confirm all options before installing the software.

```
>Processing the Install Control file
  >Installing release XXXXX

      INSTALLATION STATUS SUMMARY
-----

=====+=====+=====+=====
|  Option   |  Choice   | Status |  Comment   |
=====+=====+=====+=====
| SW: CD to disk |    yes    |        | install for rel XXXXX|
=====+=====+=====+=====
|  Option   |  Choice   | Status |  Comment   |
=====+=====+=====+=====
| Database   |    yes    |        |              |
=====+=====+=====+=====
|  Option   |  Choice   | Status |  Comment   |
=====+=====+=====+=====
| CP-BOOTROM |    yes    |        |              |

      Please enter:<CR> -> <y> - Yes, start
Installation.

      <n> - No, stop Installation. Return to the
Main Menu.

Enter Choice> <CR>

>Checking System Configuration

You selected to upgrade the system from release:
XXXX to release: XXXXX.

This will erase all old system files.
```

```
Database files will NOT be erased. You may
continue installing the software or quit now and
leave your system unchanged.
```

```
Please enter:
```

```
<CR> -> <a> - Continue with Upgrade.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

```
>Starting Software Install
```

```
          >Upgrading from release XXXX to release
XXXXXX
```

- 12** After a number of files are copied over, 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> Spare Group A
- <6> Spare Group B

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

- 13** Continue with upgrade when prompted. Select a database to install.  
Confirm database transfer.

```
You selected to transfer the database from the
floppy disk - release: XXXX to the hard disk on
Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the
floppy disk drive.

      If you quit now, the database will be left
unchanged.

      Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> <CR>
```

The system then informs you of the database details and prompts you to confirm.

```
You have chosen to restore database dated:
Month Day Hour:Min:Sec:Year

Please confirm.

Please enter:

<CR> -> <y> - Yes, load.

        <n> - No, DO NOT load.

Enter Choice> <CR>
```

- 14** The system restores the database and provides a status summary.

**Note:** The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 15** Enter <CR> when prompted, returning the system to the Install Menu.

**16** Enter **q** to quit.

```

                I N S T A L L      M E N U

    The Software Installation Tool will
    install or upgrade Succession Enterprise System
    Software, Database and the CP-BOOTROM. You will be
    prompted throughout the installation and given the
    opportunity to quit at any time.

    Please enter:

    <CR> -> <a> - To install Software, CP-BOOTROM.
           <b> - To install Software, Database, CP-
    BOOTROM.
           <c> - To install Database only.
           <d> - To install CP-BOOTROM only.
           <t> - To go to the Tools menu.
           <k> - To install Keycode only.

           For Feature Expansion, use OVL143.

           <p> - To install 3900 set Languages.
           <q> - Quit.

    Enter Choice> q
```

**17** The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

You may reboot the system or return to the Main
Menu.

Remove all disks from the system before rebooting.

-----

DO NOT REBOOT USING BUTTON!!!

-----

Please enter:

<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>
>Removing (temporary files)

>Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 0 to INI.

---

**End of Procedure**

---

## Make the system redundant

To enable system redundancy:

- 1    Connect NTRC17BA from LAN 2 of Core/Net 1 to Lan 2 of Core/Net 0.
- 2    Initialize (INI) Core/Net 0.

**Note:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring. This process continues on both rings until all Fiji's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting.

Depending on the number of groups installed, this process may take up to 20 minutes per ring.



Once the INI is complete on the *inactive* Core (Core/Net 0), the system will operate in full redundant mode with Core/Net 1 active.

---

End of Procedure

---

## Complete the CP PII upgrade

### Procedure 208

#### Connecting the system monitor to Core/Net 0

- 1    Connect the system monitor to the rear of the pedestal.
- 2    For the Core column, connect J3 and J4 cables to the system monitor.

**Note:** Do *not* turn off the blower units in the front of the pedestals.

---

End of Procedure

---



**Procedure 209****Testing Core/Net 1**

**From Core/Net 1**, perform these tests:

**1** Perform a redundancy sanity test:

**LD 135** Load program

**STAT CPU** Get status of CPU and memory

**TEST CPU** Test the CPU

**2** Check the LCD states:

**a.** Perform a visual check of the LCDs.

**b.** Test LCDs:

**LD 135** Load program

**TEST LCDs** Test LCDs

**DSPL ALL**

**3** Test the System Utility cards and the cCNI cards:

**LD 135** Load program

**STAT SUTL** Get the status of the System Utility (main and Transition) cards

**TEST SUTL** Test the System Utility (main and Transition) cards

**STAT CNI c s** Get status of cCNI cards (core, slot)

**TEST CNI c s** Test cCNI (core, slot)

4    Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	
<b>TEST CMDU</b>	Test the MMDU card

5    Install the two system monitors. Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS
<b>STAT XSM</b>	Check system monitors
<b>****</b>	Exit program

6    Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms

**7 Test the clocks:**

- a.** Verify that the clock controller is assigned to the *active* Core.

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	To get the status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

- b.** Verify that the Clock Controllers are switching correctly.

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again

**8 Test the Fiber Rings**

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a.** Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b.** If necessary, restore the Rings to Normal State:

<b>RSTR</b>	Restore both Rings to HALF state
-------------	----------------------------------

- c.** Check that the Rings operate correctly:

<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

**9**    Check the status of the FIJI alarms

**STAT ALRM**      Query the alarm condition for all FIJI cards in  
all Network Groups

**\*\*\*\***              Exit program

**10**   Check applications (CallPilot, Symposium, Meridian Mail, etc.).

**11**   Check dial tone.

---

**End of Procedure**

---

**Switch call processing**

**Procedure 210**

**Switching call processing**

**LD 135**           Load program

**SCPU**            Switch call processing from Core/Net 1 to  
Core/Net 0.

Core/Net 1 will INI and Core/Net 0 will become the active call processor.

**Procedure 211**  
**Testing Core/Net 0**

**From Core/Net 0**, perform these tests:

**1** Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test the CPU

**2** Check the LCD states

**a.** Perform a visual check of the LCDs.

**b.** Test LCDs:

<b>LD 135</b>	Load program
<b>TEST LCDs</b>	Test LCDs
<b>DSPL ALL</b>	Display all

**3** Test the System Utility cards and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility (main and Transition) cards
<b>TEST SUTL</b>	Test the System Utility (main and Transition) cards
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**4** Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy

**DATA RDUN**

**TEST CMDU**     Test the MMDU card

- 5     Test that the system monitors are working:

**LD 37**             Load program

**STAT XSM**        Check the system monitors

**\*\*\*\***             Exit program

- 6     Clear the display and minor alarms on both Cores:

**LD 135**

**CDSP**             Clear the displays on the cores

**CMAJ**             Clear major alarms

**CMIN ALL**        Clear minor alarms

- 7     Test the clocks:

- a.     Verify that the clock controller is assigned to the *active* Core.

**LD 60**             Load program

**SSCK *x***            Get the status of the clock controllers  
(*x* is “0” or “1” for Clock 0 or Clock 1)

**SWCK**             Switch the Clock (if necessary)

**\*\*\*\***             Exit program

- b.     Verify that the Clock Controllers are switching correctly.

**SWCK**             Switch Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK**             Switch Clock again

- 8     Test the Fiber Rings

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

**LD 39**                      Load program

**STAT RING 0**            Check status of Ring 0 (HALF/HALF)

**STAT RING 1**            Check status of Ring 1 (HALF/HALF)

- b. If necessary, restore the Rings to Normal State:

**RSTR**                      Restore both Rings to HALF state

- c. Check that the Rings operate correctly:

**STAT RING 0**            Check status of Ring 0 (HALF/HALF)

**STAT RING 1**            Check status of Ring 1 (HALF/HALF)

- 9** Check the status of the FIJI alarms

**STAT ALRM**            Query the alarm condition for all FIJI cards in all Network Groups

**\*\*\*\***                      Exit program

- 10** Check applications (such as CallPilot and Symposium).

- 11** Check dial tone.

## Meridian 1 Option 81C/IGS upgrade to Option 81C CP PIV with FNF

### Prepare for upgrade

This document implements a “source- to-target” approach to performing an upgrade. It is important to correctly identify the source platform, target platform, and maintenance window required to perform the upgrade.



#### **IMPORTANT!**

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and Compact Flash (CF) reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 87.

**Table 87**  
**Prepare for upgrade steps (Part 1 of 2)**

Procedure Step	Page
Plan upgrade	<a href="#">681</a>
Upgrade Checklists	<a href="#">682</a>
Prepare	<a href="#">682</a>
Identifying the proper procedure	<a href="#">683</a>
Connect a terminal	<a href="#">683</a>



**Table 87**  
**Prepare for upgrade steps (Part 2 of 2)**

<b>Procedure Step</b>	<b>Page</b>
Check the Core ID switches	<a href="#">684</a>
Print site data	<a href="#">686</a>
Perform a template audit	<a href="#">689</a>
Back up the database (data dump)	<a href="#">691</a>
Transferring the database from floppy disk to CF (customer database media converter tool)	<a href="#">698</a>
Identify two unique IP addresses	<a href="#">704</a>
Check requirements for cCNI to 3PE cables (NTND14)	<a href="#">705</a>

## **Plan upgrade**

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail, and so on) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan for backing out of the upgrade.



#### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## **Upgrade Checklists**

Upgrade checklists can be found in “Upgrade checklists” on [page 957](#). Engineers may print this section for reference during the upgrade.

### **Prepare**

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform. See *Meridian 1 installation planning* (553-3001-120).
- Verify proper cable lengths for the target platform.
- Determine and note current patch or Dep lists installed at the source platform.
- Determine required patch or Dep lists at the target platform for all system-patchable components (Call Server, Voice Gateway Media Cards, Signaling Servers and so on).
- Determine the required patches or DEP lists installed on all applications (CallPilot, Symposium Call Center Server, Meridian Mail, OTM, and so on).
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.

- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

## Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

## Connect a terminal

### **Procedure 212**

#### **Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
  - a. 9600 Baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

---


**End of Procedure**

---

Check the Core ID switches

Procedure 213  
 Checking the Core ID switches

Each NT4N40 Core/Net card cage or module is identified as “Core 0” or “Core 1”. This setting is made by a set of option switches on the System Utility card. The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



**CAUTION — Service Interruption**

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

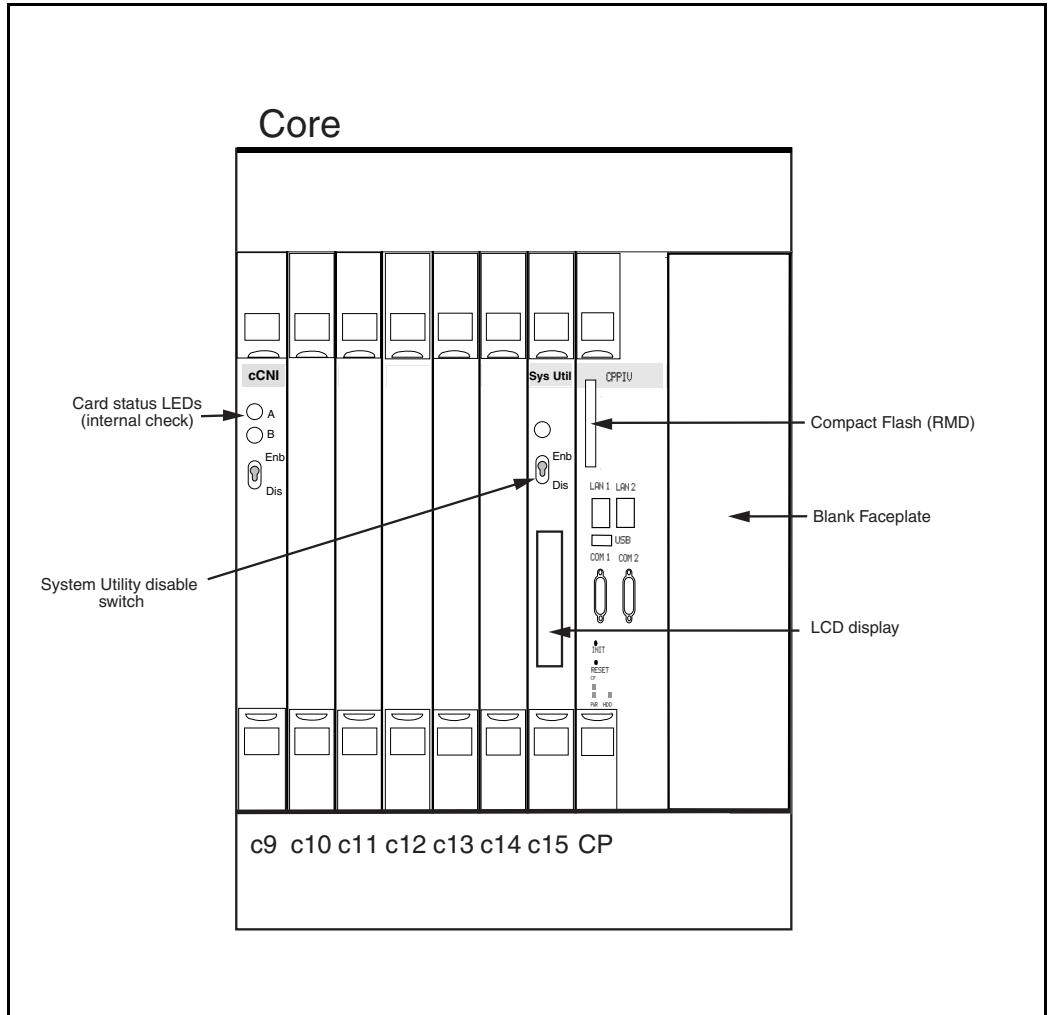
- 1 Pull the NT4N48 System Utility card far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 88.
- 3 Reinstall the System Utility card.
  - a. Gently slide the card into the slot until it makes contact with the backplane. Never force a card into the slot.
  - b. Push in the top and bottom latches on the card to lock it in place.

End of Procedure

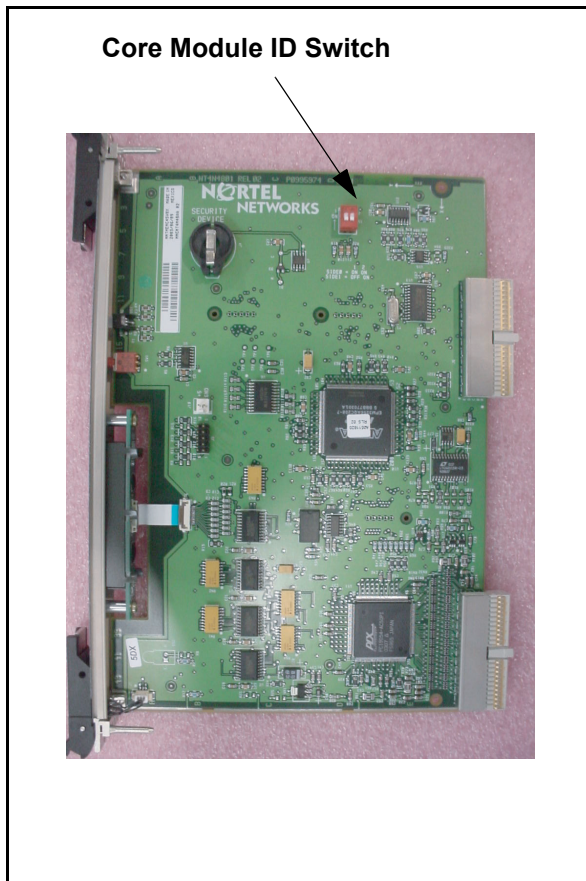
Table 88  
 Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

**Figure 133**  
**Core card placement in the NT4N40 Core/Net card cage (front)**



**Figure 134**  
**Core Module ID switch**



## **Print site data**

Print site data to preserve a record of the system configuration (Table 98 on [page 725](#)). Verify that all information is correct. Make corrections as necessary.

**Note:** Items marked with an asterisk (\*) are required. Other items are recommended for a total system status.

**Table 89**  
**Print site data (Part 1 of 3)**

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	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 89**  
**Print site data (Part 2 of 3)**

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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



**Table 89**  
**Print site data (Part 3 of 3)**

Site data	Print command	
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<b>Note:</b> Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

## Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

*Note:* The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.



**CAUTION**

**Loss of Data**

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**

<b>TEMPLATE 0001 USER COUNT LOW</b>	<b>CHECKSUM OK</b>
-------------------------------------	------------------------

<b>TEMPLATE 0002 USER COUNT HIGH</b>	<b>CHECKSUM OK</b>
--	------------------------

**TEMPLATE 0003 NO USERS FOUND**

**STARTING SL1 TEMPLATE SCAN**

<b>TEMPLATE 0001 USER COUNT OK</b>	<b>CHECKSUM OK</b>
------------------------------------	------------------------

- 
- 

<b>TEMPLATE 0120 USER COUNT OK</b>	<b>CHECKSUM OK</b>
------------------------------------	------------------------

**TEMPLATE AUDIT COMPLETE**

## Back up the database (data dump)

To back up system data, perform a data dump to save all system memory to the hard disk.

### Procedure 214

#### Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**                      Load program

- 3 When "EDD000" appears on the terminal, enter:

**EDD**                      Begin the data dump



#### CAUTION

##### Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4 The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

\*\*\*\*                      Exit program

- 5 Remove and label the floppy disk.



#### IMPORTANT!

Database backup information should be preserved for a minimum of 5 days.

---

**End of Procedure**

---

### Procedure 215

#### Performing an ABKO (save the database to floppies)

- 1    Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

**Note:** If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2    Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

**LD 143**                    Load program

- 3    Run the ABKO backup (LD 143).

**ABKO**                    Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4    If there are validation errors, repeat the procedure.



#### CAUTION

##### Loss of Data

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PIV.

- 5 Once the backup is complete, type:

\*\*\*\*

Exit program

---

**End of Procedure**

---



**IMPORTANT!**

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility below.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel in the software conversion lab.

**Procedure 216**

**Converting the 4 MB database media to 2 MB database media**

Before the system is upgraded to CP PIV, the database must reside on a 2 MByte floppy disk for conversion to CF. Systems with an IODU/C drive already have 2 MByte floppy drive and can skip this procedure.

If the database is on a 4 MByte floppy (the system has an IOP/CMDU), the 4 MByte customer database must be transferred to a 2 MByte floppy disk.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive on the IOP/CMDU in Core 1.

- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



**CAUTION — Service Interruption**

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:

- |          |  |
|----------|--|
| <t>      | Go to the Tools menu.  |
| <s>      | Archive existing database.   |
| <cr> <a> | Continue with archive (insert blank 2 MByte diskette from the software kit into the floppy drive in Core 1). |
| <cr> <a> | Diskette is now in floppy drive in Core 1.   |

- 5 The message displays “Database backup complete!” and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MByte customer database diskette from the floppy drive of the IOP/CMDU. Do not reboot the system at this point.

---

**End of Procedure**

---

## Making the RMD bootable



### **CAUTION — Data Loss**

The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

**Note:** This utility is supported by all versions of Microsoft Windows.

The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 217 on [page 695](#).

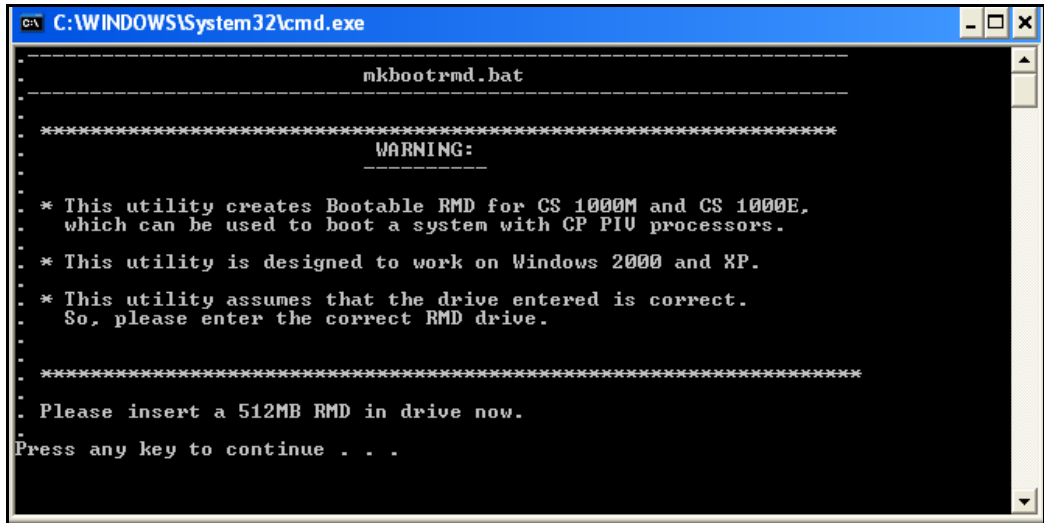
### **Procedure 217**

#### **Making the RMD bootable**

- 1** After downloading the software image file, unzip it to a directory on your PC.
- 2** Open the utilities folder.

- 3     Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 135).

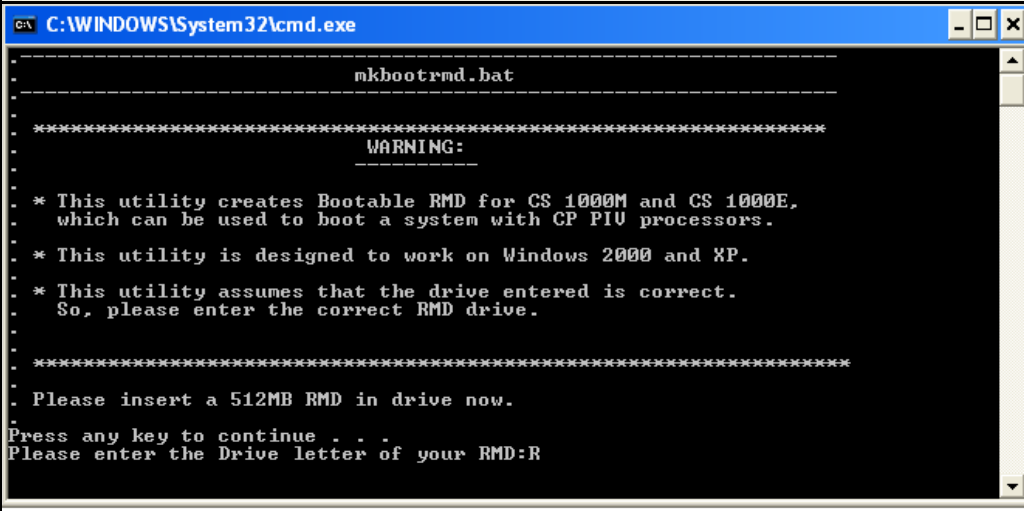
**Figure 135**  
**mkbootrmd.bat**





- 4 Enter the correct drive letter of the RMD (see Figure 136).

Figure 136  
mkbootrmd.bat



```
C:\WINDOWS\System32\cmd.exe
mkbootrmd.bat

*****
WARNING:
*****

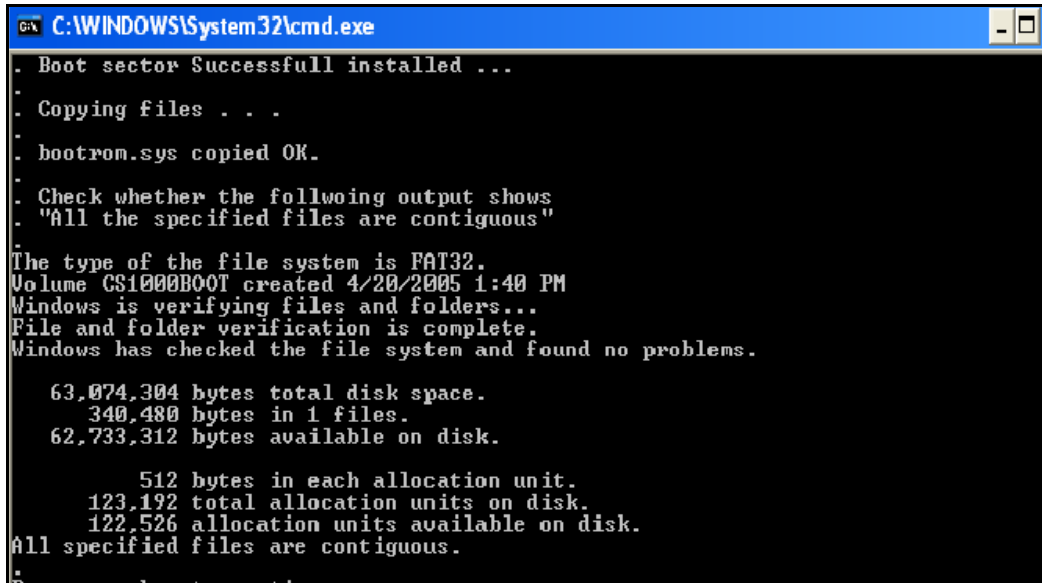
* This utility creates Bootable RMD for CS 1000M and CS 1000E,
  which can be used to boot a system with CP PIU processors.
* This utility is designed to work on Windows 2000 and XP.
* This utility assumes that the drive entered is correct.
  So, please enter the correct RMD drive.

*****

Please insert a 512MB RMD in drive now.
Press any key to continue . . .
Please enter the Drive letter of your RMD:R
```

- 5    The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 137).

**Figure 137**  
**Boot sector successfully installed**



```

C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
. Copying files . . .
. bootrom.sys copied OK.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
.
The type of the file system is FAT32.
Volume CS1000000T created 4/20/2005 1:40 PM
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

    63,074,304 bytes total disk space.
        340,480 bytes in 1 files.
    62,733,312 bytes available on disk.

        512 bytes in each allocation unit.
    123,192 total allocation units on disk.
    122,526 allocation units available on disk.
All specified files are contiguous.
  
```

————— End of Procedure —————

## Transferring the database from floppy disk to CF (customer database media converter tool)



### IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

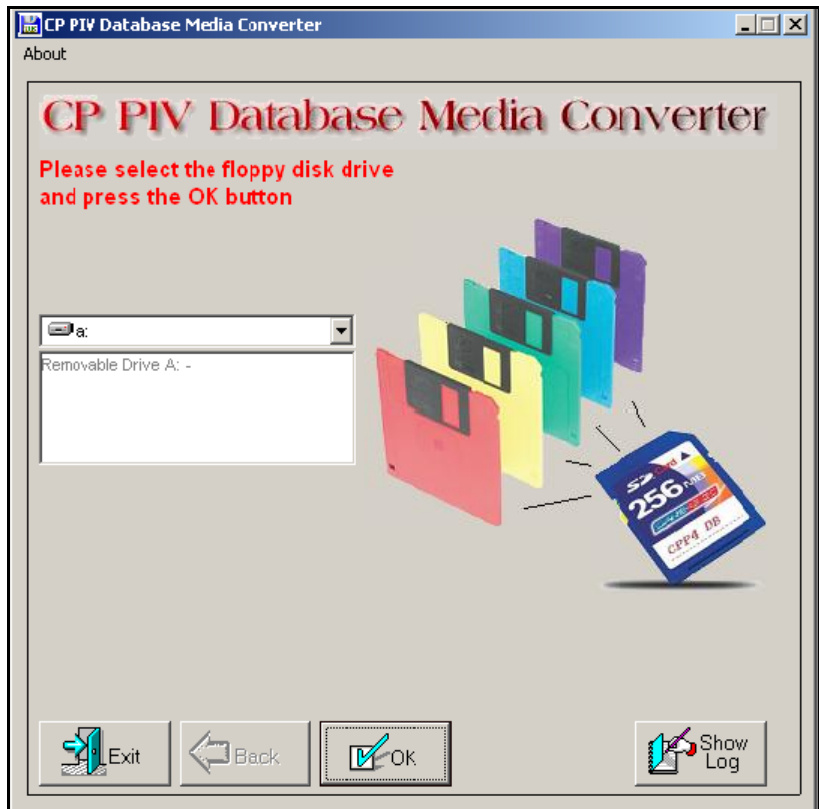
Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

**Procedure 218****Transferring the customer database from floppy disk to CF**

This procedure requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

- 1** Insert the floppy disk containing the backed up customer database from Procedure 214 on [page 691](#).
- 2** Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 3** Start the Database Media Converter utility. The first screen (Figure 138 on [page 700](#)) prompts you to select the correct drive letter for the floppy disk drive.

**Figure 138**  
**Select the floppy disk drive**



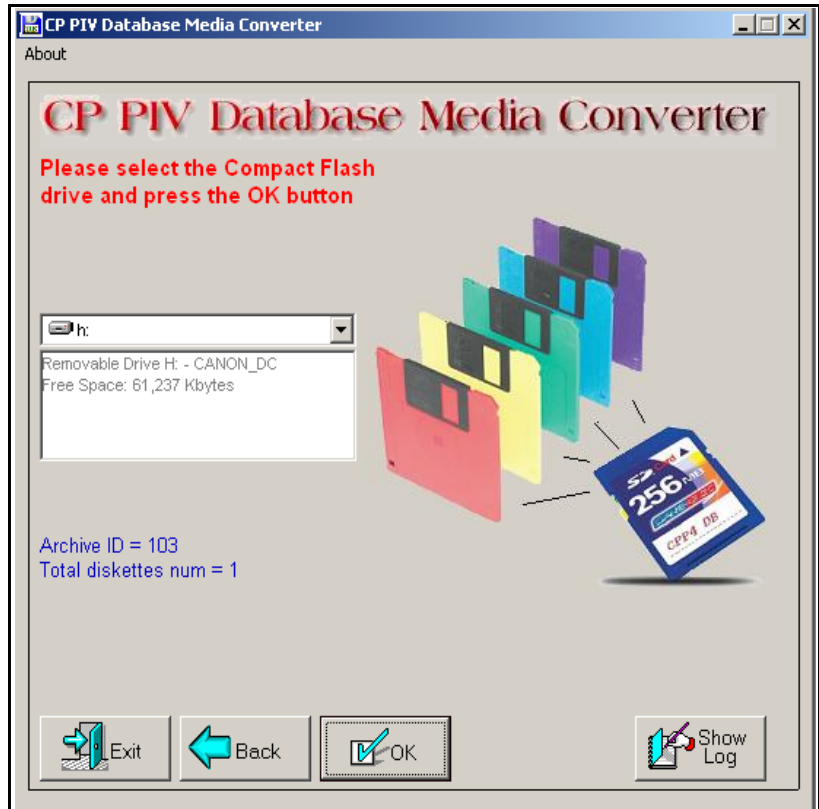
- 4 The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 139 on [page 701](#)).

**Figure 139**  
**Insert diskette 1**



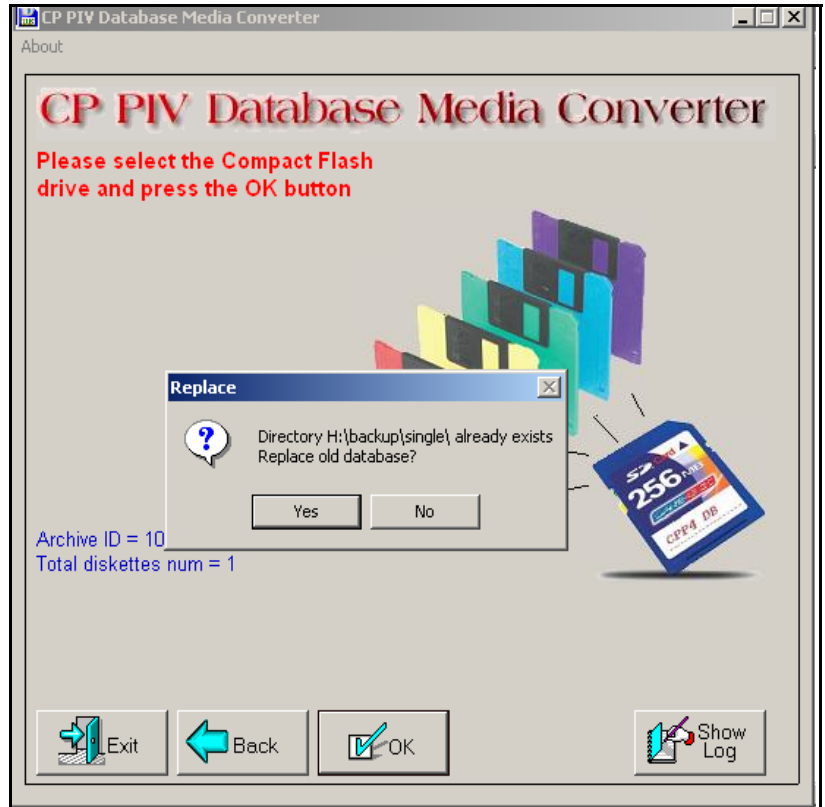
- 5 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 140 on [page 702](#)).

**Figure 140**  
**Select the CF drive**



- 6 At this point, 2 options are available:
- a. If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 141 on [page 703](#)). Click yes to replace old database.
  - b. If the CF card is blank, the database is backed up to the CF card.

**Figure 141**  
**Replace database on CF drive**



- 7 The utility completes the transfer to CF and prompts you to copy another or EXIT.

**Figure 142**  
**Copy another or exit**



---

**End of Procedure**

---

## Identify two unique IP addresses

Each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this



configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

- Contact your System Administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see “Configuring IP addresses” on [page 773](#). These CP PII instructions are identical for CP PIV.

## Check requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

## Perform upgrade

The target upgrade to Meridian 1 Option 81C CP PIV with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0 MByte) support
- Both NTRC46 cables must be the same length



### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

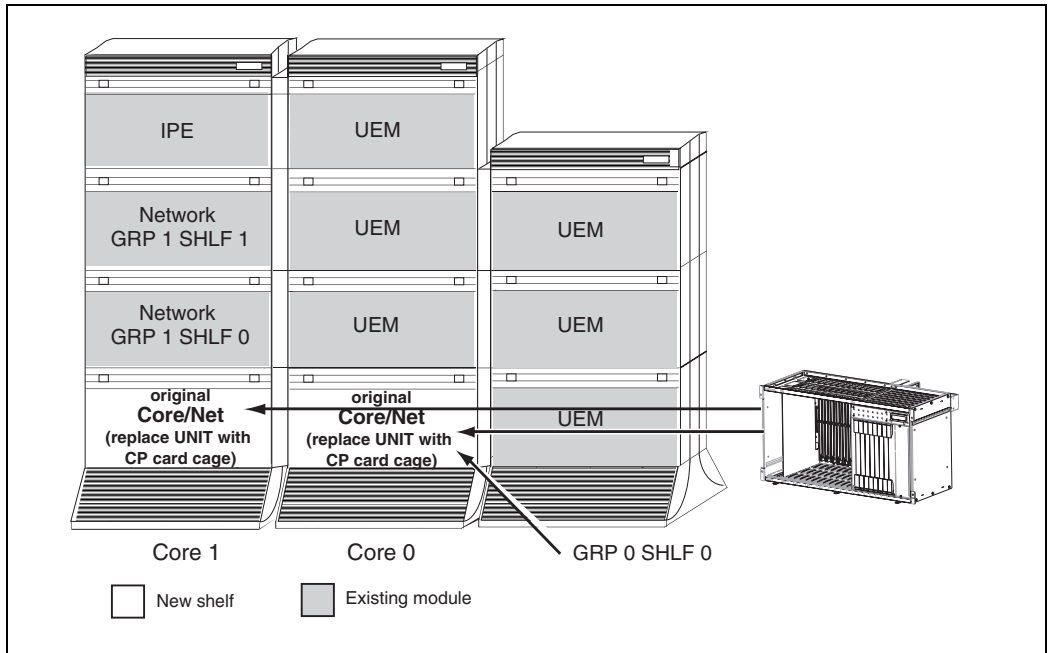


### DANGER OF ELECTRIC SHOCK

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

Figure 143 shows an upgrade from a Meridian 1 Option 81C/IGS to a Meridian 1 Option 81C with CP PIV and Fiber Network Fabric.

**Figure 143**  
**Meridian 1 Option 81C/IGS to Meridian 1 Option 81C CP PIV with FNF**

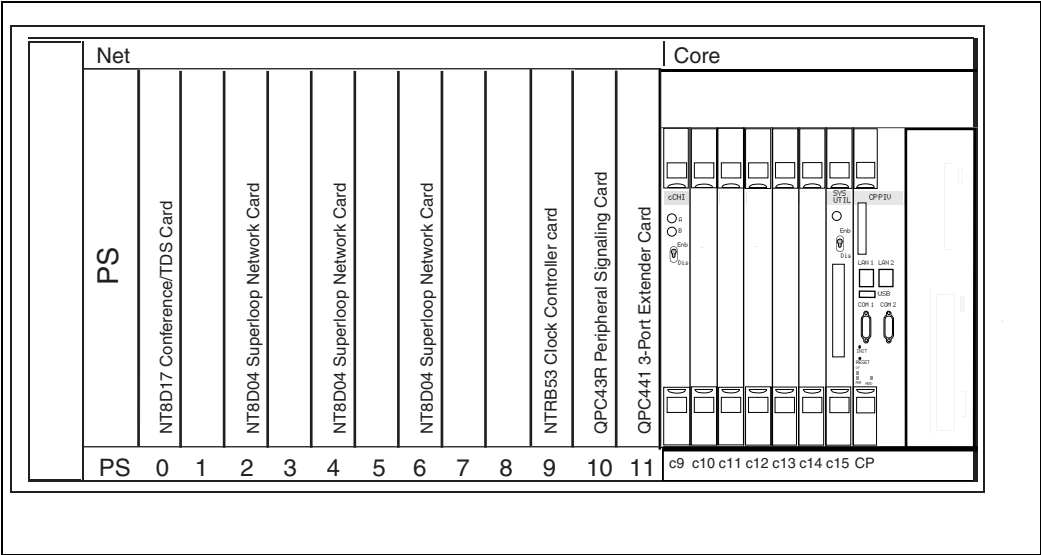


This upgrade takes a Meridian 1 Option 81C/IGS to a Meridian 1 Option 81C CP PIV with FNF. Additional groups can be added by following the procedures “Adding a Network Group (NT4N46)” and “Adding a Network Group (NT4N40)” in Book 3.

To upgrade a Meridian 1 Option 81C/IGS system to a Meridian 1 Option 81C CP PIV with Fiber Network Fabric:

- Two card cages in the existing Core/Net modules are replaced with two NT4N40 CP card cages.
- New CP PIV cards are located in the Core/Net modules or card cage.
- Existing network cards are relocated to the CP card cages.
- Clock Controller cards must be NTRB53AA.
- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

Figure 144  
CP Core/Net Module



Check software received

Compact Flash Software Install Kit (CP PIV)

The Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:

- Install Software files
- CS 1000 Release 4.5 software
- Dep. Lists ( PEPs)
- Key code File
- One blank CF card for database backup
- One Nortel CS 1000 Release 4.5 Documentation CD

## Check equipment received

This section describes the **minimum** equipment required for CP PIV with FNF. Additional equipment can also be installed during the upgrade. Verify that *all* equipment has been received.

Before the upgrade, check that the equipment on the order form is also on the packing slip. Check that all equipment has been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



### **CAUTION**

#### **Service Interruption**

DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

## Check vintage requirements for existing hardware

Make sure that existing hardware meets the following minimum vintage requirements for CP PIV:

- The NT4N65AC cCNI card must be minimum vintage of AC
- The NT4N48 System Utility card must be minimum vintage AA
- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The existing QPC471 Clock Controller cards must be minimum vintage H or the QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.

- NT6D41CA (DC) Power Supply
- NT8D29BA (AC) Power Supply
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If any of the equipment listed does not meet the requirements, replace the equipment before you begin the upgrade.



### CAUTION

#### Service Interruption

Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.

Table 90 describes the *minimum* equipment required to upgrade a system to CP PIV. Table 91 on [page 712](#) and Table 92 on [page 712](#) list the DC and AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

**Table 90**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 1 of 3)**

Order number	Description	Quantity per system
NT4N39	CP PIV Call Processor Card (512 MByte memory)	2
N0026096	MMDU replacement faceplate	2
NT4N40AA	CP Core/Network Card Cage AC/DC	2
NT4N65AC	CP Core Network Interface Card (2 ports)	2
NT4N48	CP System Utility Card	2
NT4N88AA	CP to I/O Panel DTE Cable (48 in.)	2
NT4N88BA	CP to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP to I/O Panel Ethernet Cable (48 in.)	2
*NT8D01BC	Controller - Four Card	1

**Table 90**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 2 of 3)**

Order number	Description	Quantity per system
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft)	
*NT8D91AD	Network to Controller Cable (6 ft)	
*NT8D99AD	CPU to Network Cable (6 ft)	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC17BA	CP Ethernet to Ethernet Cable (8.5 ft)	2
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft - 8 ft))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRC49AA	Clock - Clock Sync Cable	1

**Table 90**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 3 of 3)**

Order number	Description	Quantity per system
NTRE39AA	Optical Cable Management Card (OCMC)	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP Card Slot Filler Panel	Determined by system configuration
<b>Note:</b> *Customer supplied from existing system.		

### Check required power equipment

Table 91 lists the equipment required for DC-powered systems. Table 92 lists the equipment required for AC-powered systems.

**Table 91**  
**DC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2
NTHU50DA	CP PIV Upgrade Kit DC (Misc. Card Cage Components)	2

**Table 92**  
**AC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NTHU50AA	CP PIV Upgrade Kit AC (Misc. Card Cage Components)	2



**Check required tools**

Table 93 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed with that procedure.

**Table 93****List of recommended tools**

- Digital Multimeter (DMM)
- Pliers, needlenose
- Pliers, standard
- Screwdriver, 3/16" flat blade
- Screwdriver, #2 Phillips
- Wire cutters
- Electrical insulation tape
- 5/16" socket wrench
- Electric drill and drill bits
- Hammer and sheet metal center punch
- 1/4" socket wrench
- 3/8" socket wrench
- 1/4" nut driver
- 7/16" socket driver
- 11/32 Deep Socket
- Flashlight

**Check personnel requirements**

Nortel recommends that a minimum of two people perform the card cage upgrade.

### Database requirements

If the system is running pre-release 23 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IOP/CMDU cards, the database must be converted with the Database Transfer utility. See Database Transfer in Book 3

If the source platform is a Meridian 1 Option 51C, 61C, 81, or 81C equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

**Note:** All of the above listed system types can be converted by Nortel in the software conversion lab. Please check the current price manual for the requirements of this service.

## Install Core/Net 1 hardware

### Procedure 219

#### Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 145 on [page 716](#):

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65AC cCNI card per Core/Net module.  
The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65AC Core to Network Interface (cCNI) Card in slot c9 must be configured as "group 0." Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.

- a. Check side ID switch settings for SU card in Core/Net 1 according to Table 94.

**Table 94**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

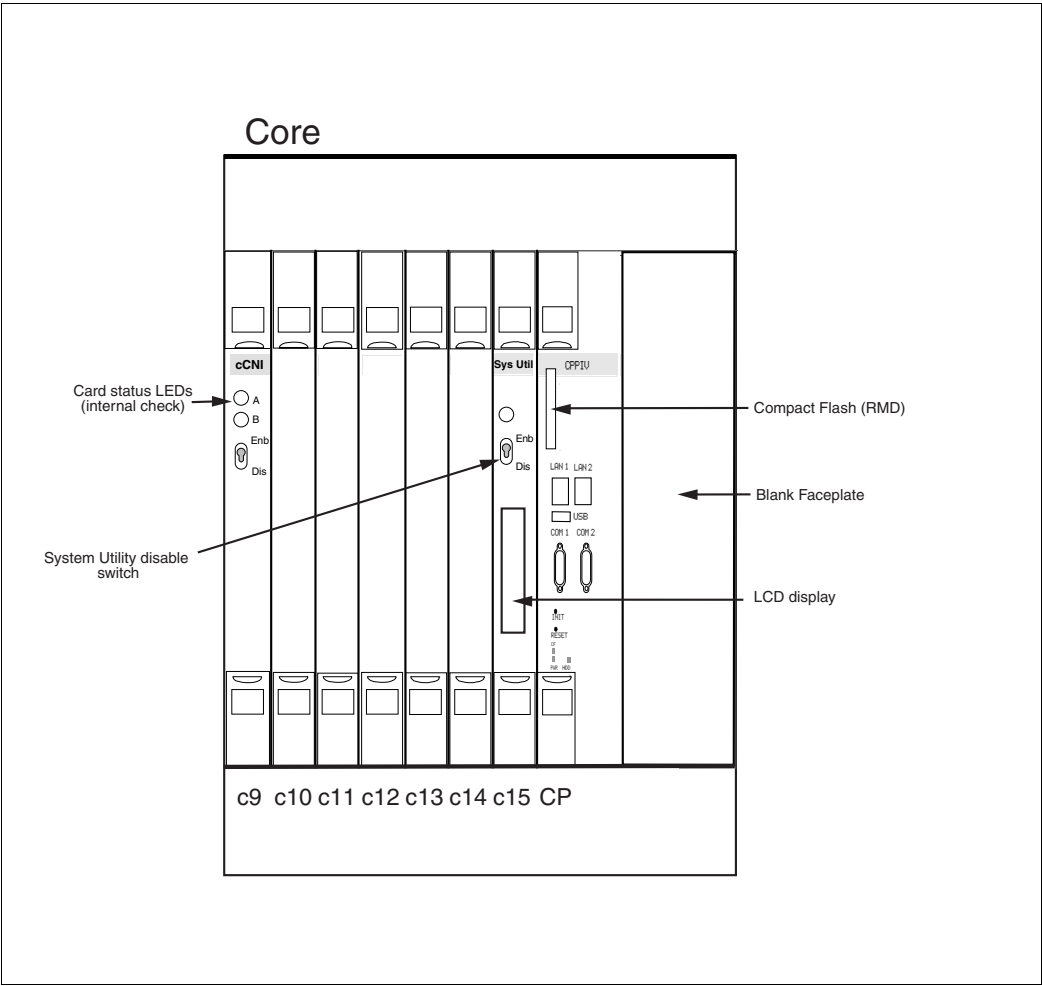
- 4 NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 MMDU faceplate is located in the extreme right-hand slot next to the CP PIV card.

---

**End of Procedure**

---

**Figure 145**  
**Core card placement in the NT4N41 Core/Net Module (front)**



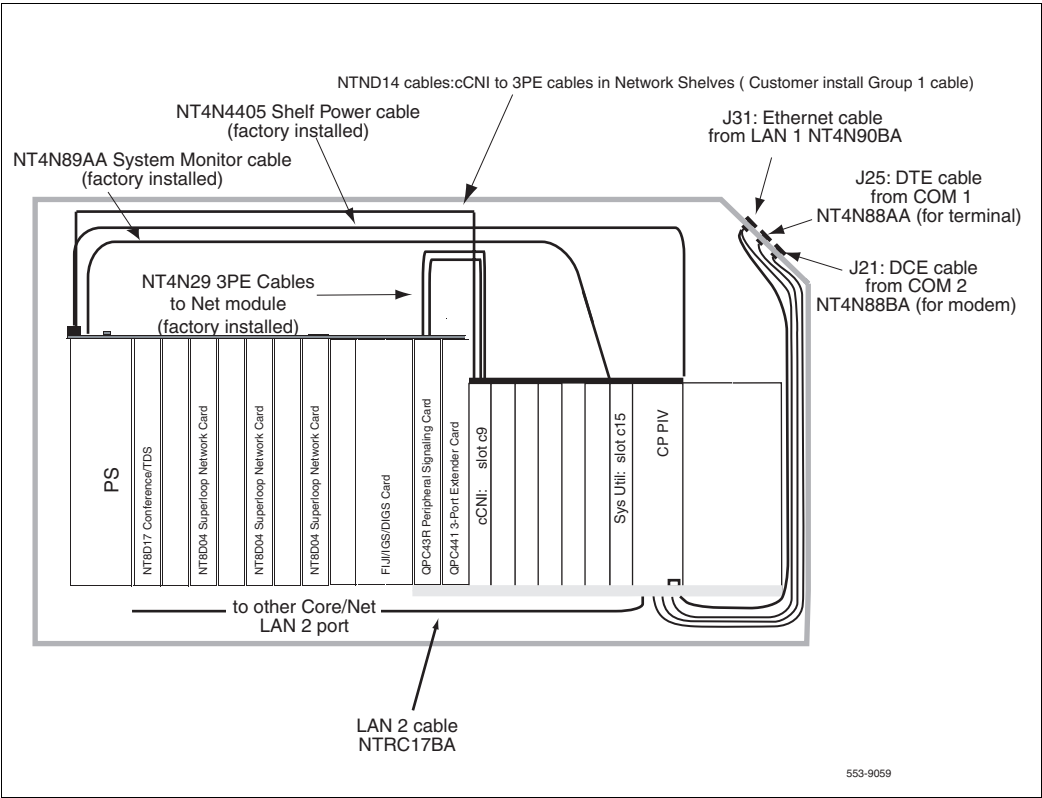
## Check factory-installed cables

Table 95 lists factory-installed cables. See Figure 146 on [page 718](#).

**Table 95**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

**Figure 146**  
**Core/Net cable connections**



## Disable Core 1

### Procedure 220

#### Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing:

- 1 Verify that Core 0 is active.

**LD 135**            Load program

**STAT CPU**        Get status of the CPUs

- 2 If Core 1 is active, make Core 0 active:

**SCPU**            Switch to Core 0 (if necessary)

**\*\*\*\***            Exit program

---

**End of Procedure**

---

### Procedure 221

#### Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

**LD 60**            Load program

**SSCK 0**           Get the status of Clock Controller 0

**SSCK 1**           Get the status of Clock Controller 1

- 2 If Clock Controller 1 is active, switch to Clock Controller 0.

**SWCK**            Switch to Clock Controller 0 (if necessary)

**DIS CC 1**        Disable Clock Controller 1

**\*\*\*\***            Exit the program

- 3 Faceplate disable Clock Controller 1.

---

**End of Procedure**

---

## Disable IGS

### Procedure 222

#### Disable IGS

- 1    Disable the IGS/DIGS cards located in each network group shelf 1:

**LD 39**                    Load program

**DIS IGS X**            X = IGS cards located in each network group shelf 1

**\*\*\*\***                    Exit program

**Note:** To determine the number of the IGS/DIGS card, refer to Table 96.

**Table 96**

**Shelf 1 IGS/DIGS card locations**

Network Group 0	Shelf 1	IGS/DIGS 1 & 3
Network Group 1	Shelf 1	IGS/DIGS 5& 7
Network Group 2	Shelf 1	IGS/DIGS 9 & 11
Network Group 3	Shelf 1	IGS/DIGS 13 & 15
Network Group 4	Shelf 1	IGS/DIGS 17 & 19
<b>Note:</b> The DIGS card should be located in slot 9 of the network shelf.		

---

**End of Procedure**

---



**Procedure 223**  
**Moving Clock Controller 1****CAUTION**

Clock controller cards must be NTRB53 Clock Controller cards.

**CAUTION — Service Interruption**

**Service Interruption occurs if wrong Clock Controller is removed!**

Move only Clock Controller 1 at this point in the upgrade.

Do not move Clock Controller 0 at this time.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 97 on [page 722](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1** Label and disconnect the Clock Controller 1.
- 2** Disconnect the cable from the Clock Controller 1 faceplate card.
- 3** If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4** Remove QPC Clock Controller 1 from the Network Module.
- 5** Set the Clock Controller 1 switch settings according to and Table 97 on [page 722](#).
- 6** Place the NTRB53 Clock Controller in the Network Shelf and slot. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.

7    Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PIV is upgraded to more than 2 Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 97**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
<b>Note:</b> Switch 7 and 8 are not used.						

**End of Procedure**

**Procedure 224**  
**Splitting the Cores**

- 1    In Core 0, set the NORM/MAINT switch on the Call Processor card to MAINT.
- 2    In Core 1, set the ENB/DIS switch on all NT6D65 CNI cards to DIS.

- 3 In Core 1, set the NORM/MAINT switch on the Call Processor card to MAINT.



The system is now in split mode, with call processing on Core 0 with Clock Controller 0 active and IGS in Shelf 0 is active.

---

**End of Procedure**

---

### Software disable Network cards in Core/Net 1 from Core/Net 0



#### **CAUTION**

##### **Service Interruption**

At this point, the upgrade interrupts service.

#### **Procedure 225**

##### **Software disabling cards of Core/Net 1 from Core/Net 0**

- 1 In Core/Net 1 only, software disable all network and I/O cards such as XNET, TTY, Conf/TDS and ISDN cards:

- a. In Core/Net 1 only, disable XNET.

**LD 32** Load program

**DISL sl** Disable the XNET, where sl = the superloop number of the XNET card

\*\*\*\* Exit program

- b. In Core/Net 1 only, disable ENET.

**LD 32** Load program

**DISL X** Disable the ENET, where X= the loop number of the ENET card

\*\*\*\* Exit program

c. In Core/Net 1 only, software disable each port on the SDI cards:

**LD 37**            Load program

**DIS TTY x**        Disable each port, where x = the number of the interface device attached to a port

\*\*\*\*            Exit program

d. In Core/Net 1 only, disable DTI cards.

**LD 60**            Load program

**DISL x**            Disable DTI card, where x = the loop number of the DTI port

\*\*\*\*            Exit program

e. In Core/Net 1 only, disable DCH and PRI cards.

**LD 96**            Load program

**DIS DCH x**        Disable DCH, where x = associated D-Channel

\*\*\*\*            Exit program

**LD 60**            Load program

**DISL x**            Disable PRI card, where x = the loop number PRI port

\*\*\*\*            Exit program

f. In Core/Net 1 only, disable MSDL cards.

**LD 48**            Load program

**DIS MSDL x**      Disable MSDL card, where x = the MSDL card number. System will respond with group 0

\*\*\*\*            Exit program

**g.** In Core/Net 1 only, disable XCT cards.

**LD 34** Load program

**DISX x** Disable XCT card, where x = the superloop number of the XCT card

**\*\*\*\*** Exit program

**2** In Core/Net 1 only, software disable the QPC43 Peripheral Signaling Card:

**LD 32** Load program

**DSPS x** Disable QPC43 card. Table 98 lists Peripheral Signaling Card numbers

**\*\*\*\*** Exit the program

**Table 98**  
**Peripheral Signaling Card numbers**

Group/ shelf	Peripheral Signaling Card	Loops disabled/enabled		
0 / 0	0	0	—	15
0 / 1	1	16	—	31
1 / 0	2	32	—	47
1 / 1	3	48	—	63
2 / 0	4	64	—	79
2 / 1	5	80	—	95
3 / 0	6	96	—	111
3 / 1	7	112	—	127
4 / 0	8	128	—	143
4 / 1	9	144	—	159
5 / 0	10	160	—	175
5 / 1	11	176	—	191
6 / 0	12	192	—	207
6 / 1	13	208	—	223
7 / 0	14	224	—	239
7 / 1	15	240	—	255

- 3    In Core/Net 1 only, faceplate disable the 3PE, Per Sig and all network cards.
- 4    Faceplate disable all IGS/DIGS cards in each network shelf 1.

---

**End of Procedure**

---



### **CAUTION**

#### **Service Interruption**

The system can shut down if the system monitors are not removed. Remove the monitors and keep the cooling fans ON.

### **Procedure 226**

#### **Removing the system monitors from Core 0 and Core 1**

**Note:** This procedure applies to both AC and DC systems.

- 1    In **Core 0**, software disable the master system monitor (NT8D22):

**LD 37**                      Load program

**DIS TTY #**              Disable master system monitor TTY interface

- 2    Remove J3 and J4 cables on Core 0 and Core 1 system monitors.

**Note:** Do *not* turn off the blower units in the front of the pedestals.

- 3    Remove the system monitor from the rear of the pedestal on Core 0 and Core 1.

---

**End of Procedure**

---



### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## Power down Core/Net 1



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to OFF (down position).

### Procedure 227

#### Removing Core 1 cables and card cage

- 1 Label and disconnect all cables from the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage. The screws secure the card cage to the module casting. Keep the screws for use with the CP card cage.



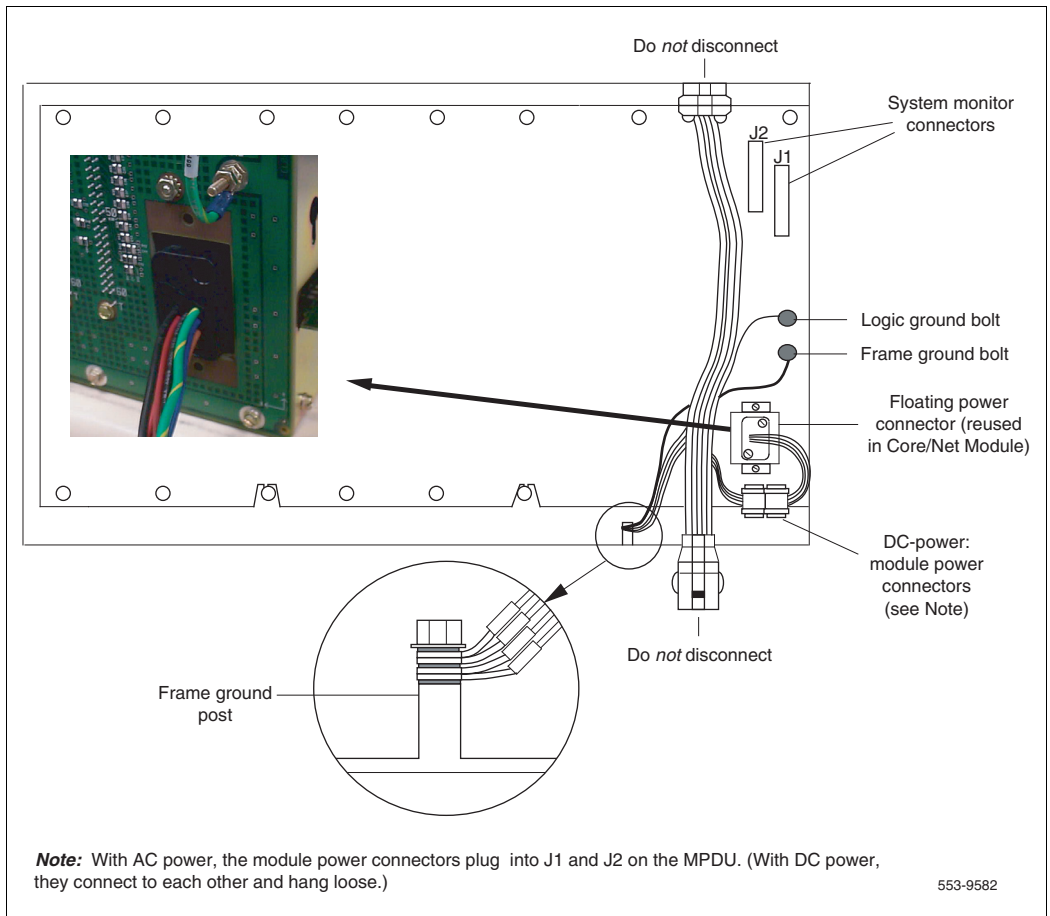
**CAUTION**

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

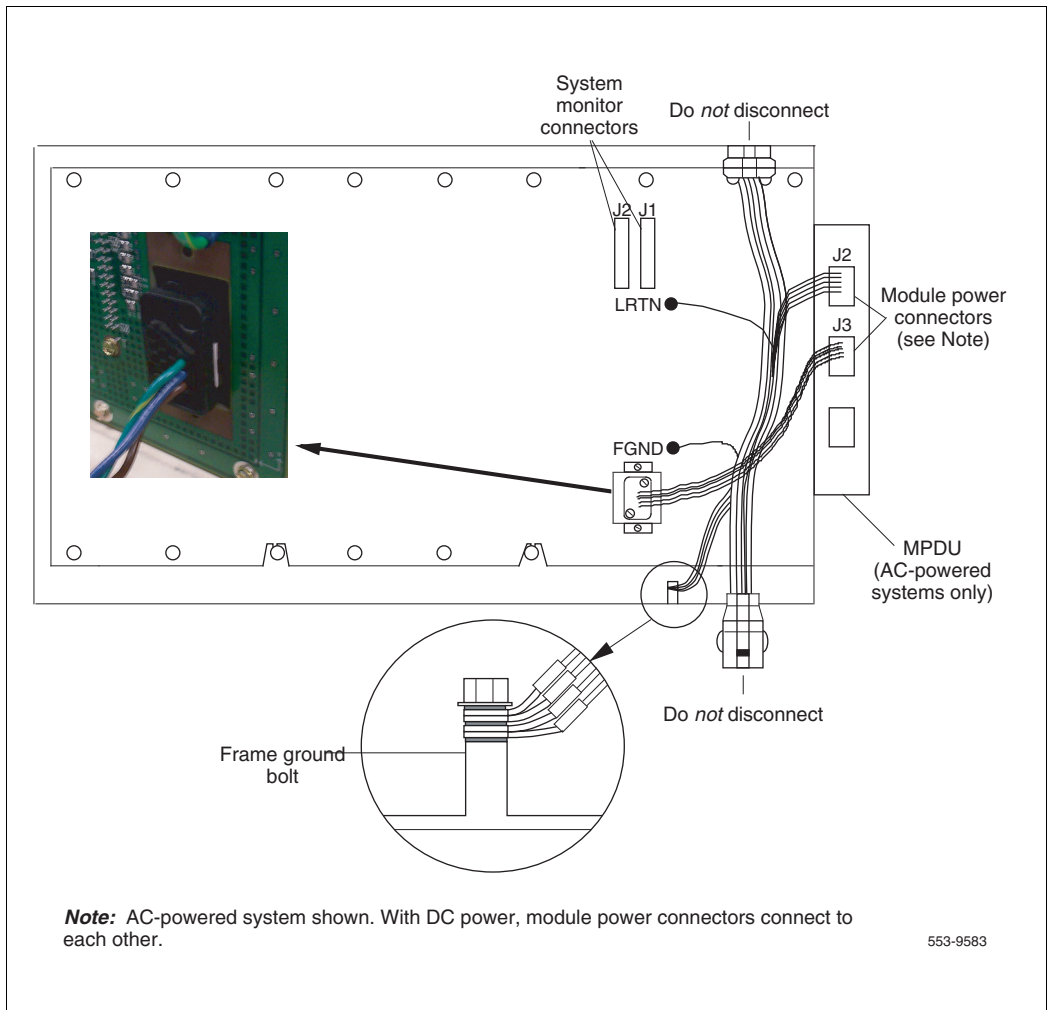
- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Keep the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful not to drop the nut or lock washer into the pedestal. See Figure 147 on [page 729](#) for DC power connectors. See Figure 148 on [page 730](#) for AC power connectors.
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.
- 17 Remove the power harness and reserve it for reinstallation when you install the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
  - For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.



**Figure 147**  
**DC power connectors on the Core module backplane**



**Figure 148**  
**AC power connectors on the Core module backplane**



- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



**WARNING**

If you do not tape the EMI shield in position, you will not be able to install the card cage in the module correctly.



**CAUTION**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

## Install the CP card cage in Core 1

**Procedure 228**  
**Installing the CP card cage in Core 1**

- 1
- Check that the card cage is configured as Core 1. See Table 99 for instructions.

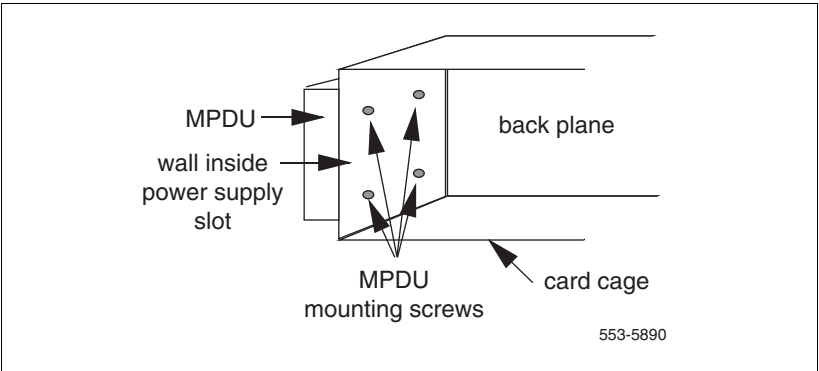
**Table 99**  
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 2
- For AC-powered systems only, attach the MPDU, part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 149.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

**Figure 149**  
**Location of the screws for the MPDU**



- 3
- Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- 4 Slide the CP card cage halfway into the module.
- 5 Hold the card cage firmly and make the following connections at the rear of the module.
  - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that may have fallen into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
      - c. Attach the system monitor ribbon cables:
        - i. Connect the ribbon cable that goes down to the column to connector J1 on the backplane.
        - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
      - d. Use a 11/32" socket wrench to attach the green ground wire to the frame ground bolt on the module. Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.
- Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" socket wrench.)
  - 6 Slide the card cage all the way into the module.

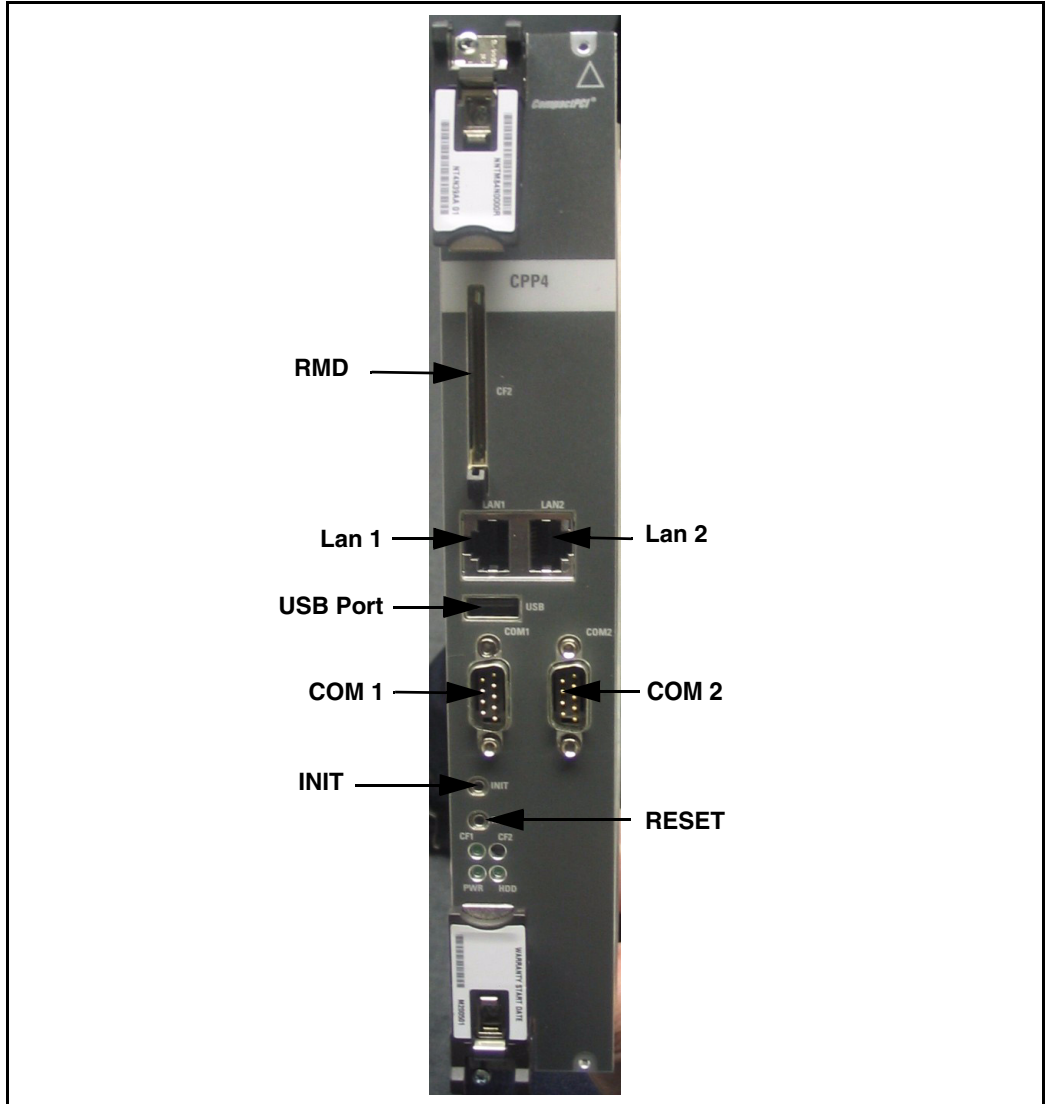
- 7**    Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8**    Secure the card cage and EMI shield to the module re-using the existing screws.
- 9**    Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a.**    Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b.**    Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10**   Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11**   Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

**Figure 150**  
**CP PIV call processor card (front)**



## **Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply**

### **Procedure 229**

#### **Installing the power supply**

- 1**    Unpack the power supply.
- 2**    Faceplate disable the power supply.
- 3**    Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### **Procedure 230**

#### **Relocating Network cards to CP PIV Core/Net 1**

- 1**    Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 1 except for the IGS/DIGS cards.
- 2**    Connect the tagged cables to the relocated cards.
- 3**    When you move the 3PE card, check the switch settings and jumpers. See Table 100 on [page 737](#).
  - a.**    All 3PE cards must be vintage F or later.
  - b.**    Check that the RN27 Jumper is set to "A".



- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 100 shows the 3PE settings for cards installed in CP Core/Net Modules.

**Table 100****QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

---

**End of Procedure**


---

**Procedure 231**  
**Installing the Security Device**

The Security Device fits into the System Utility card (see Figure 151 on [page 739](#)). To install the Security Device, do the following.

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a. Unlock the latches and remove the IODU/C card.
  - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

Or

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

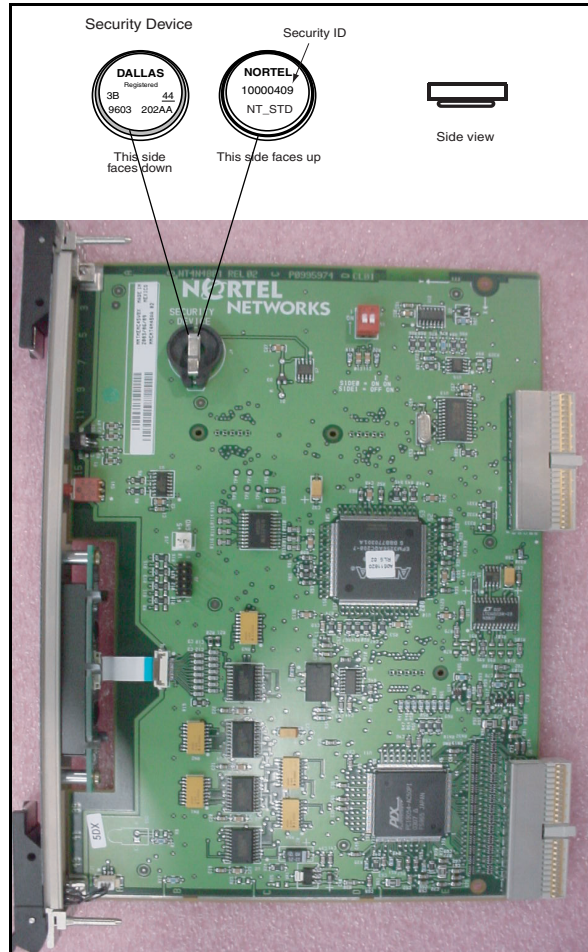
- 2 Check that the Security Device is securely in place.

---

**End of Procedure**

---

**Figure 151**  
**Security Device**

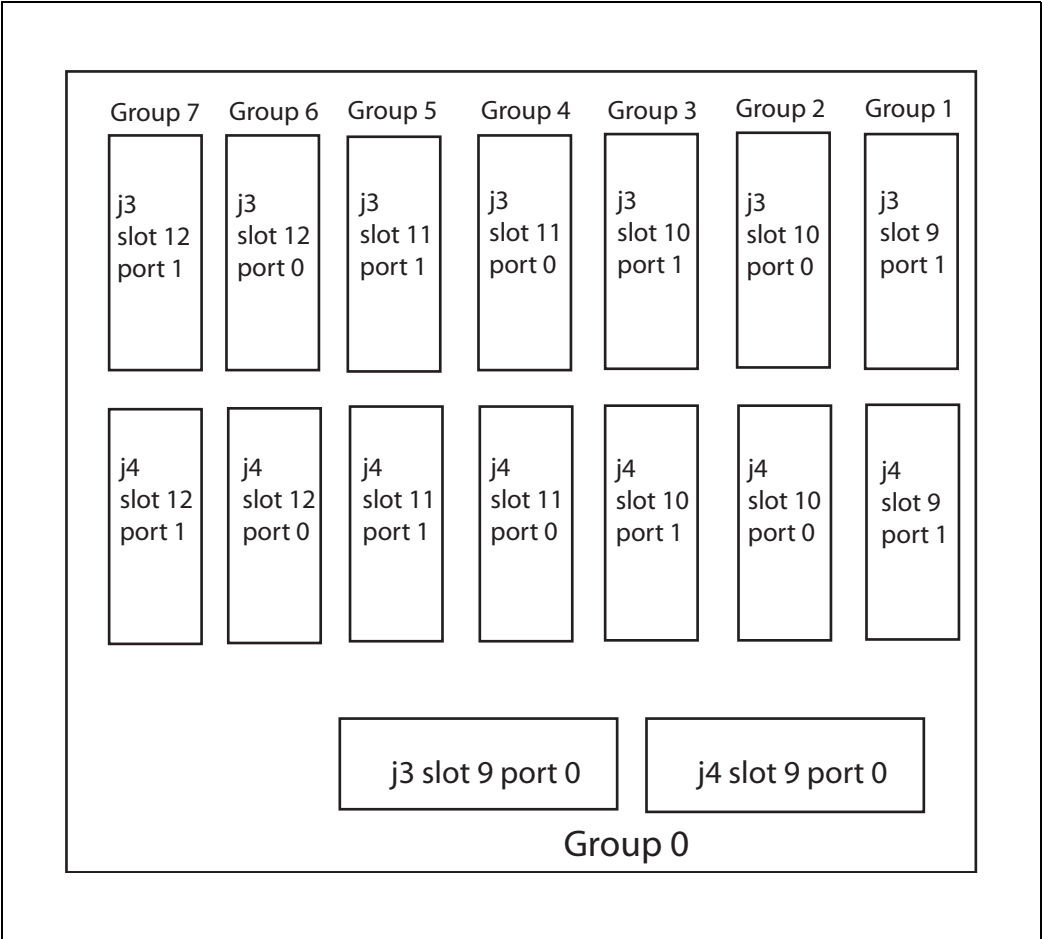


## Cable Core 1

### In Core 1, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 1. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

Figure 152  
Connectors for CNI-3PE cables to the Fanout panel



**In Core 1, route and connect the cCNI to 3PE (NTND14) cables**

The existing NTND14 cables may be reused if they meet the requirements of the Important box below. If it is determined that existing NTND14 cables must be replaced on side 1, remove the existing cables and replace with the correct length cables. Connect the NTND14 cables to the Fanout panel in Core/Net 1 and the 3PE cards in each equipped network group shelf 1. See Table 101 on [page 743](#) and Figure 153 on [page 745](#).

**IMPORTANT!**

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PIV, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from

the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 152 on [page 740](#).



**WARNING**

**Damage to Equipment**

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

**Table 101**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1. See Figure 153 on [page 745](#).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 153 on [page 745](#).

## Adding Side 1 FIJI hardware

### Procedure 232

#### Adding Side 1 FIJI hardware

Follow the procedures below in sequence:

- 1    Tag and disconnect the IGS/DIGS cables.
- 2    Remove the IGS/DIGS cards from Side 1.
- 3    Faceplate disable the FIJI cards.
- 4    Insert the FIJI cards in Side 1. **DO NOT seat the FIJI cards.**

**Note:** FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.

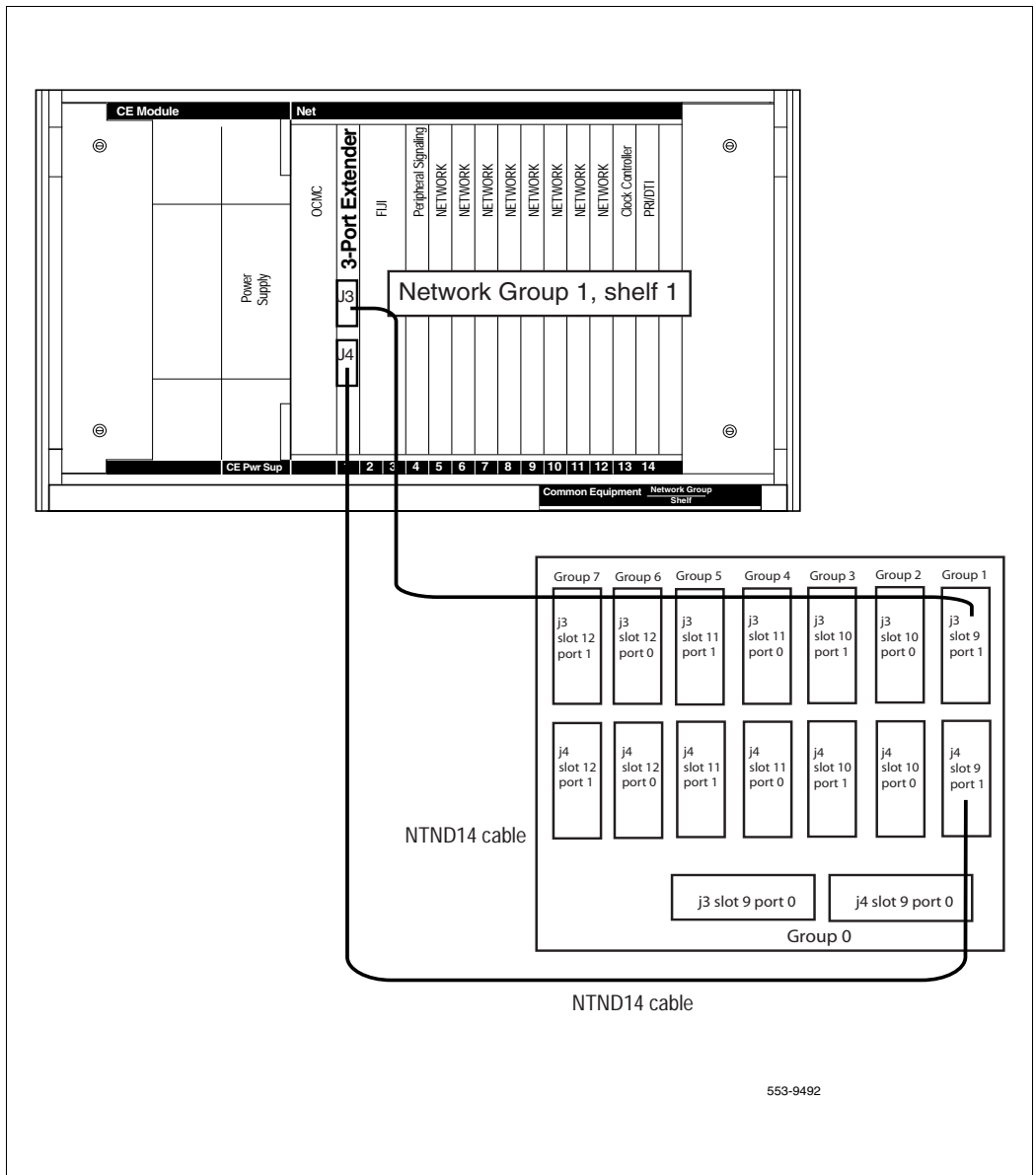
---

**End of Procedure**

---



**Figure 153**  
**3PE Fanout Panel connections**



### Procedure 233

#### Connecting the shelf 1 FIJI Ring cables (descending)



#### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (see Figure 154 on [page 747](#) and Table 102 on [page 748](#)).

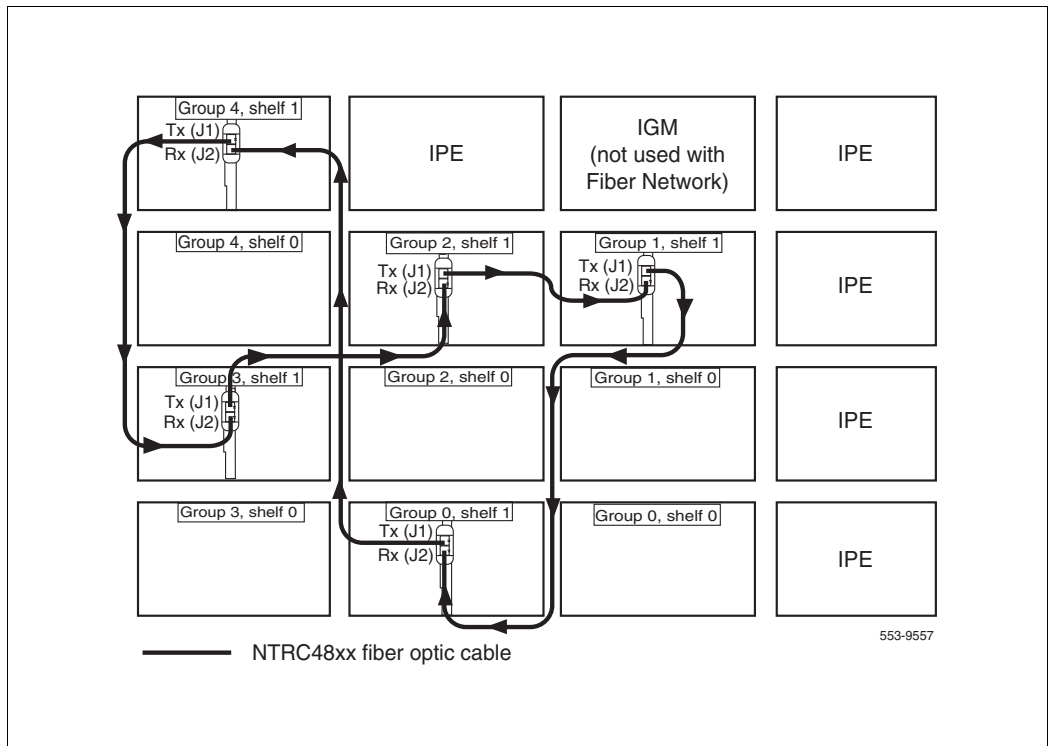
Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled "Tx" or Rx" in the factory.

- 1 Start with Network group 0, shelf 1.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 1** to the Rx (J2) port of the FIJI card in the **highest Network group, shelf 1**.
- 3 Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 1 of each Network group. Connect these cables in **descending** order of Network groups.

**Figure 154**

**Shelf 1 *descending* fiber optic Ring (Meridian 1 Option 81C 5 group example)**



- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

**Note:** Connect the Side 1 FIJI Ring cables only.

**Table 102**  
**FIJI Ring 1 connections**

Groups 0 - X are cabled in descending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/1	P1	Tx
7/1	P2	Rx
7/1	P1	Tx
6/1	P2	Rx
6/1	P1	Tx
5/1	P2	Rx
5/1	P1	Tx
4/1	P2	Rx
4/1	P1	Tx
3/1	P2	Rx
3/1	P1	Tx
2/1	P2	Rx
2/1	P1	Tx
1/1	P2	Rx
1/1	P1	Tx
0/1	P2	Rx

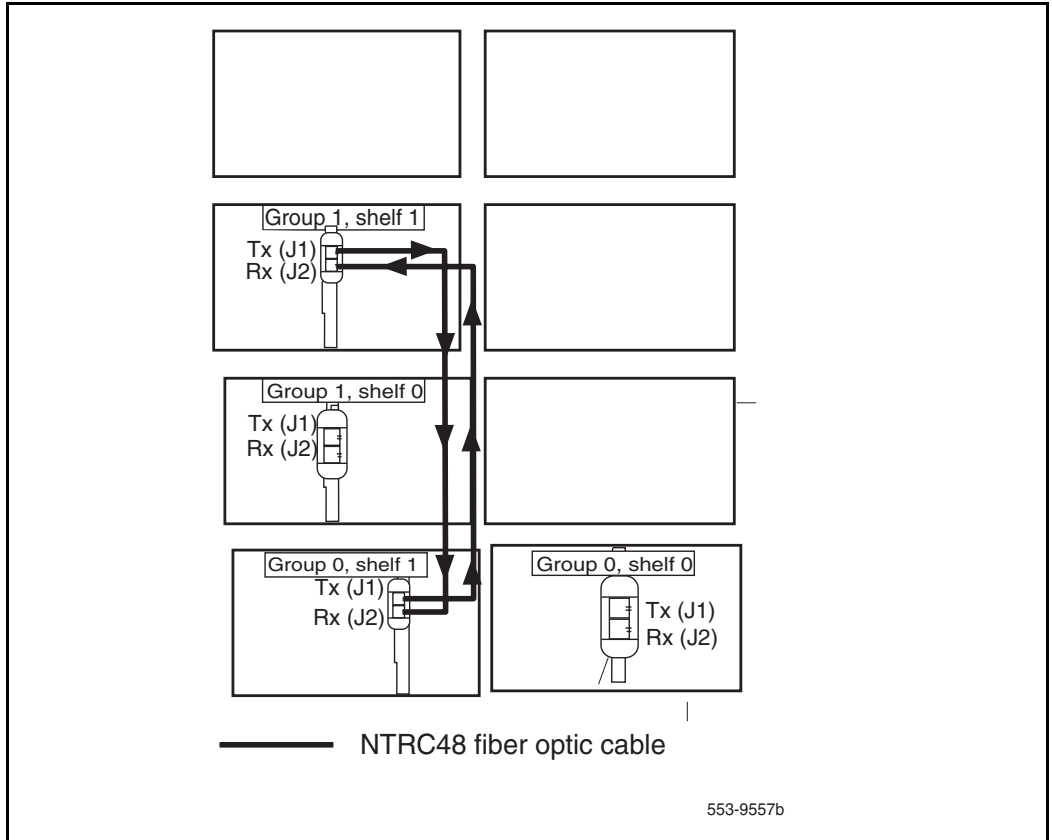
---

**End of Procedure**

---

**Figure 155**

**Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



## Cable the Clock Controller 1 to FIJI

### Procedure 234

#### Cabling the Clock Controller 1 to FIJI

Connect the cables to the Clock Controller 1 as shown in Figure 156 on [page 751](#):

- 1    Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2    Connect P2 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, shelf 1.

---

**End of Procedure**

---

## Power up Core 1

### Procedure 235

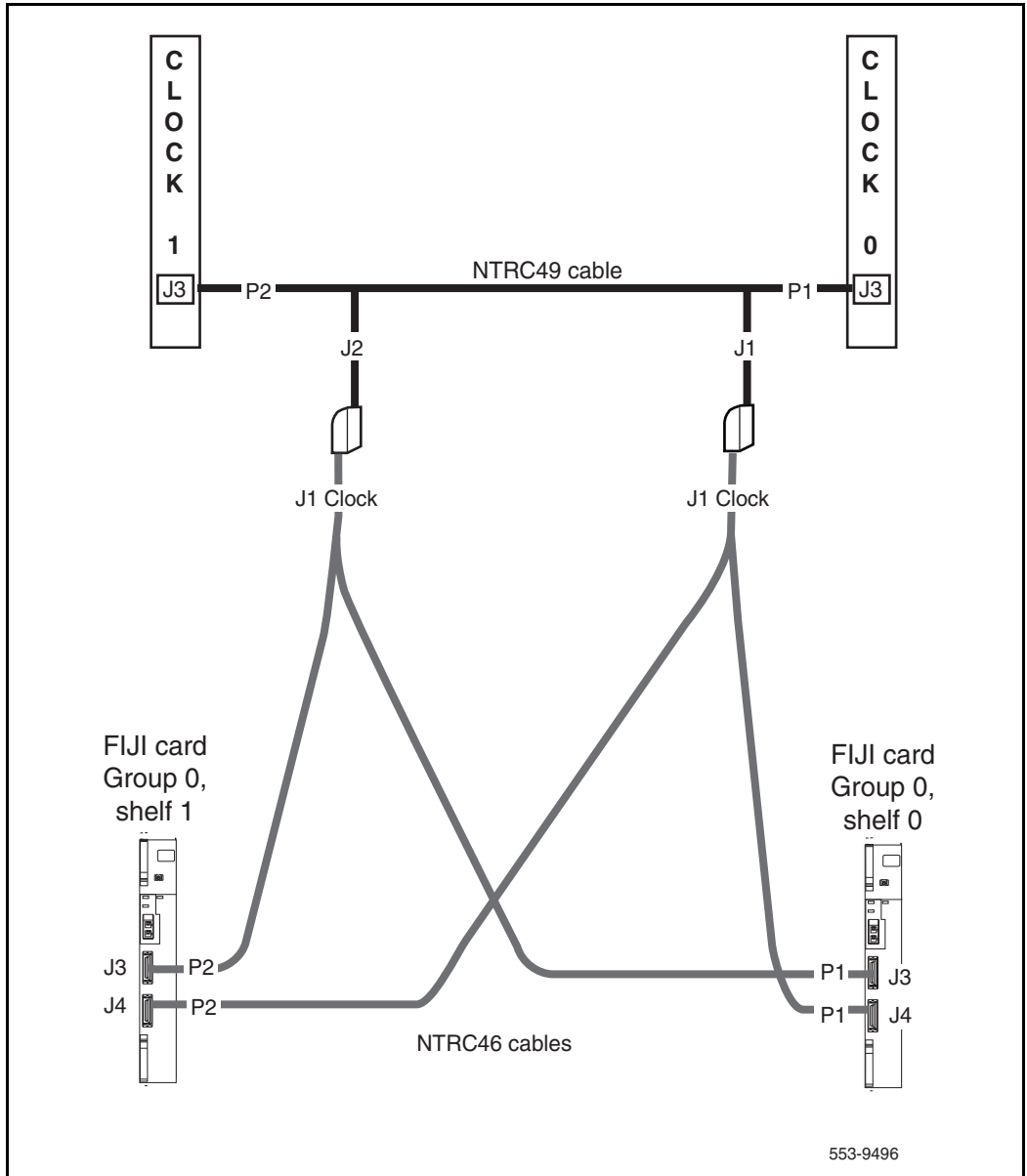
#### Preparing for power up

- 1    Check that a terminal is connected to the J25 I/O panel connector on Core/Net 1.  
  
**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.
- 2    Connect a terminal to the J25 port on the I/O panel in the *inactive* Core.
- 3    Check the terminal settings as follows:
  - a.   9600 Baud
  - b.   8 data
  - c.   parity none
  - d.   1 stop bit
  - e.   full duplex
  - f.   XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side to side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

- 4    Faceplate *enable* all core and network cards.

**Figure 156**  
**Clock Controller cable configuration**



- 5    Faceplate *enable* the power supply.

---

**End of Procedure**

---

## Power up Core cards

### Procedure 236

#### Powering up core cards

- 1    For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2    For DC-powered systems: set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

---

**End of Procedure**

---

## Restore power

### Procedure 237

#### Restoring power

- 1    Restore power to Core/Net 1.
- 2    Wait for the system to load/initialize.
- 3    Check that the Network and I/O cards have working power.



System is in split mode, CP 0 is active, clock 0 is active, all network cards in shelf 1 are software disabled.

---

**End of Procedure**

---



## **CS 1000 Release 4.5 upgrade**

### **Upgrading the software**

Procedure 238 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

#### **Procedure 238**

##### **Upgrading the software**

- 1** Check that a terminal is now connected to COM 1.
- 2** Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
and size ...
    Number of partitions  0:
    Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

The Fix Media Device on Core x is blank.

Install cannot continue unless the FMD is partitioned.

Note: INSTALL WILL REBOOT AFTER THIS PROCEDURE AND

FIX MEDIA WILL BE EMPTY AFTER YOU PARTITION IT.

INSTALL REMOVABLE MEDIA MUST BE IN THE DRIVE AT THIS TIME.

Please enter:

<CR> -> <a> - Partition the Fix Media Device.

Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...
fdiskDevCreate(/dev/hda2)
/dev/hda2: partTablePtr = 0x12d5ff0c
Found partition 2, nodePtr = 0x12d30a4c
Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
    FAT

    Sectors reserved -15421, hidden -1010580541,
    FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
    number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
    FAT

    Sectors reserved 32, hidden 63, FAT sectors
    1216

    Root dir entries 0, sysId VX5DOS32, serial
    number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```

Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...

```

**6** The system then enters the Main Menu for keycode authorization.

```

                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
          <t> - To Tools menu.
          <q> - Quit.

Enter Choice> <u>

```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

          <CR> -> <a> - RMD is now in the drive.
          <q> - Quit.

Enter choice>

```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "<y>" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd   1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".



- 7 Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...  
  
Copying "/cf2/keycode/KCport60430m.kcd" to "/u/  
keycode" -  
  
Copy OK: 1114 bytes copied  
  
The provided keycode authorizes the install of  
xxxx software (all subissues) for machine type  
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8 The system requests keycode validation.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please confirm that this keycode matches the  
System S/W on the RMD.

Please enter:

<CR> -> <y> - Yes, the keycode matches.  
Go on to Install Menu.

<n> - No, the keycode does not match.  
Try another keycode.

Enter choice>

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L     M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.  
          <b> - To install Software, Database, CP-  
BOOTROM.  
          <c> - To install Database only.  
          <d> - To install CP-BOOTROM only.  
          <t> - To go to the Tools menu.  
          <k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.  
<q> - Quit.

Enter Choice> **<b>**

- 10** The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the drive on Core x.

Please enter:

<CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

<q> - Quit.

Enter choice> **<CR>**

- 11** If the RMD containing the software is already in the drive, select option "<a> - RMD is now in drive. Continue with s/w checking." (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 12 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>
```

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13 The Dependency List menus appear.

```
Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice> y

>Processing the install control file ...

>Installing release xxxx
```

**14** The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
SW: RMD to FMD	yes		install for rel XXXXX	
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
Dependency Lists	yes			
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
=====+=====+=====+=====				
DATABASE	yes			
Option	Choice	Status	Comment	
=====+=====+=====+=====				
CP-BOOTROM	yes			

- 15    Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.

        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```

- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>
```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```
The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>
```



# 19 Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>

```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

```

-----
                    INSTALLATION STATUS SUMMARY
-----
+-----+-----+-----+-----+
| option | choice | status | comment |
+-----+-----+-----+-----+
| Sw: RMD to FMD | yes | OK | install for rel 04xxx |
+-----+-----+-----+-----+
| Dependency Lists | yes | OK | |
+-----+-----+-----+-----+
| AUTO-CSU Feature | no | | AUTO-CSU Disabled |
+-----+-----+-----+-----+
| IPMG Software: | no | | |
+-----+-----+-----+-----+
| Database | yes | OK | conversion from xxxx |
+-----+-----+-----+-----+
| CP-BOOTROM | yes | OK | |
+-----+-----+-----+-----+

Please press <CR> when ready ...

```

**20** Upon returning to the main install menu, enter **q** to quit.

```

                I N S T A L L   M E N U

The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database, CP-
BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools menu.
        <k> - To install Keycode only.

        For Feature Expansion, use OVL143.
        <p> - To install 3900 set Languages.
        <q> - Quit.

Enter Choice> q
```

- 21** The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.


    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.


-----

DO NOT REBOOT USING BUTTON!!!

-----


    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

---

**End of Procedure**

---

## Verify the upgraded database

### Procedure 239

#### Verifying the upgraded database

- 1    Print ISSP (system software issue and patches)

**LD 22**                    Load program

**REQ**                    ISSP

**\*\*\*\***                    Exit program

- 2    Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22**                    Load program

**REQ**                    PRT

**TYPE**                   CFN

**\*\*\*\***                    Exit program

- 3    Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22**                    Load program

**REQ**                    SLT

**\*\*\*\***                    Exit program

- 4 Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program

## Configuring IP addresses

### Procedure 240 Configuring the IP addresses

Two unique IP address are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following to check the status of the system's IP address:

<b>LD 117</b>	Load program
<b>PRT HOST</b>	Print the configured host information

If the system returns with host names "active" and "inactive", go to "Check for Peripheral Software Download to Core 1" on [page 774](#). If the system returns no host names, complete the steps below.

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

<b>LD 117</b>	Load program
<b>NEW HOST NAME 1 IP ADDRESS</b>	Define the first IP address: "name 1" is an alias for the IP address such as "primary" (The IP address is the IP number)
<b>CHG ELNK ACTIVE NAME 1</b>	Assign the "name 1" address to the <i>active</i> Core

<b>NEW HOST ‘NAME 2’ ‘IP ADDRESS’</b>	Define the second IP address: “name 2” is an alias for the IP address such as “secondary” (The IP address is the IP number)
<b>CHG ELNK INACTIVE NAME 2</b>	Assign the “name 2” address to the <i>inactive</i> Core.
<b>CHG MASK XXX.XXX.XXX.XXX</b>	Set the sub-net per local site (This number allows external sub-nets to connect to the system)

4
Enable the new Ethernet interface.

<b>LD 137</b>	Load program
<b>update dbs</b>	Update the ELINK database
<b>dis elnk</b>	<i>Disable</i> the old IP interface values
<b>enl elnk</b>	<i>Enable</i> the new IP interface values

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 686](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Load LD 22 and print Target peripheral software version.

**LD 22**

<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

For systems with fewer than eight groups, delete CNIs

Procedure 241  
 Deleting CNIs

Software has configured the system for eight groups. If the system has eight groups, skip this procedure. If the system has fewer than eight groups, you must software remove the CNIs not used in the system configuration:

- 1 In Core/Net 1, disable all cCNI cards using LD 135:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get status of all cCNI cards
<b>DIS CNIP x s p</b>	Disable cCNI ports where: x = Core number (0 or 1) s = card slot (9-12) p = port (0 or 1)
<b>DIS CNI x s</b>	Disable cCNI cards where: x = Core number (0 or 1) s = card slot (9-12)
<b>STAT CNI</b>	Confirm that cCNI cards are disabled
<b>****</b>	Exit program

- 2 Use LD 17 to remove the extra cCNI cards.

<b>LD 17</b>	Load program
<b>CHG</b>	CFN
<b>TYPE</b>	CEQU
<b>CEQU</b>	
<b>carriage return to EXTO</b>	
<b>EXTO 3PE</b>	Core/Net 0 extended to 3PE



**CNI s p x**                      Out the cCNI card, where:  
s = card slot (9-12)  
p = port (0 or 1)  
x = out network group

**EXTI 3PE**                      Core/Net 1 extended to 3PE

**CNI s p x**                      Out the cCNI card, where:  
s = card slot (9-12)  
p = port (0 or 1)  
x= out network group

**carriage return to end  
of program**

\*\*\*\*                              Exit program

**3**    Use LD 135 to re-enable cCNI cards:

**LD 135**                      Load program

**STAT CNI**                    Get status of all cCNI cards

**ENL CNI x s**                Enable cCNI cards where:  
x= Core number (0,1)  
s = card slot (9-12)

**ENL CNIP x s  
p**                            Enable cCNI ports where:  
x= Core number (0,1)  
s = card slot (9-12)  
p = port (0 or 1)

**STAT CNI**                    Confirm that cCNI cards are enabled (see note  
below)

\*\*\*\*                              Exit program

**Note:** At this point, cCNI cards in Core 1 are controlled by the active call processor in Core 0. Therefore, it remains disabled.

---

**End of Procedure**

---

## Reconfigure I/O ports and call registers

### Procedure 242

#### Reconfiguring I/O ports and call registers

- 1 Remap all I/O ports (except CPSI ports) to the proper groups.  
The group number of these ports is determined by the physical location of the card. The configuration information must match the CNI configuration

```
LD 17          Load program
CHG            CFN
TYPE          ADAN CHG AAA X G
carriage
return to end
of program
****          Exit program
```

- 2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 1000 and 20000 (respectively). If changes are required, reconfigure the values in LD 17:

```
LD 17          Load program
CHG            CFN
TYPE          PARM
carriage
return to end
of program
****          Exit program
```

---

End of Procedure

---

**Procedure 243**  
**Rebooting Core 1****CAUTION****Service Interruption**

The INI may take up to 15 minutes to complete.

**CAUTION****Service Interruption**

Call processing is interrupted for approximately 60 minutes while the procedures are completed.

At this stage, Core 0 is still the active call processor with Clock Controller 0 active. The following procedure will transfer call processing from Core 0 to Core 1, switching Clock Controller from 0 to 1 and switching from IGS/DIGS to FIJI.

- 1 In Core/Net 0 only, faceplate disable the CNI cards.
- 2 In Core/Net 0 only, faceplate disable the IODU/C card.
- 3 In Core/Net 0 only, unseat the Core Processor card.
- 4 Faceplate disable Clock Controller 0 and unseat the card.
- 5 Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.
- 6 Seat and faceplate enable Clock Controller 1.
- 7 Seat and faceplate enable all FIJI cards in shelf 1.
- 8 Press the 'RESET' button on the CP PIV card faceplate to initialize the system.

- 9     Wait for “DONE” and then “INI” messages to display before you continue.



**CAUTION**

**Service Interruption**

Allow the system to recover from all downloads after the INI completes.

**Note:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring; downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets. Upon INI completion, RING 1 is full, FIJI Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.



Call Processing is now active on Call Processor 1 (except for network cards on Core/Net 0).

---

**End of Procedure**

---

## Disable and remove equipment from Core/Net 0

**Note:** At this point, the active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

### Procedure 244

#### Faceplate disabling cards in Core/Net 0:

- 1 In Core/Net 0 only, faceplate disable the 3PE, Per Sig and all network cards.
- 2 Faceplate disable all IGS/DIGS cards in each network shelf 0.

---

**End of Procedure**

---

**Table 103**

**Shelf 0 IGS/DIGS card locations**

Network Group 0	Shelf 0	IGS/DIGS 0 & 2
Network Group 1	Shelf 0	IGS/DIGS 4 & 6
Network Group 2	Shelf 0	IGS/DIGS 8 & 10
Network Group 3	Shelf 0	IGS/DIGS 12 & 14
Network Group 4	Shelf 0	IGS/DIGS 18 & 20
<b>Note:</b> The DIGS card should be located in slot 9 of the network shelf.		

**Procedure 245**  
**Moving Clock Controller 0**



**CAUTION**

Clock controller cards must be NTRB53 Clock Controller cards.



**CAUTION**

**Service Interruption**

Move only Clock Controller 0 at this point in the upgrade.

If the system has a QPC Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 97 on [page 722](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1    Label and disconnect the Clock Controller 1.
- 2    Disconnect the cable from the Clock Controller 1 faceplate card.
- 3    If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4    Remove QPC Clock Controller 1 from the Network Module.
- 5    Set the Clock Controller 1 switch settings according to and Table 97 on [page 722](#).
- 6    Place the NTRB53 Clock Controller in the Network Shelf and slot. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.

**7** Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group 1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PIV is upgraded to more than two Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 104**  
**Clock Controller switch settings for NTRB53**

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
1	2	3	4		5	6
Multi-group = Off  Single group = On	21E = Off  51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On  Side 1 = Off	71,81 = Off  21E, 51, 51C, 61. 61C, 81C = On
		Off	On	4.6–6.1 m (15–20 ft)		
		On	Off	6.4–10.1 m (21–33 ft)		
		On	On	10.4–15.2 m (34–50 ft)		
<b>Note:</b> Switch 7 and 8 are not used.						

**End of Procedure**

**Procedure 246**  
**Cabling the Clock Controllers**

**Note:** Earlier in the upgrade, you checked that Clock Controller 1 is installed in Network 1 shelf 1, slot 13; and Clock Controller 0 has been moved to Network group 1 shelf 0, slot 13.

**Note:** Connect the cables to the Clock Controllers as shown in Figure 157 on [page 785](#):

- 1    Connect the Clock to Clock cable:
  - a.    Connect J1 of the NTRC49 cable to port J3 of Clock Controller 0.
  - b.    Connect J2 of the NTRC49 cable to port J3 of Clock Controller 1.
- 2    Connect a Clock 0 to FIJI cable:
  - a.    Connect J2 of the NTRC46 cable from Clock 0 to J4 of the FIJI card in Group 0, shelf 1.

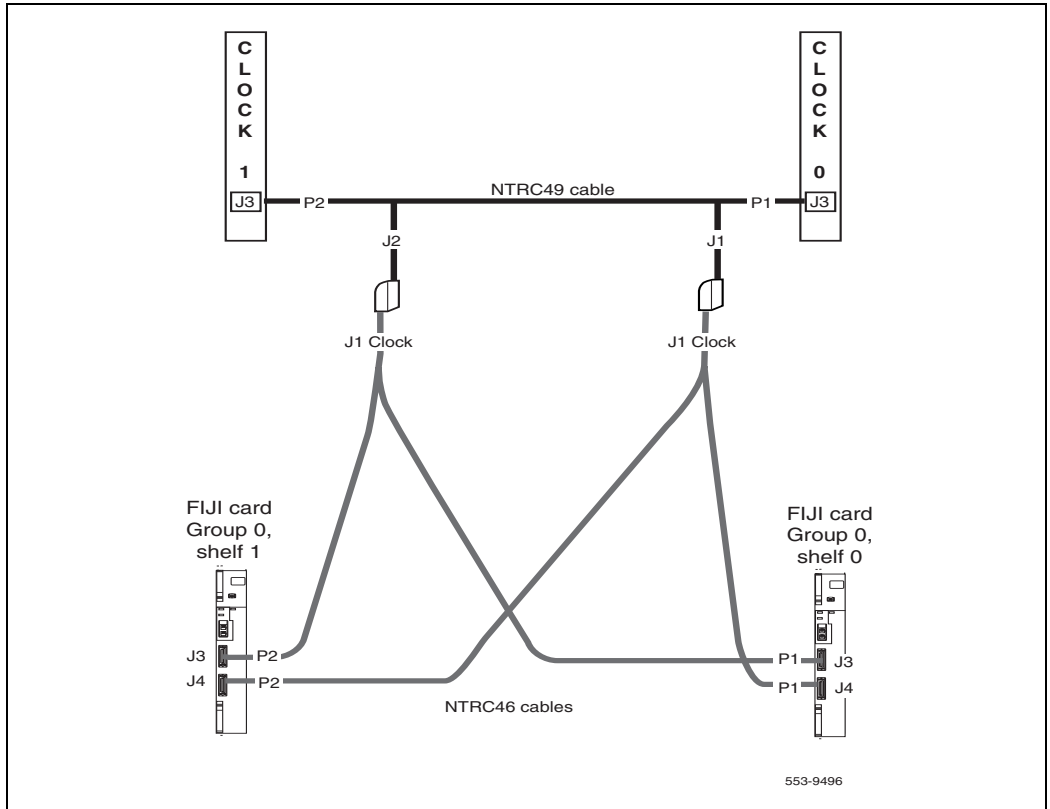
---

**End of Procedure**

---



**Figure 157**  
**Clock Controller cable configuration**



## Power down Core/Net 0



### CAUTION

#### Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



### DANGER OF ELECTRIC SHOCK

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

### Procedure 247

#### Removing Core 0 cables and card cage

- 1    Label and disconnect all cables to the front of the module.
- 2    Tape over the contacts to avoid grounding.
- 3    Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4    Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5    Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6    Tag and disconnect all plugs, wires, and cables to the backplane.

**Note 1:** Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

**Note 2:** Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

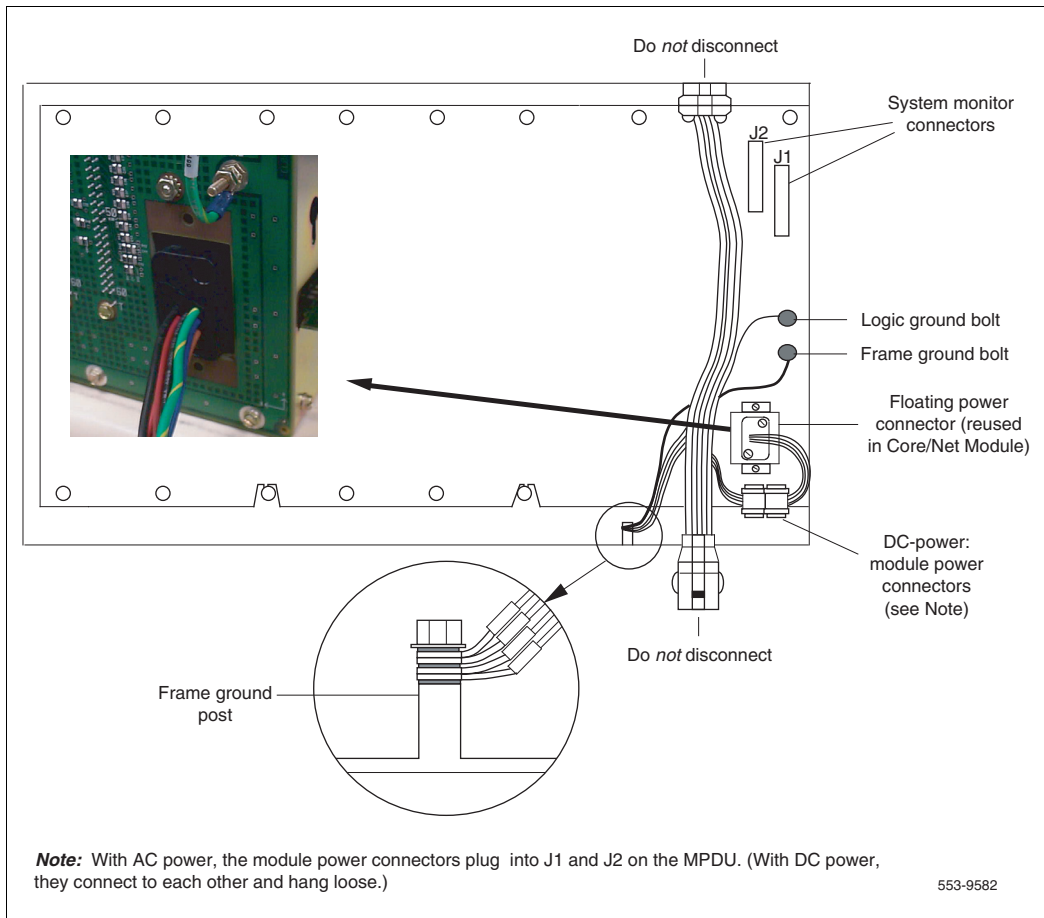
- 7 Use a 1/4" nut driver to remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting. Keep the screws for use with the CP card cage.

**CAUTION**

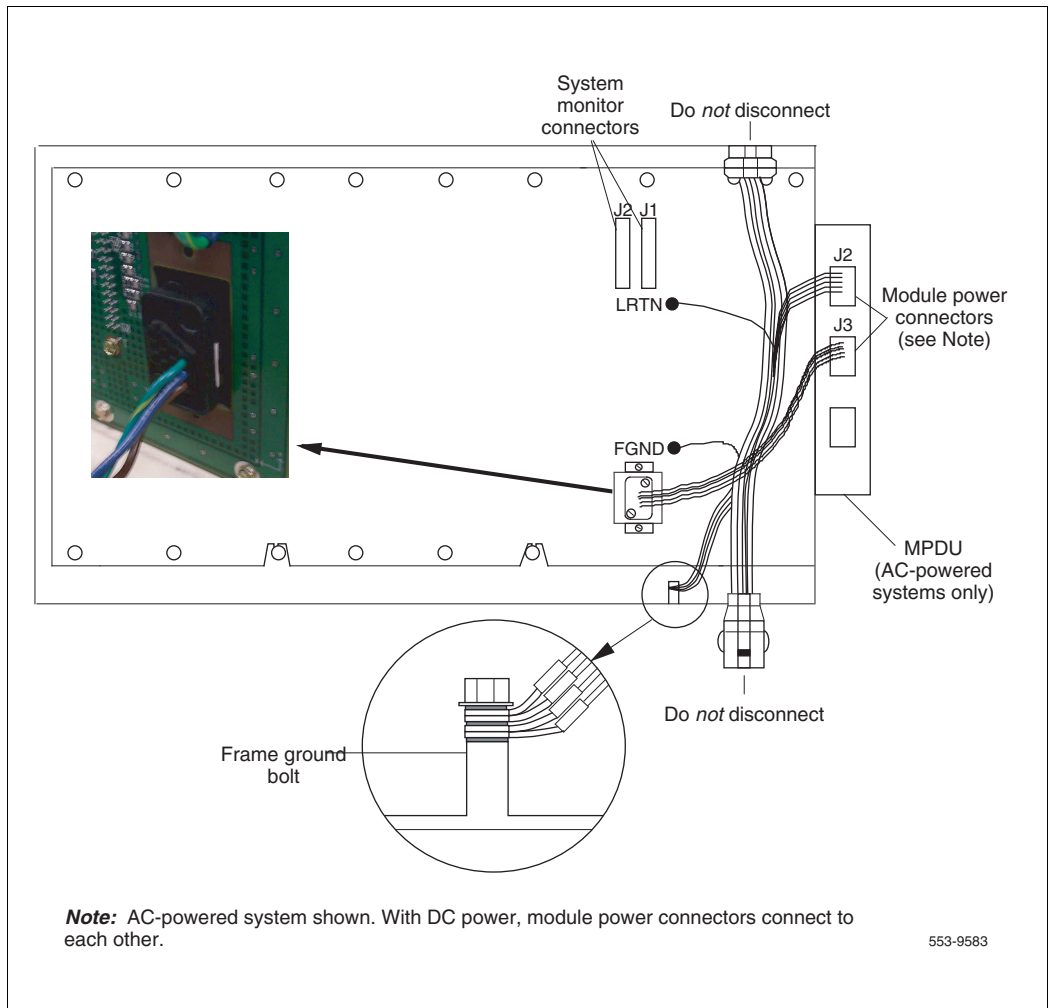
Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful not to drop the nut or lock washer into the pedestal. See Figure 158 on [page 788](#) for DC power connectors. See Figure 159 on [page 789](#) for AC power connectors.
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

**Figure 158**  
**DC power connectors on the Core module backplane**



**Figure 159**  
**AC power connectors on the Core module backplane**



- 17** Remove the power harness and reserve it for reinstallation as part of installing the new NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
  - For DC systems, relocate power harness NT7D11.



**WARNING**

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

- 18** Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



**CAUTION**

**Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

---

**End of Procedure**

---

## Upgrade Core 0 hardware

### Check that the main Core cards (front side) are installed

#### Procedure 248

#### Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 160 on [page 792](#).

- 1 NT4N65AC CP PII Core Network Interface (cCNI) cards:  
Each system contains 1-4 NT4N65AC cCNI card per Core/Net module. The cCNI cards are located in slot c9-c12. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots which do not contain cCNIs.

**Note:** In the NT4N40 Core/Net card cage, port 0 on the NT4N65AC Core to Network Interface (cCNI) Card in slot c9 must be configured as “group 0.” Port 1 on this card must be configured as group 1. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cables. The cCNI to 3PE cables for groups 1 to 7 communicate through the NTND14 cables.

- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
  - a. Check side ID switch settings for SU card in Core/Net 0 according to Table 105.

**Table 105**

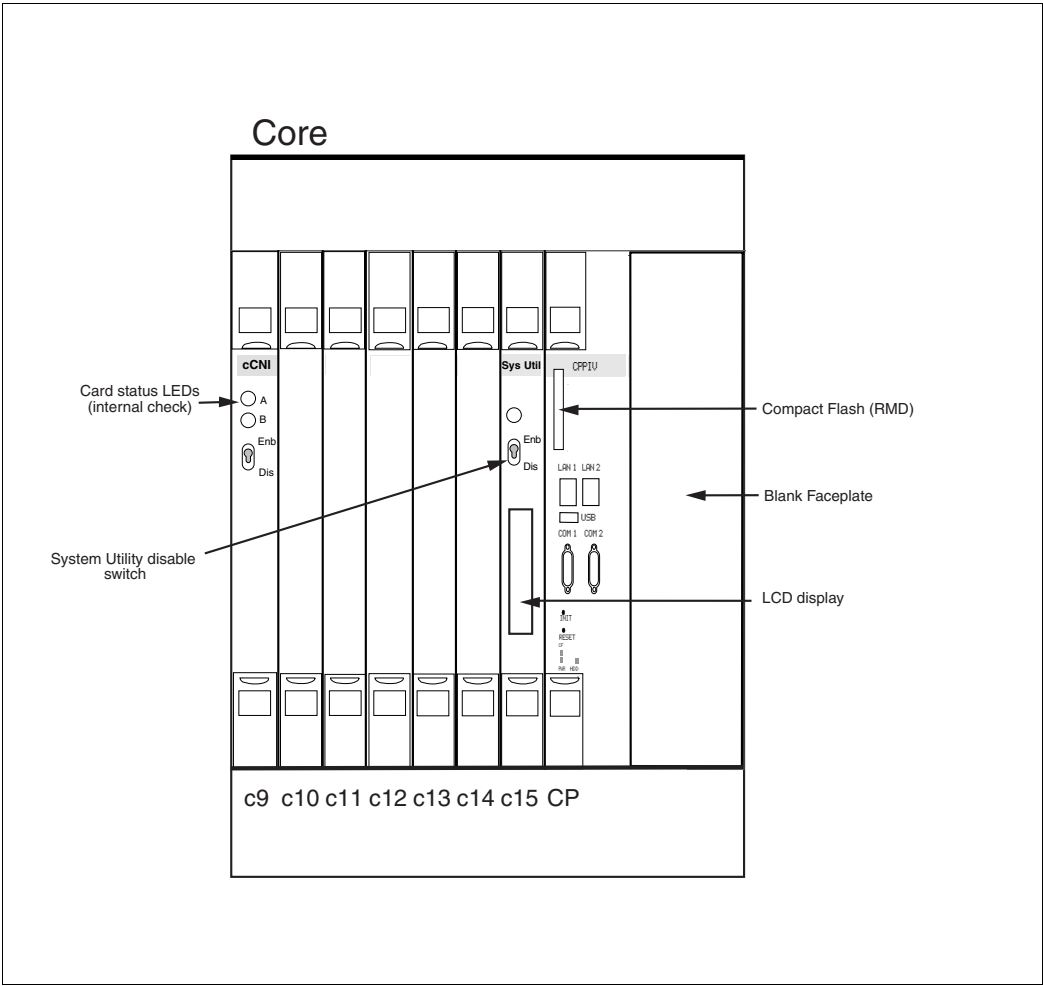
**Core module ID switch settings (System Utility card)**

	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.

————— **End of Procedure** —————

**Figure 160**  
**Core card placement in the NT4N41 Core/Net Module (front)**





## Check factory-installed cables

Table 106 lists factory-installed cables. See Figure 161 on [page 794](#).

**Table 106**  
**Factory-installed cables**

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

## Install the Security Device

### **Procedure 249** **Installing the Security Device**

The Security Device fits into the System Utility card (see Figure 162 on [page 795](#)).

To install the Security Device:

- 1** If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
  - a.** Unlock the latches and remove the IODU/C card.
  - b.** Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

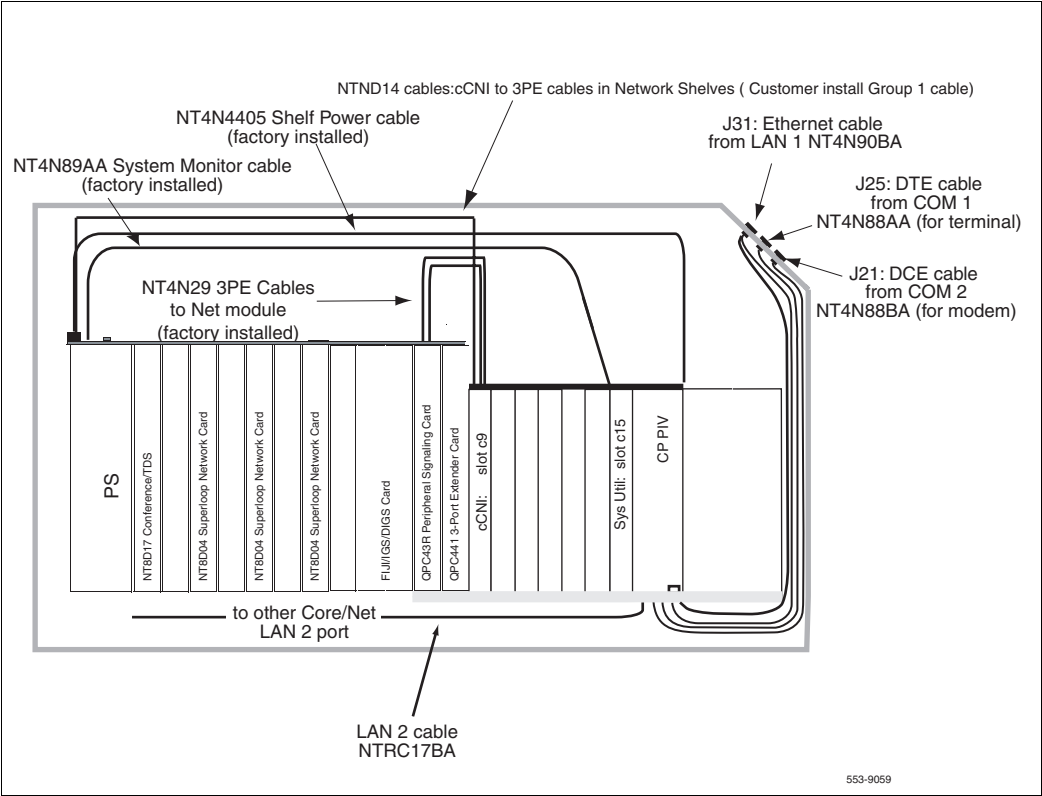
OR

If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

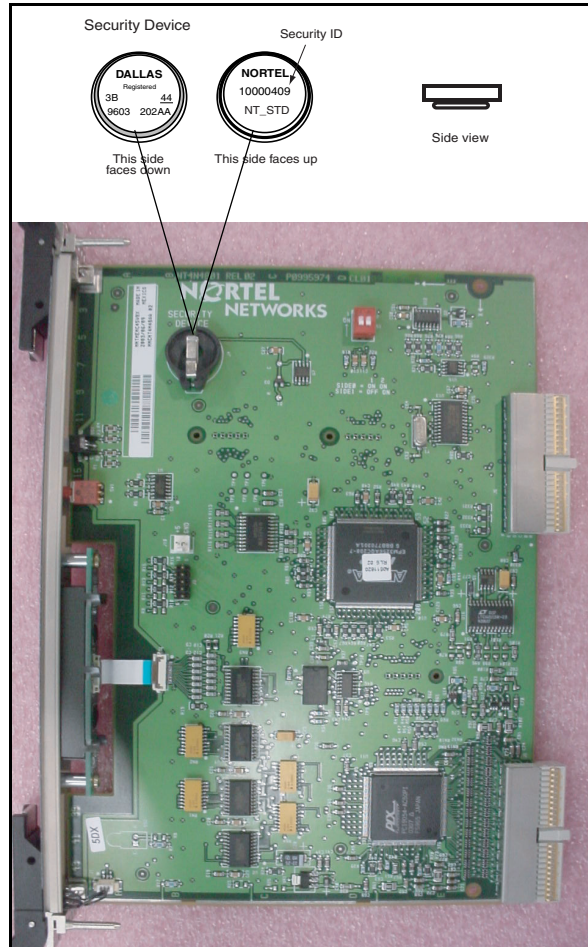
Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2** Check that the Security Device is securely in place.

**Figure 161**  
**Core/Net cable connections**



**Figure 162**  
**Security Device**



## Install the CP card cage in Core 0

### Procedure 250

#### Installing the CP card cage in Core 0

- 1 Check that the card cage is configured as Core 0. See Table 107 for instructions.

**Table 107**

#### Core module ID switch settings (System Utility card)

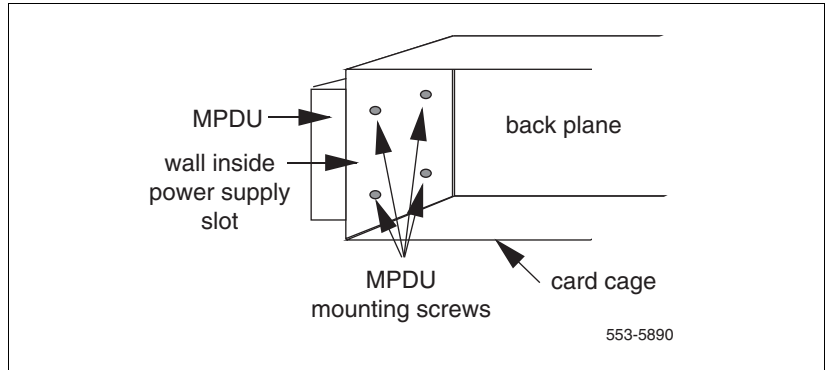
	Position 1	Position 2
Core/Net 0	On	On
Core/Net 1	Off	On

- 2 For AC-powered systems only, install the new MPDU (part of the CP PIV Upgrade kit) to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 163 on page 797.

**Note:** Pre-thread 2 bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP PII card cage.
- 4 Slide the CP PII card cage halfway into the module.

**Figure 163**  
**Location of the screws for the MPDU**



- 5 Hold the card cage firmly and make the following connections at the rear of the module.
  - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).



## CAUTION

## Damage to Equipment

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

- b. In DC-powered systems, connect the module power connectors to each other.
  - c. Attach the system monitor ribbon cables:
    - i. Connect the ribbon cable that goes down to the pedestal to connector J1 on the backplane.
    - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
  - d. Attach the green ground wire to the frame ground bolt on the module. (an 11/32" socket wrench is used to attach the wire.) Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.
- Note:** For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
- e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" or 2/8" socket wrench.)
  - 6 Slide the card cage all the way into the module.
  - 7 Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.

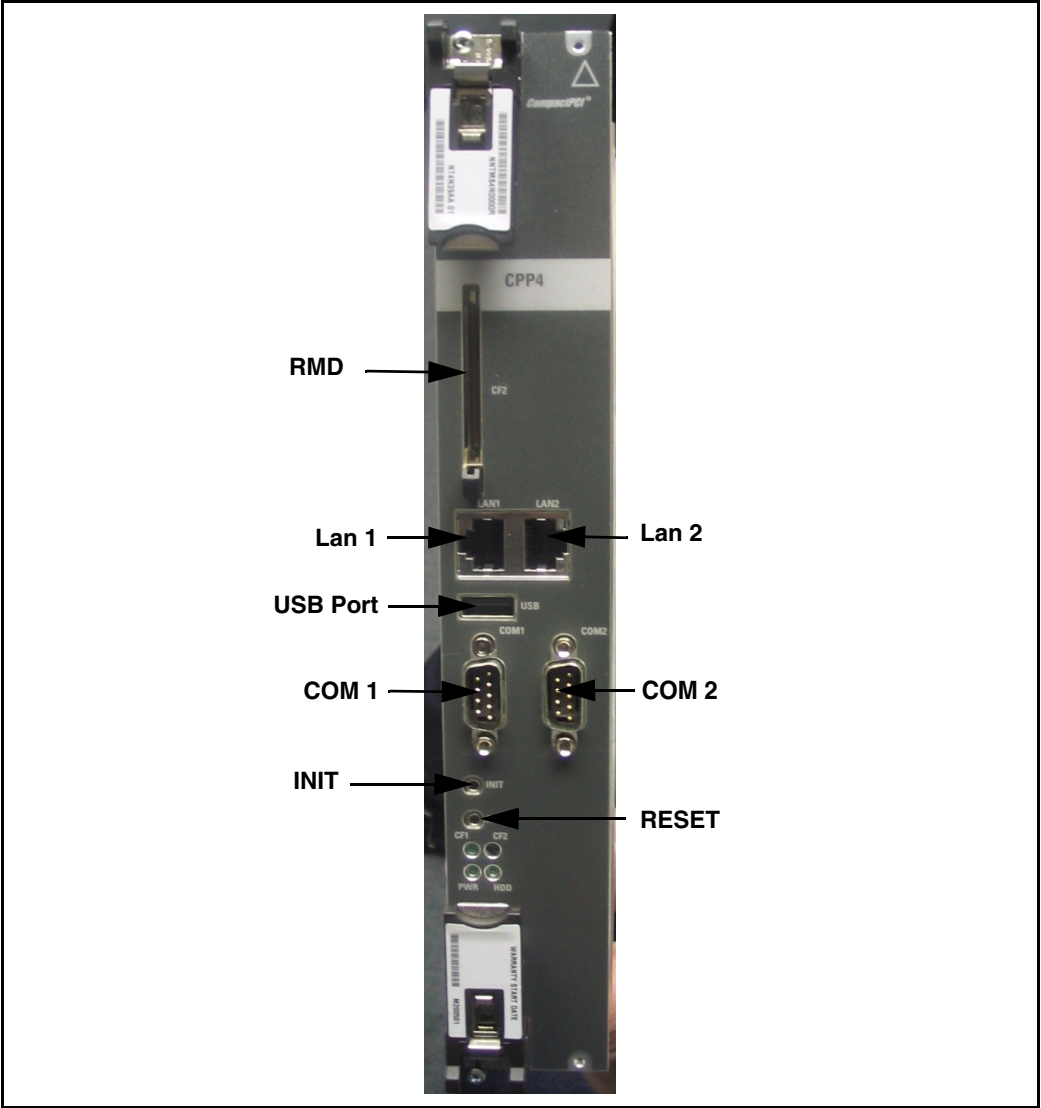
- 8** Secure the card cage and EMI shield to the module re-using the existing screws.
- 9** Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA.
  - a.** Route cable NT4N88AA from COM1 on the CP PIV faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)
  - b.** Route cable NT4N88BA from COM2 on the CP PIV faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem.)
- 10** Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.
- 11** Do not connect the NTRC17BA crossover ethernet cable at this time.

---

**End of Procedure**

---

Figure 164  
CP PIV call processor card (front)



————— End of Procedure —————



## Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply

### Procedure 251 Installing the power supply

- 1 Unpack the power supply.
- 2 Faceplate disable the power supply.
- 3 Insert power supply into Core/Net module power supply slot.

---

**End of Procedure**

---

### Procedure 252 Relocating Network cards to CP Core/Net 0

- 1 Remove all remaining network cards from the Meridian 1 Option 81C Core/Net 0 **except for the IGS/DIGS cards**.
- 2 When you move the 3PE card, check the switch settings and jumpers. See Table 108 on [page 802](#).
  - a. All 3PE cards must be vintage F or later.
  - b. Check that the RN27 Jumper is set to "A".
  - c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 108 on [page 802](#) shows the 3PE settings for cards installed in CP Core/Net Modules.
- 3 Reinstall each removed card in the same network slot in the CP Core/Net 0.

- 4     Connect the tagged cables to the relocated cards.

**Table 108**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

## Cable Core 0

### Cable COM 1 and COM 2 to the I/O panel

- 1     Connect COM1 on the CP PIV faceplate to J25 on the I/O panel with cable NT4N88AA.
- 2     Connect COM2 on the CP PIV faceplate to J21 on the back of the I/O panel with cable NT4N88BA.

**Connect a terminal and modem to the I/O panel**

- 1 Connect J25 to a terminal for use during the upgrade. Use a separate terminal for each Core if available. J25 can also be connected to an A/B box to share a terminal between both Cores.
- 2 Connect J21 to the device connected in the original system (such as a modem or A/B box).

**Connect LAN 1**

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools such as OTM. The options for the LAN 1 connections are shown in Figure 165 on [page 804](#).

**Procedure 253****If the system will be connected to a LAN**

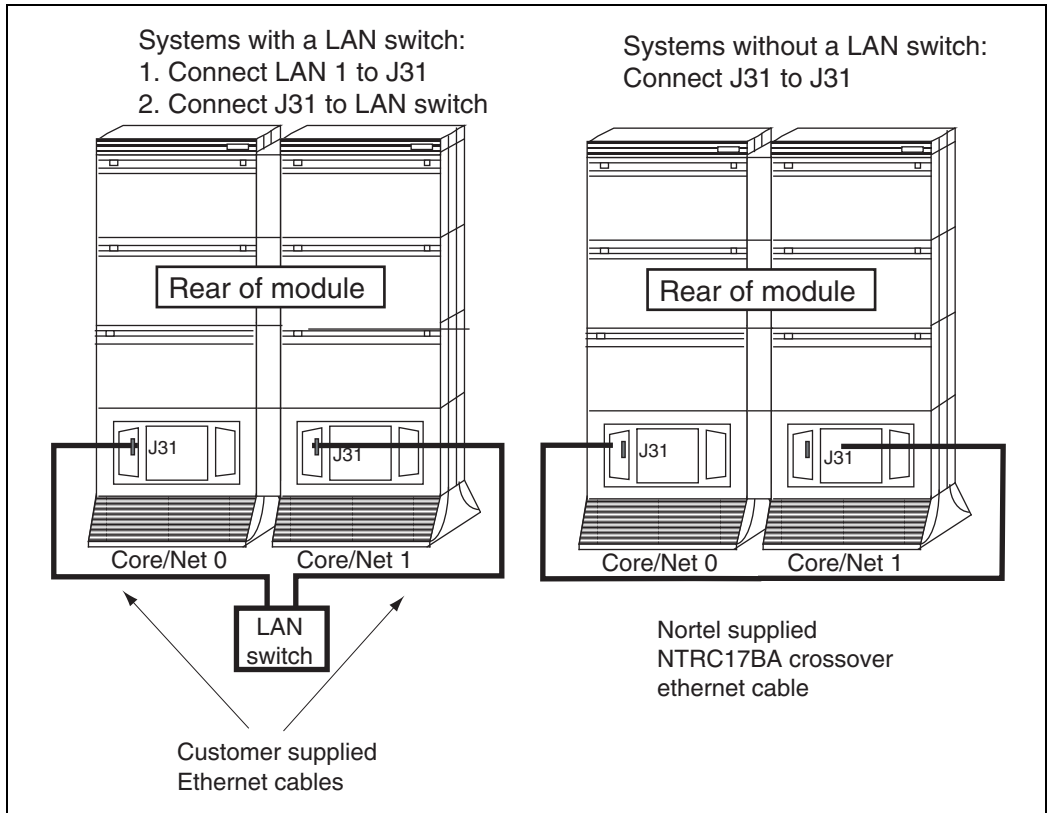
- 1 Connect the “Dual Ethernet Adapter (RJ-45) for I/O Panel” (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2 Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3 Connect J31 to a LAN switch.
- 4 If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by NTRC17BA cable.

---

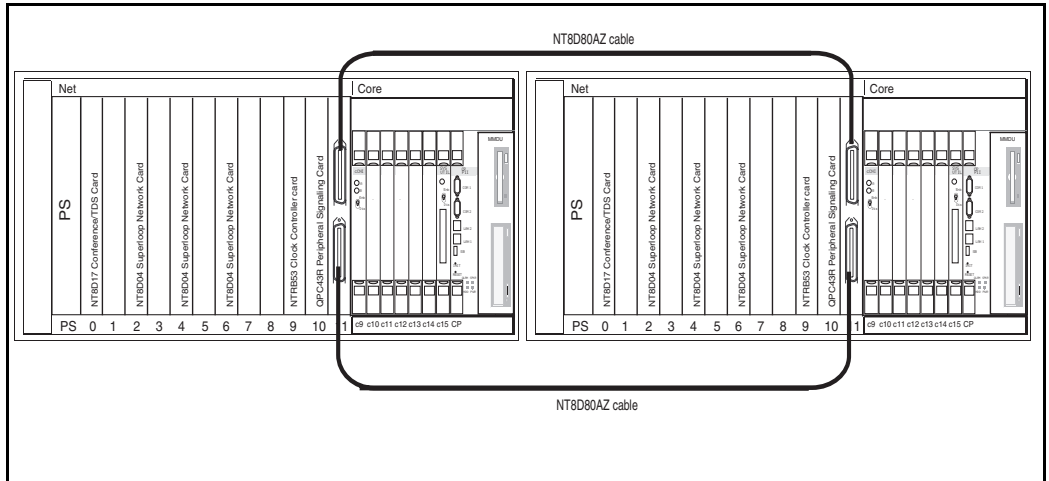
**End of Procedure**

---

**Figure 165**  
**Options for LAN 1 connection**



**Figure 166**  
**3PE card connections**



## In Core 0, inspect factory-installed cables

The NT4N29AA cables should be installed for the existing network group in Core/Net 0. If the system has XSDI cards, reinstall the cards and attach the cables. Inspect the system monitor cables (NT4N89).

## Installing intermodule cables

### Procedure 254

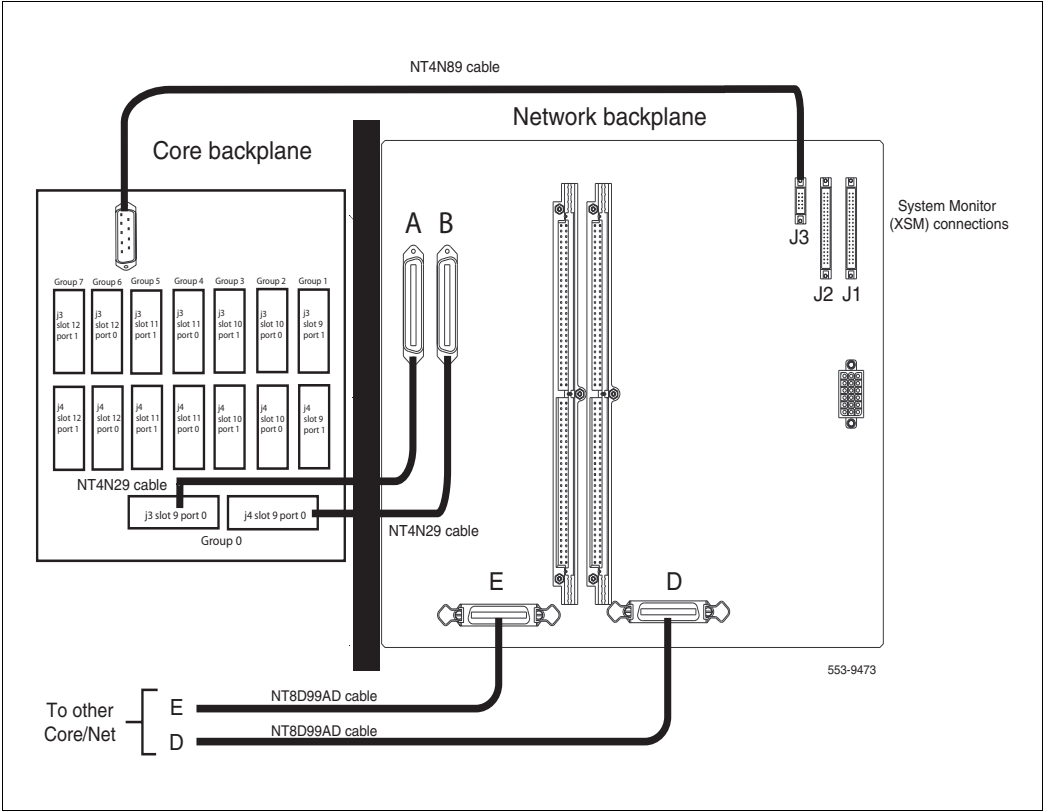
#### Installing intermodule cables

- 1 Connect the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 167 on [page 806](#)).

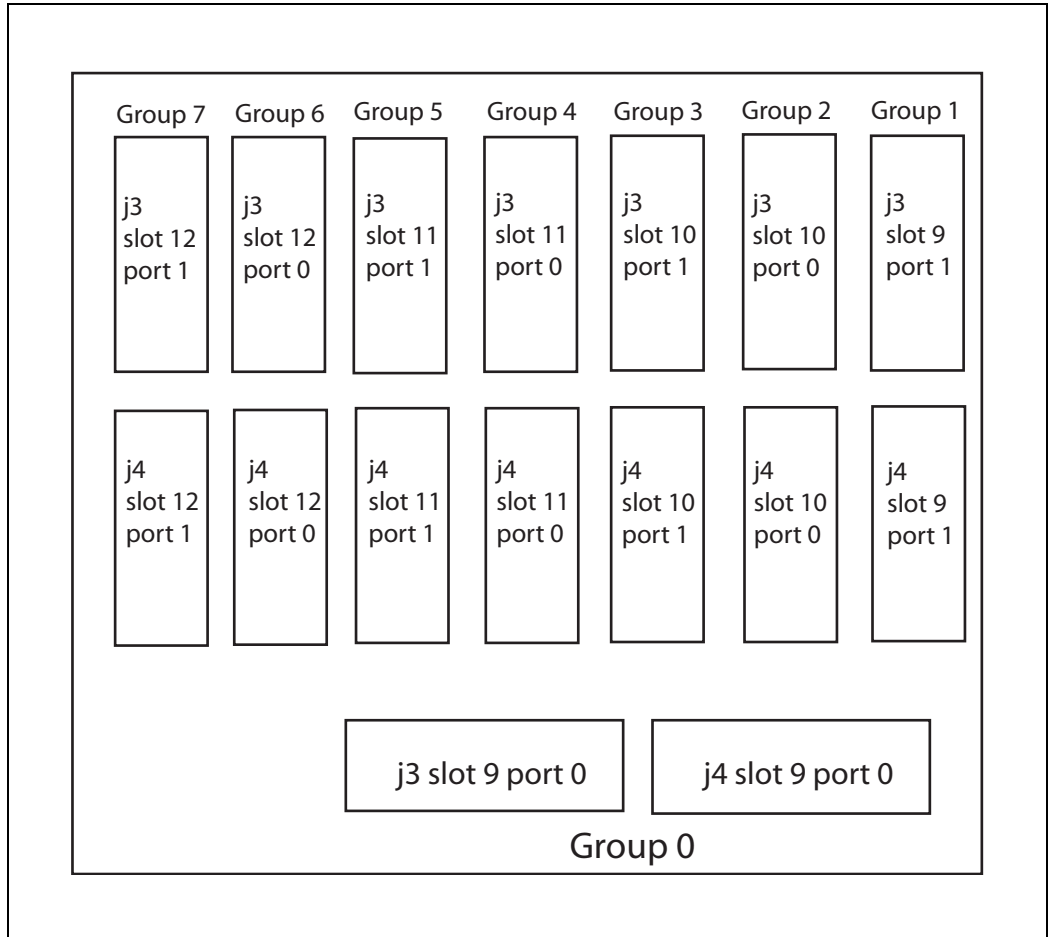
- 3    Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 168 on [page 807](#)).
- 4    If the system has XSDI cards, reinstall the cards and attach the cables.

**End of Procedure**

**Figure 167**  
**Fanout Panel connections on the CP Core/Net backplane**



**Figure 168**  
**Fanout panel connectors**



### In Core 0, route and connect the cCNI to 3PE (NTND14) cables

The existing NTND14 cables can be reused for Network groups 1-7. Connect the NTND14 cables to the Fanout Panel in Core/Net 0. See Figure 169 on [page 810](#) and Table 109 on [page 809](#).



#### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- Check existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

When upgrading to CP PIV, it is important to know whether Network group 0 will be in the Core/Net module or not. In many installations, Group 0 will be established in a standard Network shelf, and should occupy a higher Network group in the Core/Net.

If Network group 0 will be in the Core/Net, the factory configuration of the new Core/Net modules is correct, and no further action is required.

If Network Group 0 will not be in the Core/Net module, some re-configuration of the processor module is required to allow for concurrent or future use of the Network portion of the Core/Net for a higher Network group.

The NT4N40 shelf is factory-installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 169 on [page 810](#).



**WARNING****Damage to Equipment**

Do not pry against the connector with the extraction tool. Simply inserting the tool between the connector and the securing clip is sufficient to unlock the connector. Prying may cause damage to the connector or the backplane pins.

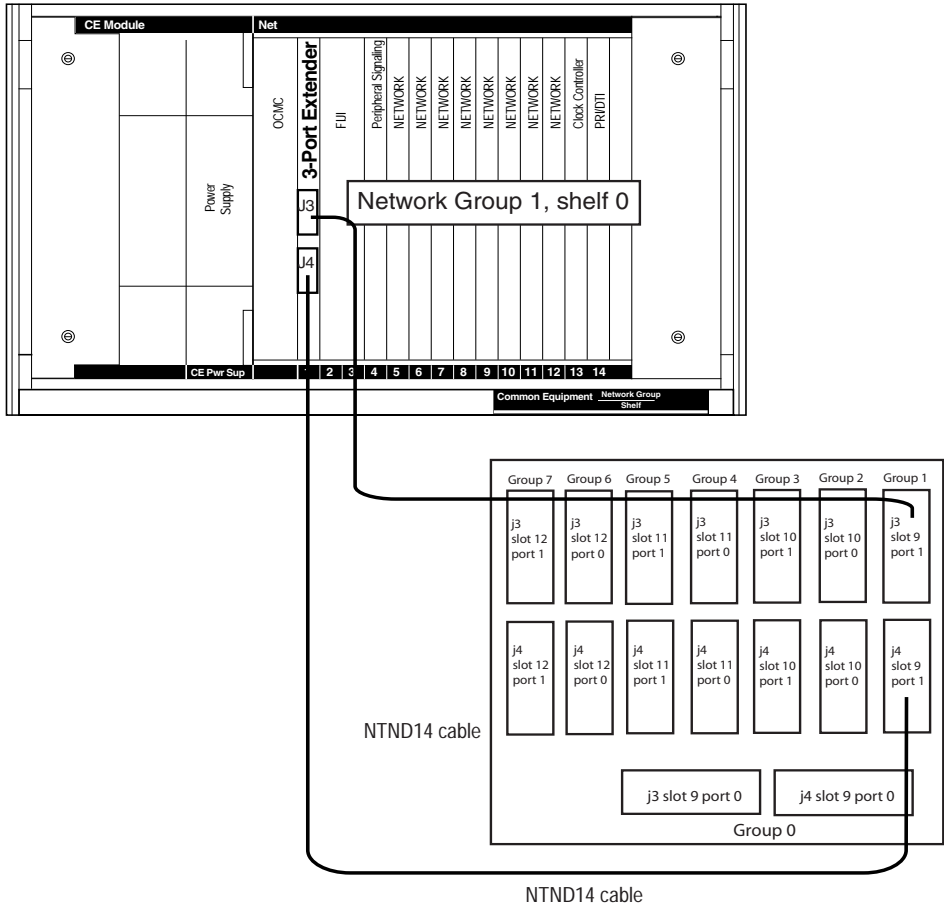
**Table 109**  
**Fanout Panel to 3PE card connectors**

Group Number	Fanout Panel connector	3PE card connector
0	9-0, J3	A
0	9-0, J4	B
1	9-1, J3	J3
1	9-1, J4	J4
2	10-0, J3	J3
2	10-0, J4	J4
3	10-1, J3	J3
3	10-1, J4	J4
4	11-0, J3	J3
4	11-0, J4	J4
5	11-1, J3	J3
5	11-1, J4	J4
6	12-0, J3	J3
6	12-0, J4	J4
7	12-1, J3	J3
7	12-1, J4	J4

**Note 1:** Group 0 cables (NT4N29) connect from the Fanout panel directly to the backplane of Core/Net 1 (see Figure 169 on [page 810](#)).

**Note 2:** Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 169 on [page 810](#))

### 3PE Fanout Panel connections



553-9492

## Add Side 0 FIJI hardware

### Procedure 255

#### Install Side 0 FIJI cards

- 1 Tag and disconnect the IGS/DIGS cables.
- 2 Remove the IGS/DIGS cards from Side 0.
- 3 Unpack and install FIJI cards (NTRB33).
- 4 Faceplate disable the NTRB33 cards.
- 5 Insert and the FIJI cards in Side 0.
- 6 Do not seat the FIJI cards at this point.

---

**End of Procedure**

---

### Procedure 256

#### Connect the FIJI to FIJI cables

- 1 Connect P2 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 0, except group 0.
- 2 Connect P1 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 1, except group 0.

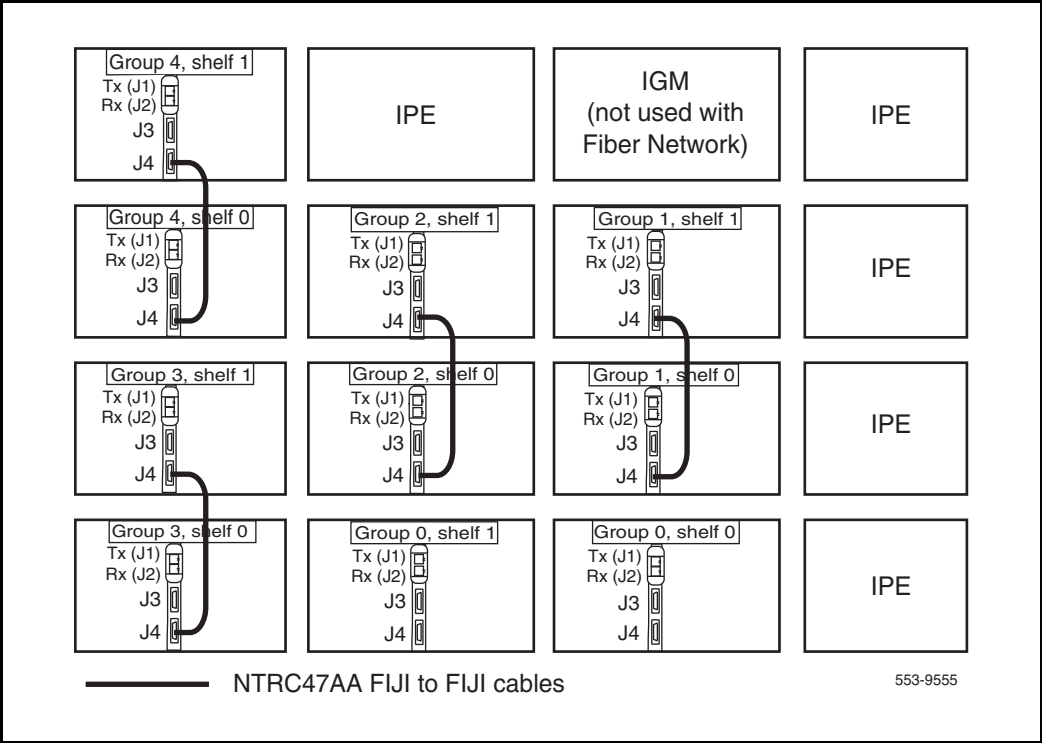
**Note:** The FIJI cards in Group 0 do not receive a FIJI to FIJI cable.

---

**End of Procedure**

---

**Figure 3**  
**FIJI shelf 0 to FIJI shelf 1 connections**



**Procedure 257****Connecting the shelf 0 FIJI Ring cables (ascending)**

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 170 on [page 814](#) and Figure 171 on [page 816](#)).

**IMPORTANT!**

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

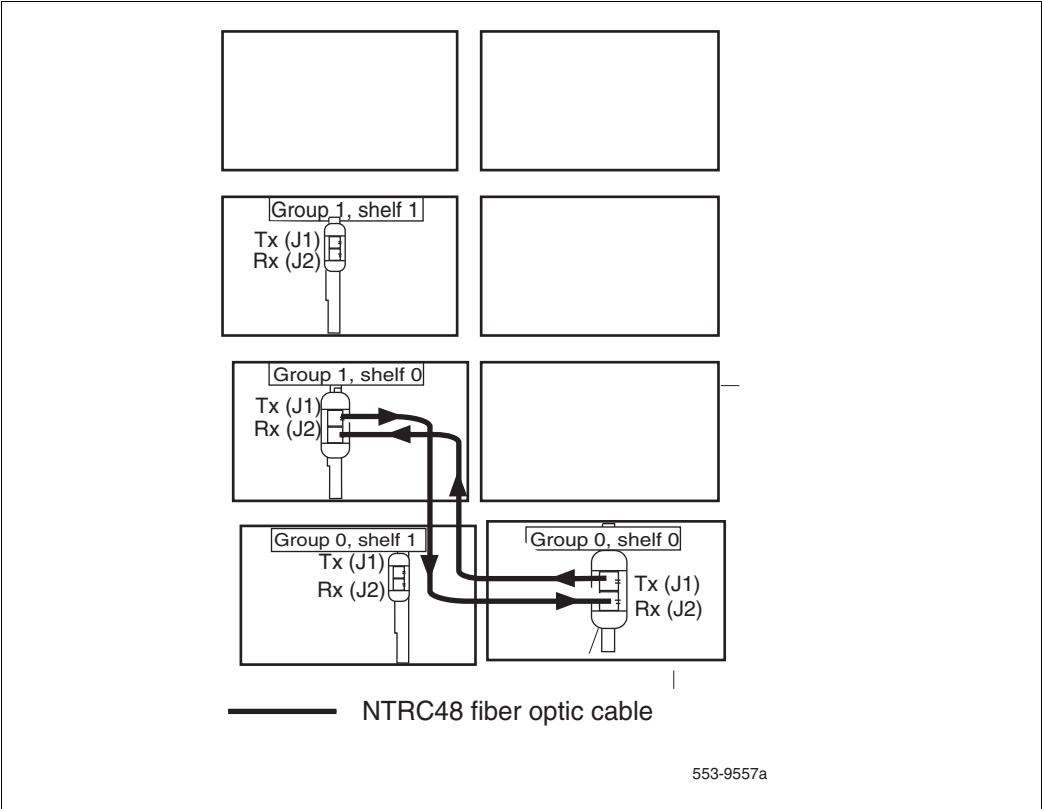
**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled "Tx" or Rx" in the factory.

- 1** Start with group 0, shelf 0.
- 2** Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 0** to the Rx (J2) port of the FIJI card in **Group 1, shelf 0**.
- 3** Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 1, shelf 0** to the Rx (J2) port of the FIJI card in **Group 2, shelf 0**.
- 4** Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 0 of each Network group. Connect these cables in **ascending** order of Network groups.

**Figure 170**  
**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



- 5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0**.

**Table 110**  
**FIJI Ring 0 connections**

<b>Groups X - 0 are cabled in ascending order</b>		
<b>Group/Shelf</b>	<b>FIJI Connector</b>	<b>Tx/Rx</b>
0/0	P1	Tx
1/0	P2	Rx
1/0	P1	Tx
2/0	P2	Rx
2/0	P1	Tx
3/0	P2	Rx
3/0	P1	Tx
4/0	P2	Rx
4/0	P1	Tx
5/0	P2	Rx
5/0	P1	Tx
6/0	P2	Rx
6/0	P1	Tx
7/0	P2	Rx
7/0	P1	Tx
0/0	P2	Rx

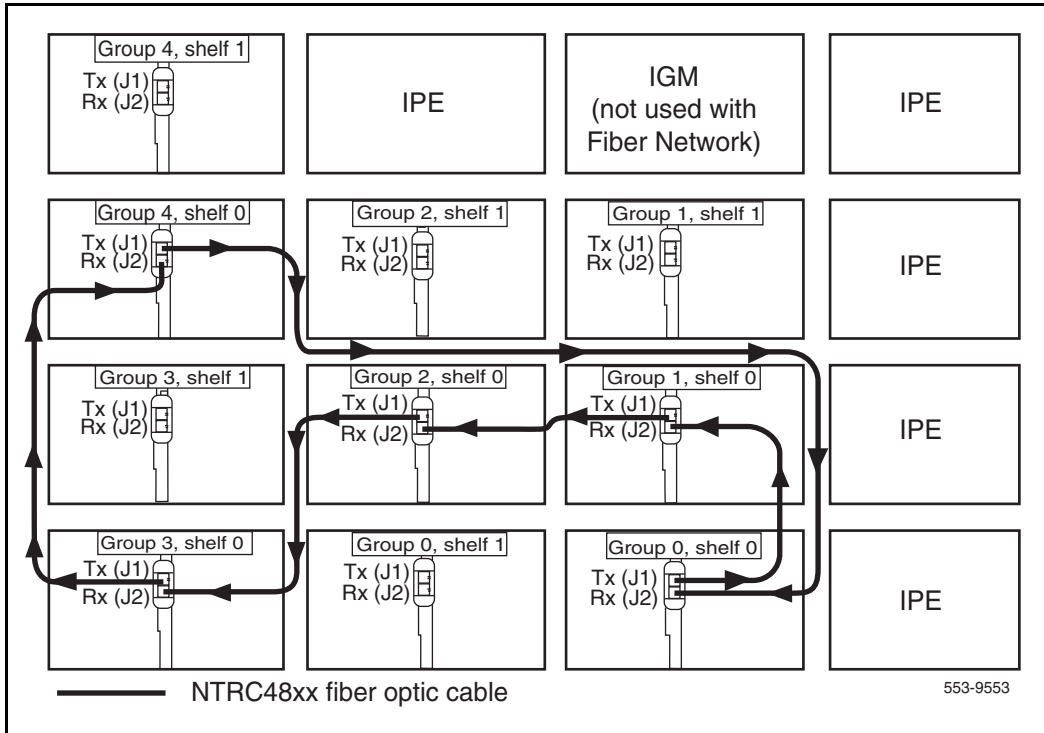
---

**End of Procedure**

---

**Figure 171**

**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)**



#### Procedure 258

##### Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 172 on [page 818](#):

- 1 Connect the Clock 0 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.
- 2 Connect a Clock 1 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0**.

————— **End of Procedure** —————



## Power up Core 0

### Procedure 259

#### Preparing for power up

- 1 Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

**Note:** A maintenance terminal is required to access the Core/Net modules during the upgrade.

- 2 Connect a terminal to the J25 port on the I/O panel in Core 0.

- 3 Check the terminal settings as follows:

- a. 9600 Baud
- b. 8 data
- c. parity none
- d. 1 stop bit
- e. full duplex
- f. XOFF

**Note:** If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

- 4 Seat and Faceplate enable Clock Controller 0 and ALL FIJI on Shelf 0.
- 5 Faceplate enable all core and network cards.

---

**End of Procedure**

---

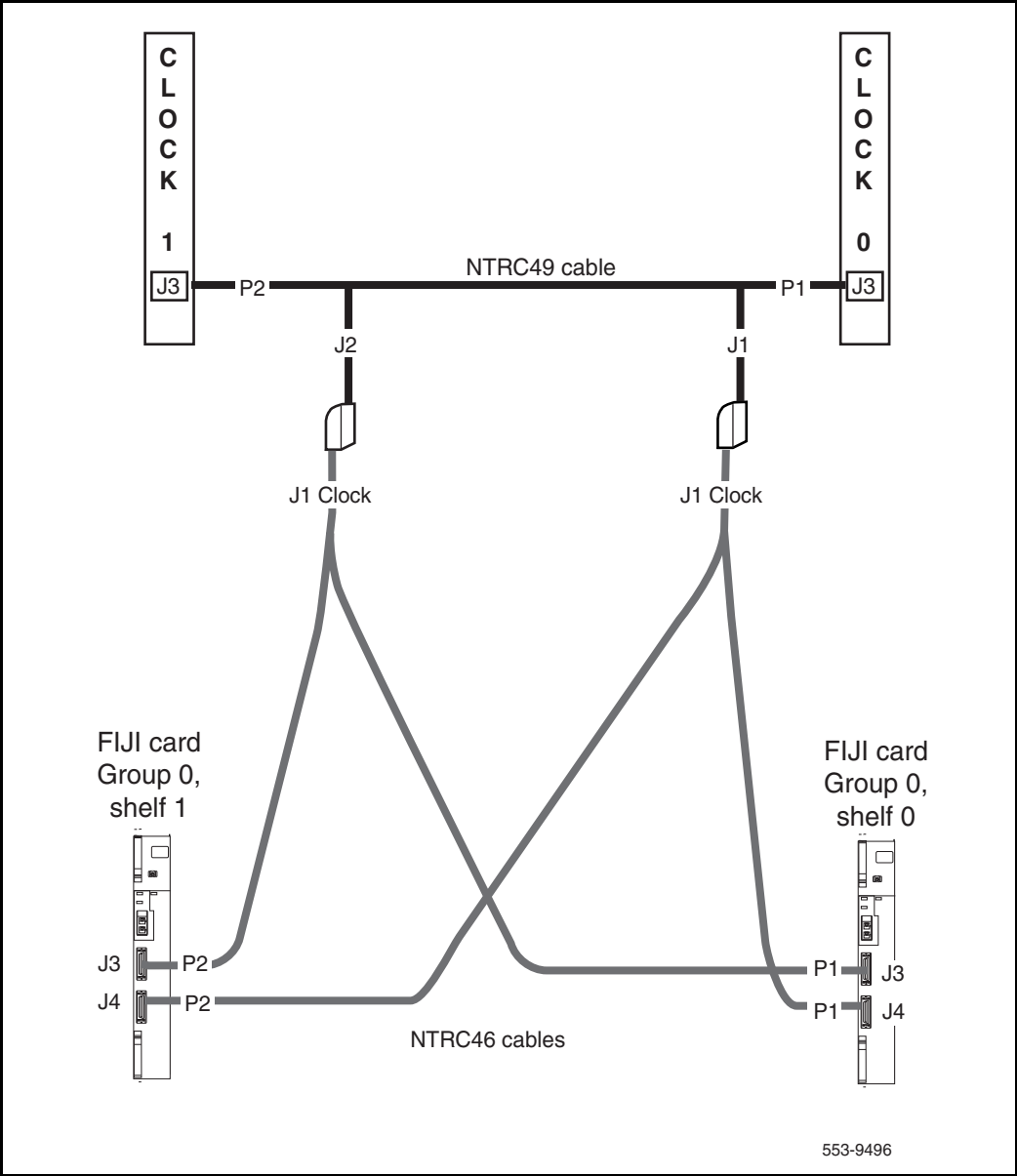
## Power up Core cards

### Procedure 260

#### Powering up core cards

- 1 Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.
- 2 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).

**Figure 172**  
**Clock Controller cable configuration**



- 3 For DC-powered systems: faceplate enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 4 10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.
- 5 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

---

### End of Procedure

---

#### Procedure 261 Testing Core/Net 1

- 1 Check dial-tone.
- 2 Test the Fiber Rings

See the *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>ENL RING 0</b>	Enable Ring 0
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b. Restore the Rings to Normal State:

<b>RSET</b>	Reset both Rings
<b>RSTR</b>	Restore both Rings to HALF state
<b>ARCV ON</b>	Turn Auto Recovery on

c. Check that the Rings operate correctly:

**STAT RING 0**     Check status of Ring 0 (HALF/HALF)

**STAT RING 1**     Check status of Ring 1 (HALF/HALF)

\*\*\*\*                Exit program

3 Stat network cards:

**LD 32**             Load program

**STAT x**            Stat the network card, where x = loop number

\*\*\*\*                Exit program

4 Test the clocks:

a. Verify that the clock controller is assigned to the *active* Core:

**LD 60**             Load program

**SSCK x**            To get the status of the clock controllers  
(x is "0" or "1" for Clock 0 or Clock 1)

**SWCK**             Switch Clock (if necessary)

\*\*\*\*                Exit program

b. Verify that the clock controllers are switching correctly:

**SWCK**             Switch Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK**             Switch Clock again

\*\*\*\*                Exit program

**5 Stat D-channels:****LD 96****STAT DCH** Stat all D-channels

\*\*\*\* Exit program

**6 Stat all T1 interfaces:****LD 60****STAT** Stat all DTI and PRI

\*\*\*\* Exit program

**7 Stat network cards:****LD 32****STAT x** x = loop number

\*\*\*\* Exit program

**8 Print status of all controllers:****LD 97****REQ** PRT**TYPE** XPE (returns status of all controller cards)

\*\*\*\* Exit program

**9 Make internal, external and network calls.****10 Check attendant console activity.****11 Check DID trunks.****12 Check applications (CallPilot, Symposium, Meridian Mail, and so on.)**

---

**End of Procedure**

---

## **CS 1000 Release 4.5 upgrade**

### **Upgrading the software**

Procedure 262 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

#### **Procedure 262**

##### **Upgradng the software**

- 1**    Check that a terminal is now connected to COM 1.
- 2**    Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
and size ...
    Number of partitions  0:
    Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

```
The Fix Media Device on Core x is blank.

      Install cannot continue unless the FMD
is partitioned.

      Note: INSTALL WILL REBOOT AFTER THIS
PROCEDURE AND

      FIX MEDIA WILL BE EMPTY AFTER YOU
PARTITION IT.

      INSTALL REMOVABLE MEDIA MUST BE IN
THE DRIVE AT THIS TIME.

      Please enter:

<CR> -> <a> - Partition the Fix Media Device.

      Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000
```



```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...

fdiskDevCreate(/dev/hda2)

/dev/hda2: partTablePtr = 0x12d5ff0c

Found partition 2, nodePtr = 0x12d30a4c

Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:

Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
FAT

    Sectors reserved 32, hidden 63, FAT sectors
1216

    Root dir entries 0, sysId VX5DOS32, serial
number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```
Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...
```

**6**    The system then enters the Main Menu for keycode authorization.

```

                                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
          <t> - To Tools menu.
          <q> - Quit.

Enter Choice> <u>
```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

          <CR> -> <a> - RMD is now in the drive.
          <q> - Quit.

Enter choice>
```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "y" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd  1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7    Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8    The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

           <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

           <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L      M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **<b>**

- 10 The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the  
drive on Core x.

Please enter:

          <CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

          <q> - Quit.

Enter choice> **<CR>**

- 11 If the RMD containing the software is already in the drive, select option “<a> - RMD is now in drive. Continue with s/w checking.” (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.



- 12** The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

The RMD contains System S/W version xxxx.

Please enter:

<CR> -> <y> - Yes, this is the correct version. Continue.

<n> - No, this is not the correct version. Try another RMD or a different keycode.

Enter choice> **<CR>**

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13** The Dependency List menus appear.

```
Do you want to install Dependency Lists?  
  
Please enter:  
  
<CR> -> <y> - Yes, Do the Dependency Lists  
installation  
  
<n> - No, Continue without Dependency Lists  
installation  
  
Enter choice> y  
  
>Processing the install control file ...  
  
>Installing release xxxx
```

14 The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	SW: RMD to FMD		yes	install for rel XXXXX
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	Dependency Lists		yes	
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	IPMG Software		yes	install for rel XXXXX
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	DATABASE		yes	
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	CP-BOOTROM		yes	

- 15** Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.


        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```

- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>

```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```

The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>

```

**19** Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>
    
```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

```

-----
                    INSTALLATION STATUS SUMMARY
-----
+-----+-----+-----+-----+
| option | choice | status | comment |
+-----+-----+-----+-----+
| Sw: RMD to FMD | yes | OK | install for rel 04xxx |
+-----+-----+-----+-----+
| Dependency Lists | yes | OK | |
+-----+-----+-----+-----+
| AUTO-CSU Feature | no | | AUTO-CSU disabled |
+-----+-----+-----+-----+
| IPMG Software: | no | | |
+-----+-----+-----+-----+
| Database | yes | OK | conversion from xxxx |
+-----+-----+-----+-----+
| CP-BOOTROM | yes | OK | |
+-----+-----+-----+-----+

Please press <CR> when ready ...
    
```

**20** Upon returning to the main install menu, enter **q** to quit.

```

      I N S T A L L   M E N U

      The Software Installation Tool will
      install or upgrade Succession Enterprise System
      Software, Database and the CP-BOOTROM. You will be
      prompted throughout the installation and given the
      opportunity to quit at any time.

      Please enter:

      <CR> -> <a> - To install Software, CP-BOOTROM.
              <b> - To install Software, Database, CP-
      BOOTROM.

              <c> - To install Database only.
              <d> - To install CP-BOOTROM only.
              <t> - To go to the Tools menu.
              <k> - To install Keycode only.

              For Feature Expansion, use OVL143.

              <p> - To install 3900 set Languages.
              <q> - Quit.

      Enter Choice> q
```

- 21 The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.

    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.

-----

DO NOT REBOOT USING BUTTON!!!

-----

    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```



At this point the system reloads and initializes.

---

**End of Procedure**

---

## **Verify the upgraded database**

### **Procedure 263**

#### **Verifying the upgraded database**

- 1 Print ISSP (system software issue and patches)

**LD 22** Load program

**REQ** ISSP

**\*\*\*\*** Exit program

- 2 Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22** Load program

**REQ** PRT

**TYPE** CFN

**\*\*\*\*** Exit program

- 3 Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22** Load program

**REQ** SLT

**\*\*\*\*** Exit program

4    Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program



Core 1 is now active, clock 1 is active, FIJI 1 is active (if equipped), CNI is disabled in Core 0.

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 0

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 686](#).

If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

### LD 22

<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## Making the system redundant

At this point, Core/Net 0 is ready to be synchronized with Core/Net 1.

**Procedure 264**

**Making the system redundant**

- 1**    Attach the LAN 1 and LAN 2 cables to the CP PIV faceplate connectors on Call Server 0 and Call Server 1.
- 2**    Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

**LD 135**            Load program

**JOIN**             Join the 2 CPUs together to become redundant

- 3**    Once the synchroization of memories and drives is complete, STAT the CPU and verify that the CPUs are in a true redundant state.

**LD 135**

**STAT CPU**        Get status of CPU and memory

**\*\*\*\***             Exit the program

```
.stat cpu

cp 0 16 PASS -- STDBY

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
Side = 0, DRAM SIZE = 512 MBytes

cp 1 16 PASS -- ENBL

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
Side = 1, DRAM SIZE = 512 MBytes
```

- 4    Tier 1 and Tier 2 health of both Cores must be identical in order to successfully switch service from Core 1 to Core 0.  
CPUs.

**LD 135**

**STAT HEALTH**    Get status of CPU and memory

\*\*\*\*                    Exit the program

```
.stat health
Local (Side 0, Active, Redundant):
Components without TIER 1 Health contribution:
=====

    disp 0 15 1:In Service
    sio2 0 15 1:In Service
        cp 0 16:In Service
            ipb 0:In Service
TIER 1 Health Count Breakdown:
=====

    sio8 0 16 1: 0002
    sio8 0 16 2: 0002
        sutl 0 15: 0002
            strn 0 15: 0002
    xsmp 0 15 1: 0002
    cmdu 0 16 1: 0008
        eth 0 16 0: 0002
Local TIER 1 Health Total: 20
```

TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2

ELAN 17 IP : 47.11.138.153 Health = 2

Local AML over ELAN Total Health:4

Local Total IPL Health = 6

IPL connection history:3 3 3 3 3 3 3 3 3 3 3 3 3  
3 3 3 3 3 3

Local TIER 2 Health Total:10

Remote (Side 1, Inactive, Redundant):

Components without TIER 1 Health contribution:

disp 1 15 1:In Service

sio2 1 15 1:In Service

cp 1 16:In Service

ipb 1:In Service

TIER 1 Health Count Breakdown:

sio8 1 16 1: 0002

sio8 1 16 2: 0002

sutl 1 15: 0002

strn 1 15: 0002

xsmp 1 15 1: 0002

cmdu 1 16 1: 0008

eth 1 16 0: 0002

Remote TIER 1 Health Total: 20

```
TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Remote AML over ELAN Total Health:4
Remote Total IPL health = 6

Remote TIER 2 Health Total:10
```



The system is now operating in full redundant mode with Core/Net 1 active.

**Note:** On FNF based systems after the INI:  
A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

---

**End of Procedure**

---



## Complete the CP PIV upgrade

### LD 137

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are used in LD 137.

- STAT FMD  
display text: **Status of both Fixed Media Devices (FMD)**  
command parameter: none
- STAT FMD  
display text: **Status of the specified Fixed Media Device**  
command parameter: “core #” with values of 0 or 1
- STAT RMD  
display text: **Status of both Removable Media Devices (RMD)**  
command parameter: none
- STAT RMD  
display text: **Status of the specified Removable Media Device**  
command parameter: “core #” with values of 0 or 1

### Testing the Cores

#### Procedure 265

##### Testing Core/Net 1

At this point in the upgrade, Core/Net 0 is tested from active Core/Net 1. Upon successful completion of these tests, call processing is switched and the same tests are performed on Core/Net 1 from active Core/Net 0. As a final step, call processing is then switched again to Core/Net 1.

From Core/Net 1, perform these tests:

**1**    Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

**2**    Test the System Utility card and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility card
<b>TEST SUTL</b>	Test the System Utility card
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**3**    Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)

**4**    Install the two system monitors. Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS

**STAT XSM**      Check the system monitors

**\*\*\*\***              Exit program

**5** Clear the display and minor alarms on both Cores:

**LD 135**           Load program

**CDSP**            Clear displays on the cores

**CMAJ**            Clear major alarms

**CMIN ALL**       Clear minor alarms

**6** Test the clocks:

**a.** Verify that the clock controller is assigned to the *active* Core:

**LD 60**            Load program

**SSCK x**           Get status of the clock controllers (*x* is “0” or “1” for Clock 0 or Clock 1)

**SWCK**            Switch the Clock (if necessary)

**\*\*\*\***              Exit program

**b.** Verify that the Clock Controllers are switching correctly:

**SWCK**            Switch Clock

**Note:** You must wait a minimum of one minute for clocks to synchronize.

**SWCK**            Switch Clock again

**7** Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a. Check that the Fiber Rings operate correctly:

**LD 39**                      Load program

**STAT RING 0**          Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**          Check the status of Ring 1 (HALF/HALF)

- b. If necessary, restore the Rings to Normal State:

**RSTR**                      Restore both Rings to HALF state

- c. Check that the Rings operate correctly:

**STAT RING 0**          Check the status of Ring 0 (HALF/HALF)

**STAT RING 1**          Check the status of Ring 1 (HALF/HALF)

- 8 Check the status of the FIJI alarms:

**STAT ALRM**              Query the alarm condition for all FIJI cards in  
all Network Groups

**\*\*\*\***                      Exit program

- 9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

- 10 Check dial tone.

---

**End of Procedure**

---

## Switch call processing

### Procedure 266 Switching call processing

<b>LD 135</b>	Load program
<b>SCPU</b>	Switch call processing from Core/Net 1 to Core/Net 0



Core/Net 0 is now the active call processor.

### Procedure 267 Testing Core/Net 0

From Core/Net 0, perform these tests:

**1** Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

**2** Test the System Utility card and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility card
<b>TEST SUTL</b>	Test the System Utility card
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**3**    Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)

**4**    Install the two system monitors. Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit program

**5**    Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms

**6** Test the clocks:

- a.**
- Verify that the clock controller is assigned to the
- active*
- Core:

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

- b.**
- Verify that the Clock Controllers are switching correctly:

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again

**7** Test the Fiber Rings:

See *Software Input/Output: Maintenance* (553-3001-511) for more information on LD 39 commands.

- a.**
- Check that the Fiber Rings operate correctly:

<b>LD 39</b>	Load program
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- b.**
- If necessary, restore the Rings to Normal State:

<b>RSTR</b>	Restore both Rings to HALF state
-------------	----------------------------------

- c.**
- Check that the Rings operate correctly:

<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- 8    Check the status of the FIJI alarms:

**STAT ALRM**        Query the alarm condition for all FIJI cards in  
all Network Groups

**\*\*\*\***                Exit program

- 9    Check applications (CallPilot, Symposium, Meridian Mail, and so on.).
- 10   Check dial tone.

---

**End of Procedure**

---

### Switch call processing

#### Procedure 268

##### Switching call processing

**LD 135**            Load program

**SCPU**             Switch call processing from CoreNet 0  
to CoreNet 1



Core/Net 1 is now the active call processor.

### Perform a customer backup data dump (upgraded release)

#### Procedure 269

##### Performing a data dump to backup the customer database:

- 1    Log into the system.
- 2    Insert a CF card into the active Core/Net RMD slot to back up the database.



- 3** Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**            Load program.

**.**                EDD

- 4** When “EDD000” appears on the terminal, enter:

**EDD**            Begin the data dump.



**CAUTION**

**Loss of Data**

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

**\*\*\*\***            Exit program

The Meridian 1 Option 81C IGS upgrade to Meridian 1 Option 81C CP PIV with FNF is complete.

## Meridian 1 Option 81C/FNF upgrade to Option 81C CP PIV/FNF

### Prepare for upgrade

This document implements a “source- to-target” approach to performing an upgrade. It is important to correctly identify the source platform, target platform, and maintenance window required to perform the upgrade.



#### **IMPORTANT!**

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

Each chapter features check boxes indicating what condition the system should be in at that stage of the upgrade. If the system is not in the proper condition steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 111:

**Table 111**  
**Prepare for upgrade steps (Part 1 of 2)**

Procedure Step	Page
Plan upgrade	859
Upgrade Checklists	860
Prepare	860
Identifying the proper procedure	861
Connect a terminal	861
Print site data	861

**Table 111**  
**Prepare for upgrade steps (Part 2 of 2)**

Procedure Step	Page
Perform a template audit	864
Back up the database (data dump)	866
Transferring the database from floppy disk to CF (customer database media converter tool)	870

## Plan upgrade

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, Meridian Mail, etc.) that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan for backing out of the upgrade.



### **DANGER OF ELECTRIC SHOCK**

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## Upgrade Checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 957](#). Engineers may print this section for reference during the upgrade.

### Prepare

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (553-3021-120)).
- Verify proper cable lengths for the target platform.
- Determine and note current patch or Dep lists installed at the source platform.
- Determine required patch or Dep lists at the target platform for all system-patchable components (Call Server, Voice Gateway Media Cards, Signaling Servers and so on).
- Determine the required patches or DEP lists installed on all applications (CallPilot, Symposium Call Center Server, Meridian Mail, OTM, and so on).
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.
- Perform an inventory on required software and hardware.
- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

## Identifying the proper procedure

Each procedure has been written in a “source- to-target” format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

## Connect a terminal

### **Procedure 270** **Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules during the upgrade procedure.

- 1** Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2** The settings for the terminal are:
  - a.** 9600 Baud
  - b.** 8 data
  - c.** parity none
  - d.** 1 stop bit
  - e.** full duplex
  - f.** XOFF
- 3** If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An “A/B” switch box can also be installed to switch the terminal from side to side.

---

**End of Procedure**

---

## Print site data

Print site data to preserve a record of the system configuration (Table 112 on [page 862](#)). Verify that all information is correct. Make corrections as necessary.

**Note:** Items marked with an asterisk (\*) are required. Other items are recommended for a total system status.

**Table 112**  
**Print site data (Part 1 of 3)**

Site data	Print command	
Terminal blocks for all TNs	LD 20	
	REQ	PRT
	TYPE	TNB
	CUST	<cr>
Directory Numbers	LD 20	
	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 112**  
**Print site data (Part 2 of 3)**

Site data	Print command	
*Software packages	LD 22	
	REQ	PRT
	TYPE	PKG
*Software issue and tape ID	LD 22	
	REQ	ISS
	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

**Table 112**  
**Print site data (Part 3 of 3)**

Site data	Print command	
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		xxx = 0-252 in multiples of four for MG 1000E
		xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<b>Note:</b> Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

## Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.



**Note:** The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.

**CAUTION****Loss of Data**

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      CHECKSUM  
HIGH      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**

## Back up the database (data dump)

To back up system data, perform a data dump to save all system memory to the hard disk.

### Procedure 271

#### Performing a data dump

- 1 Log into the system.
- 2 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

**LD 43**                      Load program

- 3 When "EDD000" appears on the terminal, enter:

**EDD**                      Begin the data dump



#### CAUTION

##### Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4 The messages "DATADUMP COMPLETE" and "DATABASE BACKUP COMPLETE" will appear once the data dump is complete.

\*\*\*\*                      Exit program

- 5 Remove and label the floppy disk.



#### IMPORTANT!

Database backup information should be preserved for a minimum of 5 days.

---

**End of Procedure**

---

## Making the RMD bootable



### **CAUTION — Data Loss**

The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

**Note:** This utility is supported by all versions of Microsoft Windows.

The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 217 on [page 695](#).

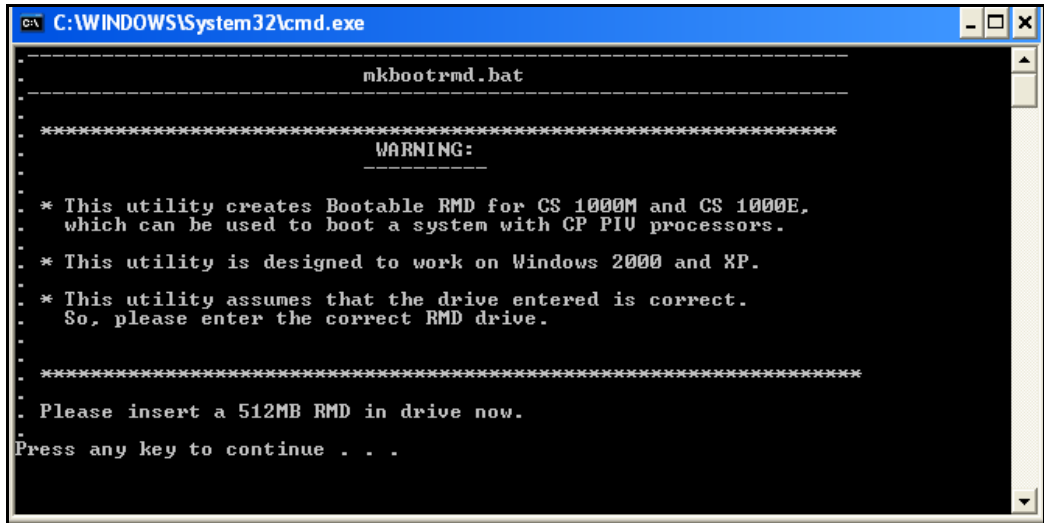
### **Procedure 272**

#### **Making the RMD bootable**

- 1** After downloading the software image file, unzip it to a directory on your PC.
- 2** Open the utilities folder.

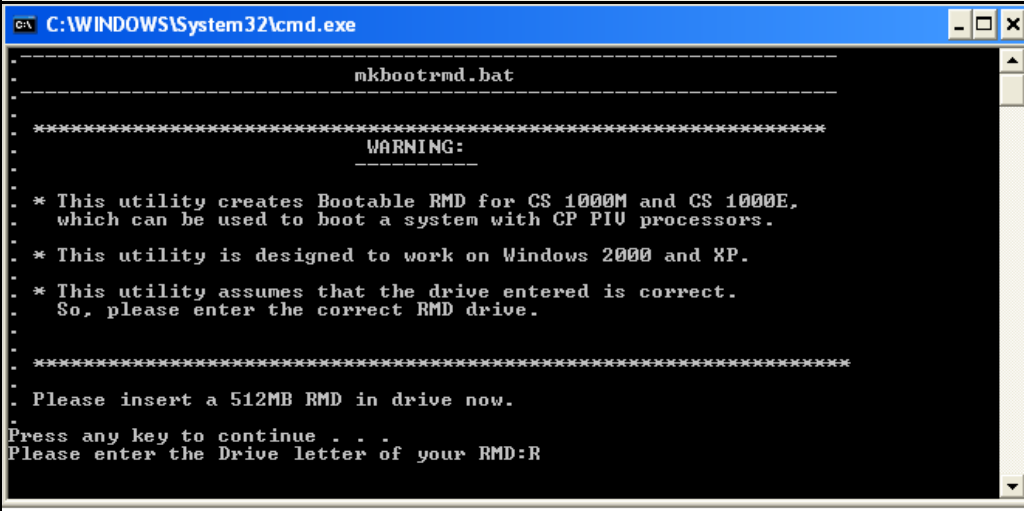
- 3     Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 135).

**Figure 173**  
**mkbootrmd.bat**



- 4 Enter the correct drive letter of the RMD (see Figure 174).

Figure 174  
mkbootrmd.bat



```
C:\WINDOWS\System32\cmd.exe
mkbootrmd.bat

*****
WARNING:
*****

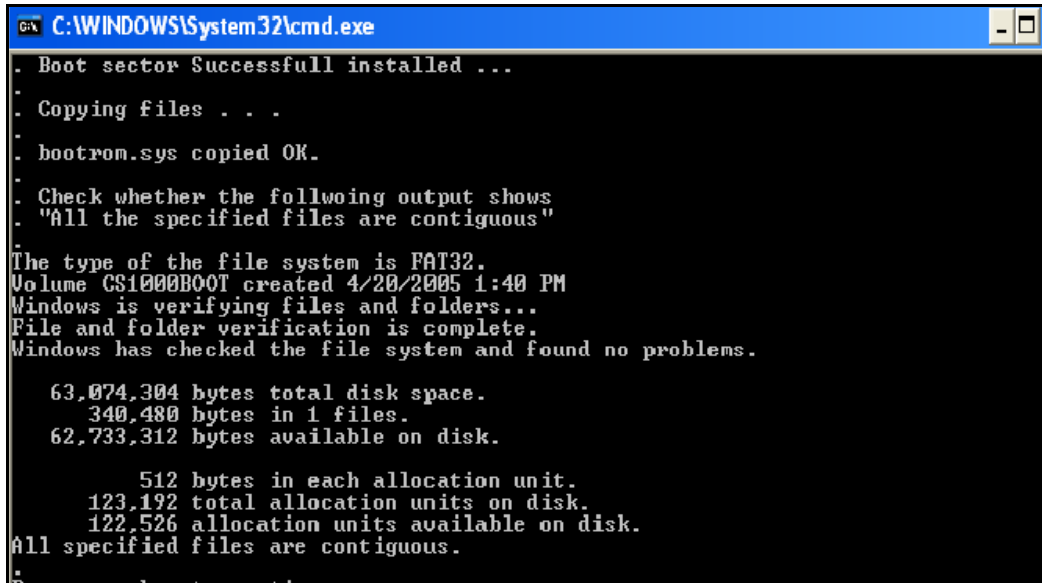
* This utility creates Bootable RMD for CS 1000M and CS 1000E,
  which can be used to boot a system with CP PIU processors.
* This utility is designed to work on Windows 2000 and XP.
* This utility assumes that the drive entered is correct.
  So, please enter the correct RMD drive.

*****

Please insert a 512MB RMD in drive now.
Press any key to continue . . .
Please enter the Drive letter of your RMD:R
```

- 5     The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 175).

**Figure 175**  
**Boot sector successfully installed**



```
C:\WINDOWS\System32\cmd.exe
. Boot sector Successfull installed ...
. Copying files . . .
. bootrom.sys copied OK.
. Check whether the follwoing output shows
. "All the specified files are contiguous"
.
The type of the file system is FAT32.
Volume CS1000000T created 4/20/2005 1:40 PM
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

  63,074,304 bytes total disk space.
    340,480 bytes in 1 files.
  62,733,312 bytes available on disk.

      512 bytes in each allocation unit.
    123,192 total allocation units on disk.
    122,526 allocation units available on disk.
All specified files are contiguous.
```

---

End of Procedure

---

## Transferring the database from floppy disk to CF (customer database media converter tool)



### IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

Release 4.5 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

**Procedure 273****Transferring the customer database from floppy disk to CF**

This procedure requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

- 1** Insert the floppy disk containing the backed up customer database from Procedure 271 on [page 866](#).
- 2** Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 3** Start the Database Media Converter utility. The first screen (Figure 176 on [page 872](#)) prompts you to select the correct drive letter for the floppy disk drive.

**Figure 176**  
**Select the floppy disk drive**



- 4 The utility then prompts you to insert the the floppy disk (diskette 1) and click OK (see Figure 177 on [page 873](#)).

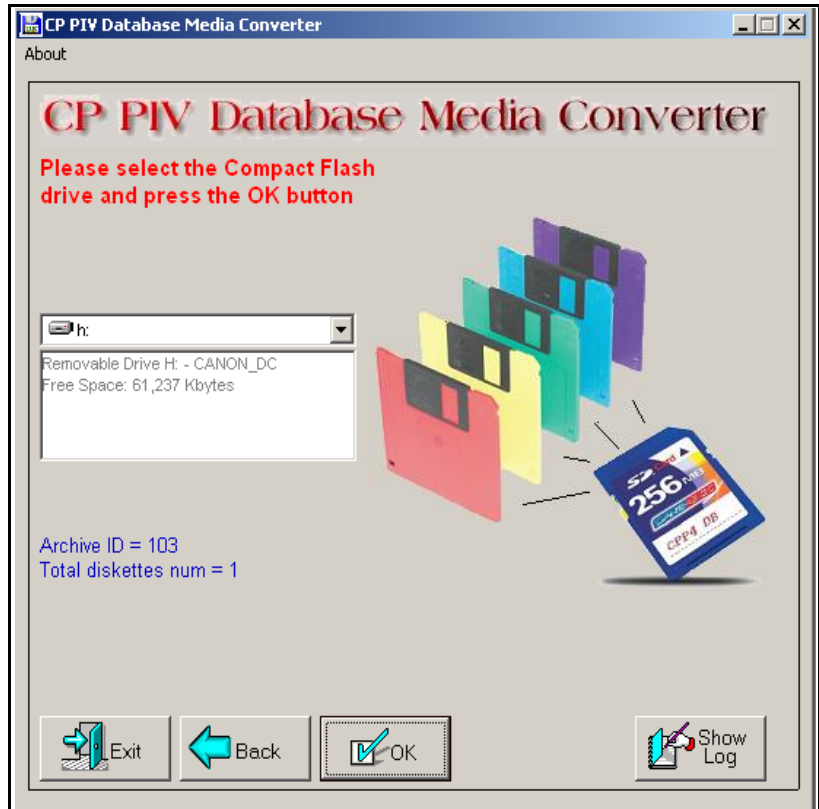


**Figure 177**  
**Insert diskette 1**



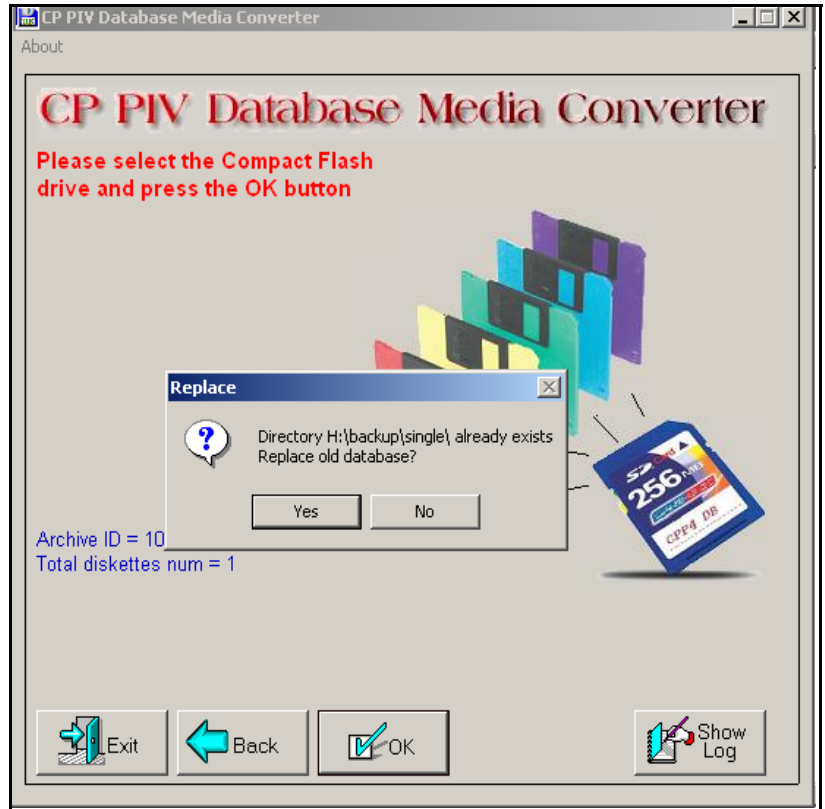
- 5 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 178 on [page 874](#)).

**Figure 178**  
**Select the CF drive**



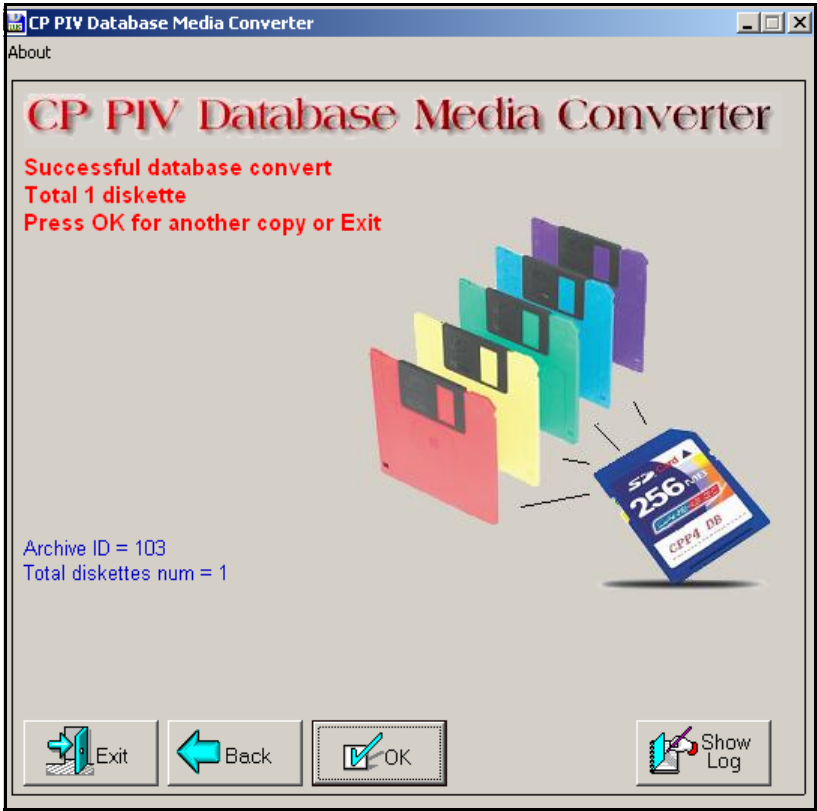
- 6 At this point, 2 options are available:
- a. If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 179 on [page 875](#)). Click yes to replace old database.
  - b. If the CF card is blank, the database is backed up to the CF card.

**Figure 179**  
**Replace database on CF drive**



- 7 The utility completes the transfer to CF and prompts you to copy another or EXIT.

**Figure 180**  
**Copy another or exit**



————— **End of Procedure** —————

## Check requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

## Perform upgrade

The target upgrade to Meridian 1 Option 81C CP PIV with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0MB) support
- both NTRC46 cables must be the same length



### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.



### DANGER OF ELECTRIC SHOCK

In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

## Check required software



### WARNING

#### Service Interruption

DO NOT proceed with the upgrade if any of the required items are missing. All items must be received to complete the upgrade.



### IMPORTANT!

Systems and components delivered to customer sites may include pre-installed software. However, the pre-installed software versions are typically older and are included only for manufacturing and order management purposes. **Do not attempt to operate the system with the pre-installed software.** The latest software must be downloaded from the Nortel Software Download web site and installed as part of the upgrade process.



### IMPORTANT!

This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

## Compact Flash Software Install Kit (CP PIV)

The Compact Flash Software Install Kit contains the following items:


- One CF (512 MByte) card containing:
  - Install Software files
  - CS 1000 Release 4.5 software
  - Dep. Lists ( PEPs)
  - Key code File

- One blank CF card for database backup
- One Nortel CS 1000 Release 4.5 Documentation CD

Check required hardware

This section describes the *minimum* hardware required for CP PIV. Additional equipment can also be installed during the upgrade. Verify that *all* hardware has been received.

Before the upgrade, check that items on the order form are also on the packing slip. Check that all items been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.



**WARNING**

**Service Interruption**

DO NOT proceed with the upgrade if any of the required items are missing. All items must be received to complete the upgrade.

Meridian 1 Option 81C CP PIV hardware is configured at the factory according to customer requirements. Table 113 lists the hardware required for the upgrade.

Table 113  
Hardware requirements for Meridian 1 Option 61C CP PIV upgrade

Order number	Description	Quantity per system
NT4N39	Control Processor Pentium IV	2
N0026096	MMDU replacement faceplate	2

Figure 181 on [page 881](#) shows the CP PIV processor card side view.  
Figure 182 on [page 882](#) shows the CP PIV processor card front view.



**Figure 181**  
**CP PIV call processor card (side)**

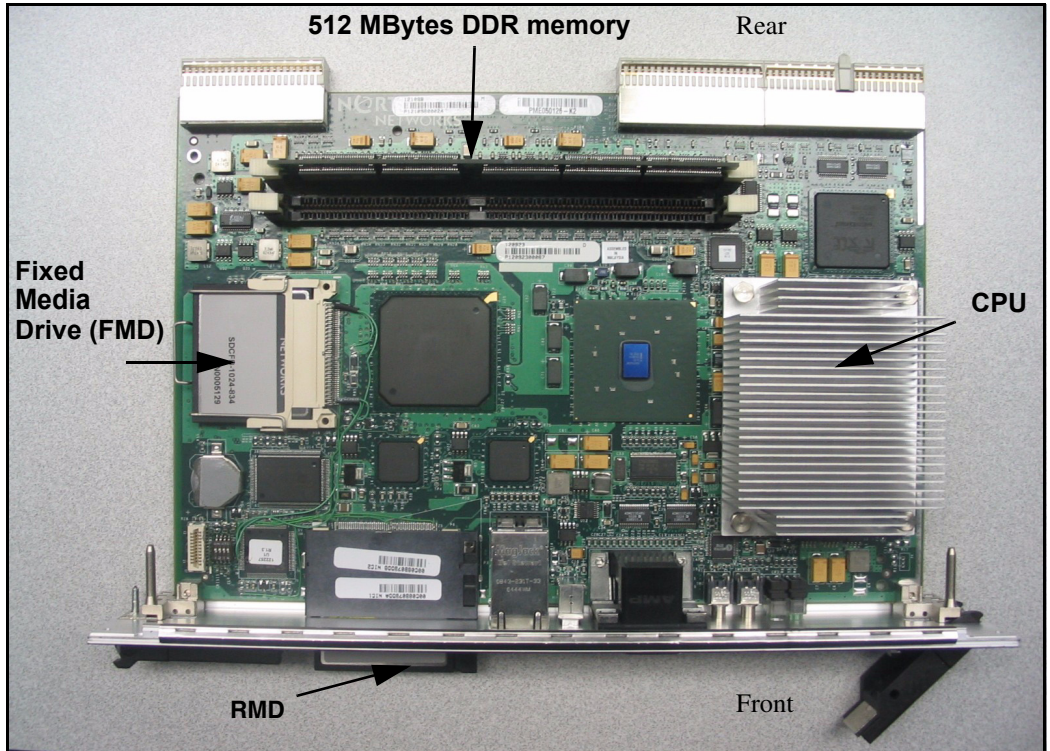
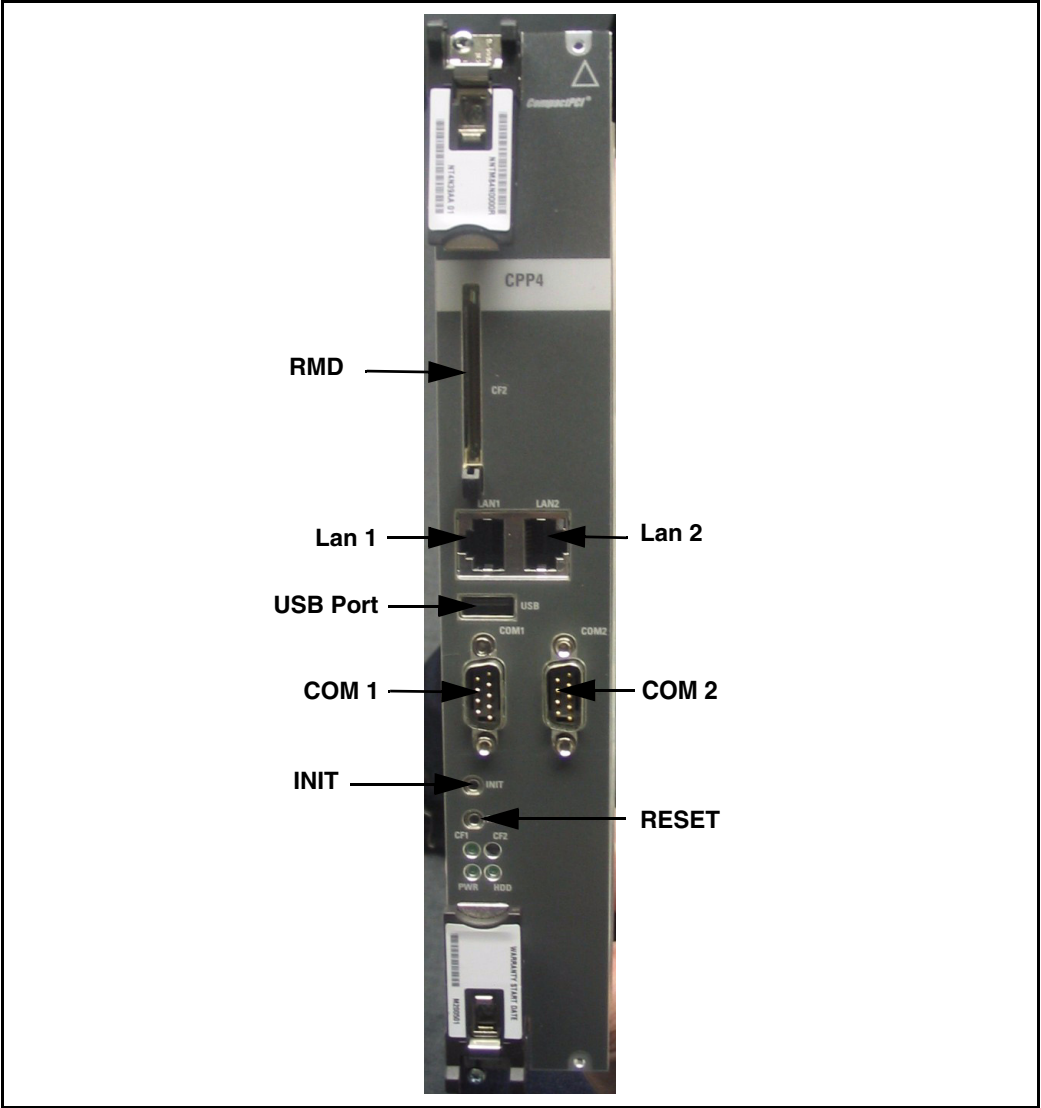
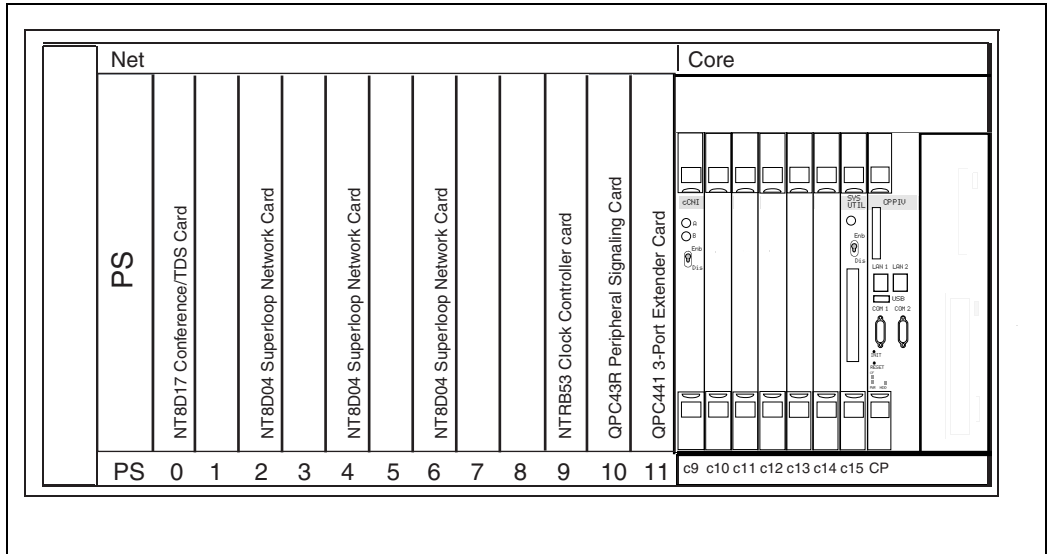


Figure 182  
CP PIV call processor card (front)



**Figure 183**  
**CP PIV NT4N41 Core/Net Module**



## Verify CP PIV hardware

## Verifying CP PIV card location

The NT4N39 CP PIV card is located in the Call Processor slot (see Figure 183 on [page 883](#)). The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

## Remove equipment from Core 1

### Procedure 274

#### Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing:

- 1    Verify that Core 0 is active.

**LD 135**            Load program

**STAT CPU**        Get the status of the CPUs

- 2    If Core 1 is active, make Core 0 active:

**SCPU**             Switch to Core 0 (if necessary)

**\*\*\*\***             Exit program

---

**End of Procedure**

---

### Procedure 275

#### Checking that Clock Controller 0 is active

- 1    Check the status of the Clock Controllers:

**LD 60**            Load program

**SSCK 0**           Get the status of Clock Controller 0

**SSCK 1**           Get the status of Clock Controller 1

- 2    If Clock Controller 1 is active, switch to Clock Controller 0.

**SWCK**            Switch to Clock Controller 0 (if necessary)

**\*\*\*\***             Exit program

---

**End of Procedure**

---

**Procedure 276**  
**Splitting the Cores**

- 1** In Core/Net 0, enter the SPLIT command from LD 135.

<b>LD 135</b>	Load program
<b>SPLIT</b>	Split the Cores
<b>****</b>	Exit program



The system is now in split mode, with call processing on Core 0. Clock 0 is active, and FIJI is half/half (if equipped).

- 2** Hardware disable all CNI cards in Core 1.

---

**End of Procedure**

---

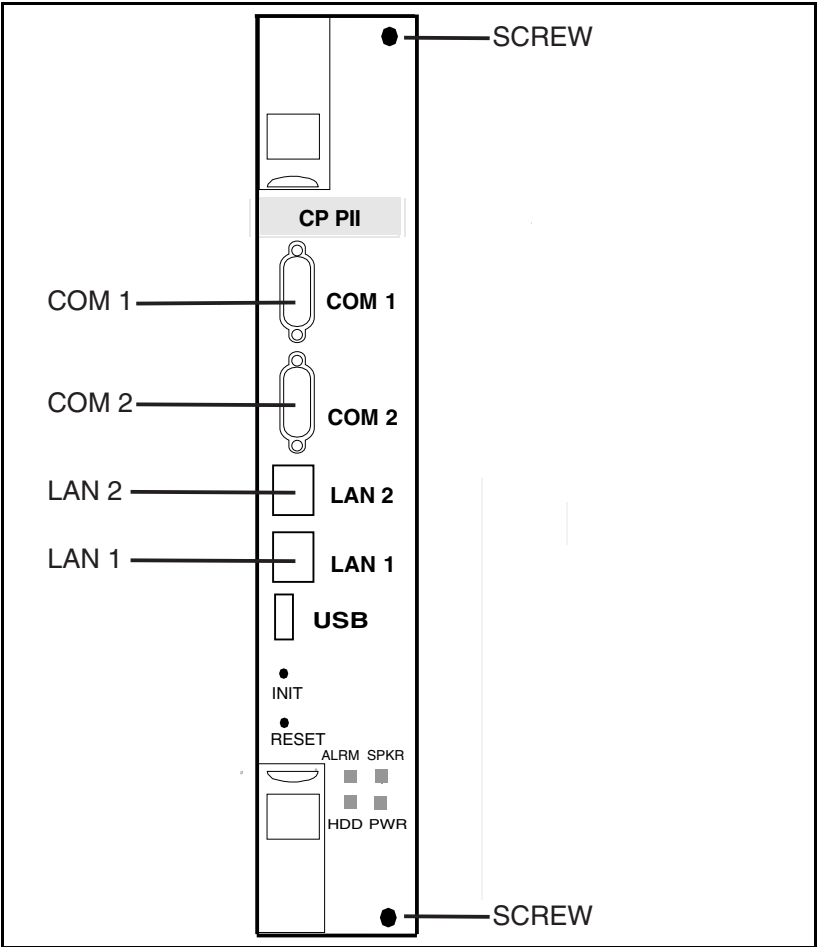
**Remove Core 1 CP PII card and MMDU**

**Procedure 277**

**Removing the Core 1 CP PII Processor and MMDU**

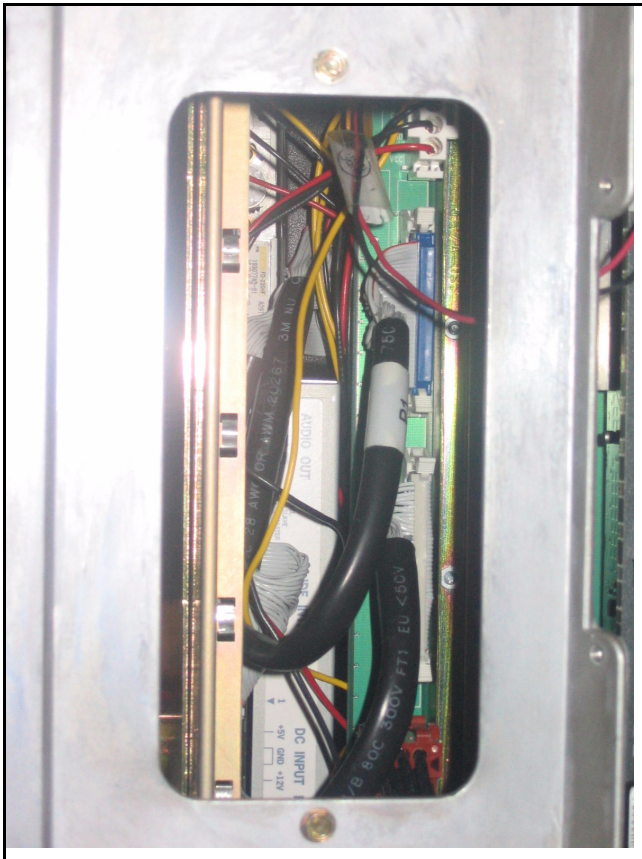
- 1    Disconnect and label the LAN1 and LAN 2 cables from the Core 1 CP PII card faceplate. See Figure 184.

**Figure 184**  
**CP PII faceplate connections**



- 2 Disconnect and label the COM 1 and COM 2 cables from the Core 1 CP PII card faceplate. See Figure 184 on [page 886](#).
- 3 Unscrew and unlatch the Core 1 CP PII card. Figure 184 on [page 886](#).
- 4 Pull the Core 1 CP PII card from its slot.
- 5 Remove the rear access plate on the left side of the Core 1 module. See Figure 185.

**Figure 185**  
**NT4n46 Core/Net module**



- 6 From the rear access point of the Core 1 shelf, remove the MMDU power cable from the backplane.

- 7 From the rear access point of the Core 1 shelf , remove the two IDE cables from the backplane. See Figure 185 on [page 887](#)
- 8 Unscrew the MMDU from the front of Core 1.
- 9 Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.
- 10 Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.



**IMPORTANT!**

Database backup information, the MMDU, and original CP PII card should be preserved for a minimum of 5 days.

---

**End of Procedure**

---

## **Install Core 1 CP PIV card and blank faceplate**

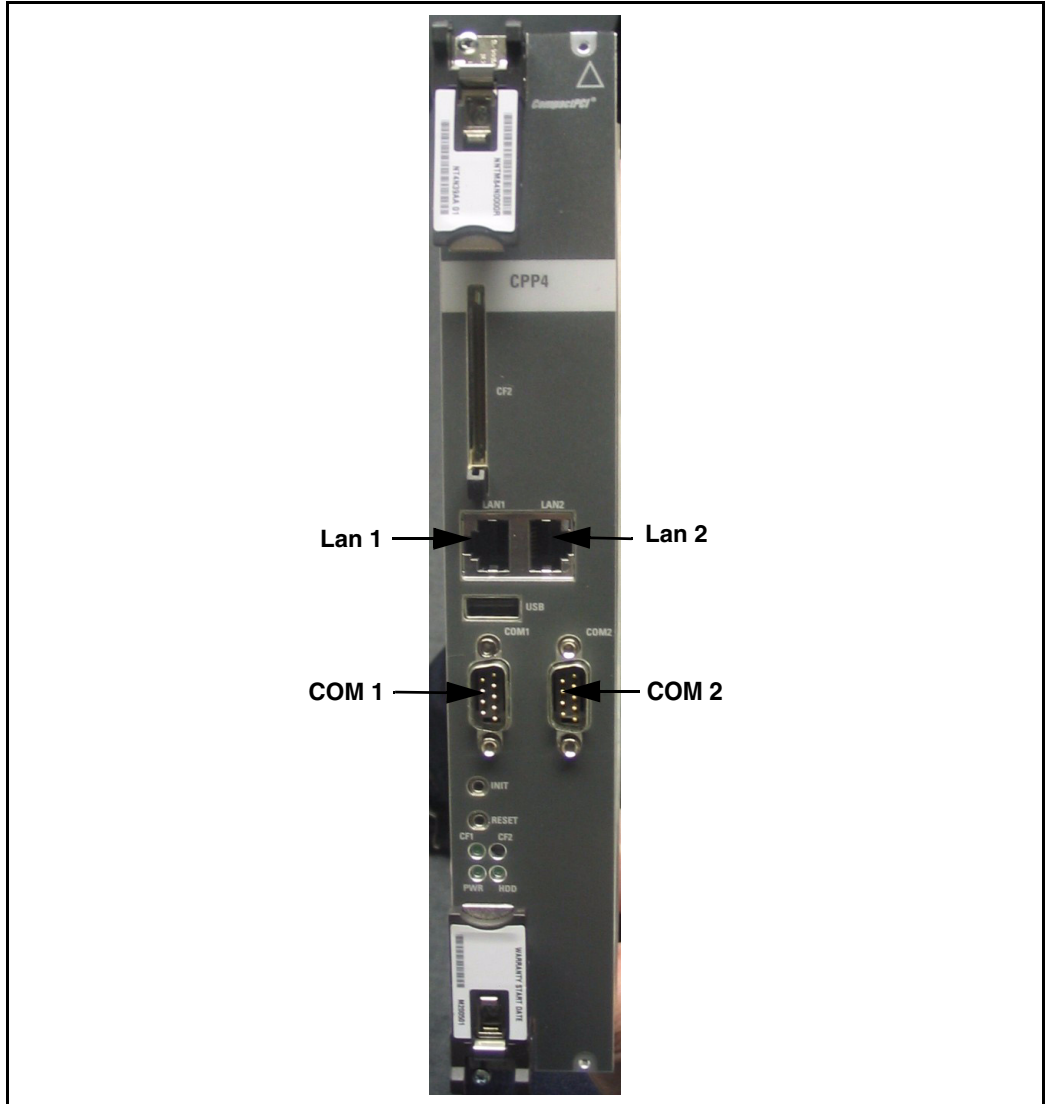
### **Procedure 278**

#### **Installing the Core 1 CP PIV Procesor and blank faceplate**

- 1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.
- 2 Insert the CP PIV card into the empty CP slot in Core 1. Seat the card and secure the latches and screws.
- 3 Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 186 on [page 889](#).



**Figure 186**  
**CP PIV faceplate connections**



- 4    Do not attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade. These cables are attached once both Cores are upgraded.

---

**End of Procedure**

---

## **CS 1000 Release 4.5 upgrade**

### **Upgrading the software**

Procedure 238 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

#### **Procedure 279**

##### **Upgrading the software**

- 1    Check that a terminal is now connected to COM 1.
- 2    Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
and size ...
    Number of partitions  0:
    Disk check failed: three partitions
expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

```
The Fix Media Device on Core x is blank.

      Install cannot continue unless the FMD
is partitioned.

      Note: INSTALL WILL REBOOT AFTER THIS
PROCEDURE AND

      FIX MEDIA WILL BE EMPTY AFTER YOU
PARTITION IT.

      INSTALL REMOVABLE MEDIA MUST BE IN
THE DRIVE AT THIS TIME.

      Please enter:

<CR> -> <a> - Partition the Fix Media Device.

      Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)
Size in sectors = 0x8000
Low boundary = 0
High boundary = 0x1e8bdf
fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)
Size in sectors = 0x98000
Low boundary = 0x7fc1
High boundary = 0x1e8bdf
fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)
Size in sectors = 0x98000
Low boundary = 0x9ffc1
High boundary = 0x1e8bdf
fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)
Size in sectors = 0x98000
```

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...

fdiskDevCreate(/dev/hda2)

/dev/hda2: partTablePtr = 0x12d5ff0c

Found partition 2, nodePtr = 0x12d30a4c

Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:

Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
FAT

    Sectors reserved 32, hidden 63, FAT sectors
1216

    Root dir entries 0, sysId VX5DOS32, serial
number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```
Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195
    -61 FAT copies, 0 clusters, 50115 sectors per
FAT
    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015
    Root dir entries -15421, sysId (null) , serial
number cffbc3c3
    Label:"          " ...
;CPP4 reboot automatically
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys
                Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive
    0 [F]
Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...
```

**6**    The system then enters the Main Menu for keycode authorization.

```

                                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
          <t> - To Tools menu.
          <q> - Quit.

Enter Choice> <u>
```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

          <CR> -> <a> - RMD is now in the drive.
          <q> - Quit.

Enter choice>
```



At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "y" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd  1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7    Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8    The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

           <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

           <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
=====
```

I N S T A L L      M E N U

The Software Installation Tool will install or upgrade Succession Enterprise System Software, Database and the CP-BOOTROM. You will be prompted throughout the installation and given the opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

<b> - To install Software, Database, CP-BOOTROM.

<c> - To install Database only.

<d> - To install CP-BOOTROM only.

<t> - To go to the Tools menu.

<k> - To install Keycode only.

For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.

<q> - Quit.

Enter Choice> **<b>**

- 10 The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the  
drive on Core x.

Please enter:

                  <CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

                  <q> - Quit.

Enter choice> **<CR>**

- 11 If the RMD containing the software is already in the drive, select option “<a> - RMD is now in drive. Continue with s/w checking.” (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 12** The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

The RMD contains System S/W version xxxx.

Please enter:

<CR> -> <y> - Yes, this is the correct version. Continue.

<n> - No, this is not the correct version. Try another RMD or a different keycode.

Enter choice> **<CR>**

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13** The Dependency List menus appear.

```
Do you want to install Dependency Lists?  
  
Please enter:  
  
<CR> -> <y> - Yes, Do the Dependency Lists  
installation  
  
<n> - No, Continue without Dependency Lists  
installation  
  
Enter choice> y  
  
>Processing the install control file ...  
  
>Installing release xxxx
```

14 The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	SW: RMD to FMD		yes	install for rel XXXXX
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	Dependency Lists		yes	
=====+=====+=====+=====				
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	IPMG Software		yes	install for rel XXXXX
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	DATABASE		yes	
	Option		Choice	Status   Comment
=====+=====+=====+=====				
	CP-BOOTROM		yes	

- 15** Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.


        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```

- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```



- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>

```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```

The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>

```

19 Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>
    
```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

```

-----
                     INSTALLATION STATUS SUMMARY
-----
+-----+-----+-----+-----+
| option | choice | status | comment |
+-----+-----+-----+-----+
| Sw: RMD to FMD | yes | OK | install for rel 04xxx |
+-----+-----+-----+-----+
| Dependency Lists | yes | OK | |
+-----+-----+-----+-----+
| AUTO-CSU Feature | no | | AUTO-CSU disabled |
+-----+-----+-----+-----+
| IPMG Software: | no | | |
+-----+-----+-----+-----+
| Database | yes | OK | conversion from xxxx |
+-----+-----+-----+-----+
| CP-BOOTROM | yes | OK | |
+-----+-----+-----+-----+

Please press <CR> when ready ...
    
```

**20** Upon returning to the main install menu, enter **q** to quit.

```

      I N S T A L L   M E N U

      The Software Installation Tool will
      install or upgrade Succession Enterprise System
      Software, Database and the CP-BOOTROM. You will be
      prompted throughout the installation and given the
      opportunity to quit at any time.

      Please enter:

      <CR> -> <a> - To install Software, CP-BOOTROM.
              <b> - To install Software, Database, CP-
      BOOTROM.
              <c> - To install Database only.
              <d> - To install CP-BOOTROM only.
              <t> - To go to the Tools menu.
              <k> - To install Keycode only.

              For Feature Expansion, use OVL143.
              <p> - To install 3900 set Languages.
              <q> - Quit.

      Enter Choice> q
```

- 21 The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.

    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.

-----

DO NOT REBOOT USING BUTTON!!!

-----

    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

---

**End of Procedure**

---

## **Verify the upgraded database**

### **Procedure 280**

#### **Verifying the upgraded database**

- 1 Print ISSP (system software issue and patches)

**LD 22** Load program

**REQ** ISSP

**\*\*\*\*** Exit program

- 2 Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22** Load program

**REQ** PRT

**TYPE** CFN

**\*\*\*\*** Exit program

- 3 Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22** Load program

**REQ** SLT

**\*\*\*\*** Exit program

4    Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program

## Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 861](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Access LD 22 and print Target peripheral software version.

<b>LD 22</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	PSWV
<b>ISSP</b>	Print System, DepList, and Patch information
<b>SLT</b>	Print System Limits
<b>TID</b>	Print the Tape ID
<b>****</b>	Exit program

## For systems with fewer than eight groups, delete CNIs

### Procedure 281

#### Deleting CNIs

Software has configured the system for eight groups. If the system has eight groups, skip this procedure. If the system has fewer than eight groups, you must software remove the CNIs not used in the system configuration:

- 1 In Core/Net 1, disable all cCNI cards using LD 135:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get the status of all cCNI cards
<b>DIS CNIP x s p</b>	Disable cCNI ports where: x = Core number (0 or 1) s = card slot (9-12) p = port (0 or 1)
<b>DIS CNI x s</b>	Disable cCNI cards where: x = Core number (0 or 1) s = card slot (9-12)
<b>STAT CNI</b>	Confirm that cCNI cards are disabled
<b>****</b>	Exit program

- 2 Use LD 17 to remove the extra cCNI cards.

<b>LD 17</b>	Load program
<b>CHG</b>	CFN
<b>TYPE</b>	CEQU
<b>CEQU</b>	
<b>carriage return to EXTO</b>	
<b>EXTO 3PE</b>	Core/Net 0 extended to 3PE

<b>CNI s p x</b>	Out the cCNI card, where: s = card slot (9-12) p = port (0 or 1) x = out network group
<b>EXTI 3PE</b>	Core/Net 1 extended to 3PE
<b>CNI s p x</b>	Out the cCNI card, where: s = card slot (9-12) p = port (0 or 1) x= out network group
<b>carriage return to end of program</b>	
<b>****</b>	Exit program



**3** Use LD 135 to re-enable cCNI cards:

<b>LD 135</b>	Load program
<b>STAT CNI</b>	Get status of all cCNI cards
<b>ENL CNI x s</b>	Enable cCNI cards where: x= Core number (0,1) s = card slot (9-12)
<b>ENL CNIP x s p</b>	Enable cCNI ports where: x= Core number (0,1) s = card slot (9-12) p = port (0 or 1)
<b>STAT CNI</b>	Confirm that cCNI cards are enabled
<b>****</b>	Exit program

---

**End of Procedure**

---



At this point, cCNI cards in Core 1 are controlled by the active call processor in Core 0. Therefore, they remain disabled.

## Reconfigure I/O ports and call registers

### Procedure 282

#### Reconfiguring I/O ports and call registers

- 1 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 1000 and 20000 (respectively). If changes are required, reconfigure the values in LD 17:

**LD 17**                      Load program

**CHG**

**CFN**

**PARM YES**

**500B 1000**                Use 1000 as a minimum value

**NCR 20000**              Use 20000 as a minimum value

**\*\*\*\***                      Exit program

- 2 Print the Configuration Record to confirm the changes made above:

**LD 22**                      Load program

**REQ PRT**                Set the print Option

**TYPE CFN**               Print the configuration

**\*\*\*\***                      Exit program

---

**End of Procedure**

---



At this point, all applications must be shut down (CallPilot, Symposium, and so on).

## Switch call processing to Core/Net 1



### CAUTION

#### Service Interruption

The following procedure interrupts call processing. All active calls are lost.

### Procedure 283

#### Switching call processing to Core 1

- 1 Faceplate enable all CNI cards on Core/Net 1.
- 2 Faceplate disable all CNI cards on Core/Net 0.
- 3 Initialize (using the init button) the CP PIV card in Core/Net 1.
- 4 Wait for "DONE" and then "INI" messages to display before you continue.

---

### End of Procedure

---

#### **Note 1:** On FNF based systems after the INI:

A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

**Note 2:** During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets.



Upon INI completion, RING 1 is full, FIJI 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.

## **Test Core/Net 1**

### **Procedure 284**

#### **Testing Core/Net 1**

**1**    Check dial-tone.

**2**    Stat D-channels:

#### **LD 96**

**STAT DCH**            Stat all D-channels

\*\*\*\*                    Exit program

**3**    Stat all T1 interfaces:

#### **LD 60**

**STAT**                 Stat all DTI and PRI

\*\*\*\*                    Exit program

**4**    Stat network cards:

#### **LD 32**

**STAT x**                x = loop number

\*\*\*\*                    Exit program

**5**    Print status of all controllers:

#### **LD 97**

**REQ**                  PRT

**TYPE**                 XPE (returns status of all controller cards)

\*\*\*\*                    Exit program

**6**    Make internal, external and network calls.

**7**    Check attendant console activity.

**8**    Check DID trunks.

**9** Check applications (CallPilot, Symposium, Meridian Mail, etc.).



Call processing should be active on Core/Net 1.

---

**End of Procedure**

---

## Remove equipment from Core 0

### Procedure 285

#### Checking that Core 1 is active

To upgrade Core 0, verify that Core 1 is the active side performing call processing:

**1** Verify that Core 0 is active.

**LD 135** Load program

**STAT CPU** Get the status of the CPUs

**2** If Core 0 is active, make Core 1 active:

**SCPU** Switch to Core 1 (if necessary)

**\*\*\*\*** Exit program

---

**End of Procedure**

---

**Procedure 286**

**Checking that Clock Controller 1 is active**

- 1    Check the status of the Clock Controllers:

**LD 60**            Load program

**SSCK 0**        Get the status of Clock Controller 0

**SSCK 1**        Get the status of Clock Controller 1

- 2    If Clock Controller 0 is active, switch to Clock Controller 1.

**SWCK**           Switch to Clock Controller 1 (if necessary)

**\*\*\*\***           Exit program

---

**End of Procedure**

---

**Procedure 287**

**Hardware disable CNI cards**

- 1    Hardware disable all CNI cards in Core 0.

---

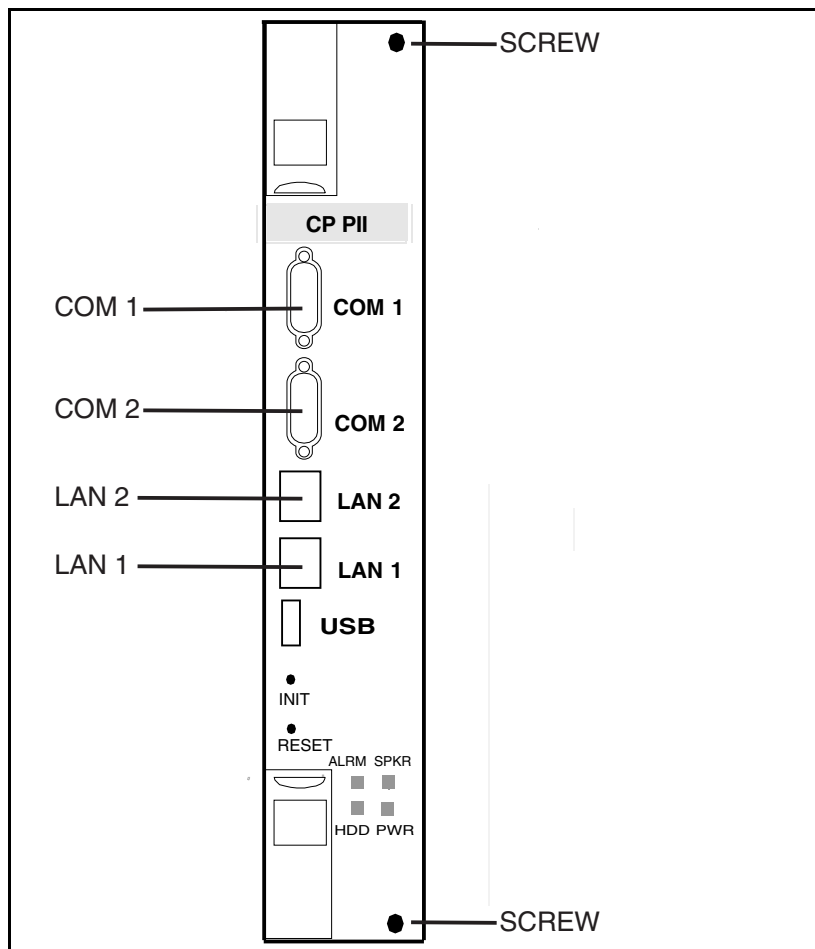
**End of Procedure**

---

**Remove Core 0 CP PII card and MMDU****Procedure 288****Removing the Core 0 CP PII Processor and MMDU**

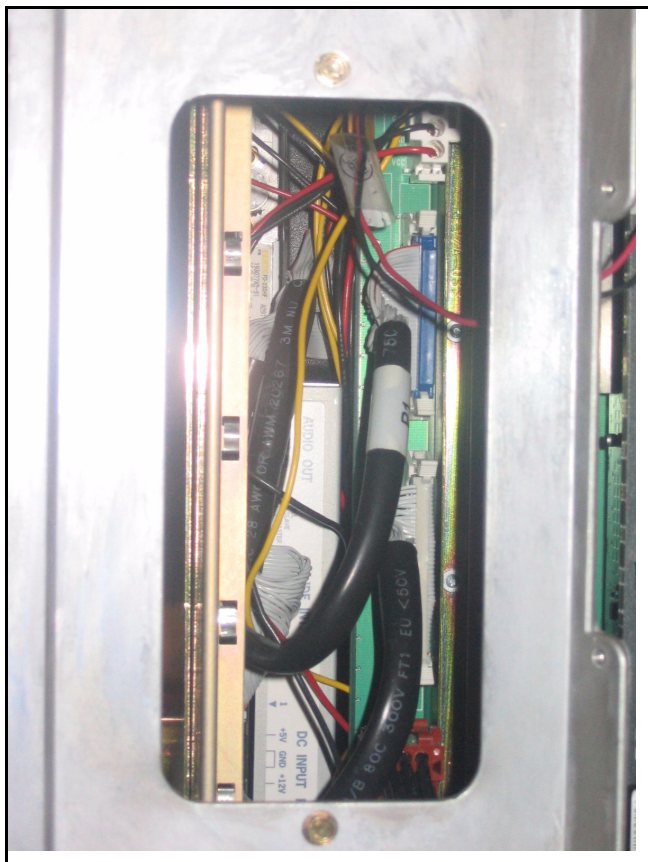
- 1 Disconnect and label the LAN1 and LAN 2 cables from the Core 0 CP PII card faceplate. See Figure 187.

**Figure 187**  
**CP PII faceplate connections**



- 2 Disconnect and label the COM 1 and COM 2 cables from the Core 0 CP PII card faceplate. See Figure 187 on [page 919](#).
- 3 Unscrew and unlatch the Core 0 CP PII card. Figure 187 on [page 919](#).
- 4 Pull the Core 0 CP PII card from its slot.
- 5 Remove the rear access plate on the left side of the Core 0 module. See Figure 188.

**Figure 188**  
**NT4N46 Core/Net module**



- 6 From the rear access point of the Core 0 shelf, remove the MMDU power cable from the backplane.



- 7 From the rear access point of the Core 0 shelf, remove the two IDE cables from the backplane. See Figure 188 on [page 920](#).
- 8 Unscrew the MMDU from the front of Core 0.
- 9 Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.
- 10 Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.

**IMPORTANT!**

Database backup information and MMDU should be preserved for a minimum of 5 days.

---

**End of Procedure**

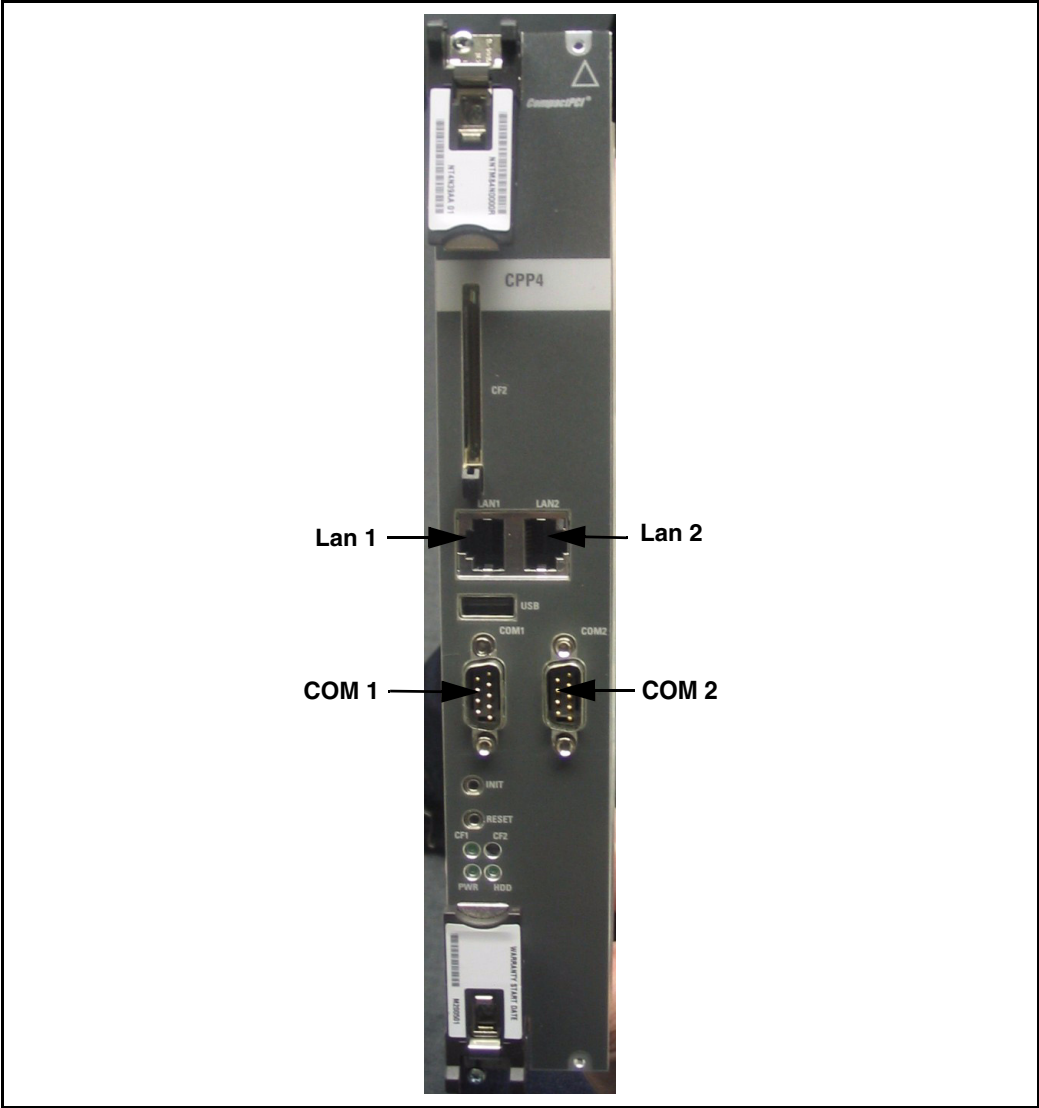
---

## **Install Core 0 CP PIV card and blank faceplate**

**Procedure 289****Installing the Core 0 CP PIV Processor and blank faceplate**

- 1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.
- 2 Insert the CP PIV card into the empty CP slot in Core 0. Seat the card and secure the latches and screws.
- 3 Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 189 on [page 922](#).

**Figure 189**  
**CP PIV faceplate connections**



- 4 Do not attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade. These cables are attached once both Cores are upgraded.

---

**End of Procedure**

---

## **CS 1000 Release 4.5 upgrade**

### **Upgrading the software**

Procedure 238 outlines the steps involved in installing CS 1000 Release 4.5 for the CP PIV processor.

#### **Procedure 290**

##### **Upgrading the software**

- 1 Check that a terminal is now connected to COM 1.
- 2 Insert the RMD into the CF card slot.

- 3 Press the manual RESET button on the CP PIV card faceplate.
- 4 Enter <CR> at the Install Tool Menu.
- 5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

```
>Obtaining and checking system configuration ...
>Validate hard disk partitions
    Validate number of hard drive partitions
    and size ...
    Number of partitions  0:
    Disk check failed: three partitions
    expected
INST0010 Unable to validate Hard disk partition
"/u"
    errNo : 0xd0001
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/p"
    Please press <CR> when ready ...
INST0010 Unable to validate Hard disk partition
"/e"
    Please press <CR> when ready ...
```

The Fix Media Device on Core x is blank.

Install cannot continue unless the FMD is partitioned.

Note: INSTALL WILL REBOOT AFTER THIS PROCEDURE AND

FIX MEDIA WILL BE EMPTY AFTER YOU PARTITION IT.

INSTALL REMOVABLE MEDIA MUST BE IN THE DRIVE AT THIS TIME.

Please enter:

<CR> -> <a> - Partition the Fix Media Device.

Enter choice>

>Repartitioning Fix Media Device ...

fdiskPartCreate(0x12d5ff0c, 1, 4, 0x10)

Size in sectors = 0x8000

Low boundary = 0

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 2, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x7fc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 3, 11, 0x130)

Size in sectors = 0x98000

Low boundary = 0x9ffc1

High boundary = 0x1e8bdf

fdiskPartCreate(0x12d5ff0c, 4, 11, 0x130)

Size in sectors = 0x98000

```
Low boundary = 0x137fc1
High boundary = 0x1e8bdf
>Fix Media Device repartition completed
>Formatting FMD ...
Mounting msdos fs /boot on /dev/hda1...
fdiskDevCreate(/dev/hda1)
/dev/hda1: partTablePtr = 0x12d5ff0c
Found partition 1, nodePtr = 0x12d30a4c
Partition 1 = type MSDOS FAT16 <= 32MB, cbioPtr =
0x131eb2e8
Initializing new slave device 0x131eb2e8
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 32
    2 FAT copies, 0 clusters, 245 sectors per FAT
    Sectors reserved 1, hidden 63, FAT sectors 490
    Root dir entries 512, sysId (null) , serial
number 3b691afd
    Label:"NO NAME      " ...
Disk with 32705 sectors of 512 bytes will be
formatted with:
Volume Parameters: FAT type: FAT16, sectors per
cluster 2
    2 FAT copies, 16240 clusters, 64 sectors per
FAT
    Sectors reserved 1, hidden 63, FAT sectors 128
    Root dir entries 512, sysId VXDOS16 , serial
number 3b691afd
```

```
Label:"                " ...

Mounting msdos fs /p on /dev/hda2...
fdiskDevCreate(/dev/hda2)
/dev/hda2: partTablePtr = 0x12d5ff0c
Found partition 2, nodePtr = 0x12d30a4c
Partition 2 = type Win95 FAT32, cbioPtr =
0x12d26ee8

Initializing new slave device 0x12d26ee8

Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
    FAT

    Sectors reserved -15421, hidden -1010580541,
    FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
    number cfcfc3c3

    Label:"                " ...

Disk with 622592 sectors of 512 bytes will be
formatted with:

Volume Parameters: FAT type: FAT32, sectors per
cluster 8

    2 FAT copies, 77660 clusters, 608 sectors per
    FAT

    Sectors reserved 32, hidden 63, FAT sectors
    1216

    Root dir entries 0, sysId VX5DOS32, serial
    number cfcfc3c3

    Label:"                " ... 0x12d22e7c
```

```

Mounting msdos fs /d on /dev/hda3...
fdiskDevCreate(/dev/hda3)
/dev/hda3: partTablePtr = 0x12d5ff0c
Found partition 3, nodePtr = 0x12d30a4c
Partition 3 = type Win95 FAT32, cbioPtr =
0x12d22e7c
Initializing new slave device 0x12d22e7c
Retrieved old volume params with %80 confidence:
Volume Parameters: FAT type: FAT16, sectors per
cluster 195

    -61 FAT copies, 0 clusters, 50115 sectors per
FAT

    Sectors reserved -15421, hidden -1010580541,
FAT sectors -3057015

    Root dir entries -15421, sysId (null) , serial
number cffbc3c3

    Label:"          " ...

;CPP4 reboot automatically

Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys

                Selecting nvram file from 2
sources

Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive

    0 [F]

Reading boot parameters from /boot/nvram.sys
Press any key to stop auto-boot...

```



**6** The system then enters the Main Menu for keycode authorization.

```
                M A I N      M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.
Enter Choice> <u>
```

The system searches for available keycode files in the “keycode” directory on the RMD. If no keycode file is found, the system displays the following menu:

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

        <CR> -> <a> - RMD is now in the drive.
        <q> - Quit.
Enter choice>
```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====
=====

You selected to quit. Please confirm.

Please enter:

    <CR> -> <y> - Yes, quit.

    <n> - No, DON'T quit.

Enter choice>

```

If "<y>" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```

The following keycode files are available on the
removable media:

Name                               Size   Date       Time
-----
<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min
<2> - KCport60430m.kcd   1114 mon-d-year hr:min
<q> - Quit

Enter choice> 2

```

**Note:** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

- 7 Select the keycode to be used on the system. The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

**Note:** The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

- 8 The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

        <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

        <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```

- 9 If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<b>".

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool
=====

I N S T A L L       M E N U

      The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

      Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.
      <b> - To install Software, Database, CP-
BOOTROM.

      <c> - To install Database only.
      <d> - To install CP-BOOTROM only.
      <t> - To go to the Tools menu.
      <k> - To install Keycode only.

      For Feature Expansion, use OVL143.

      <p> - To install 3900 set Languages.
      <q> - Quit.

Enter Choice> <b>
```

- 10** The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/  
BOOTROM RMD Install Tool  
  
=====
```

Please insert the Removable Media Device into the drive on Core x.

Please enter:

                  <CR> -> <a> - RMD is now in drive.  
Continue with s/w checking.

                  <q> - Quit.

Enter choice> **<CR>**

- 11** If the RMD containing the software is already in the drive, select option "<a> - RMD is now in drive. Continue with s/w checking." (or simply press <CR>) to continue. If the RMD is not yet in the drive, insert it and then press <CR>.

- 12 The system displays the release of the software found on RMD under the “swload” directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>
```

**Note:** If the RMD contains the correct software release, select option “<y> - Yes, this is the correct version. Continue.” (or simply press <CR>) to continue. If the software release is not correct and you want to replace the RMD, insert the correct RMD in the drive and then press <CR>. If you want to replace the keycode, select option “<n> - No, this is not the correct version”.

- 13 The Dependency List menus appear.

```
Do you want to install Dependency Lists?

Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists
installation

        <n> - No, Continue without Dependency Lists
installation

Enter choice> y

>Processing the install control file ...

>Installing release xxxx
```

**14** The Installation Status Summary appears.

INSTALLATION STATUS SUMMARY				
-----				
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
SW: RMD to FMD	yes		install for rel XXXXX	
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
Dependency Lists	yes			
=====+=====+=====+=====				
Option	Choice	Status	Comment	
=====+=====+=====+=====				
IPMG Software	yes		install for rel XXXXX	
Option	Choice	Status	Comment	
=====+=====+=====+=====				
DATABASE	yes			
Option	Choice	Status	Comment	
=====+=====+=====+=====				
CP-BOOTROM	yes			

- 15    Enter <CR> to confirm and continue installation.

**Note:** After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

```
Please enter:

<CR> -> <y> - Yes, start installation.

        <n> - No, stop installation. Return to the
Main Menu.

        Enter choice>

>Checking system configuration

You selected to install Software release: XXXX on
the new system.

This will create all necessary directories and
pre-allocate files on the hard disk.

You may continue with software install or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with new system
install.

        <q> - Quit.

        Enter choice>
```



- 16** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*****
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*****
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

- 17** Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...
```

- 18** The customer database installation from RMD is employed when upgrading CP PII systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>
```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```
The following databases are available on the
removable media:

        <CR> -> <s> - Single database
        created: mon-day-year hour:min

        <q>-Quit

Enter choice> s or <CR>
```

**19** Continue with database installation.

```

Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=====

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

If you quit now, the database will be left
unchanged.

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>

```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

```

-----
                    INSTALLATION STATUS SUMMARY
-----

```

option	choice	status	comment
Sw: RMD to FMD	yes	OK	install for rel 04xxx
Dependency Lists	yes	OK	
AUTO-CSU Feature	no		AUTO-CSU Disabled
IPMG Software:	no		
Database	yes	OK	conversion from xxxx
CP-BOOTROM	yes	OK	

```

Please press <CR> when ready ...

```

- 20 Upon returning to the main install menu, enter **q** to quit.

```

                I N S T A L L   M E N U

The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database, CP-
BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools menu.
        <k> - To install Keycode only.

        For Feature Expansion, use OVL143.
        <p> - To install 3900 set Languages.
        <q> - Quit.

Enter Choice> q
```

- 21** The system then prompts you to confirm and reboot. Enter <CR> to quit. Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:

<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.


    Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.


-----

DO NOT REBOOT USING BUTTON!!!

-----


    Please enter:

<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

    Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

---

**End of Procedure**

---

## **Verify the upgraded database**

### **Procedure 291**

#### **Verifying the upgraded database**

- 1    Print ISSP (system software issue and patches)

**LD 22**                      Load program

**REQ**                        ISSP

**\*\*\*\***                        Exit program

- 2    Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22**                      Load program

**REQ**                        PRT

**TYPE**                      CFN

**\*\*\*\***                        Exit program

- 3    Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22**                      Load program

**REQ**                        SLT

**\*\*\*\***                        Exit program

**4** Print the customer data block(s) in LD 21.

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program



Core 1 is now active, clock 1 is active, FIJI 1 is active (if equipped), CNI is disabled in Core 0.

---

**End of Procedure**

---

## Make the system redundant

At this point, Core/Net 0 is ready to be synchronized with Core/Net 1.

**Procedure 292****Making the system redundant**

- 1** Attach the LAN 1 and LAN 2 cables to the CP PIV faceplate connectors on Call Server 0 and Call Server 1.
- 2** Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

<b>LD 135</b>	Load program
<b>JOIN</b>	Join the 2 CPUs together to become redundant

- 3    Once the synchroization of memories and drives is complete, STAT the CPU and verify that the CPUs are in a true redundant state.

### LD 135

**STAT CPU**            Get status of CPU and memory

\*\*\*\*                    Exit the program

```
.stat cpu

cp 0 16 PASS -- STDBY

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH   = 20
VERSION = Mar  3 2005, 16:26:40
  Side = 0, DRAM SIZE = 512 MBytes

cp 1 16 PASS -- ENBL

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH   = 20
VERSION = Mar  3 2005, 16:26:40
  Side = 1, DRAM SIZE = 512 MBytes
```



- 4 Tier 1 and Tier 2 health of both Cores must be identical in order to successfully switch service from Core 1 to Core 0. CPUs.

**LD 135**

**STAT HEALTH** Get status of CPU and memory

\*\*\*\* Exit the program

```
.stat health
Local (Side 0, Active, Redundant):
Components without TIER 1 Health contribution:
=====

    disp 0 15 1:In Service
    sio2 0 15 1:In Service
        cp 0 16:In Service
            ipb 0:In Service
TIER 1 Health Count Breakdown:
=====

    sio8 0 16 1: 0002
    sio8 0 16 2: 0002
        sutl 0 15: 0002
            strn 0 15: 0002
    xsmp 0 15 1: 0002
    cmdu 0 16 1: 0008
        eth 0 16 0: 0002
Local TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:
=====
ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Local AML over ELAN Total Health:4
Local Total IPL Health = 6

IPL connection history:3 3 3 3 3 3 3 3 3 3 3 3 3 3
3 3 3 3 3 3

Local TIER 2 Health Total:10

Remote (Side 1, Inactive, Redundant):
Components without TIER 1 Health contribution:
    disp 1 15 1:In Service
    sio2 1 15 1:In Service
    cp 1 16:In Service
    ipb 1:In Service
TIER 1 Health Count Breakdown:
    sio8 1 16 1: 0002
    sio8 1 16 2: 0002
    sutl 1 15: 0002
    strn 1 15: 0002
    xsmp 1 15 1: 0002
    cmdu 1 16 1: 0008
    eth 1 16 0: 0002
Remote TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:

=====

ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Remote AML over ELAN Total Health:4
Remote Total IPL health = 6

Remote TIER 2 Health Total:10
```



The system will now operate in full redundant mode with Core/Net 1 active.

---

End of Procedure

---

## Complete the CP PIV upgrade

### LD 137

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are used in LD 137.

- STAT FMD  
display text: **Status of both Fixed Media Devices (FMD)**  
command parameter: none
- STAT FMD  
display text: **Status of the specified Fixed Media Device**  
command parameter: "core #" with values of 0 or 1

- **STAT RMD**  
display text: **Status of both Removable Media Devices (RMD)**  
command parameter: none
- **STAT RMD**  
display text: **Status of the specified Removable Media Device**  
command parameter: “core #” with values of 0 or 1

## Testing the Cores

### Procedure 293

#### Testing Core/Net 1

At this point in the upgrade, Core/Net 0 is tested from active Core/Net 1. Upon successful completion of these tests, call processing is switched and the same tests are performed on Core/Net 1 from active Core/Net 0. As a final step, call processing is then switched again to Core/Net 1.

**From active Core/Net 1, perform the following tests on Core/Net 0:**

- 1 Perform a redundancy sanity test:

#### **LD 135**

**STAT CPU**     Get status of CPU and memory

**TEST CPU**     Test the CPU

- 2 Test the System Utility card and the cCNI cards:

**LD 135**     Load program

**STAT SUTL**     Get the status of the System Utility card

**TEST SUTL**     Test the System Utility card

**STAT CNI c s**     Get status of cCNI cards (core, slot)

**TEST CNI c s**     Test cCNI (core, slot)

**3** Test system redundancy and media devices:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)

**4** Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	x= system XMS
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit program

**5** Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear the displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms

**6**    Test the clocks:

- a.**    Verify that the clock controller is assigned to the *active* Core.

**LD 60**            Load program

**SSCK *x***            To get the status of the clock controllers  
(*x* is “0” or “1” for Clock 0 or Clock 1)

**SWCK**            To switch the Clock (if necessary)

**\*\*\*\***            Exit program

- b.**    Verify that the Clock Controllers are switching correctly.

**SWCK**            Switch the Clock

***Note:*** You must wait a minimum of one minute for  
clocks to synchronize.

**SWCK**            Switch the Clock again

**7**    Check dial tone.

**8**    Check applications (CallPilot, Symposium, Meridian Mail, etc.)

---

**End of Procedure**

---

## Switch call processing

### Procedure 294

#### Switching call processing

<b>LD 135</b>	Load program
<b>SCPU</b>	Switch call processing from CoreNet 1 to CoreNet 0



Core/Net 0 is now the active call processor.

---

### End of Procedure

---

### Procedure 295

#### Testing Core/Net 0

**From active Core/Net 0**, perform these tests on Core/Net 1:

- 1 Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test the CPU

- 2 Test the System Utility card and the cCNI cards:

<b>LD 135</b>	Load program
<b>STAT SUTL</b>	Get the status of the System Utility card
<b>TEST SUTL</b>	Test the System Utility card
<b>STAT CNI c s</b>	Get status of cCNI cards (core, slot)
<b>TEST CNI c s</b>	Test cCNI (core, slot)

**3**    Test system redundancy and media devices:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT FMD</b>	Status of one or both Fixed Media Devices (FMD)
<b>STAT RMD</b>	Status of one or both Removable Media Devices (RMD)
<b>****</b>	Exit the program

**4**    Test that the system monitors are working:

<b>LD 37</b>	Load program
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit the program

**5**    Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear the displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms



**6** Test the clocks:

- a.**
- Verify that the clock controller is assigned to the
- active*
- Core.

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get the status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

- b.**
- Verify that the Clock Controllers are switching correctly.

<b>SWCK</b>	Switch the Clock
-------------	------------------

**Note:** You must wait a minimum of one minute for clocks to synchronize.

<b>SWCK</b>	Switch the Clock again
-------------	------------------------

**7** Check dial tone.**8** Check applications (CallPilot, Symposium, Meridian Mail, etc.)

---

**End of Procedure**

---

## Switch call processing

### Procedure 296

#### Switching call processing

<b>LD 135</b>	Load program
<b>SCPU</b>	Switch call processing from CoreNet 0 to CoreNet 1



Core/Net 1 is now the active call processor.

---

**End of Procedure**

---

## Perform a customer backup data dump (upgraded release)

### Procedure 297

#### Performing a data dump to backup the customer database:

- 1 Log into the system.
- 2 Insert a CF card into the active Core/Net RMD slot to back up the database.
- 3 Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

<b>LD 43</b>	Load program.
<b>.</b>	EDD

- 4 When "EDD000" appears on the terminal, enter:

<b>EDD</b>	Begin the data dump.
------------	----------------------



### **CAUTION**

#### **Loss of Data**

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

\*\*\*\*

Exit program

The Meridian 1 Option 81C CP PII with FNF upgrade to Meridian 1 Option 81C CP PIV with FNF is complete.



---

# Appendix A: Upgrade checklists

---

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## Introduction

The following section provides Large System upgrade checklists.

### Technical Support

Nortel can provide an Installation and Upgrade Support team to assist with PBX upgrades on a scheduled bases. This service is billable and a purchase order is required. Please refer to current price book for rates.

***Note:*** This service requires that a service request be opened in advance of the upgrade.

## Site details

**Table 114**  
**Site Details**

Customer Name	
Tape ID (LD 22)	
Modem Number (Core)	
Switch Room Telephone	
Baud Rate	
Modem Password	
PBX Password	
System Type	
Software Generic	

## Upgrade details

**Table 115**  
**Upgrade details**

Current Software - Generic	
Target Software - Generic	
Hardware being added	
Feature Upgrade	
License Upgrade	

## Pre-upgrade checklists

### Software Upgrade

#### Software audit

**Table 116**  
**Software audit**

<b>Software Audit</b>		
Perform the software audit prior to the scheduled upgrade.		
Take corrective action if answer is no		
	Yes	No
Software CD Ready		
Keycode Disk Ready		
Install Disk Ready		
DEP Patch Disk Ready		
Review Keycode Data Sheet - (SDID,PKGS,License,TID)		
Review Site Specific Patches - (Non MDCS)		
Read GRB for target Release – (Verify Memory Requirements)		

## License Upgrade

**Table 117**  
**Keycode audit**

Keycode Audit		
Perform the keycode Audit prior to the scheduled upgrade.		
Take corrective action if answer is no		
	Yes	No
Keycode Disk Ready		
Keycode Data Sheet Ready		
SDID Matches System		
TID Matches System		
Perform a KDIFF in LD 143 to compare keycodes		

## Conversion Required

**Table 118**  
**Conversion Procedures**

Conversion Procedures	
Upgrades between different machine types require some type of conversion.	
If the disk media is changing the database must be physically transferred	
between storage devices. Please select source and target media.	

**Table 119**  
**Typical Storage Media Changes Between machine Types (Part 1 of 2)**

Typical Storage Media Changes Between machine Types		
Source	Target	Procedure Required
Omega	IODUC	Direct cable transfer



**Table 119****Typical Storage Media Changes Between machine Types (Part 2 of 2)**

Omega	MMDU	Nortel Internal
CMDU	IODUC	4M - 2M media transfer
IODUC	MMDU	Disk to new Drive both use 2M Floppy Drives
MMDU	MMDU	Disk to new Drive

## Hardware Upgrade

### Hardware audit

**Table 120**  
**Hardware audit**

Hardware Audit		
Perform the Hardware Audit prior to the scheduled upgrade.		
	Yes	No
Verify Shipping List - Complete and Accurate		
Audit Site for new hardware locations		
Pre Run Cables if possible		
Review All switch settings for new cards		
Read all applicable NTP Procedures completely		

## Pre-conversion steps

**Table 121**  
**Pre-conversion steps (Part 1 of 2)**

Pre Conversion Steps
A capture file should be made of the following information using a PC or Printer.
Perform an overall system check:
LD 135 SCPU (ensure that the system is redundant)
LD 137 STAT/TEST CMDU
LD 96 STAT DCH
LD 48 STAT AML
LD 32 STAT
LD 60 STAT

**Table 121**  
**Pre-conversion steps (Part 2 of 2)**

LD 30 LDIS (Verify what Is disabled if any)
Get Software Information from LD 22
ISSP - Patches in service - Future Reference if required
TID/SLT - License Parameters - To compare with converted database
LD 21 - PRT CFN
LD 97 - PRT SUPL/XPEC
Run a Template Audit
LD 1 - Auto Run
Perform a Datadump
Backup at least two copies of the current database, retain the copies.
Print History File or System Event Log
LD 22 - Print AHST - Capture Systems Events to compare will new software if required
LD 117 - PRT SEL 500 - Same as above

## Post-conversion checks

**Table 122**  
**Post-conversion checks**

Post Conversion Checks
Perform these checks after a successful INI.
Test for dial tone
Stat D Channels for proper operation
Ensure that all XPEC's are in service via visual inspection
Ensure that all AUX applications are working
LD 30 LDIS (Verify that output is the same prior to upgrade)

## Quick reference

### IGS Cabling Chart - MultiGroup PBX - Opt 81/81C/CP (5 Groups Maximum)

**Table 123**  
**IGS cabling chart (Part 1 of 2)**

Net Group	Net Shelf	IGS Connector	IGS Net	Slot	Net	DIGS	Slot Connector	Intergroup connector	I G S	Clock
0	0	0	3	8	2	9	BOTTOM	J1	0	
0	0	1	2	9	2	9	TOP	J6	2	0
0	1	1	2	9	2	9	TOP	J17	3	1
0	1	0	3	8	2	9	BOTTOM	J22	1	
1	0	0	3	8	2	9	BOTTOM	J2	4	

**Table 123**  
**IGS cabling chart (Part 2 of 2)**

1	0	1	2	9	2	9	TOP	J7	6	0
1	1	1	2	9	2	9	TOP	J16	7	1
1	1	0	3	8	2	9	BOTTOM	J21	5	
2	0	0	3	8	2	9	BOTTOM	J3	8	
2	0	1	2	9	2	9	TOP	J8	1 0	0
2	1	1	2	9	2	9	TOP	J15	1 1	1
2	1	0	3	8	2	9	BOTTOM	J20	9	
3	0	0	3	8	2	9	BOTTOM	J4	1 2	
3	0	1	2	9	2	9	TOP	J9	1 4	0
3	1	1	2	9	2	9	TOP	J14	1 5	1
3	1	0	3	8	2	9	BOTTOM	J19	1 3	
4	0	0	3	8	2	9	BOTTOM	J5	1 6	
4	0	1	2	9	2	9	TOP	J10	1 8	0
4	1	1	2	9	2	9	TOP	J14	1 9	1
4	1	0	3	8	2	9	BOTTOM	J18	1 7	

**Note:** A DIGS Card is located in the card slot position for IGS 1 in all network shelves. The IGS 1 slot detects the clock signals from the active clock controller and distributes the clock to the entire group. Three out of four IGS cards can be disabled at any given time via LD 39, the IGS 1 that is associated with the active clock cannot be disabled via software, e.g. if clock 1 is active then IGS's 3,7,11,15 and 19 can never be disabled as they are providing clock for their respective network groups.

### Group/Loop/PS/FIJI/3PE Switch Settings

**Table 124**  
**Switch settings (Part 1 of 2)**

Group	Shelf	P S	Loops	FIJI*	3PE NT8D35 Net**	3PE NT5D21 Core Net**
0	0	0	0-16	0 0	off on on on on on on on	off on on off on on on on
0	1	1	16-31	0 1	off on on on on on on off	off on on off on on on off
1	0	2	32-47	1 0	off on on on on on off on	off on on off on on off on
1	1	3	48-63	1 1	off on on on on on off off	off on on off on on off off
2	0	4	64-79	2 0	off on on on on off on on	off on on off on off on on
2	1	5	80-95	2 1	off on on on on off on off	off on on off on off on off
3	0	6	96-111	3 0	off on on on on off off on	off on on off on off off on
3	1	7	112- 127	3 1	off on on on on off off off	off on on off on off off off
4	0	8	128- 143	4 0	off on on on off on on on	off on on off off on on on
4	1	9	144- 159	4 1	off on on on off on on off	off on on off off on on off
5	0	1 0	160- 175	5 0	off on on on off on off on	off on on off off on off on
5	1	1 1	176- 191	5 1	off on on on off on off off	off on on off off on off off
6	0	1 2	192- 207	6 0	off on on on off off on on	off on on off off off on on
6	1	1 3	208- 233	6 1	off on on on off off on off	off on on off off off on off

**Table 124**  
**Switch settings (Part 2 of 2)**

7	0	1 4	224- 239	7 0	off on on on off off off on	off on on off off off off on
7	1	1 5	240- 255	7 1	off on on on off off off off	off on on off off off off off

## Software generic by machine type

**Table 125**  
**Software generic by machine type**

System Type	Generic	System Type	Generic	Processors
ST	1011	Option 61	1111	CP1 - NT6D66 - 68030
STE	1511	Option 61 CP1	1811	CP2 - NT9D19 - 68040
NT	1111	Option 61 CP2	2311	CP3 - NT5D10 - 68060
XT	1211	Option 61 CP3	2511	CP4 - NT5D03 - 68060E
RT	1311	Option 61 CP4	2911	CPP - INTEL PII
Option 11	1411	Option 71	1211	CNI'S
Option 11	1411	Option 81 CP1	1611	Opt 81 - 8,9,10
Option 11C	2111	Option 81 CP2	1911	Opt 81C - 12,13,14
Compact	X27	Option 81 CP3	2611	CPP - c9,c10,c11,c12
Option 21	1011	Option 81 CP4	3011	Key Packages
Option21E	1511	Option 81C CP1	1611	Opt 81 - PKG 298
Option 51	1111	Option 81C CP2	1911	Opt 81C - PKG 299
Option 51 CP1	1711	Option 81C CP3	2611	CPP - PKG 299,368
Option 51 CP2	2211	Option 81C CP4	3011	FIJI - PKG 365
Option 51 CP3	2411	Option CP PII	3311	
Option 51 CP4	2811			



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# Appendix B: Technical Assistance service

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This section contains information on the following topics:

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## Nortel Technical Assistance Centers

To help customers obtain maximum benefit, reliability, and satisfaction from their CS 1000E [systems](#), Nortel provides technical assistance in resolving [system](#) problems. Table 126 on page 970 lists the centers that provide this service.

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller for assistance.

If you purchased a Nortel service program, contact one of the following Nortel Technical Solutions Centers.

**Table 126**  
**Customer Technical Services (Part 1 of 2)**

Location	Contact
Nortel Global Enterprise Technical Support (GETS) PO Box 833858 2370 Performance Drive Richardson, TX 75083 USA	North America  Telephone: 1 800 4NORTEL
Nortel Corp. P.O. Box 4000 250 Sydney Street Belleville, Ontario K8N 5B7 Canada	North America  Telephone: 1 800 4NORTEL
Nortel Service Center - EMEA	EMEA  Telephone: 00 800 8008 9009 or +44 (0)870 907 9009  E-mail: emeahelp@nortel.com
Nortel 1500 Concord Terrace Sunrise, Florida 33323 USA	Brazil Telephone: 5519 3705 7600 E-mail: entcts@nortel.com  English Caribbean Telephone: 1 800 4NORTEL  Spanish Caribbean Telephone: 1 954 858 7777  Latin America Telephone: 5255 5480 2170

**Table 126**  
**Customer Technical Services (Part 2 of 2)**

Location	Contact
Network Technical Support (NTS)	<p>Asia Pacific  Telephone: +61 28 870 8800</p> <p>Australia  Telephone: 1800NORTEL (1800 667835) or  +61 2 8870 8800  E-mail: asia_support@nortel.com</p> <p>People's Republic of China  Telephone: 800 810 5000  E-mail: chinatsc@nortel.com</p> <p>Japan  Telephone: 010 6510 7770  E-mail: supportj@nortel.com</p> <p>Hong Kong  Telephone: 800 96 4199  E-mail: chinatsc@nortel.com</p> <p>Taiwan  Telephone: 0800 810 500  E-mail: chinatsc@nortel.com</p> <p>Indonesia  Telephone: 0018 036 1004</p> <p>Malaysia  Telephone: 1 800 805 380</p> <p>New Zealand  Telephone: 0 800 449 716</p> <p>Philippines  Telephone: 1 800 1611 0063 or 632 917 4420</p> <p>Singapore  Telephone: 800 616 2004</p> <p>South Korea  Telephone: 0079 8611 2001</p> <p>Thailand:  Telephone: 001 800 611 3007</p>

## Services available

Services available through the Technical Assistance Centers include:

- diagnosing and resolving software problems not covered by support documentation
- diagnosing and resolving hardware problems not covered by support documentation
- assisting in diagnosing and resolving problems caused by local conditions

There are several classes of service available. Emergency requests (Class E1 and E2) receive an immediate response. Service for emergency requests is continuous until normal [system](#) operation is restored. Non-emergency

requests (Class S1, S2, and NS) are serviced during normal working hours.  
Tables 127 and 128 describe the service classifications.

**Table 127**  
**Technical service emergency classifications**

<b>Class</b>	<b>Degree of failure</b>	<b>Symptoms</b>
E1	Major failure causing system degradation or outage	<p>System out-of-service with complete loss of call-processing capability.</p> <p>Loss of total attendant console capability.</p> <p>Loss of incoming or outgoing call capability.</p> <p>Loss of auxiliary Call Detail Reporting (CDR) in resale application.</p> <p>Call processing degraded for reasons such as trunk group out-of-service:</p> <ul style="list-style-type: none"> <li>• 10% or more lines out-of-service</li> <li>• frequent initializations (seven per day or more)</li> <li>• inability to recover from initialization or SYSLOAD</li> <li>• consistently slow dial tone (eight seconds or more delay)</li> </ul>
E2	Major failure causing potential system degradation or outage	<p>Standby CPU out-of-service.</p> <p>Frequent initializations (one per day or more).</p> <p>Disk drive failure.</p> <p>Two sets of disks inoperative.</p>

**Table 128**  
**Technical services non-emergency classifications**

Class	Degree of failure	Symptoms
S1	Failure that affects service	Software or hardware trouble directly and continuously affecting user's service or customer's ability to collect revenue.  Problem that will seriously affect service at in-service or cut-over date.
S2	Intermittent failure that affects service	Software or hardware faults that only intermittently affect service.  System-related documentation errors that directly result in or lead to impaired service.
NS	Failure that does not affect service	Documentation errors.  Software inconsistencies that do not affect service.  Hardware diagnostic failures (not defined above) that cannot be corrected by resident skills.  Test equipment failures for which a backup or manual alternative can be used.  Any questions concerning products.

Except as excluded by the provisions of warranty or other agreements with Nortel, a fee for technical assistance may be charged, at rates established by Nortel. Information on rates and conditions for services are available through Nortel sales representatives.

## Requesting assistance

Collect the information listed in Table 129 before you call for service.

**Table 129**  
**Checklist for service requests**

Name of person requesting service	_____
Company represented	_____
Telephone number	_____
System number/identification	_____
Installed software generic and issue (located on data disk)	_____
Modem telephone number and password (if applicable)	_____
Seriousness of request (see Tables 127 and 128)	_____
Description of assistance required	_____
	_____
	_____





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Nortel Communication Server 1000

# **Communication Server 1000M and Meridian 1**

Large System Upgrade Procedures  
(Book 2 of 3)

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Publication number: 553-3021-258

Document release: Standard 6.00

Date: July 2006

Produced in Canada

