Meridian 1
Succession 1000M

Large System

Upgrade Procedures

Book 2 of 3

Document Number: 553-3021-258
Document Release: Standard 1.00
Date: October 2003

Produced in Canada

Revision history

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).

Contents

About this document

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

Subject

Use this document to perform upgrades on Meridian 1 Large Systems (see Applicable Systems below for details). 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 Succession 3.0 Software or later on Meridian 1 Options 51C, 61C, 81, 81C, and 81C Call Processor Pentium II (CP PII). 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 Networks Software Conversion Lab. Consult the current Nortel Networks price book for cost and contact information.

Upgrade Paths

This document contains information on the following large system upgrades: Meridian 1 Options 21E, 51, 61, 71, 51C, 61C and 81C, upgrades to FNF, software upgrades and network additions.

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

Related information

CAUTION
Loss of Data
Only personnel who are familiar with the system and with conversion procedures should perform the conversion.

Read the procedure carefully before beginning 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 (PFTUs).

CAUTION WITH ESD DEVICES

To avoid damaging equipment from electrostatic discharge, wear a properly connected anti-static 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, or CD-ROM, whichever applies to the system.

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

CAUTION
Loss of Data
Read “General software conversion information” on page 45 before performing any operations.

It contains information vital to the conversion process.

Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Succession 3.0 Software. For more information on legacy products and releases, click the **Technical Documentation** link under **Support** on the Nortel Networks home page:

http://www.nortelnetworks.com/

Applicable Systems

This document applies to the following systems:

- Meridian 1 Option 21E
- Meridian 1 Option 51
- Meridian 1 Option 51C
- Meridian 1 Option 61
- Meridian 1 Option 61C
- Meridian 1 Option 61C CP PII
- Meridian 1 Option 81
- Meridian 1 Option 81C
- Meridian 1 Option 81C CP PII
- Succession 1000M Half Group

- Succession 1000M Single Group
- Succession 1000M Multi Group

Note that memory upgrades may be required to run Succession 3.0 Software on CP3 or CP4 systems (Options 51C, 61, 61C, 81, 81C).

System migration

When particular Meridian 1 systems are upgraded to run Succession 3.0 Software and configured to include a Succession Signaling Server, they become Succession 1000M systems. Table 1 below lists each Meridian 1 Large System that supports an upgrade path to a Succession 1000M Large System.

Table 1
Meridian 1 systems to Succession 1000M systems

This Meridian 1 system...	Maps to this Succession 1000M system
Meridian 1 Option 51C	Succession 1000M Half Group
Meridian 1 Option 61	Succession 1000M Single Group
Meridian 1 Option 61C	Succession 1000M Single Group
Meridian 1 Option 61C CP PII	Succession 1000M Single Group
Meridian 1 Option 81	Succession 1000M Multi Group
Meridian 1 Option 81C	Succession 1000M Multi Group
Meridian 1 Option 81C CP PII	Succession 1000M Multi Group

Succession 3.0 Software is supported on a Meridian 1 CP3, CP4 and CP PII processor, although memory and other upgrades may be required. Succession 3.0 Software is not supported on a Meridian 1 CP1 or CP2 system. To run Succession 3.0 Software, the Meridian 1 CP1 or CP2 system must be upgraded.

The Call Processor on Meridian 1 Large Systems is referred to as a Call Server on the Succession 1000M Systems.

In this document, Succession 1000M Large Systems and Meridian 1 Large Systems are referred to generically as “system.”

As a general rule, this NTP only contains information about systems, components, and features that are compatible with Succession 3.0 Software. For more information about legacy systems and software releases before Succession 3.0, including all X11 software releases, click the **Technical Documentation** link under **Support** on the Nortel Networks home page:

http://www.nortelnetworks.com/

Related NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (553-3001-156)
- *Data Networking for Voice over IP* (553-3001-160)
- *Circuit Card: Description and Installation* (553-3001-211)
- *IP Peer Networking* (553-3001-213)
- *Succession 1000 Element Manager: Installation and Configuration* (553-3001-232)
- *Features and Services* (553-3001-306)
- *Software Input/Output: Administration* (553-3001-311)
- *Succession 1000 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)
- *Large System: Planning and Engineering* (553-3021-120)
- *Large System: Installation and Configuration* (553-3021-210)
- *Large System: Maintenance* (553-3021-500)
- *Succession 1000 System: Overview* (553-3031-010)

- *Succession 1000 System: Installation and Configuration* (553-3031-210)
- *Succession 1000 System: Upgrade Procedures* (553-3031-258)

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.

NTP Feedback

Nortel Networks 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@nortelnetworks.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.

Conventions

Terminology

In this document, the following systems are referred to generically as “system”:

- Meridian 1
- Succession 1000M

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

- Meridian 1 Option 21E
- Meridian 1 Option 51

- Meridian 1 Option 51C
- Meridian 1 Option 61
- Meridian 1 Option 61C
- Meridian 1 Option 61C CP PII
- Meridian 1 Option 81
- Meridian 1 Option 81C
- Meridian 1 Option 81C CP PII
- Succession 1000M Half Group
- Succession 1000M Single Group
- Succession 1000M Multi Group

Online

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

http://www.nortelnetworks.com/

CD-ROM

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

Upgrades from Meridian 1 Option 51C

Contents

This section contains information on the following topics:

Meridian 1 Option 51C upgrade to Option 61C CP PII

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 upgrade 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 upgrade is designed to maintain Dial Tone where possible and limit service interruptions.

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.

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

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

Procedure Step	Page
Plan upgrade	17
Upgrade Checklists	18
Prepare	18
Identifying the proper procedure	19
Connect a terminal	19
Check the Core ID switches	20

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

Procedure Step	Page
Print site data	22
Perform a template audit	25
Back up the database (data dump and ABKO)	26
Identify two unique IP addresses	31
Check requirements for cCNI to 3PE cables (NTND14)	31

Plan upgrade

Planning for an upgrade involves the following tasks:

- 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 (Call Pilot, 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 Networks.
- 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 the "Upgrade checklists" chapter on 707 of Book 3. Engineers may print this section in order to facilitate 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 Table 4 on page 28).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Determine 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 1
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/0 panel in the *inactive* Core or Core/Net module.

2 The settings for the terminal are:

a. 9600 Baud

b. 7 data

c. space parity

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 2
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 3 on page 21.

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.

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)

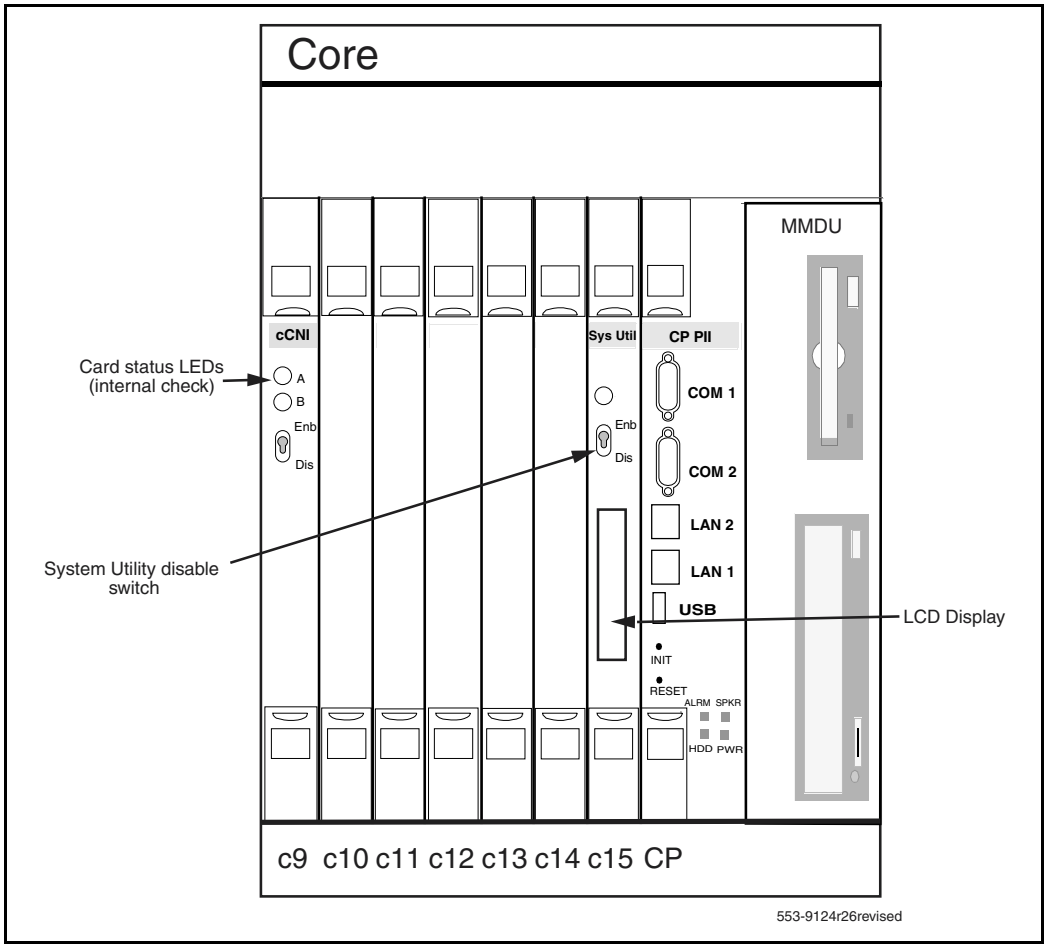
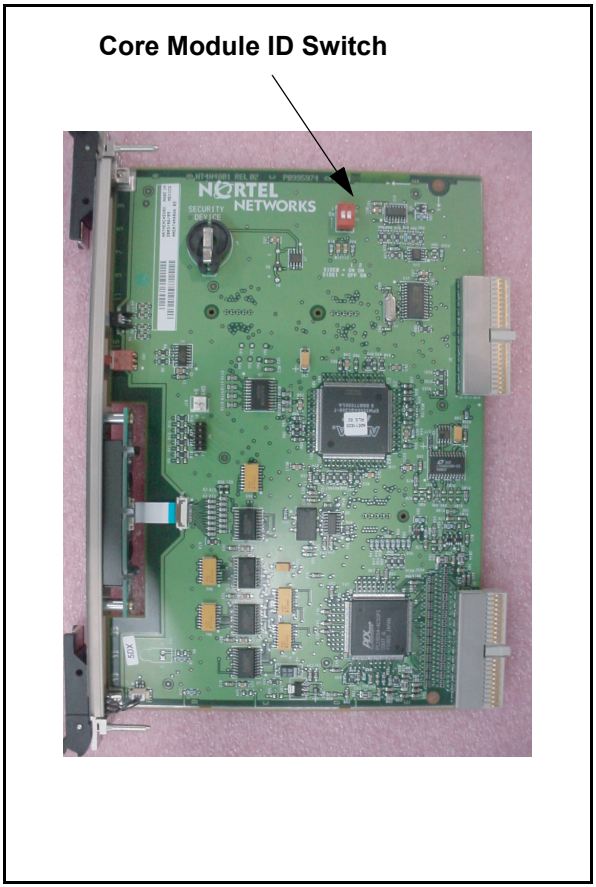


Figure 2
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (Table 4 on page 23). 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, ROM and tape ID	LD 22	
	REQ	ISS
	REQ	ROM
	REQ	TID
* Peripheral software versions	LD 22	
	REQ	PRT
	TYPE	PSWV
ACD data block for all customers	LD 23	
	REQ	PRT
	TYPE	ACD
	CUST	Customer Number
	ACDN	ACD DN (or <CR>)
Superloop card IDs and software version (peripheral controller, superloop network and controller cards)	LD 32	
		IDC loop
Multi-purpose ISDN Signaling Processor (MISP) card	LD 27	
	REQ	PRT
	TYPE	MISP
	LOOP	loop number (0-158)
	APPL	<cr>
	PH	<cr>

Table 4
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Note: 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 duplicated 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 HIGH **CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK **CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK **CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

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 the 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.

The messages “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” will appear once the data dump is complete.

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

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 the 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 the program.

End of Procedure

Procedure 5
Converting the 4 Mbyte database media to 2 Mbyte database media

IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Networks Software Conversion Lab. Consult the current Nortel Networks 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. See “Database transfer” on page 179 of Book 3.

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 Networks 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 Mbyte database media (the system has an IOP/CMDU), the 4 Mbyte customer database must be transferred to 2 Mbyte 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 or 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 Mbyte diskette with the customer database from the floppy drive of the IOP or 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 systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see "Configuring IP addresses" on page 667 of Book 1.

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:

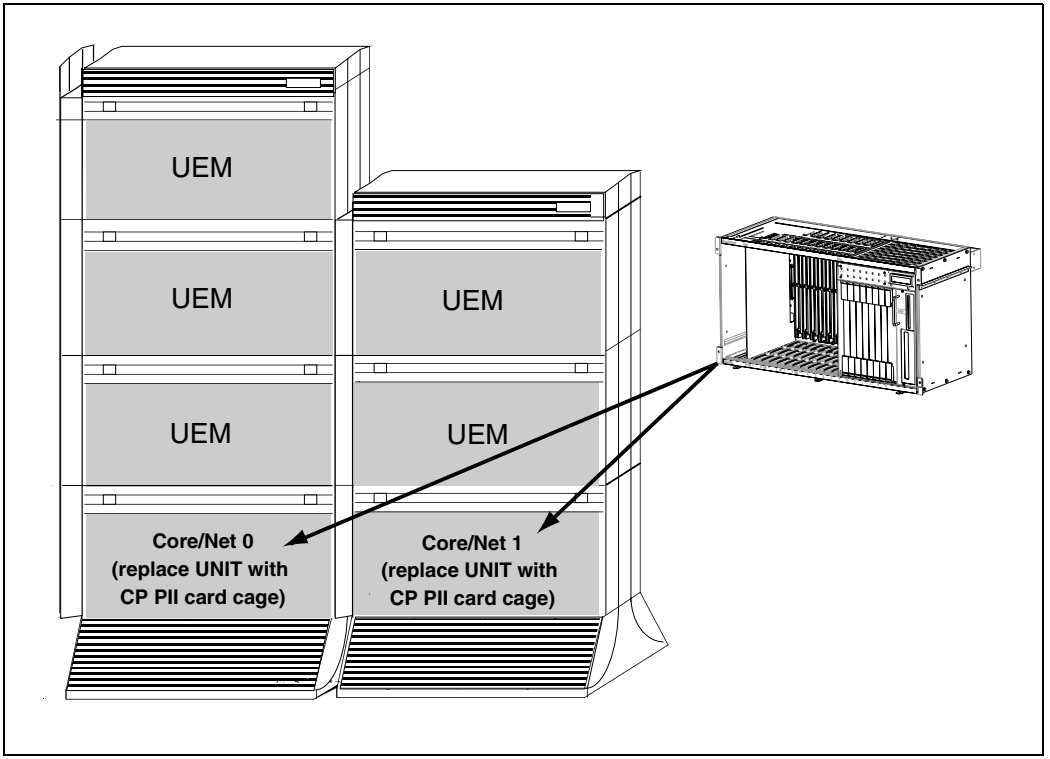
- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

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

Perform upgrade

Figure 3 on page 32 shows an upgrade from a Meridian 1 Option 51C to a Meridian 1 Option 61C with CP PII.

Figure 3
Meridian 1 Option 51C to Meridian 1 Option 61C CP PII



This upgrade takes a Meridian 1 Option 51C to a single-group Meridian 1 Option 61C with CP PII. CP PII cards are located in the Core/Net modules or card cage.

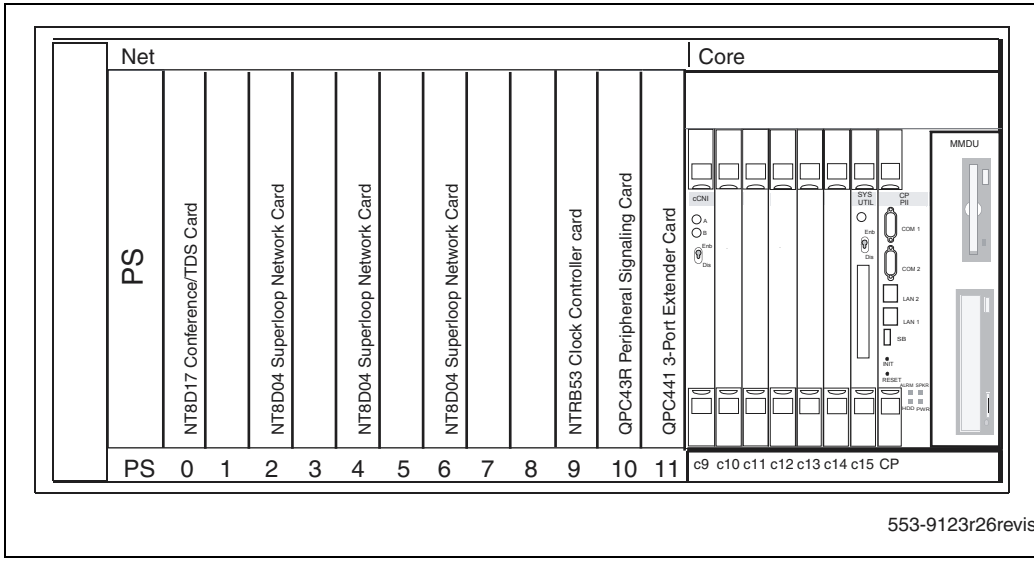
- One card cage in the existing Core/Net module is replaced with an NT4N40 CP PII card cage. A new NT4N41 Core/Net module is also required.

- Existing network cards are relocated to the NT4N40 CP PII card cage. Additional cards are required for the NT4N41 Core/Net module:
  - **a.** per sig (PS pack)
  - **b.** 3 Port Extender (3PE)
  - **c.** Clock Controller card
  - **d.** Conference/TDS Pack (XCT)
- The existing Clock Controller may be moved from the old Core/Net module to slot 9 of the new NT4N40 CP PII Core/Net module.

WARNING

Clock controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

Figure 4
CP PII Core/Net Module slot



Review upgrade requirements

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

Check equipment received

Meridian 1 Option 61C CP PII equipment is configured at the factory according to customer requirements. Some cards and power supplies are shipped in separate packages to prevent damage to the cards.

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 61C with CP PII:

- Succession 3.0 Software
- 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.

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.

WARNING

Clock controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The QPC471 Clock Controller cards must be minimum vintage H.
- The QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.

  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.

Check required hardware

Table 5 on page 36 describes the *minimum* equipment required to upgrade a system to CP PII. Table 6 on page 38 and Table 7 on page 38 list the DC and

AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

Table 5
Minimum requirements for Meridian 1 Option 61C CP PII systems (Part 1 of 2)

Order number	Description	Quantity per system
NT4N64AA	CP PII Call Processor Card (256mb Memory)	2
NT4N43CA	Multi-Media Disk Unit (MMDU)	2
NT4N41	CP PII Core/Network Card Cage AC/DC	1
NT4N40	CP PII Card Cage, cPCI Core/Net AC/DC	1
NT4N65AB	CP PII Core Network Interface Card (2 ports)	2
NT4N48AA	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	1
NT8D17FA	Conference/TDS Card	1
NTRC17BA	CP PII Ethernet to Ethernet Cable (8.5 ft.)	2
NTRE40AA	Dual Ethernet Adapter (RJ45) for I/O Panel	2
NT8D17HB	Pack, Conference, Tone and Digit Switch (CT)	1
NT8D22AC	Pack, System Monitor (SM)	1
NT8D46AL	Cable, System Monitor Serial Link, 7 ft.	1
NT8D46AS	Cable, System Monitor Inter-CPU Internal, 30 in.	1
NT8D99AD	Cable, Network to Network, 6 ft.	2
P0712003	Package, Instruction	1

Table 5
Minimum requirements for Meridian 1 Option 61C CP PII systems (Part 2 of 2)

Order number	Description	Quantity per system
QPC43R	Pack, Peripheral Signaling (PS)	1
QPC441F	Pack, Three Port Extender (3PE)	1
P0605337	CP PII Card Slot Filler Panel	10
NT8D49 Kit	Multi-column Expansion	1
NT7D00	Top Cap	1
NTRD25AA/ NT4N57AA	Assembly, Pedestal AC/DC	1
NT8D80	cable, CPU Interface	2
**QPC471/ QPC775/ NTRB53	Clock Contoller	2

*Cards from customer's existing system.

**One card from customer's existing system, one new. Both cards must be the part number and vintage.

Check required power equipment

Table 6 on page 38 lists the equipment required for DC-powered systems.

Table 7 on page 38 lists the equipment required for AC-powered systems.

WARNING

Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.

Table 6
DC power requirements for Meridian 1 Option 51C upgrades

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2
NT4N97BA	CP PII Upgrade Kit DC (Misc. Card Cage Components)	1

Table 7
AC power requirements for Meridian 1 Option 51/51C upgrades

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NT4N97AA	CP PII Upgrade Kit AC (Misc. Card Cage Components)	1

Check personnel requirements

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

IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Networks Software Conversion Lab. Consult the current Nortel Networks 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. See “Database transfer” on page 179 of Book 3.

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 Networks in the software conversion lab.

Install Core/Net 1 hardware

Install the NT4N41 Core/Net module and pedestal next to the existing column. For information on AC/DC power, side panels and emf spacers (placing the fourth module on a column), refer to the appropriate chapters in *Large System: Installation and Configuration* (553-3021-210).

Procedure 6
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 5 on page 41:

1 NT4N65AB CP PII 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 PII 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 PII.

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 NT4N48AA 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 8 below.

Table 8
Core module ID switch settings (System Utility card)

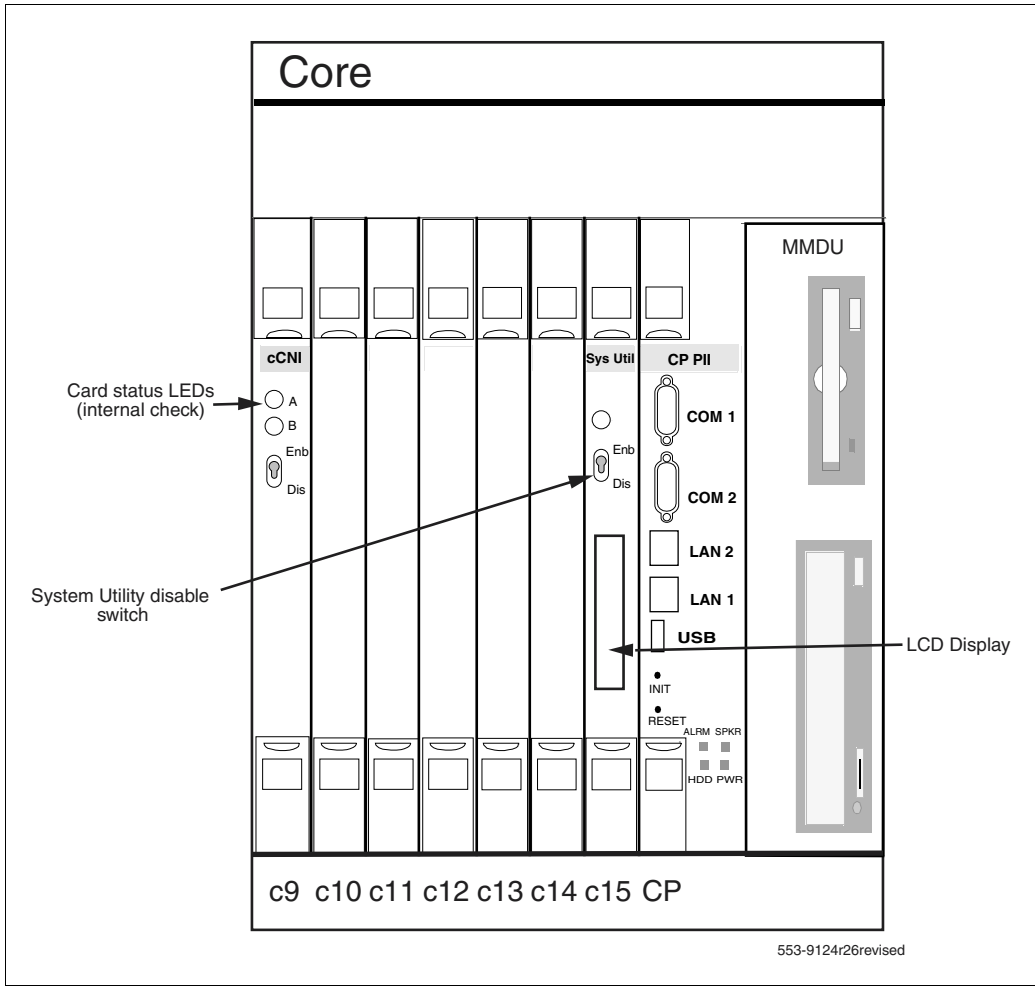
	Position 1	**Position 2**
Core/Net 0	On	On
Core/Net 1	Off	On

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 5
Core card placement in the NT4N41 Core/Net Module (front)



Install the Security Device for Core/Net 1

Procedure 7
Installing the Security Device for Core/Net 1

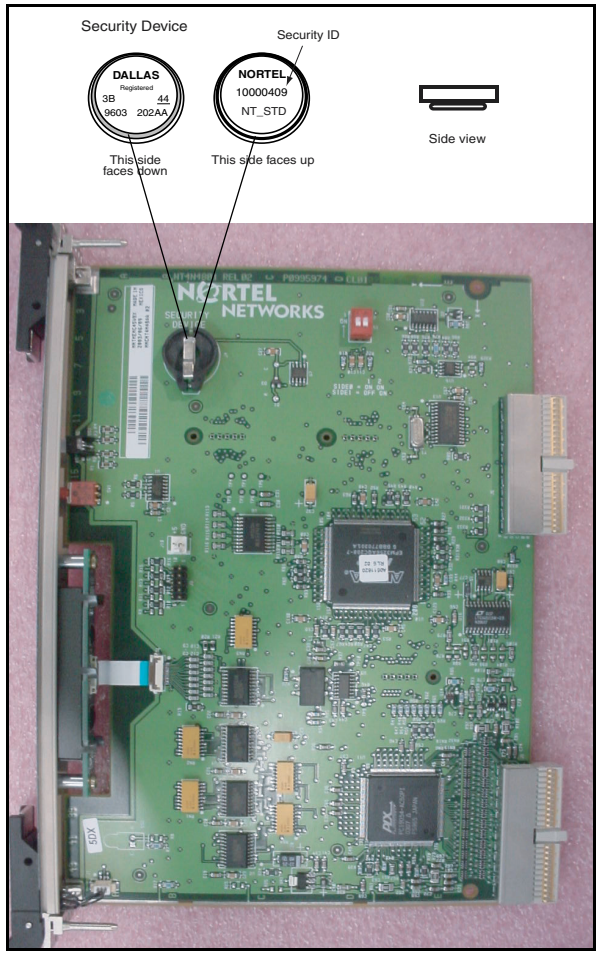
The Security Device fits into the System Utility card (see Figure 6 on page 43).

To install the Security Device for Core/Net 1:

1. Locate the new Security Device included with the Software Upgrade kit.
2. 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.
3. Check that the Security Device is securely in place.

End of Procedure

Figure 6
Security Device



Check for the shelf power cable

Check that the NT4N4405 Shelf Power Cable is installed in the CP PII card cage backplane. See Figure 7 on page 45 for cable location.

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

Procedure 8
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

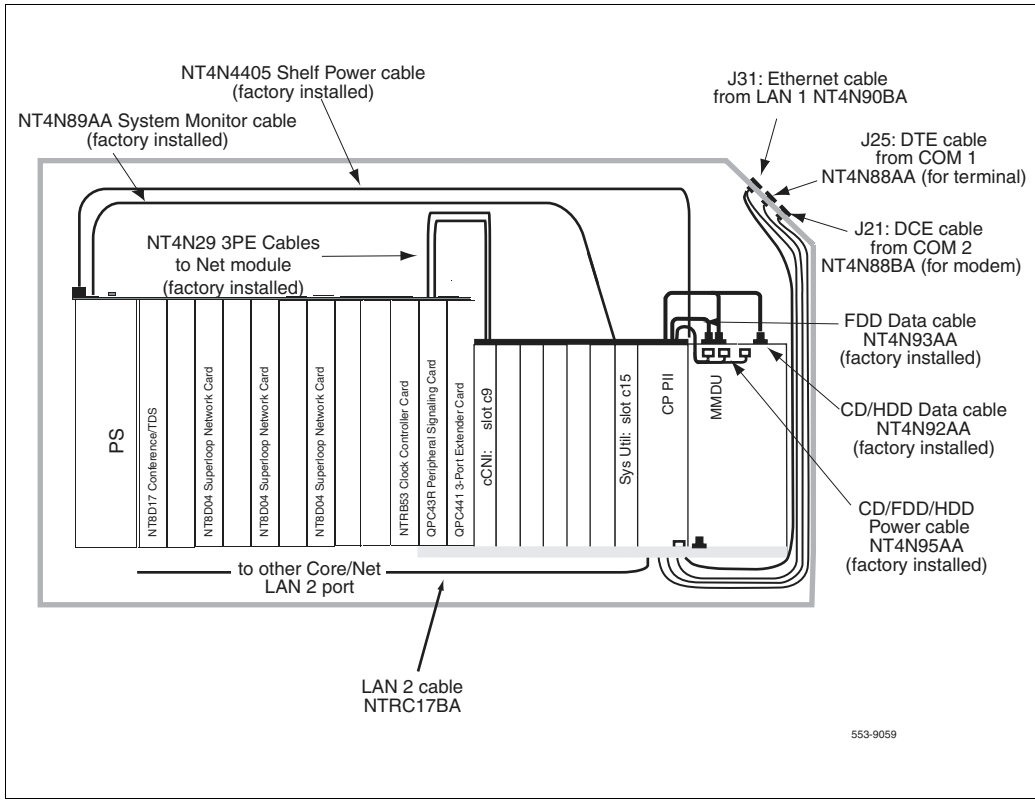
Check factory-installed cables

Table 9 below lists factory-installed cables.

Table 9
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 7
Core/Net cable connections (top view)



Install network cards in Core/Net 1

Procedure 9
Installing the network cards in Core/Net 1

1 Check the switch settings and jumpers. See Table 10 on page 46.

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 10 on page 46 shows the 3PE settings for cards installed in CP PII Core/Net Modules.

d. install QPC 441 3PE card to slot 11.

Note: For 3PE settings for cards installed in Network Modules, see Table 10 below.

Table 10
QPC441 (QPC440) 3PE Card installed in the CP PII Core/Net modules

Jumper Settings: Set Jumper RN27 at E35 to “A”.									
Switch Settings									
Module		D20 switch position							
CP PII Core/Net modules only		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

2 Installing the QPC43R Per Sig card in slot 10.

3 Set the Clock Controller 1 switch settings according to Table 11 below and Table 12 on page 47.

4 Install the Conference TDS pack (XCT) into slot 0

5 Install the Clock Controller in slot 9.

End of Procedure

Table 11
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PII must use the Meridian 1 Option 61C CP PII switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				**SW2**				**SW4**			
1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
****** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Table 12
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

Table 12
Clock Controller switch settings for NTRB53

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		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.)		
Note: Switch 7 and 8 are not used.						

Power up Core/Net 1

Procedure 10
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/0 panel in Core/Net 1.

3 Check the terminal settings as follows:

- 9600 Baud
- 7 data
- 1 space parity
- 1 stop bit
- full duplex
- 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.

End of Procedure

Procedure 11
Powering up Core/Net 1

1 Faceplate enable all Core and Network cards in Core/Net 1.

2 For AC-powered systems (NT8D29BA), set the MPDU circuit breaker located at the left end of the module to ON (top position)

3 Set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

4 For DC-powered systems, faceplate enable the NT6D41CA power supply and then set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).

5 Check that the Network and I/O cards have working power.

6 Allow the system to load/initialize before beginning the software installation.

End of Procedure

Install software and customer database

Procedure 12
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. This takes about five minutes. The screen displays:

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 competed!

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: 2.6 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.

            chkdsk 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 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 Kicked

The provided keycode authorizes the install of X210300 software

(all subissues) for machine type XXXX

(XXX processor on XXXX System)
```

IMPORTANT!

Remove keycode floppy disk at this time and insert the database backup disk.

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 X210300_K.

    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/sl1/
direct.rec to /u/direct.rec

    >Updating /u/direct.rec

    >Processing the Install Control file

    >Installing release 0300K
```

10 Confirm all options before installing the software:

```
                    INSTALLATION STATUS SUMMARY

                    -------------------------------------------

      ==============+=========+=========+==============
 |     Option      |    Choice     | Status |   Comment          |

      ==================+=========+=========+==========
 | SW: CD to disk  |       yes       |          | install for rel 0300K |

       ==============+=========+=========+==============
 |     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: 2540 to release:
0300K.

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 2540 to release 0300K

11 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 (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages (Release 3) English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages (Release 3) English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install:

```
Software release 0300K was installed successfully on Core 0.

    All files were copied from CDROM to the hard disk.

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

    You will now perform the database installation.

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

    Please enter:

<CR> -> <a> - Install CUSTOMER Database

        (the customer database diskette must be in the Core 0 disk
drive).

    <b> - Install DEFAULT Database

        (the installation CDROM must be in the Core 0 disk drive).

<c> - Transfer the previous system Database.

    <e> - Check the Database that exists on the hard disk.

    <q> - Quit.

    Enter Choice> <CR>
```

13 Confirm database transfer:

```
You selected to transfer the database from the floppy disk - release:
2540 to the hard disk on Core X. release: 2540.

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: Jul 07 14:10:00 2003

      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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


    ------------------------------

    DO NOT REBOOT USING BUTTON!!


    ------------------------------


    Please enter:

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

    <m> - Return to the Main menu.

    Enter Choice> <CR>

    >Removing temporary files


    >Remove /u/disk3321.sys



    >Quit Install. Reboot system...
```

End of Procedure

Configuring IP addresses

Procedure 13
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	To load the program.
PRT HOST	To print the configured host information

If the system returns with host names "active" and "inactive", go to "Check Peripheral Software Download" on page 65. If the system returns no host names, complete the steps below.

2 Contact your systems administrator to identify IP address and subnet mask information.

3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

LD 117	To load the program.
NEW HOST *NAME 1 IP ADDRESS*	To 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*	To assign the "name 1" address to the *active* Core.
NEW HOST 'NAME 2' 'IP ADDRESS'	To 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*	To assign the “name 2” address to the *inactive* Core.
CHG MASK *XXX.XXX.XXX.XXX*	To 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 the program.
DIS ELNK	*Disable* the old IP interface values.
ENL ELNK	*Enable* the new IP interface values.

End of Procedure

Check Peripheral Software Download

Procedure 14
Checking for Peripheral Software Download to Core/Net 1

1 Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on page 22.

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.

2 Load LD 22 and print Target peripheral software version.

LD 22	
REQ	PRT
TYPE	PSWV.
ISSP	Print System and Patch Information.
SLT	Print System Limits.
TID	Print the Tape ID.
********	Exit program.

End of Procedure

Reconfigure I/O ports and call registers

Procedure 15
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 the program.
CHG	
CFN	
CHG aaa x	aaa = terminal type (such as tty or aml). x = terminal number (0 -15).
g	g = network group (0 - 4).

2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 4500 and 1000 respectively). Refer to *Large System: Planning and Engineering* (553-3021-120).

If changes are required, reconfigure the values in LD 17:

LD 17	Load the program.
CHG	
CFN	
PARM YES	
500B 1000	Use 1000 as a minimum value.
NCR 20000	Use 20000 as a minimum value.
****	To exit the program.

3 Configure the Conference/TDS pack (XCT):

LD 17	Load the program.
REQ CHG	CHG
TYPE	CEQU
XCT	XCT 16
Carriage return until end of program	
****	To exit the program.

4 Print the Configuration Record to confirm the changes made above:

LD 22	Load the program.
REQ PRT	Set the print Option.
TYPE CFN	Print the configuration.
****	To exit the program.

5 Perform a data dump to save the customer database to the hard drive and floppy disk:

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

LD 43	To load the program.

b. When “EDD000” appears on the terminal, insert a blank floppy and enter:

EDD	To 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.

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

**** to exit the program

End of Procedure

Power down Core/Net 0

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/Net module in the back of the column pedestal to OFF (down position).

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.

Remove Core/Net 0 cables and card cage

Procedure 16
Removing Core/Net 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 and the installed cards.

7 Remove the two mounting screws at the bottom rear of the card cage that secure the card cage to the module casting.

CAUTION

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

Keep the screws for use with the CP PII card cage. (You need a 1/4” nut driver to remove the screws.)

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.

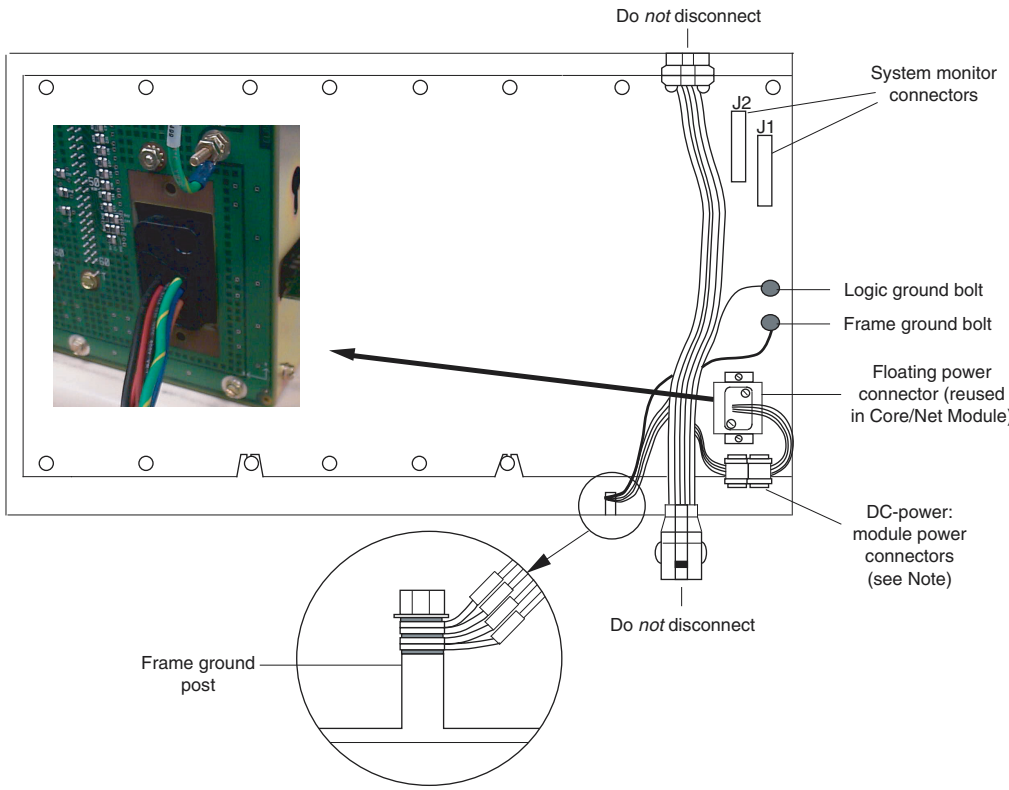
12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal.

See Figure 8 on page 71 for DC power connectors.

See Figure 9 on page 72 for AC power connectors.

13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

Figure 8
DC power connectors on the Core module backplane



Note: With AC-power, the module power connectors plug into J1 and J2 on the MPDU. (With DC-power, they connect to each other and hang loose.)

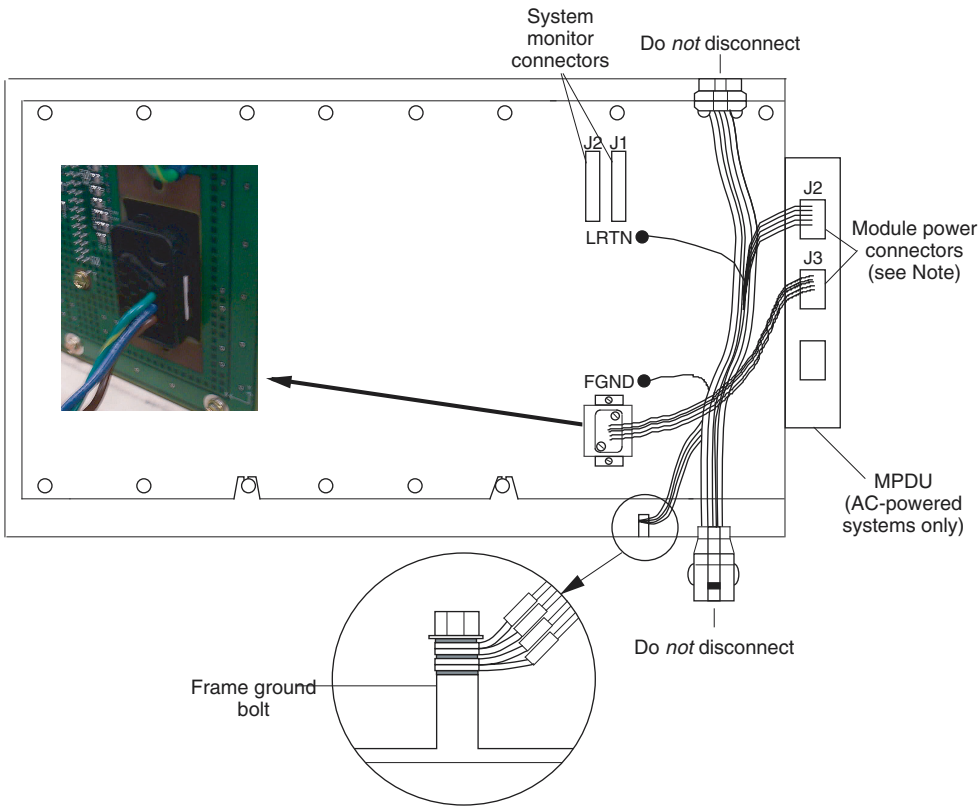
553-9582

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 9
AC power connectors on the Core module backplane



Note: AC-powered system shown. With DC-power, module power connectors connect to each other.

553-9583

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.

CAUTION

Service Interruption

Be sure to perform the following step. If you do not tape the EMI shield in position, you will not be able to 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.

19 In AC-power systems only, 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 could have fallen into the base of the UEM module.

End of Procedure

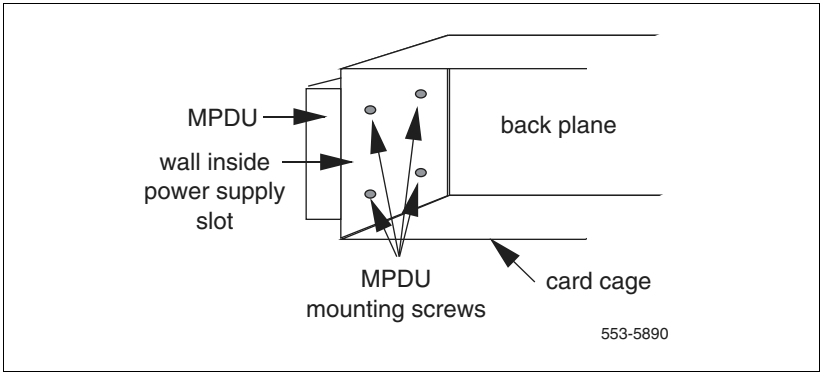
Install the CP PII card cage in Core/Net 0

Procedure 17
Installing the CP PII card cage in Core/Net 0

1. Check that the card cage is configured as Core/Net 0. See “Check the Core ID switches” on page 20 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 10 on page 74.

   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 10
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.

In AC-power systems only, 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.

a. In dc-powered systems, connect the module power connectors to each other.

b. 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.

c. Attach the green ground wire to the frame ground bolt on the module. (a 11/32” socket wrench is used to attach the wire.) Remove the nut and the lock washer at the top of the bolt. Place the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.

Note: To allow all 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.

d. 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 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA before you secure the card cage. (See Figure 11 on page 77.)

a. Route cable NT4N88AA from COM1 on the CP PII faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)

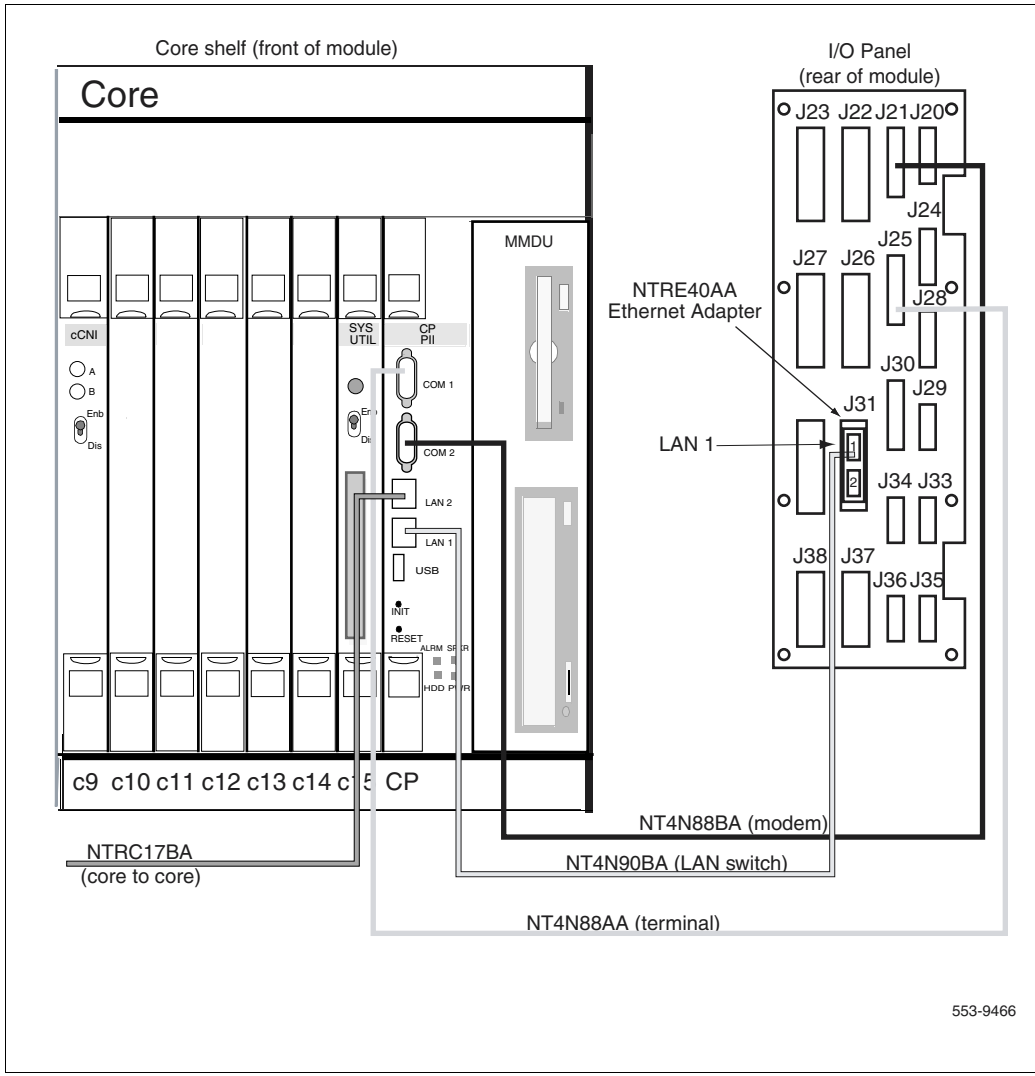
b. Route cable NT4N88BA from COM2 on the CP PII faceplate to J21 on the I/O panel. (NT4N88BA is used to connect a modem).

9 Route cable NT4N90BA from LAN 1 on the CP PII faceplate to J31 (top) of the I/O panel.

10 At this point, do not connect the NTRC17BA crossover ethernet cable.

End of Procedure

Figure 11
COM and LAN connections to the Core/Net I/O panel



Install the Security Device

Procedure 18
Installing the Security Device

The Security Device fits into the System Utility card (see Figure 12 on page 79).

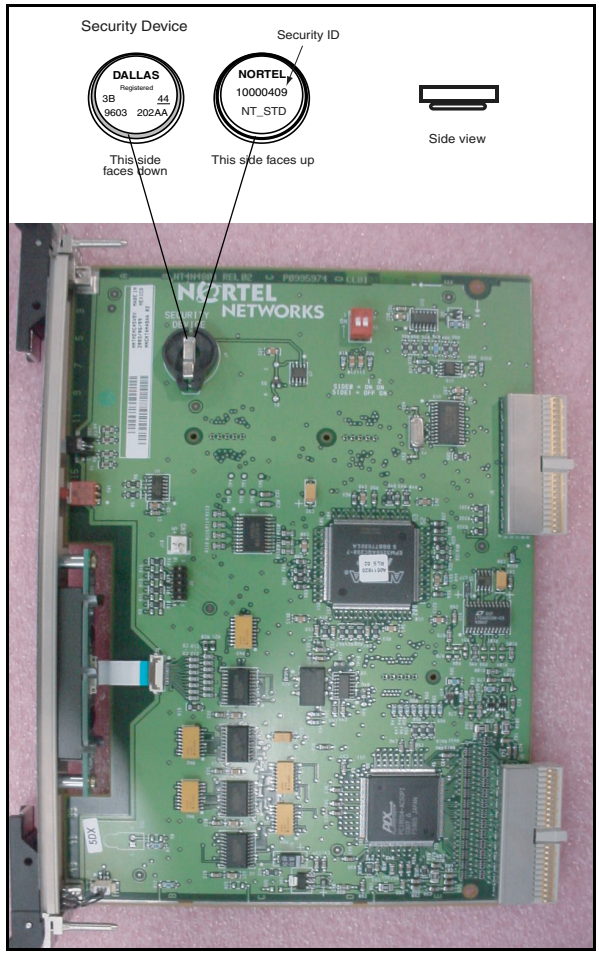
If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.

1. Unlock the latches and remove the IODU/C card.
2. 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.
3. Check that the Security Device is securely in place.

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

1. 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 12
Security Device



Procedure 19
Relocating Network cards to CP PII Core/Net 0

1 Remove all remaining network cards from the Meridian 1 Option 51C Core 0.

2 When you move the 3PE card, check the switch settings and jumpers. See Table 13 on page 81.

   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 13 on page 81 shows the 3PE settings for cards installed in CP PII Core/Net Modules.

   d. Insert 3PE card into slot 10 of Core/Net 0.

   Note: For the 3PE settings for cards installed in Network Modules, see Table 13 on page 81.

CAUTION

Service Interruption

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

3 Label and disconnect the Clock Controller 0.

4 Disconnect the cable from the Clock Controller 0 faceplate card.

5 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.

6 Remove Clock Controller 0 from the Core module.

7 Set the Clock Controller 0 switch settings according to Table 14 on page 81 and Table 15 on page 82.

8 Move Clock Controller 0 to Core/Net Group 0 Side 0 slot 9.
Seat Clock Controller 0 but do not enable the card.

9 Reconnect all clock reference cables and Clock to Clock cable.

10 Reinstall each removed card in the same network slot in the CP PII Core/Net 0.

11 Connect the tagged cables to the relocated cards.

End of Procedure

Table 13
QPC441 (QPC440) 3PE Card installed in the CP PII Core/Net modules

Jumper Settings: Set Jumper RN27 at E35 to “A”.									
Switch Settings									
Module		D20 switch position							
CP PII Core/Net modules only		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

Table 14
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PII must use the Meridian 1 Option 61C CP PII switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				**SW2**				**SW4**			
1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Table 15
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.)		
Note: Switch 7 and 8 are not used.						

Cable Core/Net 0

Inspect the CNI to 3PE cables (NT4N29)

New NT4N29 cables must be installed for existing Network group 0. If the system has XSDI cards, reinstall the cards and attach the cables.

Installing intermodule cables

Procedure 20
Installing intermodule cables

1. Locate and unpack 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 13 on page 84).

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 14 below).

Table 16
Fanout Panel to 3PE card connectors

Group Number		Fanout Panel connector		3PE card connector
0	**connects**	**9-0, J3**		**A**
0	**from**	**9-0, J4**	**to**	**B**

Note: Group 0 cables (NT4N29) connect the fanout panel directly to the network backplane of Core/Net 1.

End of Procedure

Figure 14
3PE card connections

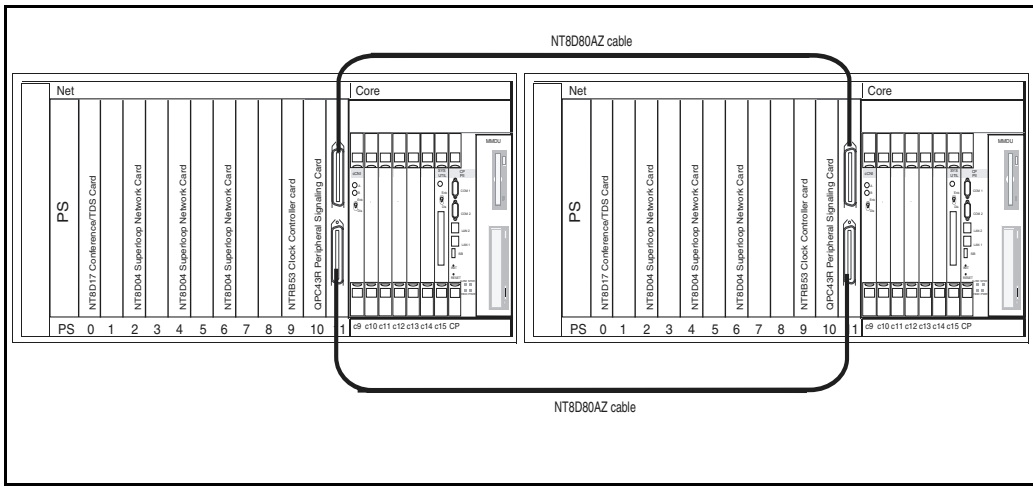


Figure 13
Fanout Panel connections on the CP PII Core/Net backplane

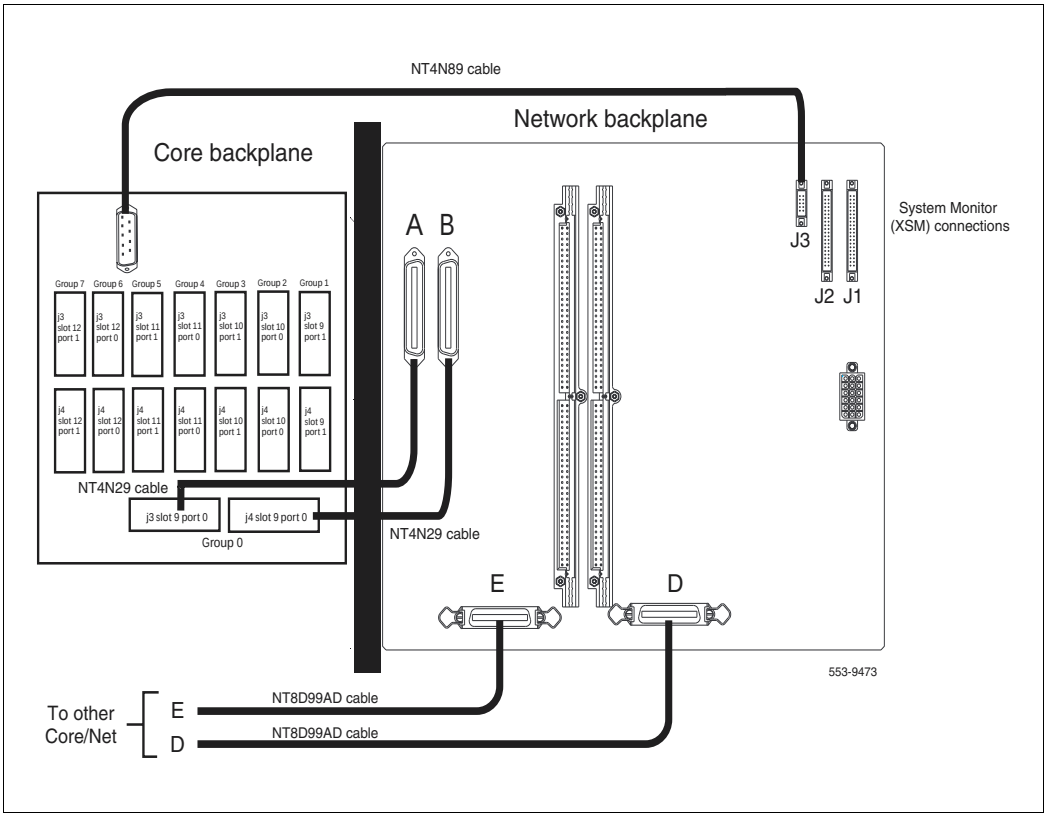
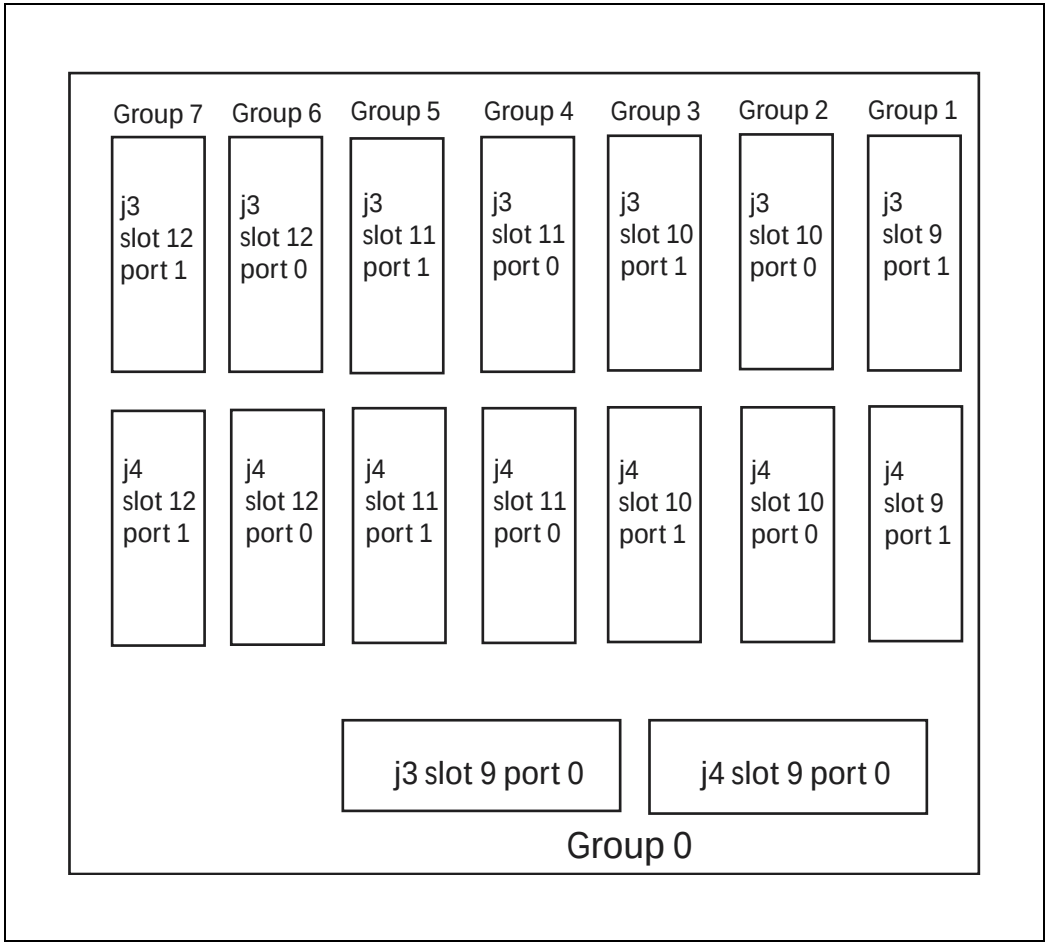


Figure 15
Connectors for CNI-3PE cables to the Fanout Panel



Unpack and install power supply to Core/Net 0

Procedure 21
Unpacking and installing the NT6D41CA (DC) or NT8D29BA (AC) power supply

1. Unpack the power supply.
2. Faceplate disable the power supply.
3. Insert power supply into Core/Net 0 power supply slot.

End of Procedure

Power up Core/Net 0

Procedure 22
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/0 panel in Core/Net 0.
3. Check the terminal settings as follows:
   - 9600 Baud
   - 7 data
   - 1 space parity
   - 1 stop bit
   - full duplex
   - 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 3PE, PS, Clock Contoller, Core, and network cards.

End of Procedure

Procedure 23
Powering up Core/Net 0

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: faceplate enable the NT6D41CA power supply then set the breaker for the Core/Net 0 module in the back of the column pedestal to ON (top position).Confirm that the Network and I/O cards have working power.

3 10 seconds after power up of Core/Net 0, press initialize button on Core/Net 1.

4 Wait for the Core/Net 1 to load/initialize.

Core/Net 1 is active, Clock Controller 1 is active, Network Cards in Core/Net 0 are enabled.

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.

End of Procedure

Test Core/Net 1

Procedure 24
Testing Core/Net 1

1 Stat network cards:

LD 32	
STAT x	x = loop number
****	Exit program.

2 Test the clocks:

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

LD 60	To load the 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	To switch the Clock.
SWCK	to switch the Clock again.
****	Exit program.

3 Check dial-tone.

4 Make internal, external, and network calls.

5 Check attendant console activity.

6 Check DID trunks.

7 Check applications (Call Pilot, Symposium, Meridian Mail, etc.).

8 Label a blank floppy disk as customer database disk and insert into Core/Net 1.

9 Perform data dump in LD 43:

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

LD 43	To load the program.

b. When “EDD000” appears on the terminal, enter:

EDD	To 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.

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

****	To exit the program.

Service is now fully restored with Core/Net 1 as active call processor.

End of Procedure

Install software and customer database on Core/Net 0

Procedure 25
Installing the software and converting the database

1 Check that a terminal is connected to J25 on Core/Net 0.

2 In Core/Net 0, place 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. The screen displays:

```
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 competed!
```

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: 2.6 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.

            chkdsk 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 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 X210300 software

(all subissues) for machine type XXXX

(XXX processor on XXXX System)
```

IMPORTANT!

Remove keycode floppy disk at this time and insert the database backup disk.

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 X210300_K.

    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/sl1/
direct.rec to /u/direct.rec

    >Updating /u/direct.rec

    >Processing the Install Control file

    >Installing release 0300K
```

10 Confirm all options before installing the software:

```
                    INSTALLATION STATUS SUMMARY

                    -------------------------------------------

     ==============+=========+=========+==============
 |     Option      |     Choice      | Status |   Comment          |

     ==================+=========+=========+==========
 | SW: CD to disk  |       yes       |         | install for rel 0300K |

      ==============+=========+=========+==============
 |     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: 2540 to release:
0300K.

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 2540 to release 0300
```

11 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 (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages (Release 3) English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages (Release 3) English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install:

```
Software release 0300K was installed successfully on Core 0.

    All files were copied from CDROM to the hard disk.

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

    You will now perform the database installation.

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

    Please enter:

<CR> -> <a> - Install CUSTOMER Database

        (the customer database diskette must be in the Core 0 disk
drive).

    <b> - Install DEFAULT Database

        (the installation CDROM must be in the Core 0 disk drive).

<c> - Transfer the previous system Database.

    <e> - Check the Database that exists on the hard disk.

    <q> - Quit.

    Enter Choice> <CR>
```

13 Confirm database transfer:

```
You selected to transfer the database from the floppy disk - release:
2540 to the hard disk on Core X. release: 2540.

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: Jul 07 14:10:00 2003

      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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


    ------------------------------

    DO NOT REBOOT USING BUTTON!!


    ------------------------------


    Please enter:

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

    <m> - Return to the Main menu.

    Enter Choice> <CR>

    >Removing temporary files


    >Remove /u/disk3321.sys



    >Quit Install. Reboot system...
```

End of Procedure

Make the system redundant

Procedure 26
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.

End of Procedure

Complete the CP PII upgrade

Procedure 27
Connecting the system monitors to Core/Net 0 and Core/Net 1

1. Connect the system monitors to the rear of the pedestals.
2. For the Core columns, connect J3 and J4 cables to the system monitors.

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

3. **In Core 0**, software enable the master system monitor (NT8D22):

```
LD 37

ENL TTY      Enable the master system monitor TTY interface.
#
```

Note: For more information on configuring the system monitor see *Large System: Installation and Configuration* (553-3021-210).

Procedure 28
Testing Core/Net 1 and Core/Net 0

From Core/Net 1, perform these tests for both Cores:

1 Perform a redundancy sanity test:

LD 135

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

TEST LCDs	Test LCDs.
DSPL ALL	

c. Check that the LCD display matches the software check.

3 Test the System Utility cards and the cCNI cards:

LD 135

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 Switch Cores and repeat the tests to confirm that the data is consistent.:

LD 135

SCPU	Switch cores.

STAT CPU	Get status of the CPU.
TEST CPU	Test the inactive Core.
TEST LEDs	Test LEDs.
TEST LCDs	Test LCDs.
DSPL ALL	
STAT SUTL	Get status of System Utility (both main and Transition) cards.
TEST SUTL c s	Test System Utility cards, both main and Transition cards.
STAT CNI c s	Get status of cCNI cards, both main and Transition cards (core, slot).
TEST CNI c s	Test cCNI cards, both main and Transition cards (core, slot).

5 Test system redundancy:

LD 137	
TEST RDUN	Test redundancy.
DATA RDUN	
TEST CMDU	Test the MMDU card.

6 Install the two system monitors. Test that the system monitors are working:

LD 37	Load the program.
STAT XSM	Check the system monitors
********	Exit the program.

7 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.

8 Get the status of the Cores, cNIS, and memory.

STAT CPU	Get the status of CPUs and redundancy.
STAT CNI c s	Get the status of cCNI cards (core, slot).

9 Test the clocks:

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

LD 60	To lead the 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	To switch the Clock.
SWCK	to switch the Clock again.

10 Test the Fiber Rings

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

a. Check that the Fiber Rings operate correctly:

LD 39	To load the program.
STAT RING 0	To check the status of Ring 0 (HALF/HALF)
STAT RING 1	To check the status of Ring 1 (HALF/HALF)

b. If necessary, restore the Rings to Normal State:

RSTR	To restore both Rings to HALF state.

c. Check that the Rings operate correctly:

STAT RING 0	To check the status of Ring 0 (HALF/HALF)
STAT RING 1	To check the status of Ring 1 (HALF/HALF)

11 Check the status of the FIJI alarms

STAT ALRM	to query the alarm condition for all FIJI cards in all Network Groups
****	Exit program.

End of Procedure

Perform a data dump

Procedure 29
Performing a data dump to backup the customer database:

1 Log into the system.

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

LD 43	Load the program.

3 Insert a floppy disk into Core/Net 0's MMDU to back up the database.

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

**** to exit the program

End of Procedure

The Meridian 1 Option 51/51C upgrade to Meridian 1 Option 61C with CP PII is complete.

Upgrades from Meridian 1 Option 81

Contents

This section contains information on the following topics:

Meridian 1 Option 81/IGS upgrade to FNF

The target platform, Meridian 1 Option 81/FNF system, 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
- delta 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 delta 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.

To upgrade a Meridian 1 Option 81/IGS system to a Meridian 1 Option 81 with Fiber Network Fabric:

- Clock Controller cards must be NTRB53AA.
- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for 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 17 below:

Table 17
Prepare for upgrade steps

Procedure Step	Page
Plan upgrade	114
Upgrade Checklists	114
Prepare	114
Identifying the proper procedure	115
Connect a terminal	116
Check the Core ID switches	117
Print site data	119
Perform a template audit	122
Back up the database (data dump and ABKO)	123
Identify two unique IP addresses	127
Check requirements for cCNI to 3PE cables (NTND14)	128

Plan upgrade

Planning for an upgrade involves the following tasks:

- 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 (Call Pilot, 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 Networks.
- 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 the “Upgrade checklists” chapter on 707 of Book 3. Engineers may print this section in order to facilitate 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 Table 4 on page 28 of Book 1).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Record 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 30
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/0 panel in the *inactive* Core or Core/Net module.

2 The settings for the terminal are:

- **a.** 9600 Baud
- **b.** 7 data
- **c.** space parity
- **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 31
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 18.
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 18
Core module ID switch settings (System Utility card)

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

Figure 16
Core card placement in the NT4N40 Core/Net card cage (front)

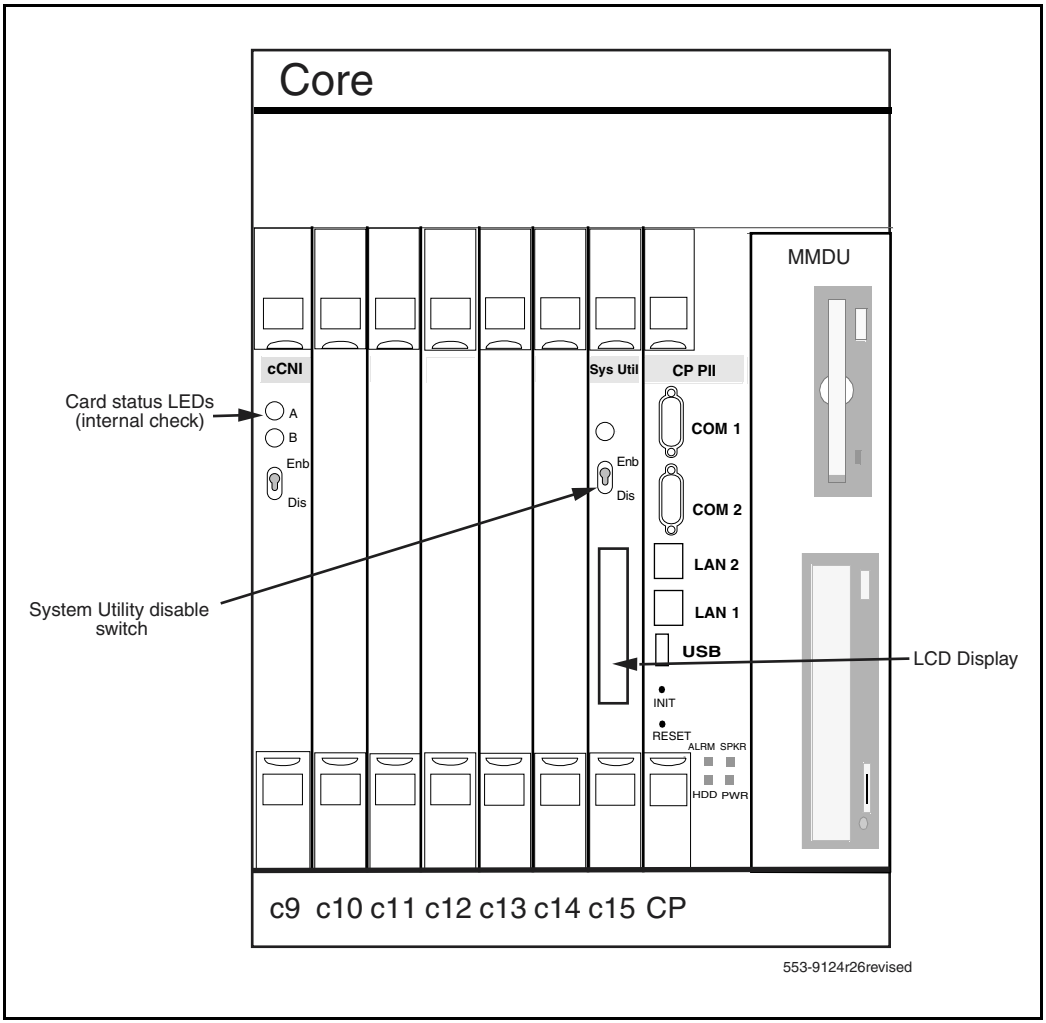
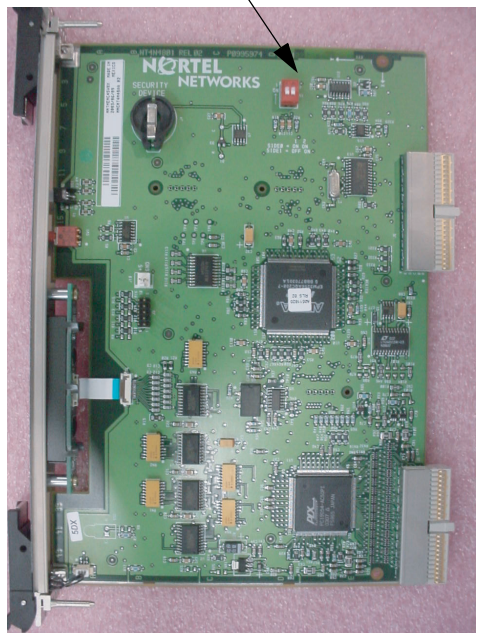


Figure 17
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (Table 19 on page 120). 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 19
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 19
Print site data (Part 2 of 3)

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

Table 19
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ TYPE	PRT DDB
Note: 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 duplicated 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 HIGH **CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK CHECKSUM OK

•

•

TEMPLATE 0120 USER COUNT OK CHECKSUM OK

TEMPLATE AUDIT COMPLETE

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 32
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 the 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.

The messages “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” will appear once the data dump is complete.

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

Procedure 33
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 the 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 the program.

End of Procedure

Procedure 34
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 Networks Software Conversion Lab. Consult the current Nortel Networks 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. See “Database transfer” on page 179 of Book 3.

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 Networks 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 or 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

System Failure

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 or 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 systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see "Configuring IP addresses" on page 667 of Book 2.

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.

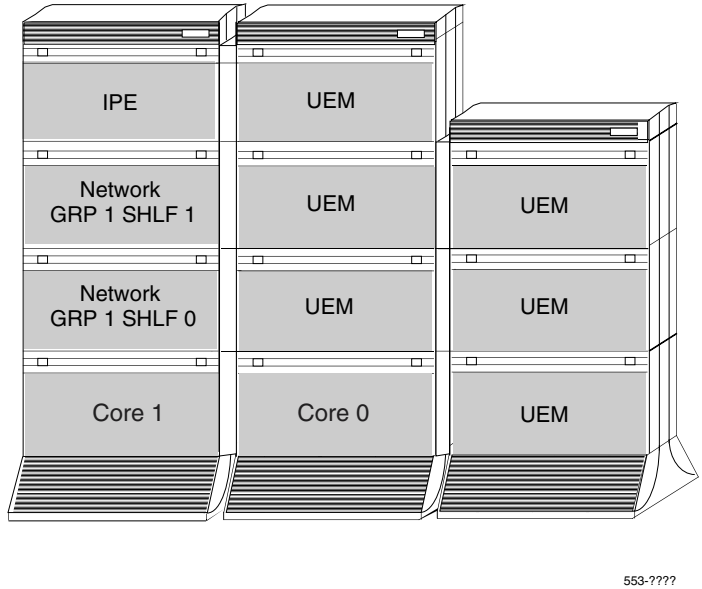
Note: The NTND14 BX 50' cables are manufacture discontinued.

Perform 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.

Figure 18
Meridian 1 Option 81/IGS to Meridian 1 Option 81/FNF



This upgrade takes a Meridian 1 Option 81/IGS to a Meridian 1 Option 81/FNF. Additional groups can be added by following the procedure “Adding a Network Group” on page 303 of Book 3.

To upgrade a Meridian 1 Option 81/IGS system to a Meridian 1 Option 81/FNF you will need:

- Proper length FIJI Fiber cables (NTRB33).

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

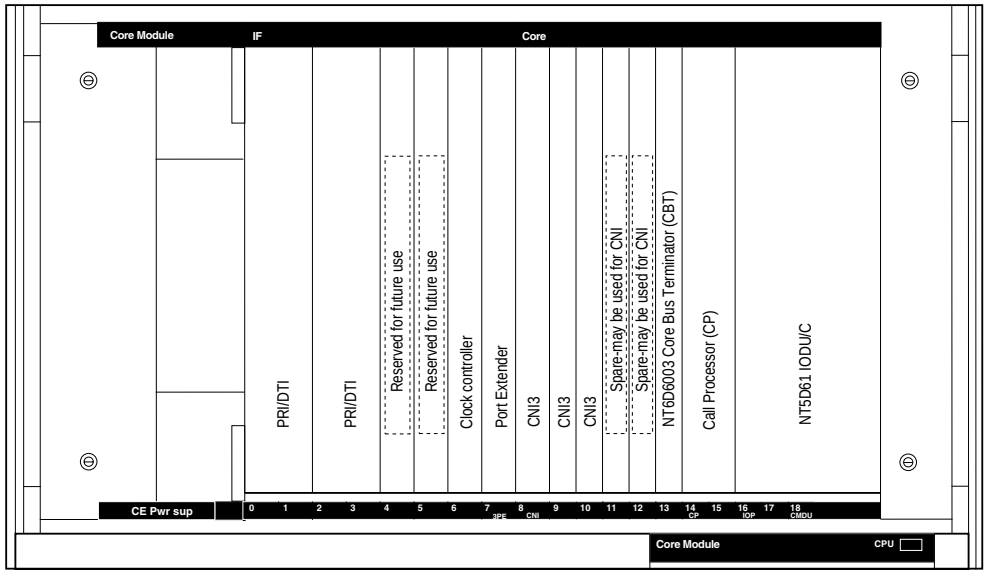
The delta between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

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

- 2 NTRC46BB Clock to FIJI cables.
- NTRC47AA FIFI to FIJI sync cable (number determined by system configuration).
- NTRC48 FIJI Fiber ring cables (number determined by system config).
- NTRC49 Clock to Clock sync cable.
- NTRE39AA optical cable management card (number determined by system configuration).

Note: For more information on hardware requirements, see Table 20 on page 133.

Figure 19
NT6D60 Core Module



Review upgrade requirements

This section describes the **minimum** equipment required for Meridian 1 Option 81/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 81/FNF:

- Succession 3.0 Software
- CORENET Core Network Module Package 299
- FIBN Fiber Network Package 365
- 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 Meridian 1 Option 81/FNF.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage A.
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

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

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 20 below describes the *minimum* equipment required to upgrade a system to Meridian 1 Option 81/FNF. Additional equipment for increased Network capacity is ordered separately.

Table 20
Minimum requirements for Meridian 1 Option 81C CP PII with IGS systems (Part 1 of 2)

Order number	Description	Quantity per system
*NT8D01BC	Controller - Four Card	1
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NTRB53	Clock Controller	2
*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 20
Minimum requirements for Meridian 1 Option 81C CP PII with IGS systems (Part 2 of 2)

Order number	Description	Quantity per system
*NT8D91AD	Network to Controller Cable (6 ft.)	
NTRC46BB	Clock to FIJI cables	2
NTRC47AA	FIJI to FIJI sync cable	determined by system configuration
NTRC48	FIJI Fiber ring cables	determined by system configuration
NTRC49	Clock to Clock sync cable	1
NTRE39AA	Optical cable management card	determined by system configuration
Note: *Customer supplied from existing system.		

Table 21 below lists the equipment required for DC-powered systems.
Table 22 on page 135 lists the equipment required for AC-powered systems.

Table 21
DC power requirements for Meridian 1 Option 81C CP PII/IGS 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 22
AC power requirements for Meridian 1 Option 81C CP PII/IGS 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 3 on page 26.

Check personnel requirements

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

Database requirements

If the source platform is a Meridian 1 Option 81 equipped with IOP/CMDU cards, the system must be updated with IODU/C. See “Database transfer” on page 179 of Book 3.

If the source platform is a Meridian 1 Option 81 equipped with IODUC cards, see “Software conversion” on page 17 of Book 3.

IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Networks Software Conversion Lab. Consult the current Nortel Networks 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. See “Database transfer” on page 179 of Book 3.

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 Networks in the software conversion lab.

Verify Core 0 is active

Procedure 35
Verifying Core 0 is active

1 Get the status of the CPUs. Verify that all common equipment is enabled.

LD 135	to load the program
STAT CPU	to get the status of both Cores

2 Ensure Core 0 is active.

If Core 1 is active, switch Cores.

STAT CPU	to get the status of the Cores
SCPU	to switch to Core 0
********	to exit the program

3 Ensure Clock Controller 0 is active and tracking.

LD 60	to load the program
SSCK 0	to get the status of Clock 0
SSCK 1	to get the status of Clock 1
SWCK	if necessary, to switch to Clock 0

Procedure 36
Splitting the Cores

1 Be sure Core 0 is active and Core 1 is standby. You may need to switch Cores:

LD 135	to load the program
STAT CPU	to get the status of both Cores
********	exit program

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

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

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

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

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

5 In Core 1, disable the NT6D65 or NTRB34 Core to Network Interface (CNI) cards by setting the ENB/DIS faceplate switches to DIS.

Upgrade Side 1

Core 1 must be inactive to complete these procedures.

A terminal must be connected to the new port on Core 1. See “Terminal and modem connections” on page 641 of Book 3.

Procedure 37
Upgrading the Core 1 software

Complete the steps below to install new software in Core/Net 1.

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

2 Install the CD-ROM into the CD drive:

- **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.** use the four tabs to secure the CD-ROM drive
- **d.** press the button again to close the CD-ROM disk holder (don’t push the holder in by hand)

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

- **a.** press and hold the MAN RST button on the Call Processor card
- **b.** set the MAINT/NORM switch on the Call Processor card to MAINT
- **c.** release the MAN RST button

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

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

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

4 Press <CR> to continue.

5 Remove the Call Processor Install Program diskette and insert the Keycode diskette, when prompted.

<a> to continue with keycode validation

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

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

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

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

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

<y> Yes, start Installation

<a> Continue with Upgrade

Pre-Release 3 language groups

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

The languages contained in each selection are outlined as follows:

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

Release 3 language groups

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

The languages contained in each selection are outlined as follows:

- 1 – Global 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages (Release 3) English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages (Release 3) English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

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

<a> Continue with ROM Upgrade

The following message appears:

Release XXXX was installed successfully on Core 1. All files were copied from CD-ROM to the hard disk.

Please press <CR> to continue when ready...

<a> Continue with ROM upgrade

<a> Yes, start Installation

<a> Continue with ROM upgrade

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

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

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

<y> Yes, start installation

<a> to continue with ROM upgrade

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

<cr> press return to continue

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

<y> Yes, to confirm quit

<a> to reboot the system

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

Software installation on Core 1 is complete.

Note: If the system fails to load, or system messages indicate data corruption, back out of the parallel reload process by performing the steps in “Back out of a system software upgrade” on page 143.

End of Procedure

Back out of a system software upgrade

Procedure 38
Backing out of a system software upgrade

1. Place the original Install disk 1 into the IODU/C in Side 1.
2. In Side 1, press the MAN RST button.
3. Select <u> to initiate the Install Tool.
4. Remove the Call Processor Install diskette and insert the source keycode diskette.
5. Select <a> to continue with keycode validation.
6. When the install screen appears, select the following options in sequence, and insert the **source** database diskette when you are prompted to do so.

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

   <a> to start installation

   <a> continue with upgrade

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

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

   <a> to continue with the database install

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

<a> to continue with the ROM upgrade

9 Following the database installation, upgrade the ROMs:

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

<y> to start installation

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

10 Remove the disk from the IODU/C in Side 1.

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

<q> to quit

<y> to confirm quit

12 Remove any diskettes from the floppy drive, and type

<a> to reboot the system

13 In Side 1, perform the following steps:

a. enable the NT6D65 CNI cards by setting the ENB/DIS faceplate switches to ENB.

b. press and release the MAN RST button on the Call Processor card.

c. When SYS700 messages appear on the Call Processor 1 LCD display, set Call Processor 1 MAINT/NORM switch to NORM.

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

RUNNING ROM OS
ENTERING Call Processor VOTE

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

14 In Side 0, set the MAINT/NORM switch on the Call Processor card to NORM.

15 Perform a redundancy sanity test.

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

16 Testing the Call Processors can take up to 20 minutes for each test. When the test is complete, the memories are automatically synchronized.

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

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

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

End of Procedure

Upgrade Side 1 hardware

Procedure 39
Upgrading Side 1 hardware

1 Software disable the IGS/DIGS cards in Side 1 (IGS/DIGS odd-numbered cards, 1 - 19):

LD 39	to load the program
DISI IGS xx	xx is the IGS card number 1 - 19

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

2 Faceplate disable the IGS/DIGS cards in Side 1.

3 Tag and disconnect the IGS/DIGS cables.

4 Remove the IGS/DIGs cards from Side 1.

Note: If you did not check the 3PE switch settings previously, check the 3PE switch settings now. See “Check the Core ID switches” on page 117.

5 Faceplate disable the FIJI cards.

6 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 modules.

Connect the shelf 1 FIJI Ring cables

Procedure 40
Connecting the shelf 1 FIJI Ring cables

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 delta 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.

To create the shelf 1 fiber optic loop, connect the FIJI cards in each Network shelf 1 in descending order, from Tx to Rx (Figure 20 on page 148 and Table 23 on page 149).

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

Note: Each end of the NTRC48 cable is labeled “Tx” or Rx” in the factory.

1 Start with Network Group 0, shelf 1.

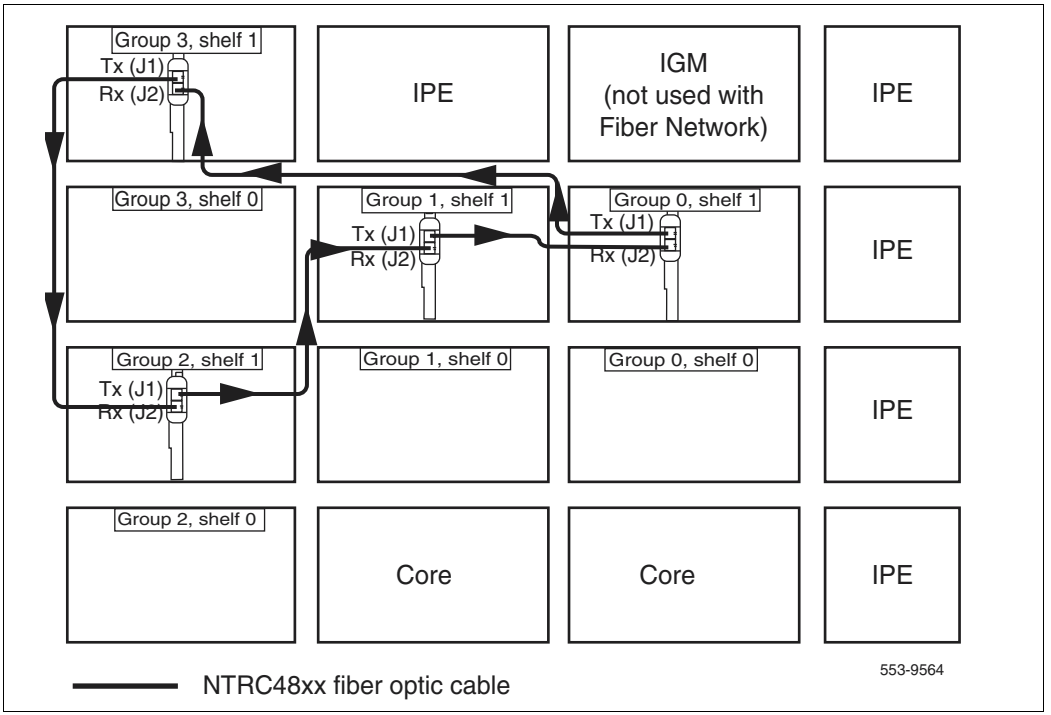
2 Connect a NTRC48 FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in Group 0, shelf 1 to the Rx (J2) port of the FIJI card in the highest Network Group, shelf 1.

3 Connect a NTRC48 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 NTRC48 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.

Figure 20
Shelf 1 *descending* fiber optic Ring (Meridian 1 Option 81 example)



Note: Connect the Side 1 FIJI Ring cables only. DO NOT connect the Side 0 cables.

End of Procedure

Table 23
FIJI Ring 1 connections for an 8 group system

Groups 0 - X are cabled in descending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/1	P1	Tx - J1
7/1	P2	Rx - J2
7/1	P1	Tx - J1
6/1	P2	Rx - J2
6/1	P1	Tx - J1
5/1	P2	Rx - J2
5/1	P1	Tx - J1
4/1	P2	Rx - J2
4/1	P1	Tx - J1
3/1	P2	Rx - J2
3/1	P1	Tx - J1
2/1	P2	Rx - J2
2/1	P1	Tx - J1
1/1	P2	Rx - J2
1/1	P1	Tx - J1
0/1	P2	Rx - J2

Turn module power off

CAUTION

Service Interruption

Call processing will be interrupted for approximately 30 minutes while the procedures are completed.

To reduce downtime, verify that all cables are pre-routed.

IMPORTANT!

Power down all applications (Meridian Mail, Call Pilot, Symposium).

Procedure 41
Turn module power off

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

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

1 Power down Core Module 0.

2 Power down Core Module 1.

3 Power down all Network Modules.

IMPORTANT!

Failure to power down may cause intermittent response problems.

End of Procedure

Seat the FIJI cards in Side 1

The FIJI cards in side 1 can now be seated. Push the faceplate latches forward to lock the cards in place. Verify that the cards are faceplate *enabled*.

Upgrade Side 0

Procedure 42
Installing Side 0 FIJI cards

1. Tag and disconnect the IGS/DIGS cables.
2. Remove the IGS/DIGs cards from Side 0.
3. Insert and seat the FIJI cards in Side 0.
4. Faceplate enable the FIJI cards.

End of Procedure

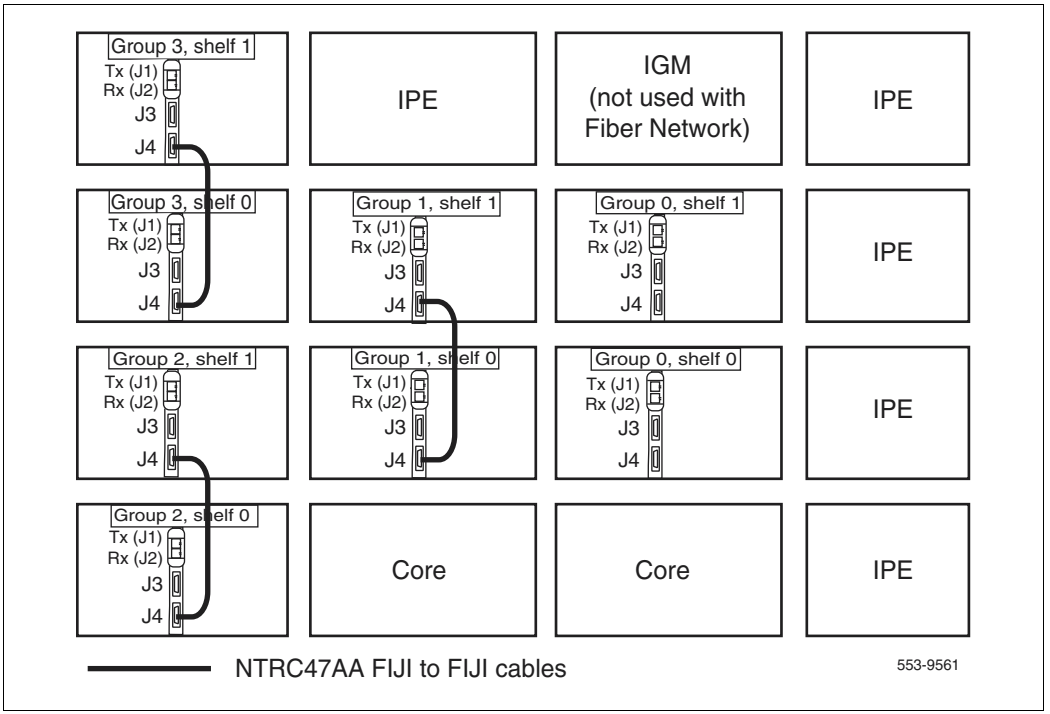
Procedure 43
Connecting the FIJI to FIJI cables

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 21
FIJI to FIJI cable connections (Meridian 1 Option 81 example)



Procedure 44
Connecting the shelf 0 FIJI Ring cables

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 delta 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.

To create the shelf 0 fiber optic loop, connect the FIJI cards in each Network shelf 0 in **ascending** order, from Tx to Rx ports (Figure 22 on page 155 and Table 24 on page 154).

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

Note: Each end of the NTRC48 cable is labeled “Tx” or Rx” in the factory.

1 Start with Group 0, shelf 0.

2 Connect a NTRC48 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 NTRC48 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 NTRC48 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.

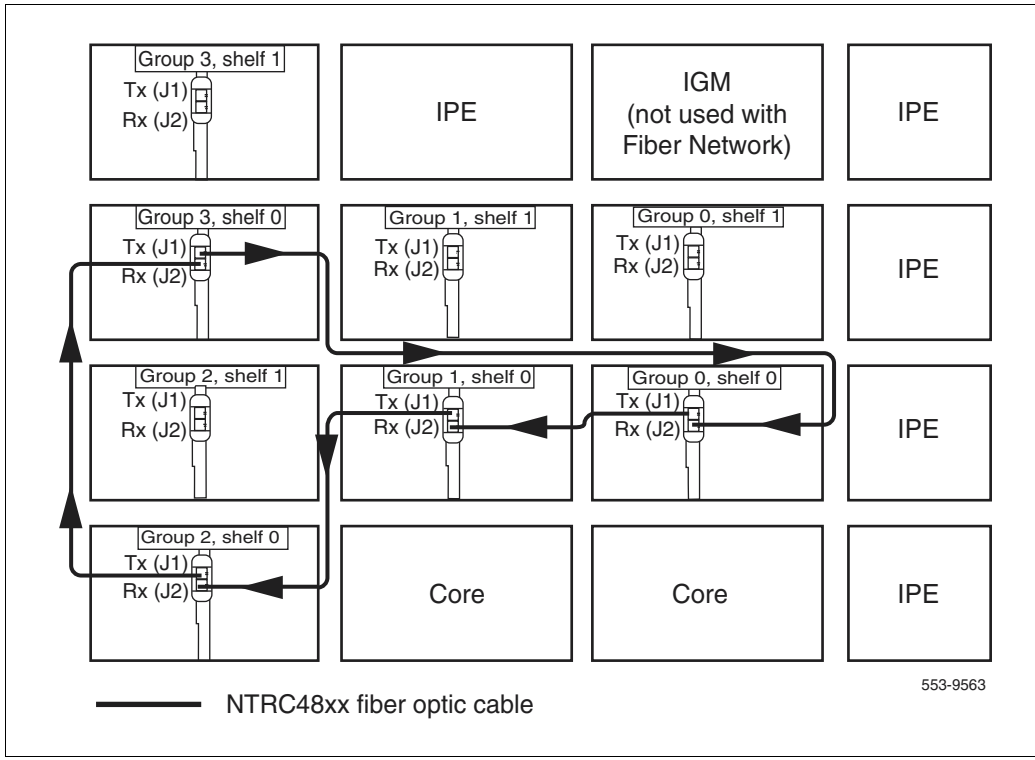
5 To complete the Ring, connect a final cable from the Tx (J1) port in the highest number group back to the Rx (J2) port in Group 0, shelf 0.

End of Procedure

Table 24
FIJI Ring 0 connections

Groups X - 0 are cabled in ascending order		
Group/shelf	**NTRC48 fiber cable connector**	**FIJI card connector**
0/0	P1	Tx - J1
1/0	P2	Rx - J2
1/0	P1	Tx - J1
2/0	P2	Rx - J2
2/0	P1	Tx - J1
3/0	P2	Rx - J2
3/0	P1	Tx - J1
4/0	P2	Rx - J2
4/0	P1	Tx - J1
5/0	P2	Rx - J2
5/0	P1	Tx - J1
6/0	P2	Rx - J2
6/0	P1	Tx - J1
7/0	P2	Rx - J2
7/0	P1	Tx - J1
0/0	P2	Rx - J2

Figure 22
Shelf 0 *ascending* fiber optic Ring (Meridian 1 Option 81 example)



Move the Clock Controllers

Procedure 45
Moving Clock Controller 0

1. Faceplate disable Clock Controller 0.
2. Label and disconnect the cable from the J11 connector in the NT8D36 Intergroup Module at the junctor board.
3. Disconnect the cable from the faceplate connector on the Clock Controller card.

Primary and secondary Clock reference cables that are connected to the faceplate should be disconnected next and labeled.

4 Remove Clock Controller 0 from the Core module.

5 Set the Clock Controller 0 switch settings (see Table 25 on page 157).

Note: Meridian 1 Option 81 systems equipped with Fiber Network must use the Meridian 1 Option 81C switch settings to enable Clock Hunt software.

6 Install Clock Controller 0 on a Network shelf 0, slot 13.

Note: The Clock Controller can be installed in any Network Group, however Nortel Networks recommends that Clock Controller 0 and 1 be located in different Network Groups.

7 Reconnect the Clock 0 Reference cables.

8 Faceplate enable the Clock Controller.

End of Procedure

Procedure 46
Moving Clock Controller 1

1 Faceplate disable Clock Controller 1.

2 Label and disconnect the cable from the J12 connector in the NT8D36 Intergroup Module at the junctor board.

3 Disconnect the cable from the faceplate connector on the Clock Controller card.

Primary and secondary Clock reference cables that are connected to the faceplate should be disconnected next and labeled.

4 Remove Clock Controller 1 from the Core module.

5 Set the Clock Controller 0 switch settings (see Table 25 on page 157).

Note: Meridian 1 Option 81 systems equipped with Fiber Network must use the Meridian 1 Option 81C switch settings to enable Clock Hunt software.

6 Install Clock Controller 1 on a Network shelf 1, slot 13.

Note: The Clock Controller can be installed in any Network Group, however Nortel Networks recommends that Clock Controller 0 and 1 be located in different Network Groups.

7 Reconnect the Clock 0 Reference cables.

8 Faceplate enable the Clock Controller.

Note: Meridian 1 Option 81 systems equipped with Fiber Network must use Meridian 1 Option 81C switch settings to enable Clock Hunt software.

Table 25
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.)		
Note: Switch 7 and 8 are not used.						

End of Procedure

Cable the Clock Controllers

Procedure 47
Cable the Clock Controllers

Connect the cables to the Clock Controllers as shown in Figure 23 on page 159:

1 Connect the Clock to Clock cable:

a. Connect P1 of the NTRC49 cable to port J3 of Clock Controller 0.

b. Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.

2 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.

b. Connect P2 of the NTRC46 cable from Clock 0 to J4 of the FIJI card in Group 0, shelf 1.

3 Connect the 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.

b. Connect P2 of the NTRC46 cable from Clock 1 to J3 of the FIJI card in Group 0, shelf 1.

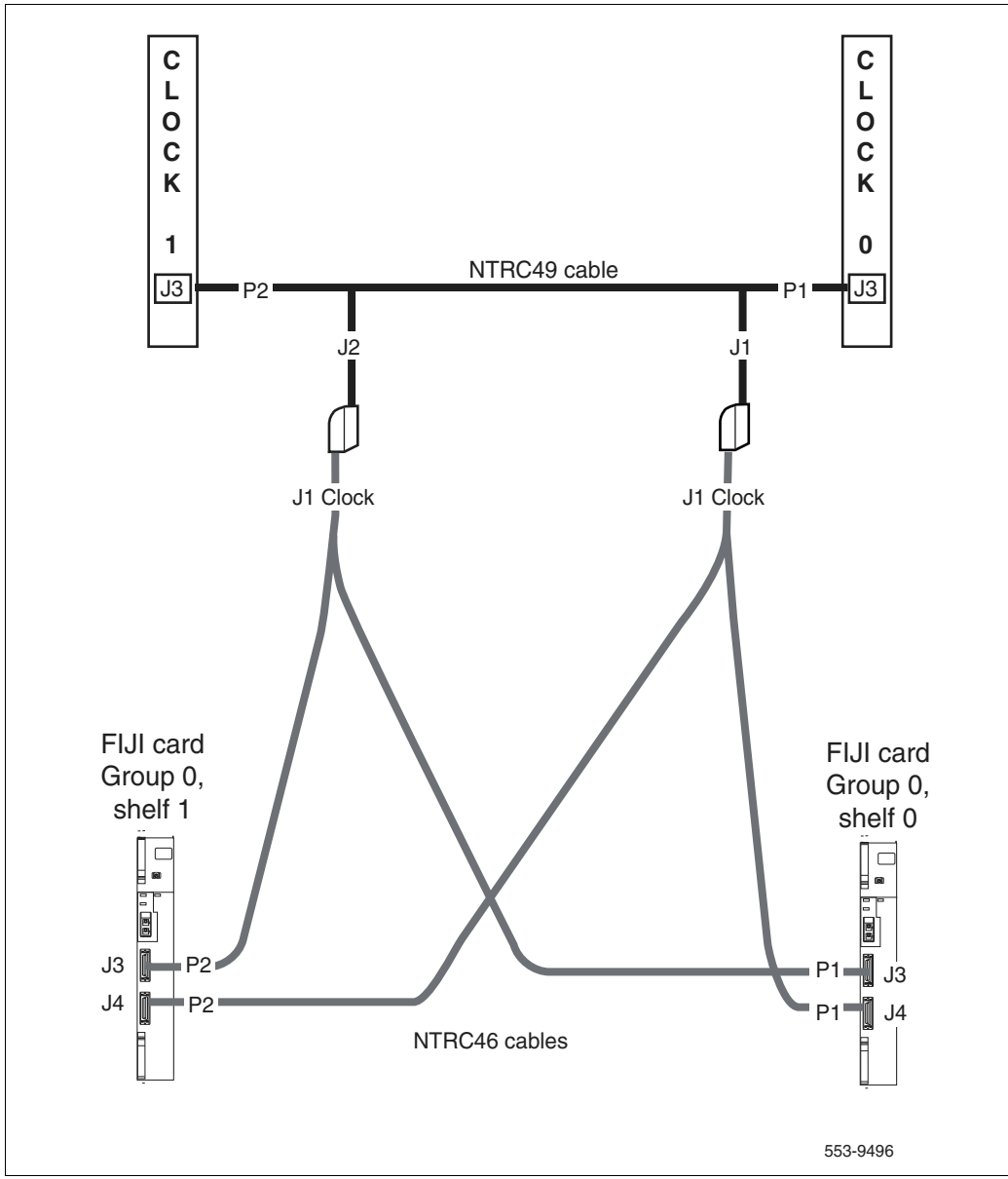
End of Procedure

Remove the 3PE card in the Core shelves

In Meridian 1 Option 81 systems, the 3PE card must be removed from the Core shelves. This 3PE card (in the Core shelves) is no longer used with Fiber Network.

Note: This procedure is for Meridian 1 Option 81 systems with Core shelves. This procedure is NOT necessary for Meridian 1 Option 61C CP PII and Meridian 1 Option 81C systems with Core/Net shelves.

Figure 23
Clock Controller cable configuration



Procedure 48
Removing the 3PE card from both Cores:

1. In Core 1, hardware disable the 3PE card.
2. In Core 0, hardware disable the 3PE card.
3. Remove the 3PE faceplate cable.
4. Remove the 3PE cards from Core 1 and 0.

End of Procedure

Prepare Core cards for power-up

Procedure 49
Preparing Core cards for power-up

1. Verify that a terminal is connected to the J25 I/O panel connector on Core 1. See “Terminal and modem connections” on page 641 of Book 3.
2. Verify that both Call Processor cards in the Core modules are in MAINT position.
3. Unseat the Call Processor card in Core 0
4. Faceplate *disable* the CNI cards in Core 0.
5. Faceplate *disable* the IODU/C in Core 0.
6. Unseat the IODU/C in Core 0.
7. Faceplate *enable* the CNI cards in Core 1.

End of Procedure

Restore power

Procedure 50
Restoring power to the modules

1. Restore power to Core 1.
2. Restore power to Core 0.
3. Restore power to the Network modules.

4 Wait for the system to load/init.

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, download 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.

IMPORTANT!

Power up all applications (Meridian Mail, Call Pilot, Symposium).

Core 1 is enabled, Clock 1 is active, Fiber rings are half/half and Core 0 is in split mode.

End of Procedure

Verify the Fiber Ring status

Procedure 51
Verifying the Fiber Ring status

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

1 Check that Fiber Ring 1 operates correctly:

LD 39	to load the program
STAT RING 1	to check the status of Ring 1

2 Reset the Rings:

RSET	to reset the Rings and prepare them for redundancy
RSTR	to restore both Rings to HALF state

3 Check that the Rings operate correctly:

STAT RING 0	to check the status of Ring 0 (HALF/HALF)
STAT RING 1	to check the status of Ring 1 (HALF/HALF)

4 If any Ring problems occur, correct them now.

STAT ALRM <X> <Y>	to check the alarm status of individual FIJI cards or all FIJI cards. See *Software Input/Output: Administration* (553-3001-311) for more information.

5 Verify that call processing operates correctly: this includes, but is not limited to the following:

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

End of Procedure

Upgrade Core 0 software

Procedure 52
Upgrading Core 0 software

1 Seat the IODU/C. Verify the status on the display (A1).

2 Faceplate enable the IODU/C.

3 Insert the Call Processor Install Program diskette into IODU/C floppy drive in Core 0.

4 Verify that the Call Processor card in Core 0 is in MAINT mode.

5 Seat the Call Processor card.

6 Connect a terminal to the J25 port on the I/O panel in Core 0.

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

8 Initiate the installation by selecting the following prompt from the menu:

<cr> <u>>	to Install menu

9 Remove the Call Processor Install Program diskette and insert the Keycode diskette, when prompted.

<a>	continue with keycode validation

10 Remove the Keycode diskette and re-insert the Call Processor Install Program diskette into the IODU/C floppy drive in Core 0.

11 When the main menu appears, select the following option to copy the software form Core 1 to Core 0 and exit the Main Menu:

<o>	to copy system software from the other Core

12 When the software is installed successfully, press **<CR>** to install CP-software from the hard disk to Flash EEPROM, and install CP-BOOT ROM. Follow the screen directions until the Main Menu returns.

13 From the Main Menu, select the prompts in the following sequence to install the IOP-ROM:

<f>	to install IOP-ROM only
<cr> <a>	to install the IOP-ROM from hard disk
<y>	Yes, start installation
<cr> <a>	to continue with ROM upgrade

Follow the screen directions until the Main Menu returns.

14 From the Main Menu, select the following options in sequence to copy the customer database from Core 1 to Core 0.:

<d>	to go to the Database menu
<d>	to copy the database from Core 1 to Core 0
<y>	to confirm the installation status summary
<a>	to confirm database copy

15 From the Main Menu, select the following options to quit and reload the system:

<q>	to quit
<y>	to confirm quit

16 Reboot the Core 0 CPU:

<a> to reboot the system

WARNING

Wait for “DONE” and then “INI” messages to be displayed on Core 0 before continuing.

End of Procedure

Complete the upgrade

Follow the procedures below in sequence. If an error occurs at any time, resolve the problem before continuing.

Procedure 53
Exiting split mode

1 Perform the following in uninterrupted sequence:

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

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

RUNNING ROM OS

ENTERING Call Processor
VOTE

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

Note: The HWI messages are displayed on the TTY device connected to the active core.

3 Once the synchronization is complete, enable the CNI cards in Core 0 (set the ENB/DIS faceplate switch to ENB).

4 Check the status of the CPU and CNI cards in Core 1:

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

5 Enable the CNI ports if necessary:

ENL CNI *c s p*	Enable the CNI in *core, slot, port*

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

End of Procedure

Procedure 54
Synchronizing the hard disks

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

LD 137	
STAT	Get the status of the IODU/C and redundancy
SYNC	Enter “Yes” to synchronize disks. Wait until the memory synchronization successfully completes before continuing.
TEST CMDU	**Performs hard and floppy disk test.**

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

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

System is now in redundant mode.

End of Procedure

Verify Core redundancy

To verify redundancy, switch the active Cores back and forth to verify that both sides operate without problems.

LD 135	
SCPU	to switch the active Core
SCPU	to switch the active Core again

System is in split mode, CP 0 is active, clock 0 is active, all network cards in shelf 1 are software disabled.

Procedure 55
Testing Core 1 and Core 0

1 Perform a redundancy sanity test using the following sequence:

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

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

SCPU	Switch Cores
TEST CPU	Test the inactive Core
TEST CNI c s	Test each inactive CNI card

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

3 Clear the display and minor alarms on both Cores.

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

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

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

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

****	exit program

End of Procedure

Procedure 56
Switching the Clocks

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

LD 60	to lead the 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

2 Verify that the Clock Controllers are switching correctly:

LD 60	to load the program
SWCK	to switch the Clock
SWCK	to switch the Clock again

End of Procedure

Procedure 57
Checking Fiber Ring Status

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

1 Check that the Fiber Rings operate correctly:

LD 39	to load the program
STAT RING 0	to check the status of Ring 0 (HALF/HALF)
STAT RING 1	to check the status of Ring 1 (HALF/HALF)

2 If necessary, restore the Rings to Normal State:

RSET	to reset the Rings
RSTR	to restore both Rings to HALF state

3 Check that the Rings operate correctly:

STAT RING 0	to check the status of Ring 0 (HALF/HALF)
STAT RING 1	to check the status of Ring 1 (HALF/HALF)

4 Check the status of the FIJI alarms

STAT ALRM	to query the alarm condition for all FIJI cards in all Network Groups

5 Check dial tone.

6 Make internal, external, and network calls.

7 Check attendant console activity.

8 Check DID trunks.

9 Check applications (Call Pilot, Symposium, Meridian Mail, etc.).

End of Procedure

Procedure 58
Backing up the database

1 Log into the system.

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

LD 43	to load the program

3 When “EDD000” appears on the terminal, enter

EDD	to begin the data dump

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.

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

**** to exit the program

4 Removal of unused Intergroup cables and module

Note: Once the system is operating and stable with Fiber Network, the unused Intergroup cables and Intergroup module can be removed if desired. Removal of the Intergroup cables and module is not required. Unused Intergroup equipment can be left in place.

CAUTION

Service Interruption

If the Intergroup cables and module are removed from the Fiber Network system, be careful not to dislodge or damage any working cables or equipment.

Note: The Intergroup (IGS) module can also be converted into an IPE module with the IPE Expansion kit.

End of Procedure

Meridian 1 Option 81/IGS upgrade to Option 81C/IGS CP PII

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 26 below:

Table 26
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Plan upgrade	174
Upgrade checklists	175
Prepare	175
Identifying the proper procedure	175
Connect a terminal	176
Check the Core ID switches	177
Print site data	179
Perform a template audit	182
Back up the database (data dump and ABKO)	183

Table 26
Prepare for upgrade steps (Part 2 of 2)

Procedure Step	Page
Identify two unique IP addresses	187
Check requirements for cCNI to 3PE cables (NTND14)	188

Plan upgrade

Planning for an upgrade involves the following tasks:

- 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 (Call Pilot, 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 Networks.
- 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 the“Upgrade checklists” chapter on 707 of Book 3. Engineers may print this section in order to facilitate 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 Table 4 on page 28 of Book 1).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Record 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 59
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/0 panel in the *inactive* Core or Core/Net module.
2. The settings for the terminal are:
   - **a.** 9600 Baud
   - **b.** 7 data
   - **c.** space parity
   - **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 60
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 27.
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 27
Core module ID switch settings (System Utility card)

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

Figure 24
Core card placement in the NT4N40 Core/Net card cage (front)

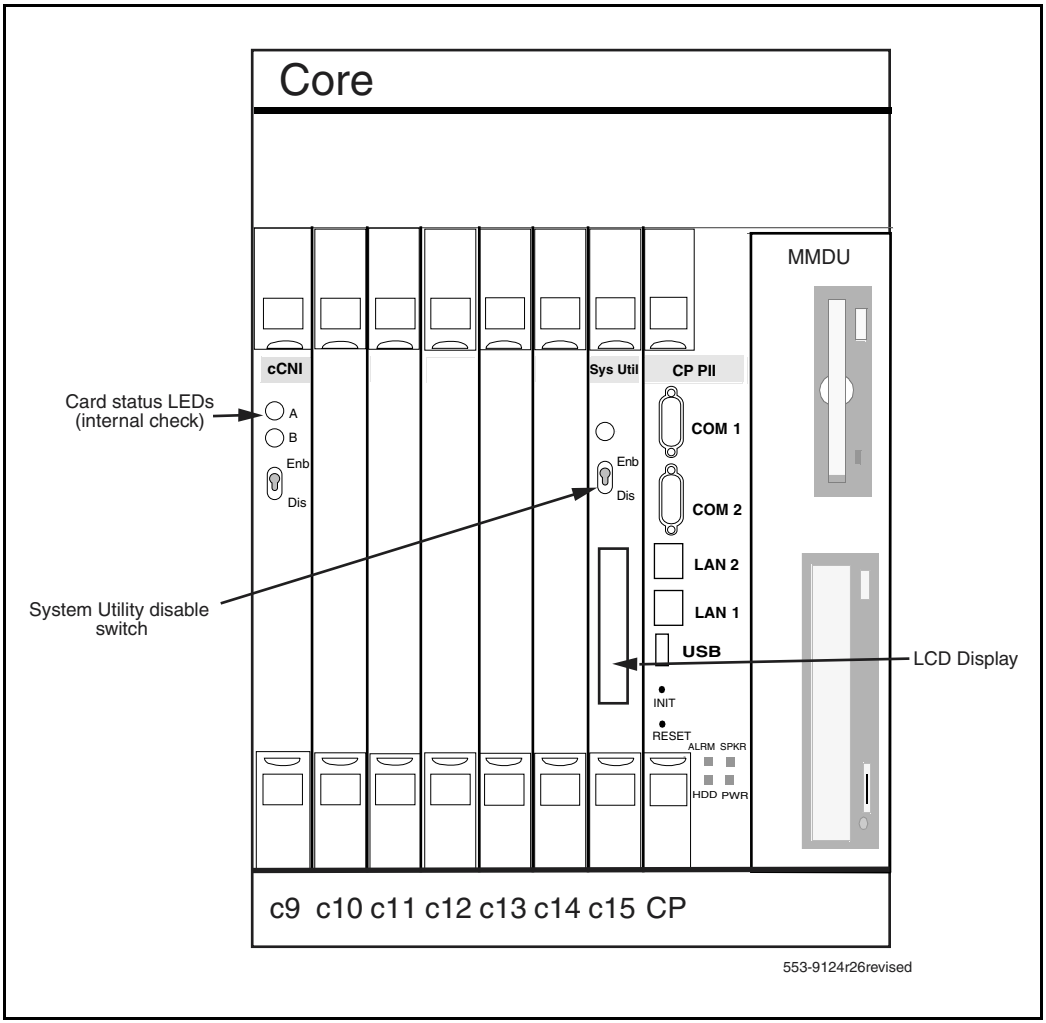
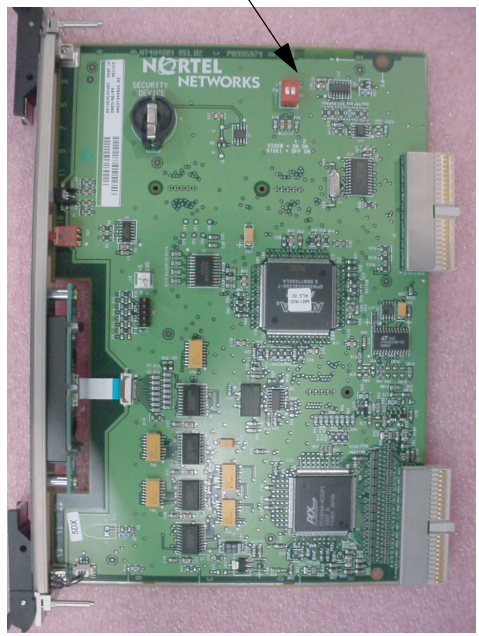


Figure 25
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (Table 28 on page 180). 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 28
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 28
Print site data (Part 2 of 3)

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

Table 28
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB

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

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicated 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 HIGH **CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK CHECKSUM OK

•

•

TEMPLATE 0120 USER COUNT OK CHECKSUM OK

TEMPLATE AUDIT COMPLETE

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 an ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 61
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 the 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.

The messages “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” will appear once the data dump is complete.

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

Procedure 62
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 the 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 the program.

End of Procedure

Procedure 63
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 Networks Software Conversion Lab. Consult the current Nortel Networks 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. See “Database transfer” on page 179 of Book 3.

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 Networks 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 or 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

System Failure

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 or 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 systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see "Configuring IP addresses" on page 667 in Book 1.

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.

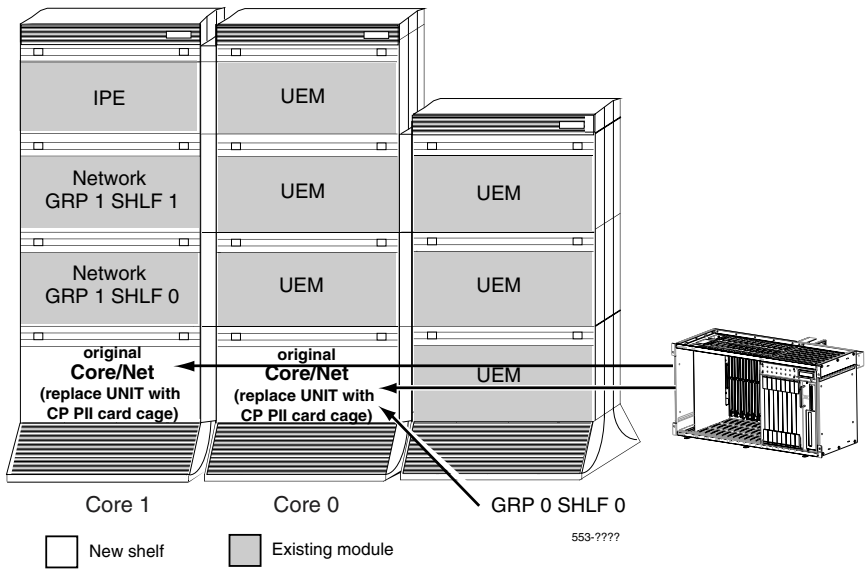
Perform the upgrade

Figure 26 shows an upgrade from a Meridian 1 Option 81/IGS to a Meridian 1 Option 81C/IGS with CP PII.

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 26
Meridian 1 Option 81/IGS to Meridian 1 Option 81C CP PII/IGS

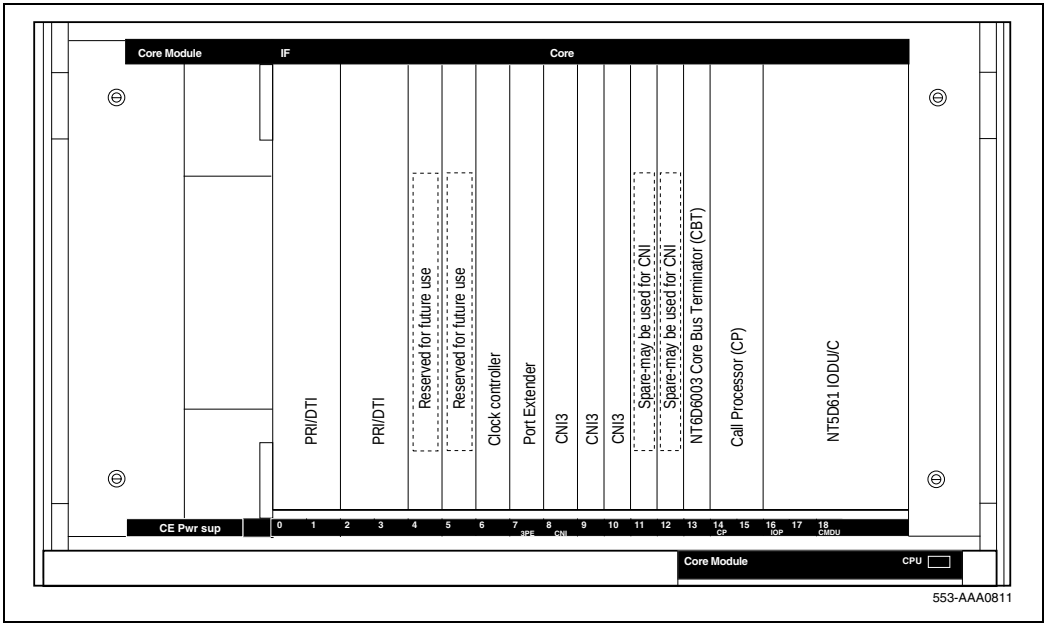


This upgrade takes a Meridian 1 Option 81/IGS to a Meridian 1 Option 81C/IGS CP PII. Additional groups can be added by following the procedure "Adding a Network Group" on page 303 of Book 3.

To upgrade a Meridian 1 Option 81/IGS system to a Meridian 1 Option 81C/IGS CP PII:

- Two card cages in the existing NTND60 Core modules (see Figure 27) are replaced with two NT4N40 CP PII card cages.
- New CP PII cards are located in the Core/Net modules or card cage.
- Any existing network cards are relocated to the NTN40 CP PII card cages.
- The existing Clock Controller card is moved to a new network group location.

Figure 27
NT6D60 Core Module



Review upgrade requirements

This section describes the **minimum** equipment required for Meridian 1 81C CP PII with IGS. 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:

- Succession 3.0 Software
- Software Package CORENET Core Network Module 299
- Software Package FIBN Fiber Network 365
- 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.
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

- 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.

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

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 29 describes the *minimum* equipment required to upgrade a system to CP PII. Table 30 on page 194 and Table 31 on page 194 list the DC and AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

Table 29
Minimum requirements for Meridian 1 Option 81C CP PII with IGS systems (Part 1 of 2)

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
NT4N48AA	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

Table 29
Minimum requirements for Meridian 1 Option 81C CP PII with IGS systems (Part 2 of 2)

Order number	Description	Quantity per system
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	
*NTRB53/ QPC471/ QPC775	Clock Controller	2
*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
NTRC17BA	CP PII Ethernet to Ethernet Cable (8.5 ft.)	2
NTRE40AA	Dual Ethernet Adapter (RJ45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP PII Card Slot Filler Panel	10
Note: *Customer supplied from existing system.		

Check required power equipment

Table 30 lists the equipment required for DC-powered systems. Table 31 lists the equipment required for AC-powered systems.

Table 30
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 31
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 3 on page 26 of Book 1.

Check personnel requirements

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

Database requirements

If the system is running pre-release 19 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 Networks 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” on page 179 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.

IMPORTANT!

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

Install Core/Net 1 hardware

Procedure 64
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 28 on page 197:

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 NT4N48AA 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 32 below.

Table 32
Core module ID switch settings (System Utility card)

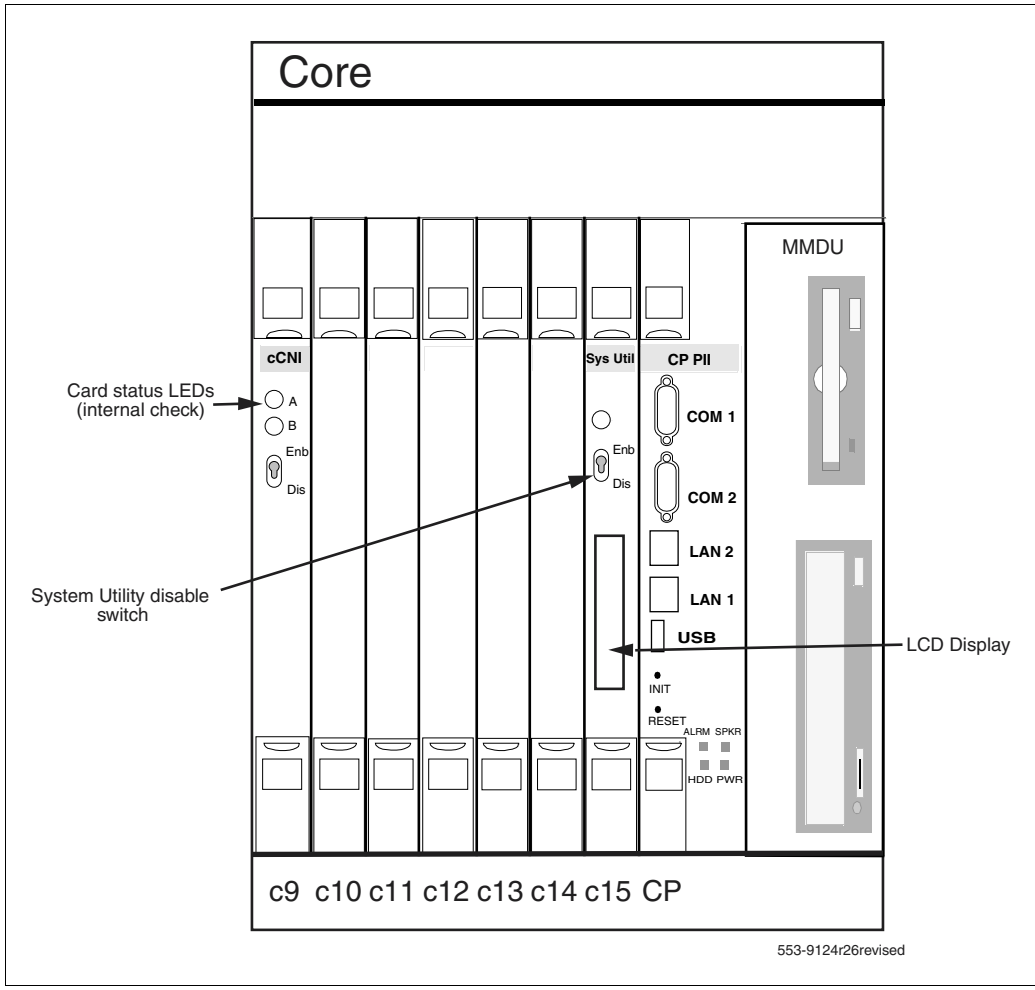
	Position 1	**Position 2**
Core/Net 0	On	On
Core/Net 1	Off	On

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 28
Core card placement in the NT4N41 Core/Net Module (front)



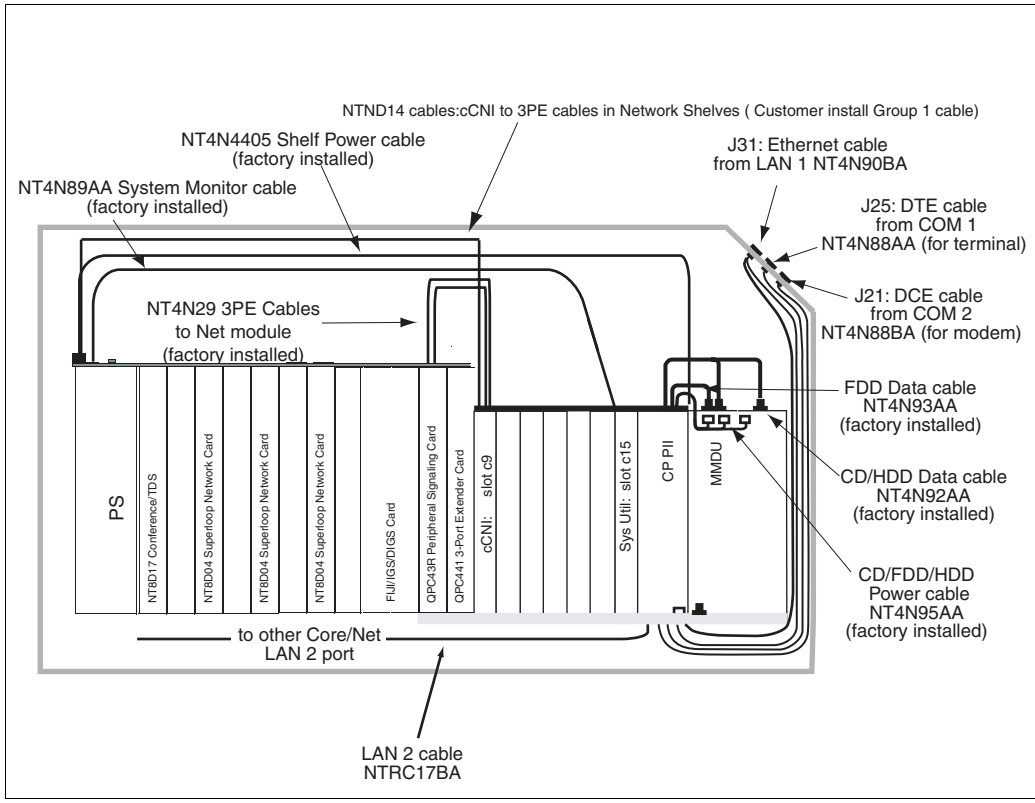
Check factory-installed cables

Table 33 below lists factory-installed cables. See Figure 29 on page 199.

Table 33
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 29
Core/Net cable connections



Disable Core 1

Procedure 65
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 the 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 the program.

End of Procedure

Procedure 66
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.

End of Procedure

Procedure 67
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.

End of Procedure

Procedure 68
Faceplate disabling cards in Core 1

In Core 1 only, faceplate disable the 3PE and Clock Controller cards.

1. Label and disconnect the Clock Controller 1 Junctor cable from the J12 connector in the InterGroup Module junctor board.
2. Remove J3 and J4 cables on Core 0 and Core 1 system monitors.
3. Disconnect the Junctor cable from the Clock Controller 1 faceplate card.
4. If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.

CAUTION

Service Interruption

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

End of Procedure

Procedure 69
Moving Clock Controller 1

1. Remove Clock Controller 1 from the Core module.
2. Set the Clock Controller 1 switch settings according to Table 34 below.
3. Move Clock Controller 1 to any Network Shelf 1, slot 13.
   Do not seat Clock Controller 1.

   Note: The Clock Controllers (0 and 1) must be located in different Network groups in different columns.

Connect the Junctor cable NT8D74 to the SCG1/J12 connector in the Intergroup module Junctor board (see Figure 30 on page 204). Do not connect the Clock Controller 1 Junctor cable to the J12 connector in the InterGroup module Junctor board.

Table 34
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.)		
Note: Switch 7 and 8 are not used.						

Table 35
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PII must use the Meridian 1 Option 61C CP PII switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				**SW2**				**SW4**			
1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
****** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

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.

Procedure 70
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.

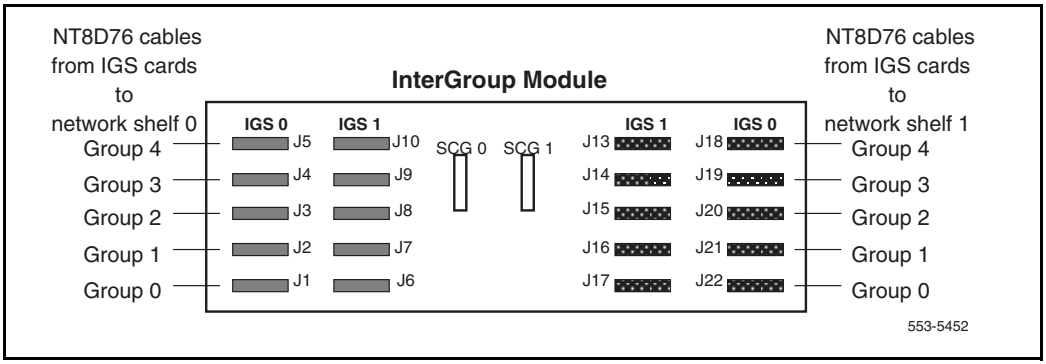
2 Remove J3 and J4 cables on Core 0 and Core 1 system monitors.

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

Figure 30
InterGroup module cables



Power down Core 1

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 1 module in the back of the column pedestal to OFF (down position).

Procedure 71
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 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 31 on page 207 for dc power connectors. See Figure 32 on page 208 for AC power connectors.

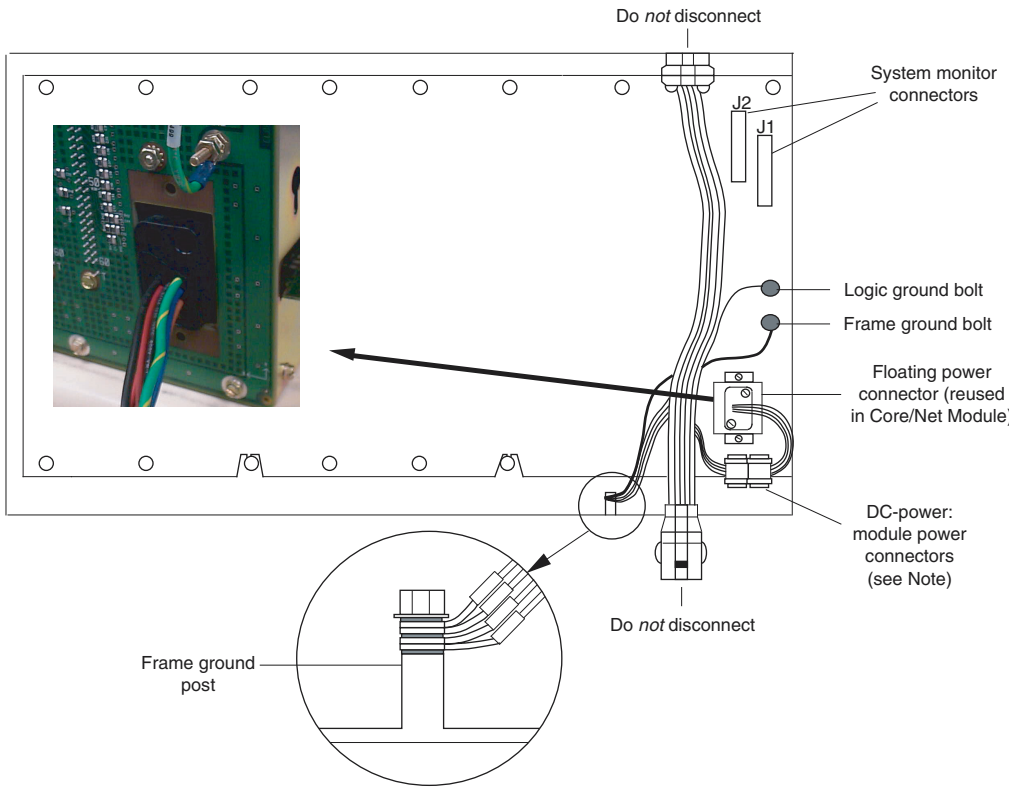
13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

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.

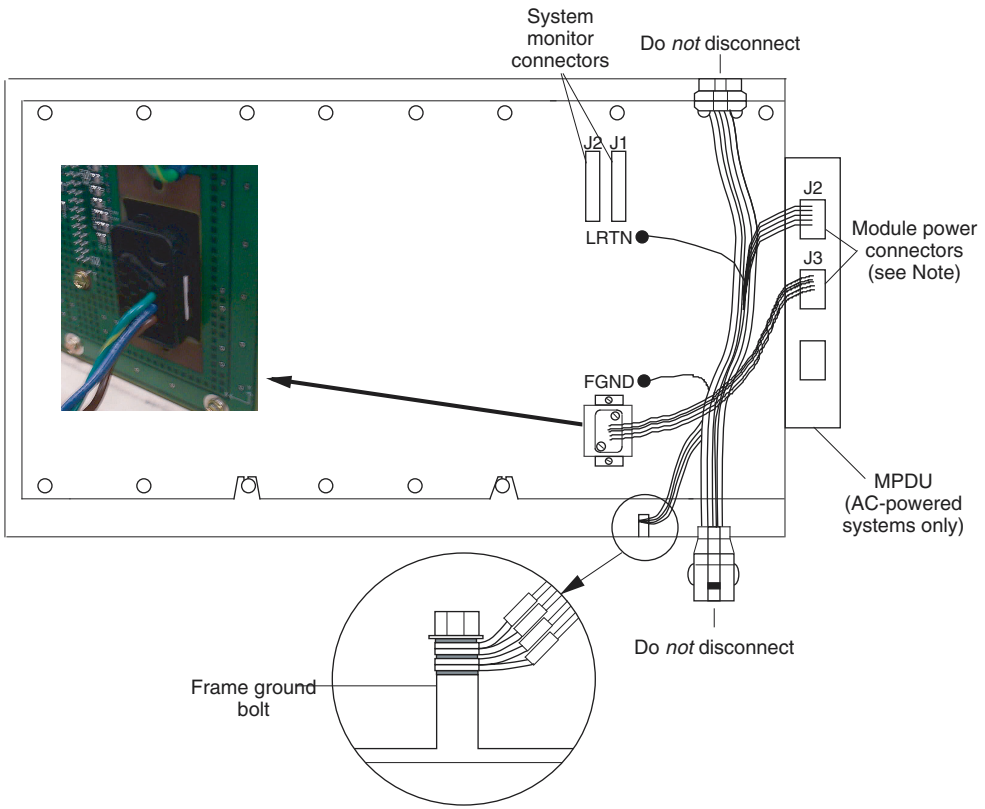
Figure 31
DC power connectors on the Core module backplane



Note: With AC-power, the module power connectors plug into J1 and J2 on the MPDU. (With DC-power, they connect to each other and hang loose.)

553-9582

Figure 32
AC power connectors on the Core module backplane



Note: AC-powered system shown. With DC-power, module power connectors connect to each other.

553-9583

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.

CAUTION

Service Interruption

If you do not tape the EMI shield in position, you will not be able to 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

Install the CP PII card cage in Core 1

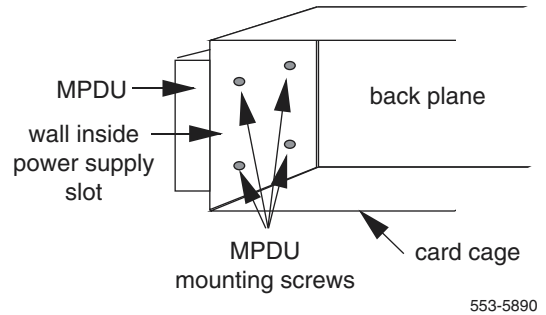
Procedure 72
Installing the CP PII card cage in Core 1

1 Check that the card cage is configured as Core 1. See Table 32 on page 196 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 33.

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

Figure 33
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 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA before you secure the card cage.

a. Route cable NT4N88AA from COM1 on the CP PII faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)

b. Route cable NT4N88BA from COM2 on the CP PII 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 PII 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 73
Installing the power supply

1 Remove any existing QPC470 from slots 0-3 of the Meridian 1 Option 81 Core 1 to the network slots 0-3 of the CP PII NT4N40 Core/Net 1 card cage.

2 Faceplate disable the power supply.

3 Insert power supply into Core/Net module power supply slot.

End of Procedure

Procedure 74
Relocating Network cards to CP PII Core 1

1 Remove any existing QPC470 from slots 0-3 of the Meridian 1 Option 81C Core 1 to the same network slots in slots 0-3 the CP PII NT4N40 Core/Net 1 card cage.

2 Connect the tagged cables to the relocated cards.

3 Reconnect primary and secondary clock reference cables to the Clock Controller faceplate.

End of Procedure

Install the Security Device

Procedure 75
Installing the Security Device

The Security Device fits into the System Utility card (see Figure 34 on page 214). 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

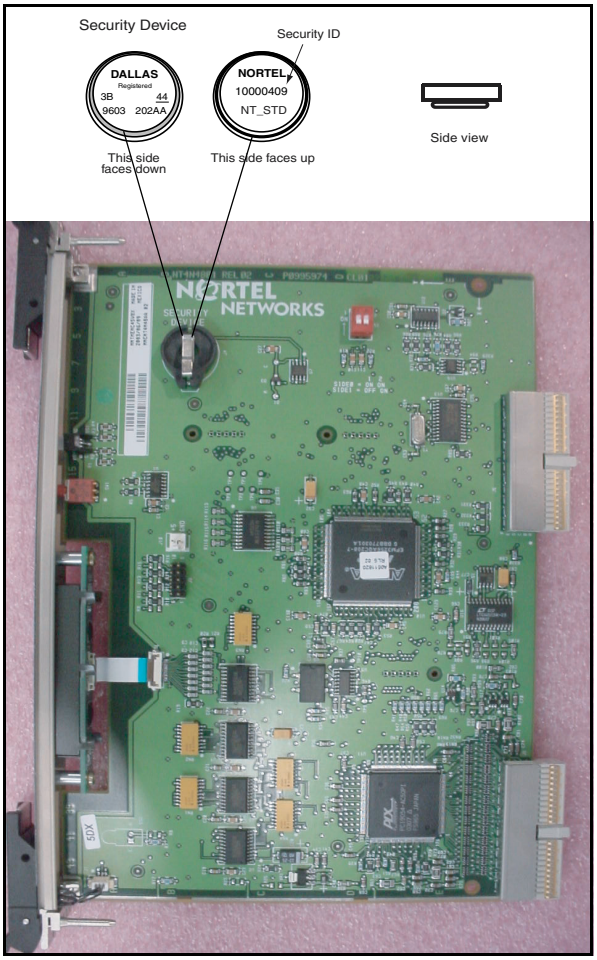
If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

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 34
Security Device



Cable Core 1

In Core 1, inspect factory installed cables

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.

> ***Note:*** There is no requirement to move group 0 into the core.

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.

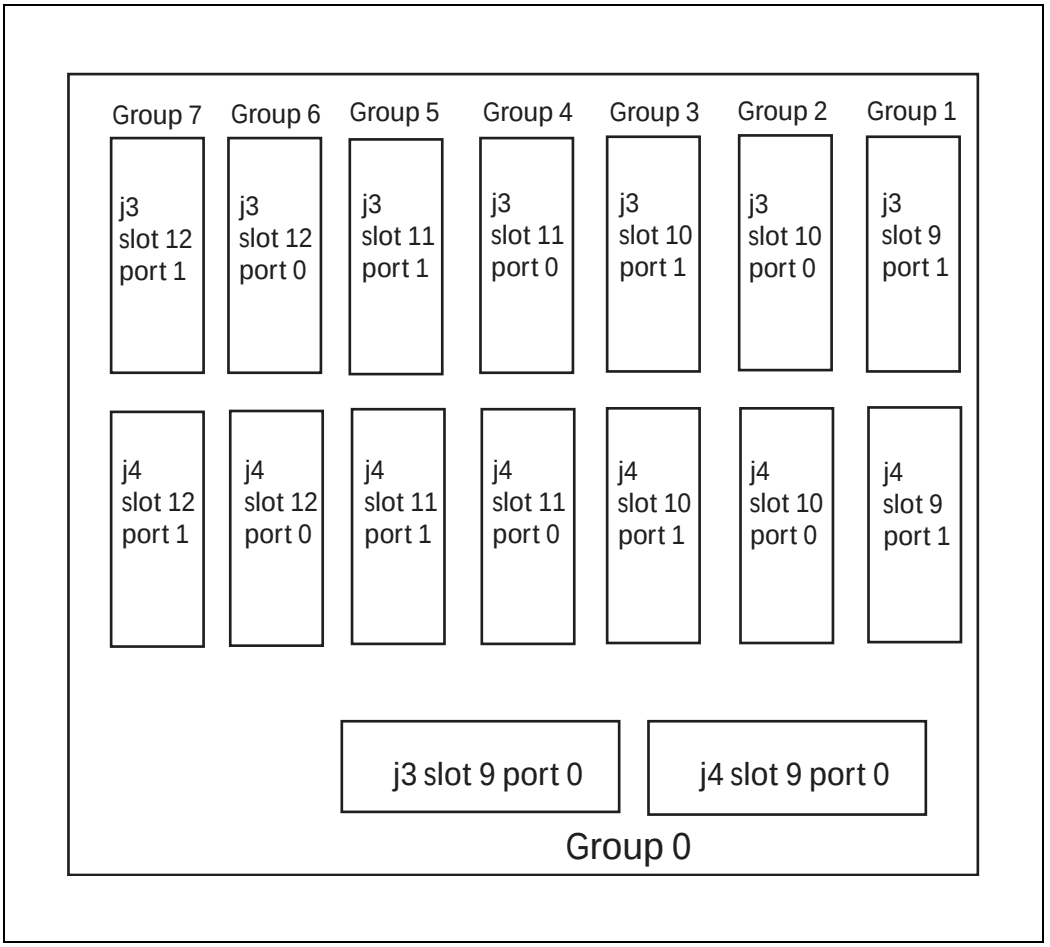
The NT4N40 shelf is factory installed with NT4N29 cables and is configured as group 0. If the network portion of the Core/Net shelf is used as a higher network group, use the extraction tool to disconnect the NT4N29 cables from the Core backplane. Once the cables are disconnected, connect them to the appropriate group. For correct connector replacement, see Figure 35 on page 216.

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.

Figure 35
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 stated in the following Important box. 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 36 on page 218 and Figure 36 on page 219.

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.

Table 36
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: The NT4N29 cables connect from the Fanout panel directly to the backplane of Core/Net 1.See Figure 35 on page 216.

Note 2: NTND14 cables connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 36 on page 219.

End of Procedure

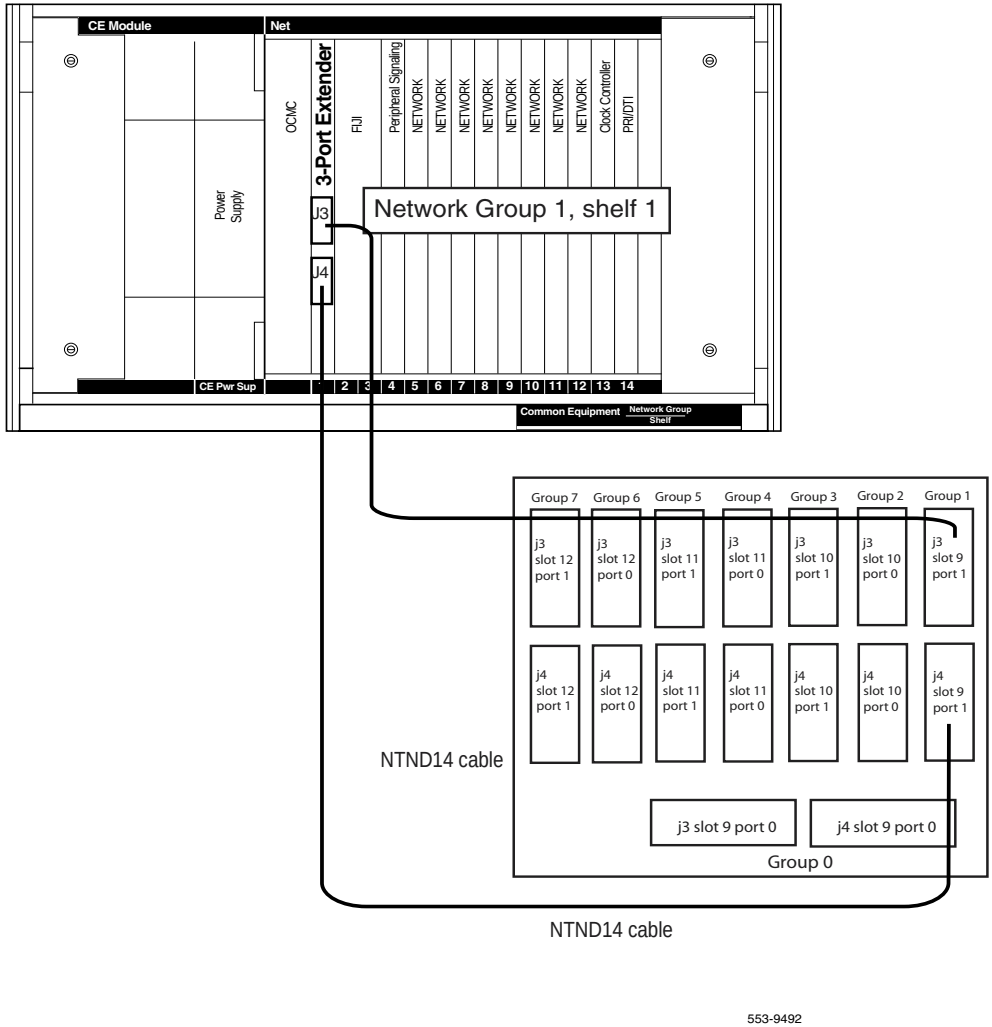
Power up Core 1

Procedure 76
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.

Figure 36
3PE Fanout Panel connections



2 Connect a terminal to the J25 port on the I/0 panel in the *inactive* Core.

3 Check the terminal settings as follows:

- 9600 Baud
- 7 data
- space parity 1
- 1 stop bit
- full duplex
- 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

Power up Core cards

Procedure 77
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 78
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 79
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. The screen displays:

```
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 competed!
```

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: 2.6 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.

            chkdsk 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 X210300 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 X210300_K.

    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/sl1/
direct.rec to /u/direct.rec

    >Updating /u/direct.rec

    >Processing the Install Control file

    >Installing release 0300K
```

10 Confirm all options before installing the software:

```
 INSTALLATION STATUS SUMMARY

-------------------------------------------

      =============+========+========+=============

  |     Option      |     Choice      | Status |   Comment          |

      =================+========+========+=========

 | SW: CD to disk  |       yes        |          | install for rel 0300K |

       =============+========+========+=============

  |     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: 2540 to release:
0300K.

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 2540 to release 0300K

11 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 (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages (Release 3) English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages (Release 3) English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install:

IMPORTANT!

Remove keycode diskette at this time and insert the customer backup database diskette.

13 Confirm database transfer:

You selected to transfer the database from the floppy disk - release: 2540 to the hard disk on Core X. release: 2540.

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: Jul 07 14:10:00 2003

      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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


    ------------------------------

    DO NOT REBOOT USING BUTTON!!


    ------------------------------


    Please enter:

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

    <m> - Return to the Main menu.

    Enter Choice> <CR>

    >Removing temporary files


    >Remove /u/diskxxxx.sys



    >Quit Install. Reboot system...
```

End of Procedure

Configuring IP addresses

Procedure 80
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	To load the program.
PRT HOST	To 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 235. If the system returns no host names, complete the steps below.

2 Contact your systems administrator to identify IP address and subnet mask information.

3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

LD 117	To load the program.
NEW HOST *NAME 1 IP ADDRESS*	To 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*	To assign the "name 1" address to the *active* Core.
NEW HOST 'NAME 2' 'IP ADDRESS'	To 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*	To assign the “name 2” address to the *inactive* Core.
CHG MASK *XXX.XXX.XXX.XXX*	To 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 the 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 300. 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.
ISSP	Print System and Patch Information.

SLT	Print System Limits.
TID	Print the Tape ID.
****	Exit program.

For systems with fewer than eight groups, delete CNIs

Procedure 81
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:

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

2 Use LD 17 to remove the extra cCNI cards.

LD 17	Load the 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 the program.

3 Use LD 135 to re-enable cCNI cards:

LD 135	Load the program.
STAT CNI	Get the 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 the program.

End of Procedure

Reconfigure 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 the program.
CHG	CFN
TYPE	ADAN CHG AAA X G
carriage return to end of program	
********	Exit the program.

2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 4500 and 1000 respectively). Refer to *Large System: Planning and Engineering* (553-3021-120). If changes are required, reconfigure the values in LD 17:

LD 17	Load the program.
CHG	CFN
TYPE	PARM
carriage return to end of program	
********	To exit the program.

3 Perform a data dump to save the customer database to the hard drive and floppy drive:

a. Insert a blank floppy disk to Core/Net 1 MMDU floppy drive and labeled as Customer Database disk (to be required when installing

database in Core/Net 0). Load the Equipment Data Dump Program (LD 43). At the prompt, enter

LD 43 Load the program.

b. 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.

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

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

CAUTION

Service Interruption

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

CAUTION

Service Interruption

The INI may take up to 15 minutes to complete.

IMPORTANT!

Power down all applications (Meridian Mail, Call Pilot, Symposium).

End of Procedure

Procedure 82
Rebooting Core 1

Core 0 is now the active call processor. Call processing is now transferred from core 0 to core 1. Disable CNI cards in core 0 and perform a sysload in Core/Net 1.

1 Faceplate disable all CNI cards in Core/Net 0.

Note: The system will automatically perform a sysload: several messages appear on the system terminal.

2 If equipped, in Core/Net 0 faceplate disable the IODU/C card and unseat it.

3 Faceplate disable and unseat Clock Controller 0.

4 Disconnect NT8D74 cable from SCG 0 of the InterGroup module from Clock Controller 0.

5 Connect the NT8D74 cable to SCG 1 of the InterGroup module from Clock Controller 1 (see Figure 37 on page 242).

6 Seat Clock Controller 1 in its new location and faceplate enable it.

Note 1: Verify that the QPC441F jumper setting at RN27 is set to A on the network shelf where Clock Controller 1 is located.

Note 2: Check that the NT8D74 cable is securely fastened at the Clock Controller faceplate.

7 Press the RESET button on the CP PII card faceplate to reboot the system.

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

CAUTION

Service Interruption

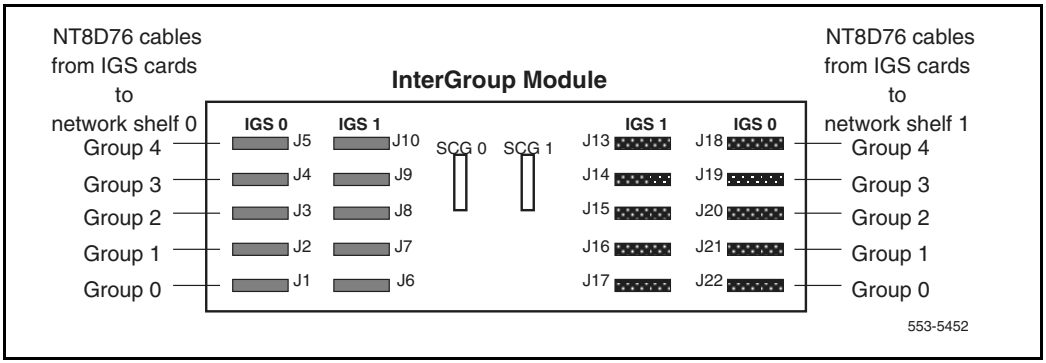
Allow the system to recover from all downloads after the INI completes.

Call Processing is now active on Call Processor 1. Core 1 is active in split mode. Clock Controller 0 is disabled and Clock Controller 1 is active.

IMPORTANT!

Power up all applications (Meridian Mail, Call Pilot, Symposium).

Figure 37
InterGroup module cables



End of Procedure

Move Clock Controller 0

Procedure 83
Moving Clock Controller 0

1. Tag and disconnect cables on Clock Controller 0
2. Remove Clock Controller 0 from the Core module.
3. Set the Clock Controller 0 switch settings according to Table 37 on page 243.
4. Move Clock Controller 0 to any Network Shelf 0, slot 13.
   Seat Clock Controller 0.

   Note 1: The Clock Controllers (0 and 1) must be located in different Network groups in different columns.

   Note 2: Verify that the QPC441F jumper setting at RN27 is set to A on the network shelf where Clock Controller 0 is located.
5. Connect the junctor cable NT8D74 to the Clock Controller 0 faceplate card. (see Figure 37 on page 242).
6. Reconnect primary and secondary clock reference cables to the clock controller faceplate

7 Connect the Clock Controller 0 NT8D74 junctor cable to the SCG0/J11 connector to the Intergroup module Junctor board.

8 Seat Clock Controller 0.

9 Faceplate enable Clock Controller 0.

End of Procedure

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.)		
Note: Switch 7 and 8 are not used.						

Table 38
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PII must use the Meridian 1 Option 61C CP PII switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				**SW2**				**SW4**			
1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Software enable Clock Controller 0

Procedure 84
Software enabling Clock Controller 0

LD 60	Load the program.
ENL CC 0	Enable Clock Controller 0.
SSCK 0	Check the status of Clock Controller 0
****	Exit program.

End of Procedure

Test Core/Net 1

Procedure 85
Test Core/Net 1

1 Stat network cards:

LD 32	Load the program.
STAT x	Stat the network card, where x = loop number.
****	Exit program.

2 Test the clocks and DTI loops:

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

LD 60	To load the 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.

b. Verify that the clock controllers are switching correctly:.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

c. Verify that the DTI loops are enabled

STAT	Stat all DTI loops.
ENLL X	Enable loops where X = disabled DTI loops.
****	Exit program.

3 Test the IGS

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

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 39 below).
****	Exit program.

Table 39
Shelf 0 and 1 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
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
Note: The DIGS card should be located in slot 9 of the network shelf.		

4 Check dial tone.

5 Make internal, external and network calls.

6 Check attendant console activity.

7 Check DID trunks.

8 Check applications (Call Pilot, Symposium, Meridian Mail, etc.).

9 Label a blank floppy disk as customer database disk and insert into Core/Net 1.

10 Perform data dump in LD 43:

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

LD 43	Load the program.

b. 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.

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

****	Exit the program.

Service is now fully restored with Core/Net 1 as active call processor.

End of Procedure

Disable and remove equipment from Core/Net 0

Procedure 86
Faceplate disabling cards in core and network slots 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

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).

Remove Core 0 cables and card cage

Procedure 87
Remove 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 38 on page 250 for DC power connectors. See Figure 39 on page 251 for AC power connectors.

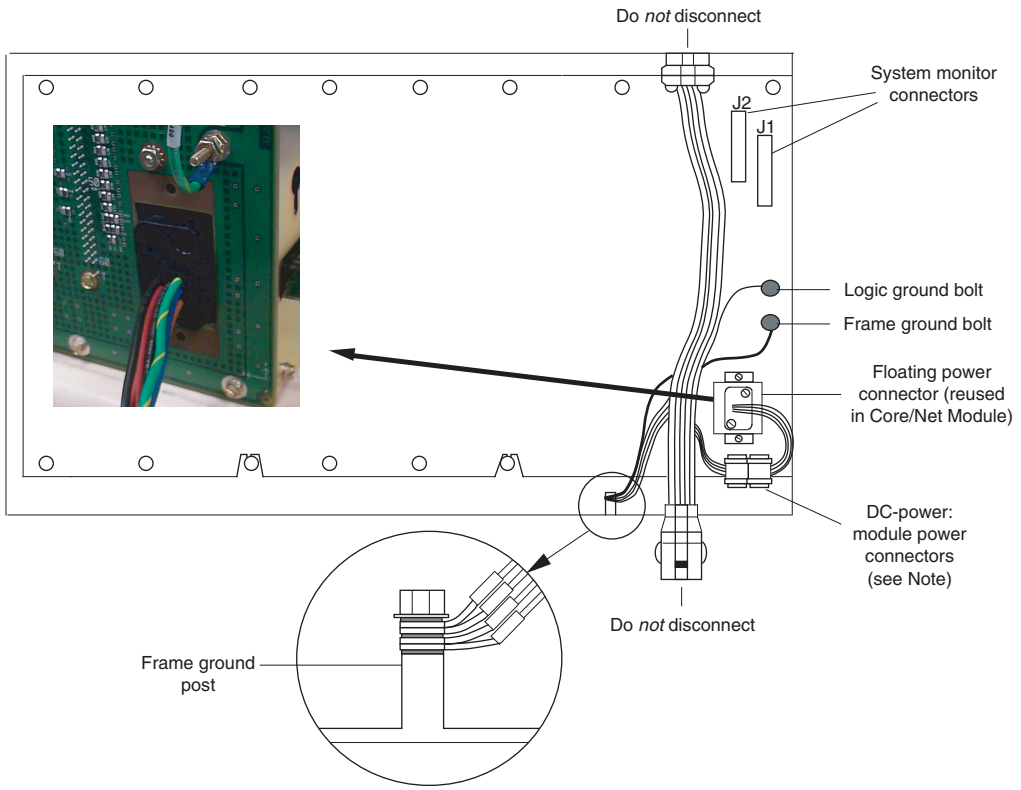
13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

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.

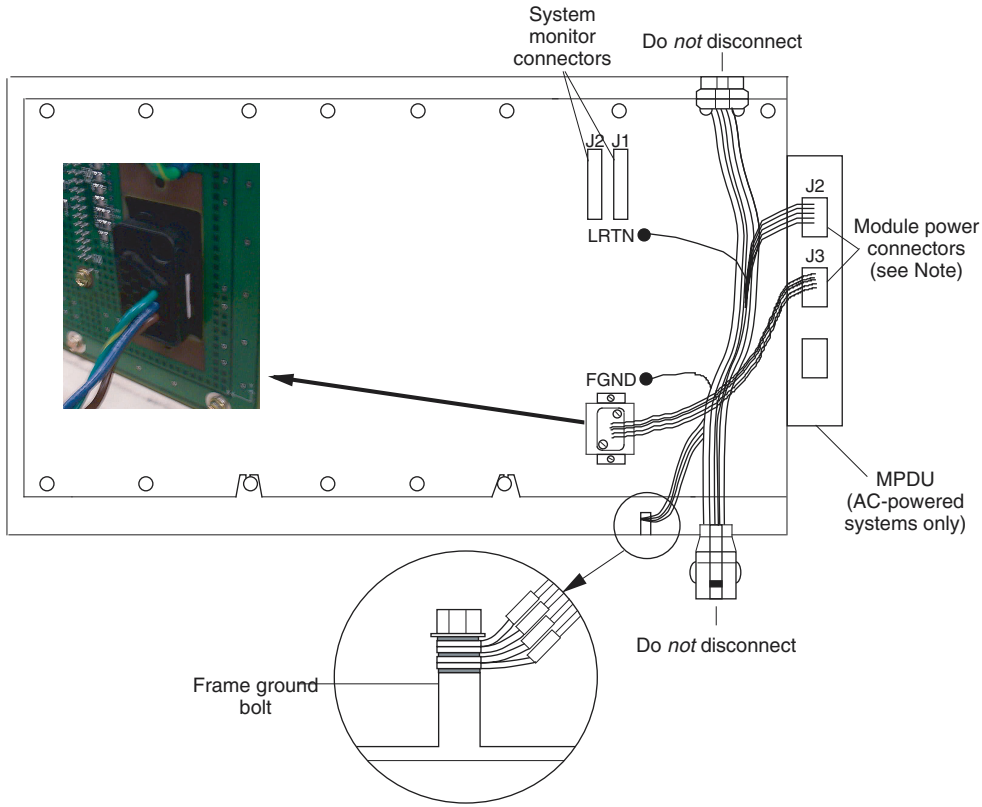
Figure 38
DC power connectors on the Core module backplane



Note: With AC-power, the module power connectors plug into J1 and J2 on the MPDU. (With DC-power, they connect to each other and hang loose.)

553-9582

Figure 39
AC power connectors on the Core module backplane



Note: AC-powered system shown. With DC-power, module power connectors connect to each other.

553-9583

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.

CAUTION

Service Interruption

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 88
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 40 on page 254.

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 NT4N48AA 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 40.

Table 40
Core module ID switch settings (System Utility card)

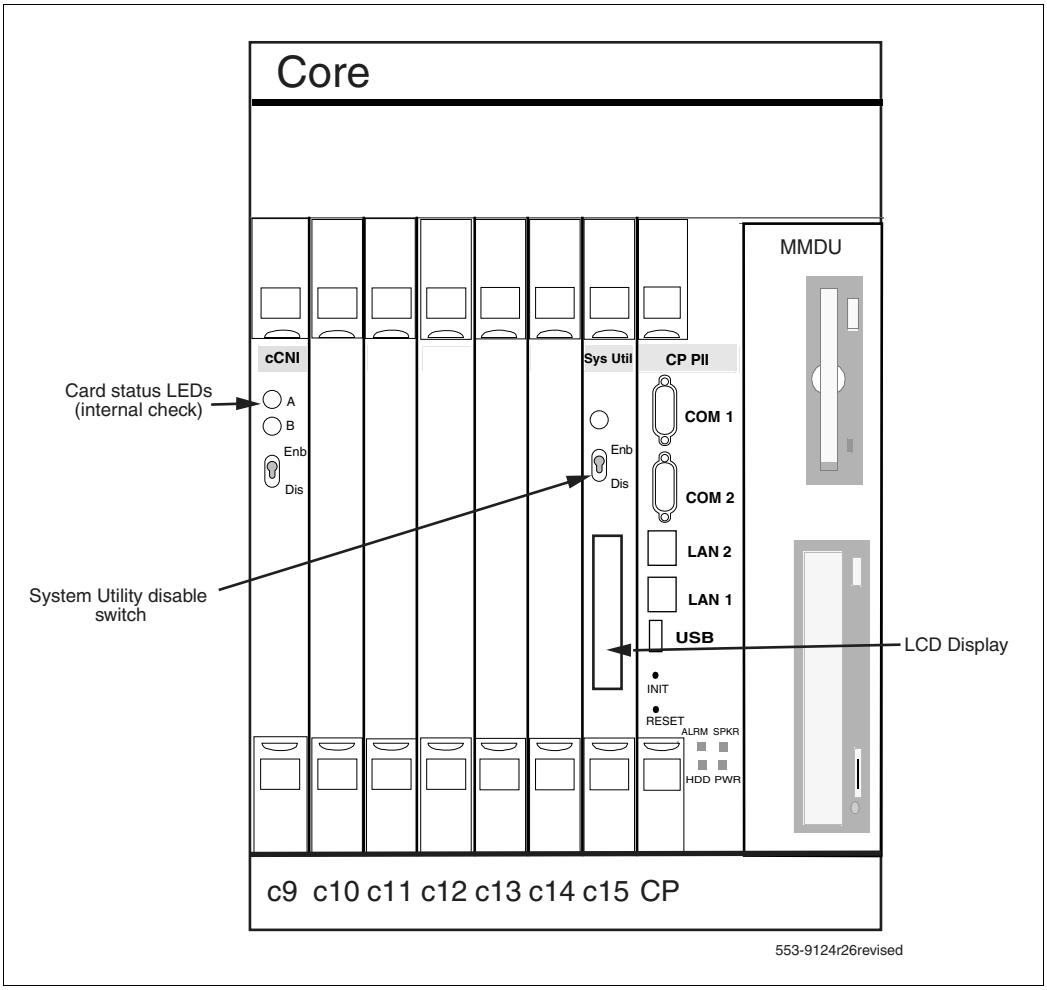
	Position 1	**Position 2**
Core/Net 0	On	On
Core/Net 1	Off	On

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 40
Core card placement in the NT4N41 Core/Net Module (front)



Check factory-installed cables

Table 41 lists factory-installed cables. See Figure 29 on page 199.

Table 41
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 89
Installing the Security Device

The Security Device fits into the System Utility card (see Figure 42 on page 257).

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.

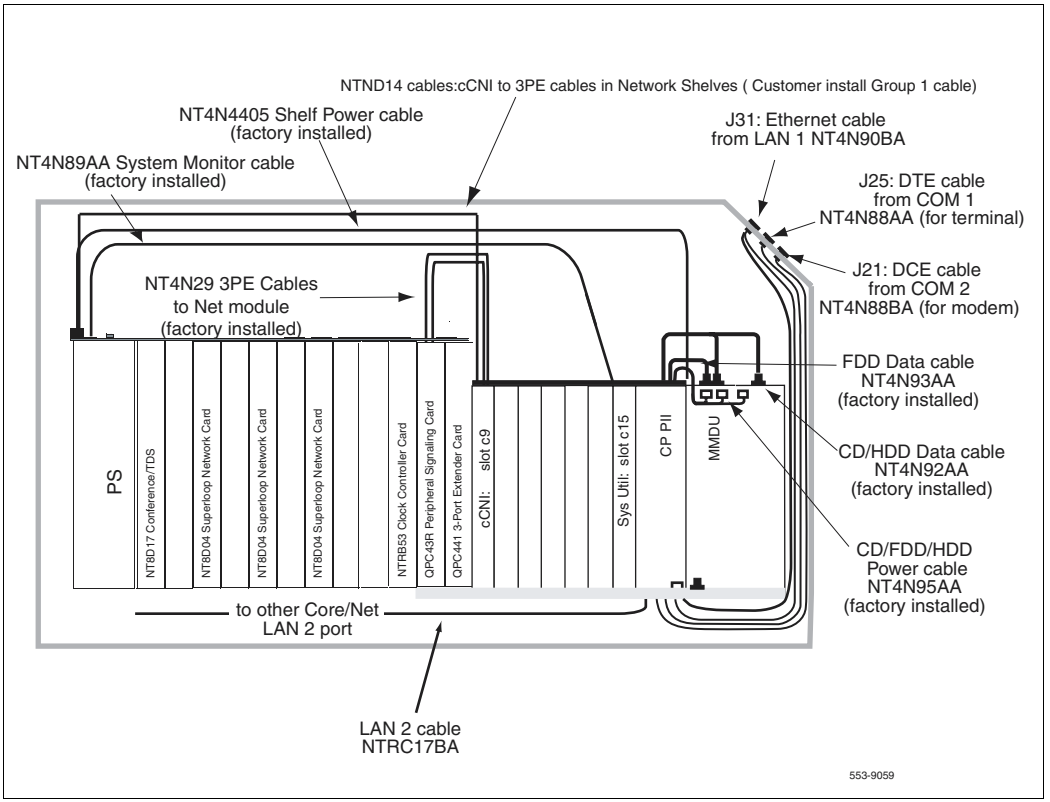
b. Remove the round 1/2” diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

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.

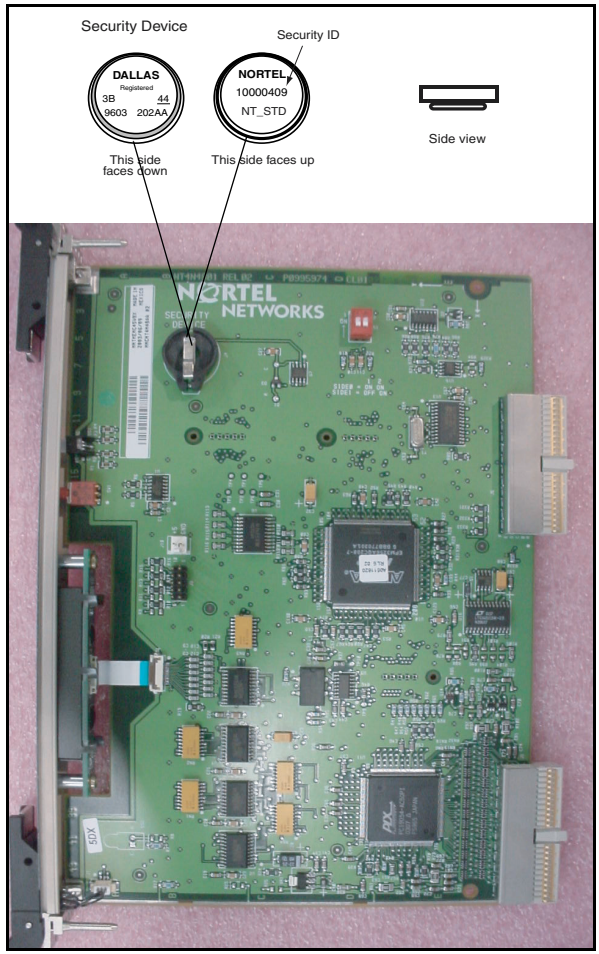
Figure 41
Core/Net cable connections



2 Check that the Security Device is securely in place.

End of Procedure

Figure 42
Security Device



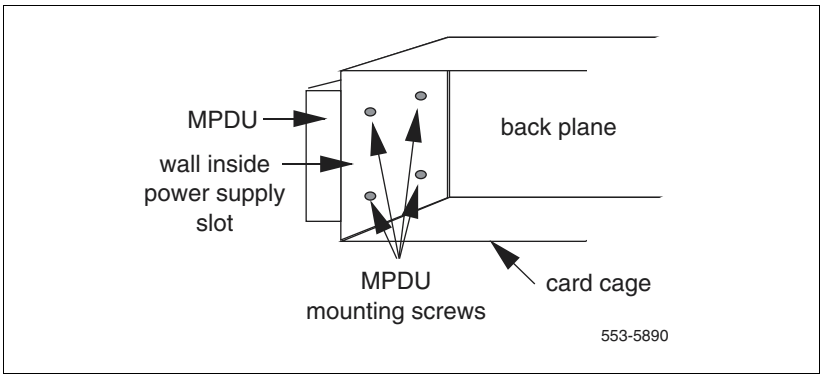
Install the CP PII card cage in Core 0

Procedure 90
Installing the CP PII card cage in Core 0

1. Check that the card cage is configured as Core 0. See Table 40 on page 253 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 43 on page 258.

   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 43
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. (a 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 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA before you secure the card cage.

a. Route cable NT4N88AA from COM1 on the CP PII faceplate to J25 on the I/O panel. NT4N88AA is used to connect a terminal.

b. Route cable NT4N88BA from COM2 on the CP PII 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 PII faceplate to J31 (top) of the I/O panel.

10 DO NOT connect the NTRC17BA cross over ethernet cable from LAN 2 on Core/Net 0 faceplate to LAN 2 on Core/Net 1 faceplate.

End of Procedure

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

Procedure 91
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 92
Relocating Network cards to CP PII Core/Net 0

1 Remove any existing QPC470 from slots 0-3 of the Meridian 1 Option 81 Core/Net 1 to the network slots 0-3 of the CP PII NT4N40 Core/Net 1 card cage.

2 Reinstall each removed card in the same network slot in the CP PII Core/Net 0.

3 Connect the tagged cables to the relocated cards.

End of Procedure

Cable Core 0

Procedure 93
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 94
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).

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 44 on page 262.

Procedure 95
If the system will be connected to a LAN

1 Connect the “Dual Ethernet Adapter (RJ45) 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.

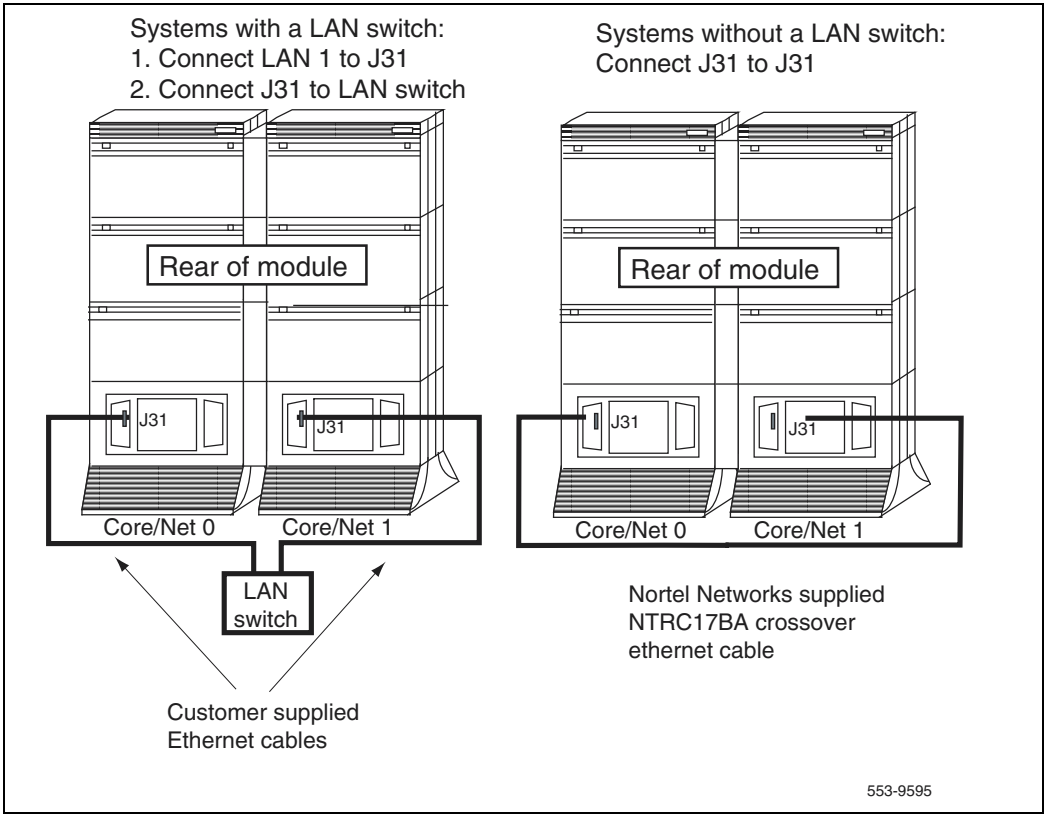
2 Connect LAN 1 (Ethernet) on the CP PII faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).

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.

End of Procedure

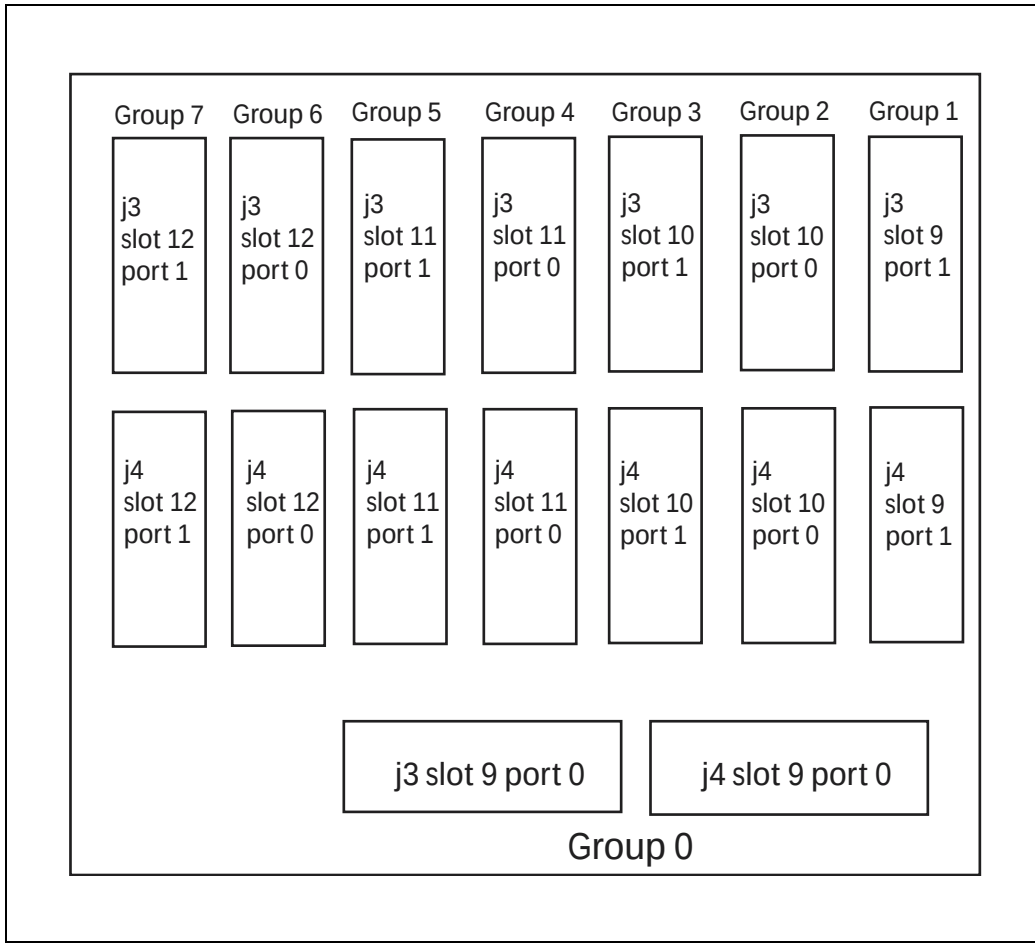
Figure 44
Options for LAN 1 connection



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) for proper installation.

Figure 45
Fanout panel connectors



In Core 0, 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 264. 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 42 on page 265 and Figure 46 on page 267.

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 45 on page 263.

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 42
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: The NT4N29 cables connect from the Fanout panel directly to the backplane of Core/Net 1.See Figure 45 on page 263.

Note 2: NTND14 cables connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 46 on page 267.

End of Procedure

Restore power to Core/Net 0

Procedure 96
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/0 panel in the *inactive* Core.

3. Check the terminal settings as follows:

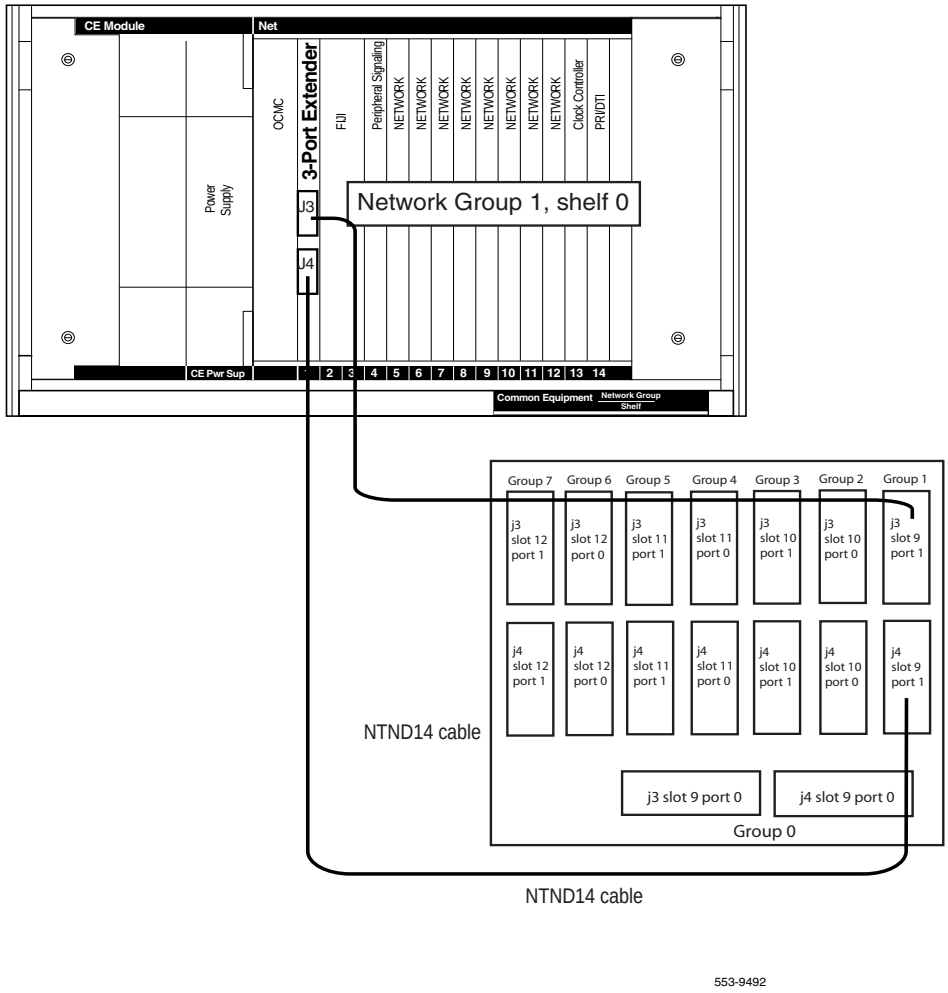
   - 9600 Baud
   - 7 data
   - space parity 1
   - 1 stop bit
   - full duplex
   - XOFF

   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

Figure 46
3PE Fanout Panel connections



Power up Core cards

Procedure 97
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: faceplate enable the power supply and set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).

Core/Net 1 is now active. Clock Controller 1 is now active, Clock Controller 0 is now enabled.

End of Procedure

Test Core/Net 1

Procedure 98
Test Core/Net 1

1 Stat network cards:

LD 32	Load the program.
STAT x	Stat the network card, where x = loop number.
****	Exit program.

2 Test the clocks and DTI loops:

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

LD 60	To load the 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.

b. Verify that the clock controllers are switching correctly:.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

c. Verify that the DTI loops are enabled

STAT	Stat all DTI loops.
ENLL X	Enable loops where X = disabled DTI loops.
****	Exit program.

3 Test the IGS

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

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 43 below).
********	Exit program.

Table 43
Shelf 0 and 1 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
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
Note: The DIGS card should be located in slot 9 of the network shelf.		

4 Check dial tone.

5 Make internal, external and network calls.

6 Check attendant console activity.

7 Check DID trunks.

8 Check applications (Call Pilot, Symposium, Meridian Mail, etc.).

9 Label a blank floppy disk as customer database disk and insert into Core/Net 1.

10 Perform data dump in LD 43:

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

LD 43	Load the program.

b. 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.

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

****	Exit the program.

Service is now fully restored with Core/Net 1 as active call processor.

End of Procedure

Install software and customer database on Core 0

Procedure 99
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. The screen displays:

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 competed!

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: 2.6 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.

            chkdsk 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 X210300 software

 (all subissues) for machine type XXXX

 (XXX processor on XXXX System)
```

IMPORTANT!

Remove install floppy disk at this time and insert 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 X210300_K.

    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/sl1/
direct.rec to /u/direct.rec

    >Updating /u/direct.rec

    >Processing the Install Control file

    >Installing release 0300K
```

10 Confirm all options before installing the software:

```
                    INSTALLATION STATUS SUMMARY
                    -------------------------------------------
      ==============+=========+=========+==============
 |     Option      |   Choice    | Status |   Comment        |
      ==================+=========+=========+==========
 | SW: CD to disk  |      yes      |         | install for rel 0300K |
      ==============+=========+=========+==============
 |     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: 2540 to release:
0300K.
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 2540 to release 0300K

11 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 (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages (Release 3) English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages (Release 3) English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

IMPORTANT!

Remove keycode floppy disk at this time and insert backup customer database diskette from Step 10 of Procedure 98 on page 269.

12 Continue with upgrade when prompted. Select a database to install:

Software release 0300K was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

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

You will now perform the database installation.

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

Please enter:

<CR> -> <a> - Install CUSTOMER Database

(the customer database diskette must be in the Core X disk drive).

<b> - Install DEFAULT Database

(the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> **<CR>**

13 Confirm database transfer:

You selected to transfer the database from the floppy disk - release: 2540 to the hard disk on Core X. release: 2540.

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: Jul 07 14:10:00 2003

      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
```

Note: 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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


    ------------------------------

    DO NOT REBOOT USING BUTTON!!


    ------------------------------


    Please enter:

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

    <m> - Return to the Main menu.

    Enter Choice> <CR>

    >Removing temporary files


    >Remove /u/diskxxxx.sys



    >Quit Install. Reboot system...
```

Note: Before completing the next procedure, wait for Core/Net 0 to INI.

End of Procedure

Make the system redundant

Procedure 100
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.

End of Procedure

Complete the CP PII upgrade

Procedure 101
Testing Core/Net 1

From Core/Net 1, perform these tests:

1 Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

c. Check that the LCD display matches the software check.

3 Test the System Utility card and the cCNI cards:

LD 135	Load the 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).

4 Test system redundancy:

LD 137	Load the program.
TEST RDUN	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 the program.
ENL TTY x	Enable the XMS, where x= system XMS.
STAT XSM	Check the system monitors
********	Exit the program.

6 Clear the display and minor alarms on both Cores:

LD 135	Load the program.
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 the program.
SSCK *x*	To 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 the Clock.
SWCK	Switch the Clock again.

8 Test the IGS

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

LD 39	Load the program.
STAT IGS X	Check the status of IGS (X = IGS/DIGS card number. See Table 44 below).
********	Exit program.

Table 44
Shelf 0 and 1 IGS/DIGS card locations (Part 1 of 2)

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
Network Group 0	Shelf 1	IGS/DIGS 1 & 3
Network Group 1	Shelf 1	IGS/DIGS 5& 7

Table 44
Shelf 0 and 1 IGS/DIGS card locations (Part 2 of 2)

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
Note: The DIGS card should be located in slot 9 of the network shelf.		

9 Check dial tone.

10 Make internal, external and network calls.

11 Check attendant console activity.

12 Check DID trunks.

13 Check applications (Call Pilot, Symposium, Meridian Mail, etc.).

End of Procedure

Switch call processing

Procedure 102
Switching call processing

LD 135	Load the 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 103
Testing Core/Net 0

From Core/Net 0, perform these tests:

1 Perform a redundancy sanity test:

LD 135	Load the 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 LEDs and LCDs:

LD 135	Load the program.
TEST LEDs	Test LEDs.
TEST LCDs	Test LCDs.
DSPL ALL	Display all.

c. Check that the LCD displays match the software check.

3 Test the System Utility card and the cCNI cards:

LD 135	Load the 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).

4 Test system redundancy:

LD 137	Load the program.
TEST RDUN	Test redundancy.

DATA RDUN

TEST CMDU Test the MMDU card.

5 Test that the system monitors are working:

LD 37 Load the program.

STAT XSM Check the system monitors.

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

b. Verify that the Clock Controllers are switching correctly:.

SWCK Switch the Clock.

SWCK Switch the Clock again.

8 Test the IGS

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

LD 39	Load the program.
STAT IGS X	Check the status of IGS. (X = IGS/DIGS card number. See Table 45.)
****	Exit program.

Table 45
Shelf 0 and 1 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
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
Note: The DIGS card should be located in slot 9 of the network shelf.		

9 Check dial tone.

10 Make internal, external and network calls.

11 Check attendant console activity.

12 Check DID trunks.

13 Check applications (Call Pilot, Symposium, Meridian Mail, etc.).

End of Procedure

Meridian 1 Option 81/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.

The target platform, Meridian 1 Option 81/FNF system, 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.
- delta 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 delta 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 Table 46 below:

Table 46
Prepare for upgrade steps (Part 1 of 2)

Procedure Step	Page
Plan upgrade	295
Upgrade Checklists	296
Prepare	296
Identifying the proper procedure	296
Connect a terminal	297
Check the Core ID switches	298
Print site data	300
Perform a template audit	303
Back up the database (data dump and ABKO)	304

Table 46
Prepare for upgrade steps (Part 2 of 2)

Procedure Step	Page
Identify two unique IP addresses	307
Check requirements for cCNI to 3PE cables (NTND14)	307

Plan upgrade

Planning for an upgrade involves the following tasks:

- 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 (Call Pilot, 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 Networks.
- 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 the “Upgrade checklists” chapter on 707 of Book 3. Engineers may print this section in order to facilitate 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 Table 4 on page 28 of Book 1).
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Record 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 104
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/0 panel in the *inactive* Core or Core/Net module.
2. The settings for the terminal are:
   - **a.** 9600 Baud
   - **b.** 7 data
   - **c.** space parity
   - **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 105
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

System Failure

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 18.
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 47
Core module ID switch settings (System Utility card)

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

Figure 47
Core card placement in the NT4N40 Core/Net card cage (front)

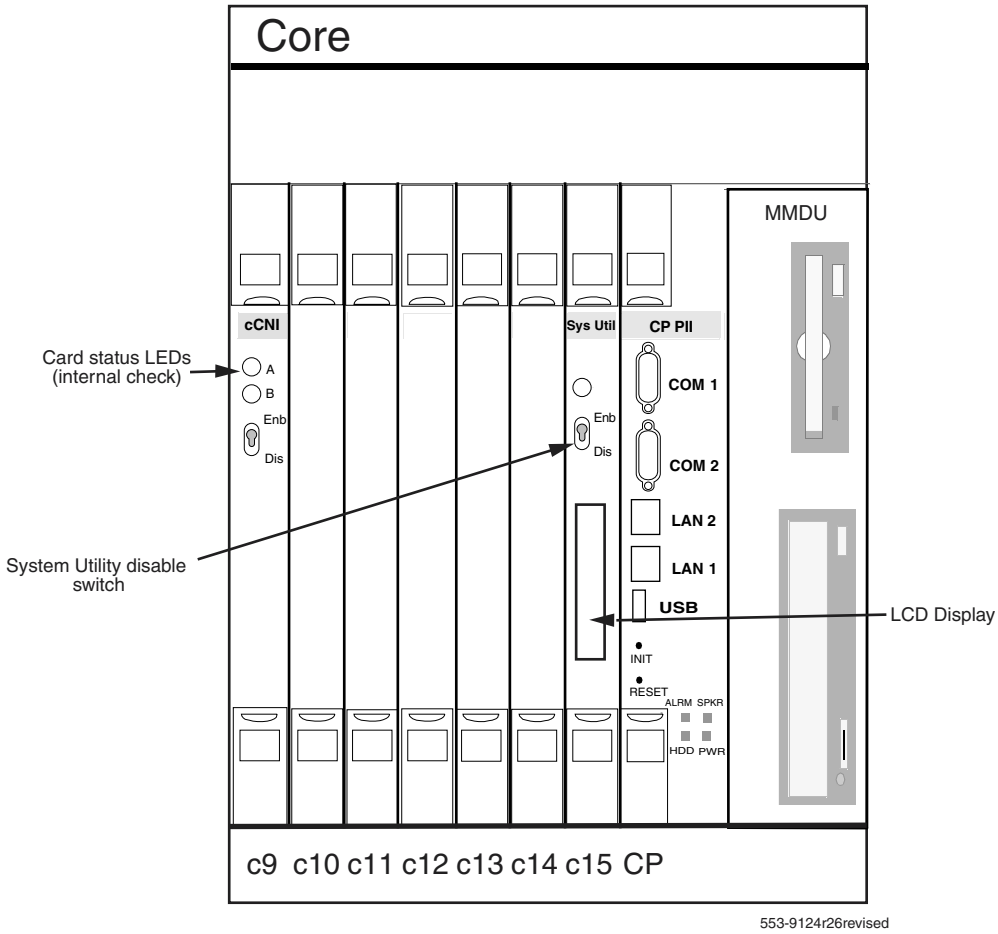
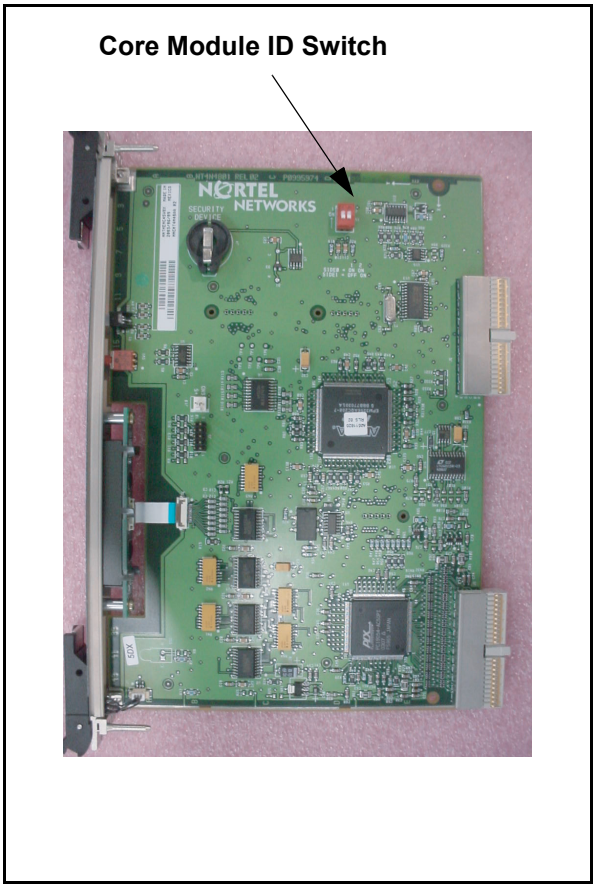


Figure 48
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (Table 48 on page 301). 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 48
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 48
Print site data (Part 2 of 3)

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

Table 48
Print site data (Part 3 of 3)

Site data	Print command	
DTI/PRI data block for all customers	LD 73	
	REQ	PRT
	TYPE	DDB
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicated 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 HIGH **CHECKSUM OK**

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK **CHECKSUM OK**

•

•

TEMPLATE 0120 USER COUNT OK **CHECKSUM OK**

TEMPLATE AUDIT COMPLETE

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 106
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 the 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.

The messages “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” will appear once the data dump is complete.

****	Exit the program.

Procedure 107
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 the 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 the program.

End of Procedure

Procedure 108
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 Networks Software Conversion Lab. Consult the current Nortel Networks 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. See “Database transfer” on page 179 of Book 3.

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 Networks 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.

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 systems administrator to identify two unique IP addresses before the upgrade.
- For instructions to configure these IP numbers, see "Configuring IP addresses" on page 667 of Book 2.

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 delta 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.

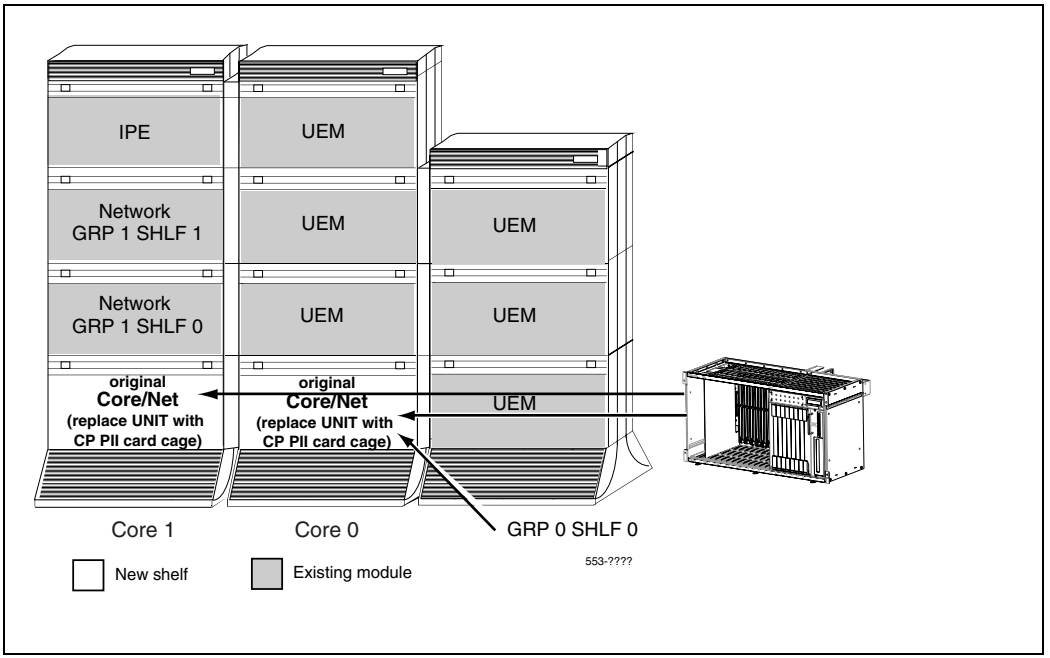
Meridian Mail Cables

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: Call Pilot's architecture does not have this limitation.

Figure 49 below shows an upgrade from a Meridian 1 Option 81C/IGS to a Meridian 1 Option 81C with CP PII and Fiber Network Fabric.

Figure 49
Meridian 1 Option 81/IGS to Meridian 1 Option 81C CP PII with FNF



This upgrade takes a Meridian 1 Option 81/IGS to a Meridian 1 Option 81C CP PII with FNF. Additional groups can be added by following the procedure "Adding a Network Group" on page 303 of Book 3.

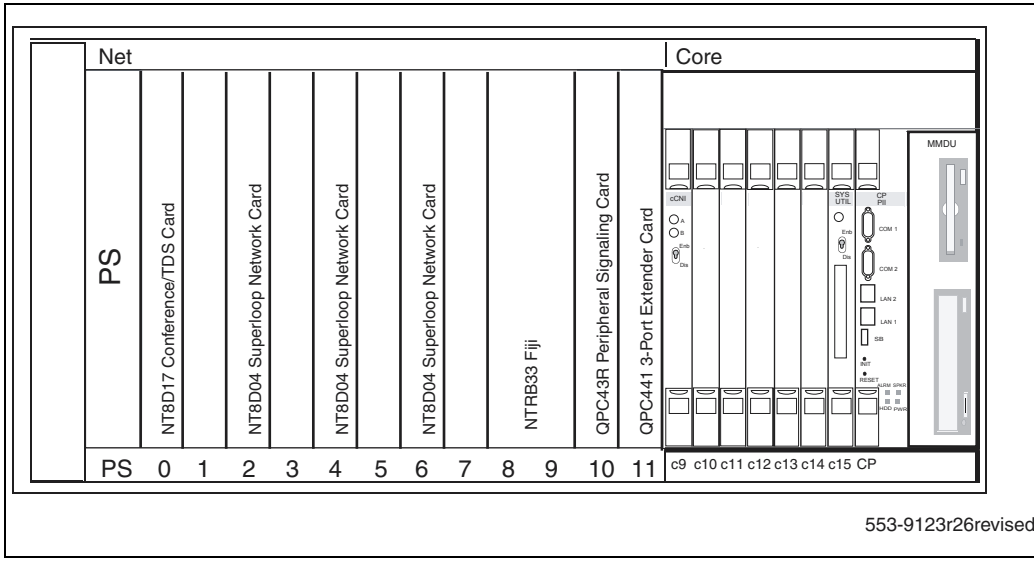
To upgrade a Meridian 1 Option 81/IGS system to a Meridian 1 Option 81C CP PII with IGS:

- 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.
- 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 PII Core/Net 0 module.

Figure 50
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:

- Succession 3.0 Software
- CORENET Core Network Module Package 299
- FIBN Fiber Network Package 365
- 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 (1.54MB).

- 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 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 49 below describes the *minimum* equipment required to upgrade a system to CP PII. Additional equipment for increased Network capacity is ordered separately.

Table 49
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
NT4N48AA	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

Table 49
Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 2 of 3)

Order number	Description	Quantity per system
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 49
Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 3 of 3)

Order number	Description	Quantity per system
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 (RJ45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP PII Card Slot Filler Panel	Determined by system configuration
Note: *Customer supplied from existing system.		

Check required power equipment

Table 50 lists the equipment required for dc-powered systems. Table 51 on page 316 lists the equipment required for AC-powered systems.

Table 50
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 51
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 3 on page 26 of Book 1.

Check personnel requirements

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

Database requirements

If the system is running pre-release 19 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 Networks for conversion.

If the source platform is a Meridian 1 Option 81 equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility. See “Database transfer” on page 179 of Book 3.

If the source platform is a Meridian 1 Option 81 equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

IMPORTANT!

Database conversion for Meridian 1 Options 21E, 51, 61,71, STE, NT and XT must be completed by Nortel Networks Software Conversion Lab. Consult the current Nortel Networks 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. See “Database transfer” on page 179 of Book 3.

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 Networks in the software conversion lab.

Install Core/Net 1 hardware

Procedure 109
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 51 on page 319:

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 NT4N48AA 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 52 below.

Table 52
Core module ID switch settings (System Utility card)

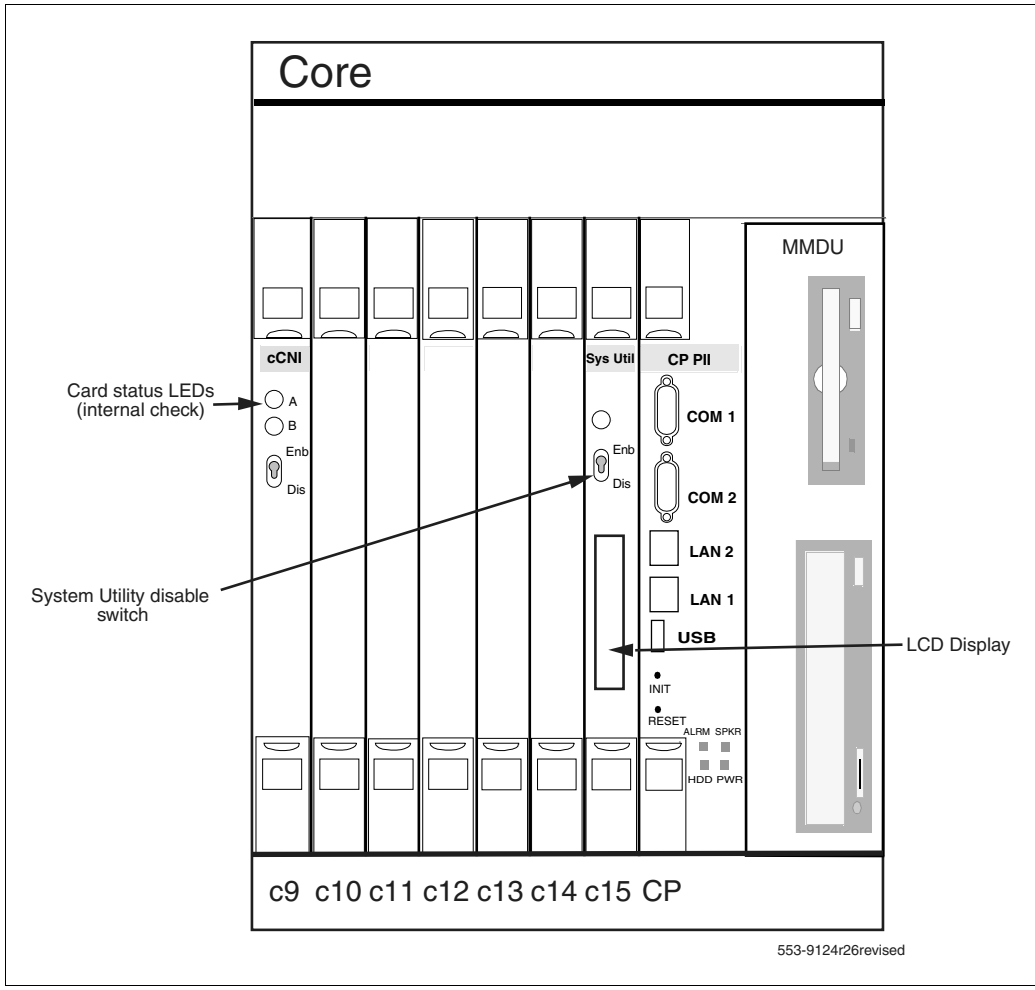
	Position 1	**Position 2**
Core/Net 0	On	On
Core/Net 1	Off	On

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 51
Core card placement in the NT4N41 Core/Net Module (front)



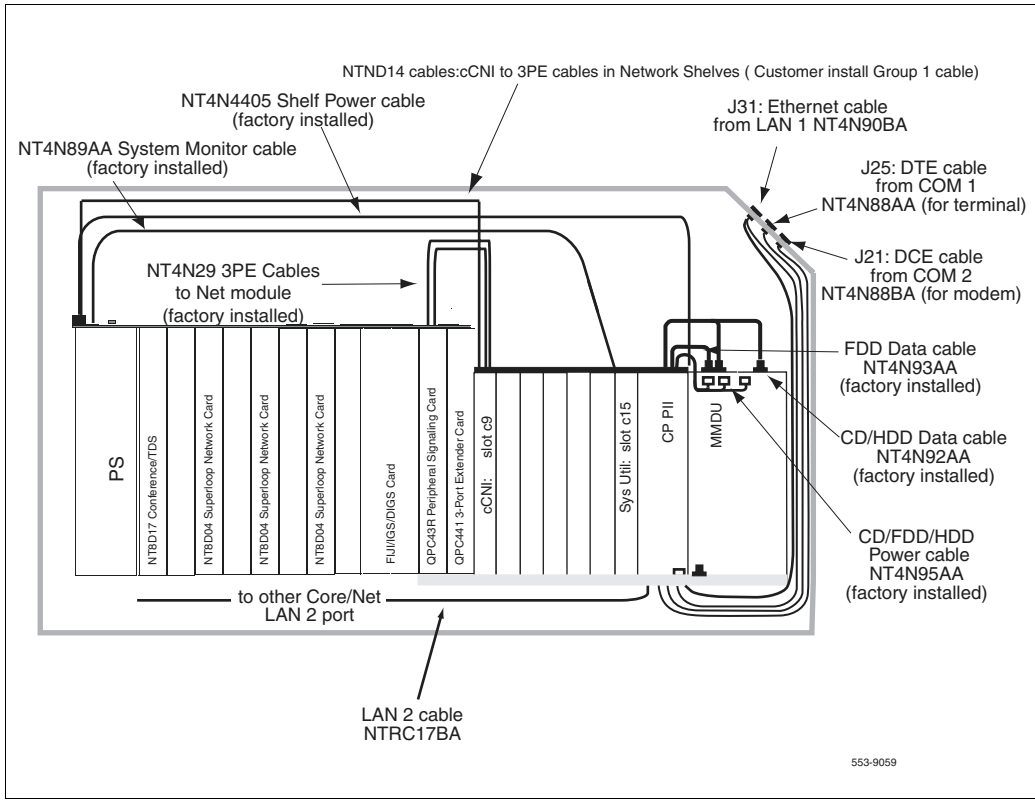
Check factory-installed cables

Table 53 below lists factory-installed cables. See Figure 29 on page 199.

Table 53
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 52
Core/Net cable connections



Disable Core 1

Procedure 110
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 the 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 the program.

End of Procedure

Procedure 111
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.

End of Procedure

Disable IGS

Procedure 112
Disabling IGS

1 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.

Note: To determine the number of the IGS/DIGS card, refer to Table 54 below.

Table 54
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
Note: The DIGS card should be located in slot 9 of the network shelf.		

End of Procedure

Procedure 113
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 active.

End of Procedure

Procedure 114
Moving Clock Controller 1

CAUTION

Clock controller cards must be NTRB53 Clock Controller cards.

CAUTION

Service Interruption

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 55 on page 326.

If the system has an NTRB53 Clock Controller, it must be moved from Core/Net 1 slot 9 to network shelf 1, any group, slot 13.

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 Clock Controller 1 from the Core module.

5 Set the Clock Controller 1 switch settings according to and Table 55 on page 326.

6 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.

7 Re-connect all reference cables.

Note: The Clock Controllers 0 and 1 must be located in different Network groups in different columns.

End of Procedure

Table 55
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.)		
Note: Switch 7 and 8 are not used.						

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

CAUTION

Service Interruption

At this point, the upgrade interrupts service.

Procedure 115
Software disabling cards in network slots 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 the program.
DISL sl	Disable the XNET, where sl = the superloop number of the XNET card.
****	Exit the program.

b. In Core/Net 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.

CAUTION

Service Interruption

If the system terminal is assigned to an SDI port that you are disabling, assign it to another port before you disable the SDI.

c. In Core/Net 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 Core/Net 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 Core/Net 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 Core/Net 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 Core/Net 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 Core/Net 1 only, software disable the QPC43 Peripheral Signaling Card:

LD 32	Load the program.
DSPS x	Disable QPC43 card. Table 56 lists Peripheral Signaling Card numbers.
********	Exit the program.

Table 56
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 116
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

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 117
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 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 31 below for DC power connectors. See Figure 32 on page 208 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.

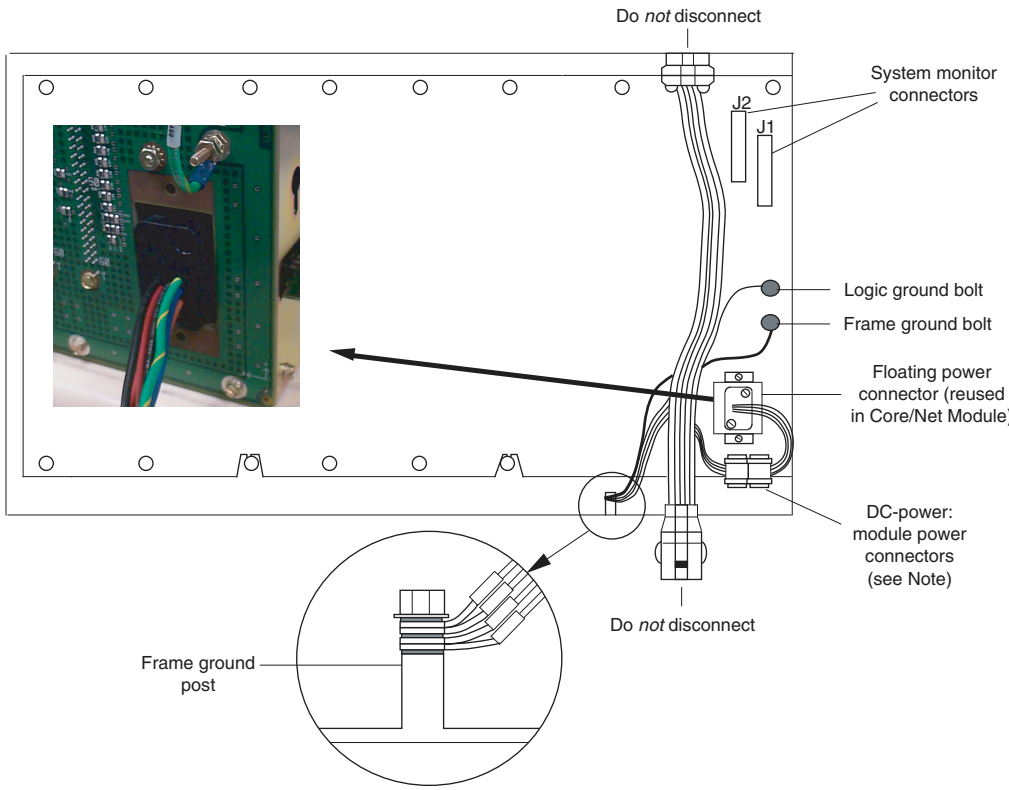
15 Label and disconnect the system monitor ribbon cables to J1 and J2.

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.

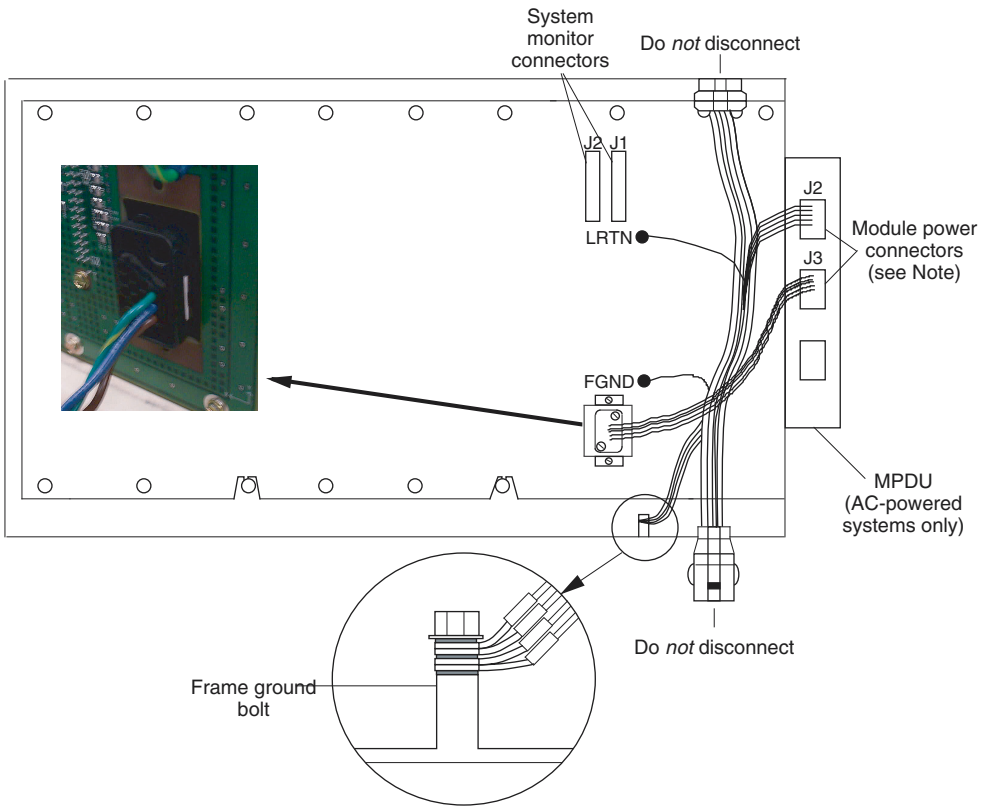
Figure 53
DC power connectors on the Core module backplane



Note: With AC-power, the module power connectors plug into J1 and J2 on the MPDU. (With DC-power, they connect to each other and hang loose.)

553-9582

Figure 54
AC power connectors on the Core module backplane



Note: AC-powered system shown. With DC-power, module power connectors connect to each other.

553-9583

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

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

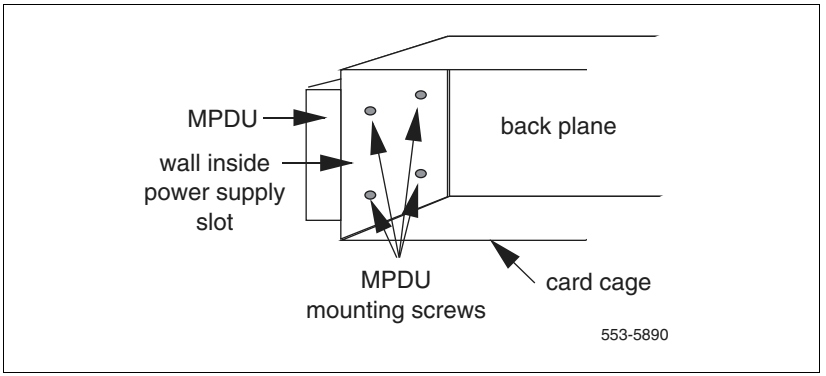
Procedure 118
Installing the CP PII card cage in Core 1

1 Check that the card cage is configured as Core 1. See Table 52 on page 318 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 55 below.

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

Figure 55
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 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA before you secure the card cage.

a. Route cable NT4N88AA from COM1 on the CP PII faceplate to J25 on the I/O panel. (NT4N88AA is used to connect a terminal.)

b. Route cable NT4N88BA from COM2 on the CP PII 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 PII 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 119
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 120
Relocating Network cards to CP PII Core/Net 1

1 Remove any existing QPC470 from slots 0-3 of the Meridian 1 Option 81 Core 1 to network slots 0-3 of the CP PII NT4N40 Core/Net 1 card cage.

2 Remove all remaining network cards from the Meridian 1 Option 81.

3 Connect the tagged cables to the relocated cards.

4 When you move the 3PE card, check the switch settings and jumpers. See Table 57 on page 339 below.

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 57 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.

Table 57
QPC441 3PE Card installed in the NT4N40 Module

Jumper Settings: 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

Install the Security Device

Procedure 121
Installing the Security Device

The Security Device fits into the System Utility card (see Figure 56 on page 341). 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

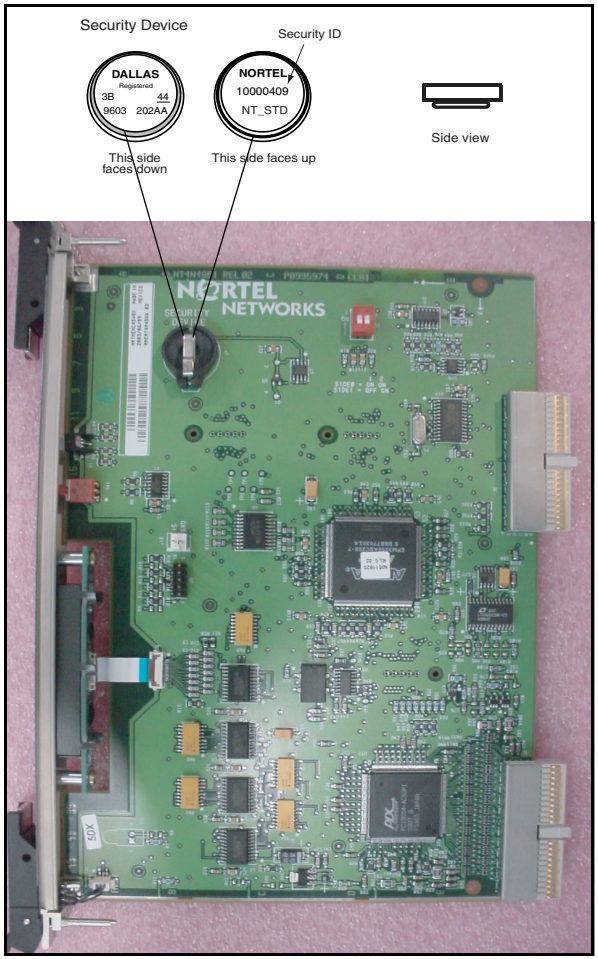
If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

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 56
Security Device

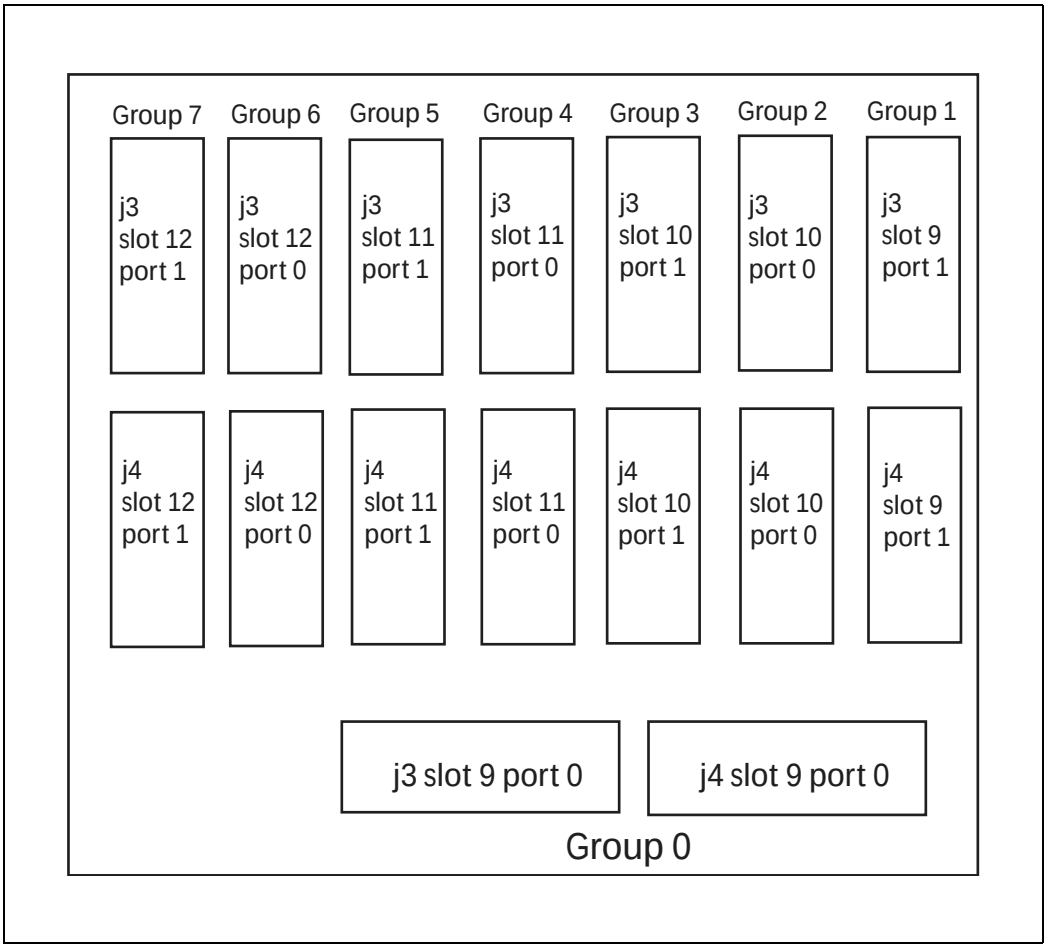


Cable Core 1

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 57
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 309. 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 58 on page 347 and Table 58 on page 345.

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 57 on page 342.

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 58
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 57 on page 342.

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1. See Figure 58 on page 347.

Add Side 1 FIJI hardware

Procedure 122
Add Side 1 FIJI hardware

1 Tag and disconnect the IGS/DIGS cables.

2 Remove the IGS/DIGs cards from Side 1.

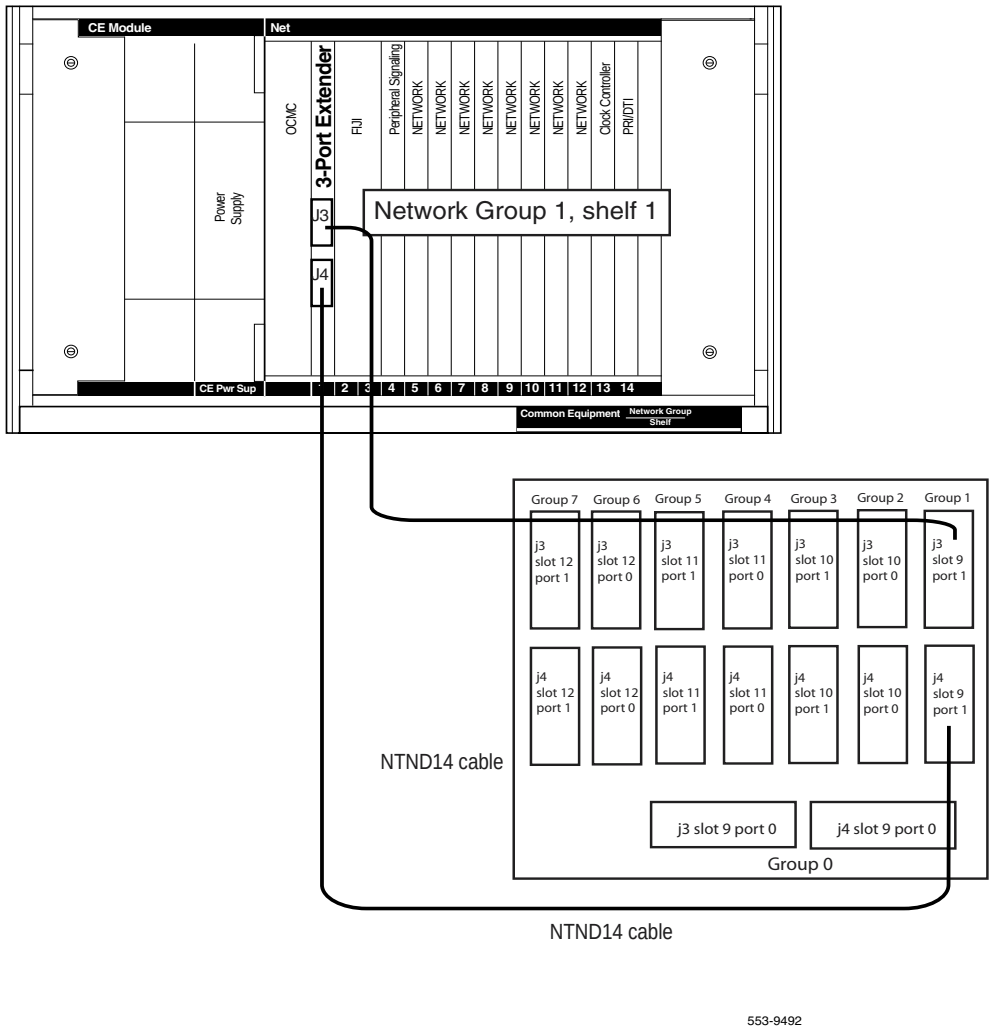
3 Faceplate disable the FIJI cards.

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 58
3PE Fanout Panel connections



Procedure 123
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 delta 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 (Table 59 on page 350).

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.

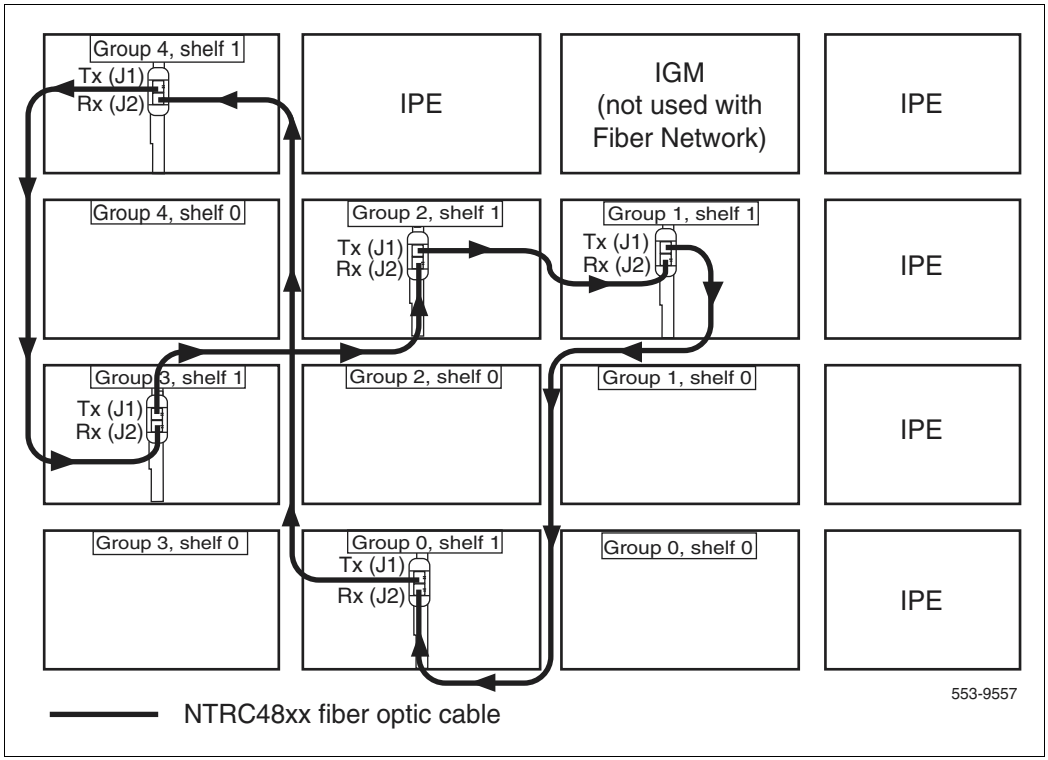
1 Start with Network group 0, shelf 1.

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 59
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.

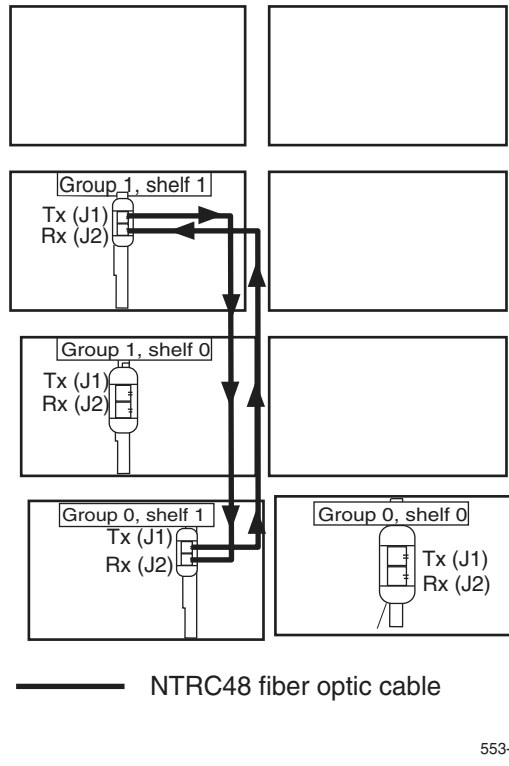
Note: Connect the Side 1 FIJI Ring cables only.

Table 59
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 60
Shelf 1 des*cending* fiber optic Ring (Meridian 1 Option 81 2 group example)



Procedure 124
Cable the Clock Controller 1 to FIJI hardware

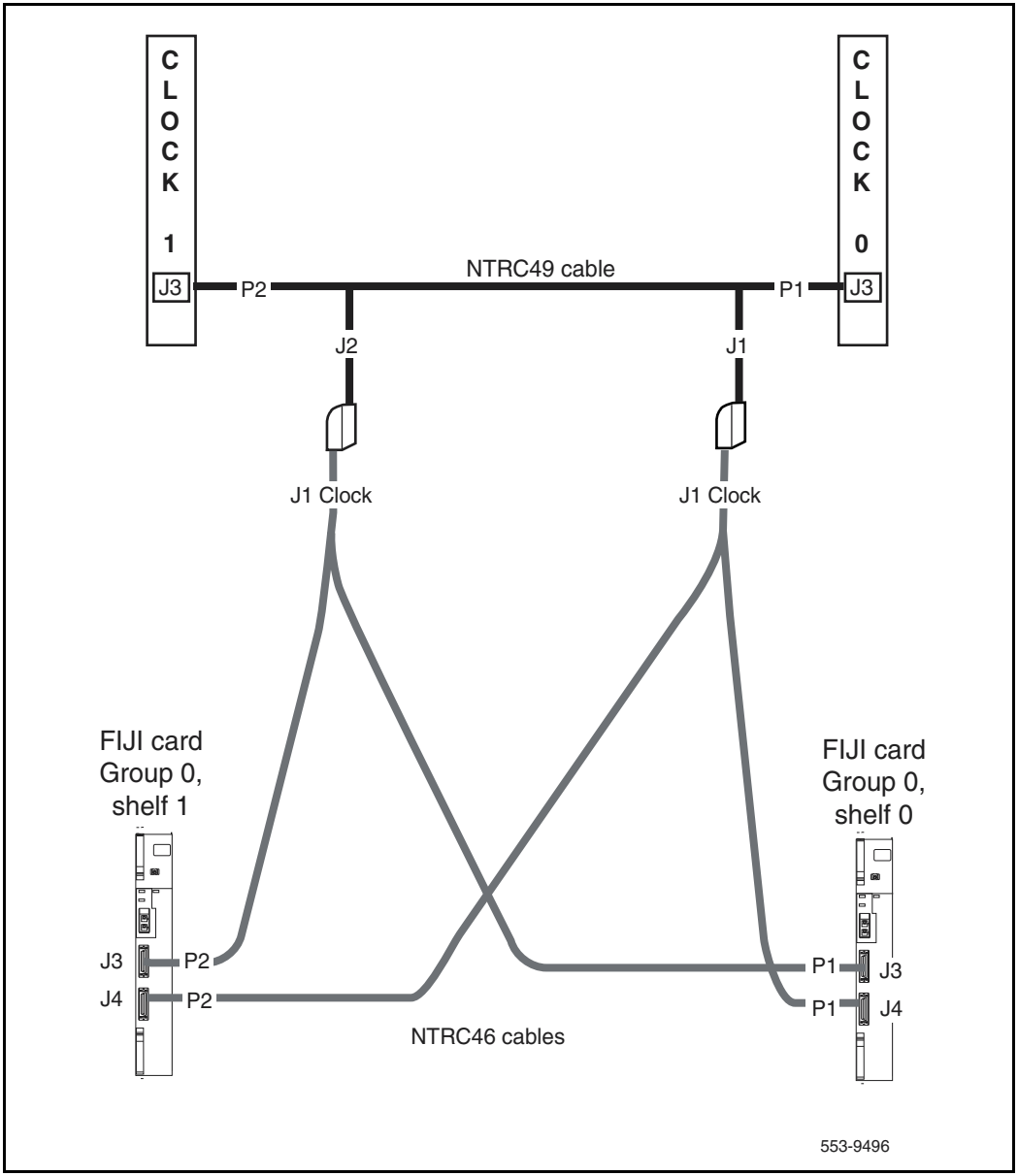
Connect the cables to the Clock Controller 1 as shown in Figure 61 on page 352:

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

Figure 61
Clock Controller cable configuration



Power up Core 1

Procedure 125
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/0 panel in the *inactive* Core.

3 Check the terminal settings as follows:

- 9600 Baud
- 7 data
- space parity 1
- 1 stop bit
- full duplex
- 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

Power up Core cards

Procedure 126
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 127
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.

Install software and customer database on Core 1

Procedure 128
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. The screen displays:

```
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 competed!
```

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: 2.6 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.

            chkdsk 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 X210300 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 X210300_K.

    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/sl1/
direct.rec to /u/direct.rec

    >Updating /u/direct.rec

    >Processing the Install Control file

    >Installing release 0300K
```

10 Confirm all options before installing the software:

```
 INSTALLATION STATUS SUMMARY
-------------------------------------------
      ==============+=========+=========+==============
  |     Option      |    Choice     | Status |   Comment          |
      ==================+=========+=========+==========
 | SW: CD to disk  |       yes       |          | install for rel 0300K |
       ==============+=========+=========+==============
  |     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: 2540 to release:
0300K.
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 2540 to release 0300K

11 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 (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages (Release 3) English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages (Release 3) English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

12 Continue with upgrade when prompted. Select a database to install:

IMPORTANT!

Remove keycode diskette at this time and insert the customer backup database diskette.

13 Confirm database transfer:

You selected to transfer the database from the floppy disk - release: 2540 to the hard disk on Core X. release: 2540.

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: Jul 07 14:10:00 2003

      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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


     ------------------------------

     DO NOT REBOOT USING BUTTON!!


     ------------------------------


     Please enter:

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

     <m> - Return to the Main menu.

     Enter Choice> <CR>

     >Removing temporary files


     >Remove /u/diskxxxx.sys



     >Quit Install. Reboot system...
```

End of Procedure

Configuring IP addresses

Procedure 129
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	To load the program.
prt host	To 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 235. If the system returns no host names, complete the steps below.

2 Contact your systems administrator to identify IP address and subnet mask information.

3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

LD 117	To load the program.
NEW HOST *NAME 1 IP ADDRESS*	To 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*	To assign the "name 1" address to the *active* Core.
NEW HOST 'NAME 2' 'IP ADDRESS'	To 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*	To assign the “name 2” address to the *inactive* Core.
CHG MASK *XXX.XXX.XXX.XXX*	To 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 the 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 300. 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.
ISSP	Print System and Patch Information.

SLT	Print System Limits.
TID	Print the Tape ID.
****	Exit program.

For systems with fewer than eight groups, delete CNIs

Procedure 130
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:

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

2 Use LD 17 to remove the extra cCNI cards.

LD 17	Load the 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 the program.

3 Use LD 135 to re-enable cCNI cards:

LD 135	Load the program.
STAT CNI	Get the 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 the program.

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

End of Procedure

Reconfigure I/O ports and call registers

Procedure 131
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 the program.
CHG	CFN
TYPE	ADAN CHG AAA X G
carriage return to end of program	
********	Exit the program.

2 Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 4500 and 1000 respectively). Refer to *Large System: Planning and Engineering* (553-3021-120). If changes are required, reconfigure the values in LD 17:

LD 17	Load the program.
CHG	CFN
TYPE	PARM
carriage return to end of program	
********	To exit the program.

3 Perform a data dump to save the customer database to the hard drive and floppy:

a. Insert a blank floppy disk to Core/Net 1 MMDU floppy drive and label it as Customer Database disk. This disk will be required when installing the database in Core/Net 0).

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

LD 43	Load the program.

c. When “EDD000” appears on the terminal, enter When

EDD	Begin the data dump.

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

********	Exit the 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 132
Rebooting Core 1

CAUTION

Service Interruption

The INI may take up to15 minutes to complete.

CAUTION

Service Interruption

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

IMPORTANT!

Power down all applications (Meridian Mail, Call Pilot, Symposium).

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 If equipped, In Core/Net 0 only, faceplate disable the IODU/C card and unseat it.

3 In Core/Net 0 only, unseat the Core Processor card.

4 Disconnect NT8D74 cable from SCG 0 of the InterGroup module from Clock Controller 0.

5 Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.

6 Faceplate disable Clock Controller 0 and unseat the card.

7 Seat and faceplate enable Clock Controller 1.

8 Seat and faceplate enable all FIJI cards in shelf 1.

9 Press the 'RESET' button on the CP PII card faceplate to initialize the system.

10 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, download 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.

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 Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.

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

Procedure 133
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 QPC471or QPC775 Clock Controller, replace it with an NTRB53 Clock Controller and verify settings according to Table 60 on page 377.

If the system has an NTRB53 Clock Controller, it must be moved from Core/Net 0 slot 9 to network shelf 0, any group, slot 13.

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 Clock Controller 0 from the Core module.
5. Set the Clock Controller 0 switch settings according to Table 60 on page 377.
6. Place Clock Controller 0 in any Network Shelf 1, slot 13. 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 different Network groups in different columns.

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.)		
Note: Switch 7 and 8 are not used.						

End of Procedure

Procedure 134
Cabling the Clock Controllers

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

Connect the cables to the Clock Controllers as shown in Figure 61 on page 352:

1 Connect the Clock to Clock cable:

a. Connect J1 of the NTRC49 cable to port J3 of Clock Controller 0.

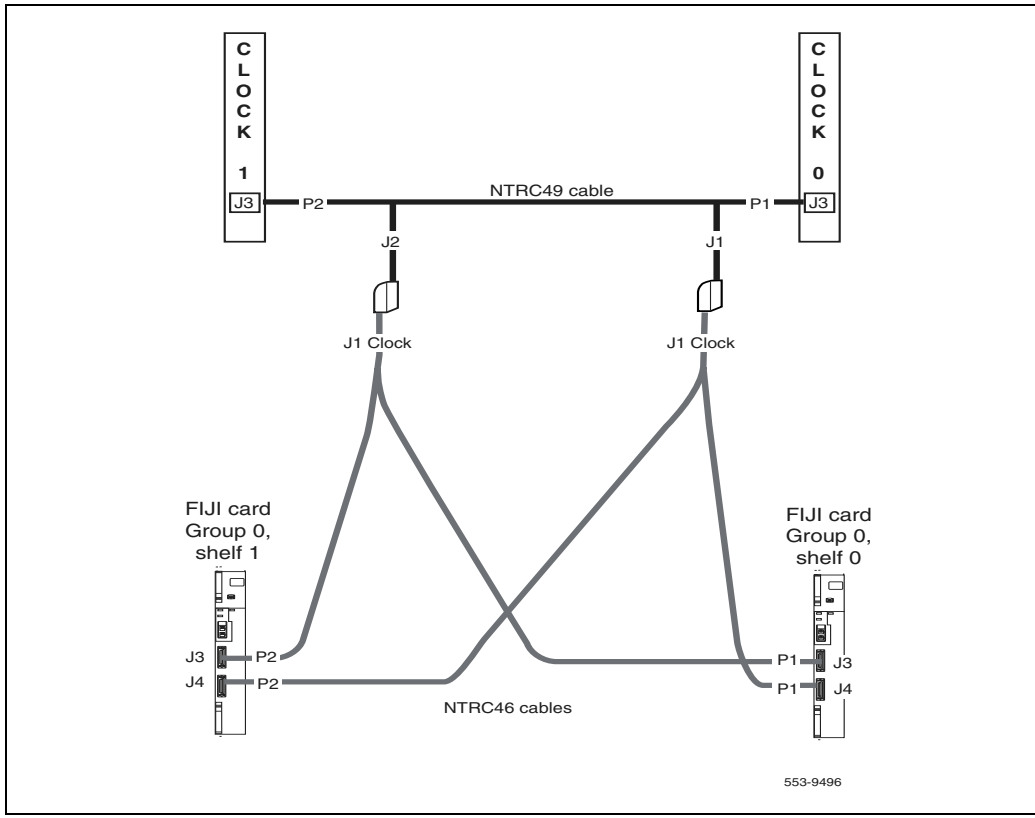
b. Connect J2 of the NTRC49 cable to port J3 of Clock Controller 1.

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 62
Clock Controller cable configuration



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 135
Faceplate disabling cards in core and network slots 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 61
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
Note: The DIGS card should be located in slot 9 of the network shelf.		

Power down Core/Net 0

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).

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.

Procedure 136
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 63 on page 383 for DC power connectors. See Figure 64 on page 384 for AC power connectors.

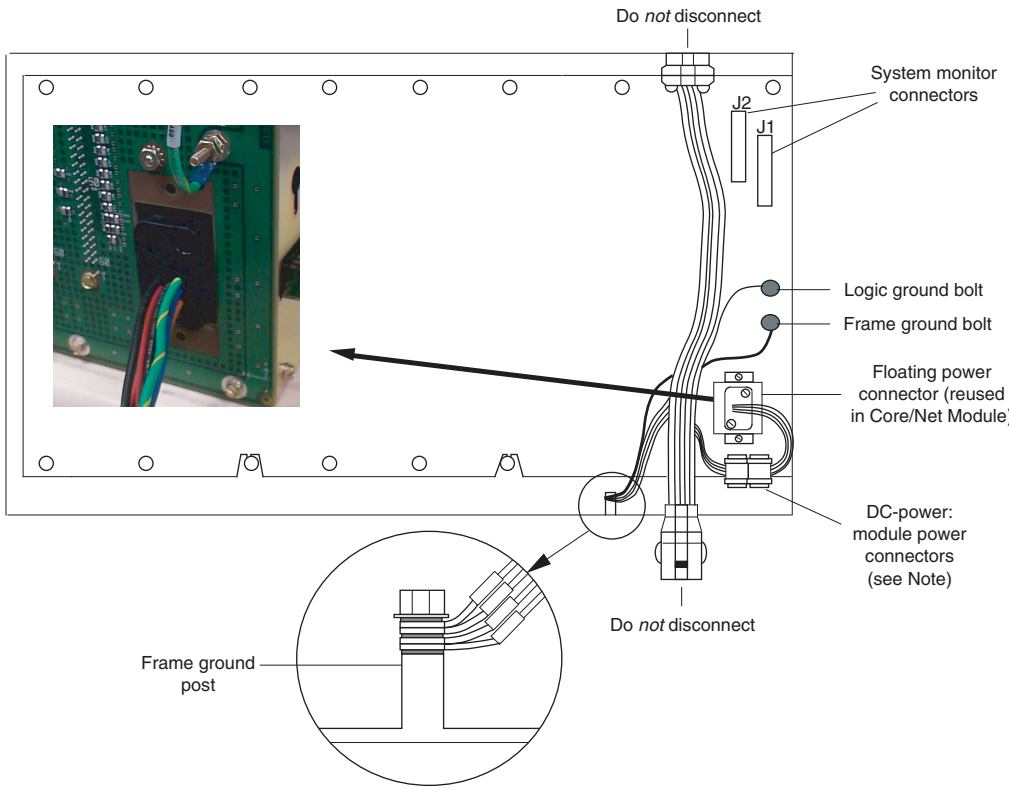
13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.

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.

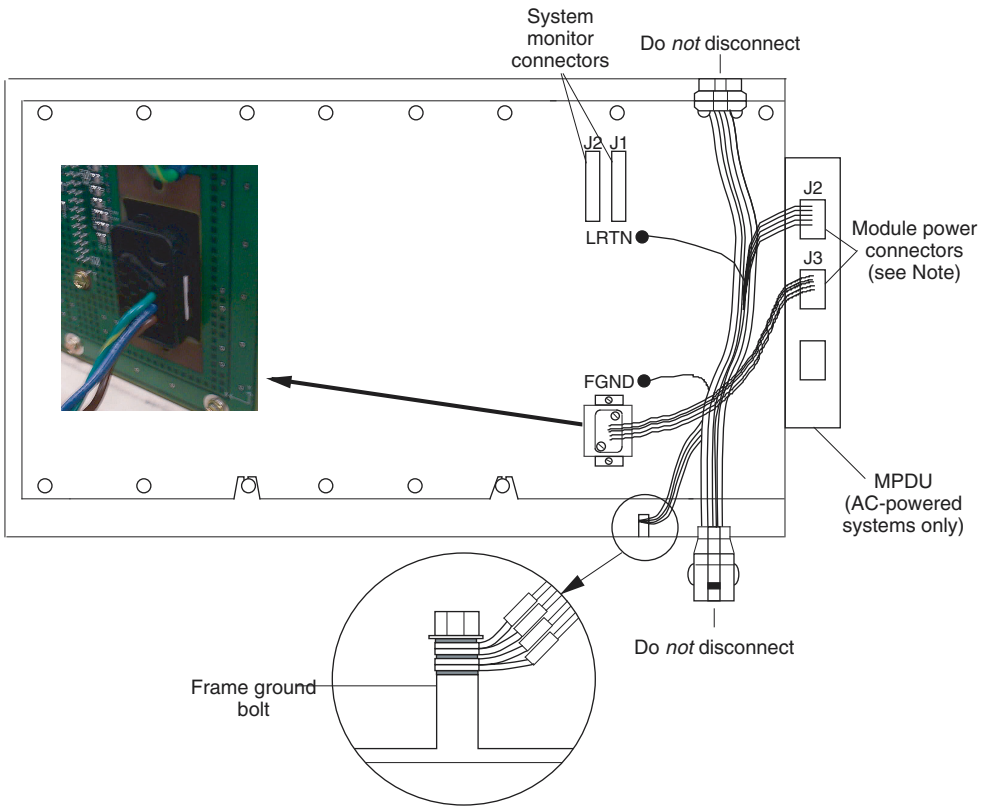
Figure 63
DC power connectors on the Core module backplane



Note: With AC-power, the module power connectors plug into J1 and J2 on the MPDU. (With DC-power, they connect to each other and hang loose.)

553-9582

Figure 64
AC power connectors on the Core module backplane



Note: AC-powered system shown. With DC-power, module power connectors connect to each other.

553-9583

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.

CAUTION

Service Interruption

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 137
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 65 on page 387.

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 NT4N48AA 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 62 below.

Table 62
Core module ID switch settings (System Utility card)

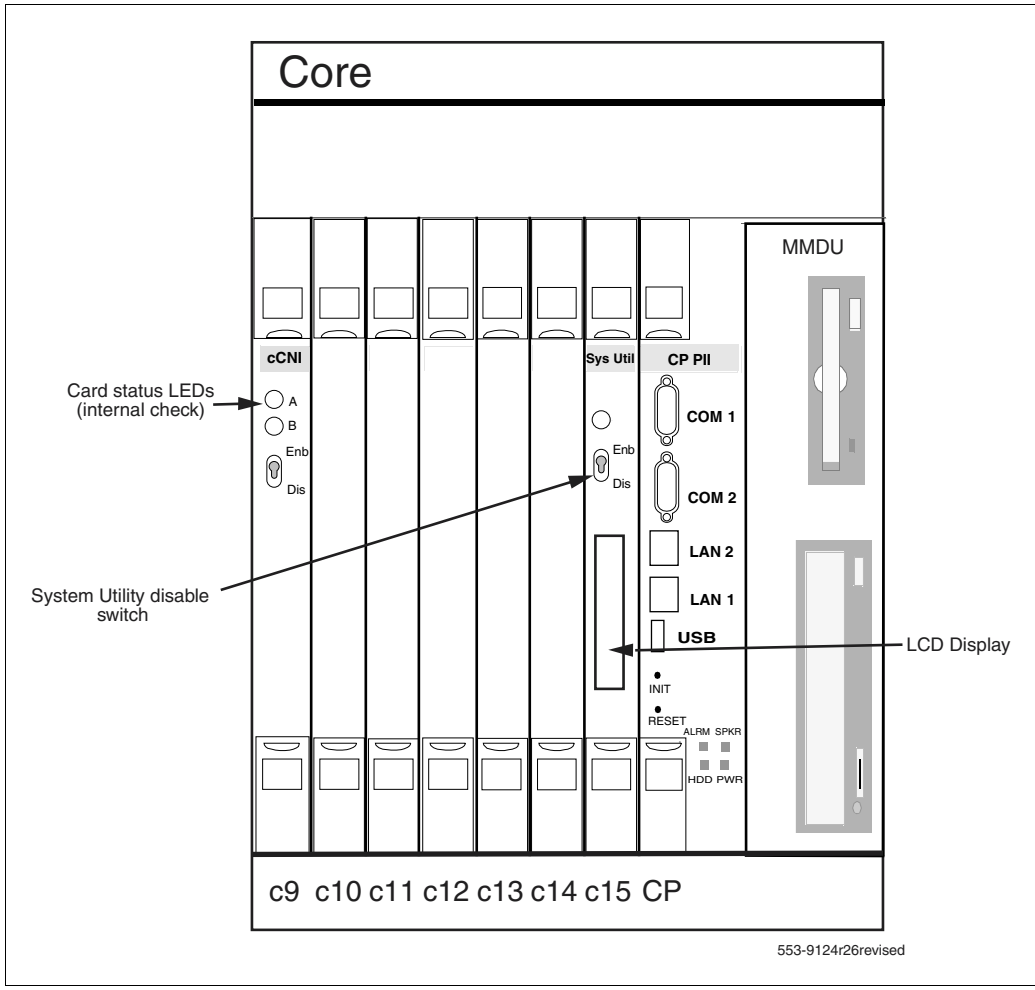
	Position 1	**Position 2**
Core/Net 0	On	On
Core/Net 1	Off	On

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 65
Core card placement in the NT4N41 Core/Net Module (front)



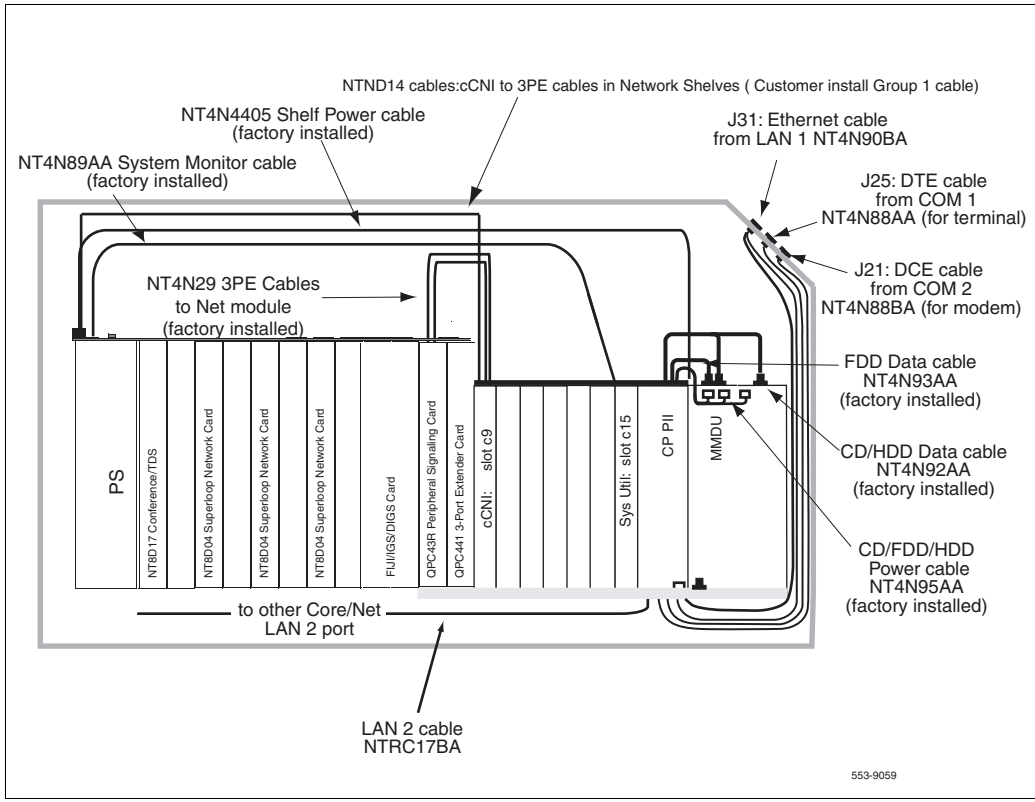
Check factory-installed cables

Table 63 below lists factory-installed cables. See Figure 29 on page 199.

Table 63
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 66
Core/Net cable connections



Install the Security Device

Procedure 138
Installing the Security Device

The Security Device fits into the System Utility card (see Figure 67 on page 391).

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

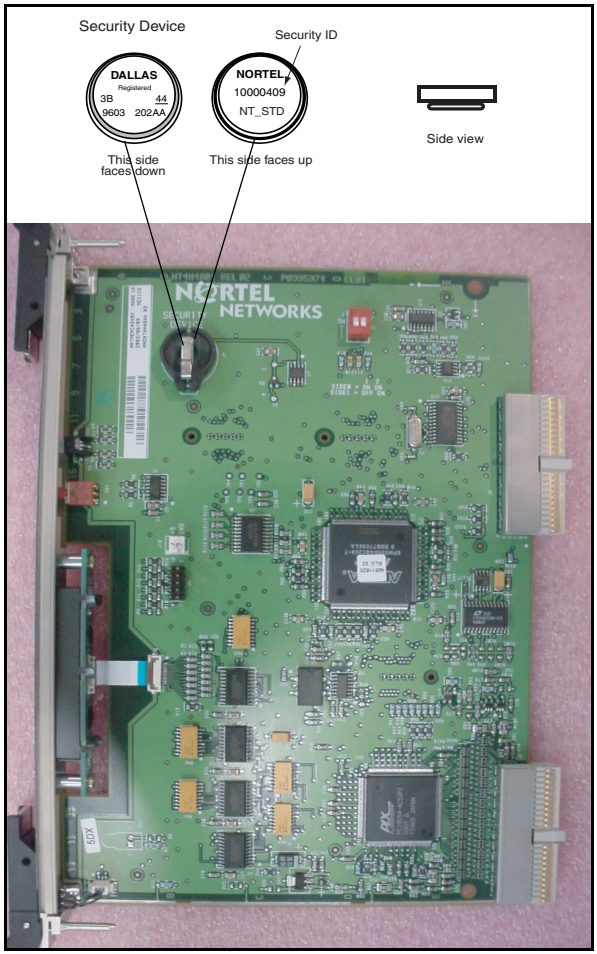
If the original system did not have an IODU/C, use the Security Device provided with the CP PII Software kit.

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 67
Security Device



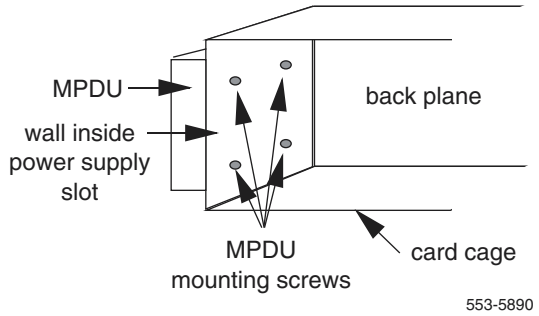
Install the CP PII card cage in Core 0

Procedure 139
Installing the CP PII card cage in Core 0

1. Check that the card cage is configured as Core 0. See Table 62 on page 386 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 43 on page 258.

   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 68
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. (a 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 Pre-route cables NT4N88AA, NT4N88BA and NT4N90BA before you secure the card cage.

a. Route cable NT4N88AA from COM1 on the CP PII faceplate to J25 on the I/O panel. NT4N88AA is used to connect a terminal.

b. Route cable NT4N88BA from COM2 on the CP PII 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 PII faceplate to J31 (top) of the I/O panel.

10 DO NOT connect the NTRC17BA cross over ethernet cable from LAN 2 on Core/Net 0 faceplate to LAN 2 on Core/Net 1 faceplate.

End of Procedure

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

Procedure 140
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 141
Relocating Network cards to CP PII Core/Net 0

1 Remove any existing QPC470 cards from slots 0-3 of the Meridian 1 Option 81 Core/Net 1 to network slots 0-3 of the CP PII NT4N40 Core/Net 0 card cage.

2 When you move the 3PE card, check the switch settings and jumpers. See Table 64 on page 395.

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 64 below shows the 3PE settings for cards installed in CP PII Core/Net Modules.

Note: For the 3PE settings for cards installed in Network Modules, see Table 64 below.

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 64
QPC441 3PE Card installed in the NT4N40 Module

Jumper Settings: 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

Procedure 142
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 143
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 69 on page 397.

Procedure 144
If the system will be connected to a LAN

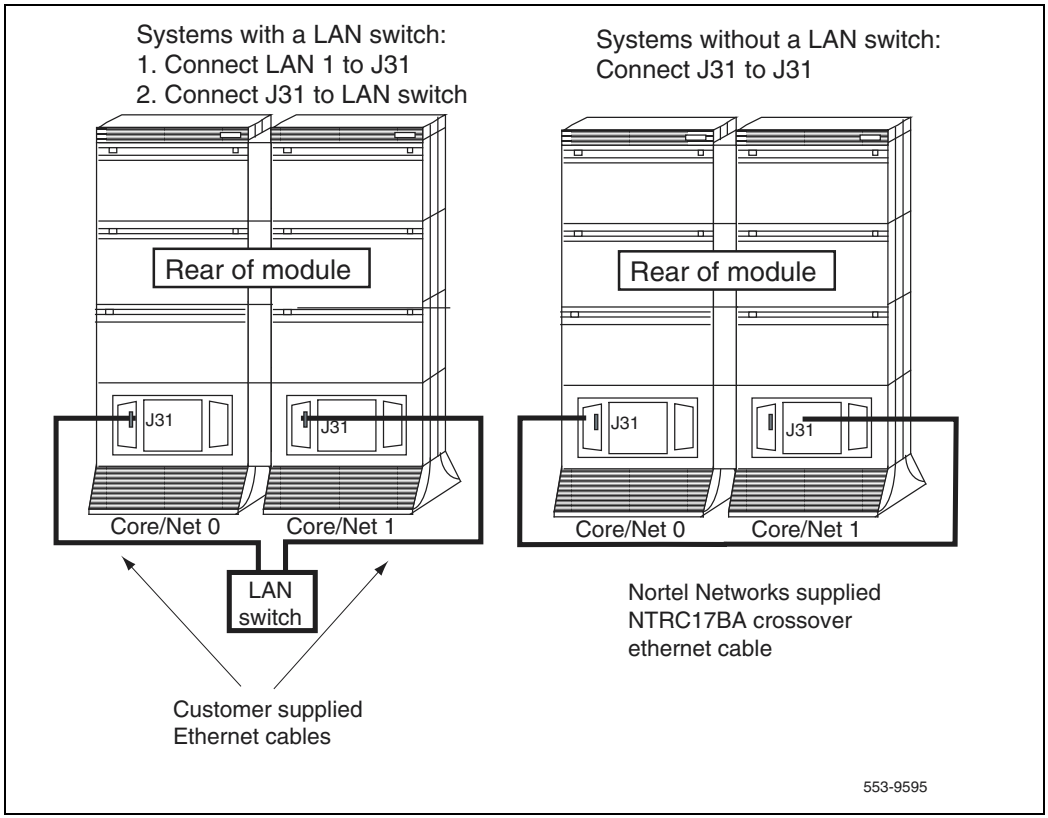
1. Connect the “Dual Ethernet Adapter (RJ45) for I/O Panel” (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
2. Connect LAN 1 (Ethernet) on the CP PII faceplate to J31 (top) of the I/O panel with cable NT4N90BA. 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.

End of Procedure

Figure 69
Options for LAN 1 connection



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 145
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 70 on page 399).
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 71 on page 398).
4. If the system has XSDI cards, reinstall the cards and attach the cables.

End of Procedure

Figure 71
3PE card connections

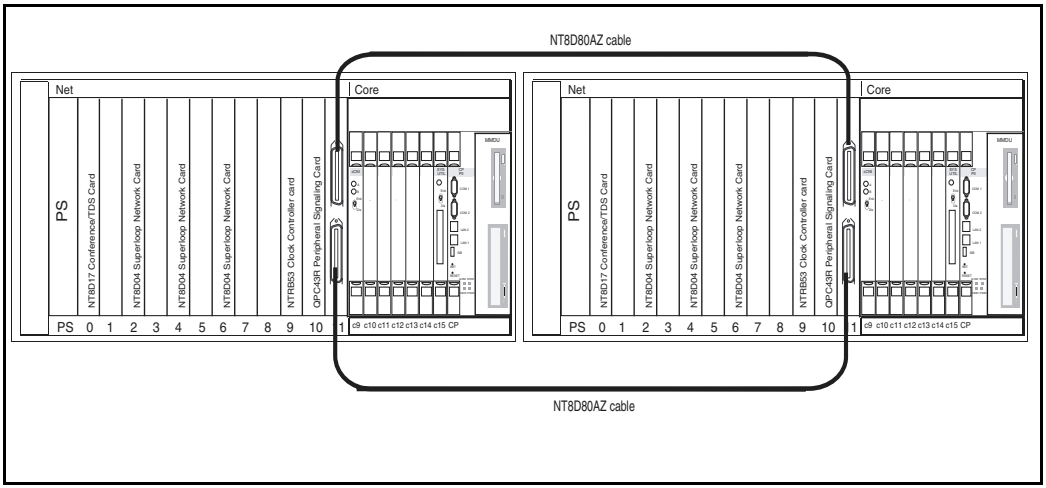


Figure 70
Fanout Panel connections on the CP PII Core/Net backplane

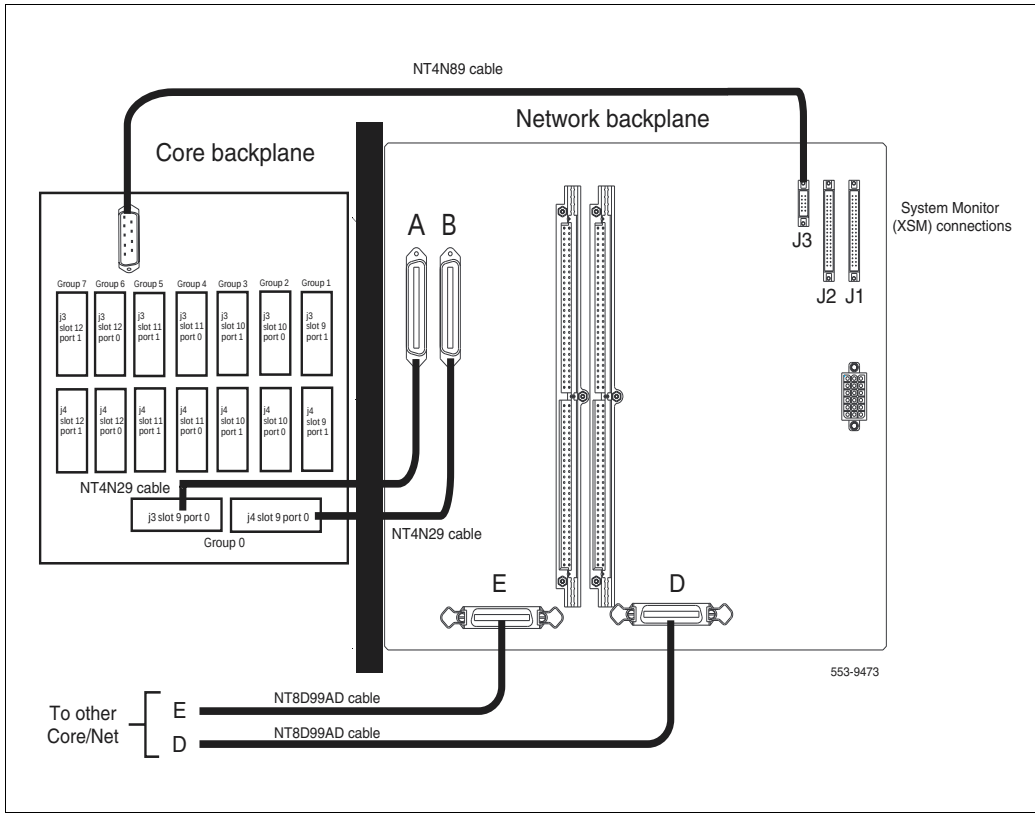
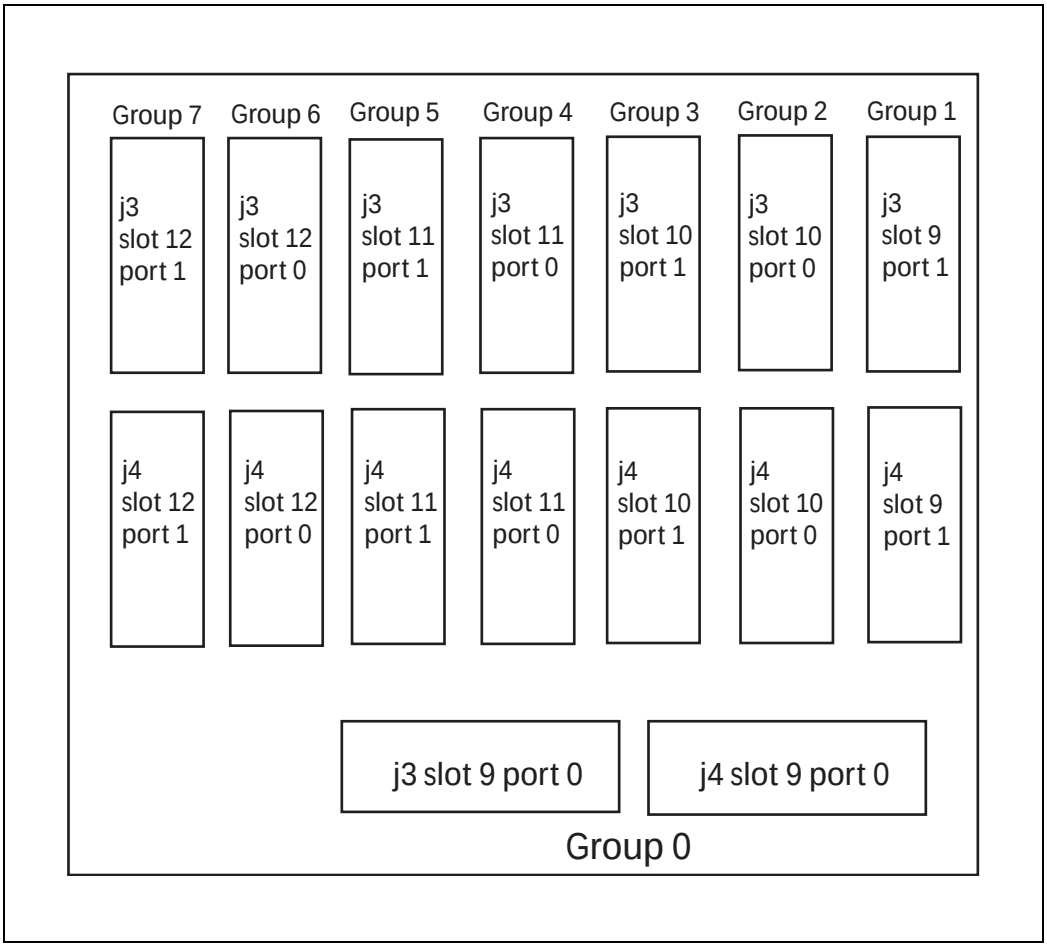


Figure 72
Fanout panel connectors



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 73 on page 404 and Table 65 on page 402.

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 72 on page 400.

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 65
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 72 on page 400).

Note 2: Group 1 cables (NTND14) connect from the Fanout panel to the faceplate of the 3PE cards of Group 1 (see Figure 73 on page 404)

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.

End of Procedure

Add Side 0 FIJI hardware

Procedure 146
Installing 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 the FIJI cards in Side 0. DO NOT seat the cards.

End of Procedure

Procedure 147
Connecting 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 73
3PE Fanout Panel connections

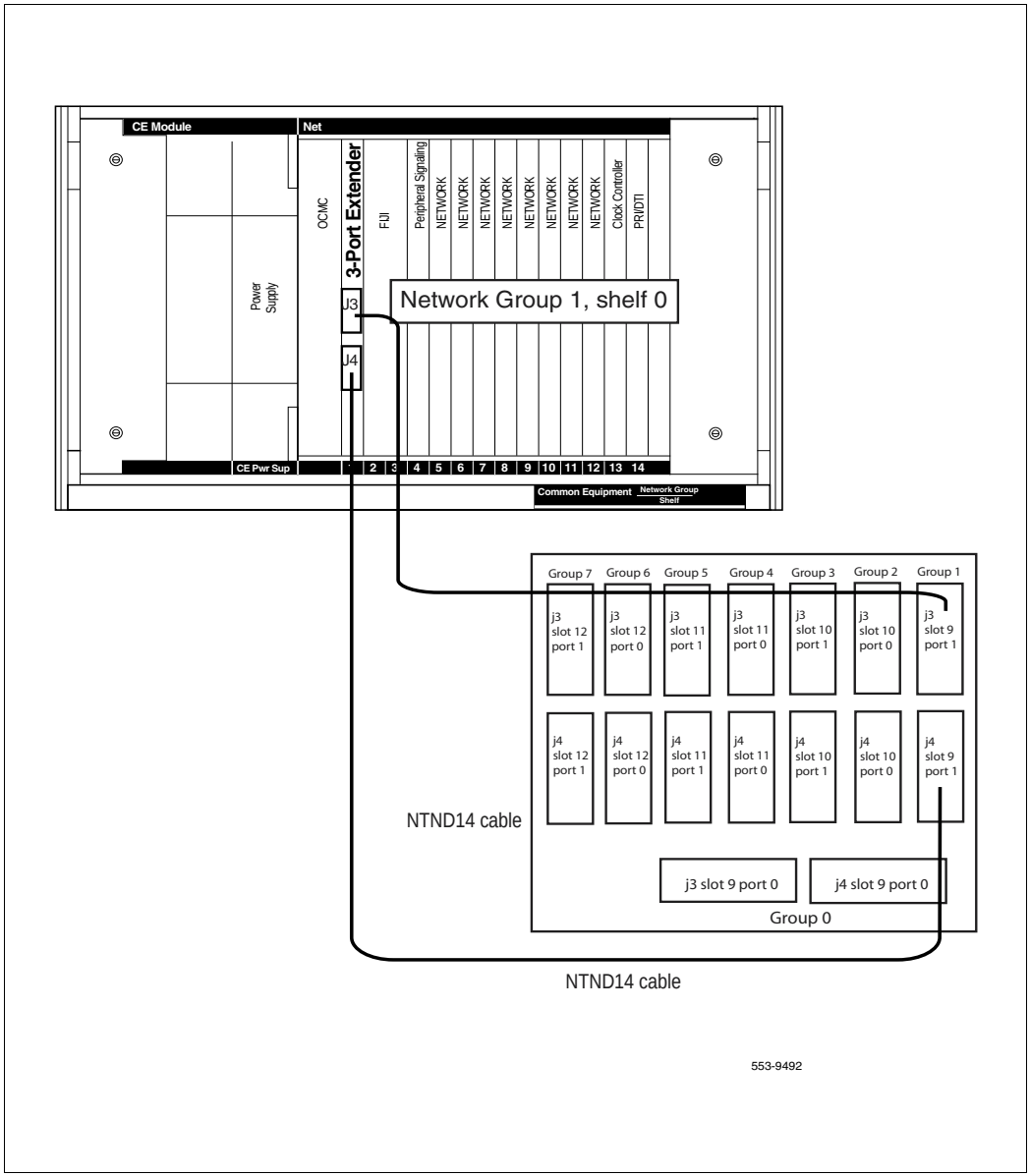
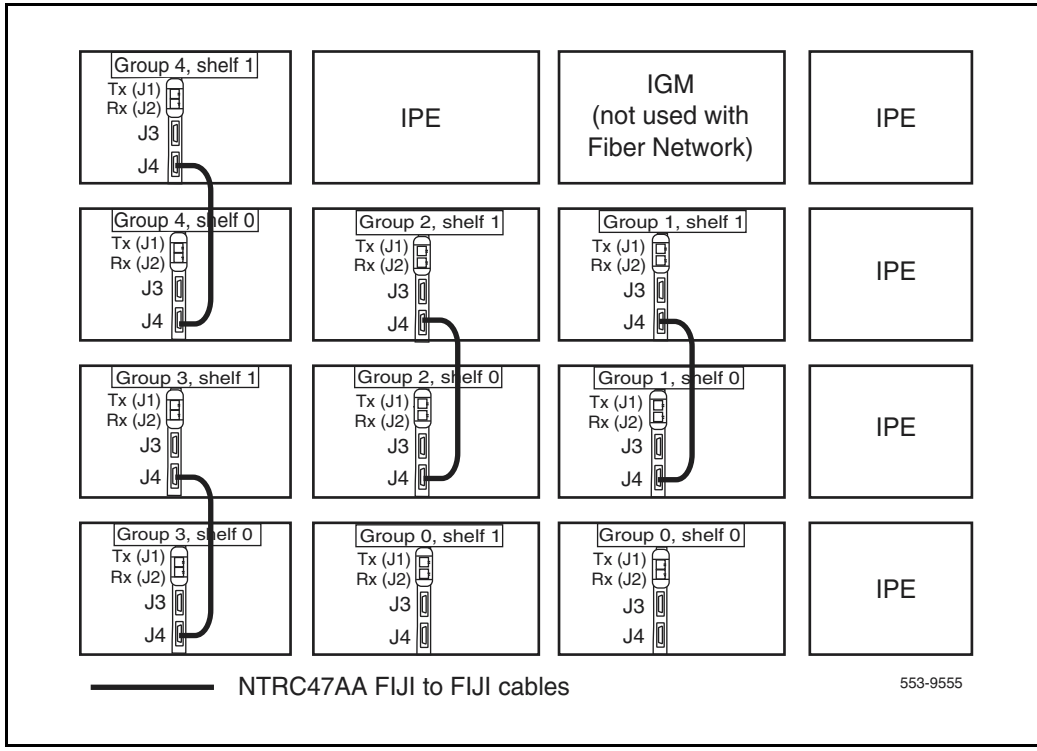


Figure 3
FIJI shelf 0 to FIJI shelf 1 connections



Procedure 148
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 (Figure 74 on page 408 and Table 66 on page 407).

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 delta 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.

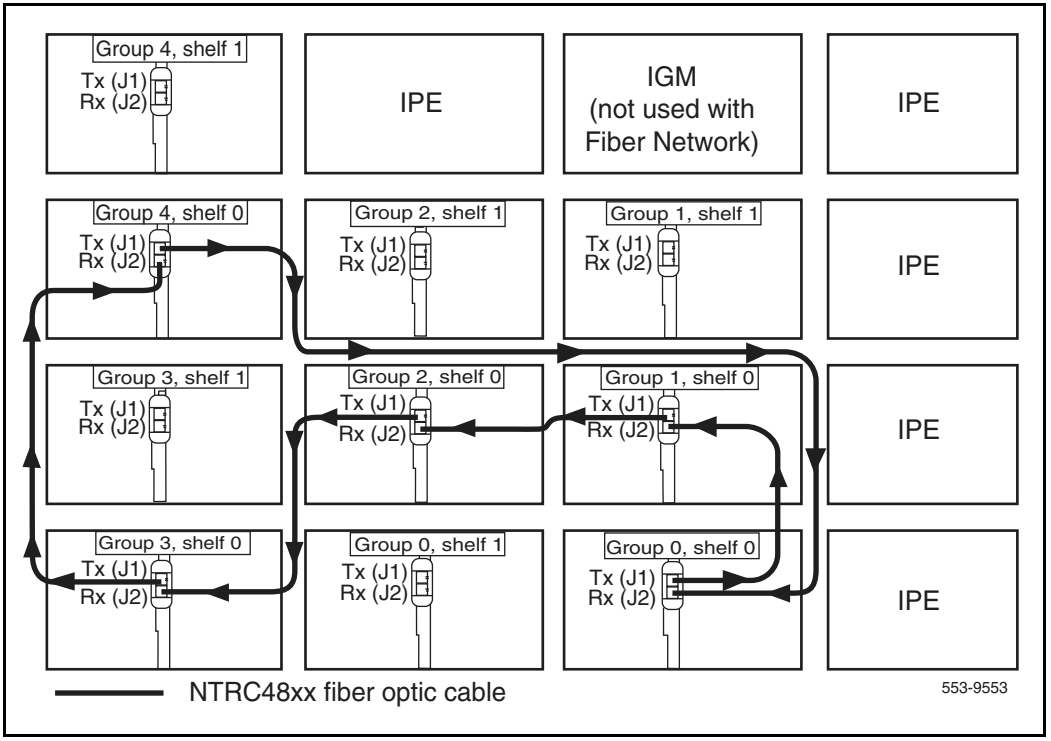
5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0.**

End of Procedure

Table 66
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

Figure 74
Shelf 0 *ascending* fiber optic Ring



Procedure 149
Cabling the Clock Controller to FIJI Hardware

Connect the cables to the Clock Controllers as shown in Figure 62 on page 379:

1 Connect the Clock 0 to FIJI cable:

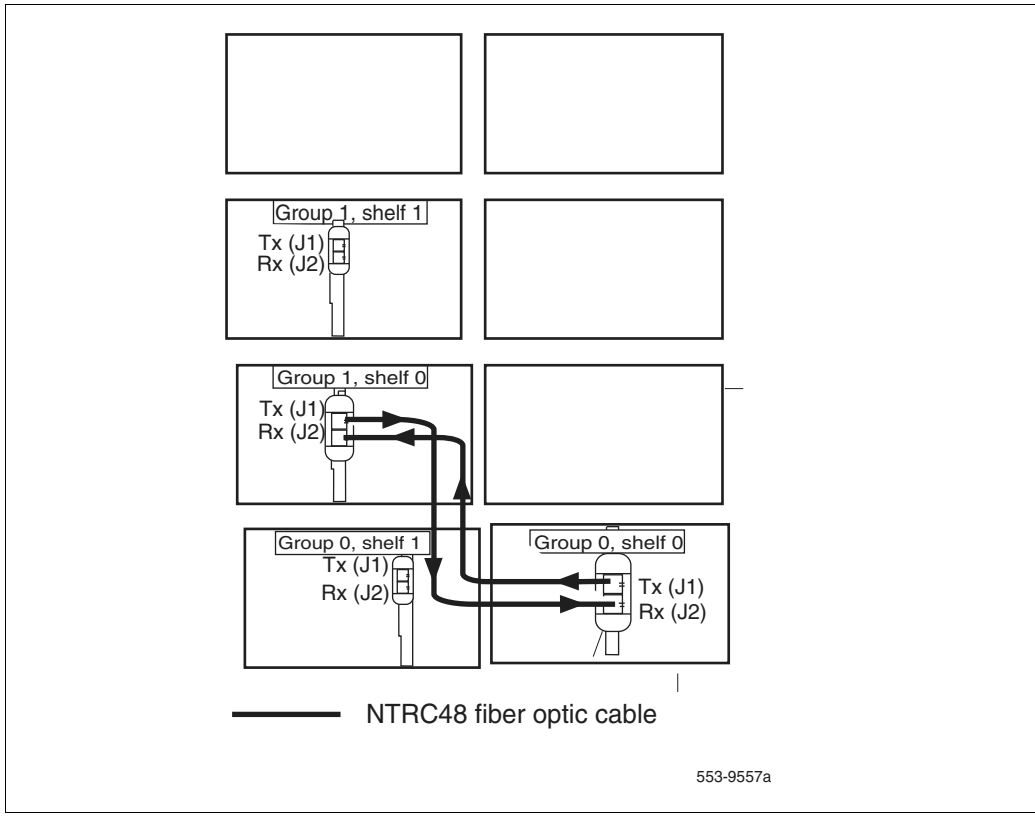
a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.

2 Connect a Clock 1 to FIJI cable.

3 Connect P1 of the NTRC46 cable from Clock 1 to J3 of the FIJI card in group 0, shelf 0.

End of Procedure

Figure 75
Shelf 0 as*cending* fiber optic Ring (Meridian 1 Option 61C example)



Restore power to Core/Net 0

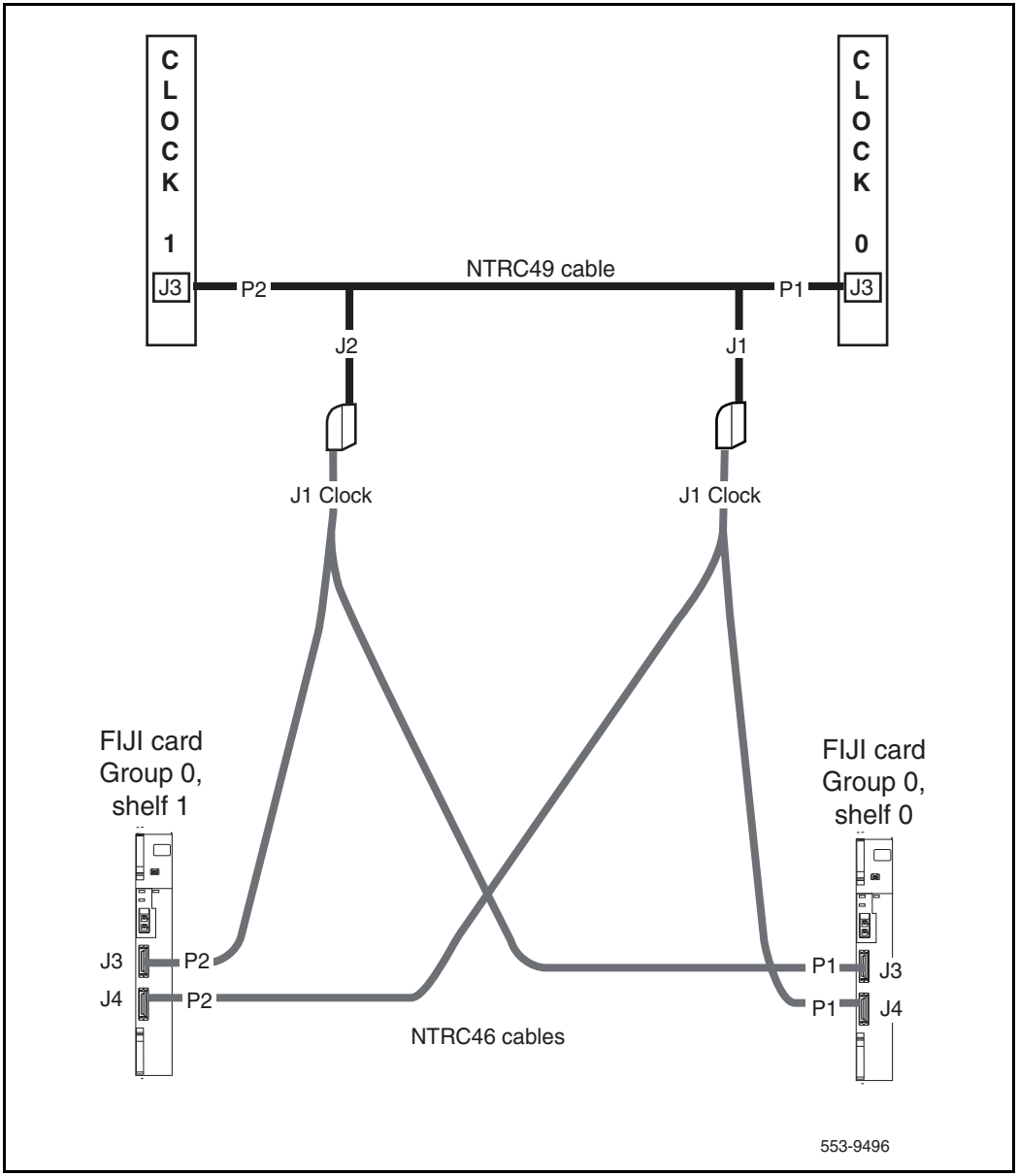
Procedure 150
Preparing for power up

1 Check 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/0 panel in the *inactive* Core.

Figure 76
Clock Controller cable configuration



3 Check the terminal settings as follows:

- 9600 Baud
- 7 data
- space parity 1
- 1 stop bit
- full duplex
- 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

Power up Core cards

Procedure 151
Powering up core cards

1 Disconnect NTRC17BA crossover ethernet cable from the faceplate of CPU 0.

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

3 For DC-powered systems: 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.

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, download 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.

Core/Net 1 is now active. All network cards in Core/Net 0 and 1 are enabled. Call processing is resumed. FIJI Ring 1 is FULL, FIJI Ring 0 is disabled.

IMPORTANT!

Power up all applications (Meridian Mail, Call Pilot, Symposium).

End of Procedure

Procedure 152
Testing Core/Net 1

1 Test the clocks:

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

LD 60	To lead the 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	To switch the Clock.
SWCK	to switch the Clock again.

2 Test the Fiber Rings

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

a. Check that the Fiber Rings operate correctly:

LD 39	To load the program.
STAT RING 0	To check the status of Ring 0 (HALF/HALF).
STAT RING 1	To check the status of Ring 1 (HALF/HALF).

b. If necessary, restore the Rings to Normal State:

RSTR	To restore both Rings to HALF state.

c. Check that the Rings operate correctly:

STAT RING 0	To check the status of Ring 0 (HALF/HALF).
STAT RING 1	To check the status of Ring 1 (HALF/HALF).

3 Check the status of the FIJI alarms

STAT ALRM	to query the alarm condition for all FIJI cards in all Network Groups
****	Exit program.

End of Procedure

Install software and customer database on Core 0

Procedure 153
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. The screen displays:

```
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 competed!
```

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: 2.6 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.

            chkdsk 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 X210300 software

(all subissues) for machine type XXXX

(XXX processor on XXXX System)
```

IMPORTANT!

Remove install floppy disk at this time and insert 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 X210300_K.

    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/sl1/
direct.rec to /u/direct.rec

    >Updating /u/direct.rec

    >Processing the Install Control file

    >Installing release 0300K
```

10 Confirm all options before installing the software:

```
                    INSTALLATION STATUS SUMMARY

                    -------------------------------------------

      ==============+=========+=========+==============
 |     Option      |    Choice     | Status |   Comment          |

      ==================+=========+=========+==========
 | SW: CD to disk  |       yes       |          | install for rel 0300K |

       ==============+=========+=========+==============
 |     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: 2540 to release:
0300K.

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 2540 to release 0300K

11 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 (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages (Release 3) English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages (Release 3) English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages (Release 3) English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

IMPORTANT!

Remove keycode floppy disk at this time and insert backup customer database diskette from Step 10 of Procedure 98 on page 269.

12 Continue with upgrade when prompted. Select a database to install:

Software release 0300K was installed successfully on Core X.

All files were copied from CDROM to the hard disk.

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

You will now perform the database installation.

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

Please enter:

<CR> -> <a> - Install CUSTOMER Database

(the customer database diskette must be in the Core X disk drive).

<b> - Install DEFAULT Database

(the installation CDROM must be in the Core X disk drive).

<c> - Transfer the previous system Database.

<e> - Check the Database that exists on the hard disk.

<q> - Quit.

Enter Choice> **<CR>**

13 Confirm database transfer:

You selected to transfer the database from the floppy disk - release: 2540 to the hard disk on Core X. release: 2540.

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: Jul 07 14:10:00 2003

      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
```

Note: 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.

Before rebooting the system, remove Install diskette from the floppy
drive(s).


    ------------------------------

    DO NOT REBOOT USING BUTTON!!


    ------------------------------


    Please enter:

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

    <m> - Return to the Main menu.

    Enter Choice> <CR>

    >Removing temporary files


    >Remove /u/diskxxxx.sys



    >Quit Install. Reboot system...
```

Note: 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, download 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.

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 154
Testing Core/Net 1

From Core/Net 1, perform these tests:

1 Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	

3 Test the System Utility cards and the cCNI cards:

LD 135	Load the 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:

LD 137	Load the program.
TEST RDUN	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 the program.
ENL TTY x	Enable the XMS, where x= system XMS.
STAT XSM	Check the system monitors.
********	Exit the program.

6 Clear the display and minor alarms on both Cores:

LD 135	Load the program.
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 the program.
SSCK *x*	To 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 the Clock.
SWCK	Switch the Clock again.

8 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:

LD 39	Load the 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 (Call Pilot, Symposium, Meridian Mail, etc.).

11 Check dial tone.

End of Procedure

Switch call processing

Procedure 155
Switching call processing

LD 135	Load the 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 156
Testing Core/Net 0

From Core/Net 0, perform these tests:

1 Perform a redundancy sanity test:

LD 135	Load the 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 the program.
TEST LCDs	Test LCDs.
DSPL ALL	Display all.

3 Test the System Utility cards and the cCNI cards:

LD 135	Load the 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:

LD 137	Load the program.
TEST RDUN	Test redundancy.
DATA RDUN	
TEST CMDU	Test the MMDU card.

5 Test that the system monitors are working:

LD 37	Load the program.
STAT XSM	Check the system monitors.
********	Exit the 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 the 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 the program.

b. Verify that the Clock Controllers are switching correctly:.

SWCK	Switch the Clock.
SWCK	Switch the Clock again.

8 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:

LD 39	Load the 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 (such as Call Pilot and Symposium).

11 Check dial tone.

End of Procedure

Upgrades from Meridian 1 Option 71

The upgrades from Meridian 1 Option 71 will be made available online.

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

http://www.nortelnetworks.com/

Upgrades from Meridian 1 Option 61

The upgrades from Meridian 1 Option 61 will be made available online.

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

http://www.nortelnetworks.com/

Upgrades from Meridian 1 Option 51

The upgrades from Meridian 1 Option 51 will be made available online.

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

http://www.nortelnetworks.com/

Upgrades from Meridian 1 Option 21E

Documentation to support an upgrade from Meridian 1 Option 21E will be made available online.

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

http://www.nortelnetworks.com/

Upgrades from Meridian 1 Option 71, 81, 81C Hybrids

Documentation to support the following Hybrid upgrade procedures will be made available online:

- upgrade from Option 81C Hybrid to Option 81C/IGS CP PII Hybrid
- upgrade from Option 81 Hybrid to Option 81C/IGS CP PII Hybrid
- upgrade from Option 71 Hybrid to Option 81C/IGS CP PII Hybrid

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

http://www.nortelnetworks.com/

Index

Numerics

A

B

C

D

F

H

I

L

P

S

T

U

X

Meridian 1
Succession 1000M

Large System

Upgrade Procedures

Book 2 of 3

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

Publication number: 553-3021-258
Document release: Standard 1.00
Date: October 2003
Produced in Canada

NORTEL NETWORKS™