
Meridian 1

Succession 1000M

Succession 3.0 Software

Small System

Upgrade Procedures

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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, which resulted in the merging of multiple legacy NTPs. This new document consolidates information previously contained in the following legacy documents, now retired:

- *Option 11C Mini: Expansion using Fiber-optic and IP Connectivity Guide* (553-3021-208)
(Content from *Option 11C Mini: Expansion using Fiber-optic and IP Connectivity Guide* (553-3021-208) also appears in *Small System: Overview* (553-3011-010) and *Small System: Planning and Engineering* (553-3011-120).)
- *Option 11C and 11C Mini: Upgrade Procedures Guide* (553-3021-250)
(Content from *Option 11C and 11C Mini: Upgrade Procedures Guide* (553-3021-250) also appears in *Small System: Maintenance* (553-3011-500).)

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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 are supported in your area.

Subject

Small System: Upgrade Procedures (553-3011-258) contains information required to:

- expand existing Option 11C or Option 11C Mini systems using fiber-optic or IP expansion
- upgrade the software on existing Option 11C or Option 11C Mini systems
- upgrade Internet-enabled Option 11C or Option 11C Mini systems to become Meridian 1 Small Systems or Succession 1000M Small Systems running Succession 3.0 Software

This guide does not describe how to add equipment (such as additional cabinets or line cards) to the system. Refer to *Small System: Installation and Configuration* (553-3011-210) when the upgrade includes adding equipment (such as another expansion cabinet at a remote site). Also refer to the site and system planning information in *Small System: Planning and Engineering* (553-3011-120).

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 11C Chassis
- Meridian 1 Option 11C Cabinet
- Succession 1000M Chassis
- Succession 1000M Cabinet

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 lists each Meridian 1 Small System that supports an upgrade path to a Succession 1000M Small System.

Table 1
Meridian 1 systems to Succession 1000M systems

This Meridian 1 system...	Maps to this Succession 1000M system
Meridian 1 Option 11C Chassis	Succession 1000M Chassis
Meridian 1 Option 11C Cabinet	Succession 1000M Cabinet

Note the following:

- When an Option 11C Mini system is upgraded to run Succession 3.0 Software, that system becomes a Meridian 1 Option 11C Chassis.
- When an Option 11C system is upgraded to run Succession 3.0 Software, that system becomes a Meridian 1 Option 11C Cabinet.

Intended audience

This document is intended for individuals responsible for upgrading and expanding existing Small Systems.

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 “Small System”:

- Meridian 1 Option 11C Chassis
- Meridian 1 Option 11C Cabinet
- Succession 1000M Chassis
- Succession 1000M Cabinet

The following systems are referred to generically as “Chassis system”:

- Meridian 1 Option 11C Chassis
- Succession 1000M Chassis

The following systems are referred to generically as “Cabinet system”:

- Meridian 1 Option 11C Cabinet
- Succession 1000M Cabinet

The call processor in Succession 1000M systems is referred to as the “Succession Call Server”.

Related information

This section lists information sources that relate to this document.

NTPs

The following NTPs are referenced in this document:

- *Small System: Overview* (553-3011-010)
- *Small System: Planning and Engineering* (553-3011-120)
- *Small System: Installation and Configuration* (553-3011-210)
- *Small System: Maintenance* (553-3011-500)
- *Signaling Server: Installation and Configuration* (553-3001-212)
- *IP Peer Networking* (553-3001-213)
- *Optivity Telephony Manager: Installation and Configuration* (553-3001-230)
- *Features and Services* (553-3001-306)
- *Software Input/Output: Administration* (553-3001-311)
- *Optivity Telephony Manager: System Administration* (553-3001-330)
- *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)
- *Internet Terminals: Description* (553-3001-368)
- *Software Input/Output: Maintenance* (553-3001-511)
- *Large System: Installation and Configuration* (553-3021-210)
- *Succession 1000 System: Installation and Configuration* (553-3031-210)

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Start here to perform upgrades

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Introduction

This chapter is the starting point for all Option 11, Option 11E, Option 11C, and Option 11C Mini software and hardware upgrades. It indicates which procedure to follow to complete the required upgrade.

Note: This guide describes how to prepare the main cabinet of an existing Cabinet system for a third expansion cabinet, but it does not describe how to add equipment to the system. If you plan to expand the system as part of the upgrade, complete the upgrade first (as described in this guide). Then add equipment as described in *Small System: Installation and Configuration* (553-3011-210).

Upgrading systems to hold three or more fiber expansion cabinets

To equip a system with more than two expansion cabinets, the system must be a Meridian 1 Option 11C Cabinet with Release 24.24 or later software. If the existing system is not of this type, upgrade the system to Meridian 1 Option 11C Cabinet. See “Upgrade selection list” on [page 18](#) for how to select the appropriate upgrade.

When you have upgraded to a Meridian 1 Option 11C Cabinet system with fiber-optic cable capabilities, follow the procedures to upgrade the hardware. See “Upgrading cabinet hardware” on [page 125](#).

Upgrade selection list

Select the appropriate upgrade from the following upgrade descriptions.

Upgrading an Option 11 or Option 11E

You can upgrade an Option 11 or Option 11E system with:

- one cabinet
- two cabinets
- two or more cabinets interconnected by fiber-optic cable

The existing Option 11 or 11E has one cabinet

If the existing system is an Option 11 or Option 11E with a main cabinet, refer to “Upgrading a single-cabinet system to Meridian 1 Option 11C Cabinet” on [page 23](#).

The existing Option 11 or 11E has two cabinets

If the existing system is an Option 11 or Option 11E with one main and one expansion cabinet interconnected with metal cable, refer to “Upgrading a two-cabinet system with metal cable” on [page 37](#).

Note: This upgrade procedure does not apply to systems interconnected with fiber-optic cable.

The existing system is an Option 11E with cabinets interconnected by fiber-optic cable

If the existing system has a main cabinet and one or two expansion cabinets interconnected with fiber-optic cable, refer to “Upgrading an Option 11E with fiber-optic cable” on [page 95](#).

Upgrading an existing Option 11C

You can upgrade an Option 11C system that has one or two cabinets. Or, if you plan to add a third or fourth expansion cabinet, you can upgrade an Option 11C with fiber-optic capabilities.

The existing system is an Option 11C with two cabinets interconnected by metal cable

If the existing system is an Option 11C with two cabinets interconnected by metal cable, refer to “Upgrading a two-cabinet system with metal cable” on [page 37](#).

The existing system is an Option 11C with a single cabinet

If you plan to add expansion cabinets to an Option 11C with a single cabinet, refer to *Small System: Installation and Configuration* (553-3011-210).

The existing system is an Option 11C and you plan to add a third expansion cabinet

Note: The existing system must be at least an Option 11C with fiber-optic cable capabilities before you can add a third or fourth expansion cabinet. Upgrade the existing system, if necessary, before trying to add a third (or fourth) cabinet.

To expand the existing Option 11C to include more than two expansion cabinets, complete the following steps:

- 1 Refer to “Upgrading cabinet hardware” on [page 125](#), and upgrade the main cabinet (as needed).
- 2 Refer to “Upgrading the NTDK20AB Small System Controller card” on [page 135](#), and upgrade the SSC card (as needed).
- 3 Refer to *Small System: Installation and Configuration* (553-3011-210) to add the additional cabinets.

The existing system is a Meridian 1 Option 11C Cabinet and you plan to expand it using IP connectivity

Refer to “Fiber-optic and IP expansion overview” on [page 147](#) for a description of the expanded system configurations that are possible.

For the procedures to add IP expansion cabinets or chassis to a Meridian 1 Option 11C Cabinet, refer to “Expanding a Cabinet system to support IP connectivity” on [page 195](#).

Note: A Succession 1000M Small System is a Meridian 1 Option 11C Cabinet or Chassis with a Succession Signaling Server in the network configuration. For information on installing the Succession Signaling Server, refer to *Signaling Server: Installation and Configuration* (553-3001-212).

Upgrading Option 11C Mini

You can upgrade an Option 11C Mini for fiber-optic and IP expansion. In order to support this type of expansion, the NTDK97 Mini System Controller (MSC) card is replaced by an NTDK20 Small System Controller (SSC) card. For information on upgrading and expanding the Option 11C Mini, refer to:

- “Fiber-optic and IP expansion overview” on [page 147](#)
- “Expanding a Chassis system using fiber-optic connectivity” on [page 171](#)
- “Expanding a Chassis system using IP connectivity” on [page 217](#)

Upgrading software

The following sections describe the software upgrades you can perform.

Update the boot code

To update the boot code on the SSC card, refer to “Firmware upgrade for IP daughterboard” on [page 446](#).

Upgrade software from Option 11 or Option 11E from a Software Daughterboard or PC Card

To upgrade software from an Option 11 or 11E to a Meridian 1 Option 11C Cabinet, refer to “Option 11/11E upgrade from Software Daughterboard or PC Card” on [page 261](#).

Update to a new release of software

In general, to update to a new software release, refer to “Upgrading or installing software” on [page 279](#).

Upgrading to Succession 3.0 Software and Succession 1000M

Upgrading to Succession 3.0 Software allows your Small System to exploit the benefits of IP telephony and positions the system for Internet connectivity.

If your system is not already “Internet-enabled” to any degree, then upgrading to Succession 3.0 Software is no different from any other update to a new release of software. Refer to “Upgrading or installing software” on [page 279](#).

In order to enable your system for IP telephony, you must equip it with Voice Gateway Media Cards and their associated applications. Refer to the following NTPs for more information:

- the chapter on IP Line card configuration in *Small System: Installation and Configuration* (553-3011-210)
- *IP Peer Networking* (553-3001-213)
- *IP Trunk: Description, Installation, and Operation* (553-3001-363)

- *IP Line: Description, Installation, and Operation* (553-3001-365)
- *Internet Terminals: Description* (553-3001-368)

To upgrade your Meridian 1 Option 11C Cabinet or Chassis to a Succession 1000M Small System, install a Succession Signaling Server. For more information, refer to *Signaling Server: Installation and Configuration* (553-3001-212).

If your system is already equipped with IP Line, IP Trunk, or both, then upgrading to Succession 3.0 Software involves more than simply updating to a new software release. Similarly, upgrading to a Succession 1000M Small System involves more than simply installing a Succession Signaling Server: it involves migrating the network from a node-based dialing plan to a Gatekeeper-resolved Network Numbering Plan, as well as reconfiguring and cutting over the upgraded system to use IP Peer Virtual Trunks. The scope of the upgrade will depend on the configuration and complexity of the existing network.

If your system is already equipped with IP Line, IP Trunk, or both, make sure that you read and fully understand the chapter “Overview of upgrading to Succession 3.0 Software” on [page 329](#). Then, after you have identified the upgrade scenario that best suits your circumstances, follow the procedures for that scenario in “Succession 3.0 Software upgrade procedures” on [page 349](#).

Change feature set and ISM parameters

To change the feature set or ISM parameters, refer to “Upgrading feature set and ISM parameters” on [page 431](#).

Upgrading a single-cabinet system to Meridian 1 Option 11C Cabinet

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This section contains information on the following topics:

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Introduction

This chapter describes how to upgrade an Option 11 or Option 11E with a single cabinet to a Meridian 1 Option 11C Cabinet. Sections in this chapter cover the following topics:

- what items you need for the upgrade
- how to upgrade to Meridian 1 Option 11C Cabinet
- how to revert back to Option 11 or Option 11E

Note: To upgrade to a Succession 1000M Cabinet system, install the Succession Signaling Server as well. Refer to *Signaling Server: Installation and Configuration* (553-3001-212) for instructions.

Summary of items required

You need the following items to complete this upgrade:

- NTDK20 Small System Controller (SSC) card
- NTBK48 three-port SDI cable (if you are upgrading from Option 11E, this cable is already present)
- NTDK27 Ethernet cable (optional)
- Software Daughterboard

Note: You must have Release 24 or later software to install dual-port expansion daughterboards as part of the upgrade.

- security device
- Keycode Data Sheet
- personal computer (PC) equipped with XModem CRC software to run the Customer Configuration Backup and Restore (CCBR) feature, in order to extract the customer data from the existing system

Note: The PC can be on-site or located remotely using a modem.

Summary of steps

The following list of steps describes how to upgrade a single-cabinet Option 11 or Option 11E to a Meridian 1 Option 11C Cabinet:

- 1 Perform a datadump (EDD) on the existing system.
- 2 Extract the customer data from the existing system using the CCBR feature.
- 3 Install the NTDK20 SSC card.
- 4 Install the NTBK48 three-port SDI cable.

Note: If you upgrade from Option 11E, this cable is already present.

- 5 Load the new system software and customer data into the system.
- 6 Install the NTDK27 Ethernet cable (optional).

Expansion cabinets and additional equipment

This chapter does not describe the installation of additional expansion cabinets or additional equipment, such as line cards. If you plan to add these items as part of the upgrade, first complete the upgrade as described in this chapter. Then, refer to *Small System: Installation and Configuration* (553-3011-210) and “Expanding a Cabinet system to support IP connectivity” on [page 195](#) in this guide for information about adding expansion cabinets and other equipment to an existing Small System.

Upgrade procedure

Procedure 1 on [page 25](#) describes how to upgrade a single-cabinet Option 11 or Option 11E to a Meridian 1 Option 11C Cabinet.

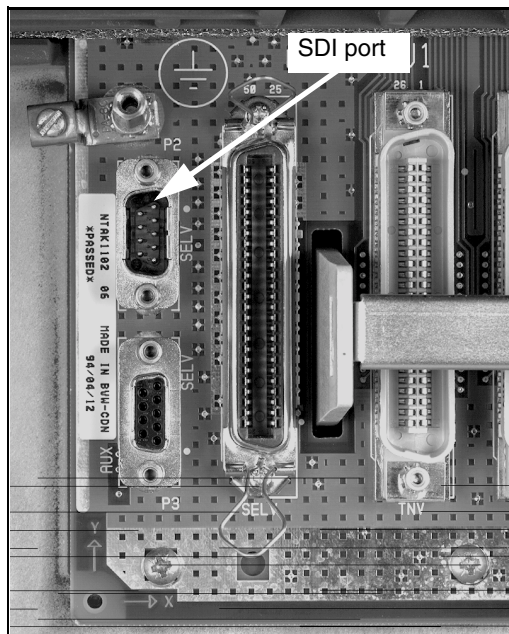
Procedure 1

Upgrading a single-cabinet Option 11 or Option 11E system

- 1 Connect a TTY terminal to SDI Port 0.

Make sure the terminal connects to the SDI Port 0 (see Figure 1 on [page 26](#)).

Figure 1
SDI Port 0



- 2 Log into the system and perform a datadump on the existing system.

You must perform this step. It makes sure you back up any changes made after the last datadump. This step is a precautionary measure. If the upgrade fails, you can revert to the earlier system.

- a. Load LD 43.
- b. Enter the command **EDD**. Allow the datadump to finish.
- c. Exit LD 43 by entering ********.

- 3 Load LD 22 and print the ISM parameters. Make a note of the existing parameters.

At the **REQ** prompt, type **SLT** and press **<CR>** to print the ISM parameters.

The existing software cartridge indicates the ISM parameters.

- 4 Use the CCBR feature to extract the customer data from the existing system:
 - a. Use a PC to log in to the existing Option 11.
 - b. Load LD 143 and enter **XBK** to start a configuration data backup.
 - c. At the **INFO** prompt, enter a name for the file (up to 128 characters) and press **<CR>** twice.
 - d. Wait for the transfer to finish, until you see an **OK** message. The transfer can last up to 30 minutes.
 - e. Enter **XVR** to check the backed up data.
 - f. Exit LD 143 by entering ********.
- 5 Disconnect the power from the cabinet.

Set the circuit breaker switch, on the front of the power supply unit in the cabinet, to OFF.

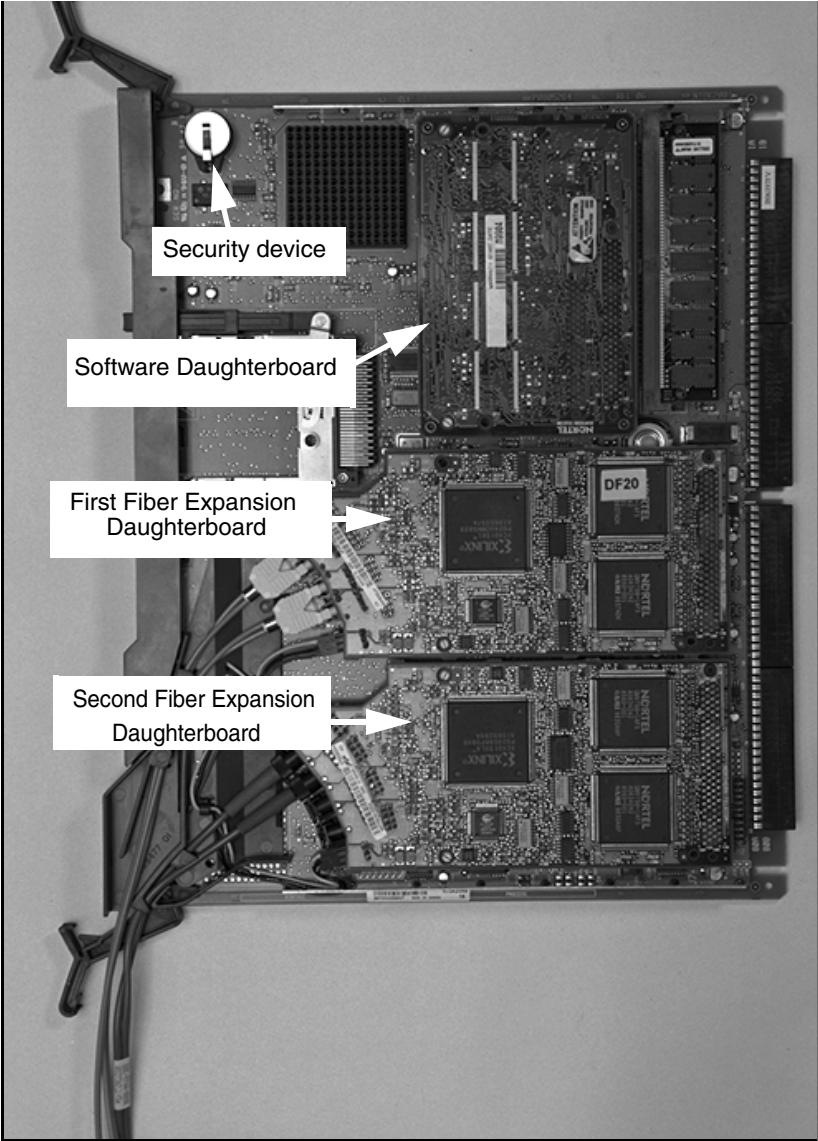
If the system has reserve battery power, set the circuit breaker switch, inside the reserve battery power unit, to OFF.
- 6 Attach the antistatic wrist strap provided at the bottom of the cabinet to your wrist.
- 7 Remove the NTAK01 CPU/Conf or NTB45 System Core card from the cabinet.
- 8 Set the baud rate switches on the new NTDK20 SSC card to match the settings on the card you removed: either the NTAK01 CPU/Conf card or NTB45 System Core card.

Note: The baud rate switches are on the faceplate of the NTDK20 SSC card.
- 9 Install the Software Daughterboard and security device on the NTDK20 SSC card as shown in Figure 2 on [page 28](#).

**WARNING**

The NTDK20 SSC card has components on both sides of the circuit board. Be careful not to damage any of the components when handling the card.

Figure 2
NTDK20 SSC card



- 10** (Optional step) If you plan to add one or more expansion cabinets as part of the upgrade, install a Fiber Expansion Daughterboard.

Note: You can complete this step after you have upgraded the main cabinet to a Meridian 1 Option 11C Cabinet. However, you can prevent additional downtime by installing any required Expansion Daughterboards now. Refer to *Small System: Installation and Configuration (553-3011-210)* for detailed information about adding expansion cabinets to an existing system.



DANGER

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

- a.** Install the Cable Routing Guide as shown in Figure 3 on [page 31](#).

The P0816832 Fiber Routing Guide can hold a maximum of two fiber-optic cables. Use it in cabinets that are operating software released before Release 24 software. The P0888475 Cable Routing Guide can hold up to four cables. Use it in cabinets that run Release 24 and later versions of software.

- b.** Install a Fiber Expansion Daughterboard on the NTDK20 SSC card for added expansion cabinets. Refer to Figure 2 on [page 28](#).

There are two types of Fiber Expansion daughterboards: single-port and dual-port. Single-port expansion daughterboards are compatible with all versions of NTDK20 SSC cards. Dual-port expansion daughterboards require an NTDK20CA or later version of the SSC card.

- c.** Connect the fiber-optic cable to the daughterboard.

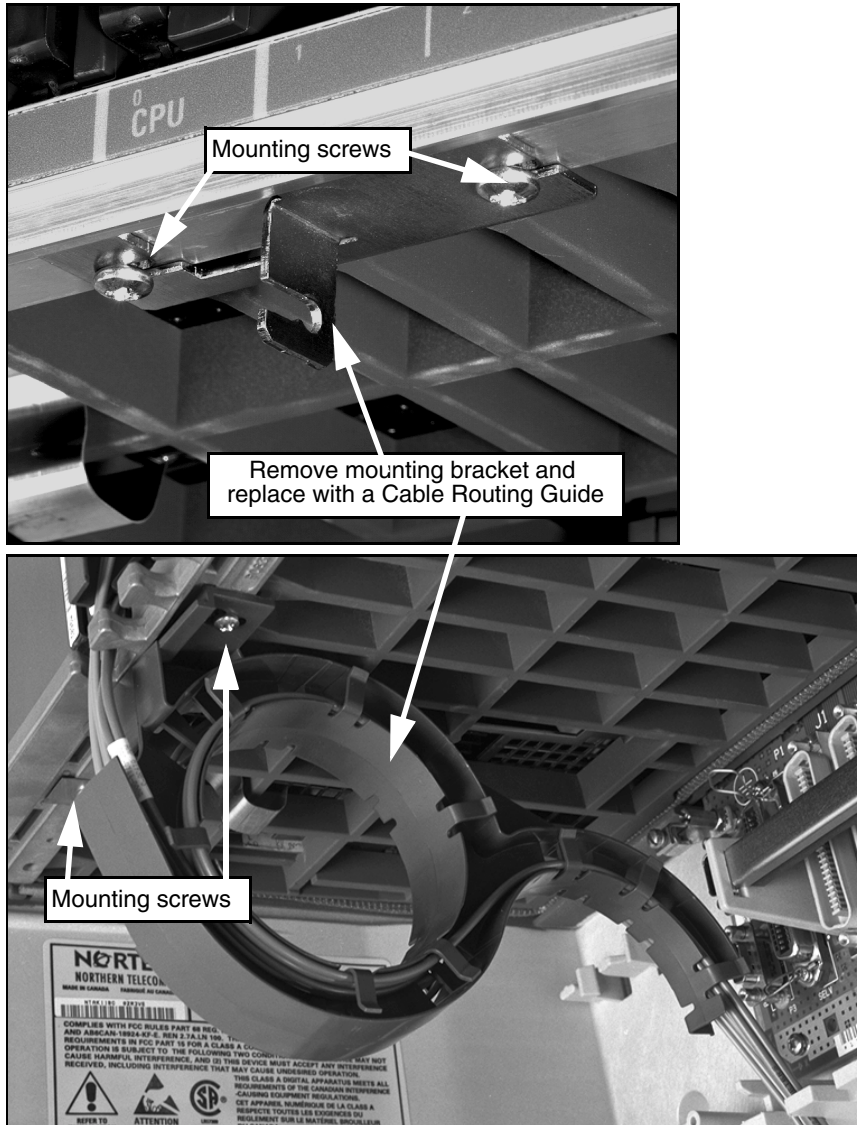
If you are using the A0632902 cable:

- i.** Remove the two protective plugs from the Fiber Expansion Daughterboard.
- ii.** Connect the cable to the Fiber Expansion Daughterboard. Make sure the “V”-shaped groove on the cable connector faces out and the connector seats tightly. When you make the connection correctly, the black mark on the connector is not visible.

If you are using glass fiber-optic cable:

- i.** Remove the protective plug from the Fiber Expansion Daughterboard. Remove the protective cap from the corresponding plug (Tx or Rx) on the fiber-optic cable.
- ii.** Insert the plug in its connector indicated on the daughterboard.
- iii.** Lock the connector in position by turning it a half turn clockwise.
- iv.** Repeat these steps for the remaining fiber-optic connections.

Figure 3
Cable Routing Guide



- 11** Install the new NTDK20 SSC card in the slot left empty by the NTAK01 or NTBK45 card (slot 0).

If a fiber-optic cable is present (see optional step 10 on [page 29](#)), make sure that it is in the Cable Routing Guide.

Note: Do not staple or twist fiber-optic cable. Do not bend it beyond a 35 mm bend radius (90-degree soft bend).

- 12** Connect the power to the cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.

- 13** Install the NTBK48 three-port SDI cable to SDI Port 0 if you have not already installed it.

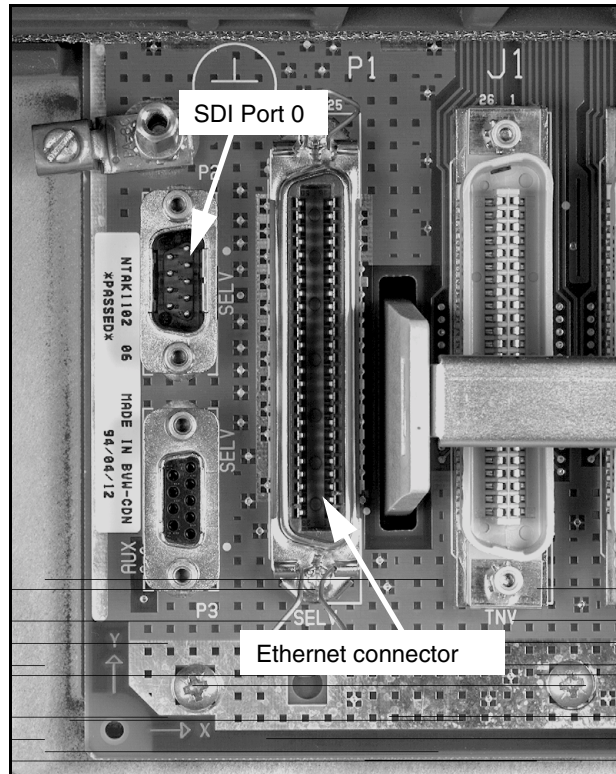
Connect the TTY terminal to the connector on the NTBK48 cable labeled "Port 0" (see Figure 4 on [page 33](#)).

Note: Because Option 11E systems also use this cable, when upgrading from Option 11E, this cable is already present.

IMPORTANT!

To access the Software Installation Program, the TTY must connect to Port 0.

Figure 4
Cable connection



14 Observe the terminal screen.

When you power up, the Software Installation Program starts automatically.

The following is a summary of the steps as described in *Small System: Installation and Configuration (553-3011-210)*:

- a.** Enter the system time and date if the system prompts you. Skip this step if the Software Installation Main Menu appears instead.

Note: The system time and date prompt appears when the Software Installation Program detects a system Year Date that is not in the range of 1995 to 2095.

- b. Select the type of upgrade you plan to do.

If using the Software Delivery card (PC Card):

- i. Select `System Upgrade` from the **Software Installation Main Menu**.
- ii. Select `"Option 11/11E to Option 11C"` from the **Select type of upgrade to be performed** menu.

If you are using the Software Daughterboard, select `"New Install or Upgrade from Option 11/11E - From Software Daughterboard"`.

- c. Indicate whether the system has a Succession Signaling Server.

Does this System have a Signaling Server? (y/n):

*** NOTE: The following prompts require information on the Keycode Data Sheet.
Please have it available. ***

Succession Enterprise Software Rls 0300 will be installed.

- d. Select the feature set to be enabled.

Select the feature set from the **Select Feature Set You Wish to Enable** menu.

Note: The items you select in steps d, e, g, and h must match those provided with the Keycode Data Sheet.

- e. Select feature package numbers to add (if any).

Enter the package numbers. Press **<CR>** twice to end package selection.

- f. Select the database source.

Select one of the following from the **Select Option 11/11E Database Source** list:

- i. Select `CCBR Restore file` if you used the CCBR feature to extract the customer database. This option accesses the Data Transfer mode. To begin the data restoration and upgrading

process, enter **<CR>** when prompted. Continue with step g below.

- ii. Select `Option 11/11E Software Cartridge` if you have a Database Upgrade Tool that you are using to extract the customer database from the existing software cartridge.

- g. Select the ISM parameters.

Compare the ISM parameters with the ISM parameters you printed in step 3 on [page 26](#). Make any required changes. Any changes must compare to the Keycode Data Sheet.

- h. Define the new AUX ID.

The default AUX ID is the security ID provided with the Meridian 1 Option 11C Cabinet. You need to replace it with the previous Option 11 or Option 11E site ID.

- i. Confirm the information entered and enter the validation keycodes.

The terminal displays `New Installation Information Summary`. Make any necessary changes to the information then enter the keycodes.

- j. Complete the software installation when prompted.



CAUTION — Service Interruption

If you enter **YES**, the system reloads (SYSLOAD) to complete the installation.

- 15 Wait for the software installation to finish.

- 16 If you have the optional NTDK27 Ethernet cable, connect it to the expansion connector in the cabinet (see Figure 4 on [page 33](#)).

- 17 If necessary, change the tone and SDI functions.

The NTDK20 SSC card combines many tone functions. Refer to “Assigning TDS/DTR, XTD, and SDI functions” on [page 243](#) for more information.

- 18 Load LD 43, and perform a datadump (EDD).

End of Procedure

Restore data when an upgrade fails

This section explains how to revert back to an Option 11 or Option 11E in the event that the upgrade fails. To revert back, insert one of the following back into slot 0 of the main cabinet:

- the Option 11 NTAK01 CPU/Conf card
- the Option 11E NTB45 System Core card and the software cartridge

Then, reload the system.

Procedure 2

Reverting back to Option 11/11E

- 1 Disconnect the power from system.
- 2 Remove the NTDK20 SSC card from slot 0 in the main cabinet.
- 3 Attach the software cartridge to the NTAK01 CPU/Conf card or NTB45 System Core card if you removed it before.
- 4 Insert the NTAK01 CPU/Conf card or the NTDK45 System Core card in slot 0, and power up the system.
- 5 Restore the NTAK1118 SDI cable if equipped before.

End of Procedure

Upgrading a two-cabinet system with metal cable

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Introduction

This chapter describes four procedures:

- Procedure 3, “Upgrading to Meridian 1 Option 11C Cabinet without fiber-optic connection” on [page 45](#): Upgrade an existing two-cabinet system interconnected with an NTAK1204 or NTAK1205 cable.
- Procedure 4, “Upgrading with fiber-optic connection to Meridian 1 Option 11C Cabinet” on [page 54](#): Upgrade a two-cabinet Option 11C with an NTAK1204 or NTAK1205 cable to fiber-optic connection.
- Procedure 5, “Upgrading to fiber-optic connection” on [page 77](#): Upgrade a two-cabinet Option 11C with an NTAK1204 or NTAK1205 cable to fiber-optic connection.
- Procedure 6, “Reverting back to Option 11 or Option 11E” on [page 94](#): Revert to an Option 11 or Option 11E.

Summary of procedures

This section describes the three procedures:

- Upgrade without fiber-optic connection to Meridian 1 Option 11C Cabinet
- Upgrade with fiber-optic connection to Meridian 1 Option 11C Cabinet
- Upgrade to fiber-optic connection

Upgrading to a Meridian 1 Option 11C Cabinet without fiber-optic connection

The upgrade without fiber-optic connection keeps the existing NTAK12 expansion cabinet and the NTAK1204 or NTAK1205 interconnecting cable. The new system that results from this upgrade provides all the features made available with Meridian 1 Option 11C Cabinet with the following limits:

- There is no Ethernet capability.
- Symposium Call Center Server, Symposium Express, Call Pilot, and Internet Telephony Gateway will not be supported.
- There is no fiber-optic interconnect cable capability. This limits the distance between the main and expansion cabinets to the length of the existing NTAK1204 or NTAK1205 cable.
- The system can only have two cabinets (a main cabinet and one expansion cabinet). This gives a maximum 20 card slots.

Procedure 3 on [page 45](#) describes how to do an upgrade without fiber-optic connection.

Upgrading to a Meridian 1 Option 11C Cabinet with fiber-optic connection

With the upgrade of fiber-optic connectivity, the new system provides all the features made available by the Meridian 1 Option 11C Cabinet without limits. However, this upgrade replaces the existing NTAK12 expansion cabinet with an NTAK11 cabinet, which connects it to the main cabinet with fiber-optic cable.

Procedure 4 on [page 54](#) describes how to do an upgrade with fiber-optic connection.

Upgrading to fiber-optic connection

This upgrade takes an upgraded Option 11C without fiber-optic connection and upgrades it to a Meridian 1 Option 11C Cabinet with fiber-optic connection. This procedure applies to a Meridian 1 Option 11C Cabinet that remains connected to an NTAK12 expansion cabinet with an NTAK1204 or

NTAK1205 cable. This upgraded system provides all the features made available by the Meridian 1 Option 11C Cabinet without limitations. However, this upgrade replaces the existing NTAK12 expansion cabinet with an NTAK11 cabinet.

Procedure 5 on [page 77](#) describes how to do an upgrade to fiber-optic connection.

Summary of items required

Refer to the appropriate section to find out which items you need:

- to upgrade a two-cabinet system to Meridian 1 Option 11C Cabinet
- to connect an existing expansion cabinet with an NTAK1204 or NTAK1205 expansion cable

Upgrading without fiber-optic connection

For an upgrade without fiber-optic connection, you need the following items:

- NTDK20 Small System Controller (SSC) card
- NTBK48 three-port SDI cable (if you are upgrading from Option 11E, this cable is already present)
- NTDK26 Backwards Compatible Daughterboard
- Software Daughterboard
- security device
- Keycode Data Sheet
- one of the following to extract the customer data from the existing system:
 - personal computer (PC) equipped with XModem CRC software to run the Customer Configuration Backup and Restore (CCBR) feature
 - Database Upgrade Tool (extracts data from the cartridge)

Note: The PC can be on-site or located remotely.

Upgrading with fiber-optic connection

For an upgrade with fiber-optic connection, you need the following items:

- NTDK20 SSC card

Note: If you use dual-port expansion daughterboards, you must have an NTDK20CA or later version of the SSC card.

- NTB48 three-port SDI cable (if you are upgrading from Option 11E, this cable is already present)
- NTDK22 Single-port or NTDK84 Dual-port Fiber Expansion Daughterboard (30 ft)
- NTDK79 Single-port or NTDK85 Dual-port Fiber Expansion Daughterboard (2 mile)

Note: Use an NTDK22 or NTDK84 Fiber Expansion Daughterboard when the expansion cabinet is within 10 m (33 ft) of the main cabinet. Use one of the following if you plan to move the expansion cabinet up to 3 km (1.8 mi) from the main cabinet:

- NTDK24 (Multimode)
- NTDK79 (Single Mode)
- NTDK85 (Dual-port) Fiber Expansion Daughterboard

- NTDK23 Fiber Receiver card

Note: Use the NTDK23 Fiber Receiver card when the expansion cabinet is within 10 m (33 ft) of the main cabinet. Use one of the following if you plan to move the expansion cabinet up to 3 km (1.8 mi) from the main cabinet:

- NTDK25 (Multimode)
- NTDK80 (Single Mode) Fiber Receiver card

- A0632902 (formerly A0618443) fiber-optic cable

Note: Use this cable only with the NTDK22 or NTDK84 daughterboard for distances up to 10 m (33 ft). For distances up to 3 km (1.8 mi), you need to get duplex glass fiber-optic cable from a local provider.

- security device
- Keycode Data Sheet
- one of the following to extract the customer data from the existing system:
 - personal computer (PC) equipped with XModem CRC software to run the CCBR feature
 - Database Upgrade Tool (extracts data from the cartridge)

Note: The PC can be on-site or located remotely

- NTAK11 cabinet
- two Fiber Routing Guides (one comes with the NTAK11 cabinet and an additional one is available for the expansion cabinet)
- NTDK27 Ethernet cable (optional)

Upgrading a Meridian 1 Option 11C Cabinet without fiber connection to fiber-optic connection

For an NTAK12 expansion cabinet upgrade on an upgraded Meridian 1 Option 11C Cabinet, you need the following items:

- NTAK11 cabinet
- two Fiber Routing Guides
- NTDK22 Single-Port or NTDK84 Dual-Port Fiber Expansion Daughterboard

Note: Use the NTDK22 or NTDK84 Fiber Expansion Daughterboard when the expansion cabinet is within 10 m (33 ft) of the main cabinet. Use one of the following if you plan to move the expansion cabinet up to 3 km (1.8 mi) from the main cabinet:

- NTDK24 (Multimode)

- NTDK79 (Single Mode)
- NTDK85 (Dual-port) Fiber Expansion Daughterboard
- NTDK23 Fiber Receiver card

Note: Use the NTDK23 Fiber Receiver card when the expansion cabinet is within 10 m (33 ft) of the main cabinet. Use an NTDK25 (Multimode) or NTDK80 (Single Mode) Fiber Receiver card if you plan to move the expansion cabinet up to 3 km (1.8 mi) of the main cabinet.

- A0632902 (formerly A0618443) fiber-optic cable (only required with the NTDK22)

Note: Use the A0632902 cable only with the NTDK22 or NTDK84 daughterboard for distances up to 10 m (33 ft). For distances up to 3 km (1.8 mi), you need to use duplex glass fiber-optic cable from a local provider.

- NTDK27 Ethernet cable (optional)

Summary of steps

The following sections describe the steps for each type of upgrade covered in this chapter.

Upgrading without fiber-optic connection

The following list reviews the steps to upgrade a two-cabinet Option 11 or Option 11E to a Meridian 1 Option 11C Cabinet without fiber-optic cabinet interconnection:

- 1 Perform a datadump (EDD) on the existing system.
- 2 Extract the customer data from the existing system using the CCBP feature (unless you use the Database Upgrade Tool).
- 3 Install the NTDK20 SSC card equipped with NTB26 Backwards Compatible Daughterboard.

- 4 Install the NTBK48 three-port SDI cable. If you are upgrading from Option 11E, this cable is present.
- 5 Load the new system software and customer data in the system.

Procedure 3 on [page 45](#) describes these steps in detail.

Upgrading with fiber-optic connection

The following list reviews the steps to upgrade a two-cabinet Option 11 or Option 11E to a Meridian 1 Option 11C Cabinet with fiber-optic cabinet interconnection:

- 1 Perform a datadump (EDD) on the existing system.
- 2 Extract the customer data from the existing system using the CCBR feature (unless you are using the Database Upgrade Tool).
- 3 Disconnect the NTAK1204 or NTAK1205 cable from the main cabinet.
- 4 Install the NTDK20 SSC card equipped with Fiber Expansion Daughterboard.
- 5 Install the NTBK48 three-port SDI cable. If you are upgrading from Option 11E, this cable is already present.
- 6 Load the new system software and customer data in the system.
- 7 Replace the existing expansion cabinet with an NTAK11 cabinet.
- 8 Connect the expansion cabinet to the main cabinet.

Procedure 4 on [page 54](#) describes these steps in detail.

Upgrading to fiber-optic connection on an upgraded Meridian 1 Option 11C Cabinet without fiber connection

You can upgrade a two-cabinet system to a Meridian 1 Option 11C Cabinet with fiber-optic connection in two parts: First, upgrade to a Meridian 1 Option 11C Cabinet. Then, upgrade the NTAK1204 or NTAK1205 cable to a fiber-optic connection. The following list reviews the steps to follow:

- 1 Perform a datadump (EDD).
- 2 Disconnect the NTAK1204 or NTAK1205 cable from the main cabinet.

- 3 Install the Fiber Expansion Daughterboard on the NTDK20 SSC card.
- 4 Replace the existing expansion cabinet with an NTAK11 cabinet.
- 5 Connect the expansion cabinet to the main cabinet.

Procedure 4 on [page 54](#) describes these steps in detail.

Expansion cabinets and other additional equipment

This chapter does not describe the installation of additional expansion cabinets or of additional equipment such as line cards. To add additional expansion cabinets or other equipment as part of the upgrade to a Meridian 1 Option 11C Cabinet, complete the upgrade as described in this chapter. Then refer to *Small System: Installation and Configuration* (553-3011-210) for information about adding expansion cabinets and other equipment to an existing Meridian 1 Option 11C Cabinet system.

Upgrade procedures

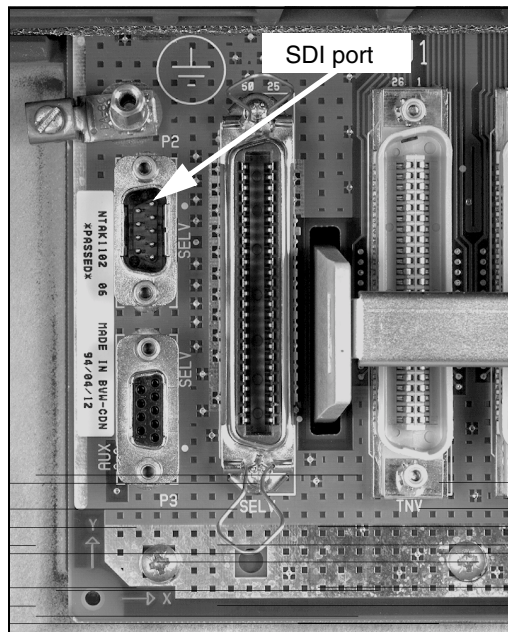
Upgrading without fiber-optic connection

Procedure 3 on [page 45](#) describes how to upgrade a two-cabinet Option 11 or Option 11E to a Meridian 1 Option 11C Cabinet without fiber-optic cabinet interconnection.

Procedure 3 **Upgrading to Meridian 1 Option 11C Cabinet without fiber-optic connection**

- 1 Connect a TTY terminal to SDI port 0 of the existing system.
The terminal must connect to SDI port 0 (see Figure 5 on [page 46](#)).

Figure 5
SDI port 0



- 2 Log in to the system and perform a datadump on the existing system.

Note: You must do this step to make sure you back up any changes made after the last datadump. This step is a precautionary measure; if the upgrade fails, you can revert to the earlier system.

- a. Load LD 43.
- b. Enter the **EDD** command.
- c. Let the datadump finish, then exit LD 43 by entering ********.

- 3 Load LD 22 and print the ISM parameters. Make a note of the existing parameters.

Type **SLT** at the **REQ** prompt and press **<CR>** to print the ISM parameters. The ISM parameters are also on the existing software cartridge.

- 4 Do one of the following to extract the customer data from the existing system:
 - a. If you are using the Database Upgrade Tool, ignore this step and go to step 5 on [page 47](#).
 - b. If you are using the CCBR feature and a PC, perform the following steps:
 - i. Log in to the existing Option 11.
 - ii. Load LD 43 and enter **XBK** to start a configuration data backup.
 - iii. At the **INFO** prompt, enter a name for the file (up to 128 characters).
 - iv. After the backup finishes, enter **XVR**. Check the backed up data.
 - v. Exit LD 43 by entering ********.

Note: Refer to *Small System: Maintenance (553-3011-500)* for details about the CCBR feature.

- 5 Disconnect the power from the cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to OFF.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to OFF.
- 6 Attach the antistatic wrist strap provided at the bottom of the cabinet to your wrist.
- 7 Remove the NTAK01 CPU/Conf or NTB45 System Core card from the cabinet.
- 8 Set the baud rate switches on the new NTDK20 SSC card to match the settings on one of the following:
 - the NTAK01 CPU/Conf
 - the removed NTB45 System Core card

- 9 Remove the jumper plug from connector J7 on the component side of the NTDK20 SSC card, as shown in Figure 6 on [page 49](#).

Note: Store the jumper plug carefully. You need it to install an expansion cabinet connected with fiber-optic cable. You need the J7 connector plug to activate the Ethernet capability (which is not available with copper-connected cabinets).



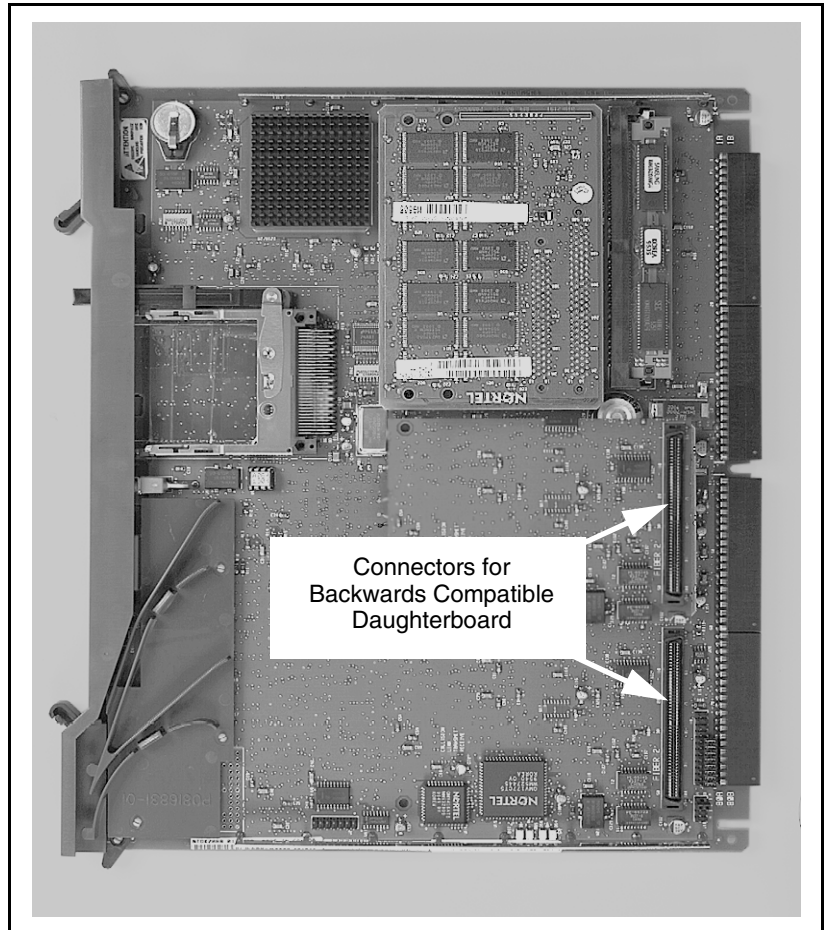
WARNING

The NTDK20 SSC card has components on both sides of the circuit board. Be careful not to damage any of the components when handling the card.

- 10 Install the NTDK26 Backwards Compatible Daughterboard on the NTDK20 SSC card, as shown in Figure 6 on [page 49](#).

Note: Make sure you have removed the J7 connector plug (see step 9 on [page 48](#)).
- 11 Install the Software Daughterboard and the security device on the NTDK20 SSC Card as shown in Figure 6 on [page 49](#).

Figure 6
Location of NTDK26 Backwards Compatible Daughterboard



- 12** Install the new NTDK20 SSC card in the slot left empty by the NTAK01 or NTBK45 card (slot 0).

13 Extract the customer database from the existing system.

Do one of the following:

- a.** If you are going to use the CCBP feature, skip this step and go to step 14.
- b.** If you are using the Database Upgrade Tool, install the software cartridge from the existing system to the Database Upgrade Tool:
 - i.** Remove the software cartridge from the existing NTAK01 CPU/Conf or NTB45 System Core card.
 - ii.** Connect the Option 11 or Option 11E software cartridge to the connector on the Database Upgrade Tool.
 - iii.** Make sure the software cartridge on the Database Upgrade Tool faces towards the left. Then insert it in Slot B of the PC Card socket located in the faceplate of the NTDK20 SSC card.

14 Install the NTB48 three-port SDI cable to the SDI port.

Connect the TTY terminal to the connector on the NTB48 cable labeled "Port 0" (see Figure 7 on [page 51](#)).

Note: This cable is used with the Option 11E system.

IMPORTANT!

The TTY must connect to port 0 to access the Software Installation Program.

The following is a summary of the steps, as described in *Small System: Installation and Configuration (553-3011-210)*:

- a. Enter the system time and date if the system prompts you. Skip this step if the Software Installation Main Menu appears instead.

Note: The system time and date prompt appears when the Software Installation Program detects a system Year Date that is not in the range of 1995 to 2095.

- b. Select the type of upgrade you plan to do.

If using the Software Delivery card (PC Card):

- i. Select `System Upgrade` from the **Software Installation Main Menu**.
- ii. Select “Option 11/11E to Option 11C” from the **Select type of upgrade to be performed** menu.

If you are using the Software Daughterboard, select “New Install or Upgrade from Option 11/11E - From Software Daughterboard”.

- c. Indicate whether the system has a Succession Signaling Server.

Does this System have a Signaling Server? (y/n):

*** NOTE: The following prompts require information on the Keycode Data Sheet.
Please have it available. ***

Succession Enterprise Software Rls 0300 will be installed.

- d. Select the feature set to be enabled.

Select the feature set from the **Select Feature Set You Wish to Enable** menu.

Note: The items you select in steps d, e, g, and h must match those provided with the Keycode Data Sheet.

- e. Select feature package numbers to add (if any).

Enter the package numbers. Press <CR> twice to end package selection.

- f. Select the database source.

Select one of the following from the **Select Option 11/11E Database Source** list:

- i. **Select CCBR Restore file** if you used the CCBR feature to extract the customer database. This option accesses the Data Transfer mode. To begin the data restoration and upgrading process, enter **<CR>** when prompted. Continue with step g below.
 - ii. **Select Option 11/11E Software Cartridge** if you have a Database Upgrade Tool that you are using to extract the customer database from the existing software cartridge.
- g.** Select the ISM parameters.
- Compare the ISM parameters with the ISM parameters you printed in step 3 on [page 46](#). Make any required changes. Any changes must compare to the Keycode Data Sheet.
- h.** Define the new AUX ID.
- The default AUX ID is the security ID provided with the Meridian 1 Option 11C Cabinet. You need to replace it with the previous Option 11 or Option 11E site ID.
- i.** Confirm the information entered and enter the validation keycodes.
- The terminal displays `New Installation Information Summary`. Make any necessary changes to the information, then enter the keycodes.
- j.** Complete the software installation when prompted.

**CAUTION — Service Interruption**

If you enter **YES**, the system reloads (SYSLOAD) to complete the installation.

- 17** Wait for the software installation to finish.
- 18** Load LD 43, and perform a datadump (EDD).
- 19** If you need to, change the tone and SDI functions.

The NTDK20 SSC card combines many tone functions. Refer to “Assigning TDS/DTR, XTD, and SDI functions” on [page 243](#) for more information.

End of Procedure

Upgrading with fiber-optic connection

Procedure 4 describes how to upgrade a two-cabinet Option 11 or Option 11E to a Meridian 1 Option 11C Cabinet with fiber-optic cabinet interconnection.

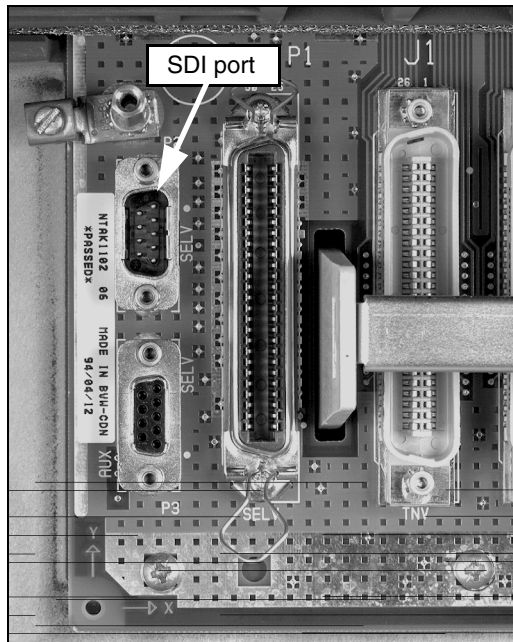
Procedure 4

Upgrading with fiber-optic connection to Meridian 1 Option 11C Cabinet

- 1 Connect a TTY terminal to SDI port 0 of the existing system.

You must connect the terminal to SDI port 0 (see Figure 8 on [page 54](#)).

Figure 8
SDI port 0



- 2 Log in to the system and perform a datadump on the existing system.

Note: You must do this step to make sure you back up any changes made after the last datadump. This step is a precautionary measure; if the upgrade fails, you can revert to the earlier system.

- a. Load LD 43.
- b. Enter the **EDD** command.
- c. Let the datadump finish, then exit LD 43 by entering ********.

- 3 Load LD 22 and print the ISM parameters. Make a note of the existing parameters.

Type **SLT** at the **REQ** prompt and press **<CR>** to print the ISM parameters. The ISM parameters are also on the existing software cartridge.

- 4 Do one of the following to extract the customer data from the existing system:

- a. If you are using the Database Upgrade Tool, ignore this step and go to step 5 on [page 55](#).
- b. If you are using the CCBR feature and a PC, perform the following steps:
 - i. Log in to the existing Option 11.
 - ii. Load LD 43 and enter **XBK** to start a configuration data backup.
 - iii. At the **INFO** prompt, enter a name for the file (up to 128 characters).
 - iv. After the backup finishes, enter **XVR**. Check the backed up data.
 - v. Exit LD 43 by entering ********.

Note: Refer to *Small System: Maintenance (553-3011-500)* for details about the CCBR feature.

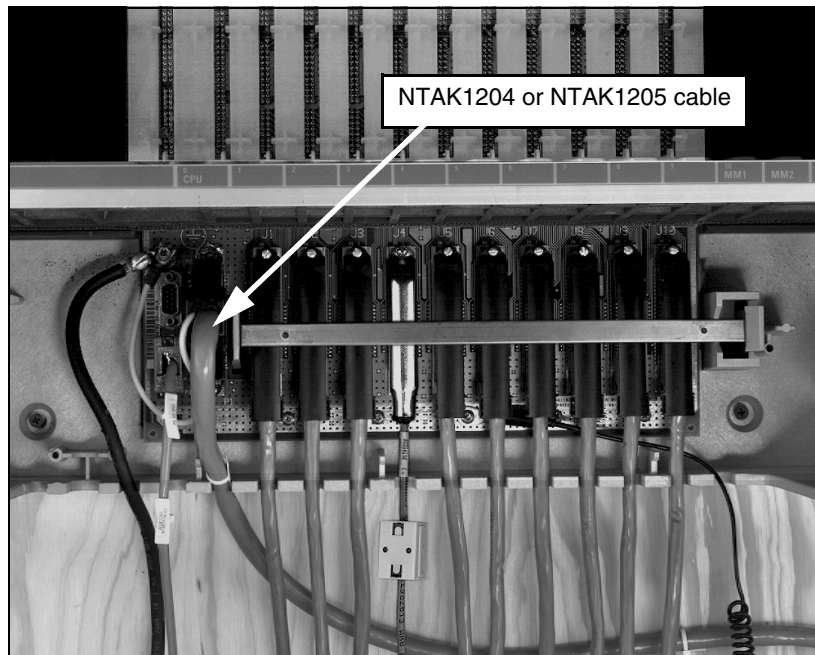
- 5 Disconnect the power from the main and expansion cabinets.

Set the circuit breaker switch on the front of the power supply unit in each cabinet to OFF.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to OFF.

- 6 Disconnect and remove the NTAK1204 or NTAK1205 cable from both cabinets (see Figure 9 on [page 56](#)).

Figure 9
NTAK1204 or NTAK1205 cable connection



- 7 Remove the ground connection from the ground lug in the main cabinet.
- 8 Install a grounding block in the area of the main cabinet.

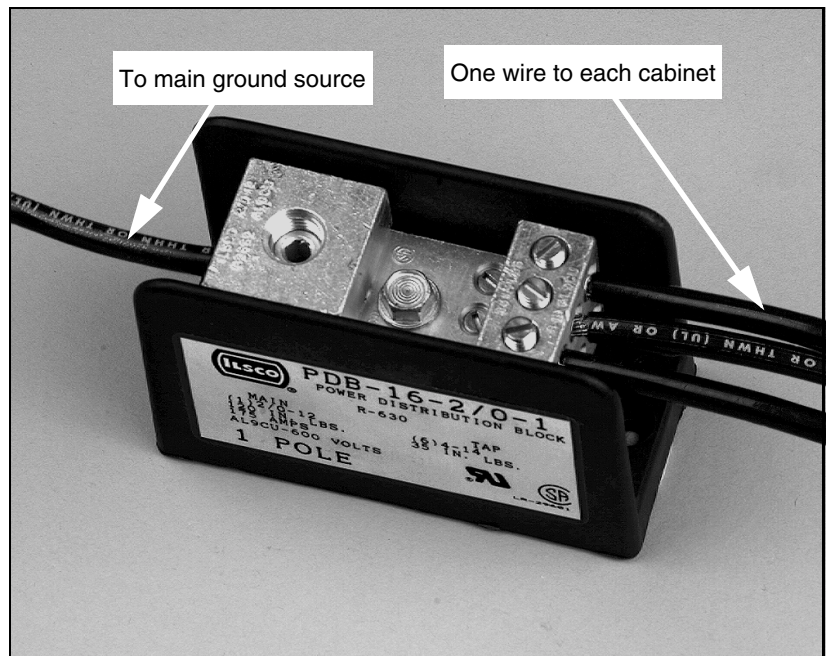
Route the ground wire to the grounding block. Install a ground wire from the block to the ground lug in the main cabinet (see Figure 10 on [page 57](#)).

Use #6 AWG (40 Metric) ground wire. For more information about grounding, refer to *Small System: Installation and Configuration* (553-3011-210).

Note 1: Grounding methods vary depending on the type of cross-connect terminal used. You do not always need an NTBK80 grounding block (such as with the Krone Test Jack Frame used in some countries). Refer to *Small System: Installation and Configuration (553-3011-210)* for more information.

Note 2: Do not install a ground wire to the existing expansion cabinet. Install a ground wire to the expansion cabinet when the new expansion cabinet is in position.

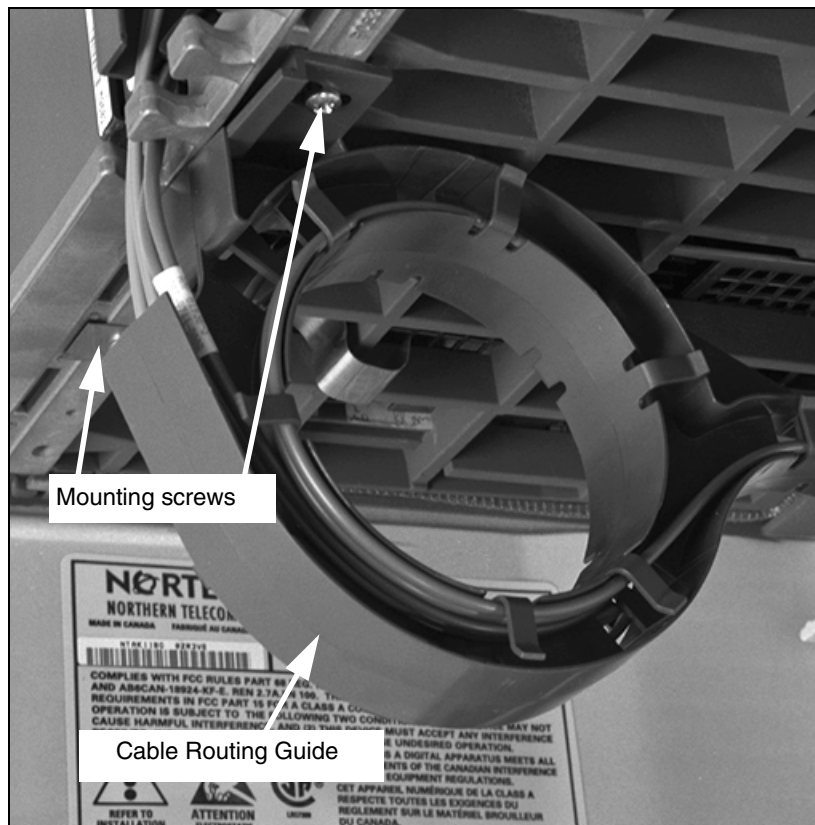
Figure 10
Grounding block



- 9** Install a P0816832 Fiber Routing Guide or P0888475 Multiple Cable Routing Guide under slot 0 (CPU) as shown in Figure 11 on [page 58](#).

Install the routing guide in the cable connector area below the circuit cards. Fasten the routing guide with the existing screws below the card slot.

Figure 11
Cable Routing Guide



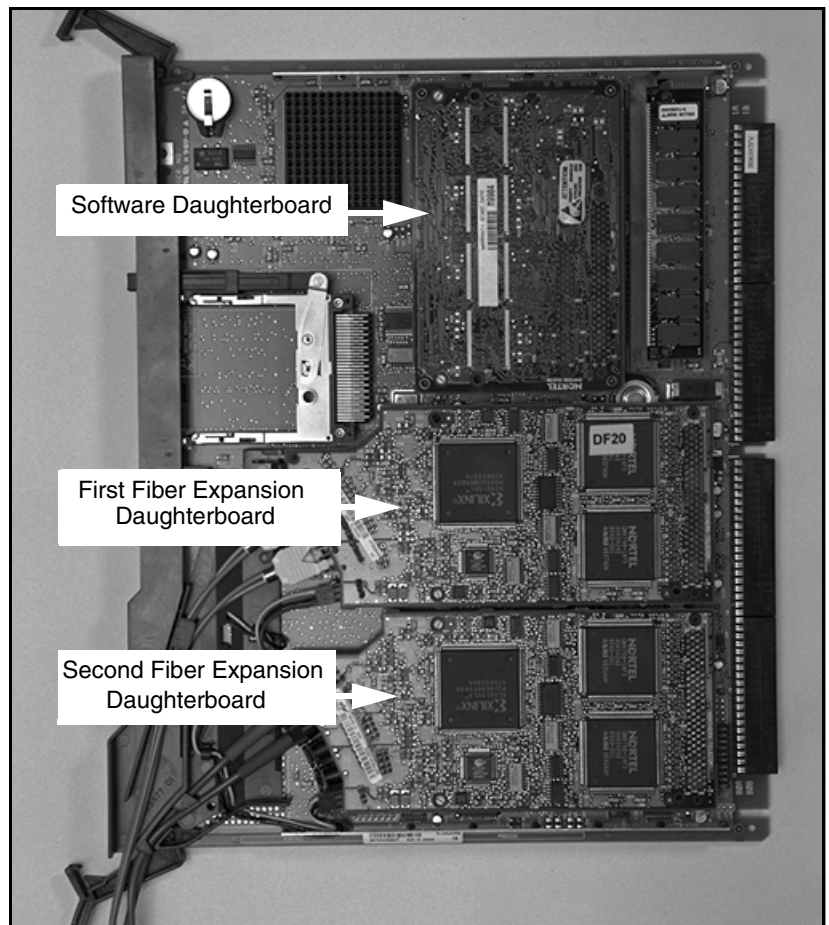
- 10 Remove the NTA001 CPU/Conf or NTB45 System Core card from the cabinet.
- 11 Set the baud rate switches on the new NTD20 SSC card to match the settings on one of the following:
 - the NTA001 CPU/Conf
 - the removed NTB45 System Core card

- 12 Install the Software Daughterboard and the security device on the NTDK20 SSC Card, as shown in Figure 12 on [page 59](#).

**WARNING**

The NTDK20 SSC card has components on both sides of the circuit board. Be careful not to damage any of the components when handling the card.

Figure 12
NTDK20 SSC card



- 13 Install a Fiber Expansion Daughterboard on the NTDK20 SSC card for the expansion cabinet (see Figure 12 on [page 59](#)).

Connect the first Fiber Expansion Daughterboard to the connector labeled “Fiber 1.”

Note 1: Dual-port Fiber Expansion Daughterboards that use glass fiber-optic cable can have a glass fiber extension with plugs at each end. (These plugs make installation easier.) Connect the extension to the daughterboard before installing the extension on the SSC card.

Note 2: If you plan to add a second Fiber Expansion Daughterboard as part of the upgrade, do it now to prevent additional downtime later. Install it to the connector labeled “Fiber 2.” Refer to *Small System: Installation and Configuration (553-3011-210)* for detailed information about adding expansion cabinets to existing Cabinet systems.

- 14 Connect the fiber-optic cable to the connector on the Fiber Expansion Daughterboard as shown in Figure 13 on [page 62](#).



WARNING

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

Use one of the following methods:

- a. If using the A0632902 (formerly the A0618443) cable:
 - i. Remove the two protective plugs from the Fiber Expansion Daughterboard.
 - ii. Connect the cable to the Fiber Expansion Daughterboard. Make sure the “V”-shaped groove on the cable connector faces outward and the connector seats tightly. The marking (if there is one) on the connector is not visible when you connect the cable correctly. See Figure 14 on [page 63](#).

- b.** If using glass fiber-optic cable:
 - i.** Remove the protective plug from the Fiber Expansion Daughterboard. Remove the protective cap from the corresponding plug (Tx or Rx) on the glass fiber-optic cable.
 - ii.** Insert the plug in its assigned connector on the daughterboard.
 - iii.** Lock the connector in position by turning it a half turn clockwise. See Figure 15 on [page 64](#).
 - iv.** Repeat these steps for the second fiber-optic connection.
- c.** If using a glass fiber extension, connect the extension from the daughterboard to the main fiber-optic cable. Make sure you do not interchange the transmit and receive leads.

Figure 13
Fiber-optic cable connections

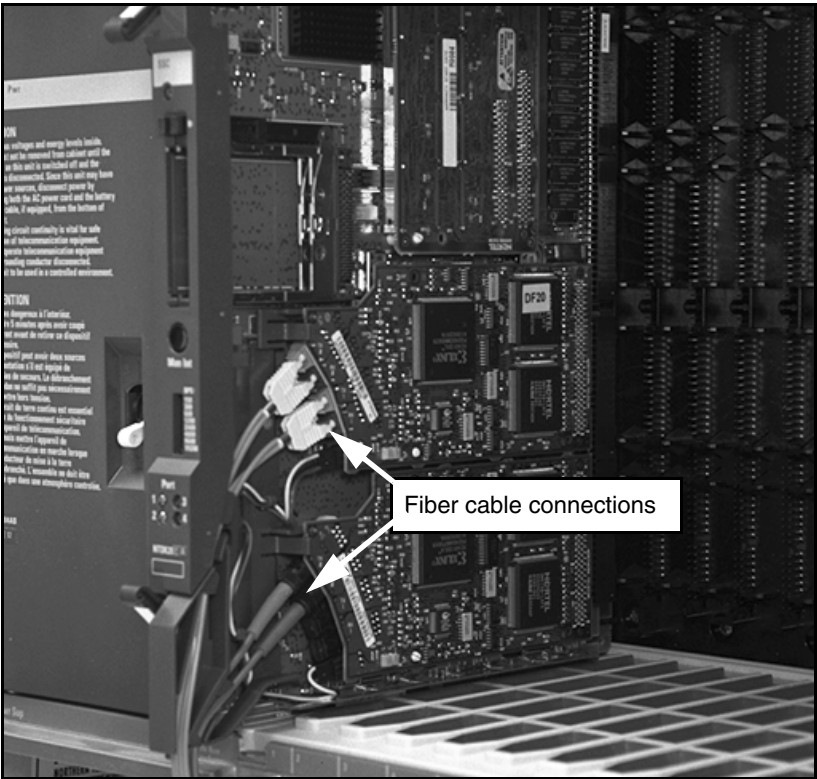


Figure 14
Plastic fiber-optic cable connection

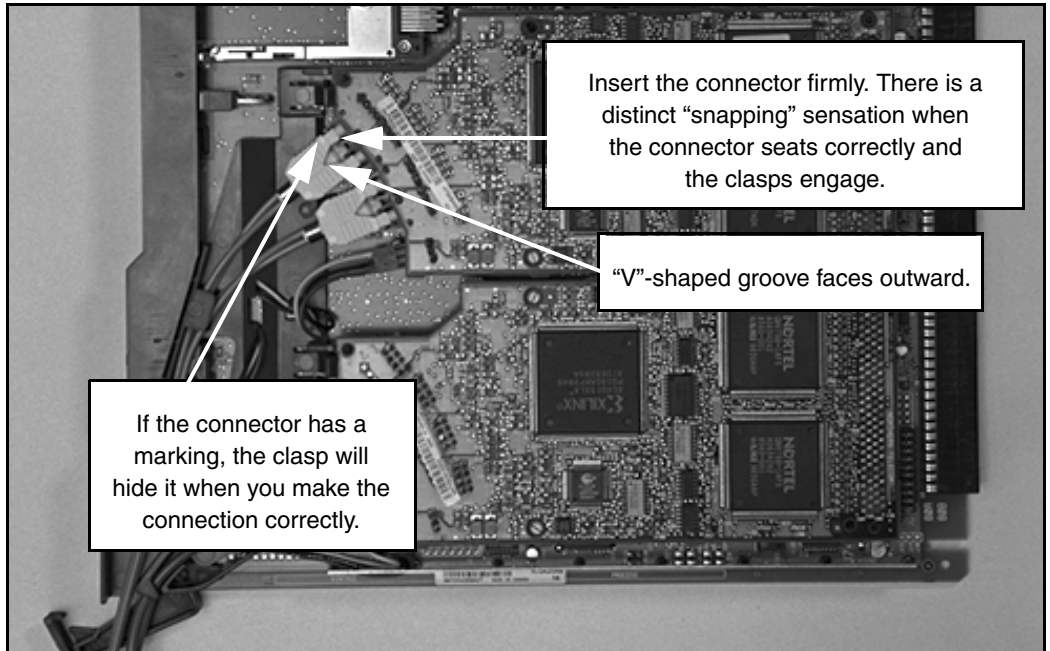
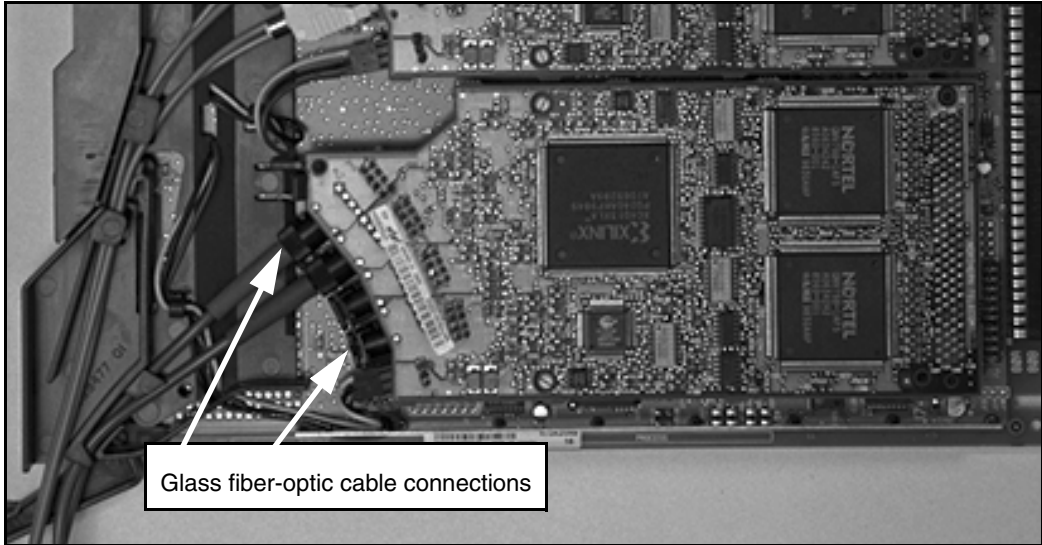


Figure 15
Glass fiber-optic cable connection



- 15** Route each fiber-optic cable through the fiber routing guide.

Use an A0632902 (formerly A0618443) 10 m fiber-optic cable to connect the main cabinet to an expansion cabinet located within 10 m (33 ft).

You need a glass fiber-optic cable when connecting an expansion cabinet located up to 3 km (1.8 mi) from the main cabinet. A local facilities provider can supply and install glass fiber-optic cable.

Note: Do not staple or twist fiber-optic cable. Do not bend it beyond a minimum 35 mm bend radius (90 degrees soft bend).

- 16** Install the new NTDK20 SSC card in the slot left empty by the NTAK01 or NTBK45 card (slot 0).

Store the excess fiber-optic cable on the fiber routing guide.

- 17** Do one of the following to extract the customer database from the existing system:
- a.** If you are not using the Database Upgrade Tool, skip this step and go to step 18.
 - b.** If you are using the Database Upgrade Tool, install the software cartridge from the existing system to the Database Upgrade Tool:
 - i.** Remove the software cartridge from the existing NTA01 CPU/Conf or NTB45 System Core card.
 - ii.** Connect the Option 11 or Option 11E software cartridge to the connector on the Database Upgrade Tool.
 - iii.** Position the software cartridge on the Database Upgrade Tool towards the left. Insert the Database Upgrade Tool in Slot B of the PC Card socket located in the faceplate of the NTDK20 SSC card.
- 18** Install the NTB48 three-port SDI cable to the SDI port.

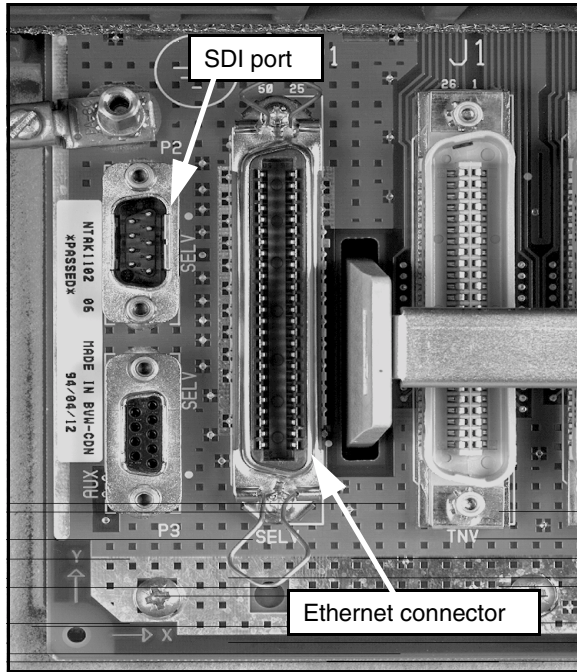
Connect the TTY terminal to the connector on the NTB48 cable labeled "Port 0" (see Figure 16 on [page 66](#)).

Note: Because you use this cable with Option 11E systems, it is present when upgrading from Option 11E.

IMPORTANT!

The TTY must connect to port 0 to access the Software Installation Program.

Figure 16
Cable connection



19 Connect the power to the main cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.

20 Observe the terminal screen.

When you power up, the Software Installation Program starts automatically.

Note: The Software Installation Program is menu-driven, allowing the easy installation of software and customer databases in the Small System. It is clear and direct and includes a Help facility to help you make correct selections. However, if you need more detailed information, refer to *Small System: Installation and Configuration* (553-3011-210).

The following is a summary of the steps, as described in *Small System: Installation and Configuration (553-3011-210)*:

- a. Enter the system time and date if the system prompts you. Skip this step if the Software Installation Main Menu appears instead.

Note: The system time and date prompt appears when the Software Installation Program detects a system Year Date that is not in the range of 1995 to 2095.

- b. Select the type of upgrade you plan to do.

If using the Software Delivery card (PC Card):

- i. Select **System Upgrade** from the **Software Installation Main Menu**.
- ii. Select "Option 11/11E to Option 11C" from the **Select type of upgrade to be performed** menu.

If you are using the Software Daughterboard, select "New Install or Upgrade from Option 11/11E - From Software Daughterboard".

- c. Indicate whether the system has a Succession Signaling Server.

Does this System have a Signaling Server? (y/n):

*** NOTE: The following prompts require information on the Keycode Data Sheet.
Please have it available. ***

Succession Enterprise Software Rls 0300 will be installed.

- d. Select the feature set to be enabled.

Select the feature set from the **Select Feature Set You Wish to Enable** menu.

Note: The items you select in steps d, e, g, and h must match those provided with the Keycode Data Sheet.

- e. Select feature package numbers to add (if any).

Enter the package numbers. Press <CR> twice to end package selection.

- f. Select the database source.

Select one of the following from the **Select Option 11/11E Database Source** list:

- i. `Select CCBR Restore file` if you used the CCBR feature to extract the customer database. This option accesses the Data Transfer mode. To begin the data restoration and upgrading process, enter **<CR>** when prompted. Continue with step g below.
- ii. `Select Option 11/11E Software Cartridge` if you have a Database Upgrade Tool that you are using to extract the customer database from the existing software cartridge.

- g. Select the ISM parameters.

Compare the ISM parameters with the ISM parameters you printed in step 3 on [page 55](#). Make any required changes. Any changes must compare to the Keycode Data Sheet.

- h. Define the new AUX ID.

The default AUX ID is the security ID provided with the Meridian 1 Option 11C Cabinet. You need to replace it with the previous Option 11 or Option 11E site ID.

- i. Confirm the information entered and enter the validation keycodes.

The terminal displays `New Installation Information Summary`. Make any necessary changes to the information, then enter the keycodes.

- j. Complete the software installation when prompted.



CAUTION — Service Interruption

If you enter **YES**, the system reloads (SYSLOAD) to complete the installation.

- 21** Wait for the software installation to finish.

IMPORTANT!

If you must terminate the upgrade and revert back to the original Option 11 or Option 11E, do it now (see Procedure 6 on [page 94](#)). The remaining steps of this procedure require major equipment changes, making it difficult to revert back.

- 22** If you are using the Database Upgrade Tool, remove it from the PC Card socket on the faceplate of the SSC card.
- 23** Select **Utilities** from the **Software Installation Main Menu** and perform a backup.
- 24** Tag and disconnect all cables from connectors J11 through J20 in the expansion cabinet.
- Tag the cables J11, J12, J13, . . . , J20.
- 25** Disconnect the power connection from under the NTAK04, NTAK05, NTDK72, or NTDK78 power supply unit in the expansion cabinet.
- 26** Remove the expansion cabinet from the wall (or pedestal).
- Put the cabinet to the side.
- 27** Install the new NTAK11 cabinet on the wall (or pedestal).
- To install the cabinet on a pedestal, first remove the door hinge opening tabs on each side of the cabinet with a pair of pliers. See Figure 17 on [page 70](#).

Figure 17
Door hinge opening



- 28** Connect a #6 AWG (40 Metric) ground wire from the ground lug in the expansion cabinet to the grounding block installed in step 8 on [page 56](#).
- 29** Install a fiber routing guide under slot 0 (Fbr Rx), as shown in Figure 11 on [page 58](#).

Install the fiber routing guide in the cable connector area below the circuit cards. Fasten the router with the existing screws below the card slot.
- 30** Connect all the cables that you labeled and disconnected from the old cabinet in step 24 on [page 69](#).

The connectors in the cabinet for cables going to the cross-connect terminal are J1 to J10 (instead of J11 to J20). Connect the identified cables as shown in Table 2.

Table 2
Cable tags and connectors

Tag on cable	Connect to connector
J11	J1
J12	J2
J13	J3
J14	J4
J15	J5
J16	J6
J17	J7
J18	J8
J19	J9
J20	J10

- 31** Route the fiber-optic cable from the main cabinet through the cable entry area of the expansion cabinet.
- 32** Put on the antistatic wrist strap located in the expansion cabinet.

33 Locate the Fiber Receiver card.

If	Then
You want to connect the expansion cabinet with A0632902 (formerly A0618443) plastic fiber-optic cable within 10 m (33 ft) of the main cabinet...	Use an NTDK23 Fiber Receiver card.
You want to connect the expansion cabinet with glass fiber-optic cable up to 3 km (1.8 mi) from the main cabinet...	Use an NTDK25 (Multimode) or NTDK89 (Single Mode) Fiber Receiver card.

34 Connect the fiber-optic cable to the Fiber Receiver card, as shown in Figure 18 on [page 73](#)..



WARNING

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

Use one of the following methods:

- a. If using the A0632902 (formerly A0618443) cable:
 - i. Remove the two protective plugs from the Fiber Receiver card.
 - ii. Connect the cable to the Fiber Receiver card. Make sure the “V”-shaped groove on the cable connector faces in and the connector seats tightly. See Figure 19 on [page 74](#). The marking (if there is one) on the connector is not visible when you connect it correctly.

- b. If using glass fiber-optic cable:
 - i. Remove the protective plug from the Fiber Receiver card. Remove the protective cap from the corresponding plug (Tx or Rx) on the glass fiber-optic cable.
 - ii. Insert the plug in its identified connector on the Fiber Receiver card.
 - iii. Lock the connector in position by turning it a half turn clockwise. See Figure 20 on [page 75](#).
 - iv. Repeat steps i to iii for the second fiber-optic connection.

After you connect the fiber-optic cable, wind the excess fiber-optic cable around the spool on the Fiber Receiver card. Leave enough slack to insert and remove the Fiber Receiver card from its slot.

Figure 18
Fiber-optic cable (A0632902 shown) connector on the Fiber Receiver card

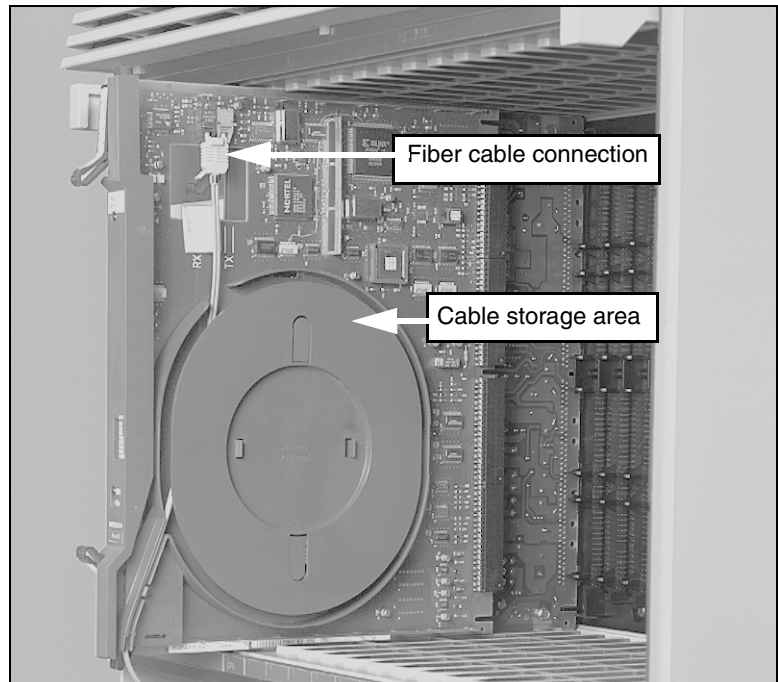


Figure 19
Plastic fiber-optic cable connection

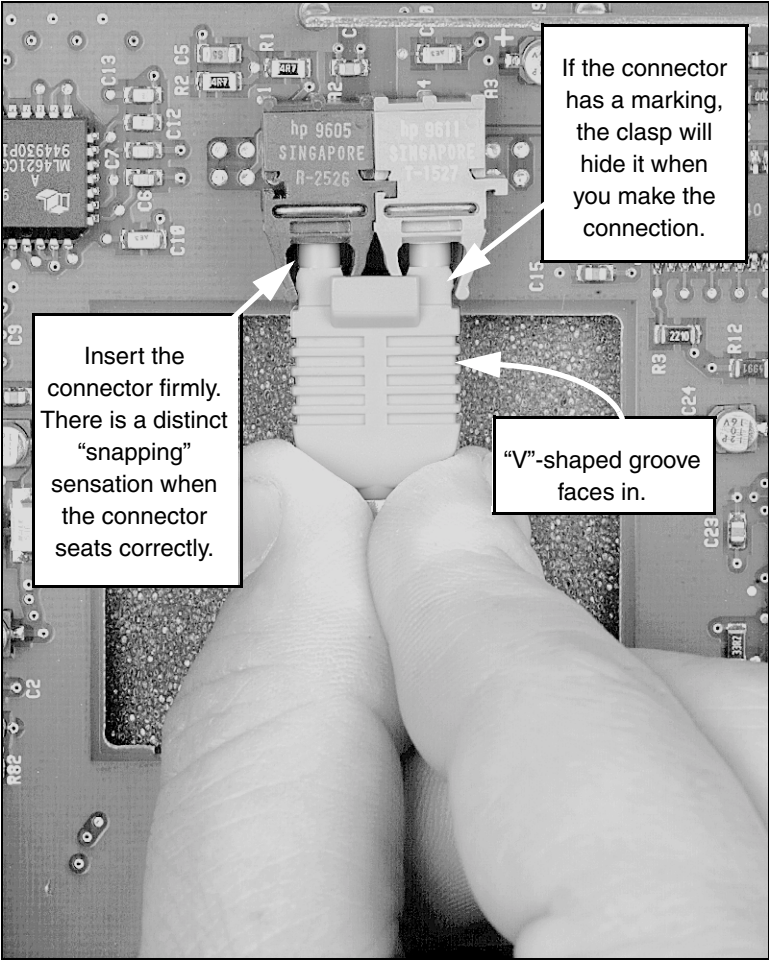
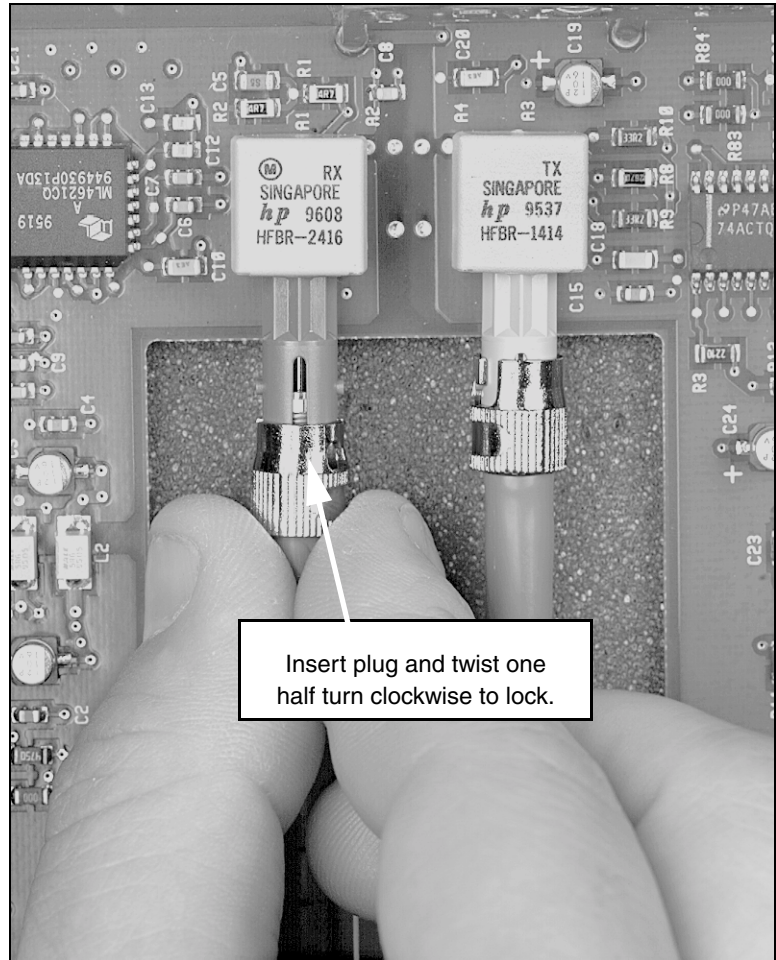


Figure 20
Glass fiber-optic cable connection



- 35** Install the receiver card in the slot labeled "Fbr Rcvr."
Wind the slack fiber-optic cable around the fiber routing guide one time.
- 36** Remove the NTA04, NTDK78, NTA05, NTDK70, or NTDK72 power supply from the old cabinet and install it in the new expansion cabinet.
Connect the power cord to the bottom of the power supply unit.

37 Remove any circuit cards that you want to save from the old expansion cabinet. Install these circuit cards in the matching slots in the new cabinet.

38 Connect the power to the expansion cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.

39 Check the fiber-related LEDs on the SSC card.

The LED for the equipped expansion daughterboard is green.

If	Then
The LED shows red (disabled indication)...	<p>1 Load LD 135.</p> <p>2 Enter ENL FL1 to enable Expansion Cabinet 1 (or ENL FL2 for Expansion Cabinet 2, if equipped).</p>
The LED shows yellow (fault indication)...	<p>1 Check all fiber-optic cable. Make sure you connected it correctly and it is not damaged.</p> <p>2 If the LED remains yellow, go to <i>Small System: Maintenance (553-3011-500)</i>.</p>

40 If you need to, change the tone and SDI functions.

The NTDK20 SSC card combines many tone functions. Refer to “Assigning TDS/DTR, XTD, and SDI functions” on [page 243](#) for more information.

41 If you need to, install the single-port TTY cable in the expansion cabinet. (Refer to Figure 16 on [page 66](#).)

42 If you need the optional NTDK27 Ethernet cable, connect it to the expansion connector in the main cabinet. (Refer to Figure 16 on [page 66](#).)

End of Procedure

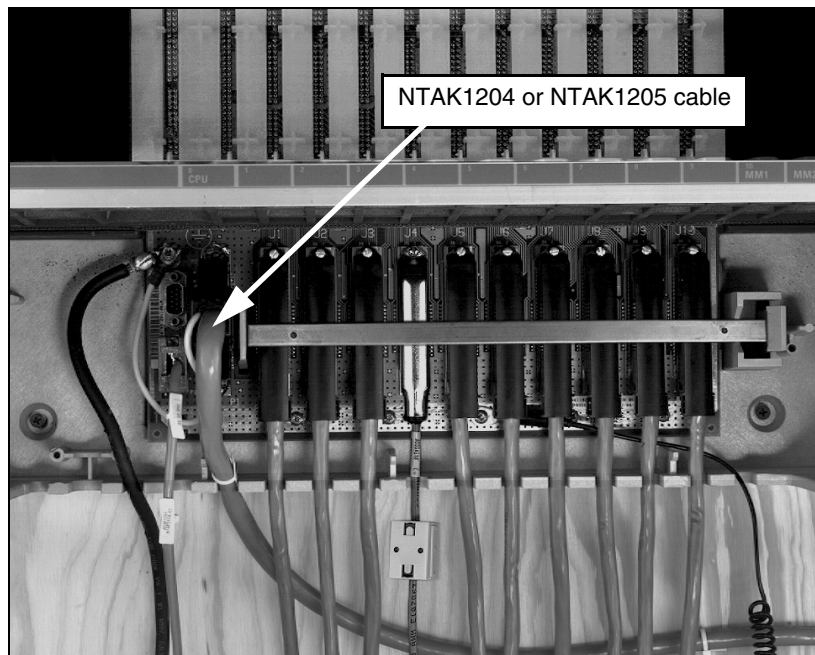
Upgrading to fiber-optic connection on an upgraded Meridian 1 Option 11C Cabinet without fiber connection

You can upgrade a two-cabinet upgraded Meridian 1 Option 11C Cabinet system connected to the expansion cabinet with an NTAK1204 or NTAK1205 cable to a fiber-optic connection. The following procedure (Procedure 5 on [page 77](#)) describes this upgrade.

Procedure 5 Upgrading to fiber-optic connection

- 1 Log in to the system and perform a datadump on the existing system.
Note: You must do this step to make sure you back up any changes made after the last datadump.
 - a. Load LD 43.
 - b. Enter the **EDD** command.
 - c. Let the datadump finish, then exit LD 43 by entering ********.
- 2 Disconnect the power from the main and expansion cabinets.
Set the circuit breaker switch on the front of the power supply unit in each cabinet to OFF.
If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to OFF.
- 3 Disconnect and remove the NTAK1204 or NTAK1205 cable from both cabinets (see Figure 9 on [page 56](#)).

Figure 21
NTAK1204 or NTAK1205 cable connection



- 4 Remove the ground connection from the ground lug in the main cabinet.
- 5 Install a grounding block in the area of the main cabinet.

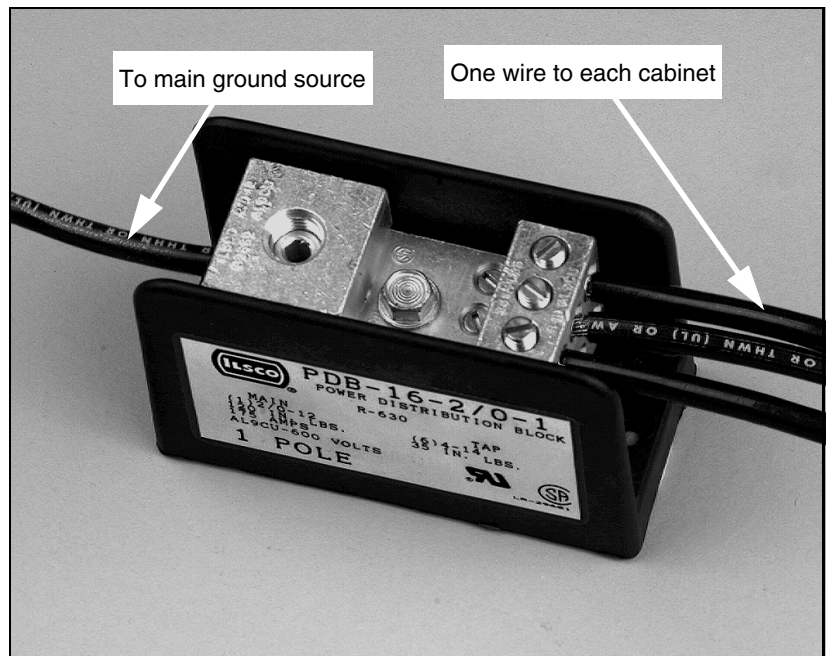
Route the ground wire to the grounding block. Install a ground wire from the block to the ground lug in the main cabinet (see Figure 10 on [page 57](#)).

Use #6 AWG (40 Metric) ground wire. For more information about grounding, refer to *Small System: Installation and Configuration* (553-3011-210).

Note 1: Grounding methods vary depending on the type of cross-connect terminal used. You do not always need an NTBK80 grounding block (such as with the Krone Test Jack Frame used in some countries). Refer to *Small System: Installation and Configuration (553-3011-210)* for more information.

Note 2: Do not install a ground wire to the existing expansion cabinet. Install a ground wire to the expansion cabinet when the new expansion cabinet is in position.

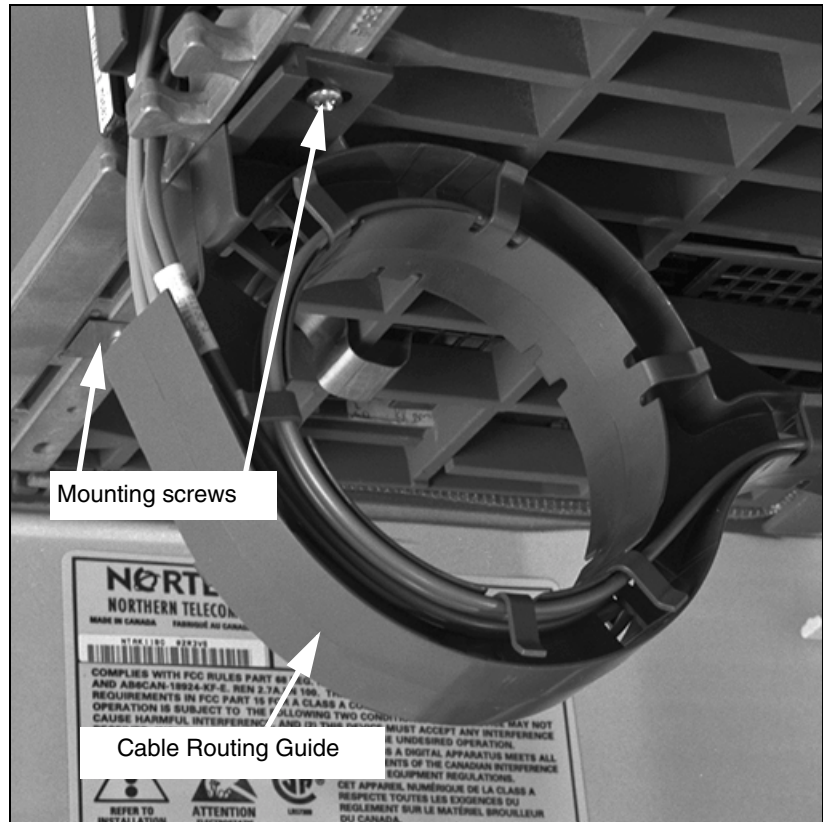
Figure 22
Grounding block



- 6** Install a Cable Routing Guide under slot 0 (CPU) as shown in Figure 23 on [page 80](#).

Install the routing guide in the cable connector area below the circuit cards. Fasten the routing guide with the existing screws below the card slot.

Figure 23
Cable Routing Guide



- 7 Put on the antistatic wrist strap located in the main cabinet.
- 8 Remove the NTDK20 SSC card from the main cabinet. Then, install a Fiber Expansion Daughterboard for the expansion cabinet (see Figure 24 on [page 82](#)).



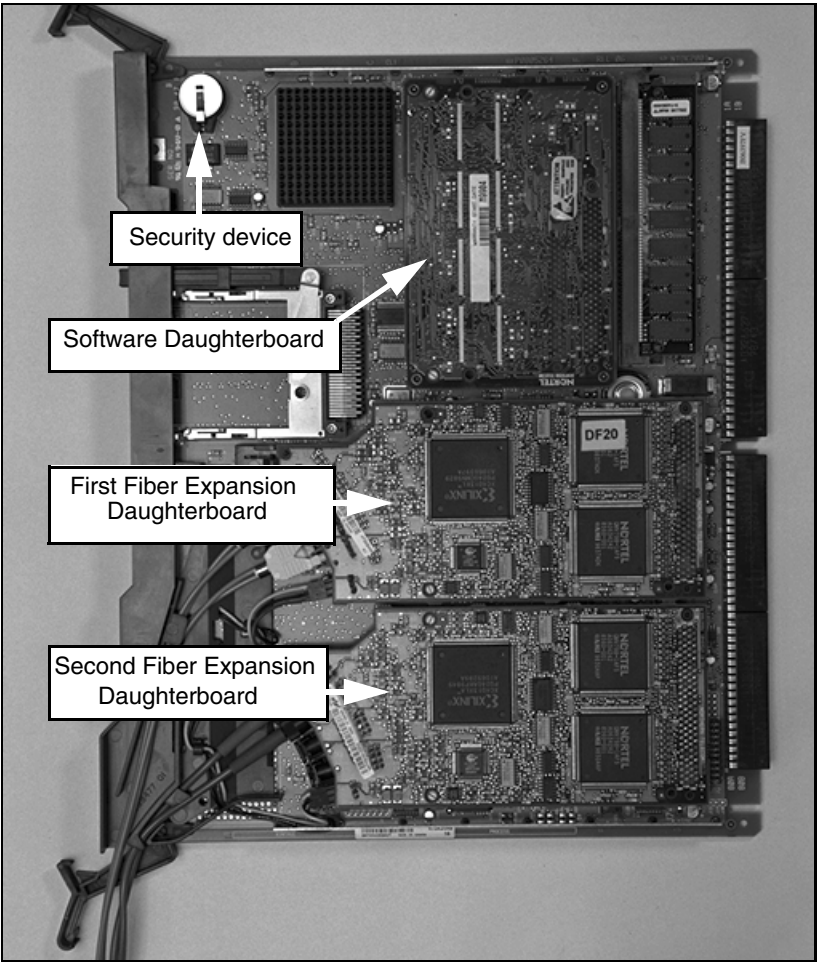
WARNING

The NTDK20 SSC card has components on both sides of the circuit board. Be careful not to damage any of the components when handling the card.

Note: Dual-port Fiber Expansion Daughterboards that use glass fiber-optic cable can have a glass fiber extension equipped with plugs at each end to make installation easier. Connect the extension to the daughterboard before you install the extension on the SSC card:

- a. Connect the first Fiber Expansion Daughterboard to the connector labeled "Fiber 1."
- b. If you plan to add a second expansion daughterboard as part of the upgrade, install it now, to prevent additional downtime later. Install it to the connector labeled "Fiber 2." Refer to *Small System: Installation and Configuration (553-3011-210)* for detailed information about adding expansion cabinets to existing Meridian 1 Option 11C Cabinet systems.

Figure 24
NTDK20 SSC card



- 9 Connect the fiber-optic cable to the connector on the Fiber Expansion Daughterboard as shown in Figure 25 on [page 84](#).

**WARNING**

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

Use one of the following methods:

- a. If using the A0632902 (formerly the A0618443) cable:
 - i. Remove the two protective plugs from the Fiber Expansion Daughterboard.
 - ii. Connect the cable to the Fiber Expansion Daughterboard. Make sure the “V”-shaped groove on the cable connector faces outward and the connector seats tightly. The marking (if there is one) on the connector is not visible when you connect the cable correctly. See Figure 26 on [page 85](#).
- b. If using glass fiber-optic cable:
 - i. Remove the protective plug from the Fiber Expansion Daughterboard. Remove the protective cap from the corresponding plug (Tx or Rx) on the glass fiber-optic cable.
 - ii. Insert the plug in its assigned connector on the daughterboard.
 - iii. Lock the connector in position by turning it a half turn clockwise. See Figure 15 on [page 64](#).
 - iv. Repeat these steps for the second fiber-optic connection.

- c. If using a glass fiber extension:
 - i. Connect the extension from the daughterboard to the main fiber-optic cable. Make sure you do not interchange the transmit and receive leads.

Figure 25
Fiber-optic cable connection on dual-port daughterboards

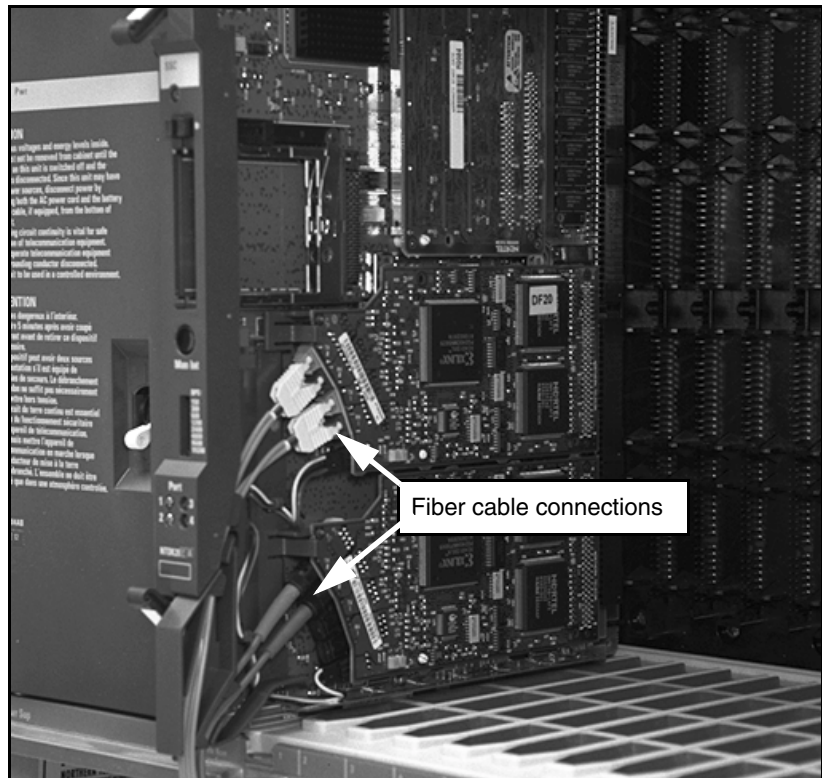


Figure 26
Plastic fiber-optic cable connection

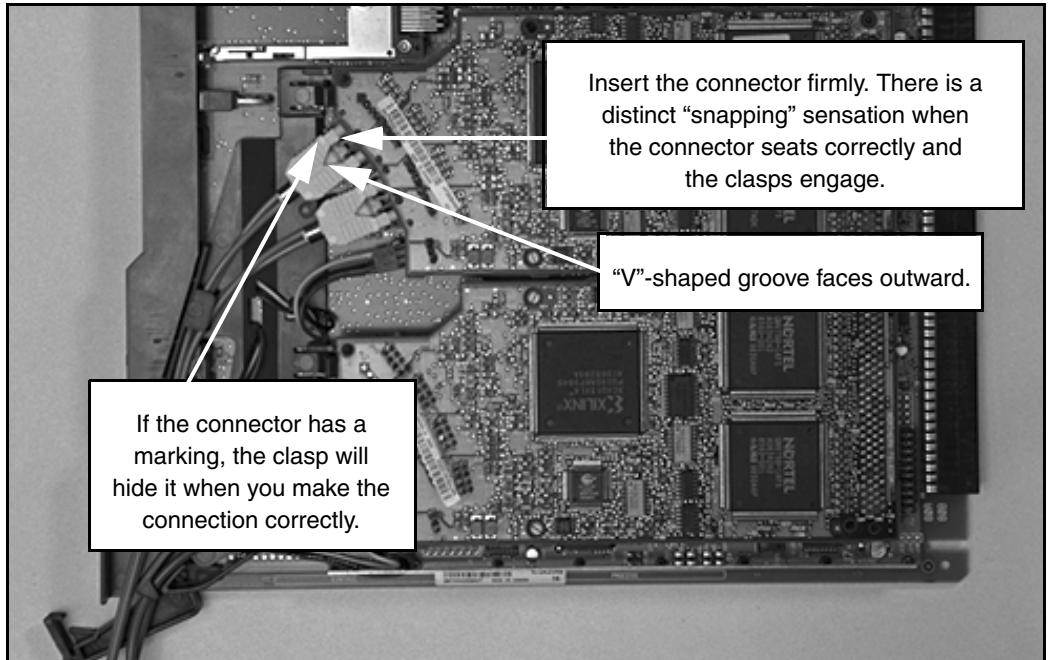
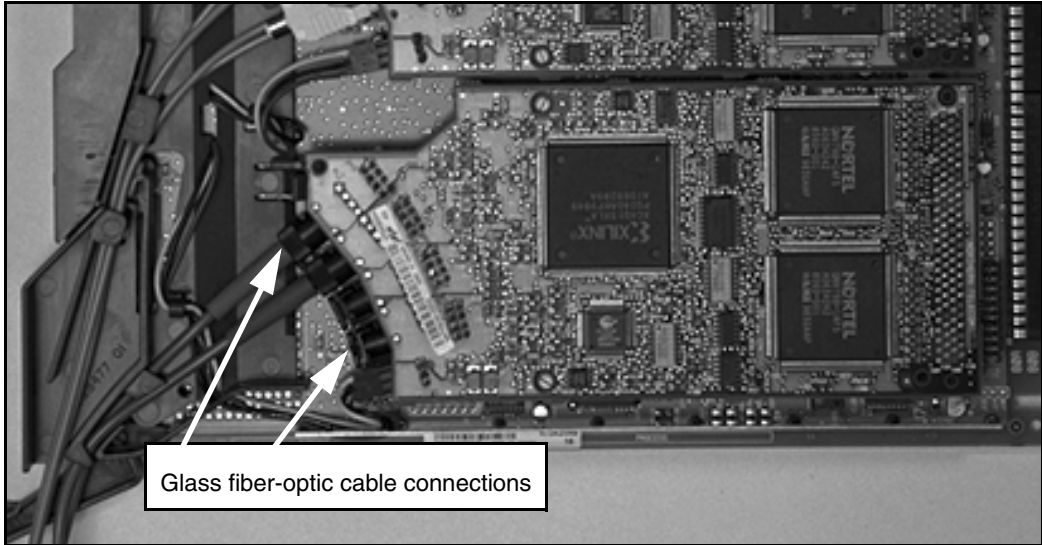


Figure 27
Glass fiber-optic cable connection



- 10** Route each fiber-optic cable through the fiber routing guide.

Use an A0632902 (formerly A0618443) 10 m fiber-optic cable to connect the main cabinet to an expansion cabinet located within 10 m (33 ft).

You need a glass fiber-optic cable when connecting an expansion cabinet located up to 3 km (1.8 mi) from the main cabinet. A local facilities provider can supply and install glass fiber-optic cable.

Note: Do not staple or twist fiber-optic cable. Do not bend it beyond a minimum 35 mm bend radius (90 degrees soft bend).
- 11** Install the new NTDK20 SSC card in its slot (slot 0).

Store the excess fiber-optic cable on the fiber routing guide.
- 12** Connect the power to the main cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.
- 13** Wait for the system reload (SYSLOAD) to finish.

- 14** Tag and disconnect all cables from connectors J11 through J20 in the expansion cabinet.
Tag the cables J11, J12, J13, . . . , J20.
- 15** Disconnect the power connection from under the NTAK04, NTAK05, NTDK72, or NTDK78 power supply unit in the expansion cabinet.
- 16** Remove the expansion cabinet from the wall (or pedestal).
Put the cabinet to the side.
- 17** Install the new NTAK11 cabinet on the wall (or pedestal).
To install the cabinet on a pedestal, first remove the door hinge opening tabs on each side of the cabinet with a pair of pliers. See Figure 28 on [page 87](#).

Figure 28
Door hinge opening



- 18** Connect a #6 AWG (40 Metric) ground wire from the ground lug in the expansion cabinet to the grounding block installed in step 5 on [page 78](#).

- 19** Install a fiber routing guide under slot 0 (Fbr Rx), as shown in Figure 23 on [page 80](#).

Install the fiber routing guide in the cable connector area below the circuit cards. Fasten the router with the existing screws below the card slot.

- 20** Connect all the cables that you labeled and disconnected from the old cabinet in step 14 on [page 87](#).

The connectors in the cabinet for cables going to the cross-connect terminal are J1 to J10 (instead of J11 to J20 as in the old expansion cabinet). Connect the labeled cables now as shown in Table 3.

Table 3
Labeled cable connections

Label on cable	Connect to connector
J11	J1
J12	J2
J13	J3
J14	J4
J15	J5
J16	J6
J17	J7
J18	J8
J19	J9
J20	J10

- 21** Route the fiber-optic cable from the main cabinet through the cable entry area of the expansion cabinet.
- 22** Put on the antistatic wrist strap located in the expansion cabinet.

23 Locate the Fiber Receiver card.

If	Then
You want to connect the expansion cabinet with A0632902 (formerly A0618443) plastic fiber-optic cable within 10 m (33 ft) of the main cabinet...	Use an NTDK23 Fiber Receiver card.
You want to connect the expansion cabinet with glass fiber-optic cable up to 3 km (1.8 mi) from the main cabinet...	Use an NTDK25 (Multimode) or NTDK89 (Single Mode) Fiber Receiver card.

24 Connect the fiber-optic cable to the Fiber Receiver card, as shown in Figure 18 on [page 73](#)..**WARNING**

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

Use one of the following methods:

- a.** If using the A0632902 (formerly A0618443) cable:
 - i.** Remove the two protective plugs from the Fiber Receiver card.
 - ii.** Connect the cable to the Fiber Receiver card. Make sure the “V”-shaped groove on the cable connector faces in and the connector seats tightly. See Figure 19 on [page 74](#). The marking (if there is one) on the connector is not visible when you connect it correctly.

- b. If using glass fiber-optic cable:
 - i. Remove the protective plug from the Fiber Receiver card. Remove the protective cap from the corresponding plug (Tx or Rx) on the glass fiber-optic cable.
 - ii. Insert the plug in its identified connector on the Fiber Receiver card.
 - iii. Lock the connector in position by turning it a half turn clockwise. See Figure 20 on [page 75](#).
 - iv. Repeat steps i to iii for the second fiber-optic connection.

After you connect the fiber-optic cable, wind the excess fiber-optic cable around the spool on the Fiber Receiver card. Leave enough slack to insert and remove the Fiber Receiver card from its slot.

Figure 29
Fiber-optic cable (A0632902 shown) connector on the Fiber Receiver card

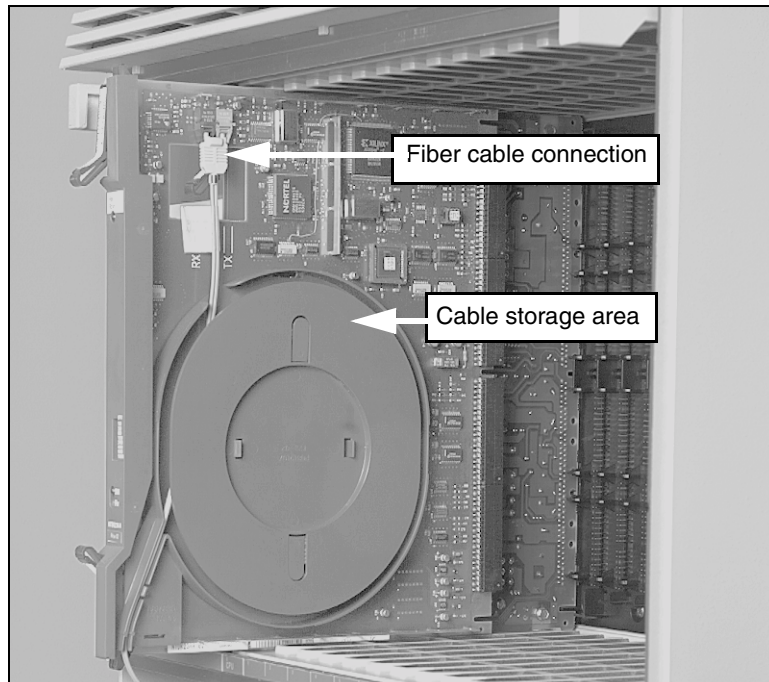


Figure 30
Plastic fiber-optic cable connection

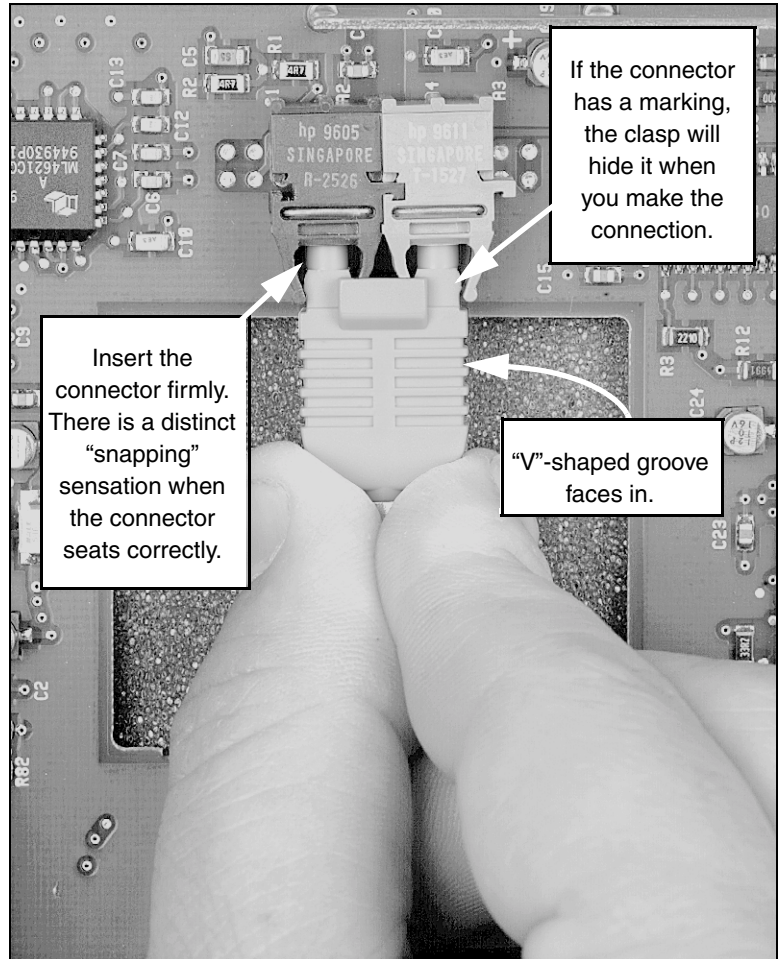
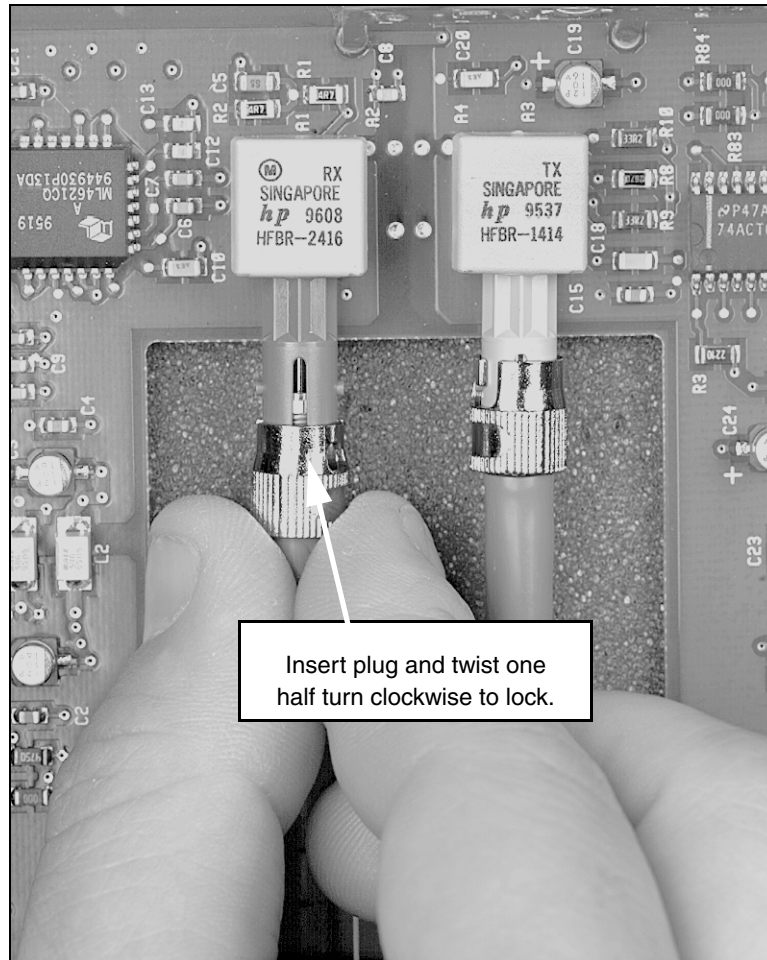


Figure 31
Glass fiber-optic cable connection



- 25** Install the receiver card in the slot labeled "Fbr Rcvr."
Wind the slack fiber-optic cable around the fiber routing guide one time.
- 26** Remove the NTA04, NTDK78, NTA05, NTDK 70, or NTDK72 power supply from the old cabinet and install it in the new expansion cabinet.
Connect the power cord to the bottom of the power supply unit.

27 Remove any circuit cards that you want to save from the old expansion cabinet. Install these circuit cards in the matching slots in the new cabinet.

28 Connect the power to the expansion cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.

29 Check the fiber-related LEDs on the SSC card.

The LED for the equipped expansion daughterboard is green.

If	Then
The LED shows red (disabled indication)...	<ol style="list-style-type: none">1 Load LD 135.2 Enter ENL FL1 to enable Expansion Cabinet 1 (or ENL FL2 for Expansion Cabinet 2, if equipped).
The LED shows yellow (fault indication)...	<ol style="list-style-type: none">1 Check all fiber-optic cable. Make sure you connected it correctly and it is not damaged.2 If the LED remains yellow, go to <i>Small System: Maintenance (553-3011-500)</i>.

30 If you need the optional NTDK27 Ethernet cable, connect it to the expansion connector in the main cabinet. (Refer to Figure 16 on [page 66](#).)

End of Procedure

Restoring data because of an upgrade failure

This section explains how to revert back to an Option 11 or Option 11E in the event that the upgrade fails. To revert back, you must insert one of the following back into slot 0 of the main cabinet and reload the system:

- Option 11 NTAK01 CPU/Conf card
- Option 11E NTBK45 System Core card and the software cartridge

Procedure 6

Reverting back to Option 11 or Option 11E

- 1** Disconnect the power from system.
- 2** Connect the NTAK1204 or NTAK1205 cable.
- 3** Remove the NTBK20 SSC card from slot 0 in the main cabinet.
- 4** Attach the software cartridge to the NTAK01 CPU/Conf card or NTBK45 System Core card, if you removed it before.
- 5** Insert the NTAK01 CPU/Conf card or the NTBK45 System Core card in slot 0, and power up the system.
- 6** Restore the NTAK1118 SDI cable if your system used it before.

End of Procedure

Upgrading an Option 11E with fiber-optic cable

Contents

This section contains information on the following topics:

Introduction	95
Summary of items required	95
Upgrading to Meridian 1 Option 11C Cabinet	98
Task summary list	98
Expansion cabinets and other additional equipment	98
Upgrade procedure	98
Restoring data because of an upgrade failure	124

Introduction

This chapter describes how to upgrade an existing two- or three-cabinet Option 11E interconnected with NTBK78 (A0618443 or A0632902) fiber-optic cables.

Summary of items required

For a Meridian 1 Option 11C Cabinet system, you cannot use the existing NTAK12 expansion cabinets used with the Option 11E. You must replace these cabinets with NTAK11 cabinets. However, you can keep and use the main cabinet, the power supply, and all Intelligent Peripheral Equipment (IPE) circuit cards in the new system.

You need the following items to complete this upgrade:

- NTDK20 Small System Controller (SSC) card

Note: You need an NTDK20CA or later version of SSC card if you use dual-port expansion daughterboards.
- security device
- Keycode Data Sheet
- One of the following to extract the customer data from the existing system:
 - personal computer (PC) equipped with XModem CRC software to run the Customer Configuration Backup and Restore (CCBR) feature
 - Database Upgrade Tool (extracts data from the cartridge)

Note: The PC can be on-site or located remotely.

- NTAK11 cabinet for each existing NTAK12 expansion cabinet
- fiber routing guide for each cabinet
- NTDK22 Single-Port or NTDK84 Dual-Port Fiber Expansion Daughterboard
- NTDK79 Single-Port or NTDK85 Dual-Port Fiber Expansion Daughterboard

If the expansion cabinet is within 10 m (33 ft) of the main cabinet, use one of the following Fiber Expansion Daughterboards:

- NTDK22
- NTDK84

If you move the expansion cabinet up to 3 km (1.8 mi) from the main cabinet, use one of the following Fiber Expansion Daughterboards:

- NTDK24 (Multimode)
- NTDK79 (Single Mode)
- NTDK85 (Dual-port)

- NTDK23 Fiber Receiver card

If the expansion cabinet is within 10 m (33 ft) of the main cabinet, use an NTDK23 Fiber Receiver card. If you move the expansion cabinet up to 3 km (1.8 mi) from the main cabinet, use one of the following Fiber Receiver cards:

- NTDK25 (Multimode)
- NTDK80 (Single Mode)

- A0632902 (formerly A0618443) fiber-optic cable (only required with the NTDK22)

Use this cable only with the NTDK22 or NTDK84 daughterboard for distances up to 10 m (33 ft). You need a duplex glass fiber-optic cable from a local provider for distances up to 3 km (1.8 mi).

- Software Daughterboard

You need Release 24 or later software if you are installing dual-port expansion daughterboards as part of the upgrade.

- NTDK27 Ethernet cable (optional)
- NTAK1118 Single-Port SDI cable for each expansion cabinet (optional)

Upgrading to Meridian 1 Option 11C Cabinet

This section gives a summary of the upgrade steps and the upgrade procedure.

Task summary list

The following is a summary of the tasks in this section to upgrade a two- or three-cabinet Option 11E to a Meridian 1 Option 11C Cabinet system:

- 1 Perform a datadump (EDD) on the existing system.
- 2 Extract the customer data from the existing system using the CCBR feature (unless you are using the Database Upgrade Tool).
- 3 Disconnect the NTBK78 cable from the main cabinet.
- 4 Install the NTDK20 SSC card with Fiber Expansion Daughterboard.
- 5 Load the new system software and customer data in the system.
- 6 Replace the existing expansion cabinets with NTAK11 cabinets.
- 7 Connect the expansion cabinet(s) to the main cabinet.

Expansion cabinets and other additional equipment

This chapter does not describe the installation of additional expansion cabinets or of additional equipment, such as line cards. If you plan to add expansion cabinets or other equipment as part of the upgrade, complete the upgrade as described in this chapter first. Then, refer to *Small System: Installation and Configuration* (553-3011-210) for information about adding equipment to an existing Meridian 1 Option 11C Cabinet system.

Upgrade procedure

Procedure 7 on [page 99](#) describes how to upgrade a two- or three-cabinet Option 11 or Option 11E to Meridian 1 Option 11C Cabinet with fiber-optic cabinet interconnection.

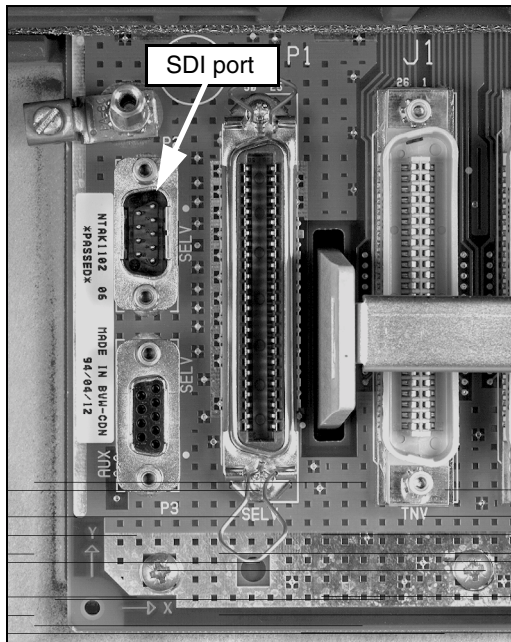
Procedure 7
Upgrading Option 11E to Option 11C

- 1 Connect a TTY terminal to SDI port 0 of the existing system.

IMPORTANT!

You must connect the terminal to SDI port 0 to access the Software Installation Program later in this procedure. See Figure 32 on [page 99](#).

Figure 32
SDI port 0



- 2 Log in to the system and perform a datadump on the existing system.

Note: You must do this step to make sure you back up any changes made after the last datadump. This step is a precautionary measure; if the upgrade fails, you can revert to the earlier system.

- a. Load LD 43.
- b. Enter the **EDD** command.
- c. Let the datadump finish, then exit LD 43 by entering ********.

- 3 Load LD 22 and print the ISM parameters. Make a note of the existing parameters.

Type **SLT** at the **REQ** prompt and press **<CR>** to print the ISM parameters. The ISM parameters are also on the existing software cartridge.

- 4 Do one of the following to extract the customer data from the existing system:

- a. If you are using the Database Upgrade Tool, ignore this step and go to step 5 on [page 100](#).
- b. If you are using the CCBR feature and a PC, perform the following steps:
 - i. Log in to the existing Option 11.
 - ii. Load LD 43 and enter **XBK** to start a configuration data backup.
 - iii. At the **INFO** prompt, enter a name for the file (up to 128 characters).
 - iv. After the backup finishes, enter **XVR**. Check the backed up data.
 - v. Exit LD 43 by entering ********.

Note: Refer to *Small System: Maintenance (553-3011-500)* for details about the CCBR feature.

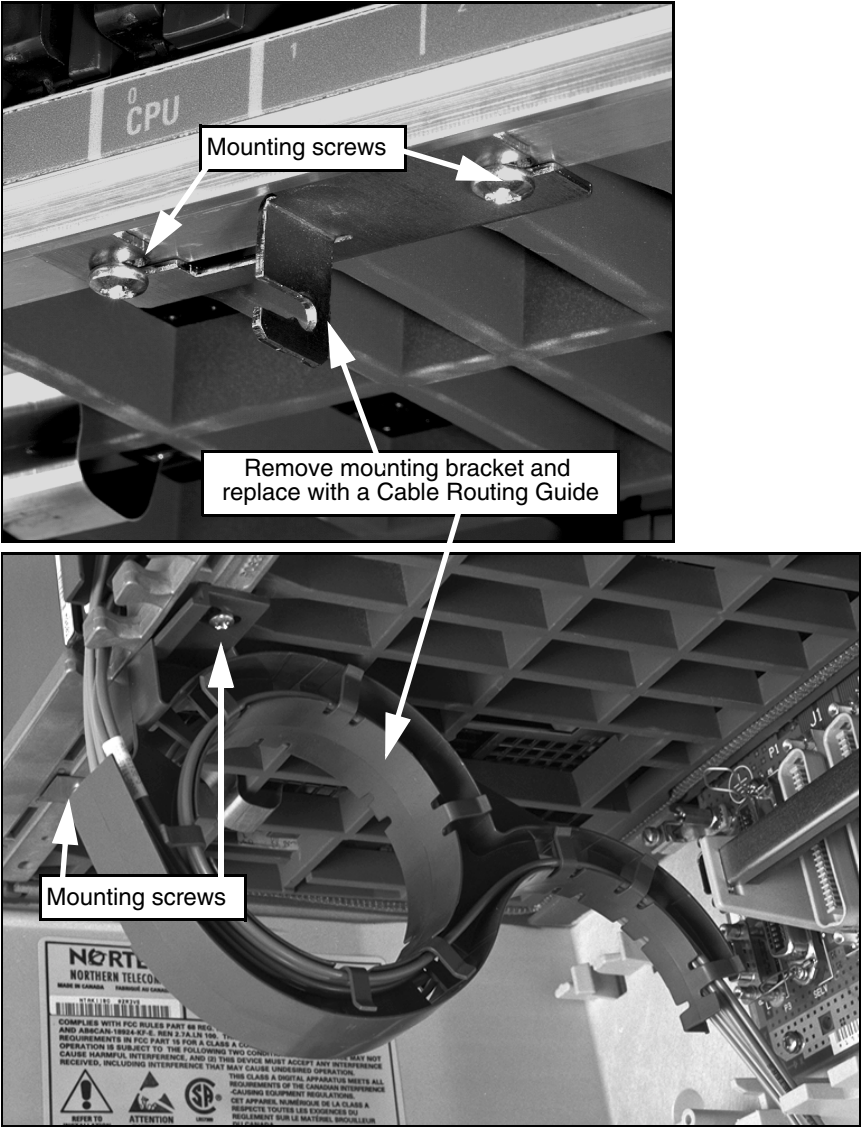
- 5 Disconnect the power from the main and expansion cabinets.

Set the circuit breaker switch on the front of the power supply unit in each cabinet to OFF.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power units to OFF.

- 6 Disconnect the NTAK78 fiber-optic cables from the MFI unit in the main cabinet (one for each expansion cabinet).
Note: Do not remove this cable. You need it for the new expansion cabinet.
- 7 Disconnect the NTBK62 fiber power cable from the following units:
 - MFI unit
 - cable to the battery backup unit (if there is one)
 - the power supply unit (under the unit)
- 8 If the cabinet has battery backup, connect the cable from the battery backup unit directly to the connector on the bottom of the power supply unit.
- 9 Remove the MFI from the cabinet.
- 10 Loosen the screws holding the MFI mounting bracket and remove the bracket (see Figure 33 on [page 102](#)).
- 11 Install a cable routing guide in the location left empty by the MFI mounting bracket. Tighten the screws. See Figure 33 on [page 102](#).

Figure 33
Cable Routing Guide



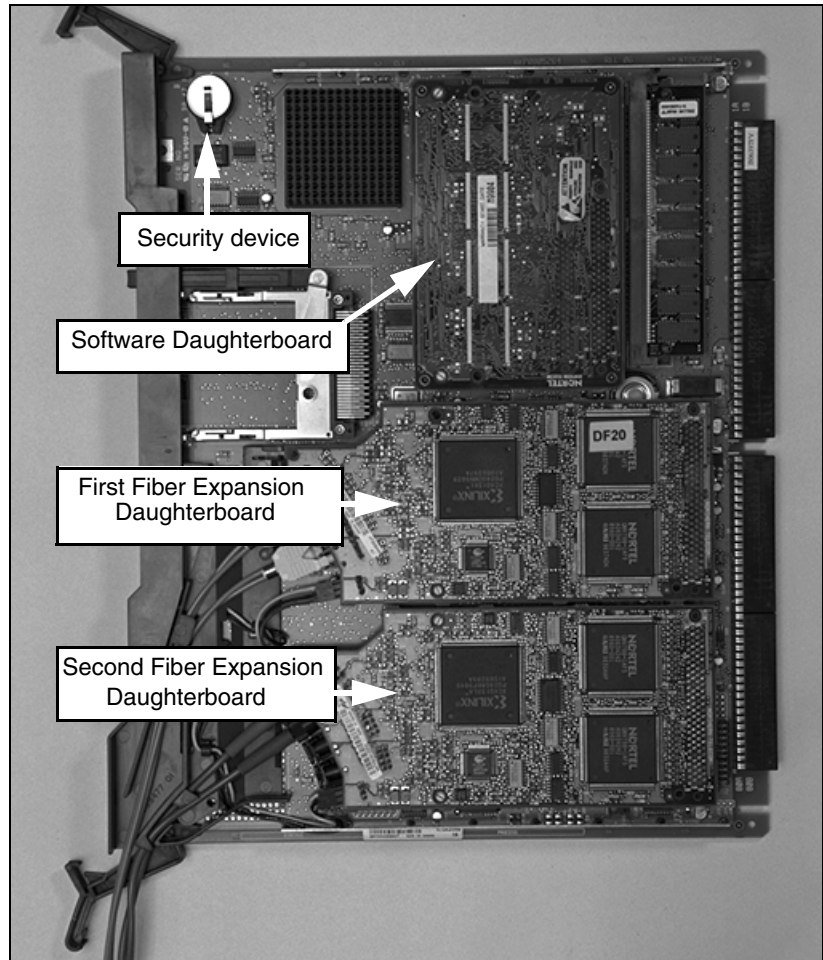
- 12** Remove the NTB45 System Core card from the main cabinet.
- 13** Set the baud rate switches on the new NTDK20 SSC card to match the settings on the card you removed. (The removed card is a NTB45 System Core card.)
- 14** Install the Software Daughterboard and the security device on the NTDK20 SSC card as shown in Figure 35 on [page 105](#).



WARNING

The NTDK20 SSC card has components on both sides of the circuit board. Be careful not to damage any of the components when handling the card.

Figure 34
NTDK20 SSC card



- 15** Install one or two Fiber Expansion Daughterboards on the NTDK20 SSC card as required (see Figure 34 on [page 104](#)).

One single-port Fiber Expansion Daughterboard can connect to one expansion cabinet.

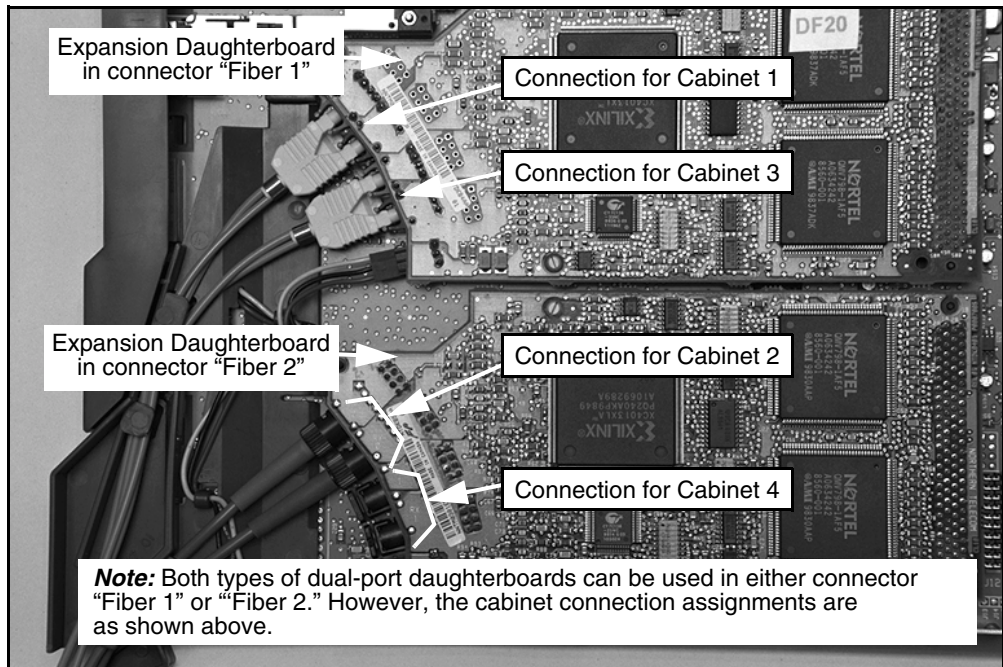
One dual-port Fiber Expansion Daughterboard can connect to two expansion cabinets.

When you use single-port expansion daughterboards, connect the daughterboard in connector “Fiber 1” to Expansion Cabinet 1. Connect the daughterboard in connector “Fiber 2” to Expansion Cabinet 2.

When you use dual-port expansion daughterboards, connect the daughterboard in connector “Fiber 1” to Expansion Cabinet 1 (top connection on the daughterboard) and Expansion Cabinet 3 (bottom connection). Connect the daughterboard in connector “Fiber 2” to Expansion Cabinet 2 (top connection on the daughterboard) and Expansion Cabinet 4 (bottom connection on the daughterboard). See Figure 35 on [page 105](#).

Note: Figure 35 shows both types of daughterboards.

Figure 35
Cabinet assignments on dual-port daughterboards



When upgrading a system with two expansion cabinets (three-cabinet system), check the following:

If you use...	Then
Single-port expansion daughterboards	Connect existing Expansion Cabinet 1 to the daughterboard in connector "Fiber 1" and Expansion Cabinet 2 to the daughterboard in connector "Fiber 2."
Two dual-port expansion daughterboards	Connect existing Expansion Cabinet 1 to the top connection on the daughterboard in connector "Fiber 1." Connect Expansion Cabinet 2 to the top connection on the daughterboard in connector "Fiber 2."
One dual-port expansion daughterboard	Connect existing Expansion Cabinet 1 to the top connection on the daughterboard in connector "Fiber 1." Connect Expansion Cabinet 2 to the bottom connection on the same daughterboard. The existing Expansion Cabinet 2 becomes Expansion Cabinet 3. You must reassign the services that slots 21 to 30 provided to slots 31 to 40 in the upgraded system.
One dual-port and one single-port expansion daughterboard	Replace the single-port daughterboard in connector "Fiber 1" with a dual-port expansion daughterboard. Connect the existing Expansion Cabinet 1 to the top connection in the dual-port daughterboard. Leave the existing connection for Expansion Cabinet 2 connected to the single-port daughterboard in connector "Fiber 2."

Note: If you plan to add additional expansion cabinets, install a second expansion daughterboard now (if you need it) to the connector labeled "Fiber 2." Doing this step now prevents additional downtime later. Refer to *Small System: Installation and Configuration (553-3011-210)* for detailed information about adding expansion cabinets to existing Meridian 1 Option 11C Cabinet systems.

- 16** Connect each fiber-optic cable to the connector on the Fiber Expansion Daughterboard, as shown in Figure 36 on [page 108](#).

**WARNING**

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

Use one of the following methods:

- a.** If using the NTBK78 (A0618443 or A0632902) cable:
 - i.** Remove the two protective plugs from the Fiber Expansion Daughterboard.
 - ii.** Connect the cable to the Fiber Expansion Daughterboard. Make sure the “V”-shaped groove on the cable connector faces outward and the connector seats completely. The marking (if there is one) on the connector is not visible when you make the connection correctly. See Figure 37 on [page 109](#).
- b.** If using glass fiber-optic cable:
 - i.** Remove the protective plug from the Fiber Expansion Daughterboard. Remove the protective cap from the corresponding plug (Tx or Rx) on the glass fiber-optic cable.
 - ii.** Insert the plug in its assigned connector on the daughterboard.
 - iii.** Lock the connector in position by turning it a half turn clockwise. See Figure 38 on [page 110](#).
 - iv.** Repeat steps i to iii for the second fiber-optic connection.

Figure 37
Plastic fiber-optic cable connection

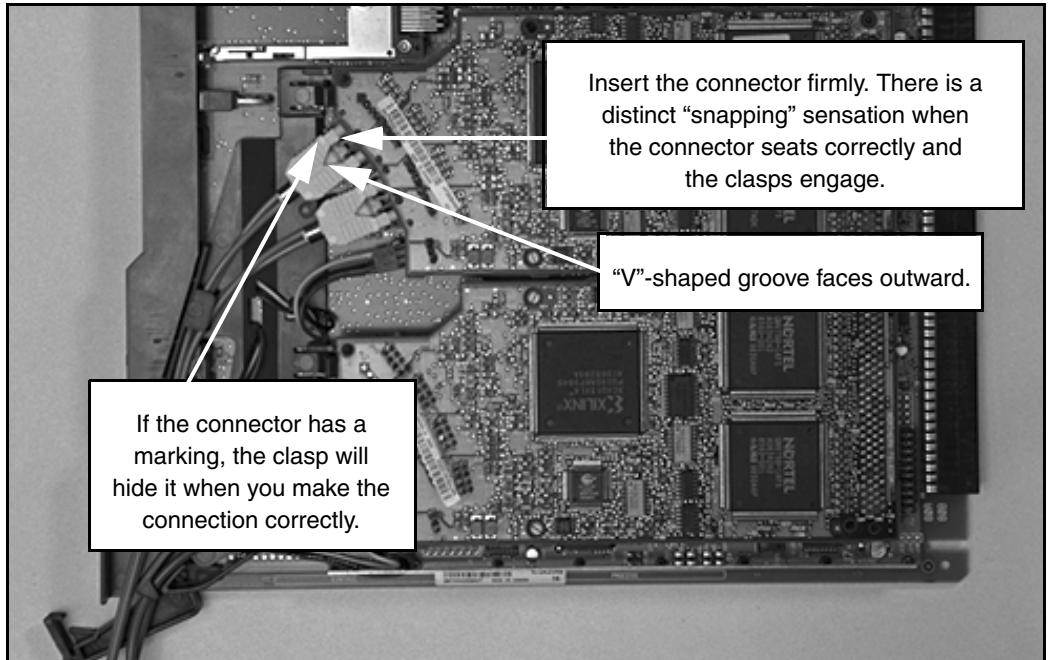
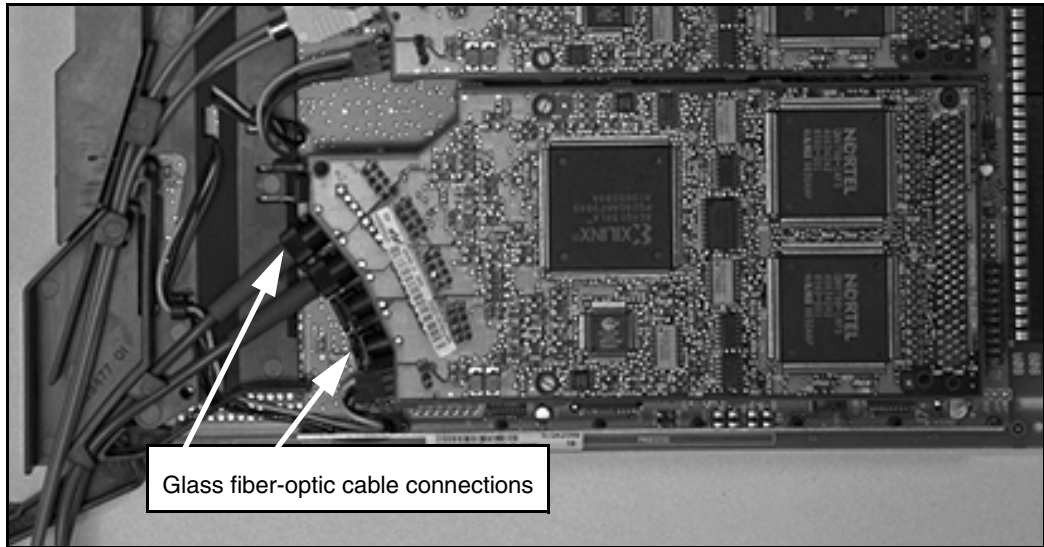


Figure 38
Glass fiber-optic cable connection



- 17** Route each fiber-optic cable through the fiber routing guide.

Use an NTBK78 (A0632902) 10 m fiber-optic cable to connect the main cabinet to an expansion cabinet located within 10 m (33 ft).

You need a glass fiber-optic cable when connecting an expansion cabinet located up to 3 km (1.8 mi) from the main cabinet. A local facilities provider can supply and install glass fiber-optic cable.

Note: Do not staple or twist fiber-optic cable. Do not bend it beyond a minimum 35 mm bend radius (90 degrees soft bend).

- 18** Install the new NTDK20 SSC card in the slot left empty by the NTBK45 card (slot 0).

Store the excess fiber-optic cable on the fiber routing guide.

19 Do one of the following to extract the customer database from the existing system:

- a.** If you are not using the Database Upgrade Tool, skip this step and go to step 20.
- b.** If you are using the Database Upgrade Tool, install the software cartridge from the existing system to the Database Upgrade Tool:
 - i.** Remove the software cartridge from the existing NTB45 System Core card.
 - ii.** Connect the Option 11E software cartridge to the connector on the Database Upgrade Tool.
 - iii.** Position the software cartridge on the Database Upgrade Tool towards the left. Insert the Database Upgrade Tool in Slot B of the PC Card socket located in the faceplate of the NTDK20 SSC card.

20 Connect the power to the main cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.

21 Observe the terminal screen.

When you power up, the Software Installation Program automatically starts.

Note: The Software Installation Program is menu-driven, allowing the easy installation of software and customer databases in the Small System. It is clear and direct and includes a Help facility to help you make correct selections. However, if you need more detailed information, refer to *Small System: Installation and Configuration (553-3011-210)*.

The following is a summary of the steps described in “Upgrading the software” on [page 263](#):

- a.** Enter the system time and date if the system prompts you. Skip this step if the **Software Installation Main Menu** appears instead.

Note: The system time and date prompt appears when the Software Installation Program detects a system Year Date that is not in the range of 1995 to 2095.

- b. Do one of the following to select the type of upgrade:

If using the Software Delivery card (PC Card):

- i. Select `System Upgrade` from the **Software Installation Main Menu**.
- ii. Select `"Option 11/11E to Option 11C"` from the **Select type of upgrade to be performed** menu.

If you are using the Software Daughterboard, select `"New Install or Upgrade from Option 11/11E - From Software Daughterboard"`.

- c. Indicate whether the system has a Succession Signaling Server.

Does this System have a Signaling Server? (y/n):

*** NOTE: The following prompts require information on the Keycode Data Sheet.
Please have it available. ***

Succession Enterprise Software Rls 0300 will be installed.

- d. Select the feature set to be enabled.

Select the feature set from the **Select Feature Set You Wish to Enable** menu.

Note: The items you select in steps d, e, g, and h must match those provided with the Keycode Data Sheet.

- e. Select feature package numbers to add (if any).

Enter the package numbers. Press **<CR>** twice to end package selection.

- f. Select the database source.

Select one of the following from the **Select Option 11/11E Database Source** list:

- i. Select `CCBR Restore file` if you used the CCBR feature to extract the customer database. This option accesses the Data Transfer mode. To begin the data restoration and upgrading

process, enter **<CR>** when prompted. Continue with step g below.

- ii. Select `Option 11/11E Software Cartridge` if you have a Database Upgrade Tool that you are using to extract the customer database from the existing software cartridge.

- g. Select the ISM parameters.

Compare the ISM parameters with the ISM parameters you printed in step 3 on [page 100](#). Make any required changes. Any changes must compare to the Keycode Data Sheet.

- h. Define the new AUX ID.

The default AUX ID is the security ID provided with the Meridian 1 Option 11C Cabinet. You need to replace it with the previous Option 11 or Option 11E site ID.

- i. Confirm the information entered and enter the validation keycodes.

The terminal displays `New Installation Information Summary`. Make any necessary changes to the information, then enter the keycodes.

- j. Complete the software installation when prompted.



CAUTION — Service Interruption

If you enter **YES**, the system reloads (SYSLOAD) to complete the installation.

- 22** Wait for the software installation to finish.

IMPORTANT!

If for any reason you must terminate the upgrade and revert back to the original Option 11E, do it now (see Procedure 8 on [page 124](#)). The remaining steps of this procedure require major equipment changes, making it difficult to revert back.

- 23** If you are using the Database Upgrade Tool, remove it from the PC Card socket on the faceplate of the SSC card.

- 24 Load LD 43 and perform a datadump.
- 25 Disconnect the power connection from under the NTAK04, NTAK05, NTDK72, or NTDK78 power supply unit in each expansion cabinet.
- 26 Tag and disconnect all cables from connectors J11 through J20 in the first expansion cabinet. If there is a second expansion cabinet, do the same for that cabinet.

Tag the cables J11, J12, J13, . . . , J20 for the first expansion cabinet and J21, J22, . . . , J30 for the second cabinet.
- 27 Disconnect the NTBK78 (A0618443 or A0632902) fiber-optic cable from EFI units in the expansion cabinets.
- 28 Remove the expansion cabinets from the wall (or pedestal).

Put the cabinet to the side.
- 29 Install the new NTAK11 cabinets on the wall (or pedestal).

To install the cabinet on a pedestal, first remove the door hinge opening tabs on each side of the cabinet with a pair of pliers. See Figure 39 on [page 114](#).

Figure 39
Door hinge opening



- 30 Install a fiber routing guide in each expansion cabinet under slot 0 (Fbr Rx), as shown in Figure 40 on [page 119](#).
- 31 Connect all the cables that you labeled and disconnected from the old cabinet in step 26 on [page 114](#).

Note: The connectors in the main and expansion cabinets for cables going to the cross-connect terminal have numbers J1 to J10 (instead of J11 to J20 in the old expansion cabinets).

When upgrading a system with two expansion cabinets (three-cabinet system) make sure of the following:

If you use...	Then
Single-port expansion daughterboards	Connect existing Expansion Cabinet 1 to the daughterboard in connector "Fiber 1" and Expansion Cabinet 2 to the daughterboard in connector "Fiber 2." Make sure you have labeled and connected the cables as shown in Table 4 on page 116 .
Two dual-port expansion daughterboards	Connect Expansion Cabinet 1 to the top connection on the daughterboard in connector "Fiber 1." Connect Expansion Cabinet 2 to the top connection on the daughterboard in connector "Fiber 2." Make sure you have labeled and connected the cables from the expansion cabinets as shown in Table 4 on page 116 .
One dual-port expansion daughterboard	Connect Expansion Cabinet 1 to the top connection on the daughterboard in connector "Fiber 1." Connect Expansion Cabinet 2 (the existing expansion cabinet) to the bottom connection on the same daughterboard. The existing Expansion Cabinet 2 becomes Expansion Cabinet 3.

Table 4
Labeled cable connections — Expansion Cabinets 1 and 2

Expansion Cabinet 1		Expansion Cabinet 2	
Label on cable	Connect to connector	Label on cable	Connect to connector
J11	J1	J21	J1
J12	J2	J22	J2
J13	J3	J23	J3
J14	J4	J24	J4
J15	J5	J25	J5
J16	J6	J26	J6
J17	J7	J27	J7
J18	J8	J28	J8
J19	J9	J29	J9
J20	J10	J30	J10

Label and connect the cables as shown in Table 5.

Table 5
Labeled cable connections — Expansion Cabinet 2 assigned as Expansion Cabinet 3

Current label on cable	Connect to connector	New label on cable
J21	J1	J31
J22	J2	J32
J23	J3	J33
J24	J4	J34
J25	J5	J35
J26	J6	J36
J27	J7	J37
J28	J8	J38
J29	J9	J39
J30	J10	J40

32 Put on the antistatic wrist strap located in the expansion cabinet.

33 Locate the Fiber Receiver card.

If	Then
The expansion cabinet is within 10 m (33 ft) of the main cabinet and connected with NTBK78 (A0618443 or A0632902) plastic fiber-optic cable...	Use an NTDK23 Fiber Receiver card.
You want to move up to 3 km (1.8 mi) from the main cabinet...	Use an NTDK25 (Multimode) or NTDK89 (Single Mode) Fiber Receiver card.

- 34** In each expansion cabinet, connect the fiber-optic cable to the Fiber Receiver card, as shown in Figure 40 on [page 119](#)..



WARNING

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

Use one of the following methods:

- a.** If using the NTBK78 (A0618443 or A0632902) cable:
 - i.** Remove the two protective plugs from the Fiber Receiver card.
 - ii.** Connect the cable to the Fiber Receiver card. Make sure the “V”-shaped groove on the cable connector faces in and the connector seats tightly. See Figure 41 on [page 120](#). The marking (if there is one) on the connector is not visible when you make the connection correctly.
- b.** If using glass fiber-optic cable:
 - i.** Remove the protective plug from the Fiber Receiver card. Remove the protective cap from the corresponding plug (Tx or Rx) on the glass fiber-optic cable.
 - ii.** Insert the plug in its assigned connector on the Fiber Receiver card.
 - iii.** Lock the connector in position by turning it a half turn clockwise. See Figure 42 on [page 121](#).
 - iv.** Repeat steps i to iii for the second fiber-optic connection.

After you connect the fiber-optic cable, wind the excess fiber-optic cable around the spool on the Fiber Receiver card. Leave enough slack to insert and remove the Fiber Receiver card from its slot.

- 35** In each expansion cabinet, install the Fiber Receiver card in the slot labeled “Fbr Rcvr.”

Wind the slack fiber-optic cable around the fiber routing guide one time.

Figure 40
Fiber Receiver card and fiber connection

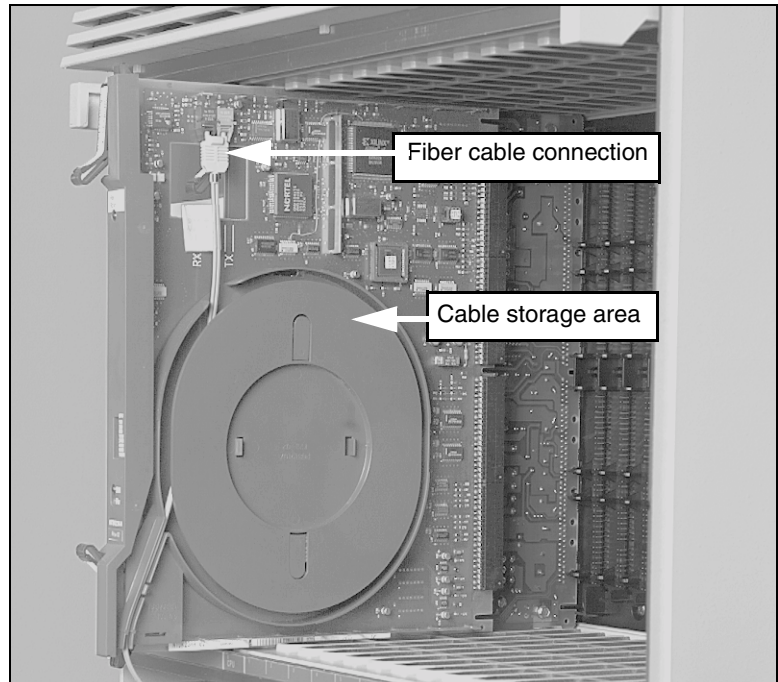


Figure 41
Plastic fiber-optic cable connection

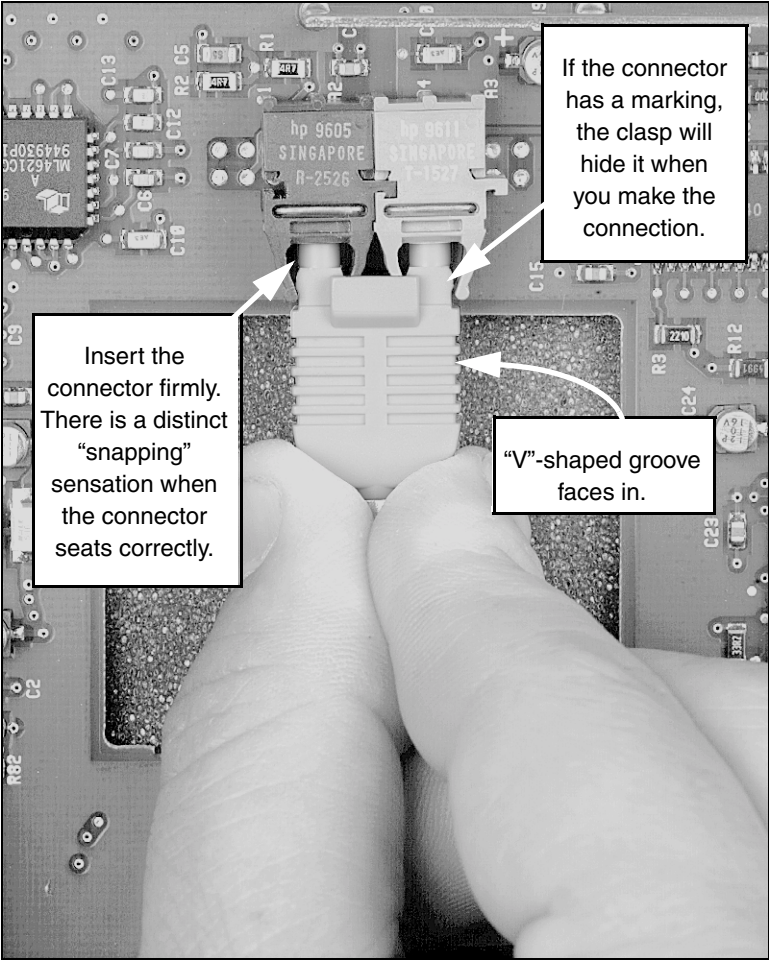
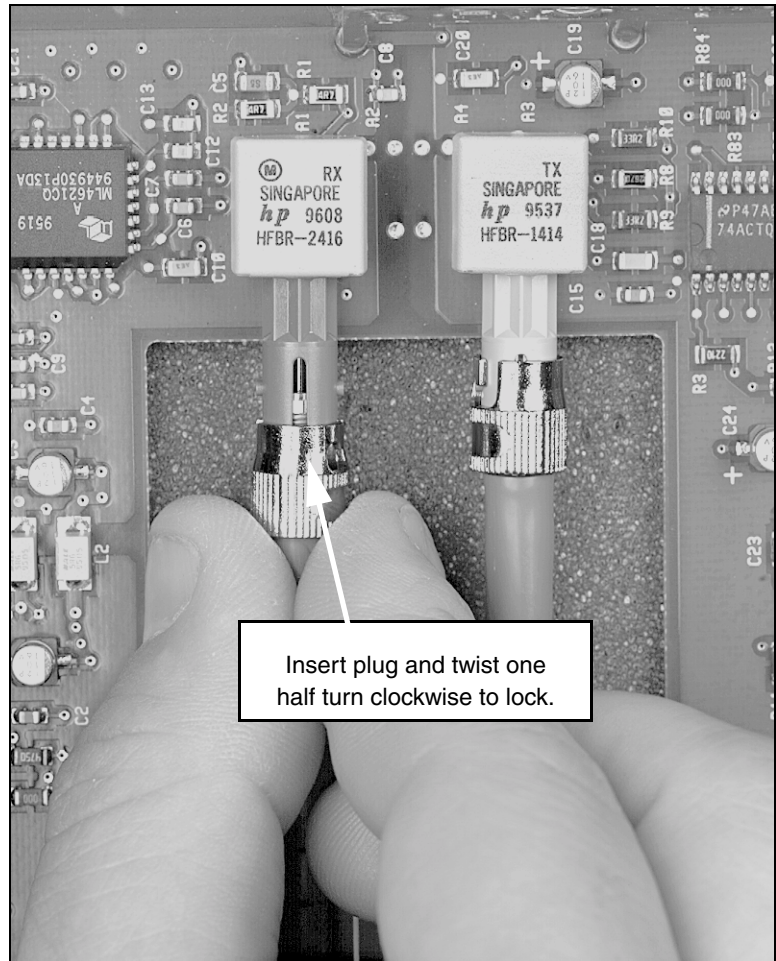


Figure 42
Glass fiber-optic cable connection



- 36** Remove the NTAK04, NTAK05, NTDK72, or NTDK78 power supply from the old expansion cabinets and install it in the new expansion cabinets.
Connect the power cord to the bottom of the power supply unit.
- 37** Remove any circuit cards you want to keep from the old expansion cabinets and install them in the corresponding slots in the new cabinets.

38 Connect the power to the expansion cabinets.

Set the circuit breaker switch on the front of the power supply unit in each cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.

39 Check the fiber-related LEDs on the SSC card.

The LED for the equipped expansion daughterboard is green.

If	Then
The LED shows red (disabled indication)...	<p>1 Load LD 135.</p> <p>2 Enter ENL FL1 to enable Expansion Cabinet 1 (or ENL FL2 for Expansion Cabinet 2, if equipped).</p>
The LED shows yellow (fault indication)...	<p>1 Check all fiber-optic cable. Make sure you connected it correctly and it is not damaged.</p> <p>2 If the LED remains yellow, refer to <i>Small System: Maintenance (553-3011-500)</i>.</p>

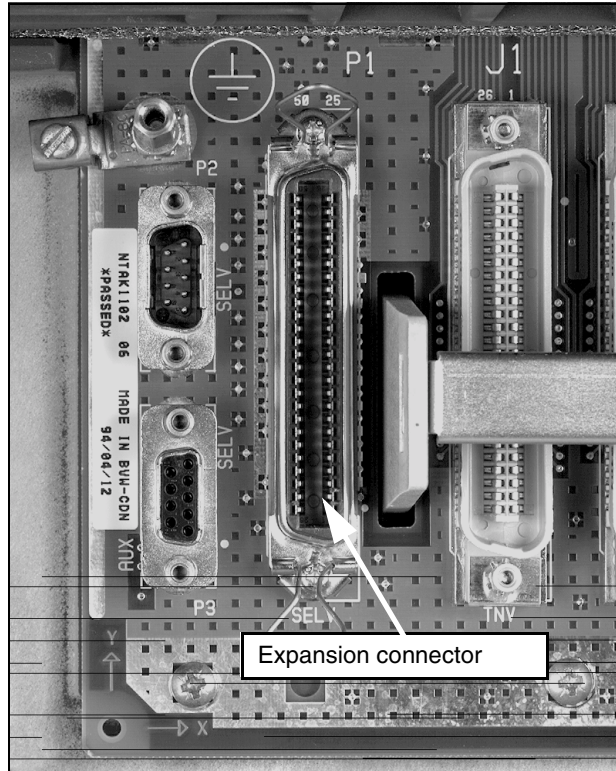
40 Change the tone and SDI functions.

The NTDK20 SSC card joins together many tone functions. Refer to “Assigning TDS/DTR, XTD, and SDI functions” on [page 243](#) for more information.

41 Install the single-port TTY cable in the expansion cabinet (see Figure 43 on [page 123](#)).

42 Connect the NTDK27 Ethernet cable to the expansion connector in the cabinet. (See Figure 43 on [page 123](#).)

Figure 43
Cable connection



End of Procedure

Restoring data because of an upgrade failure

This section explains how to revert back to an Option 11E if the upgrade fails. To revert back, insert the following back into slot 0 of the main cabinet and reload the system:

- Option 11E NTBK45 System Core card
- the software cartridge

Procedure 8

Reverting back to Option 11E

- 1 Disconnect the power from system and connect the NTBK78 cable.
- 2 Remove the NTDK20 SSC card from slot 0 in the main cabinet.
- 3 Attach the software cartridge to the NTBK45 System Core card.
- 4 Insert the NTBK45 System Core card in slot 0 and power up the system.

End of Procedure

Upgrading cabinet hardware

Contents

This section contains information on the following topics:

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Summary of items required	126
NTDK18AA Cabinet Upgrade Kit	126
Tools needed	126
Upgrade the cabinet	127

Introduction

This chapter describes how to upgrade cabinets to hold dual-port expansion daughterboards and 100BaseT interconnections.

You must upgrade the cabinet when one or more of the following conditions apply:

- You are adding more expansion cabinets to a three-cabinet system.
- You need additional space in the cabinet to hold circuit cards with faceplate cables.
- You want to provide the “new look” to an older cabinet.

Summary of items required

To perform this upgrade you need an NTDK18AA Cabinet Upgrade Kit and the listed tools.

NTDK18AA Cabinet Upgrade Kit

The NTDK18AA Cabinet Upgrade Kit contains all of the items needed to complete the cabinet upgrade. The kit contains one of each of the following items:

- cabinet door
- grill
- stiffener rail
- label for cabinet number identification
- multiple cable routing guide
- bag of screws
- upgrade instructions

Tools needed

You need the following tools to complete the cabinet upgrade:

- large slot screwdriver
- #2 Posidrive or Phillips screwdriver
- 1/4-inch nut driver

Upgrade the cabinet

The following procedure describes how to upgrade the cabinet.

Procedure 9 Upgrading cabinet hardware

- 1 Do one of the following:

If	Then
The cabinet you are upgrading is in operation	start at step 2.
The cabinet you are upgrading is not in operation	start at step 3.

- 2 Log in to the system and perform a datadump.

Note: You must do this step to make sure that you back up any changes made after the last datadump.

- a. Load LD 43.
- b. Enter command **EDD**.
- c. After the datadump finishes, exit LD 43 by entering ********.

- 3 Remove the door from the cabinet.

- 4 Remove the drip tray.

- 5 Disconnect the power from the cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to OFF.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to OFF.

- 6 Wait at least five minutes.



WARNING

Wait at least five minutes before continuing with step 7.
Read the important **Caution** on the faceplate of the power supply unit.

- 7 Disconnect the ac power supply cord and, if equipped, disconnect the dc power supply cord from the power supply unit.

Note: The cords are at the bottom of the power supply unit, as shown in Figure 45 on [page 130](#).

- 8 Attach the antistatic wrist strap, provided at the bottom of the cabinet, to your wrist.

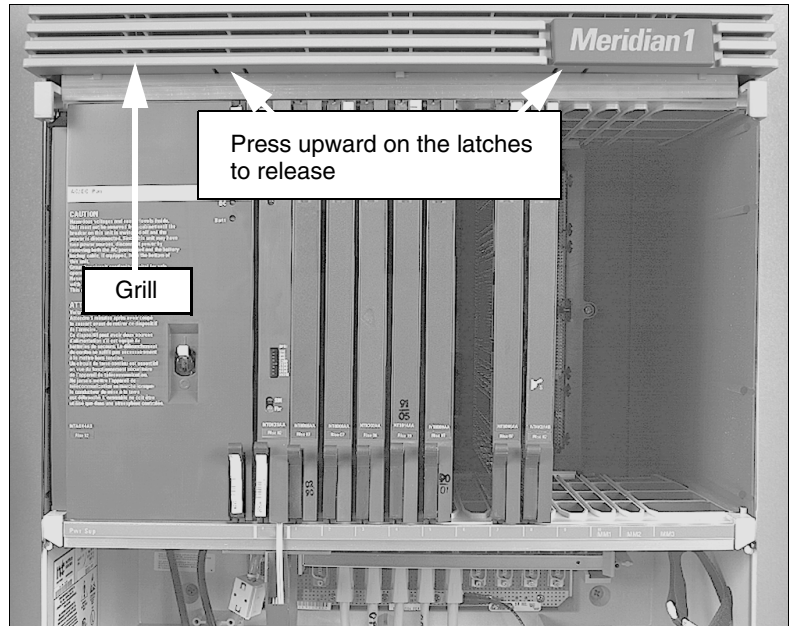


CAUTION WITH ESDS DEVICES

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components.

- 9 Remove the power supply unit from the cabinet.
- 10 With a large slot screwdriver, carefully pry the latches on the grill at the top of the cabinet (Figure 44 on [page 129](#)) until the latches release. Lift the grill up to remove it and replace with the new grill.

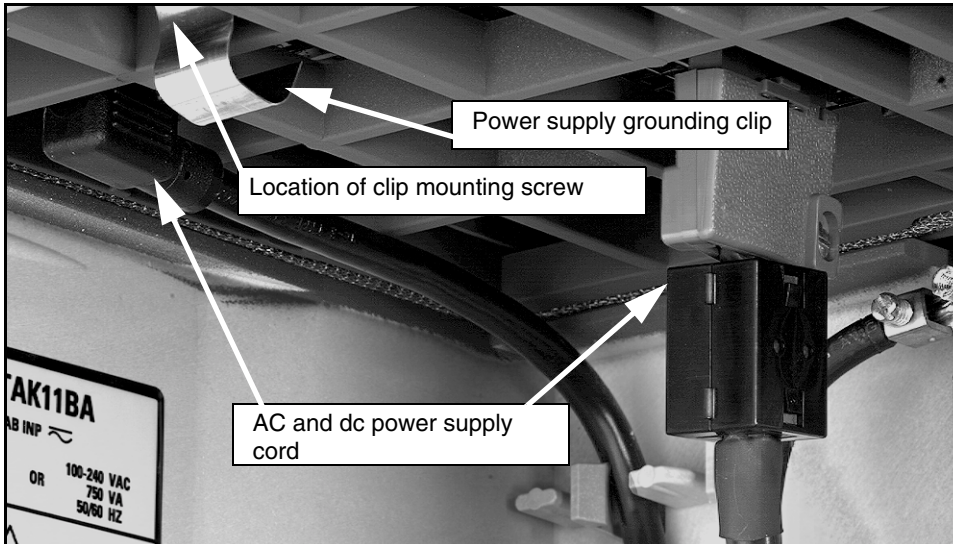
Figure 44
Location of latches on top grill



11 Remove the grounding clip from the stiffener rail.

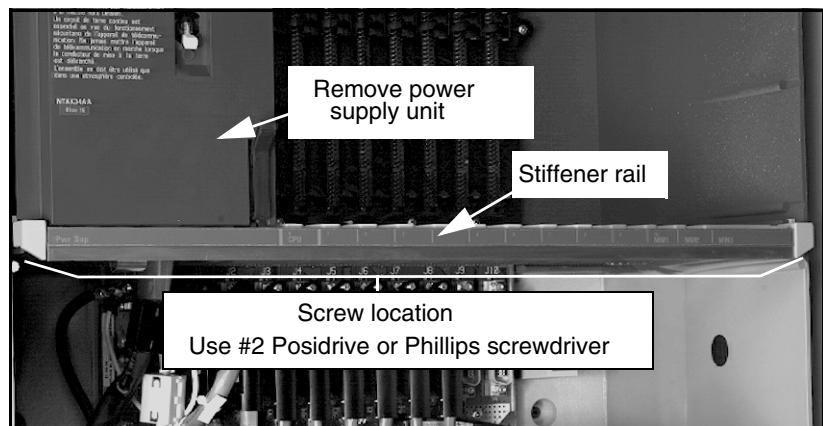
- a. Note the location and placing of the power supply grounding clip located below the power supply unit (see Figure 45 on [page 130](#)).
- b. With a 1/4-inch nut driver (or else a #2 Posidrive or Phillips screwdriver), remove the grounding clip from the stiffener rail (see Figure 45).

Figure 45
Location of power supply cords and grounding clip



- 12 With the #2 Posidrive screwdriver (or #2 Phillips screwdriver), remove the remaining screws holding the stiffener rail to the shelf. Remove the rail (see Figure 46 on [page 130](#)).

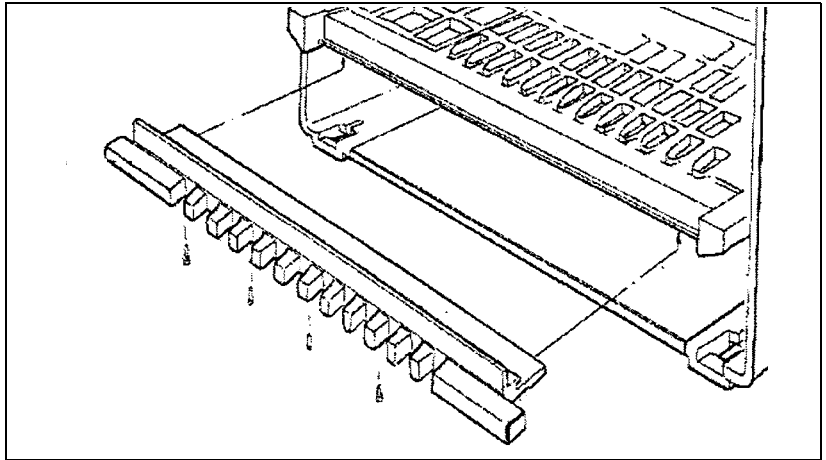
Figure 46
Location of stiffener rail



- 13 Install the new stiffener rail with the removed screws or with the screws supplied in the upgrade kit (see Figure 47 on [page 131](#)).

Install the center screw first (the hole for the center screw is round, while the remaining screw holes are slots).

Figure 47
New stiffener rail

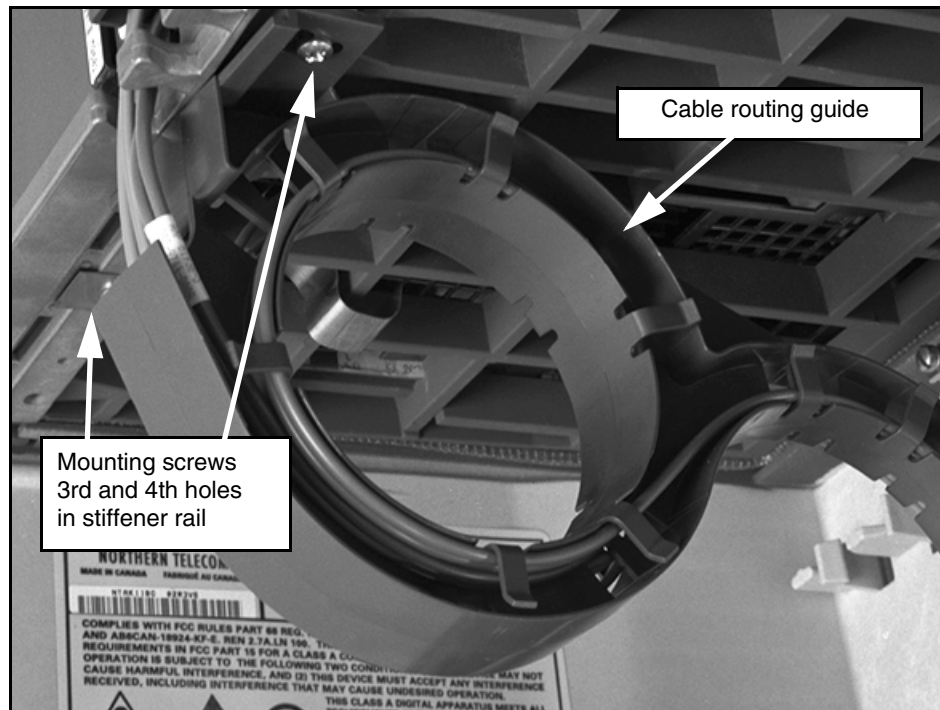


- 14 Install the power supply grounding clip again (see Figure 45 on [page 130](#)).
- 15 Install a multiple cable routing guide in the location below slot 0 (the SSC slot or, possibly, the Fbr Rcvr slot).

Note: Make sure you position the grounding clip so that it comes in contact with the bottom of the power supply unit.

You install the routing guide with the third and fourth rail stiffener mounting screws (see Figure 48 on [page 132](#)).

Figure 48
Cable routing guide (shown with cables)



- 16** Install the remaining screws to fasten the stiffener rail.
The upgrade kit provides additional screws.
- 17** Attach an identification label to the space provided at the right end of the stiffener rail. The label shows the appropriate cabinet number (Main, 1, 2, 3, or 4).
- 18** Install the power supply unit again.
- 19** Connect the power supply cords (Figure 45 on [page 130](#)).
- 20** Connect the power to the cabinet.
Set the circuit breaker switch on the front of the power supply unit in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch on the reserve battery power unit to ON.

The system will SYSLOAD and return to normal.

- 21** Install the new door on the cabinet.

End of Procedure

Upgrading the NTDK20AB Small System Controller card

Contents

This section contains information on the following topics:

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NTDK19AA SSC Upgrade Kit	137
Tools needed	137
Upgrading the SSC card	137

Introduction

This chapter describes how to upgrade an NTDK20AB Small System Controller (SSC) card to an NTDK20CA, using the NTDK19AA SSC Upgrade Kit. The NTDK20CA or later SSC card is required to hold dual-port expansion daughterboards.

Note: The NTDK20CA and later SSC card supports both single-port and dual-port expansion daughterboards.

How to identify an upgraded NTDK20 SSC card

To identify if an SSC card is an upgraded card, look for the letters “CA” in the product code. These letters indicate that the SSC card is an upgraded card.

Example: An NTDK20AB SSC card becomes an NTDK20CA after the upgrade process.

Boot code

The updated boot code on the NTDK20CA SSC card can support single-port and dual-port expansion daughterboards and the NTDK21, NTDK81, and NTTK13AA or NTTK25AA Software Flash Daughterboards.

To update the boot code, see “Upgrading or installing software” on [page 279](#).

Note: It is important that the boot code on the NTDK20CA SSC be at least NTDK34FA Release 01 or later. Check and update the boot code at the start of Procedure 10 on [page 137](#).

How to handle circuit cards

To prevent damaging circuit cards, always handle them as follows:

- Wear an antistatic wrist strap before handling circuit cards. The bottom of each cabinet has an antistatic wrist strap.
- Put the card on an antistatic pad to perform the upgrade.
- Handle cards by the card stiffeners and edges only. Do not touch the contact points or components.
- Remove cards from the packaging or handle cards away from electric motors, transformers, or like equipment.
- Store cards in protective packing. Do not stack cards on top of each other, unless they are in packaging.
- Store cards in a dry area that is free of dust.

Summary of items required

You need an NTDK19AA SSC Upgrade Kit and the listed tools.

NTDK19AA SSC Upgrade Kit

The NTDK19AA SSC Upgrade Kit contains the items needed to complete the SSC upgrade. The kit contains the following items:

- one faceplate assembly
- one LED cable assembly
- three plastic rivets
- one 16 M SIMM
- one Label Kit, Upgrade Release Number
- one set of upgrade instructions

Tools needed

The only tool needed to complete the SSC upgrade is a pair of needle-nosed or long-nosed pliers.

Upgrading the SSC card

The following procedure describes how to upgrade the SSC card to NTDK20CA.

Procedure 10

Upgrading an NTDK20AB SSC to an NTDK20CA

- 1 Do one of the following:
 - If the NTDK20 SSC you are upgrading is in an operating Option 11C, start at step 2.
 - If the NTDK20 SSC you are upgrading is not in an operating Option 11C, do the following:

- a. Make sure you update the boot code on the SSC card before continuing.

Normally, you need an operating system to check and update the boot code on an SSC card. For information about updating the boot code, refer to “Upgrading or installing software” on [page 279](#).

- b. Attach an antistatic wrist strap to your wrist and go to step 7.



CAUTION WITH ESDS DEVICES

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. Be careful not to damage any components on the SSC while handling the card.

- 2 Log in to the system and perform a datadump.

Note: You must do this step to make sure you back up any changes made after the last datadump. This step is a precautionary measure.

- a. Load LD 43.
- b. Enter the command **EDD**.
- c. Let the datadump finish, then exit LD 43 by entering *******.

- 3 Check the boot code version on the NTDK20AB SSC card.

The boot code must be at least an NTDK34FA Release 01 or later. If it is not, update it. Refer to “Upgrading or installing software” on [page 279](#) for information about checking and updating the boot code.

- 4 Disconnect the power from the cabinet.

Set the circuit breaker switch on the front of the power supply unit in the cabinet to OFF.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to OFF.

- 5 Attach an antistatic wrist strap to your wrist.

An antistatic wrist strap is in the bottom of each cabinet.



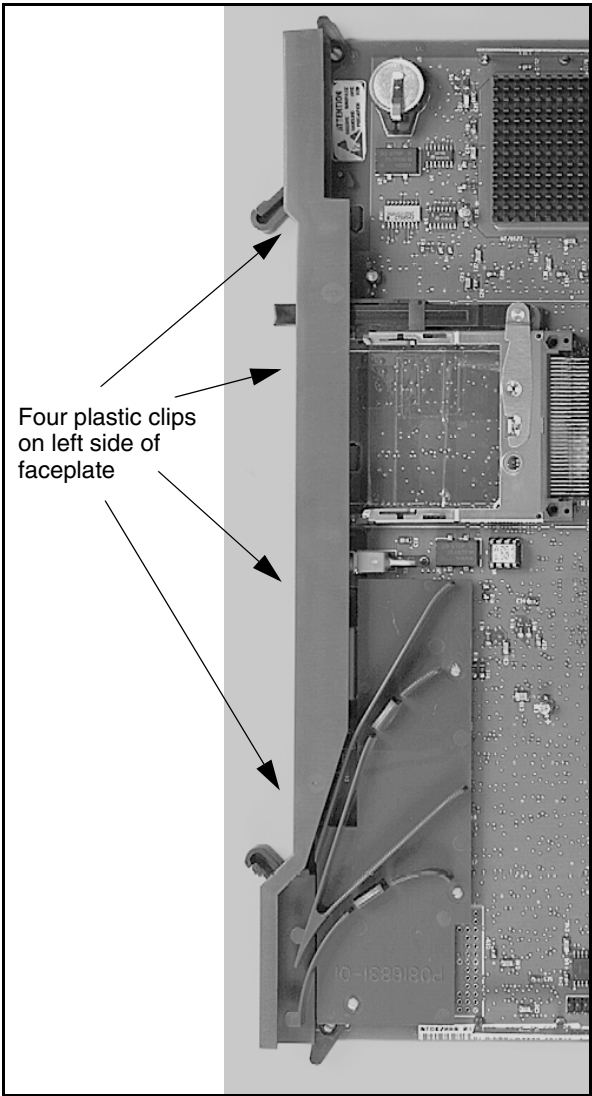
CAUTION WITH ESDS DEVICES

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. Be careful not to damage any components on the SSC while handling the card.

- 6** Remove the NTDK20 SSC card from the cabinet.
- 7** Remove any existing Fiber Expansion Daughterboards from the SSC card.
- 8** Remove the existing faceplate from the NTDK20 SSC.

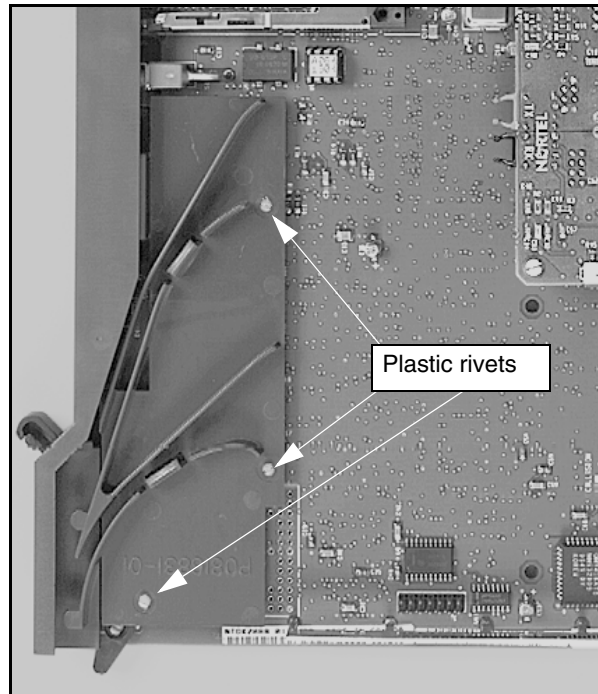
To remove the faceplate, release the four plastic clips fastening the faceplate to the circuit card (see Figure 49). Carefully pull the faceplate forward.

Figure 49
Location of plastic retaining clips



- 9 Remove the three plastic rivets and remove the routing guide (see Figure 50).
 - a. Note the location of the three plastic rivets that hold the on-board fiber routing guide to the circuit card. One end of each rivet has a slot.
 - b. Use needle- or long-nosed pliers to squeeze the end that has a slot. Carefully push the rivet through the hole in the circuit card until it releases.

Figure 50
Location of plastic rivets

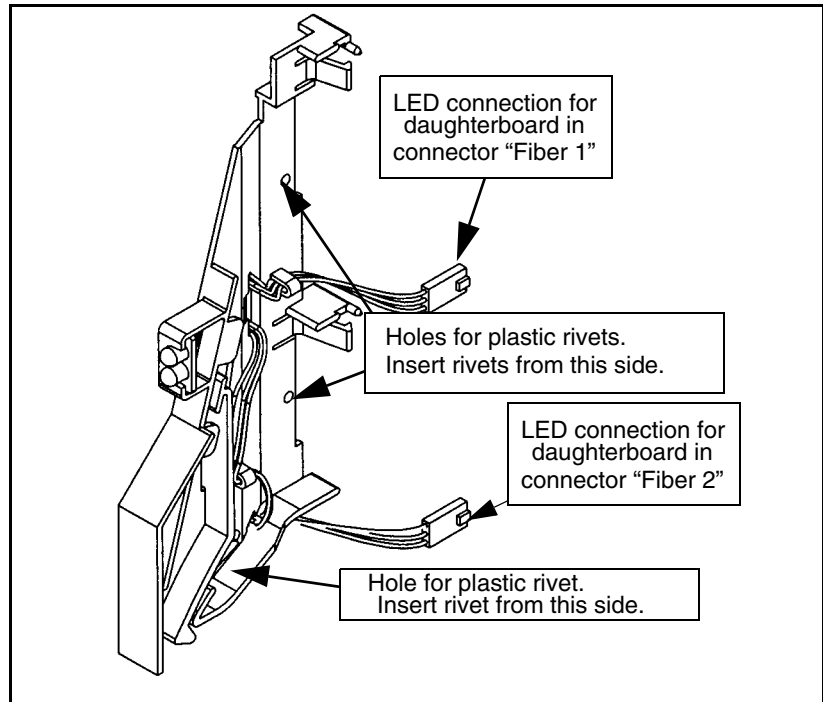


- 10 Attach the NTDK8302 LED Cable Assembly (see Figure 51 on [page 142](#)) in the location left empty by the fiber router.

Use the three plastic rivets supplied with the LED cable assembly.

- a. Install the rivets in the holes in the circuit card you made note of in step 9. See Figure 51 for the correct location.
- b. Fasten the new router to the circuit card.

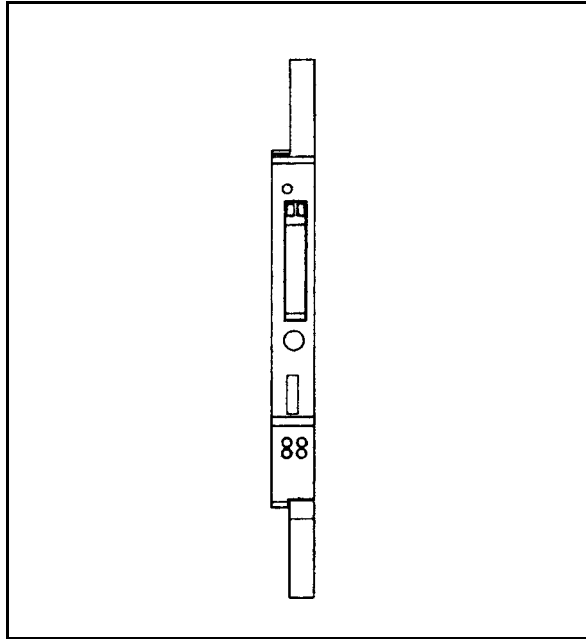
Figure 51
NTDK8302 LED Cable Assembly



- 11 Install the new faceplate (see Figure 52 on [page 143](#)) on the front of the SSC card.

The faceplate snaps into place when it seats correctly. It fastens to the circuit card with four plastic clips like those on the old faceplate.

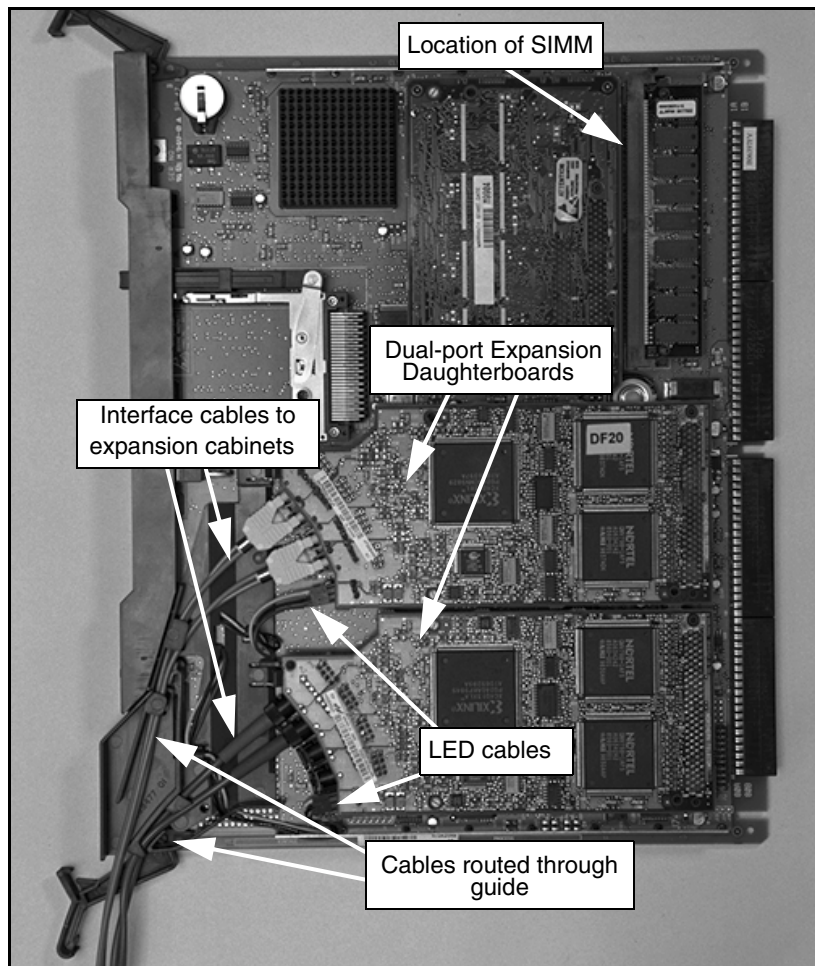
Figure 52
P0891070 SSC Faceplate



- 12 Remove the existing SIMM (see Figure 53 on [page 144](#) for location of SIMM). Replace it with the 16 M SIMM provided with the upgrade kit.
- 13 Install the expansion daughterboards in their assigned connector on the SSC card. Then connect LED cables (see Figure 51 on [page 142](#)) and interface cables (see Figure 53 on [page 144](#)).

Note: You do not use the LED cables with single-port daughterboards.

Figure 53
SSC with cables connected to the daughterboards



- 14** Attach the appropriate upgrade release label from the Label Kit provided with the Upgrade Kit to the faceplate of the SSC card in the space provided.

Attach the same release number label as the original SSC card. For example, if the original SSC card was NTDK20AB Release 9, the upgraded SSC card becomes NTDK20CA Release 9.

- 15** Insert the SSC card in its assigned slot in the cabinet and restore power to the system.

End of Procedure

Fiber-optic and IP expansion overview

Contents

This section contains information on the following topics:

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Cabinet and Chassis system mix-and-match expansion	164

Introduction

This chapter provides an overview of the available fiber-optic and IP expansion options. The chapter includes a mix-and-match expansion scenario to connect Cabinet and Chassis systems.

Small System expansion

Both the Cabinet system and the Chassis system support fiber-optic and IP expansion.

For fiber-optic expansion, you require the following three basic components in addition to other hardware:

- Small System Controller (SSC) card
- Fiber Expansion Daughterboard
- Fiber Receiver card in the expansion cabinets or chassis

For IP expansion, you require the following three basic components in addition to other hardware:

- Small System Controller (SSC) card
- IP Expansion Daughterboards (minimum two)
- SSC card in the expansion cabinets or chassis

Note: For a complete list of required hardware, refer to *Small System: Planning and Engineering* (553-3011-120).

SSC card

For fiber-optic expansion, you must install an SSC card, containing Fiber Expansion Daughterboards, in slot 0 of the main cabinet or chassis.

For IP expansion, you must install an SSC card, containing IP Expansion Daughterboards, in slot 0 of the main cabinet or chassis. You must also install an SSC card, containing one IP Expansion Daughterboard in slot 0 of the expansion cabinet or chassis.

Note: The SSC card vintage NTDK20EA or later is required for the main cabinet and all chassis. The SSC card vintage NTDK20CA or later is required for expansion cabinets.

Fiber Expansion and IP Expansion Daughterboards

You must install Fiber Expansion or IP Expansion Daughterboards on the SSC card. The SSC card supports both Fiber Expansion Daughterboards and IP Expansion Daughterboards. The daughterboard configurations supported are as follows:

- two single-port daughterboards
- two dual-port daughterboards

Each single-port daughterboard supports one expansion cabinet or chassis. Each dual-port daughterboard supports up to two expansion cabinets or chassis.

Fiber Expansion Daughterboard

The Fiber Expansion Daughterboards support the following fiber-optic cable solutions between expansion cabinets or chassis:

- 10-meter solution
- 3-kilometer single-mode glass fiber solution
- 3-kilometer multi-mode glass fiber solution

IP Expansion Daughterboard

The IP Expansion Daughterboards support the following IP cable solutions between expansion cabinets or chassis:

- 100-meter solution
- 2-kilometer solution
- Customer Local Area Network (LAN) solution

Fiber Receiver card

You must install a Fiber Receiver card in slot 0 of each expansion cabinet or expansion chassis. Match the correct Fiber Receiver card with the Fiber Expansion Daughterboard installed on the SSC card in the main cabinet or chassis.

Like the Fiber Expansion Daughterboards, the Fiber Receiver cards support the following fiber-optic cable solutions:

- 10-meter solution
- 3-kilometer single-mode glass fiber solution
- 3 -kilometer multi-mode glass fiber solution

Table 6 summarizes the hardware required to expand your system using fiber-optic connectivity.

Table 6
Hardware for fiber-optic expansion (Part 1 of 3)

Code	Item	Description
NTDK20EA (A0789511)	Small System Controller (SSC) card	Install this card in slot 0 of the main cabinet/chassis. NTDK20EA is the minimum version of SSC card required for the main cabinet/chassis. See Note 1 on page 152 .
NTDK22AA	10 m single-port Fiber Expansion Daughterboard	Install this daughterboard on the SSC card to connect one expansion cabinet/chassis. The SSC card will support two NTDK22AA daughterboards. Use this daughterboard with the A0632902 multi-mode fiber-optic cable and the NTDK23 Fiber Receiver card.
NTDK24AB	3 km single-port Fiber Expansion Daughterboard (multi-mode)	Install this daughterboard on the SSC card to connect one expansion cabinet/chassis. The SSC card will support two NTDK24AB daughterboards. Use this daughterboard with multi-mode, glass fiber-optic cable and the NTDK25 Fiber Receiver card.

Table 6
Hardware for fiber-optic expansion (Part 2 of 3)

Code	Item	Description
NTDK79AA	3 km single-port Fiber Expansion Daughterboard (single mode)	<p>Install this daughterboard on the SSC card to connect one expansion cabinet/chassis. The SSC card will support two NTDK79AA daughterboards.</p> <p>Use this daughterboard with single-mode, glass fiber-optic cable and the NTDK80 Fiber Receiver card.</p>
NTDK84AA	10 m dual-port Fiber Expansion Daughterboard	<p>Install this daughterboard on the SSC card to connect two expansion cabinets/chassis. The SSC card will support two NTDK84AA daughterboards.</p> <p>Use this daughterboard with the A0632902 multi-mode fiber-optic cable and the NTDK23 Fiber Receiver card.</p>
NTDK85AA	3 km dual-port Fiber Expansion Daughterboard	<p>Install this daughterboard on the SSC card to connect two expansion cabinets/chassis. The SSC card will support two NTDK85AA daughterboards.</p> <p>Use this daughterboard with multi-mode, glass fiber-optic cable and the NTDK25 Fiber Receiver card.</p>
NTDK23BA	10 m Fiber Receiver card	<p>This Fiber Receiver card supports 10 m (33 ft) plastic fiber-optic cable. See Note 2 on page 152.</p>
NTDK25BB	3 km multi-mode Fiber Receiver card	<p>This Fiber Receiver card supports 3 km (1.8 mi) multi-mode glass fiber-optic cable. See Notes 2 and 3 on page 152.</p>

Table 6
Hardware for fiber-optic expansion (Part 3 of 3)

Code	Item	Description
NTDK80BA	3 km single-mode Fiber Receiver card	This Fiber Receiver card supports 3 km (1.8 mi) single-mode fiber-optic cable. See Notes 2 and 3 on page 152 .
A0632902	10 m plastic fiber-optic cable (multi-mode)	This cable connects the main and expansion cabinets/chassis by interfacing with an expansion daughterboard and a Fiber Receiver card. Length: 10 m (33 ft)
	Glass fiber-optic cable (multi-mode or single-mode)	This cable connects the main and expansion cabinets/chassis by interfacing with an expansion daughterboard and a Fiber Receiver card. See Note 3 on page 152 . Length: Up to 3 km (1.8 mi)
NTTK24	Chassis Fiber Management Guide	This routing guide supports cables for up to four expansion chassis.
P0888475	Cabinet Cable Routing Guide	This routing guide supports up to four expansion cabinets.
P0816832	Cabinet Fiber Management Guide	This routing guide supports up to two expansion cabinets.
<p>Note 1: If you use an earlier version of the SSC card (NTDK20DA or earlier) in the chassis, the chassis expander does not function.</p> <p>Note 2: If you use an earlier version of the Fiber Receiver card in the expansion chassis, the chassis expander does not function.</p> <p>Note 3: Glass fiber-optic cable must be supplied by a local facilities provider.</p>		

Table 7 summarizes the hardware required to expand your system using IP connectivity.

Table 7
Hardware for IP expansion (Part 1 of 3)

Code	Item	Description
NTDK20	Small System Controller (SSC) card	Install this card in slot 0 of all cabinets/chassis. NTDK20EA is the minimum version of SSC card required for the main cabinet and for all chassis. NTDK20CA is the minimum version of SSC card required for expansion cabinets.
NTTK13AA	Software Daughterboard	Preprogrammed software daughterboard required in both the main and IP expansion cabinets/chassis
NTTK01	Single-port 100BaseF IP Expansion Daughterboard	<p>Install this daughterboard on the SSC card of both the main and the expansion cabinet/chassis to connect one expansion cabinet/chassis. The SSC card will support two NTTK01 daughterboards.</p> <p>Use this daughterboard with the A0817052 fiber-optic cable and the A0346816 ST fiber coupler.</p>
NTDK99	Single-port 100BaseT IP Expansion Daughterboard	<p>Install this daughterboard on the SSC card of both the main and the expansion cabinet/chassis to connect one expansion cabinet/chassis. The SSC card will support two NTDK99 daughterboards.</p> <p>Use this daughterboard with the NTTK34AA cross-over cable and the NTDK8305 extension cable.</p>

Table 7
Hardware for IP expansion (Part 2 of 3)

Code	Item	Description
NTTK02	Dual-port 100BaseF IP Expansion Daughterboard	<p>Install this daughterboard on the SSC card of both the main and the expansion cabinet/chassis to connect two expansion cabinets/chassis. The SSC card will support two NTK01 daughterboards.</p> <p>Use this daughterboard with the A0817052 fiber-optic cable and the A0346816 ST fiber coupler.</p>
NTDK83	Dual-port 100BaseT IP Expansion Daughterboard	<p>Install this daughterboard on the SSC card of both the main and the expansion cabinet/chassis to connect two expansion cabinets/chassis. The SSC card will support two NTK99 daughterboards.</p> <p>Use this daughterboard with the NTK34AA cross-over cable and the NTK8305 extension cable.</p>
A0817052	5 m fiber-optic cable with MT-RJ to ST connectors	This cable connects the main and IP expansion cabinets/chassis using the 100BaseF IP daughterboards and an A0346816 ST fiber coupler.
A0346816	ST fiber coupler	This coupler enables two MT-RJ to ST cables to connect in a point-to-point configuration.

Table 7
Hardware for IP expansion (Part 3 of 3)

Code	Item	Description
NTTK8305	2 m STP CAT 5 extension cable	This cable connects the main and IP expansion cabinets/chassis using the 100BaseT IP daughterboards and, in a point-to-point configuration, an NTTK34AA cross-over cable. In a data network configuration, a customer-supplied straight-through cable is used in place of the NTTK34AA cross-over cable.
NTTK34AA	2 m UTP CAT 5 RJ45 cross-over cable	This cable is used for 100BaseT connectivity in a point-to-point configuration.
NTDK57DA	Remote Security dongle	The NTDK20EA or later SSC card installed in the IP expansion cabinets/chassis requires this security dongle.
NTTK43AA	Grounding clip	The EMC grounding clip is required for all 100BaseT IP expansion cabinets/chassis.

Cabinet system expansion

The Cabinet system can be expanded using fiber-optic or IP connectivity. Figure 54 shows a main cabinet connected to expansion cabinets with fiber-optic connectivity. Figure 55 shows a main cabinet connected to expansion cabinets with IP connectivity. Up to five cabinets (one main and four expansion cabinets) can be interconnected in these types of configuration.

Note: In Figure 54, the new vintages of the SSC card and the new vintages of Fiber Receiver cards support this fiber-optic configuration. Slots 1 to 10 are available in the main cabinet. Slots 11 to 20 and 21 to 30 are available in the two expansion cabinets.

Figure 54
Main cabinet connected to expansion cabinets with fiber-optic cable

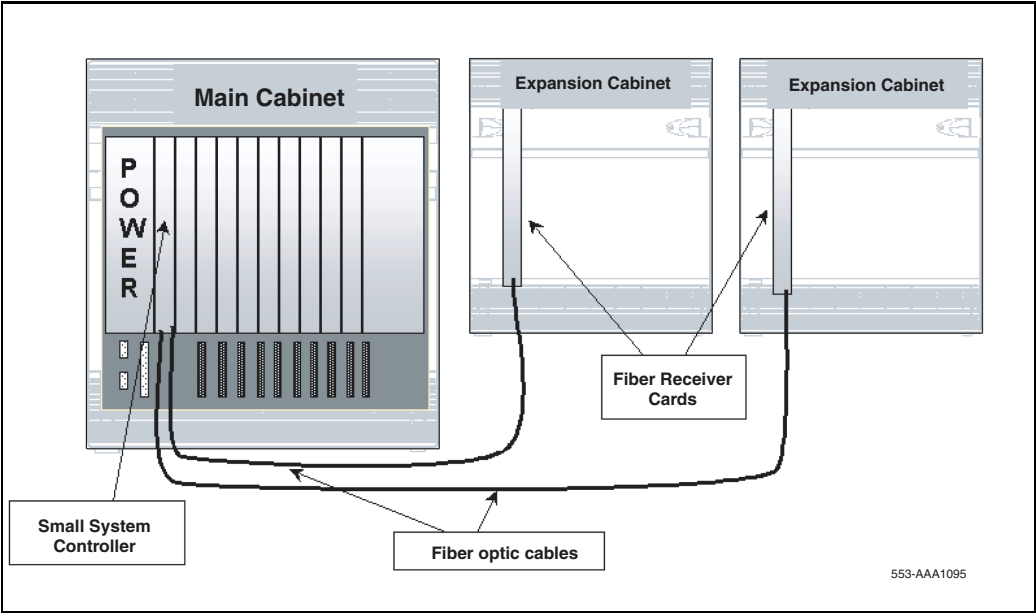
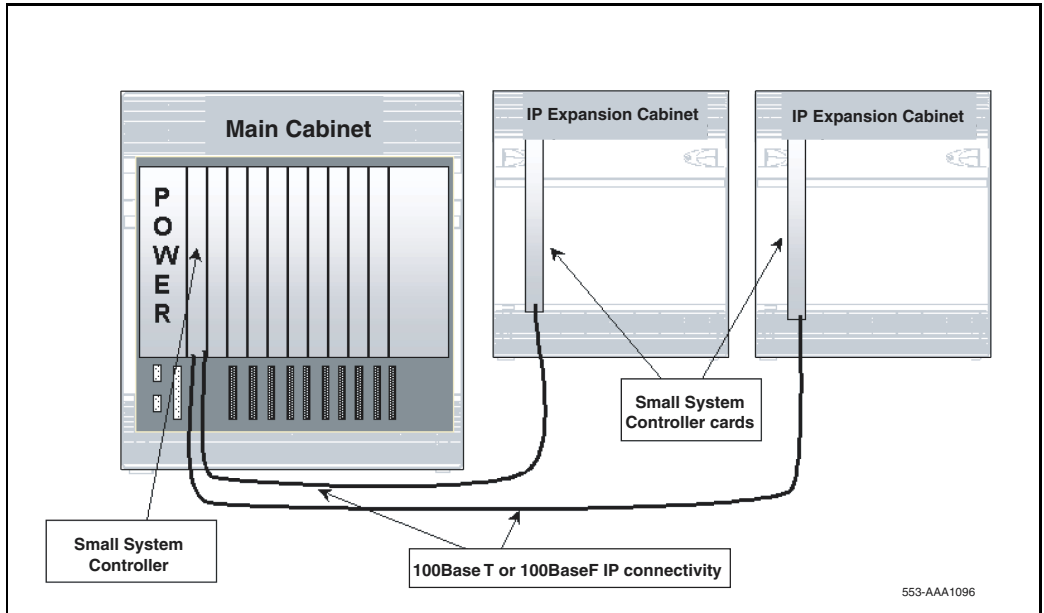


Figure 55
Main cabinet connected to expansion cabinets with IP connectivity

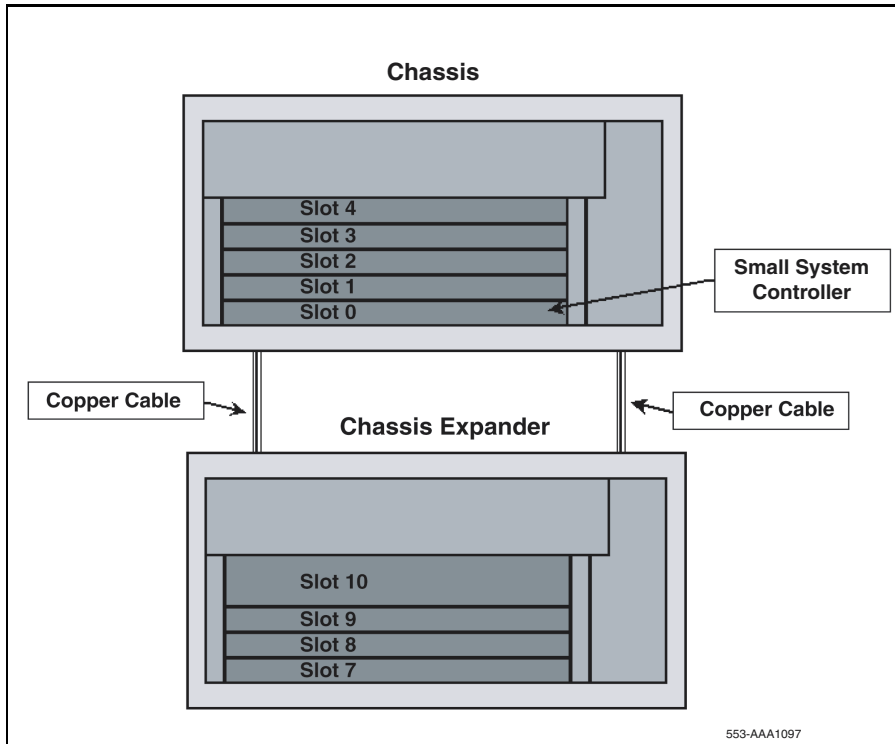


Chassis system expansion

The chassis can be expanded using a chassis expander. Figure 56 shows a chassis connected to a chassis expander with two copper cables. The chassis expander expands the number of slots that are available in the Chassis system. All vintages of the Mini System Controller (MSC) card and the SSC card vintages NTDK20EA or later support the chassis expander.

Note: In Figure 56, slots 0 to 4 are available in the chassis. Slot 4 is designed to contain the NTDK16 48-port Digital Line Card. This card is equivalent to three NT8D02 Digital Line Cards (slots 4 to 6). Slots 7 to 10 are available in the chassis expander.

Figure 56
Chassis connected to a chassis expander



Chassis system expansion using fiber

The Chassis system can be expanded using fiber-optic connectivity. Figure 57 on [page 159](#) shows a chassis connected to an expansion chassis. The SSC card NTDK20BA or later is required for fiber-optic connectivity for up to two expansion chassis. The SSC card NTDK20CA or later is required for up to four expansion chassis.

Note 1: The addition of a chassis expander off the chassis in a fiber-optic configuration requires the NTDK20EA or later SSC card.

Note 2: The addition of a chassis expander off the expansion chassis requires the Fiber Receiver card NTDK23BA, NTDK25BB, NTDK80BA or later versions.

Note 3: In Figure 57, slots 0 to 4 are available in the chassis. Slots 4 and 14 contain the NTDK16 48-port Digital Line card. Slots 11 to 14 are available in the expansion chassis. Slot 0 in the expansion chassis contains the Fiber Receiver card.

Figure 57
Chassis connected to an expansion chassis

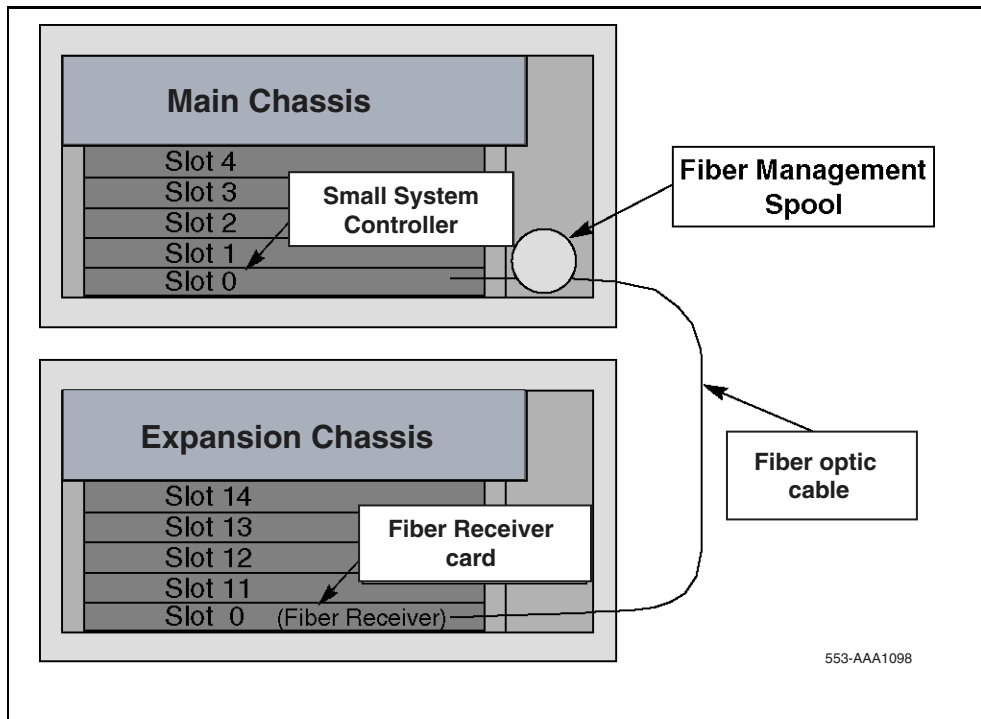


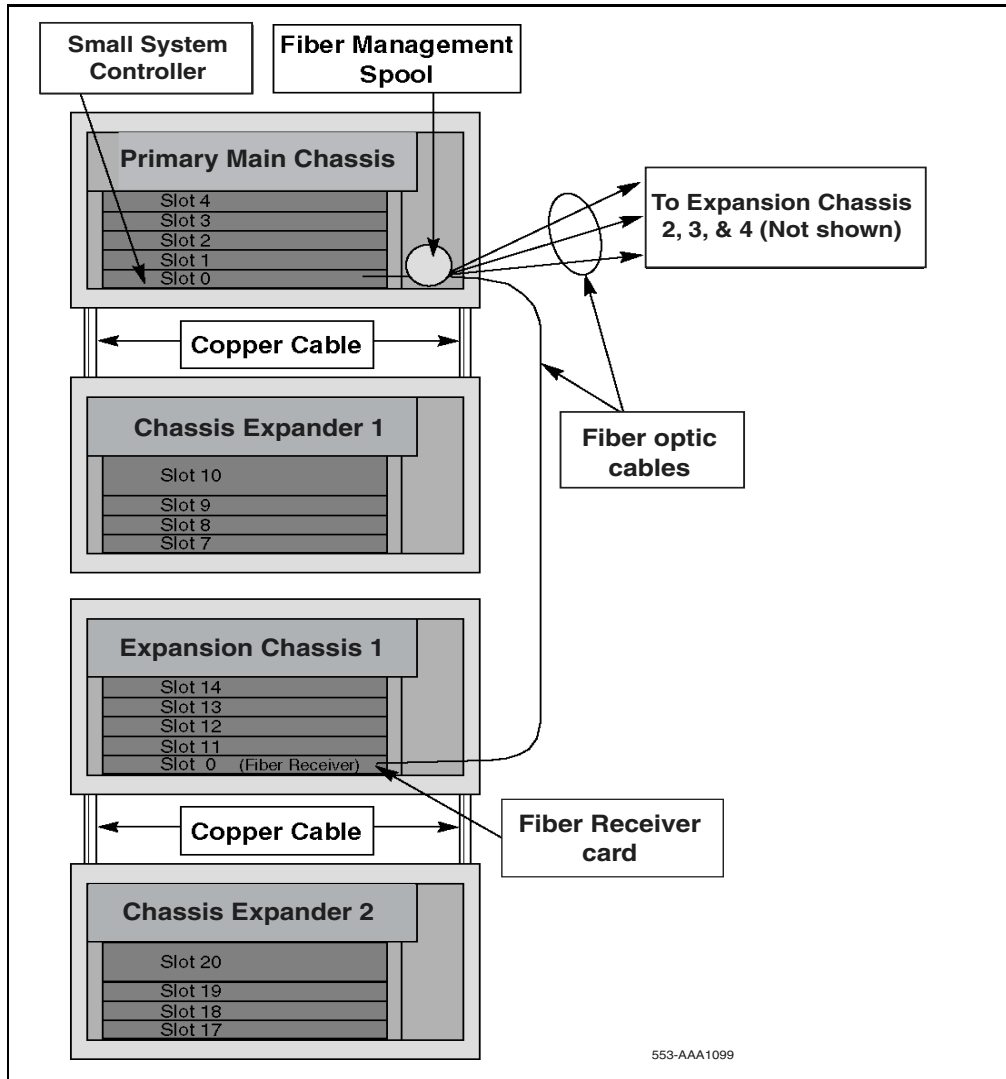
Figure 58 on [page 161](#) shows a Chassis system configuration in which the chassis is connected to the expansion chassis with fiber-optic cable. The chassis in this configuration is equipped with a chassis expander (Chassis Expander 1). Therefore, the SSC card NTDK20EA or later is required to support the chassis expander connected to the chassis.

Expansion Chassis 1 in this configuration is also equipped with a chassis expander (Chassis Expander 2). Therefore, the Fiber Receiver card must be one of the following:

- NTDK23BA or later
- NTDK25BB or later
- NTDK80BA or later

Note: In Figure 58, slots 0 to 4 are available in the chassis. Slot 4 contains the NTDK16 48-port Digital Line card. Slots 7 to 10 are available in Chassis Expander 1. Slots 11 to 14 are available in Expansion Chassis 1. Slot 0 in Expansion Chassis 1 contains the Fiber Receiver card and slot 14 contains the NTDK16 48-port Digital Line card. Slots 17 to 20 are available in Chassis Expander 2.

Figure 58
Chassis system fiber-optic expansion configuration including chassis expander

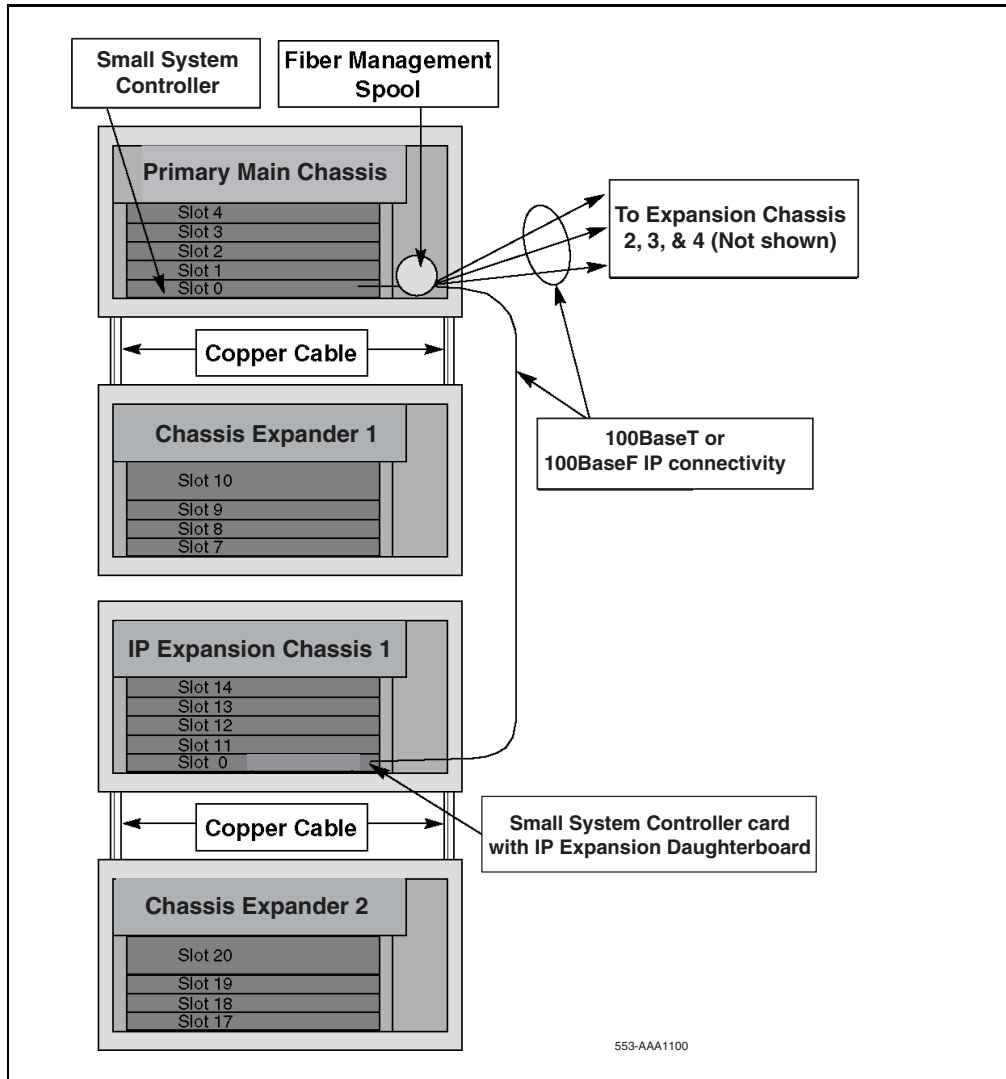


Chassis system expansion using IP connectivity

The Chassis system can also be expanded using IP connectivity. Figure 59 on [page 163](#) shows a Chassis system configuration in which a chassis is connected to an IP expansion chassis using either 100BaseT or 100BaseF connectivity. In this configuration, both the chassis and the IP expansion chassis are equipped with a chassis expander.

Note: In Figure 59, slots 0 to 4 are available in the chassis. Slot 0 contains the NTDK20EA or later SSC card equipped with an IP Expansion Daughterboard. Slot 4 contains the NTDK16 48-port Digital Line card. Slots 7 to 10 are available in Chassis Expander 1. Slots 11 to 14 are available in Expansion Chassis 1. Slot 0 in Expansion Chassis 1 contains the SSC card equipped with an IP Expansion Daughterboard, and slot 14 contains the NTDK16 48-port Digital Line card. Slots 17 to 20 are available in Chassis Expander 2.

Figure 59
Chassis system IP expansion configuration including chassis expander



Cabinet and Chassis system mix-and-match expansion

In a mix-and-match scenario, a chassis can be connected to IP expansion cabinet(s). Similarly, a main cabinet can be connected to IP expansion chassis.

The main differences between the cabinet and chassis include:

- The SSC card vintages. The SSC card NTDK20EA or later is required for the main cabinet and the chassis and IP expansion chassis. The SSC card vintage NTDK20CA or later is required for expansion cabinets.
- The cabinets must support the faceplate cabling that is used on all IP Expansion Daughterboards. If the current cabinets do not support cable routing through the faceplate, they must be upgraded to the NTDK18AA cabinet kit.
- The grounding clips are situated differently. The cabinet grounding clip is mounted on the front of the stiffener rail (refer to Figure 60 on [page 165](#)). For the Chassis system, it is mounted on the fan baffle on the lower right-hand side of the chassis (refer to Figure 61 on [page 166](#)).

Figure 60
Cabinet EMC grounding clip

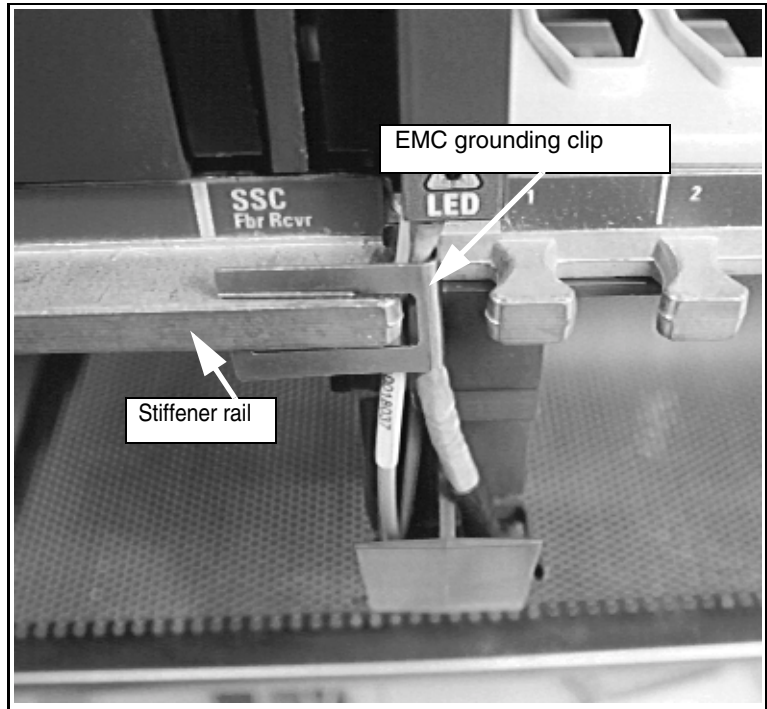


Figure 61
Chassis EMC grounding clip location

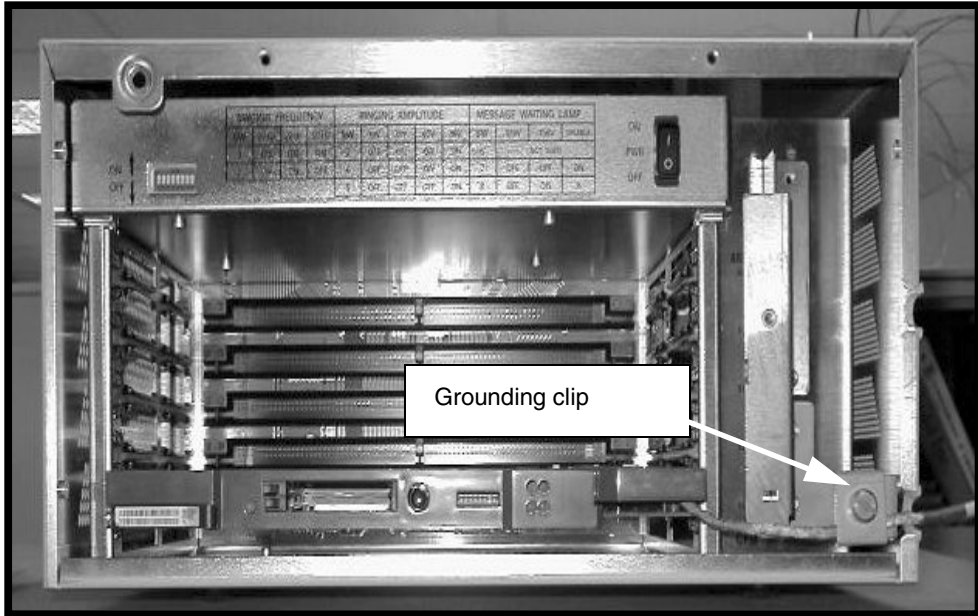


Figure 62 on [page 167](#) shows an IP configuration in which a main cabinet is connected to an expansion chassis using IP connectivity. The SSC card used in the main cabinet is vintage NTDK20EA or later. The SSC (NTDK20EA and later) card is required in slot 0 of the IP expansion chassis.

Note: In Figure 62, slots 0 to 10 are available in the main cabinet and slots 11 to 14 are available in the expansion chassis. Slot 14 of the expansion chassis contains the NTDK16 48-port Digital Line Card.

Figure 62
Cabinet and Chassis system IP expansion configuration

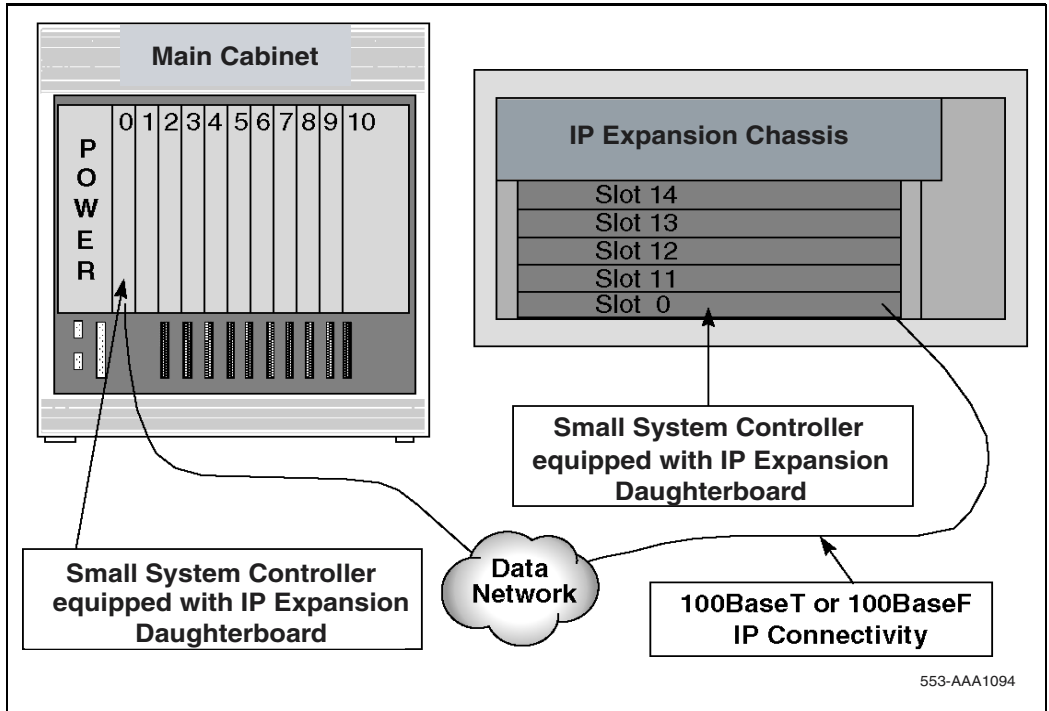


Figure 63 on [page 169](#) shows another example of a “mix-and-match” configuration in which a main cabinet uses both fiber and IP cabling to connect two expansion cabinets and one expansion chassis.

Note: Figure 63 is only an example of one of many possible configurations using cabinets and chassis.

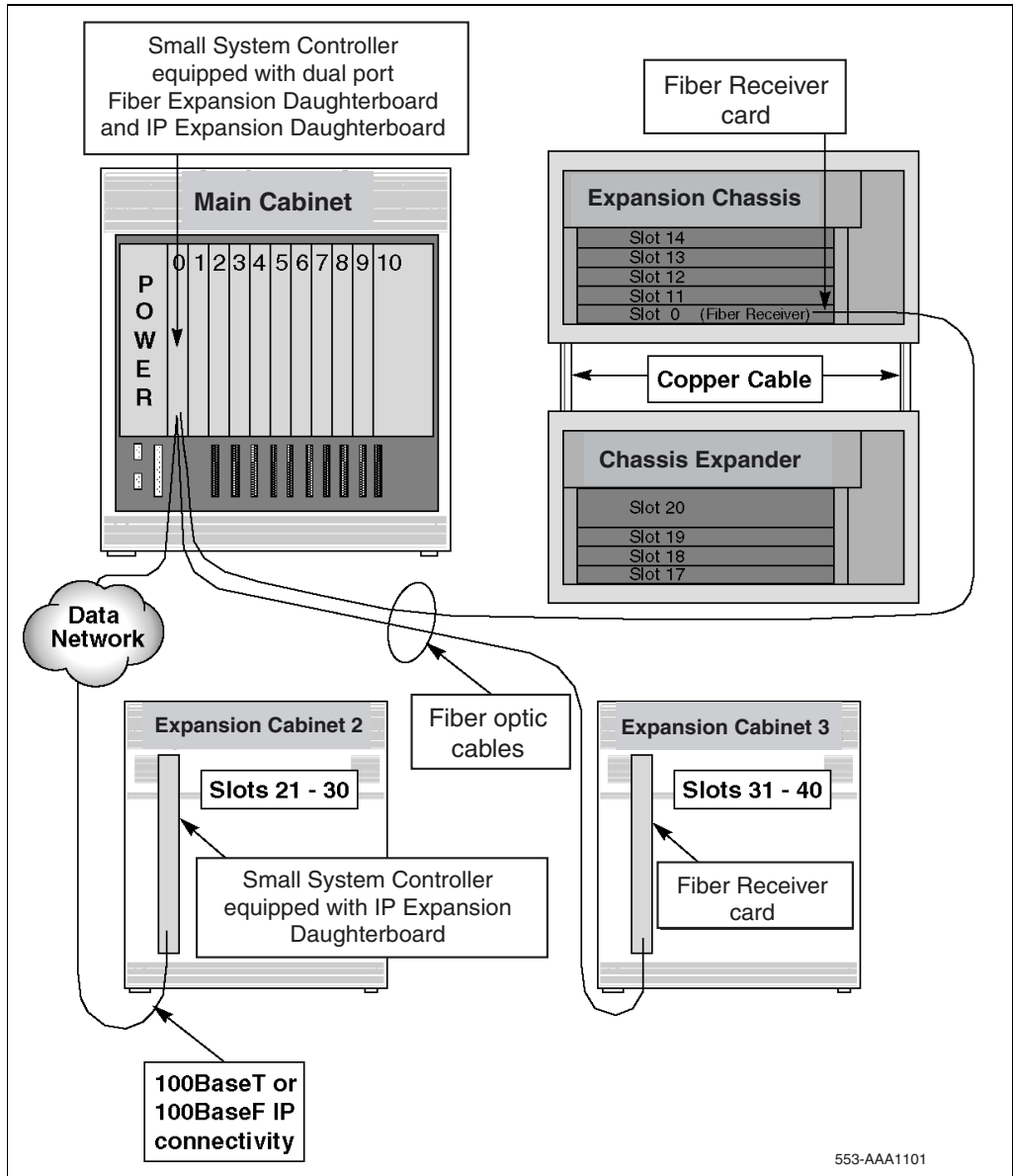
The SSC card in the main cabinet has one dual-port Fiber Expansion Daughterboard installed in the top connector and one single-port IP Expansion Daughterboard installed in the bottom connector. The dual-port Fiber Expansion Daughterboard in the top connector provides card slots 11–20 and 31–40. The single-port IP Expansion Daughterboard in the bottom connector provides card slots 21–30.

The expansion chassis is equipped with a chassis expander. The addition of a chassis expander to the expansion chassis requires one of the following Fiber Receiver cards:

- NTDK23BA or later
- NTDK25BB or later
- NTDK80BA or later

Note: In Figure 63, slots 0 to 10 are available in the main cabinet and slots 11 to 14 are available in the expansion chassis. Slots 17 to 20 are available in the chassis expander. Slots 21 to 30 are available in Expansion Cabinet 2 via the data network. Slots 31 to 40 are available in Expansion Cabinet 3. Slot 0 in the expansion chassis contains the Fiber Receiver card and slot 14 the NTDK16 48-port Digital Line card.

Figure 63
Cabinet and Chassis system IP and fiber expansion configuration



Expanding a Chassis system using fiber-optic connectivity

Contents

This section contains information on the following topics:

Introduction	171
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Fiber expansion procedures.	172

Introduction

This chapter describes how to connect expansion chassis to an Option 11C Mini Main Chassis or a Small System chassis or main cabinet using fiber-optic cables.

For information on connecting expansion cabinets to a main cabinet using fiber-optic cables, refer to *Small System: Installation and Configuration* (553-3011-210).

Equipment layout plan

Develop a layout plan for the equipment to determine where you will position each system component. Give consideration to the lengths of different cables, so that you make the best use of space.

If you are expanding using a Chassis system only or using a Cabinet system only, refer to the sections on system and site requirements in *Small System:*

Planning and Engineering (553-3011-120) for information on creating an equipment layout plan.

If you are combining Cabinet and Chassis systems, the following minimum standards must be followed:

- A horizontal installation of a chassis requires 10 inches of free space on either side of the chassis.
- A vertical installation of a chassis requires 12 inches of free space on the card side and 6 inches of free space on the cable side of the chassis.

Fiber expansion procedures

This chapter contains the following procedures:

- Procedure 11: “Preparing the chassis to support fiber-optic connectivity” on [page 172](#).
- Procedure 12: “Connecting the main cabinet/chassis to the expansion chassis” on [page 184](#).
- Procedure 13: “Startup procedure for a first-time installation of the Chassis system, using the SSC card” on [page 192](#).
- Procedure 14: “Startup procedure for a Chassis system upgraded from an MSC card to an SSC card” on [page 194](#).

Procedure 11

Preparing the chassis to support fiber-optic connectivity

Note: This procedure describes the steps necessary to expand and, if required, upgrade an Option 11C Mini Main Chassis. For a Cabinet system using a main cabinet, refer to *Small System: Installation and Configuration* (553-3011-210) for information on installation and fiber-optic connectivity.

- 1 Install the chassis, as described in *Small System: Installation and Configuration* (553-3011-210):
 - a. Install the chassis and chassis expander (if a chassis expander is to be used).

Note: Connect the chassis and chassis expander with two NTDK95 copper cables.

- b.** Install the system ground.
 - c.** If required, install an Uninterruptible Power Supply (UPS).
- 2** Do one of the following:
 - a.** If you are installing a new system with a Small System Controller (SSC) card, go to step 8.
 - b.** If you have a Mini System Controller (MSC) card in your existing system, you must upgrade to the SSC card. Go to step 3.
- 3** Log on to the system and perform a datadump in LD 43.
- 4** Back up customer data from the MSC to a PC Card or with the Customer Configuration Backup and Restore (CCBR) feature. Refer to *Small System: Maintenance (553-3011-500)*.

Note: You will use the customer data file created with CCBR to restore the original system data to the SSC card.
- 5** Attach an antistatic wrist strap to your wrist.

**CAUTION WITH ESDS DEVICES**

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. When handling the cards, be careful not to damage any of their components.

- 6** Log off of the system and unseat the MSC card.
- 7** Remove the security device from the MSC card.

Note: Your security device can be used on the SSC card.
- 8** Prepare the SSC card for installation:
 - a.** Take an NTDK20EA or later SSC card and place it on a clean, flat surface.

Note: For fiber-optic connectivity, you must install an SSC card in the chassis.
 - b.** Install the Software Daughterboard (NTTK13) in the appropriate connector on the SSC card. See Figure 64 on [page 175](#).

- c. Install the security device in the appropriate socket on the SSC card. See Figure 64 on [page 175](#).

Note: If you have an MSC card, you can use its security device.

- d. Do one of the following:
 - i. If you are using A0632902 plastic fiber-optic cable to connect the chassis to the expansion chassis, go to step 8(e) on [page 176](#).
 - ii. If you are using glass fiber-optic cable to connect the chassis to the expansion chassis, go to step 8(f) on [page 177](#).

The SSC card in the chassis must contain at least one Fiber Expansion Daughterboard.

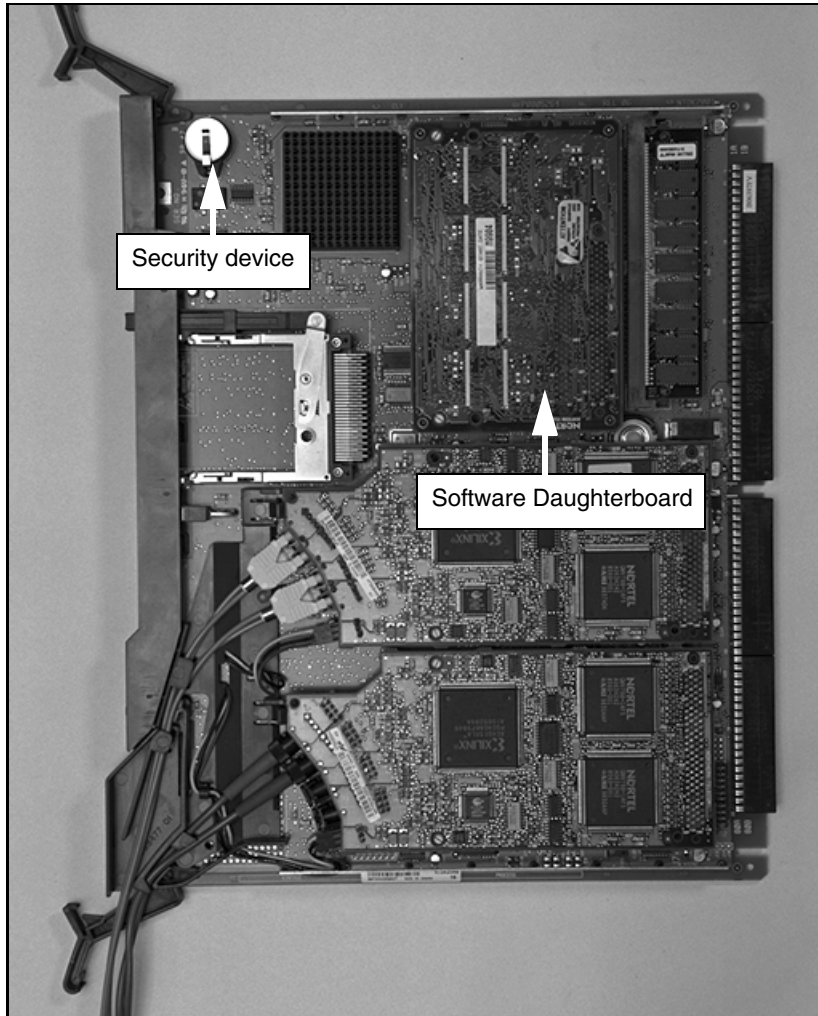
Each single-port Fiber Expansion Daughterboard (NTDK22, NTDK24, and NTDK79) supports one expansion chassis. Each dual-port Fiber Expansion Daughterboard (NTDK84 and NTDK85) supports up to two expansion chassis.



WARNING

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

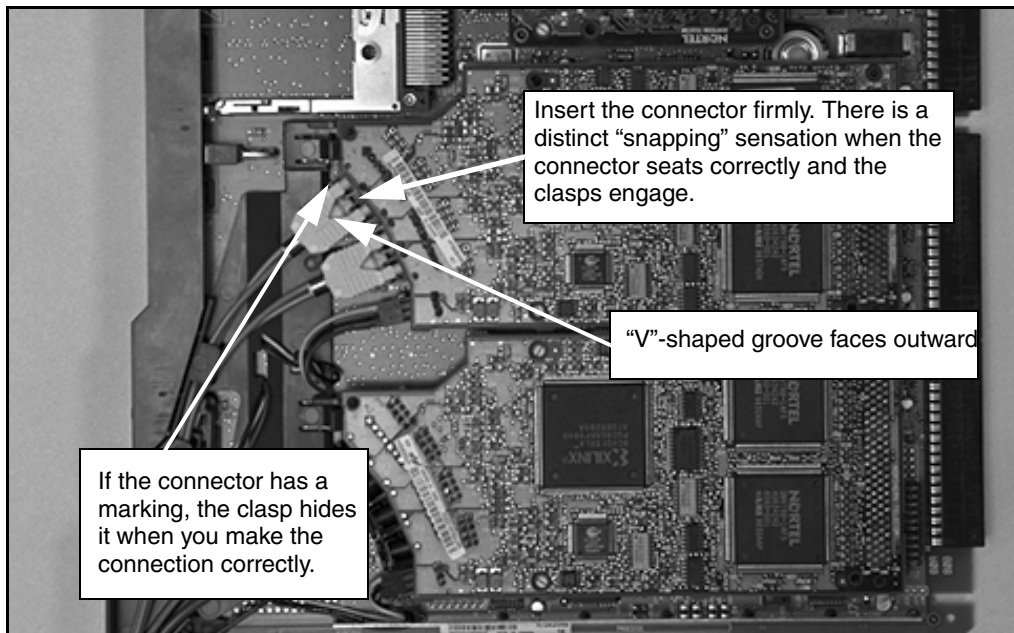
Figure 64
Security device and Software Daughterboard on the SSC card



- e. Connect the A0632902 plastic fiber-optic cable to the single-port or dual-port Fiber Expansion Daughterboard. See Figure 65 on [page 176](#).
 - i. Remove the protective plugs from the ports on the Fiber Expansion Daughterboard.
 - ii. Insert the cable connectors firmly into the ports on the daughterboard.

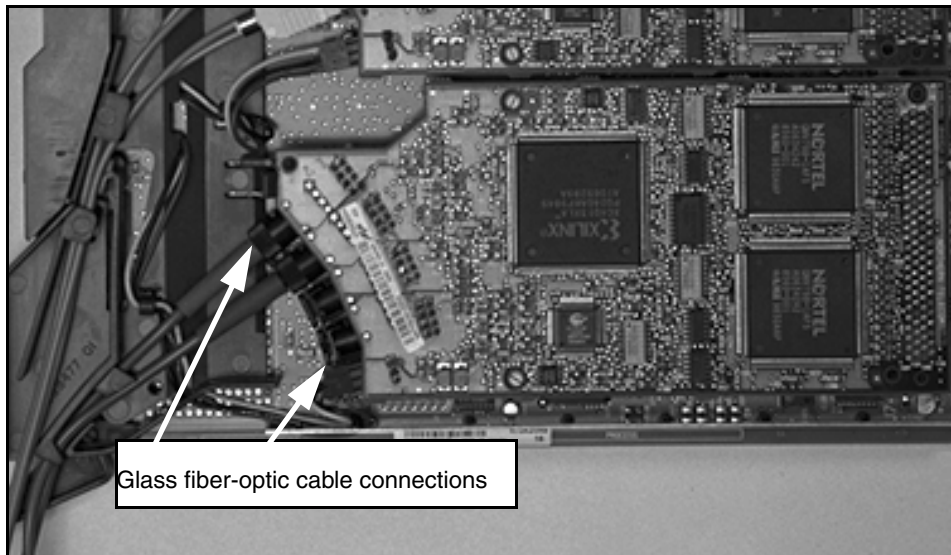
Make sure that the “V”-shaped groove on the cable connector faces out and that the connector is inserted completely. When the connector is inserted correctly, the black mark on the connector is not visible.
 - iii. Go to step 8(g) on [page 178](#).

Figure 65
Plastic fiber-optic cable connection on the SSC card



- f. Connect the glass fiber-optic cable to the single-port or dual-port Fiber Expansion Daughterboard. See Figure 66 on [page 177](#).
 - i. Remove the protective plug from one of the ports on the Fiber Expansion Daughterboard.
 - ii. Remove the protective cap from the corresponding glass fiber-optic cable connector.
 - iii. Insert the cable connector firmly into the port on the Fiber Expansion Daughterboard.
 - iv. Lock the connector in place by turning it a half turn clockwise.
 - v. Repeat this step (step 8(f) on [page 177](#)) for the second glass fiber-optic cable connection.
 - vi. Go to step 8(g) on [page 178](#).

Figure 66
Glass fiber-optic cable connection on the SSC card



- g. Insert the LED cable on the SSC card into the LED connector on the daughterboard (if the daughterboard is a dual-port daughterboard). If the daughterboard is a single-port daughterboard, do not use the LED cable.

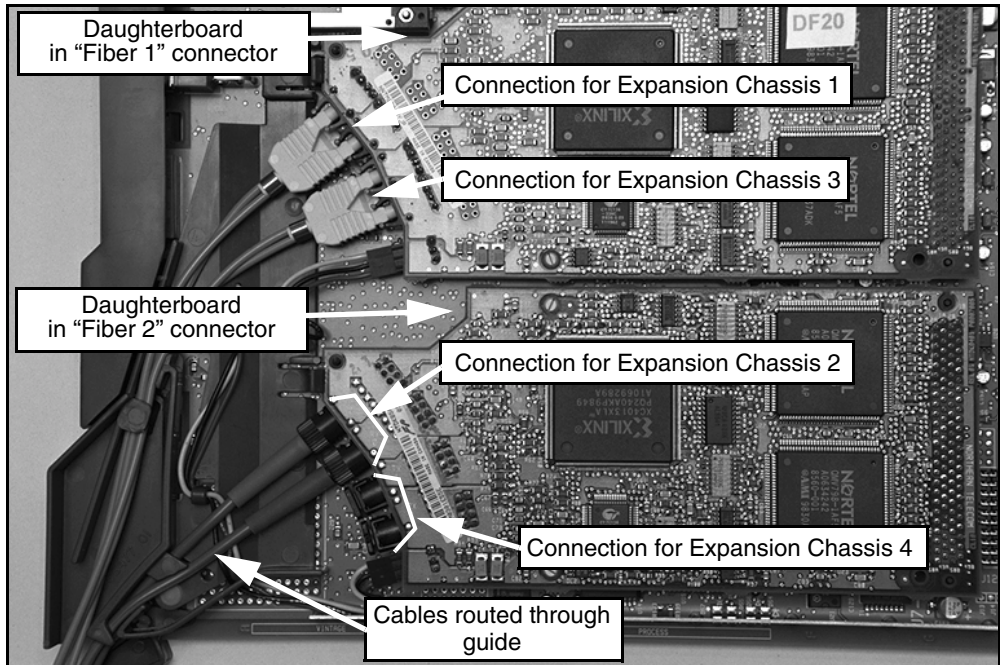
The LED cable connection provides the second LED on the faceplate.

- h. Install the daughterboard in the appropriate connector on the SSC card.
 - i. Locate the plastic alignment pin on the daughterboard connector.
 - ii. Insert the plastic alignment pin into the appropriate hole on the daughterboard.
 - iii. Press the end of the daughterboard onto the daughterboard connector.
 - iv. Press the daughterboard onto the plastic standoffs to fasten the daughterboard securely to the SSC card.
 - v. Route the cables through the guide on the SSC card. See Figure 67.

Note: The connector labelled “Fiber 1” is for Expansion Chassis 1 (card slots 11 to 20) and 3 (card slots 31 to 40). The connector labelled “Fiber 2” is for Expansion Chassis 2 (card slots 21 to 30) and 4 (card slots 41 to 50). Glass and plastic fiber-optic connections can be used in either “Fiber 1” or “Fiber 2”. See Figure 67 on [page 179](#).

End of Procedure

Figure 67
Daughterboard connectors on the SSC card



- 9 Install the SSC card in slot 0 of the chassis.
- 10 Install additional circuit cards in their assigned slots in the chassis.
- 11 Install an NTTK24AA Fiber Routing Guide in the chassis:
 - a. Detach the spool portion of the guide assembly from the P0903797 fiber routing bracket (if this is not already done). See Figure 68 on [page 181](#).
 - b. Install the bracket vertically in the chassis.
 - c. Insert the two screws (supplied in the NTTK24AA kit) through the two holes in the bracket. Fasten the bracket to the fan baffle on the chassis. See Figures 68 and 69.
 - d. Route the cables coming from the SSC card through the cutout on the spool bracket. See Figure 69 on [page 182](#).
 - e. Install the spool on the bracket. Use the captive fastener on the spool to fasten the spool to the bracket.

Note 1: The captive fastener makes the spool easy to attach and remove to install or replace circuit cards.

Note 2: Use the tab on the bracket to orient the spool. Loop the cables around the spool once. See Figure 70 on [page 183](#).

- f. Route the cables through the cutout on the right-hand side of the chassis. See Figure 70.

Figure 68
Fiber routing bracket

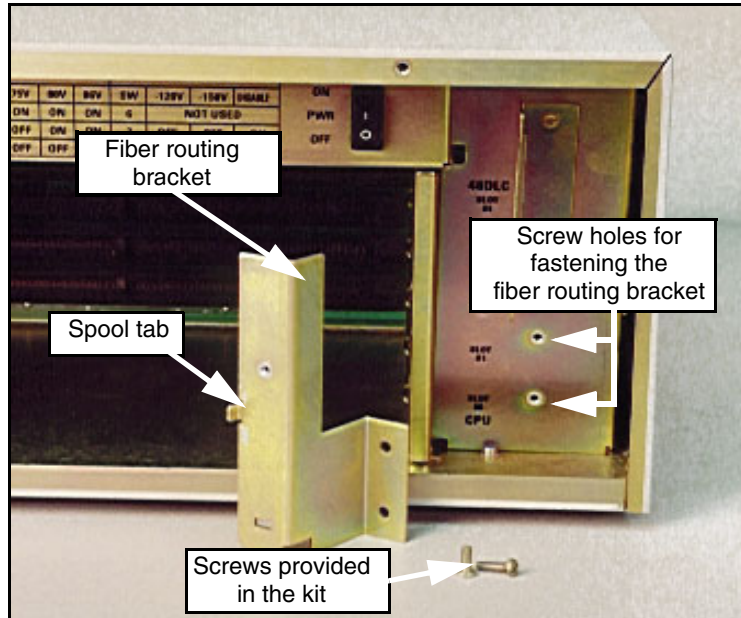


Figure 69
Fiber routing bracket installed on the chassis

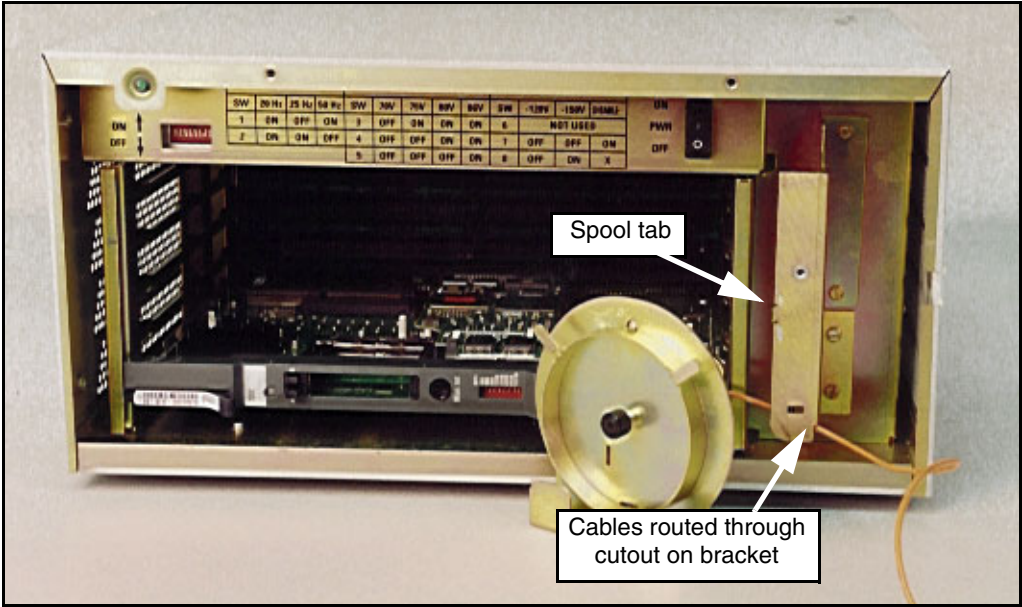
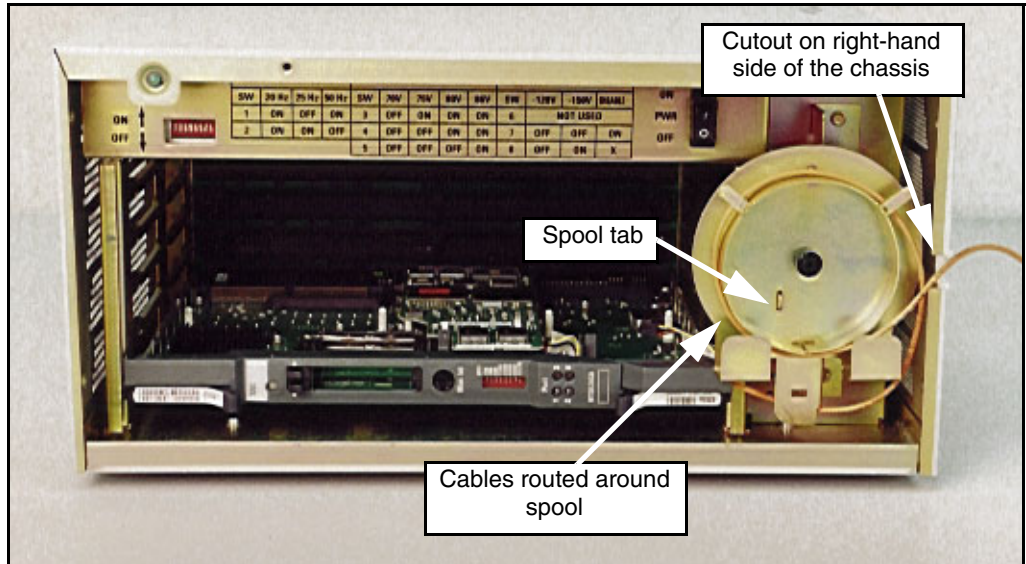


Figure 70
Fiber Routing Guide installed in the chassis



- 12** Install the rest of the Chassis system, as described in *Small System: Installation and Configuration (553-3011-210)*.

Go to Procedure 12 for information on how to connect the chassis to the expansion chassis.

End of Procedure

Procedure 12

Connecting the main cabinet/chassis to the expansion chassis

Note: This procedure describes the steps necessary to connect one or more expansion chassis to a main cabinet or chassis. If you are using an expansion cabinet in a Cabinet system, refer to *Small System: Installation and Configuration (553-3011-210)* for information on installation and fiber-optic connectivity.

- 1 Install the expansion chassis, as described in *Small System: Installation and Configuration (553-3011-210)*:
 - a. Install the expansion chassis, including chassis expanders (if chassis expanders are to be used).

Note: Connect the chassis and chassis expander with two NTDK95 copper cables.
 - b. Install the system ground.
 - c. If required, install an Uninterruptible Power Supply (UPS).
- 2 Attach an antistatic wrist strap to your wrist.



CAUTION WITH ESDS DEVICES

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. When handling the cards, be careful not to damage any of their components.

- 3 Take a Fiber Receiver card, and place it on a clean, flat surface.

Note: To support fiber-optic connectivity, you must install a Fiber Receiver card in each expansion chassis. Refer to Table 6 on [page 150](#) to determine the Fiber Receiver card that corresponds to the Fiber Expansion Daughterboard in the main cabinet or chassis.

If you are using A0632902 plastic fiber-optic cable to connect the chassis to the expansion chassis, go to step 4 on [page 185](#).

If you are using glass fiber-optic cable to connect the chassis to the expansion chassis, go to step 5 on [page 187](#).

**WARNING**

The fiber-optic interface product used in the Small System is considered safe. However, as a precaution do not look directly at the optical port or the end of the fiber-optic cable. Under some conditions (such as during cable testing or under light magnification), looking directly at the cable or port can expose the eye beyond the limits of Maximum Permissible Exposure recommended in some jurisdictions. Do not remove protective caps or plugs until you are ready to connect the cable.

- 4 Connect the chassis to the expansion chassis using A0632902 plastic fiber-optic cable. Refer to Figure 71 on [page 186](#).
 - a. Remove the protective plugs from the ports on the Fiber Receiver card.
 - b. Insert the cable connectors from the main cabinet or chassis into the ports on the Fiber Receiver card.
 - c. Make sure that the “V”-shaped groove on the cable connector faces inward and that the connector is completely seated.
 - d. The mark on the connector (if present) is not visible when connected correctly.
 - e. Wind the excess fiber-optic cable around the cable storage device located on the component side of the Fiber Receiver card. See Figure 72 on [page 187](#).
 - f. Go to step 6 on [page 188](#).

Figure 71
Plastic fiber-optic cable connections on the Fiber Receiver card

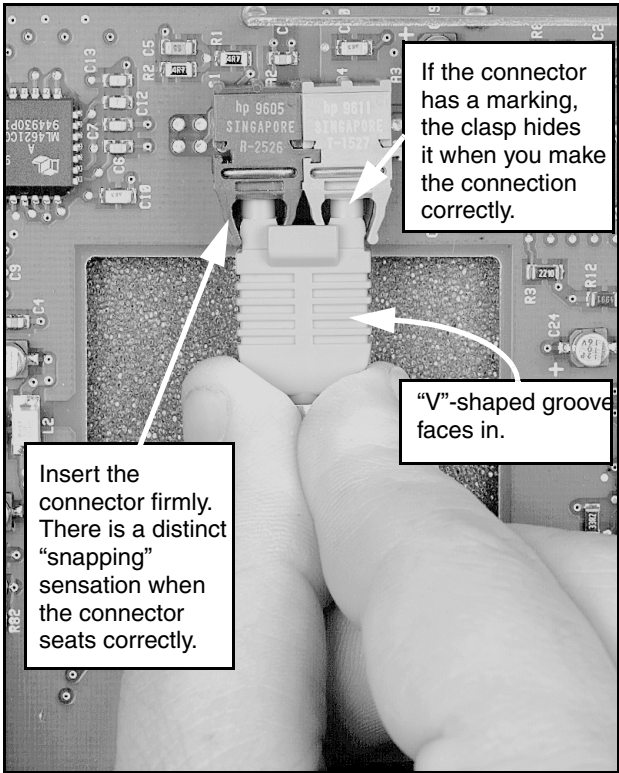
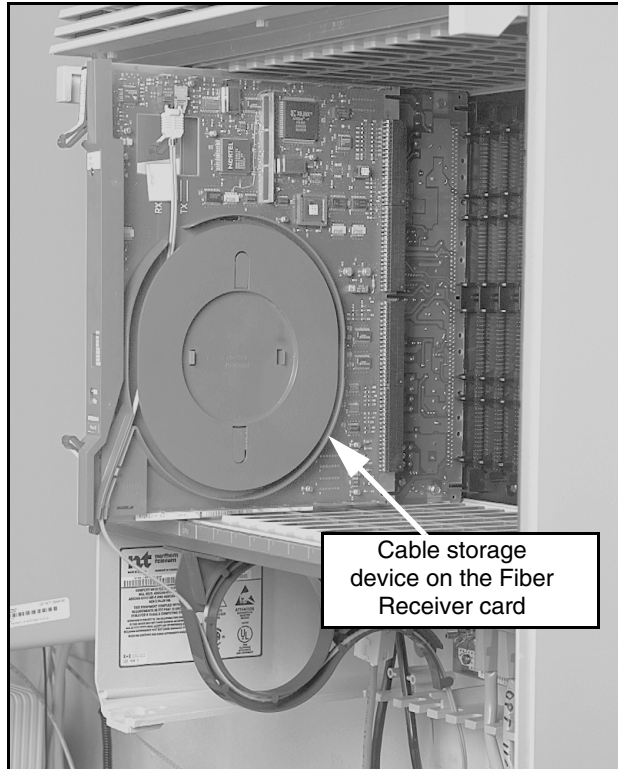


Figure 72**Cable storage device on the Fiber Receiver card in an expansion cabinet**

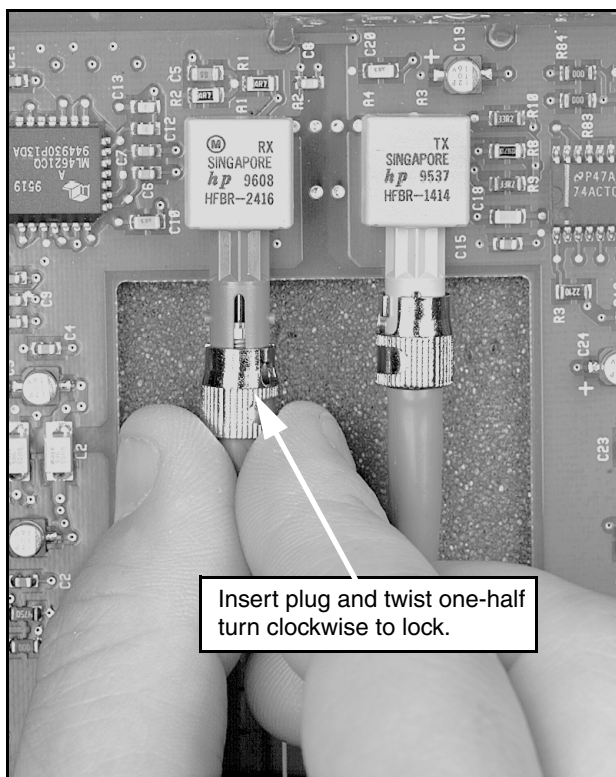
Note: The same Fiber Receiver cards are used in the chassis.

- 5** Connect the chassis to the expansion chassis using glass fiber-optic cable. See Figure 73 on [page 188](#).
 - a.** Remove the protective plug from one of the ports on the Fiber Receiver card.
 - b.** Remove the protective cap from the corresponding glass fiber-optic cable connector.
 - c.** Insert the cable connector firmly into the port on the Fiber Receiver card.

- d. Lock the connector in place by turning it a half turn clockwise.
- e. Repeat this step (step 5 on [page 187](#)) for the second glass fiber-optic cable connection.
- f. Wind the excess fiber-optic cable around the cable storage device located on the component side of the Fiber Receiver card. See Figure 72 on [page 187](#).
- g. Go to step 6 on [page 188](#).

Figure 73

Glass fiber-optic cable connections on the Fiber Receiver card



- 6** Insert the Fiber Receiver card in slot 0 of the expansion chassis.

- 7 Install an NTKK24AA Fiber Routing Guide in the chassis:
 - a. Detach the spool portion of the guide assembly from the P0903797 fiber routing bracket (if this is not already done). See Figure 74 on [page 190](#).
 - b. Install the bracket vertically in the chassis.

Insert the two screws (supplied in the NTKK24AA kit) through the two holes in the bracket. Fasten the bracket to the fan baffle on the chassis. See Figures 74 and 75.
 - c. Route the cables coming from the SSC card through the cutout on the spool bracket. See Figure 75.
 - d. Install the spool on the bracket. Use the captive fastener on the spool to fasten the spool to the bracket.

Note: Use the tab on the bracket to orient the spool. Loop the cables around the spool once. See Figure 76 on [page 192](#).

- e. Route the cables through the cutout on the right-hand side of the chassis. See Figure 76.

Figure 74
Fiber routing bracket

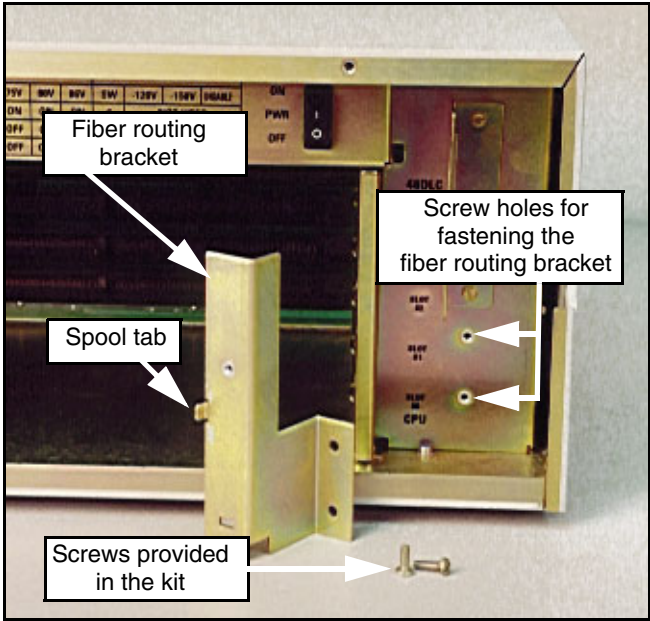


Figure 75
Fiber routing bracket installed in the chassis

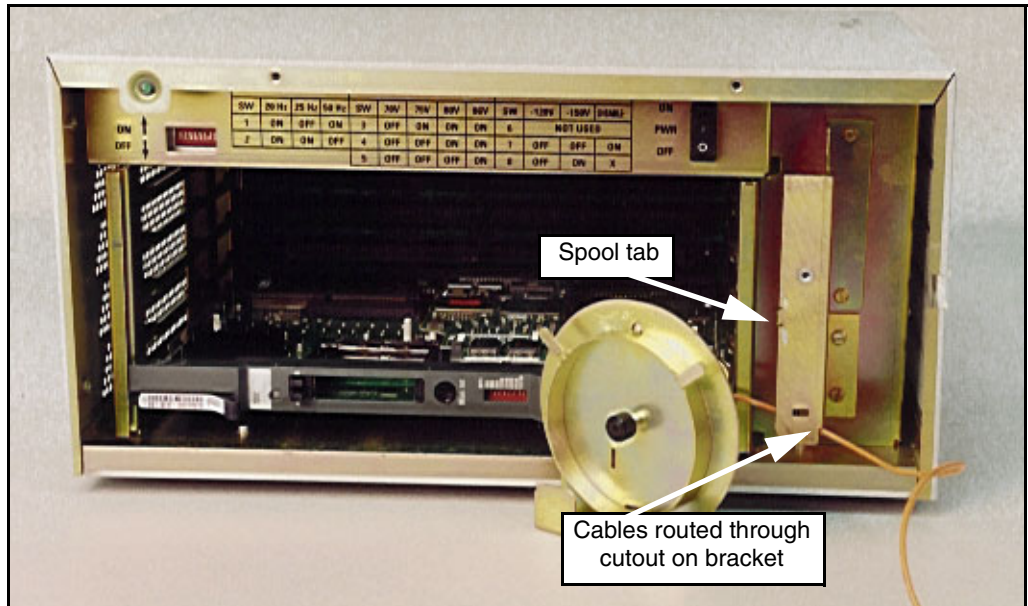
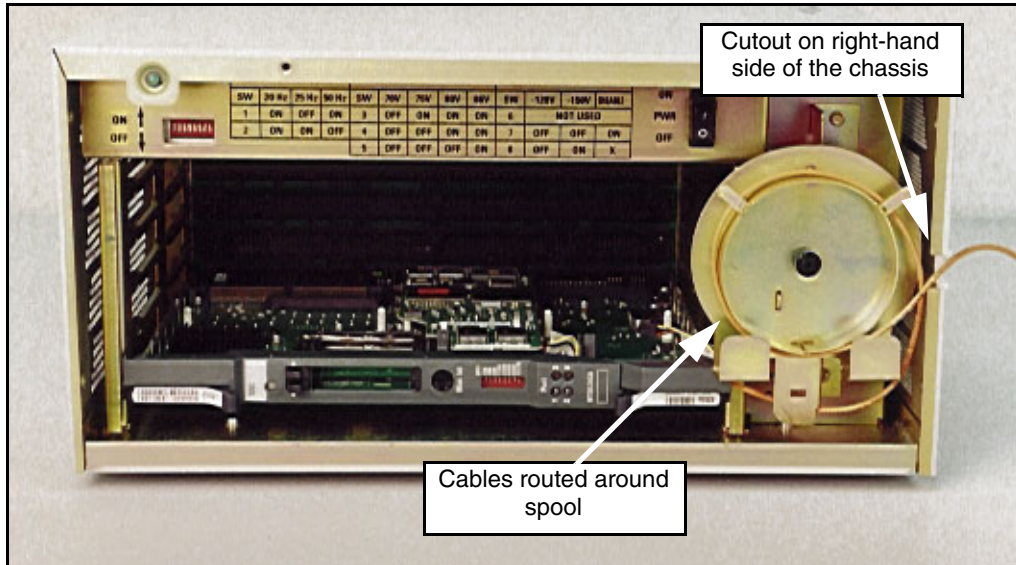


Figure 76
Fiber routing guide installed in the chassis



- 8 Do one of the following:
- If you are performing startup procedures for a first-time system installation using the SSC card, go to Procedure 13 on [page 192](#).
 - If you are performing startup procedures for a previously installed Option 11C Mini system go to Procedure 14 on [page 194](#).

End of Procedure

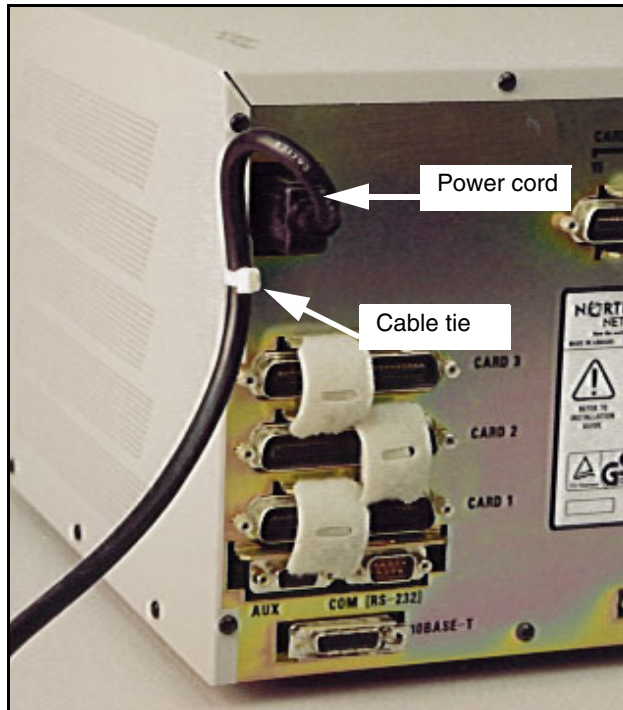
Procedure 13
Startup procedure for a first-time installation of the Chassis system, using the SSC card

- 1 Test the power outlet.

Make sure that the correct voltage of power is present before you plug the power cord into the outlet. The source must match the label on the back of the chassis.

- 2 Connect the power cord from the power connector on the back of the chassis to an ac power source. See Figure 77 on [page 193](#). Secure the power cable with a cable tie.

Figure 77
Power connector on the back of the chassis



- 3 Connect a TTY to port 0.
- 4 Turn the power switch to "ON".
- 5 Observe the TTY screen.
After the system is loaded, a menu-driven program called the "Software Installation Program" is automatically started.
- 6 Go to "Upgrading or installing software" on [page 279](#) to install software.

End of Procedure

Procedure 14

Startup procedure for a Chassis system upgraded from an MSC card to an SSC card

- 1 Test the power outlet.

Make sure that the correct voltage of power is present before you plug the power cord into the outlet. The source must match the label on the back of the chassis.

- 2 Connect the power cord from the power connector on the back of the chassis to an ac power source. See Figure 77 on [page 193](#). Secure the power cable with a cable tie.
- 3 Connect a TTY to port 0.
- 4 Turn the power switch to "ON".
- 5 Observe the TTY screen.

After the system is loaded, a menu-driven program called the "Software Installation Program" is automatically started.

- 6 Install system software using the default customer database. Go to "Upgrading or installing software" on [page 279](#).
- 7 Restore your customer data depending on the process you used to back up your customer data:
 - If you used a PC Card to back up customer data, use the **RES** command in LD 43 to restore your customer data.
 - If you used the CCBR feature to back up customer data, you must use the CCBR feature to restore your customer data. Refer to *Small System: Maintenance (553-3011-500)* for database restoration steps.
- 8 If required, set the system time and date using LD 2.
- 9 Perform an EDD using LD 43.

End of Procedure

Expanding a Cabinet system to support IP connectivity

Contents

This section contains information on the following topics:

Introduction	195
IP expansion procedures	197
Summary of items required	197
Summary of steps	199
Preparing the main and IP expansion cabinet(s) for IP connectivity	200
Connecting the main and IP expansion cabinets/chassis	213

Introduction

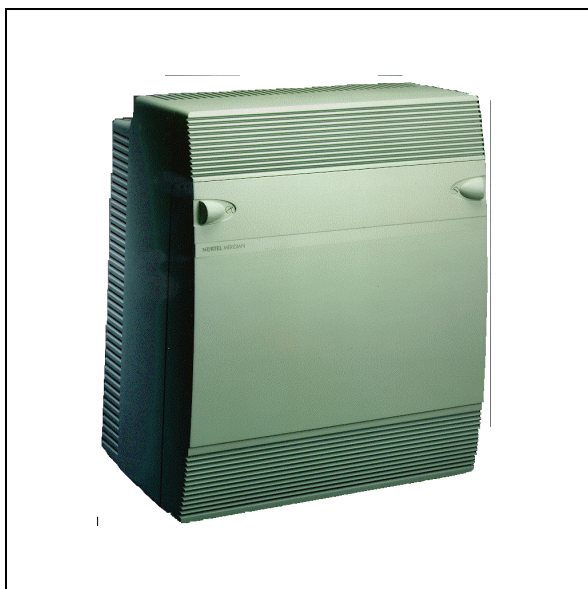
This chapter describes how to upgrade your Option 11C or Small System cabinet to support IP expansion using 100BaseF or 100BaseT connectivity.

Note 1: The upgrade to IP connectivity requires the Small System Controller (SSC) card (the CPU for the Option 11C). Therefore, only upgrade scenarios starting with the Option 11C as the installed base system are described in this chapter. For older systems (for example, Options 11, 11E, or 11C with NTDK26 Backwards Compatible

Daughterboard), you must first upgrade your system to Option 11C with fiber before you can upgrade your cabinets to support IP connectivity. Refer to *Small System: Installation and Configuration* (553-3011-210) to install expansion cabinets.

Note 2: The cabinets (both main and IP expansion) must support the faceplate cabling that is used on all IP Expansion Daughterboards. If your cabinets do not support cable routing through the faceplate, you must upgrade them using the NTDK18AA kit. Refer to “Upgrading cabinet hardware” on [page 125](#). Figure 78 illustrates the NTDK18AA Cabinet kit.

Figure 78
NTDK18AA Cabinet kit



For information on connecting IP expansion chassis to a main cabinet or chassis using IP connectivity, refer to “Expanding a Chassis system using IP connectivity” on [page 217](#).

For information on how to upgrade software on the main and IP expansion cabinets/chassis, refer to “Upgrading or installing software” on [page 279](#).

IP expansion procedures

This chapter contains the following procedures:

- Procedure 15: “Upgrading an Option 11C Main Cabinet to support IP connectivity” on [page 200](#)
- Procedure 16: “Upgrading an Option 11C Expansion Cabinet to support IP connectivity” on [page 209](#)
- Procedure 17: “Connecting the main and IP expansion cabinets/chassis” on [page 214](#)

Summary of items required

You need the following items to upgrade your Cabinet system to support IP connectivity:

- NTDK20EA or later SSC card is required for the main cabinet.
- NTDK20CA or later SSC card is required for IP expansion cabinet(s).

Note: The NTDK20AB or later SSC card can be upgraded to an NTDK20CA for use in the IP expansion cabinet(s). See “Upgrading the NTDK20AB Small System Controller card” on [page 135](#).

- The following daughterboards, depending on the type of connectivity:
 - NTTK01 single-port 100BaseF IP daughterboard
 - NTTK02 dual-port 100baseF IP daughterboard
 - NTDK99 single-port 100BaseT IP daughterboard
 - NTDK83 dual-port 100BaseT IP daughterboard

Note: Other than the physical interface and number of ports, all variations of the IP daughterboards have the same functionality.

- The following cables for connecting the main and IP expansion cabinets in a point-to-point configuration:
 - A0817052 5-meter fiber cable with MT-RJ to ST connectors for connecting the main and IP expansion cabinets using the 100BaseF IP daughterboards and an A0346816 ST fiber coupler. The A0346816 fiber couplers allow two MT-RJ to ST cables to be connected to each other in a point-to-point configuration.
 - NTTK34AA 2-meter UTP CAT 5 RJ45 cross-over cable and NTDK8305 2-meter STP CAT 5 extension cable for connecting the main and IP expansion cabinets using the 100BaseT IP daughterboards.
- The following cables for connecting the main and IP expansion cabinets over a data campus network:
 - A0817052 5-meter fiber cable with MT-RJ to ST connectors for connecting the main and IP expansion cabinets using the 100BaseF IP daughterboards. The two A0817052 fiber cables are usually connected to the customer's Local Area Network (LAN).
 - NTDK8305 2-meter STP CAT 5 extension cable for connecting the main and IP expansion cabinets using 100BaseT IP daughterboards. A customer-supplied straight-through cable is used in place of the NTTK34AA 2-meter cross-over cable.
- NTTK13AA, NTTK25AA, or later Software Daughterboard for each cabinet.
- Software Delivery card with Release 25.30 or later software.

Note: If you are upgrading from Release 24 software, you must upgrade the boot code to NTDK34FA Release 7 or later.
- Standoffs sent with the IP daughterboards.
- NTDK57DA IP expansion cabinet security device to install on the SSC card in each IP expansion cabinet. This security device is identified by NT_REM with serial I.D. 4xxxxxxx.
- EMC grounding clip for each 100 BaseT cabinet.
- NTBK48 3-port SDI cable for each IP expansion cabinet.

Summary of steps

The following list summarizes the steps for upgrading an Option 11C system to support IP connectivity.

- 1** If you are upgrading from Release 24 software, upgrade the boot code to NTDK34FA Release 7 or later:
 - a** Make sure the power to the system is turned on.
 - b** Upgrade the boot code.
- 2** Disconnect the power from the main and IP expansion cabinets.
- 3** Upgrade the hardware in the main cabinet:
 - a** Install 100BaseF or 100BaseT IP daughterboards on the SSC card.
 - b** If you have not already done so, replace the software daughterboard on the SSC card with an NTTK13AA or NTTK25AA or later.
- 4** Upgrade the hardware in the IP expansion cabinet:
 - a** Replace the Fiber Receiver card with an SSC card.
 - b** Install a 100BaseF or 100BaseT single-port IP daughterboard in Connector #2 on the SSC card.
 - c** Install the IP expansion cabinet security device.
 - d** If you have not already done so, replace the software daughterboard on the SSC card with an NTTK13AA or NTTK25AA or later.
- 5** Install the EMC grounding clip on the stiffener rail of the main cabinet and all 100BaseT expansion cabinets.

Note: Although 100BaseF expansion cabinets do not use the EMC grounding clip, all cabinets must still be grounded. Refer to the chapter on installing the system ground in *Small System: Installation and Configuration* (553-3011-210).
- 6** Connect the main and IP expansion cabinets.
- 7** Power up the main and IP expansion cabinets.

- 8 Check the Link LED on the daughterboards to make sure that the connections are established.
- 9 Upgrade system software. Refer to “Upgrading or installing software” on [page 279](#).

Preparing the main and IP expansion cabinet(s) for IP connectivity

This section describes the steps required to prepare the cabinets for IP connectivity.

Procedure 15 Upgrading an Option 11C Main Cabinet to support IP connectivity

- 1 Do one of the following:

If	Then
You are upgrading from Release 24 software	go to step 2.
You are not upgrading from the current system software (minimum Release 24) and the system is operating	go to step 3.
You are not upgrading from the current system software (minimum Release 24) and the system is not operating	go to step 5.

- 2 If you are upgrading from Release 24 software, update the boot code to NTDK34FA Release 7:
 - a. Make sure that the power is turned on.
Set the circuit breaker switch on the front of the power supply to ON.
If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to ON.
 - b. Log in to the system.
 - c. Enter the **EDD** command.
 - d. After the datadump finishes, exit LD 43 by entering ********.

- e. Upgrade the boot code. Refer to “Firmware upgrade for IP daughterboard” on [page 446](#).
 - f. Go to step 4.
- 3 Log in to the system and perform a datadump.

Note: You must perform this step to make sure you back up any changes made after the last datadump. This step is a precautionary measure.

 - a. Load LD 43.
 - b. Enter the **EDD** command.
 - c. After the datadump finishes, exit LD 43 by entering ********.
- 4 Disconnect the power from the cabinet.

Set the circuit breaker switch on the front of the power supply to OFF.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to OFF.
- 5 Attach an antistatic wrist strap to your wrist.

The bottom of each cabinet contains an antistatic wrist strap.

**CAUTION WITH ESDS DEVICES**

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. When handling the SSC card, be careful not to damage any of its components.

- 6 Remove the NTDK20 SSC card from the cabinet. Place the SSC card on a clean, flat surface.

Note: Make sure that your existing SSC card is placed in the main cabinet. Any new SSC cards that you have are for the IP expansion cabinets.
- 7 If the IP Expansion Daughterboards will replace existing Expansion Daughterboards, remove the existing Expansion Daughterboards from the SSC card.
- 8 Remove the existing plastic standoffs from the SSC card.

- 9 Install the plastic standoffs that came with the IP Expansion Daughterboards.

- 10 Do one of the following:

If	Then
You are installing 100BaseF daughterboards	go to step 11.
You are installing 100BaseT daughterboards	go to step 12.

- 11 Install the NTTK01 single-port 100BaseF IP daughterboard or the NTTK02 dual-port 100BaseF IP daughterboard in the appropriate connectors on the SSC card.

Note: The SSC card supports up to two daughterboards. The IP daughterboards can coexist with any of the existing Small System Fiber Expansion Daughterboards installed on the SSC card.

- Remove the protective plug from the MT-RJ port on the daughterboard.
- Remove the protective cap from the A0817052 fiber cable MT-RJ end on the fiber cable.
- Insert the fiber cable end firmly into the MT-RJ port on the daughterboard. Carefully pull on the cable to make sure that the cable is inserted completely.

Note: The top connector on the SSC card is for Expansion Cabinets 1 and 3. The bottom connector on the SSC card is for Expansion Cabinets 2 and 4. See Figure 79 on [page 204](#).

When the daughterboard is installed on the SSC card in Connector #1, the upper MT-RJ port is port 1, which is for Expansion Cabinet 1.

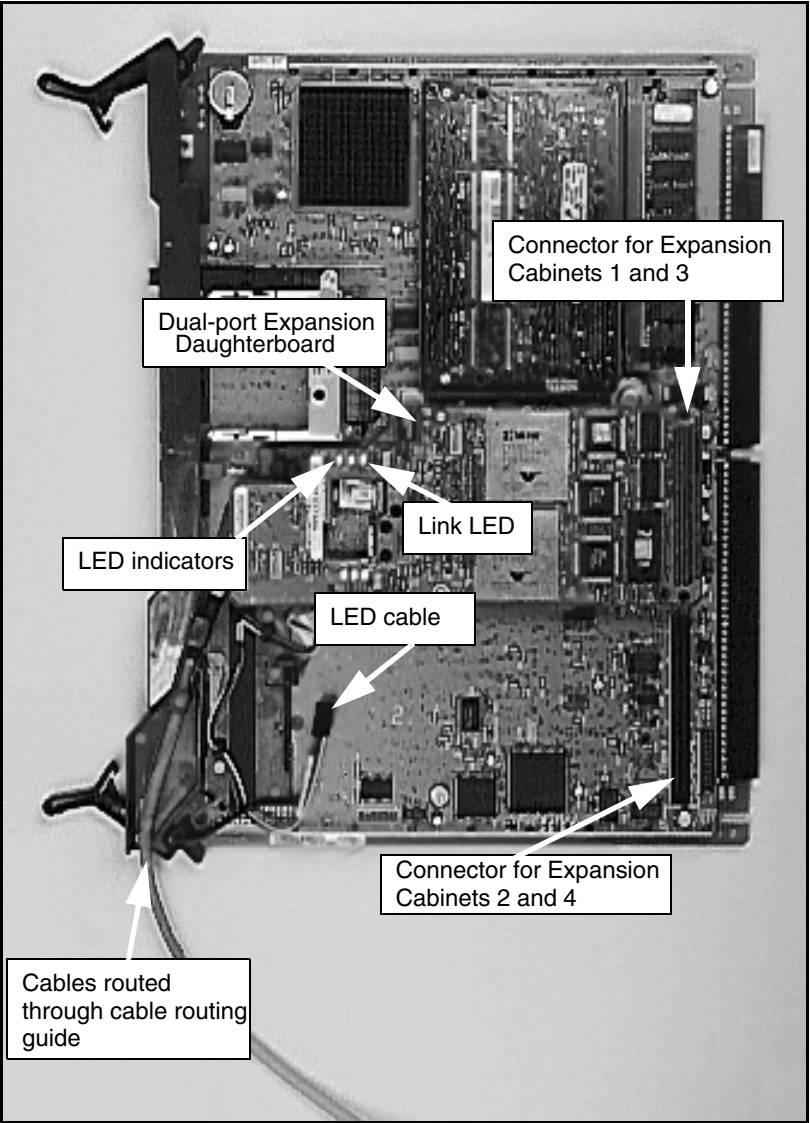
- Insert the LED cable on the SSC card into the LED connector on the IP daughterboard (if the IP daughterboard is a dual-port IP daughterboard). If the IP daughterboard is a single-port daughterboard, do not use the LED cable. See Figure 79.

The LED cable connection provides the second LED on the faceplate.

- Locate the plastic alignment pin on the SSC card.
- Insert the plastic alignment pin into the appropriate hole on the daughterboard.

- g.** Press the end of the daughterboard onto the daughterboard connector.
- h.** Press the daughterboard onto the plastic standoffs to fasten the daughterboard securely to the SSC card.
- i.** Route the fiber cable through the cable routing guide on the SSC card. See Figure 79.
- j.** Go to step 13.

Figure 79
SSC card for the main cabinet



- 12** Install the NTDK99 single-port 100BaseT daughterboard or the NTDK83 dual-port 100BaseT IP daughterboard in the appropriate connectors on the SSC card.

Note: The SSC card supports up to two daughterboards. The IP daughterboards can coexist with any of the existing Small System Fiber Expansion Daughterboards.

- a.** Insert the NTDK8305 extension cable end firmly into the RJ-45 port on the daughterboard. Make sure that the cable is inserted completely.

Note: The top connector on the SSC card is for Expansion Cabinets 1 and 3. The bottom connector on the SSC card is for Expansion Cabinets 2 and 4. See Figure 79 on [page 204](#).

When the daughterboard is installed on the SSC card in Connector #1, the upper RJ-45 port is port 1, which is for Expansion Cabinet 1.

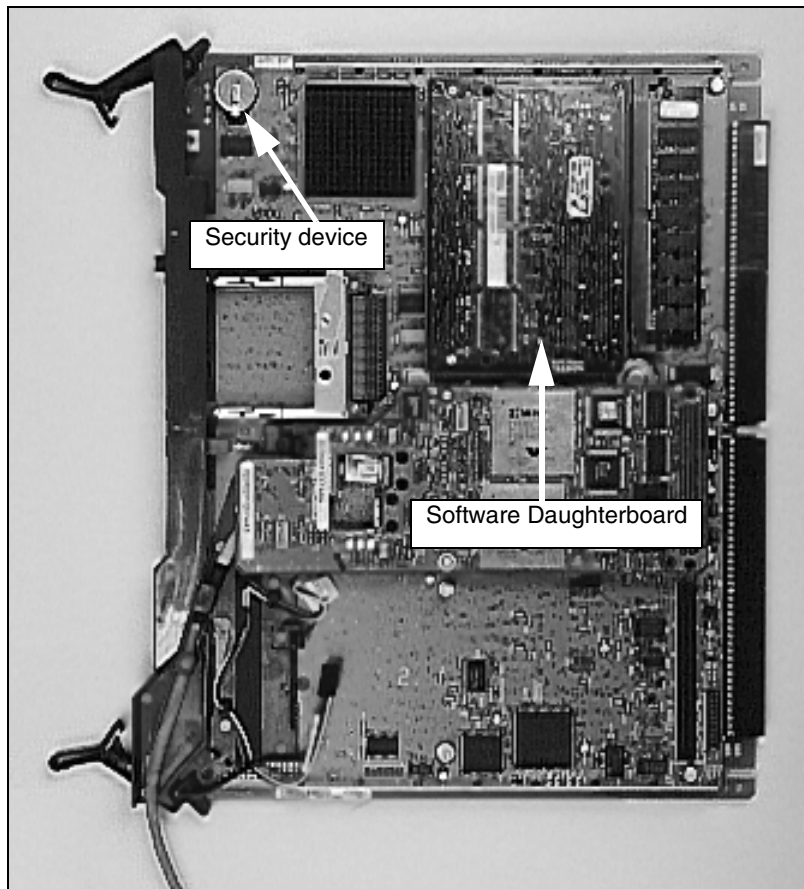
- b.** Insert the LED cable on the SSC card into the LED connector on the IP daughterboard (if the IP daughterboard is a dual-port IP daughterboard). If the IP daughterboard is a single-port daughterboard, do not use the LED cable. Refer to Figure 79.

The LED cable connection provides the second LED on the faceplate.

- c.** Locate the plastic alignment pin on the SSC card.
- d.** Insert the plastic alignment pin into the appropriate hole on the daughterboard.
- e.** Press the end of the daughterboard onto the daughterboard connector.
- f.** Press the daughterboard onto the plastic standoffs to fasten the daughterboard securely to the SSC card.
- g.** Route the extension cable through the cable router guide on the SSC card. See Figure 79.
- h.** Go to step 13.

- 13** If you have not already done so, install the NTKK13AA or NTKK25AA Software Daughterboard in the appropriate connector on the SSC card. See Figure 80 on [page 206](#).

Figure 80
Software daughterboard on the SSC card



- 14** Install the EMC grounding clip on the stiffener rail of the main cabinet.

The grounding clip is mounted on the front of the stiffener rail of the cabinet. There is a small #4-40 screw to fasten the clip to the stiffener rail. The 100BaseT cable is then fed through and secured in the clip. Depending on what version of cabinet you have, the EMC grounding clip may already be installed on the stiffener rail. Refer to [Figure 81 on page 207](#) for the correct grounding clip location.

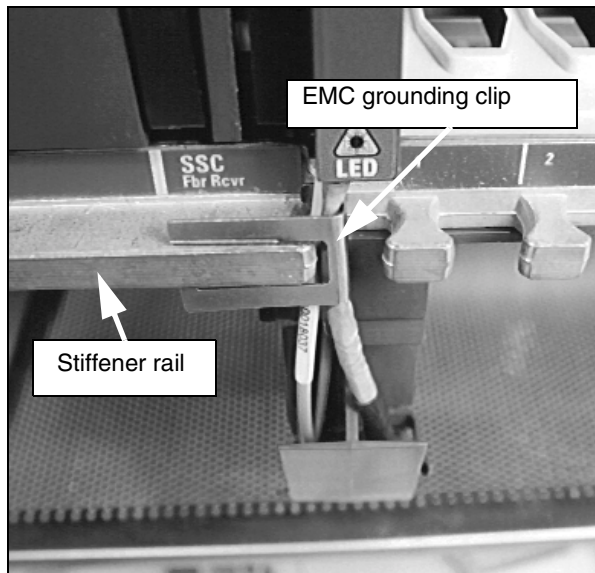
If the EMC grounding clip is already installed, loosen the screws that secure it to the stiffener rail and rotate the clip to the outward position, in order to route cables.

**CAUTION WITH ESDS DEVICES**

You must install the EMC grounding clip to ensure electrical contact between the shield and the stiffener rail on the cabinet.

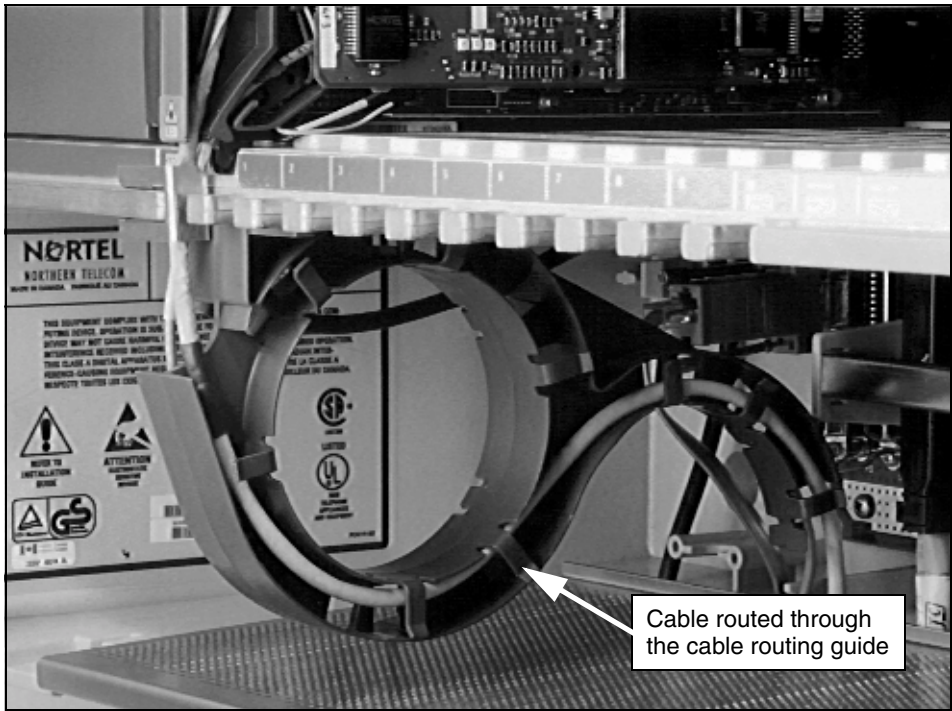
- 15** Install the SSC card in slot 0 of the cabinet.
- 16** Route the cables coming from the SSC card through the EMC grounding clip. See Figure 81.

Figure 81
EMC grounding clip



- 17
- Loop the excess cable around the cable routing guide a minimum of one complete loop. See Figure 82 on [page 208](#).

Figure 82
Cable routing guide



- 18
- Upgrade the IP expansion cabinets. Do one of the following:

If	Then
The IP expansion is a cabinet	go to Procedure 16 on page 209 .
The IP expansion is a chassis	go to Procedure 19 on page 233 .

- 19** Restore power to the main cabinet.

Set the circuit breaker switch on the front of the power supply in the cabinet to ON.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to ON.

- 20** Refer to *Software Input/Output: Maintenance (553-3001-511)* LD 117 to configure the IP expansion cabinet's IP Address.

End of Procedure

Procedure 16

Upgrading an Option 11C Expansion Cabinet to support IP connectivity

Note: The NTDK20CA or later SSC card is required in each expansion cabinet supporting IP connectivity.

- 1** Disconnect the power from the cabinet.

Set the circuit breaker switch on the front of the power supply to OFF.

If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to OFF.

- 2** Attach an antistatic wrist strap to your wrist.

The bottom of each cabinet contains an antistatic wrist strap.



CAUTION WITH ESDS DEVICES

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. When handling the SSC card, be careful not to damage any of its components.

- 3** Remove the Fiber Receiver card from slot 0 of the expansion cabinet.

- 4** Place an NTDK20 SSC card on a clean, flat surface.

Note: Make sure that your existing SSC card and security device is placed in the main cabinet. Any new SSC cards that you have are for the IP expansion cabinets.

- 5** Remove the existing plastic standoffs used for expansion daughterboards from the SSC card.

- 6 Install the plastic standoffs that came with the IP Expansion Daughterboards.
- 7 Do one of the following:

If	Then
You are using 100BaseF connections	<p>Install a 100BaseF single-port daughterboard in Connector #2 on the SSC card. Refer to Procedure 15, step 11 on page 202 for instructions on how to install this daughterboard on the SSC card.</p> <p>After you have installed the 100BaseF daughterboard, continue with step 8 of this procedure, on page 210.</p>
You are using 100BaseT connections	<p>Install a 100BaseT single-port daughterboard in Connector #2 on the SSC card. Refer to Procedure 15, step 12 on page 205 for instructions on how to install this daughterboard on the SSC card.</p> <p>After you have installed the 100BaseT daughterboard, continue with step 8 of this procedure, on page 210.</p>

Note 1: For IP expansion cabinets, you must install the IP Expansion Daughterboard in Connector #2 (the lower connector) to ensure clock synchronization.

Note 2: Record the MAC address on the daughterboard and the number of the associated Expansion Cabinet before you install the daughterboard. You will need this MAC address when you perform the software upgrade. See Figure 83 on [page 212](#).

- 8 Install the NTDK57DA IP expansion cabinet security device in its assigned location on the SSC card. See Figure 83 on [page 212](#).

Note: You must install the IP expansion cabinet security device on the SSC card in each IP expansion cabinet. The security device for the IP expansion cabinets has NT_REM on it.

- 9 Install the NTTK13AA or NTTK25AA Software Daughterboard in the appropriate connector on the SSC card. See Figure 83 on [page 212](#).
- 10 Install the EMC grounding clip on the stiffener rail of the cabinet.

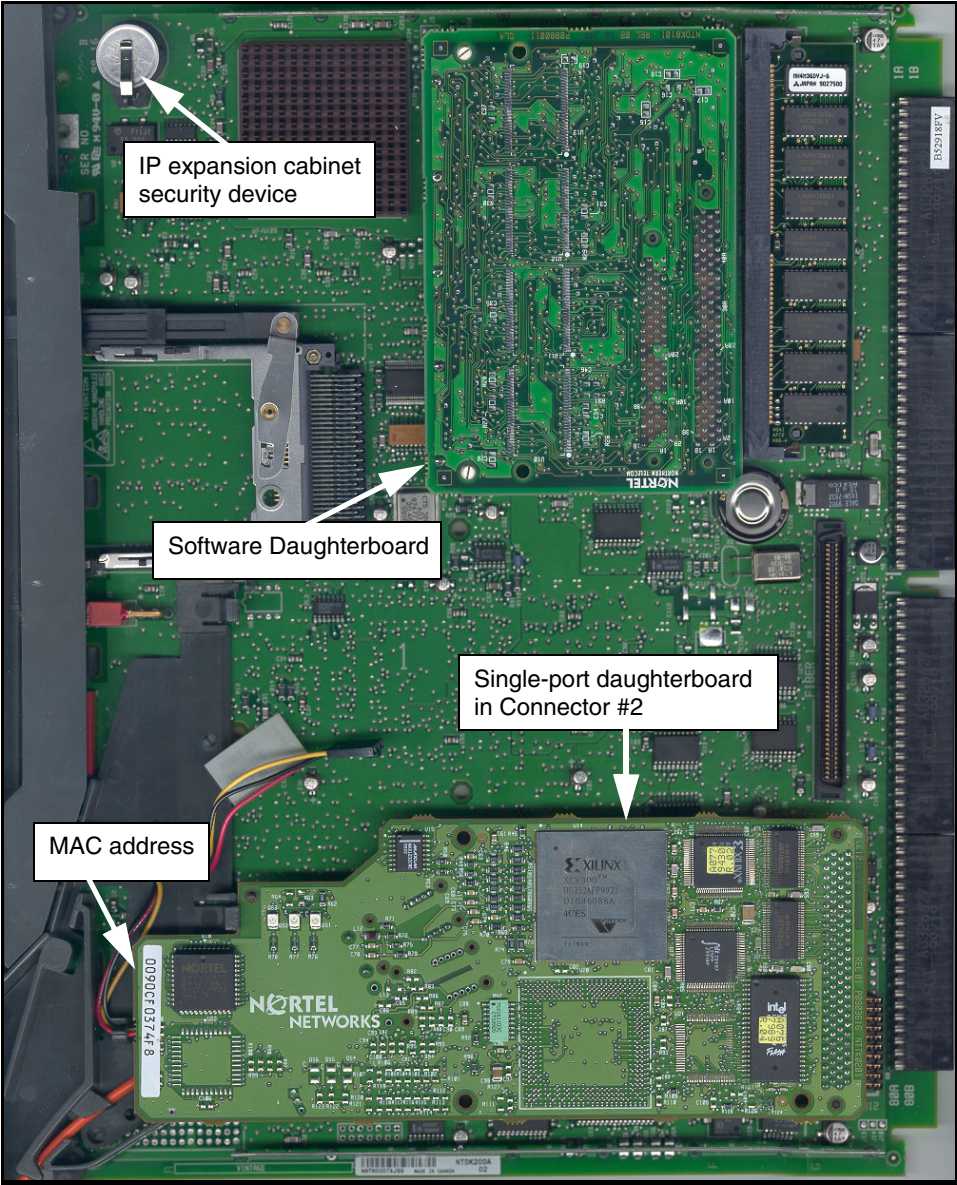
The grounding clip is mounted on the front of the stiffener rail of the IP cabinet. There is a small #4-40 screw to fasten the clip to the stiffener rail. The 100BaseT cable is then fed through and secured in the clip. Depending on what version of cabinet you have, the EMC grounding clip may already be installed on the stiffener rail. Refer to Figure 81 on [page 207](#) for the correct grounding clip location.

If the EMC grounding clip is already installed, loosen the screws that secure it to the stiffener rail and rotate the clip to the outward position, in order to route cables.

**CAUTION WITH ESDS DEVICES**

You must install the EMC grounding clip to ensure electrical contact between the shield and the stiffener rail on the cabinet.

Figure 83
SSC card for the IP expansion cabinet



- 11 Install the SSC card in slot 0 of the IP expansion cabinet.
- 12 Route the cables coming from the SSC card through the EMC grounding clip. See Figure 81 on [page 207](#).
- 13 Loop the excess cable around the cable routing guide a minimum of one complete loop. See Figure 82 on [page 208](#).
- 14 Remove the single-port SDI cable, if equipped.
- 15 Replace the single-port SDI cable with the 3-port SDI cable.

**CAUTION — Service Interruption**

For the IP expansion cabinet, use the 3-port SDI cable, regardless of the number of SDI ports configured. Do not connect the single-port cable to the IP expansion cabinet, as the standard 9-pin signal assignment conflicts with the custom assignment.

- 16 Go to Procedure 17 on [page 214](#) to connect the main cabinet to the IP expansion cabinets.

End of Procedure

Connecting the main and IP expansion cabinets/chassis

If you are using a mix-and-match scenario refer to “Cabinet and Chassis system mix-and-match expansion” on [page 164](#) for a description of the main differences between the Cabinet and Chassis systems.

Follow Procedure 15 and Procedure 16 in this chapter for upgrading your Option 11C to support IP connectivity. Then, continue with Procedure 17 for instructions on how to connect the main and IP expansion cabinets/chassis.

Procedure 17
Connecting the main and IP expansion cabinets/chassis

- 1 Do one of the following:

If	Then
You are using point-to-point 100BaseF connectivity	go to step 2.
You are using point-to-point 100BaseT connectivity	go to step 3.
You are using 100BaseT or 100BaseF connectivity over a distributed data campus network	go to step 4.

- 2 For point-to-point 100BaseF connectivity, connect the main cabinet/chassis to the IP expansion cabinets/chassis using the A0817052 5-meter fiber cable with fiber couplers.
- Use the supplied A0346816 ST fiber couplers to connect the ST ends on the A0817052 fiber cables coming from the main and IP expansion cabinets/chassis. Use one coupler to connect Tx to Rx and another coupler to connect Rx to Tx. Use a push and twist motion to secure the couplers to the cable ends.
 - Connect the fiber cable from the main cabinet/chassis to the fiber cable from the IP expansion cabinet/chassis.

Connect Transmit (Tx) to Receive (Rx) and Receive (Rx) to Transmit (Tx).

Note: The cable end labelled "A" is for Transmit (Tx) and the cable end labelled "B" is for Receive (Rx).
- 3 For point-to-point 100BaseT connectivity, connect the main cabinet/chassis to the IP expansion cabinets/chassis using the NTTK34AA 2-meter RJ45 cables and NTDK8305 2-meter extension cable.
- Use the supplied NTTK34AA 2-meter UTP CAT 5 RJ45 cross-over cable and NTDK8305 2-meter STP CAT 5 extension cable to connect the main and IP expansion cabinets/chassis using the 100BaseT IP daughterboards.

- 4 For a distributed data network using 100BaseF or 100BaseT connectivity, connect the main and IP expansion cabinets/chassis using the following cables:
- For 100BaseF connectivity, the A0817052 5-meter fiber cable with MT-RJ to ST connectors usually connects from the IP daughterboard directly to the customer's LAN.
 - For 100BaseT connectivity, the NTDK8305 2-meter STP CAT 5 extension cable connects the IP daughterboard to a customer-supplied straight-through cable. The customer supplied straight-through cable connects directly to the customer's LAN.

For further information, refer to *Small System: Planning and Engineering (553-3011-120)*.

- 5 Restore power to the main and IP expansion cabinets/chassis.

For a Cabinet system, set the circuit breaker switch on the front of the power supply in the cabinet to ON. If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to ON.

For a Chassis system, set the power switch on the inside front panel to ON.

- 6 Check the Link LED on the installed daughterboard. See Figure 79 on [page 204](#).

From left to right, the LEDs are for the following:

- Receive LED
- Transmit LED
- Link LED (should be green)
 - If the Link LED is green, the Link is established.
 - If the Link LED is not lit, check the daughterboard installation. Check all cable connections to ensure that they are connected correctly. Make sure that the cables are not damaged. Refer to *Small System: Maintenance (553-3011-500)*.

- 7 Refer to “Upgrading or installing software” on [page 279](#) to upgrade the system software.
- 8 Refer to LD 117 in *Software Input/Output: Maintenance (553-3001-511)* to configure the IP expansion cabinet’s IP address.

End of Procedure

Expanding a Chassis system using IP connectivity

Contents

This section contains information on the following topics:

Introduction	217
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Summary of steps	220
Preparing the chassis and expansion chassis for IP connectivity	222
Connecting the chassis and IP expansion chassis.	237

Introduction

This chapter describes how to connect IP expansion chassis to an Option 11C Mini Main Chassis or a Small System chassis or main cabinet using 100BaseF or 100BaseT connectivity cables.

For information on connecting IP expansion cabinets to a main cabinet using IP connectivity, refer to “Expanding a Cabinet system to support IP connectivity” on [page 195](#) and *Small System: Installation and Configuration* (553-3011-210).

Note: The Small System Controller (SSC) card vintage NTDK20EA or later is required for the chassis and IP expansion chassis.

Equipment layout plan

Develop a layout plan for the equipment to determine where you will position each system component. Give consideration to the lengths of different cables, so that you make the best use of space.

If you are expanding using a Chassis system only or using a Cabinet system only, refer to the sections on system and site requirements in *Small System: Planning and Engineering* (553-3011-120) for information on creating an equipment layout plan.

If you are combining Cabinet and Chassis systems, the following minimum standards must be followed:

- A horizontal installation of a chassis requires 10 inches of free space on either side of the chassis.
- A vertical installation of a chassis requires 12 inches of free space on the card side and 6 inches of free space on the cable side of the chassis.

IP expansion procedures

This chapter contains the following procedures:

- Procedure 18: “Upgrading an Option 11C Mini Main Chassis to support IP connectivity” on [page 222](#)
- Procedure 19: “Upgrading an Option 11C Mini Expansion Chassis to support IP connectivity” on [page 233](#)
- Procedure 20: “Connecting the chassis and IP expansion chassis” on [page 237](#)
- Procedure 21: “Starting up for a first-time installation of a Chassis system, using the SSC card” on [page 239](#)
- Procedure 22: “Starting up a Chassis system upgraded from an MSC card to an SSC card” on [page 241](#)

Summary of items required

The following items are required in your Chassis system to support IP connectivity:

- NTDK20EA or later SSC card for each chassis and IP expansion chassis
- The following daughterboards, depending on the type of connectivity:
 - NTTK01 single-port 100BaseF IP daughterboard
 - NTTK02 dual-port 100baseF IP daughterboard
 - NTDK99 single-port 100BaseT IP daughterboard
 - NTDK83 dual-port 100BaseT IP daughterboard

Note: Other than the physical interface and number of ports, all variations of the IP daughterboards have the same functionality.

- The following cables for connecting the chassis and IP expansion chassis in a point-to-point configuration:
 - A0817052 5-meter fiber cable with MT-RJ to ST connectors for connecting the chassis and IP expansion chassis using the 100BaseF IP daughterboards and an A0346816 ST fiber coupler. The A0346816 fiber couplers allow two MT-RJ to ST cables to be connected to each other in a point-to-point configuration.
 - NTTK34AA 2-meter UTP CAT 5 RJ45 cross-over cable and NTDK8305 2-meter STP CAT 5 extension cable for connecting the chassis and IP expansion chassis using the 100BaseT IP daughterboards.

- The following cables for connecting the chassis and IP expansion chassis over a data network:
 - A0817052 5-meter fiber cable with MT-RJ to ST connectors for connecting the chassis and IP expansion chassis using the 100BaseF IP daughterboards. The two A0817052 fiber cables are usually connected directly to the customer's Local Area Network (LAN).
 - NTDK8305 2-meter STP CAT 5 extension cable for connecting the Main and IP Expansion cabinets using 100BaseT IP daughterboards. A customer-supplied straight-through cable is used to connect the NTDK8305 cable to the customer Local Area Network (LAN).
- NTTK24 chassis cable routing guide
- NTTK13AA, NTTK25AA, or later Software Daughterboard
- Software Delivery card

Note: For IP connectivity, you must have a Software Delivery card with Release 25.3x or later software.
- Standoffs sent with the IP daughterboards
- NTB48 3-port SDI cable for each IP expansion chassis/cabinet
- NTDK57DA IP expansion cabinet security device for the SSC card in each IP expansion chassis

Note: For the SSC card in the main chassis, you must use the security device currently on the Mini System Controller (MSC) card.
- An EMC grounding clip is required for each 100BaseT IP chassis

Summary of steps

The following list summarizes the steps for upgrading your Option 11C Mini or Chassis system to support IP connectivity. Refer to the detailed procedures for specific instructions.

- 1 Log on to the system and perform a datadump to back up existing customer data to the PC Card.
- 2 Turn off the power from the chassis and all expansion chassis.

- 3 Upgrade the hardware in the chassis:
 - a If required, replace the Mini System Controller (MSC) card with the Small System Controller (SSC) card (NTDK20EA or later).
 - b Install 100BaseF or 100BaseT IP daughterboards on the SSC card.
 - c If you have not already done so, replace the Software Daughterboard on the SSC card with the NTTK13AA or NTTK25AA Software Daughterboard.
- 4 For 100BaseF connections, install the NTTK24 chassis cable routing guide on the front of the chassis.

For 100BaseT connections, install only the EMC grounding clip on the front of the chassis.
- 5 Upgrade the hardware in the IP expansion chassis:
 - a If upgrading from fiber to IP connectivity, replace the Fiber Receiver card with an NTDK20EA or later SSC card.
 - b Install a single-port 100BaseF or 100BaseT IP daughterboard in Connector #2 on the SSC card.
 - c Install the NTTK13AA or NTTK25AA Software Daughterboard on the SSC card.
 - d Install the IP expansion cabinet security device on the SSC card.
- 6 Install an EMC grounding clip in each 100BaseT chassis and IP expansion chassis.

Note: An EMC grounding clip is not required in the chassis expander.
- 7 Connect the chassis and IP expansion chassis.
- 8 Power up the chassis and IP expansion chassis.
- 9 Check the Link LED on the daughterboards to make sure that the connections are established.
- 10 Upgrade system software. Refer to “Upgrading or installing software” on [page 279](#).

Preparing the chassis and expansion chassis for IP connectivity

This section describes the steps required to prepare the chassis and the expansion chassis for IP connectivity.

Procedure 18

Upgrading an Option 11C Mini Main Chassis to support IP connectivity

Note: If you are using a cabinet as the main cabinet and the chassis as an IP expansion chassis, refer to “Cabinet and Chassis system mix-and-match expansion” on [page 164](#) for an interworking overview.

- 1 Install the chassis, as described in *Small System: Installation and Configuration (553-3011-210)*:
 - a. Install the chassis and chassis expander (if a chassis expander is to be used).

Note: Connect the chassis and chassis expander with two NTDK95 copper cables.
 - b. Install the system ground.
 - c. If required, install an Uninterruptible Power Supply (UPS).
- 2 Do one of the following:

If	Then
You are installing a new system with an SSC card (NTDK20EA or later).	Go to step 9.
You have an MSC card in your existing system.	You must upgrade to the SSC card. Go to step 3.
Your SSC card vintage is earlier than NTDK20EA in your system.	You must upgrade to the SSC (NTDK20EA or later) card. Go to step 3.

- 3 Log on to the Option 11C Mini system and perform a datadump:
 - a. Load LD 43.
 - b. Enter the **EDD** command.
 - c. After the datadump finishes, exit LD 43 by entering ********.
- 4 Back up customer data from the MSC or SSC to a PC Card or with the Customer Configuration Backup and Restore (CCBR) feature. Refer to *Small System: Maintenance (553-3011-500)*.

Note: You will use the customer data file created with CCBR to restore the original system data to the SSC card.
- 5 Power down the chassis.
- 6 Attach an antistatic wrist strap to your wrist.

**CAUTION WITH ESDS DEVICES**

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. When handling the cards, be careful not to damage any of their components.

- 7 Log off of the system and unseat the MSC or earlier vintage SSC card.
- 8 Remove the security device from the MSC or earlier vintage SSC card.

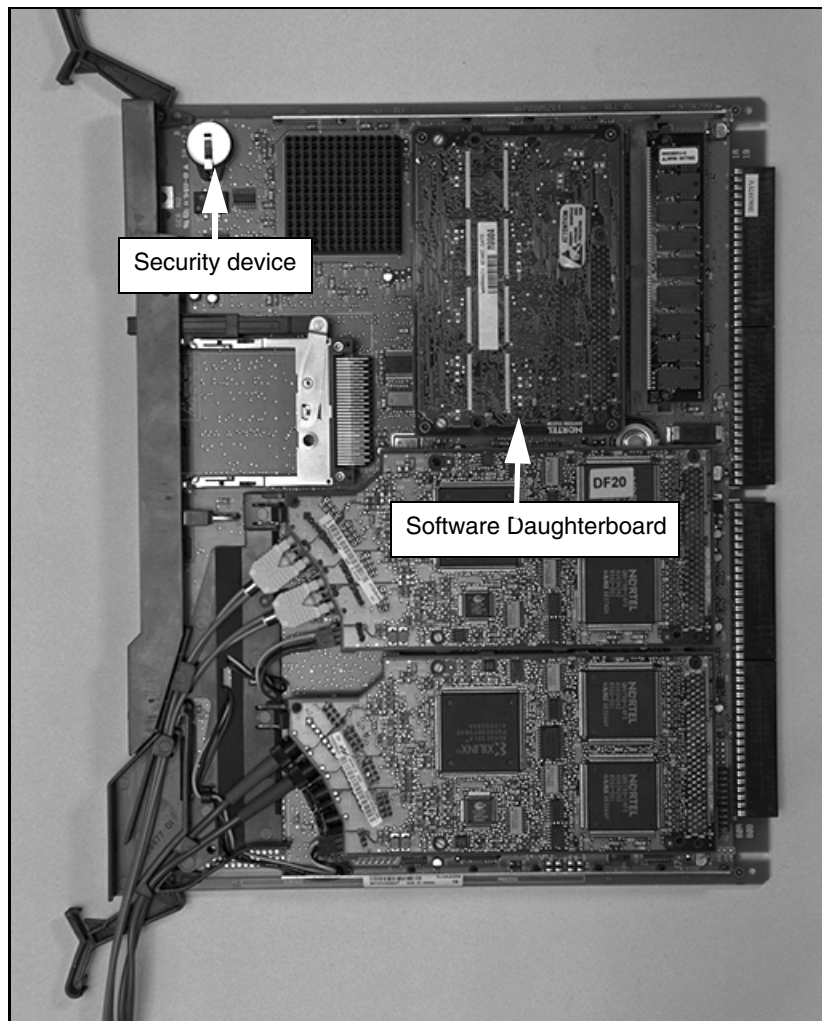
Note: Your security device must be used on the SSC card (NTDK20EA or later).
- 9 If you are installing a new system with an SSC card (NTDK20EA or later), do the following:
 - Ensure the power is set to OFF on the chassis.
 - Attach your antistatic wrist strap before proceeding.
- 10 Take an NTDK20EA or later SSC card and place it on a clean, flat surface.

Note: For IP connectivity, you must install an SSC card in the chassis.
- 11 Install the blank Software Daughterboard (NTTK13 or NTTK25) in the appropriate connector on the SSC card. See Figure 84 on [page 224](#).

- 12 Install the security device in the appropriate socket on the SSC card. See Figure 84.

Note: If you have an MSC card, you must reuse its security device.

Figure 84
Security device and Software Daughterboard on the SSC card



- 13 Remove any existing expansion daughterboards from the SSC card.
- 14 Remove the existing plastic standoffs used for fiber daughterboards from the SSC card.
- 15 Install the plastic standoffs that came with the IP expansion daughterboards.
- 16 Do one of the following:

If	Then
You are installing 100BaseF daughterboards	go to step 17.
You are installing 100BaseT daughterboards	go to step 18.

- 17 Install the NTKK01 single-port 100BaseF IP daughterboard or the NTKK02 dual-port 100BaseF IP daughterboard in the appropriate connectors on the SSC card.

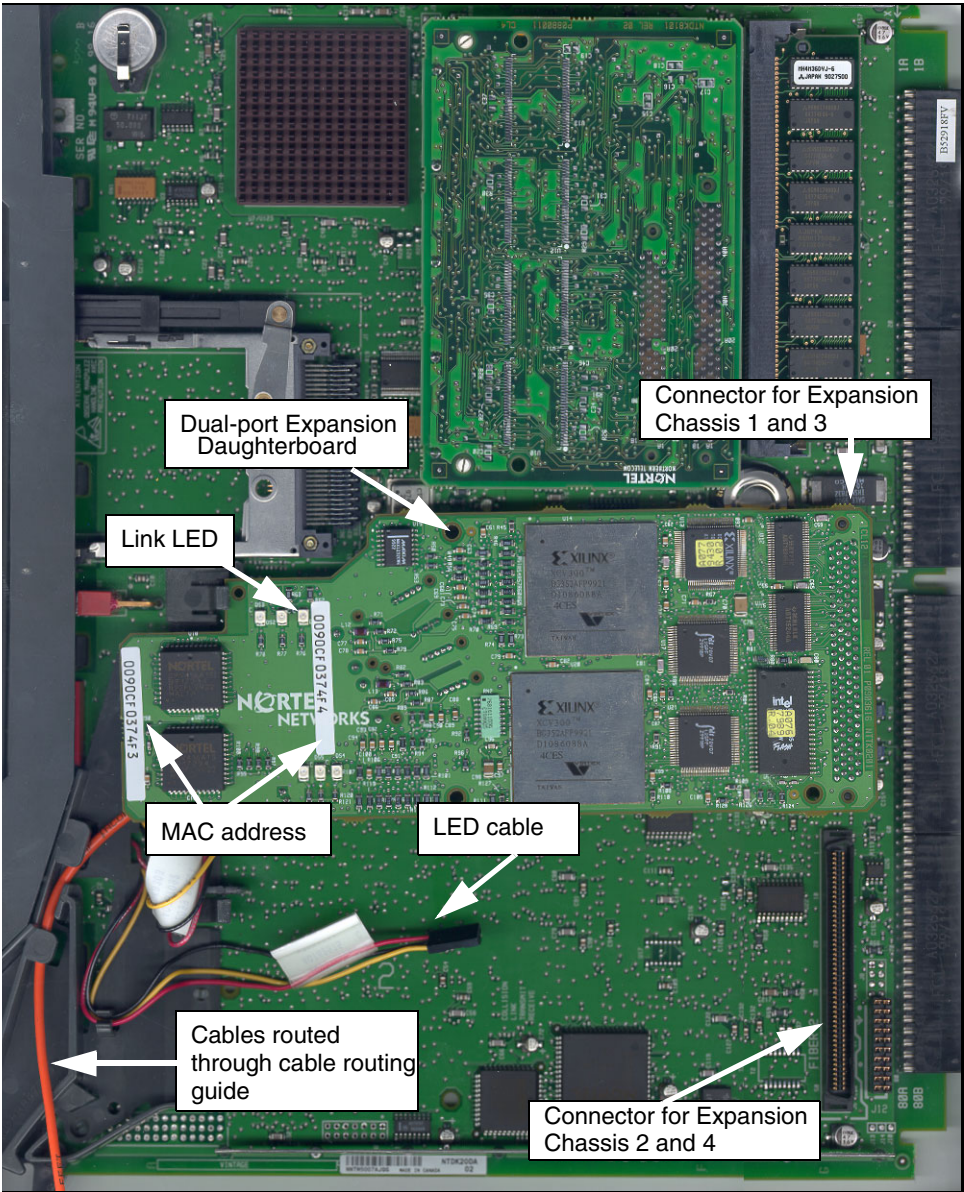
Note: The SSC card supports up to two daughterboards. The IP daughterboards can coexist with any of the existing Small System fiber daughterboards.

- a. Remove the protective plug from the MT-RJ port on the daughterboard.
- b. Remove the protective cap from the A0817052 fiber cable end on the fiber cable.
- c. Insert the fiber cable end firmly into the MT-RJ port on the daughterboard. Carefully pull on the cable to make sure that the cable is inserted completely.

Note: The top connector (Connector #1) on the SSC card is for Expansion Chassis 1 and 3. The bottom connector (Connector #2) on the SSC card is for Expansion Chassis 2 and 4. See Figure 85 on [page 226](#).

When the daughterboard is installed on the SSC card in Connector #1, the upper MT-RJ port is port 1, which is for Expansion Chassis 1.

Figure 85
SSC card for the chassis



- d. Insert the LED cable on the SSC card into the LED connector on the IP daughterboard (if the IP daughterboard is a dual-port IP daughterboard). If the IP daughterboard is a single-port daughterboard, do not use the LED cable. See Figure 85 on [page 226](#).
- e. Locate the plastic alignment pin on the daughterboard connector.
- f. Insert the plastic alignment pin into the appropriate hole on the daughterboard.
- g. Press the daughterboard end onto the daughterboard connector.
- h. Press the daughterboard onto the plastic standoffs to fasten the daughterboard securely to the SSC card.
- i. Route the fiber cable through the guide on the SSC card. See Figure 85 on [page 226](#).
- j. Go to step 19.

- 18** Install the NTDK99 single-port 100BaseT IP daughterboard or the NTDK83 dual-port 100BaseT IP daughterboard in the appropriate connectors on the SSC card.

Note: The SSC card supports up to two daughterboards. The IP daughterboards can coexist with any of the existing Small System fiber daughterboards.

- a. Insert the NTDK8305 extension cable end firmly into the RJ-45 port on the daughterboard. Make sure that the cable end is inserted completely.

Note: The top RJ-45 connector on the SSC card is for Expansion Chassis 1 and 3. The bottom connector on the SSC card is for Expansion Chassis 2 and 4.

When the daughterboard is installed on the SSC card in Connector #1, the upper RJ-45 port is port 1, which is for Expansion Chassis 1.

- b. Insert the LED cable on the SSC card into the LED connector on the IP daughterboard (if the IP daughterboard is a dual-port IP daughterboard). If the IP daughterboard is a single-port daughterboard, do not use the LED cable. Refer to Figure 85 on [page 226](#).

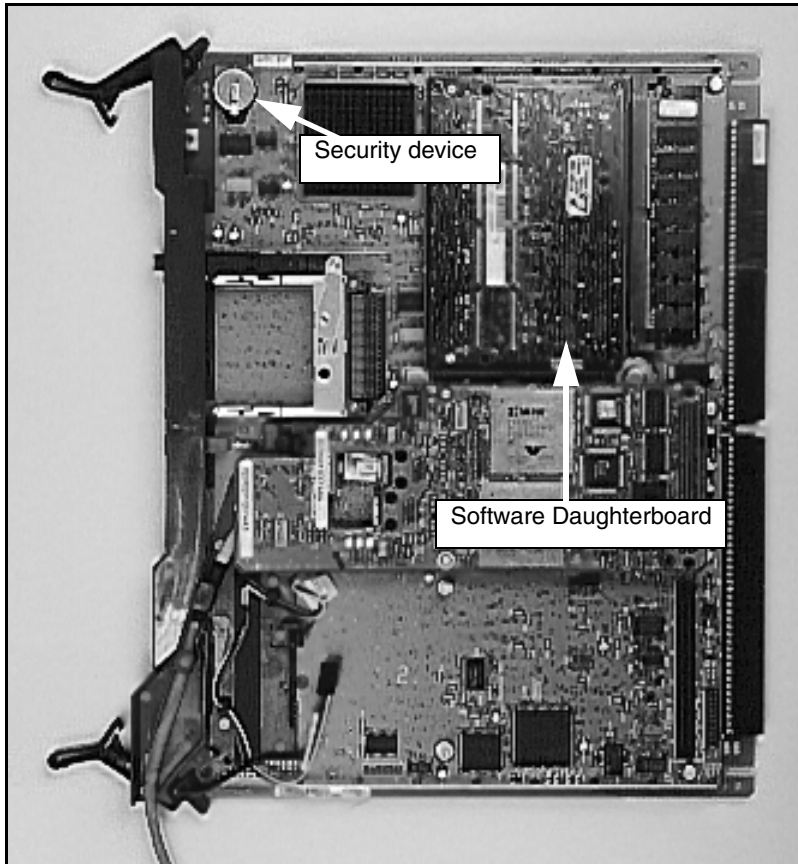
The LED cable connection provides the second LED on the faceplate.

Note: If the IP daughterboard is a single-port daughterboard, do not use the LED cable.

- c. Locate the plastic alignment pin on the SSC card.
 - d. Insert the plastic alignment pin into the appropriate hole on the daughterboard.
 - e. Press the end of the daughterboard onto the daughterboard connector.
 - f. Press the daughterboard onto the plastic standoffs to fasten the daughterboard securely to the SSC card.
 - g. Route the extension cable through the guide on the SSC card. See Figure 85 on [page 226](#).
 - h. Go to step 19.
- 19** If you have not already done so, install the NTKK13 or NTKK25 Software Daughterboard in the appropriate connector on the SSC card. See Figure 86 on [page 229](#).
- 20** If you have not already done so, install the security device in the appropriate socket on the SSC card. See Figure 86.

Note: For the main chassis, you must use the existing security device on the MSC card.

Figure 86
Software Daughterboard on the SSC card

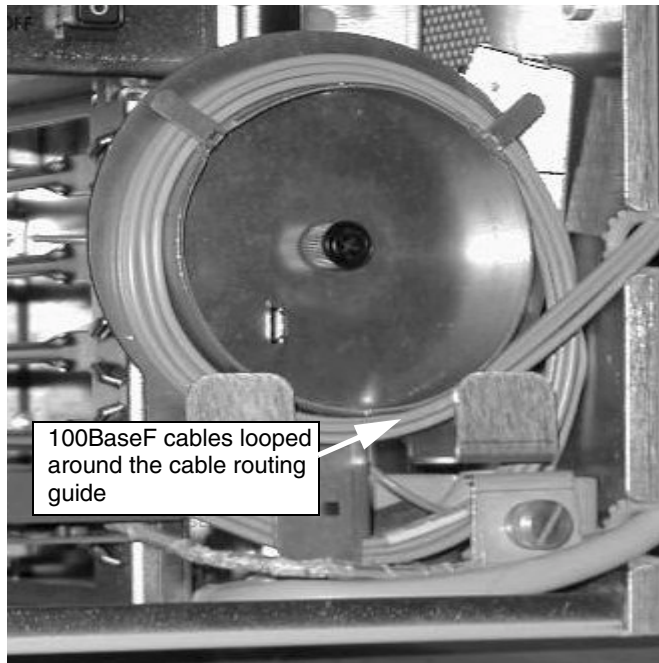


- 21** Install the SSC card in slot 0 of the chassis.
- 22** Do one of the following:

If	Then
You are using 100BaseF connections	install the chassis cable routing guide on the front of the chassis. Go to step 23.
You are using 100BaseT connections	install the EMC grounding clip on the front of the chassis. Go to step 24.

- 23** For 100BaseF connections, loop the fiber cables coming from the SSC card around the cable routing guide on the front of the chassis. A minimum of one complete fiber cable loop is required around the cable routing guide. See Figure 87.

Figure 87
100BaseF cables looped around the cable routing guide on the front of the chassis



- 24** For 100BaseT connections, mount the grounding clip on the fan baffle on the lower right-hand side of the chassis. See Figure 88 on [page 231](#).

Use two #8-32 screws to attach the grounding clip to the fan baffle. Then, feed the 100BaseT cable through and secure it in the clip. See Figure 89 on [page 232](#).



CAUTION WITH ESDS DEVICES

You must secure the 100BaseT extension cables to the EMC grounding clip on the front of the chassis to ensure electrical contact between the shield and the metal frame.

Figure 88
EMC grounding clip location

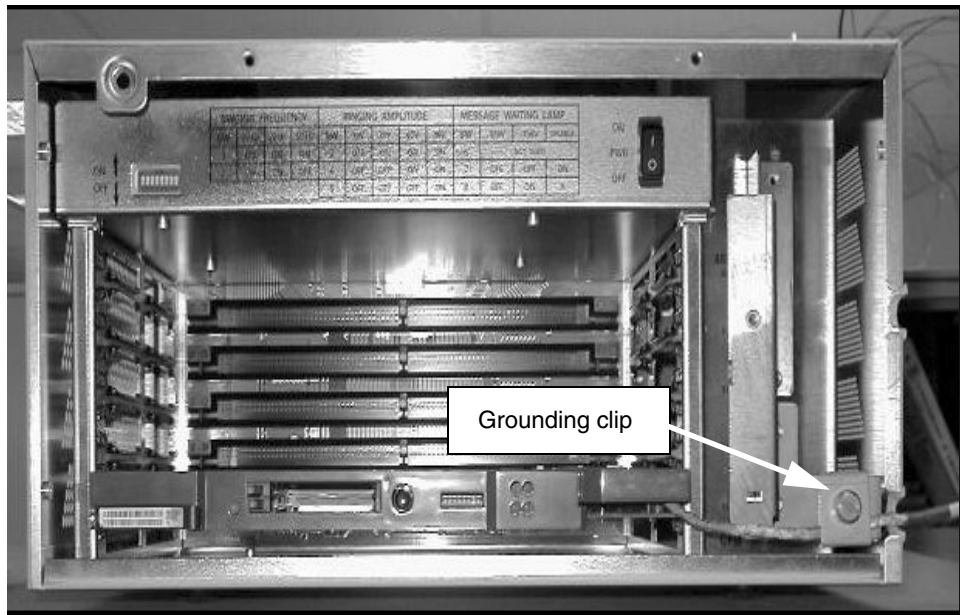
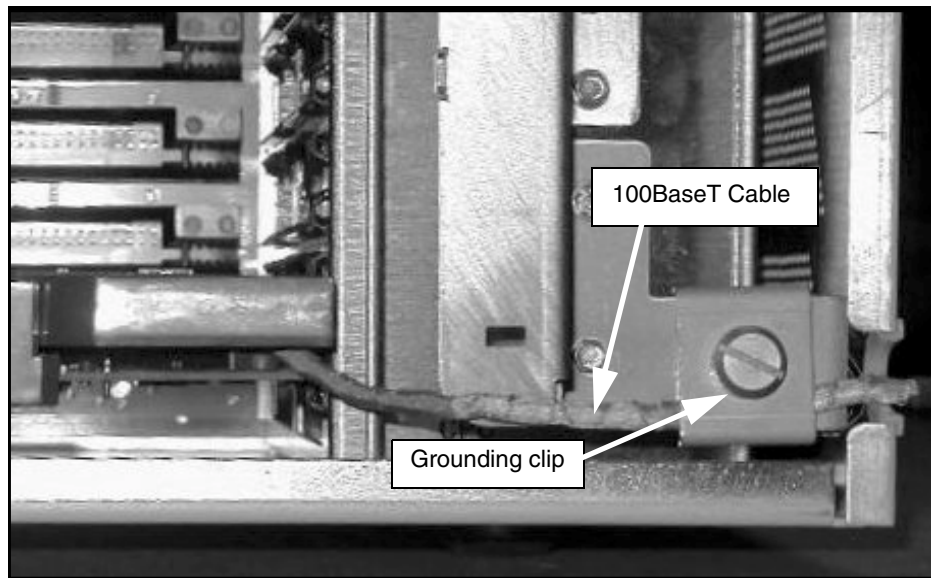


Figure 89
EMC grounding clip and 100BaseT cable connection



- 25 Go to Procedure 19 on [page 233](#) to upgrade the IP expansion chassis.
- 26 Go to Procedure 20 on [page 237](#) to connect the chassis to the IP expansion chassis.
- 27 Restore power to the chassis and IP expansion chassis.
Set the power switch on the inside front panel to ON.
- 28 Check the Link LED on the installed daughterboard. See Figure 85 on [page 226](#).
Note: If slot 1 is equipped with a circuit card, gently remove it so you can verify the LEDs on the daughterboard.

From left to right, the LEDs are for the following:

- Receive LED
- Transmit LED
- Link LED (should be green)
 - If the Link LED is green, the Link is established.
 - If the Link LED is not lit, check the daughterboard installation. Check all cable connections to ensure that they are connected correctly. Make sure that the cables are not damaged. Refer to *Small System: Maintenance (553-3011-500)*.

End of Procedure

Procedure 19**Upgrading an Option 11C Mini Expansion Chassis to support IP connectivity**

- 1 Disconnect the power from the expansion chassis.
Set the power switch on the inside front panel to OFF.
- 2 Attach an antistatic wrist strap to your wrist.

**CAUTION WITH ESDS DEVICES**

Static electricity can damage circuit cards. Wear an antistatic wrist strap when handling circuit cards or any of their components. When handling the SSC card, be careful not to damage any of its components.

- 3 Remove the Fiber Receiver card from slot 0 of the expansion chassis.
- 4 Place an NTDK20EA or later SSC card on a clean, flat surface.
- 5 Remove the existing plastic standoffs from the SSC card.
- 6 Install the plastic standoffs that came with the IP Expansion Daughterboards.

7 Do one of the following:

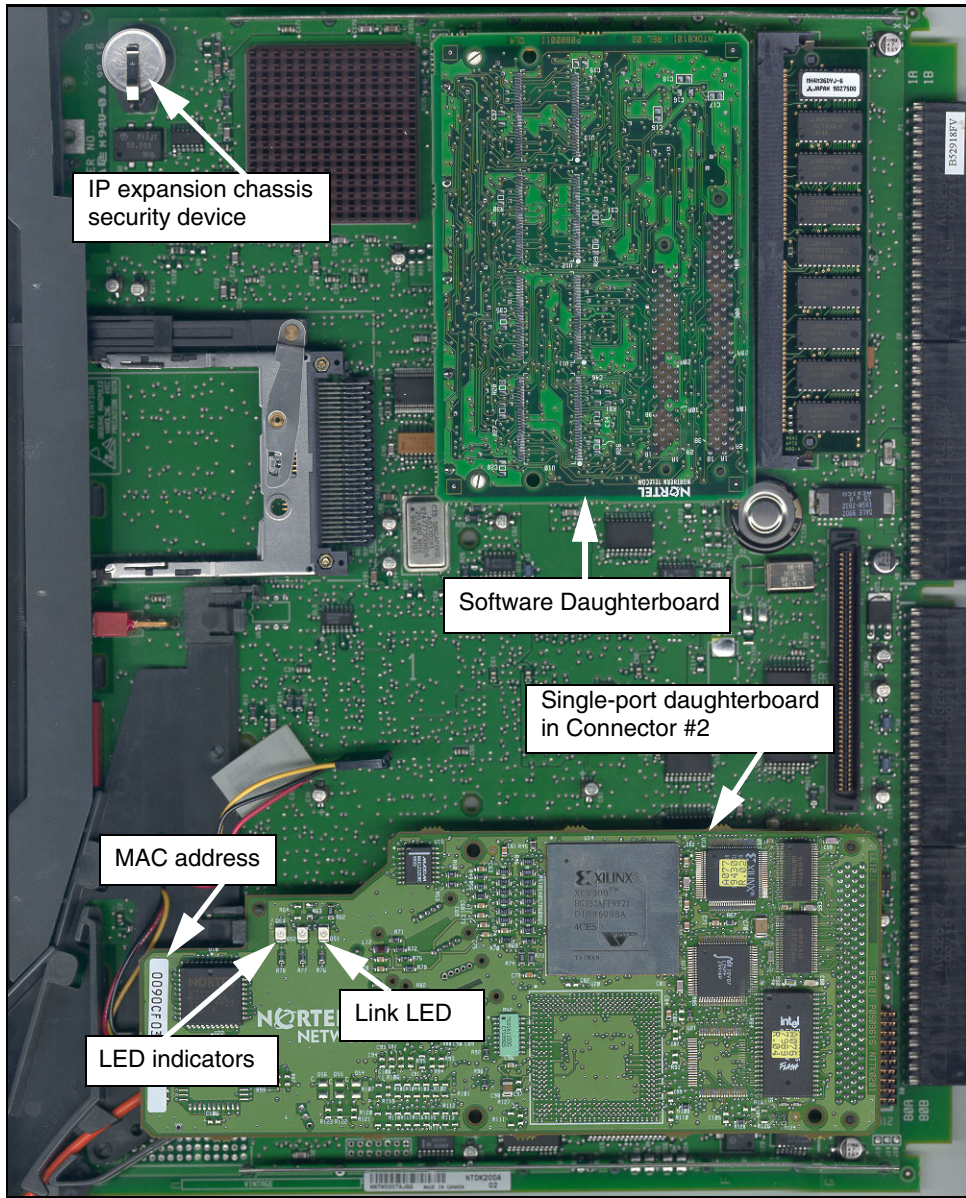
If	Then
You are using 100BaseF connections	<p>Install a 100BaseF single-port daughterboard in Connector #2 on the SSC card. Refer to Procedure 18, step 17 on page 225 for instructions on how to install this daughterboard on the SSC card.</p> <p>After you have installed the 100BaseF daughterboard, continue with step 8 of this procedure, on page 234.</p>
You are using 100BaseT connections	<p>Install a 100BaseT single-port daughterboard in Connector #2 on the SSC card. Refer to Procedure 18, step 18 on page 227 for instructions on how to install this daughterboard on the SSC card.</p> <p>After you have installed the 100BaseT daughterboard, continue with step 8 of this procedure, on page 234.</p>

Note: For IP expansion cabinets, you must install the IP Expansion Daughterboard in Connector #2 (the lower connector) to ensure clock synchronization.

8 Install the NTDK57DA IP expansion chassis security device in its assigned location on the SSC card. See Figure 90 on [page 235](#).

Note: You must install the security device on the SSC card in each expansion chassis. The security device has NT_REM on it.

Figure 90
SSC card for the expansion chassis



9 Install the SSC card in slot 0 of the IP expansion chassis.

10 Do one of the following:

If	Then
You are using 100BaseF connections	install the chassis cable routing guide on the front of the chassis. Go to step 11.
You are using 100BaseT connections	install the EMC grounding clip on the front of the chassis. Go to step 12.

11 For 100BaseF connections, loop the fiber cables from the SSC card around the cable routing guide on the front of the chassis. A minimum of one complete loop is required on the guide. See Figure 87 on [page 230](#).

12 For 100BaseT connections, secure the 100BaseT extension cable coming from the SSC card to the EMC grounding clip on the front of the chassis with a plastic cable tie. The clip is mounted on the fan baffle on the lower right-hand side of the chassis. See Figure 88 on [page 231](#).

Use two #8-32 screws to attach the grounding clip to the fan baffle. Then, feed the 100BaseT cable through and secure it in the clip. See Figure 89 on [page 232](#).



CAUTION WITH ESDS DEVICES

You must secure the 100BaseT extension cables to the EMC grounding clip on the front of the chassis to ensure electrical contact between the shield and the metal frame.

13 Go to Procedure 20 on [page 237](#) to connect the chassis to the IP expansion chassis.

14 Restore power to the chassis and IP expansion chassis.

Set the power switch on the inside front panel to ON.

15 Check the Link LED on the installed daughterboard. See Figure 90 on [page 235](#).

From left to right, the LEDs are for the following:

- Receive LED
- Transmit LED
- Link LED (should be green)

- If the Link LED is green, the Link is established.
- If the Link LED is not lit, check the daughterboard installation. Check all cable connections to ensure that they are connected correctly. Make sure that the cables are not damaged. Refer to *Small System: Maintenance (553-3011-500)*.

End of Procedure

Connecting the chassis and IP expansion chassis

If you are using a mix-and-match scenario refer to “Cabinet and Chassis system mix-and-match expansion” on [page 164](#) for a description of the main differences between the Cabinet and Chassis systems.

Follow Procedure 18 through Procedure 19 in this chapter for upgrading your Option 11C Mini to support IP connectivity. Then, continue with Procedure 20 for instructions on how to connect the chassis and IP expansion chassis.

Procedure 20

Connecting the chassis and IP expansion chassis

- 1 Do one of the following:

If	Then
You are using point-to-point 100BaseF connectivity	go to step 2.
You are using point-to-point 100BaseT connectivity	go to step 3.
You are using 100BaseT or 100BaseF connectivity over a distributed data campus network	go to step 4.

- 2 For point-to-point 100BaseF connectivity, connect the main cabinet/chassis to the IP expansion cabinets/chassis using the A0817052 5-meter fiber cable with fiber couplers.
- a. Use the supplied A0346816 ST fiber couplers to connect the ST ends on the A0817052 fiber cables coming from the main and IP expansion cabinets/chassis. Use one coupler to connect Tx to Rx

and another coupler to connect Rx to Tx. Use a push and twist motion to secure the couplers to the cable ends.

- b.** Connect the fiber cable from the main cabinet/chassis to the fiber cable from the IP expansion cabinet/chassis.

Connect Transmit (Tx) to Receive (Rx) and Receive (Rx) to Transmit (Tx).

Note: The cable end labelled "A" is for Transmit (Tx) and the cable end labelled "B" is for Receive (Rx).

- 3** For point-to-point 100BaseT connectivity, connect the main cabinet/chassis to the IP expansion cabinets/chassis using the NTKK34AA 2-meter RJ45 cables and NTKK8305 2-meter extension cable.

Use the supplied NTKK34AA 2-meter UTP CAT 5 RJ45 cross-over cable and NTKK8305 2-meter STP CAT 5 extension cable to connect the main and IP expansion cabinets/chassis using the 100BaseT IP daughterboards.

- 4** For a distributed data network using 100BaseF or 100BaseT connectivity, connect the main and IP expansion cabinets/chassis using the following cables:

- For 100BaseF connectivity, the A0817052 5-meter fiber cable with MT-RJ to ST connectors usually connects from the IP daughterboard directly to the customer's LAN.
- For 100BaseT connectivity, the NTKK8305 2-meter STP CAT 5 extension cable connects the IP daughterboard to a customer-supplied straight-through cable. The customer supplied straight-through cable connects directly to the customer's LAN.

For further information, refer to *Small System: Planning and Engineering (553-3011-120)*.

- 5** Restore power to the main and IP expansion cabinets/chassis.

For a Cabinet system, set the circuit breaker switch on the front of the power supply in the cabinet to ON. If equipped with reserve battery power, set the circuit breaker switch inside the reserve battery power unit to ON.

For a Chassis system, set the power switch on the inside front panel to ON.

- 6** Check the Link LED on the installed daughterboard. See Figure 90 on [page 235](#).

From left to right, the LEDs are for the following:

- Receive LED
- Transmit LED
- Link LED (should be green)
 - If the Link LED is green, the Link is established.
 - If the Link LED is not lit, check the daughterboard installation. Check all cable connections to ensure that they are connected correctly. Make sure that the cables are not damaged. Refer to *Small System: Maintenance (553-3011-500)*.

7 Start up the system. Choose one of the following:

If	Then
You are performing startup procedures for a first-time system installation using the SSC card	go to Procedure 21 on page 239 .
You are performing startup procedures for a previously installed system	go to Procedure 22 on page 241 .

End of Procedure

Procedure 21

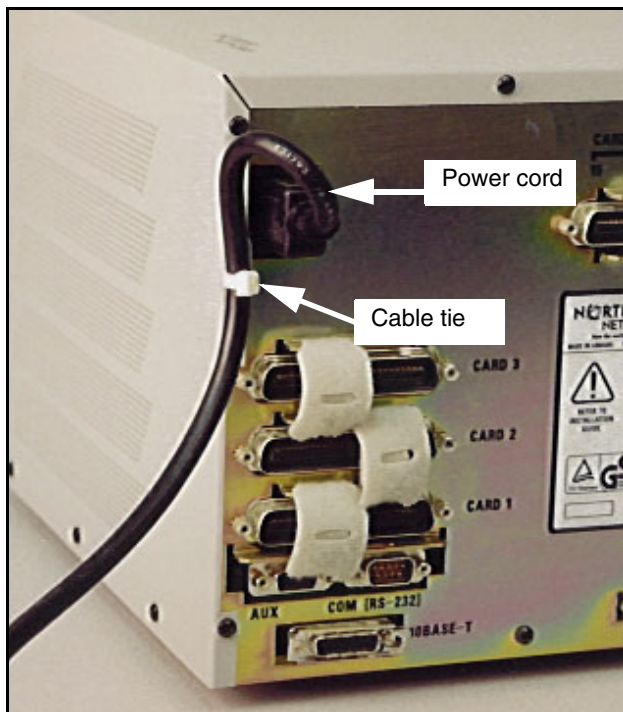
Starting up for a first-time installation of a Chassis system, using the SSC card

1 Test the power outlet.

Make sure that the correct voltage of power is present before you plug the power cord into the outlet. The source must match the label on the back of the chassis.

2 Connect the power cord from the power connector on the back of the chassis to an ac power source. See Figure 91 on [page 240](#). Secure the power cable with a cable tie.

Figure 91
Power connector on the back of the chassis



- 3 Connect a TTY to port 0.
- 4 Turn the power switch to ON.
- 5 Observe the TTY screen.

After the system is loaded, a menu-driven program called the “Software Installation Program” is automatically started.

- 6 Go to “Upgrading or installing software” on [page 279](#) to install software on the chassis and IP expansion chassis/cabinet.

End of Procedure

Procedure 22**Starting up a Chassis system upgraded from an MSC card to an SSC card**

- 1 Test the power outlet.

Make sure that the correct voltage of power is present before you plug the power cord into the outlet. The source must match the label on the back of the chassis.

- 2 Connect the power cord from the power connector on the back of the chassis to an ac power source. See Figure 91 on [page 240](#). Secure the power cable with a cable tie.
- 3 Connect a TTY to port 0.
- 4 Turn the power switch to ON.
- 5 Observe the TTY screen.

After the system is loaded, a menu-driven program called the “Software Installation Program” is automatically started.

- 6 Install system software using the default customer database. Go to “Upgrading or installing software” on [page 279](#).
- 7 Restore your customer data depending on the process you used to back up your customer data:

If	Then
You used a PC Card to back up customer data	use the RES command in LD 43 to restore your customer data.
You used the CCBR feature to back up customer data	you must use the CCBR feature to restore your customer data. Refer to <i>Small System: Maintenance (553-3011-500)</i> for database restoration steps.

- 8 If required, set the system time and date using LD 2:
 - a. Load LD 2.
 - b. Enter the following command and appropriate numeric parameters:
STAD day month year hour minute second
 - c. After the system time and date is set, exit LD 2 by entering ********.

- 9** Perform an EDD using LD 43:
 - a.** Load overlay program 43 (LD 43).
 - b.** Enter the **EDD** command.
 - c.** After the datadump finishes, exit LD 43 by entering ********.
- 10** Go to “Upgrading or installing software” on [page 279](#).

End of Procedure

Assigning TDS/DTR, XTD, and SDI functions

Contents

This section contains information on the following topics:

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Introduction

This chapter describes how to assign the TDS/DTR, XTD, and SDI functions to the NTDK20 Small System Controller (SSC) card.

Note: This chapter applies when there are tone-related circuit cards remaining in the system.

The NTDK20 SSC card replaces the following cards:

- NTAK01 CPU/Conf card (used in Option 11)

- NTBK45 System Core card (used in Option 11E)
- NTDK97 Mini System Controller (MSC) card (used in Option 11C Mini)

The NTDK20 SSC card can provide the same tone functions as the following cards:

- NTAK03 TDS/DTR
- NT5K20 XTD
- NTAG26 XMFR
- NT5K48 XTD

The NTDK20 SSC card also includes the SDI function.

After you upgrade the system to Option 11C, you can change the functions of any remaining TDS/DTR and XTD cards as follows:

- Remove any remaining NTAK03 TDS/DTR, NT5K20 XTD, NT5K21, NTAG26 XMFR, or NT5K48 XTD cards and assign their functions to the NTDK20 SSC card.

Note: The minimum version of the NTAK03 TDS/DTR card must be NTAK03DA.

- Move some of their functions to the NTDK20 SSC card.
- Assign additional functions to the NTDK20 SSC card.

Summary of procedures

The following procedures are in this chapter. These procedures describe how to change the tone and SDI functions to meet the different requirements of the Small System.

- Procedure 23 “Removing the NTAK03 TDS/DTR card” on [page 245](#)
- Procedure 24 “Removing the NT5K20/48 XTD card” on [page 250](#)
- Procedure 25 “Moving TDS/DTR while keeping SDI ports” on [page 252](#)
- Procedure 26 “Moving SDI ports while keeping TDS/DTR” on [page 255](#)

- Procedure 27 “Defining TDS/DTR/XTD on the NTDK20 SSC” on [page 257](#)
- Procedure 28 “Defining SDI ports 1 and 2” on [page 260](#)

Remove the NTA03 TDS/DTR card

Perform this procedure to remove the NTA03 TDS/DTR card and use the NTDK20 SSC card instead. Changing to the NTDK20 SSC card frees one card slot in the main cabinet or chassis.

Note: Perform the steps below in the order indicated. The TDS must be assigned to the SSC card in slot 0 before the DTR units are programmed. In addition, the TDS/DTR card must be disabled before removing the TDS from its card slot.

Procedure 23

Removing the NTA03 TDS/DTR card

- 1 Print the existing SDI configuration in LD 22.
Use the **PRT** request and **ADAN** or **PRT** type (depending on software release) to get a printout.
- 2 Disable the TDS/DTR card in LD 34.
Use the **DISX N** command, where N is the card slot number of the TDS/DTR card.
- 3 Disable SDI ports 1 and 2 in LD 37.
Use the **DIS TTY N** command, where N is 1 and 2 (the SDI port number).
- 4 Configure TDS on the SSC card in LD 17.

LD 17 – Configure TDS on the SSC card (Part 1 of 2).

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block

LD 17 – Configure TDS on the SSC card (Part 2 of 2).

Prompt	Response	Description
CEQU	YES	For changes to Common Equipment parameters
TDS	0	Tone and Digit Switch for the NTDK20 SSC card

- 5 Remove the eight DTR units on the TDS/DTR card in LD 13.
 Make sure you remove all eight units.

LD 13 – Remove DTR units on the TDS/DTR card.

Prompt	Response	Description
REQ	OUT	Remove information
TYPE	DTR	Digitone Receivers data block
TN	c u	Terminal Number c = card slot of the TDS/DTR card u = unit 0 to 7 (Repeat until you remove all eight units.)

- 6 Configure the eight DTR units on the SSC card in LD 13.
 Make sure you configure all eight units.

LD 13 – Configure DTR units on the SSC card.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	DTR	Digitone Receivers data block
TN	c u	Terminal Number c = card slot 0 u = unit 0 to 7 (Repeat until you configure all eight units.)

7 Remove the TDS function in LD 17.

Note: If you do not first disable the TDS in LD 34 (see step 2 on [page 245](#)), this step will fail. This step will also fail if you do not first remove the DTRs from the TDS/DTR slot.

LD 17 – Remove TDS.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
CEQU	YES	For changes to Common Equipment parameters
TDS	Xn	Tone and Digit Switch card slot location n = 1–9. Put an X before to remove.

- 8** Remove the SDI ports in LD 17.

To remove TTY ports 1 and 2, do the following for each port:

LD 17 – Remove SDI ports 1 and 2.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ADAN	Change I/O device.
ADAN	OUT TTY x	Action Device and Number Remove I/O device, where x = x = 1 x = 2

- 9** Remove the NTA03 TDS/DTR card from the cabinet/chassis.

- 10** Configure SDI ports 1 and 2 on the SSC card in LD 17.

Refer to the SDI printout obtained from step 1 on [page 245](#).

LD 17 – Configure SDI ports 1 and 2. (Part 1 of 2)

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
ADAN	NEW TTY x	Action Device and Number Add I/O device, where x = x = 1 x = 2
CDNO	0	Card Number 0
PORT	x	x = 1 x = 2
DES	aaa...a	AML port identification (can be up to 16 alphanumeric characters)

LD 17 – Configure SDI ports 1 and 2. (Part 2 of 2)

Prompt	Response	Description
BPS	150 300 600 1200 2400 (4800) 9600 19200 38400	Bits per second data rate
BITL	5 6 7 (8)	Data bit length
STOP	(1) 1.5 2	Number of stop bits
PARY	(NONE) ODD EVEN	Parity
ENL	(YES) NO	Auto enable SDI port
USER	BUG SCH MTC	Output message types

11 Enable the SDI ports in LD 37.

Use the commands **ENL TTY 1** and **ENL TTY 2**.

12 Enable the TDS/DTRs on the SSC card in LD 34.

Use the **ENLX 0** command.

13 Perform an EDD backup in LD 43.

Use the **EDD** command.

End of Procedure

Remove the NT5K20/48 XTD card

Perform this procedure to remove the NT5K20 XTD or NT5K48 XTD card and assign its functions to the NTDK20 SSC card instead. This procedure frees one card slot in the main cabinet or chassis.

Note: Perform the steps below in the order indicated. You must assign the TDS to the SSC card in slot 0 before you program the XTD units.

Procedure 24
Removing the NT5K20/48 XTD card

- 1 Remove the eight XTD units on the NT5K20/48 card in LD 13.
 Make sure you remove all eight units.

LD 13 – Remove XTD units on NT5K20/48 card.

Prompt	Response	Description
REQ	OUT	Remove information.
TYPE	XTD	Extended Dial Tone Detector and Digitone Receiver data block
TN	c u	Terminal Number c = card slot of the XTD card u = unit 0 to 7 (Repeat until you remove all eight units.)

- 2 Configure TDS on the SSC card in LD 17.

LD 17 – Configure TDS on the SSC card.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
CEQU	YES	For changes to Common Equipment parameters
TDS	0	Tone and Digit Switch for the NTDK20 SSC card

- 3** Configure the eight XTD units on the SSC card in LD 13.

Make sure you configure all eight units.

Note: You must configure the TDS loop in LD 17 before you can do this step.

LD 13 – Configure XTD units on the SSC card.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	XTD	Extended Dial Tone Detector and Digitone Receiver data block
TN	c u	Terminal Number c = 0 u = unit 0 to 7 (Repeat until you configure all eight units.)
XTDT	(0)-7	Extended Tone Detector Table Number. If you enter a table that is not 0, it must be in LD 97.
- DTO	(NO) YES	Dial Tone Detection Only (NO) = Do not disable DTR detection YES = Disable DTR detection, only perform dial tone detection

- 4** Remove the NT5K20 or NT5K48 XTD card from the cabinet/chassis.

- 5** Perform an EDD backup in LD 43.

Use the **EDD** command.

End of Procedure

Keep the TDS/DTR card while moving functions to the SSC card

Perform the procedure described in this section if the following upgrade conditions apply:

- You plan to keep the NTA03DA (minimum version) TDS/DTR card in the system.
- You plan to move either its TDS/DTR or its SDI port functions to the NTDK20 SSC card.

Move TDS/DTR and keep SDI ports

To move TDS/DTR, you must remove the TDS/DTR function from the NTA03 TDS/DTR card and then assign it to slot 0.

Note: Perform the steps below in the order indicated. You must assign the TDS to the SSC card in slot 0 before you program the DTR units. You must disable the TDS/DTR card before removing the TDS from that card slot.

Procedure 25

Moving TDS/DTR while keeping SDI ports

- 1 Disable the NTA03 TDS/DTR card in LD 34.

Use the **DISX N** command, where N is the card slot number of the TDS/DTR card.

- 2 Configure TDS on the SSC card in LD 17.

LD 17 – Configure TDS on the SSC card.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
CEQU	YES	For changes to Common Equipment parameters
TDS	0	Tone and Digit Switch for the NTDK20 SSC card

- 3** Remove the eight DTR units on the TDS/DTR card in LD 13.

Make sure you remove all eight units.

LD 13 – Remove DTR units on the TDS/DTR card.

Prompt	Response	Description
REQ	OUT	Remove information.
TYPE	DTR	Digitone Receivers data block
TN	c u	Terminal Number c = card slot of the TDS/DTR card u = unit 0 to 7 (Repeat until you remove all eight units.)

- 4** Configure the eight DTR units on the SSC card in LD 13.

Make sure you configure all eight units.

You must configure the TDS loop in LD 17 before performing this step.

LD 13 – Configure DTR units on the SSC card.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	DTR	Digitone Receivers data block
TN	c u	Terminal Number c = 0 u = unit 0 to 7 (Repeat until you configure all eight units.)

- 5 Remove the TDS function in LD 17.

Note: This step fails if you do not first disable the TDS in LD 34 (see step 1 on [page 252](#)). This step also fails if you do not first remove DTRs from the TDS/DTR slot.

LD 17 – Remove TDS.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
CEQU	YES	For changes to Common Equipment parameters
TDS	Xn	Tone and Digit Switch card slot location n = 1–9. Put an X before to remove.

- 6 Enable the NTAK03 TDS/DTR to use the SDI port.
- 7 Enable the TDS/DTRs on the SSC card in LD 34. Use the **ENLX 0** command.
- 8 Perform an EDD backup in LD 43.

End of Procedure

Move SDI ports and keep TDS/DTR

To move the SDI ports, you must disable and remove them from the NTAK03 TDS/DTR card and then configure them on the SSC card.

Procedure 26

Moving SDI ports while keeping TDS/DTR

- 1 Disable SDI ports 1 and 2 in LD 37.

Use the **DIS TTY N** command, where N is the SDI port number.

- 2 Remove the SDI ports in LD 17.

To remove TTY ports 1 and 2, follow the instructions for each port:

LD 17 – Remove SDI ports 1 and 2.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	ADAN	Change I/O device.
ADAN	OUT TTY x	Action Device and Number Remove I/O device, where x = x = 1 x = 2

3 Configure SDI ports on the SSC card using LD 17.

LD 17 – Configure SDI ports 1 and 2.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
ADAN	NEW TTY x	Action Device and Number Add I/O device, where x = x = 1 x = 2
CDNO	0	Card Number 0
PORT	x	x = 1 x = 2
DES	aaa...a	AML port identification (can be up to 16 alphanumeric characters)
BPS	150 300 600 1200 2400 (4800) 9600 19200 38400	Bits per second data rate
BITL	5 6 7 (8)	Data bit length
STOP	(1) 1.5 2	Number of stop bits
PARY	(NONE) ODD EVEN	Parity
ENL	(YES) NO	Auto enable SDI port
USER	BUG SCH MTC	Output message types

End of Procedure

Keep the TDS/DTR card while configuring additional units or ports on the SSC card

Follow these procedures to do all of the following:

- keep the NTAK03 TDS/DTR card
- keep the NT5K48 XTD card
- take advantage of additional units or ports

Because these cards are already programmed, you must move their functions to the NTDK20 SSC card.

Procedure 27 **Defining TDS/DTR/XTD on the NTDK20 SSC**

- 1 Configure TDS by entering 0 at the TDS prompt in LD 17.

LD 17 – Configure TDS on the SSC card.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
CEQU	YES	For changes to Common Equipment parameters
TDS	0	Tone and Digit Switch for the NTDK20 SSC card

- 2
- Configure the DTR units on card 0, units 0 through 7 in LD 13.

Note: Systems in North America normally use DTRs and allow the card to operate as a standard DTMF receiver. This step only applies if you are using a DTR. If you use an XTD instead, skip this step and continue to step 3.

LD 13 – Configure DTR units on card 0.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	DTR	Define Digitone Receivers
TN	0 u	Terminal Number Card 0, u = unit 0 to 7

- 3** Configure the XTD units on card 0, units 0 through 7 in LD 13. Make sure you configure all eight units. (Do not perform this step if you are using DTR instead of XTD — you completed the procedure in step 2.)

Note: Systems outside North America normally use XTDs. Do not perform this step if you use a DTR instead of an XTD (see step 2).

LD 13 – Configure XTD units on card 0.

Prompt	Response	Description
REQ	NEW	Add new data.
TYPE	XTD	Extended Dial Tone Detector and Digitone Receiver data block
TN	c u	Terminal Number c = 0 u = unit 0 to 7 (Repeat until you configure all eight units.)
XTDT	(0)-7	Extended Tone Detector Table Number. If you enter a table that is not 0, it must be in LD 97.
- DTO	(NO) YES	Dial Tone Detection only (NO) = Do not disable DTR detection YES = Disable DTR detection, only perform dial tone detection

————— **End of Procedure** —————

Procedure 28
Defining SDI ports 1 and 2

- 1 Load LD 17.
- 2 Configure SDI ports 1 and 2 in LD 17.

LD 17 – Configure SDI ports 1 and 2.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	CFN	Configuration data block
ADAN	NEW TTY x	Action Device and Number Add I/O device, where x = x = 1 x = 2
CDNO	0	Card Number 0
PORT	x	x = 1 x = 2
DES	aaa...a	AML port identification (can be up to 16 alphanumeric characters)
BPS	150 300 600 1200 2400 (4800) 9600 19200 38400	Bits per second data rate
BITL	5 6 7 (8)	Data bit length
STOP	(1) 1.5 2	Number of stop bits
PARY	ODD EVEN (NONE)	Parity
ENL	(YES) NO	Auto enable SDI port
USER	BUG SCH MTC	

————— **End of Procedure** —————

Option 11/11E upgrade from Software Daughterboard or PC Card

Contents

This section contains information on the following topics:

Introduction	261
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Upgrading the software	263

Introduction

This chapter describes how to upgrade an existing Option 11 or 11E to a Meridian 1 Option 11C Cabinet using the Software Daughterboard or Software Delivery card. The Personal Computer Memory Card (PC Card) is the Software Delivery card.

Manufacturers and distributors ship the Software Daughterboard to the customer site already programmed. This is the method used in most cases.

IMPORTANT!

You need a Software Daughterboard, security device, and Keycode Data Sheet to correctly install the software. You need a Keycode Data Sheet to complete the installation. Refer to the Keycode Data Sheet when entering the ISM parameters, adding packages, or changing the AUX ID.

Keycode information

Data you need to enter during the software installation is provided on the Keycode Data Sheet.

If the keycodes are unsuccessful, check the following:

- software issue
- feature set name
- any additional packages
- TNs
- Incremental Software Management (ISM) parameters
- security ID
- auxiliary ID (the old site ID, if this is an upgrade)
- the keycodes entered. All items must match the Keycode Data Sheet exactly.

When performing a new system installation, ensure that the default AUX ID matches the AUX ID from the Keycode Data Sheet.

If the keycodes still are not successful, then call your Service Representative.

Summary of steps

The following list reviews the software installation steps:

- 1 Install the Software Daughterboard and security device.
- 2 Select the System Upgrade function.
- 3 Select the feature set and packages.
- 4 Select a database.
- 5 Select ISM parameters.
- 6 Validate keycodes.

- 7 Load the software.

**CAUTION WITH ESDS DEVICES**

Put on the antistatic wrist strap, provided in the bottom of the cabinet, before handling circuit cards. Static electricity can damage the components of power supplies and circuit cards.

Upgrading the software

The following procedure describes how to upgrade to the Meridian 1 Option 11C Cabinet software system.

IMPORTANT!

The main cabinet software must be installed or upgraded prior to the IP expansion cabinets. Ensure that the main cabinet installation or upgrade is complete and the main cabinet is up and running prior to loading the expansion cabinets.

Note: Expansion cabinets can be installed in any order.

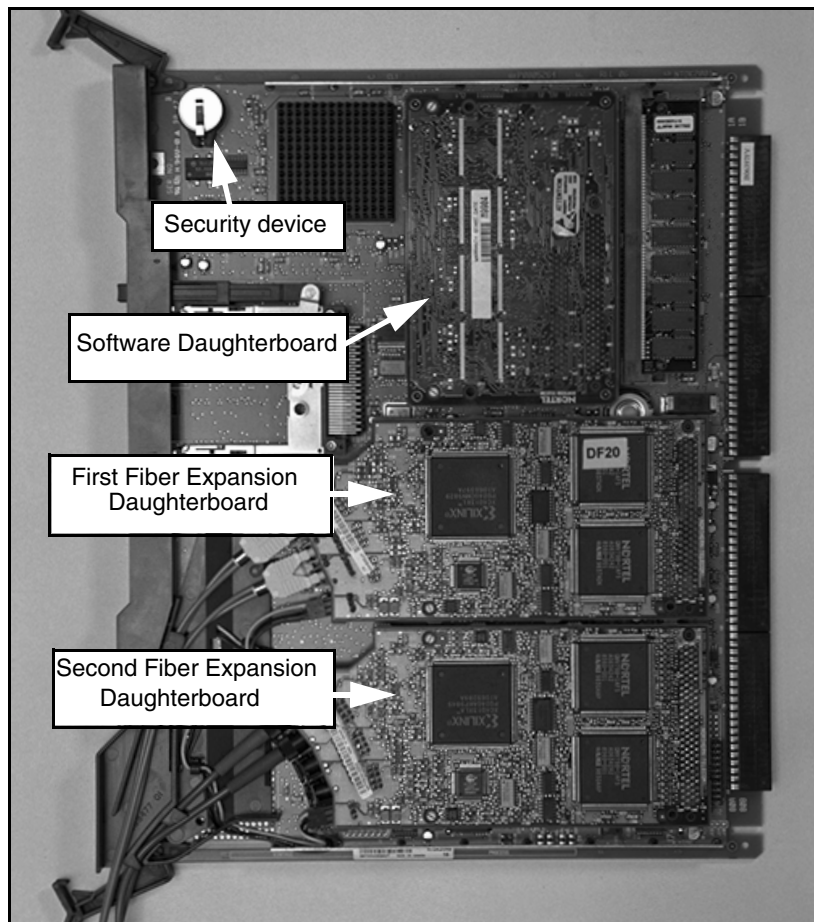
Procedure 29**Upgrading to Option 11C software**

- 1 Install the Software Daughterboard and security device on the NTDK20 Small System Controller (SSC) card.

To install the Software Daughterboard and security device, refer to Figure 92 on [page 264](#) and follow these steps:

- a. Put on the antistatic wrist strap and insert the Software Daughterboard in the connector on the component side of the SSC card.
- b. Install any required expansion daughterboards.
- c. Insert the security device in the socket on the component side of the SSC card.

Figure 92
Fiber Expansion Daughterboards on the NTDK20 SSC card



- 2 Install the NTDK20 SSC card in its slot (slot 0) of the main cabinet.
Note: If a fiber-optic cable is present, place it in the fiber routing guide.
- 3 Power up the system:
 - a. Connect the power to the cabinet.
 - b. Set the circuit breaker on the front of the power supply unit to ON.

4 Observe the terminal screen.

One of the following two messages appears and the software installation continues as indicated:

If	Then
The message is: INSERT SOFTWARE DELIVERY CARD	continue with step 5 on page 265 .
The message is: INSTALL SETUP PROGRAM	go to step 6 on page 266 .

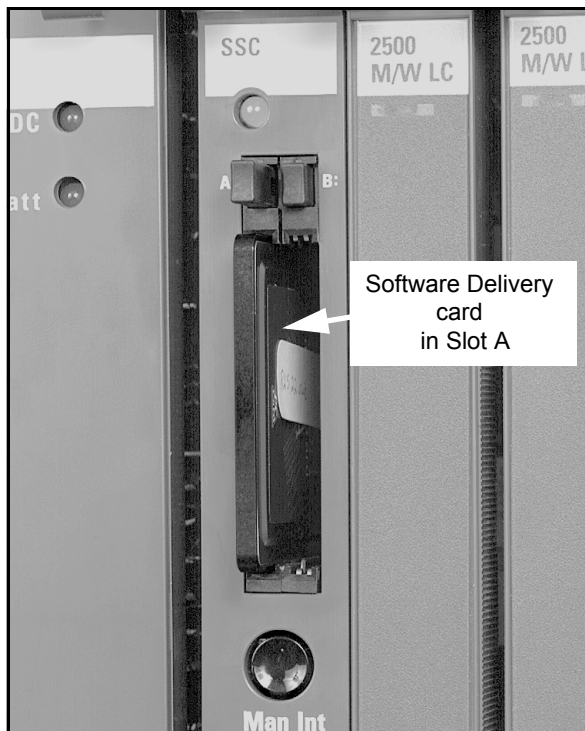
5 If you need to, install the Software Delivery card in the socket in the faceplate of the SSC card.

Note: Skip this step unless you are using the Software Delivery card (PC Card) to install the software.

To install the Software Delivery card:

- a. Insert the card in Slot A in the PC Card socket located in the faceplate of the NTDK20 SSC card.
- b. Carefully press on the Software Delivery card until it seats tightly. Refer to Figure 93 on [page 266](#) for the correct position of the SSC card.

Figure 93
PC Card slot location



6 Select item 1 or 2 from the Main Cabinet Software Installation Menu.

The system displays the **Software Installation Main Menu**:

Call Server/Main Cabinet Software Installation Main Menu:

1. New Install or Upgrade from Option 11/11E - From Software DaughterBoard
2. System Upgrade
3. Utilities
4. New System Installation - From Software Delivery Card

[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr> - redisplay

Enter Selection:

- a. To select Option 11/11E upgrade from Software Daughterboard:
 - i. Type **1** and press **<CR>**.
 - ii. Go to step 8 on [page 267](#).
- b. To select System Upgrade:
 - i. Type **2** and press **<CR>**.
 - ii. Continue with the next step in this procedure.

7 Select the type of upgrade to perform.

The system displays the **Select type of upgrade to be performed** menu:

```
Select type of upgrade to be performed:
1. Option 11/11E to Option 11C
2. Option 11C New Software Upgrade
3. Option 11C Feature/Parameter Upgrade
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr> -
redisplay
```

Enter Selection:

To select Option 11/11E to Option 11C:

- Type **1** and press **<CR>**.

8 Select the feature set to be enabled.

Note: The feature set you select must match the one provided with the keycodes. The following feature set names are *examples only*.

Example of screen display for the feature sets:

```
Select Feature Set You Wish to Enable:
1. General Business (NTSKxxxx)
2. Enhanced Business (NTSKxxxx)
3. Enterprise (NTSKxxxx)
4. NAS/VNS (NTSKxxx)
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr> -
redisplay
```

Enter Selection:

To select Enhanced Business, for example, type **2** and press **<CR>**.

9 Indicate if you are adding packages or not.

Example screen display for feature set Enhanced Business is as follows:

Feature Set Selection: Enhanced Business

Do you wish to add packages? (y/n/[a]bort):

Select no, yes or abort. Do one of the following:

- Type **n** (for no), press **<CR>**, and go to step 11 on [page 269](#).
- Type **y** (for yes), press **<CR>**, and continue with the next step, step 10 on [page 268](#)
- Type **a** (for abort) and press **<CR>**. Abort returns you to the Main Menu.

10 Select the Feature packages to add.

Summary of packages selected is, for example:

0-2 4-5 7-14 16-25 28-29 32-64 67 70-77 79-83 86-93
95 98-104 107-111 113-116 118-120 122-125 127-129
131-133 135 137-141

Enter the package(s) you want to add, and then press **<CR>**.

Type, for example, **215-235** and press **<CR>**.

Note: Press **<CR>** to end selection entry or if you are not adding any packages.

11 Confirm feature set and packages.

Sample screen display:

Your Feature Set Selection is "Enhanced Business":

Additional Packages selected: 215-235

Summary of Packages selected is:

0-2 4-5 7-14 16-25 28-29 32-64 67 70-77 79-83 86-93
95 100-104 107-111 113-116 118-120 122-125 127-129
131-133 135 137-141

...

...

200-208 215-235

Is this selection correct?

Do one of the following:

- Type **n** (for no), press **<CR>**, and go to step 8 on [page 267](#).
- Type **y** (for yes), press **<CR>**, and continue with the next step, step 12 on [page 269](#)
- Type **a** (for abort) and press **<CR>**. Abort returns you to the Main Menu.

12 Select a database.

Do one of the following:

- a.** If you are installing from a Software Delivery card (PC Card), go to step 16 on [page 271](#).
- b.** If you are installing from a Software Daughterboard continue here.

The screen displays:

Select database to Install:

1. Pre-Configured database - Enhanced Business
2. Basic Configuration
3. CCBR Restore file
4. Option 11/11E Software Cartridge

[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> redisplay

Enter Selection: **3** or **4** <CR>

Select option 3 or 4 and press <CR>:

- a. If your selection was CCBR Restore File, go to step 17 on [page 271](#).
- b. If your selection was Option 11/11E Software Cartridge, continue with the next step, step 13 on [page 270](#).

13 Connect the Option 11/11E Software Cartridge to the Database Upgrade Tool.

Do one of the following:

- a. If you are using the CCBR Restore file as a database source, complete step 17 on [page 271](#), then do step 18 on [page 272](#).
- b. If you are using the Option 11/11E Software Cartridge as a database source, continue with the next step.

14 Install the Database Upgrade Tool and cartridge.

The following text appears on the terminal:

```
Insert the Database Upgrade Tool with the attached
Option 11/11E cartridge into Slot B. Press Enter,
<CR>, to continue.
```

15 After you press <CR>, go to step 17 on [page 271](#).

16 Select a database using the PC Card.

Do one of the following:

- a. If you are installing from a Software Daughterboard, go to step 12 on [page 269](#).
- b. If you are installing from a Software Delivery card (PC Card), continue here.

The system displays:

```
Select Option 11/11E Database Source:
```

```
1. CCBR Restore file
```

```
2. Option 11/11E Software Cartridge
```

```
[q]uit, [m]ain, [[p]revious menu, <cr> - redisplay
```

```
Enter Selection:
```

Select 1 or 2, and press **<CR>**:

- a. If you select **1 <CR>** (CCBR Restore file), continue with the next step, step 17 on [page 271](#).
- b. If you select **2 <CR>** (Option 11/11E Software Cartridge), go to step 13 on [page 270](#).

17 Confirm database selection.

The system displays:

```
Warning: you must have an Option 11/11E database.
```

```
Do you wish to continue?
```

Do one of the following:

- Type **n** (for no), press **<CR>**, and go to step 12 on [page 269](#).
- Type **y** (for yes), press **<CR>**, and go to step 18 on [page 272](#)
- Type **a** (for abort) and press **<CR>**. Abort returns you to the Main Menu.

18 Review ISM parameters.

Note: On a new installation, the ISM parameters displayed on the terminal screen are the default settings related to the feature set selection. You can accept these settings without changes, or change the settings to meet the requirements of the new system.

Example screen display for ISM parameters:

Current ISM Parameters:

TNS (100)
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (0)

Do you wish to change ISM parameters? (y/n/
[a]bort):

Do one of the following:

- Enter **n** <CR> (no change) and go to step 21 on [page 274](#).
- Enter **y** <CR> (change) and go to the next step (step 19 on [page 273](#)).
- Enter **a** <CR> (abort) to return to the Main Menu.

19 Select ISM parameters.

Example screen display in which the TN and Survivability ISM parameters have changed:

Enter new ISM parameters, <CR> to leave unchanged:

```
TNS (100) 200
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (0) 4
```

20 Confirm the ISM parameters.

Example screen display of the new ISM parameters:

New ISM parameters:

```
TNS (200)
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
```

```
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (4)
```

Is this correct? (y/n/[a]bort):

Do one of the following:

- Enter **n** <CR> (no) and go to step 18 on [page 272](#).
- Enter **y** <CR> (yes) and continue with step 21 on [page 274](#).
- Enter **a** <CR> (abort, return to Main Menu).

21 Define the Auxiliary Identification (AUX ID).

Note: The default AUX ID is either the security ID provided with the Meridian 1 Option 11C Cabinet. You must replace it with the previous Option 11 or Option 11E site ID.

Example screen display:

```
Security ID: xxxxxxxx
Current AUX ID: xxxxxxxx
Do you wish to change the AUX ID? (y/n/[a]bort)
```

Do one of the following:

- Enter **y** <CR> (yes) and continue with step 22 on [page 275](#).
- Enter **n** <CR> (no) and go to step 23 on [page 275](#).
- Enter **a** <CR> (abort, return to Main Menu).

22 Enter the AUX ID.

Example screen:

```
Enter the Option 11/11E Security ID for the new
AUX ID, <cr> to maintain.
```

```
New AUX ID: xxxxxxxx
```

```
Is this correct?
```

Do one of the following:

- Enter **y** <CR> (yes) and continue with step 23 on [page 275](#).
- Enter **n** <CR> (no) and go to step 21 on [page 274](#).
- Enter **a** <CR> (abort, return to Main Menu).

23 Review and confirm the information you entered.

The screen displays either the Software Upgrade Summary or the software release information to allow you to review and confirm data entered.

Example Software Upgrade Summary display:

```
Software Upgrade Summary:
Security ID: xxxxxxxx
Aux ID: xxxxxxxx
Added Pkgs: xxx - xxx
Database: Company.ABC
```

Example software release information display.

Note: The screen displays both the old and the new parameters.

```
S/W Release: 254xx
ISM Parameters:

TNS (200)
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
```

```
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (4)
```

Is this correct? (y/n/[a]bort):

Do one of the following:

- Enter **y** <CR> (yes) and continue with step 24 on [page 276](#).
- Enter **n** <CR> (no) and go to step 8 on [page 267](#).
- Enter **a** <CR> (abort, return to Main Menu)

24 Enter the keycodes.

Note: See “Keycode information” on [page 262](#) for important information on keycodes.

- a.** Enter keycodes instead of **x**, **y**, **z** shown in the following example.

Enter new Keycodes:

Key 1: **xxxxxxxx** <CR>

Key 2: **yyyyyyyy** <CR>

Key 3: **zzzzzzzz** <CR>

- b.** Look for the keycode validation message.

After you enter the last keycode, the system displays a message indicating whether the keycodes are successful or not. See the following message examples.

- i.** Example of a successful screen message:

Keycode validation successful

WARNING A system restart will be invoked as part of the software installation process.

ii. Example of an unsuccessful screen message:

Keycode validation unsuccessful

c. Do one of the following:

If	Then
The successful message appears	continue with the next step (step 25).
The unsuccessful message appears	repeat this step (step 24).

After three unsuccessful keycode validation attempts, the following message appears:

Keycode validation unsuccessful.

Installation aborted...returning to main menu.

25 Complete the software installation.

Example screen display:

Are you sure you wish to perform the installation?

Do one of the following:

- Enter **y** <CR> (yes). The Software Installation Program finishes.
- Enter **n** <CR> (no) and go to step 6 on [page 266](#).
- Enter **a** <CR> (abort, return to Main Menu).

26 Refer to the Software Input/Output Guides to complete customer database programming.

End of Procedure

Upgrading or installing software

Contents

This section contains information on the following topics:

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Introduction

This chapter describes how to upgrade the software on the Option 11C Main Cabinet, Option 11C Mini Chassis, or IP-based Option 11C/Option 11C Mini system to another release using the Software Installation Program. The Software Installation Program is the tool used to install, modify, or upgrade system software on a Small System Controller (SSC) card. This program is menu-driven and includes a Help facility to help you make correct selections.

IMPORTANT!

The main cabinet/chassis software must be installed or upgraded prior to the IP expansion cabinets/chassis. Ensure that the main cabinet/chassis installation or upgrade is complete and the main cabinet or chassis is up and running prior to loading the expansion cabinets/chassis.

Note: Expansion cabinets/chassis can be installed in any order.

The procedures in this chapter describe how to upgrade and install the software using a Software Daughterboard or a Software Delivery card (PC Card).

This chapter contains the following procedures:

- Procedure 30, “Identifying the type of Software Daughterboard installed in your system” on [page 287](#)
- Procedure 31, “Verifying and/or upgrading the Flash Boot ROM to support the NTTK13AA or NTTK25AA Software Daughterboard” on [page 288](#)
- Procedure 32, “Upgrading the NTDK21 or NTDK81 Software Daughterboard to the NTTK13AA or NTTK25AA” on [page 292](#)
- Procedure 33, “Upgrading the software using a Software Delivery card on the main cabinet or chassis” on [page 294](#)
- Procedure 34, “Verifying and/or upgrading the boot code on the SSC card in the IP expansion cabinet/chassis” on [page 306](#)

- Procedure 35, “Upgrading the software on the IP expansion cabinet/chassis using the Software Delivery card” on [page 310](#)
- Procedure 36, “Upgrading or reinstalling software on an active Small System using manual configuration” on [page 312](#)
- Procedure 37, “Upgrading or reinstalling software on an active Small System with survivable IP expansion cabinet(s)/chassis” on [page 314](#)
- Procedure 38, “Reverting to a previous release of software” on [page 316](#)
- Procedure 39, “Installing software for IP expansion, using the preprogrammed software daughterboard” on [page 319](#)
- Procedure 40, “Installing software for IP expansion, using the preprogrammed software daughterboard through the Utilities menu” on [page 321](#)
- Procedure 41, “Configuring IP settings with Expansion Cabinet Installation option” on [page 324](#)
- Procedure 42, “Configuring IP settings through the Utilities menu” on [page 326](#)

For the Meridian 1 Option 11C Cabinet and Meridian 1 Option 11C Chassis, see Procedure 30 through Procedure 33. These procedures describe how to upgrade the software on an existing Option 11C or Option 11C Mini to Release 25.30 or Succession 3.0 software.

Note: Prior to Release 25, Option 11C Mini systems do not support the SSC card.

For a Meridian 1 Option 11C Cabinet or Meridian 1 Option 11C Chassis with IP expansion, see Procedure 30 through Procedure 37 and Procedure 39 through Procedure 42:

- Procedure 30 through Procedure 35 describe how to upgrade the software on an existing Option 11C or Option 11C Mini with IP expansion cabinets/chassis to Succession 3.0 or later software.
- For the active Option 11C or Option 11C Mini with IP expansion cabinet(s)/chassis, refer to Procedure 36 or Procedure 37. These procedures describe how to upgrade/reinstall the software to Succession 3.0 or later software.
- For first-time software installation on IP expansion cabinets/chassis for a newly expanded Small System, refer to Procedure 39 through Procedure 42.

Note: A Succession 1000M Cabinet or Succession 1000M Chassis is a Meridian 1 Option 11C Cabinet or Meridian 1 Option 11C Chassis with a Succession Signaling Server in the network configuration. To install or upgrade the Succession Signaling Server software, refer to *Signaling Server: Installation and Configuration* (553-3001-212).

For the Meridian 1 Option 11C Cabinet and Meridian 1 Option 11C Chassis, Procedure 38 on [page 316](#) describes how to revert to the previous software version.

IMPORTANT!

To complete the upgrade, you must have a new Keycode Data Sheet and one of the following:

- Software Delivery card (PC Card)
- Software Daughterboard programmed with the new software release

Refer to the Keycode Data Sheet when you enter the ISM parameters, add packages, or change the AUX ID.

Keycode information

The Keycode Data Sheet provides the data you need to enter during the software installation.

If the keycodes are unsuccessful, check the following:

- software issue
- feature set name
- any additional packages
- TNs
- ISM parameters
- security ID
- auxiliary ID (the old site ID, if this is an upgrade)
- ensure the correct keycodes were entered. All items must match the Keycode Data Sheet exactly.

When performing a new system installation, ensure that the default AUX ID matches the AUX ID from the Keycode Data Sheet.

If the keycodes still are not successful, then call your Service Representative.

Summary of items required

You need the following items to perform software upgrades:

- Software Delivery card (PC Card) containing the new software, or a Software Daughterboard programmed in advance, or a blank PC Card and access to the Nortel Networks Electronic Software Distribution website to download the applicable software to your Software Daughterboard
- Keycode Data Sheet
- TTY terminal connected to port 0

Upgrading the software

This section gives a summary of the steps and the upgrade procedures.

Summary of steps

The following list reviews the steps you need to follow to upgrade from one software release to another:

- 1 Check, and if necessary, update the boot ROM code (see “Reason for updating the boot code” on [page 285](#)).

- 2 Check the capacity of the installed daughterboard.

Note: For Succession 3.0 software, the main cabinet or chassis must have a Small System Controller (SSC) card (vintage NTDK20EA or later). If you are upgrading from an Option 11C Mini with a Mini System Controller (MSC) card, you must first replace the MSC card with an SSC card (NTDK20EA or later). Refer to Procedure 11 on [page 172](#), step 3 through step 9, in the chapter on upgrading the Option 11C Mini for fiber expansion or Procedure 18 on [page 222](#), step 3 through step 21, in the chapter on upgrading the Option 11C Mini for IP expansion.

- 3 Install the Software Delivery card.
- 4 Call up the Software Installation Program.
- 5 Make any changes to the feature set.
- 6 Select a database.
- 7 Make any changes to the ISM parameters.
- 8 Validate the keycodes.
- 9 Load the software.

Reason for updating the boot code**WARNING**

Nortel Networks recommends that you upgrade the boot code to the latest release when you upgrade the software. The boot code is on the programmed PC Card.

The boot code on the existing Option 11C or Option 11C Mini SSC card must be NTDK34FA Release 07 or later to support the NTTK13AA or NTTK25AA Flash Daughterboard and Succession 3.0 or later features.

See Table 8 for the required software releases and the minimum releases of boot code.

Table 8**Required software releases and minimum releases of boot code (Part 1 of 2)**

Daughterboard/ Controller card	Software release	System	Minimum release of boot code
NTDK21AA	Release 22-23	Option 11C	Any
NTDK81AA	Release 23-24	Option 11C	NTDK34AA Rel 09 or higher (See note 2)
NTDK97AA	Release 24 only	Option 11C Mini	NTDK34FA Rel 03
NTDK97AB	Release 24-25 and later	Option 11C Mini	NTDK34FA Rel 07
NTDK97AC	Release 24-25 and later	Option 11C Mini	NTDK34FA Rel 07
NTTK13AA	Release 25	Option 11C	NTDK34FA Rel 07 or higher (See note 2)

Table 8
Required software releases and minimum releases of boot code (Part 2 of 2)

Daughterboard/ Controller card	Software release	System	Minimum release of boot code
NTTK25AA	Release 25.3 and later	Option 11C	NTDK34FA Rel 07 or higher
<p>Note 1: NTDK34FA also supports the NTDK81AA and the NTTK13AA.</p> <p>Note 2: The NTTK13AA daughterboard is backward compatible for use as a replacement for the NTDK81AA daughterboard.</p>			

Software Daughterboard compatibility

The following identifies the existing software daughterboards and the software releases with which they are compatible.

Table 9
Software daughterboard and software release

Software Daughterboard	Capacity	Introduced on	Compatible with
NTDK21AA	32 Mb	Release 22.08D	Release 22.08D - 23.55
NTDK81AA	40 Mb	Release 23.18	Release 22.18 - 24.24
NTTK13AA	48 Mb	Release 24.24	Release 24.24 and higher
NTTK25AA	48 Mb	Release 25.30	Release 25.30 and higher

Reason for checking Software Daughterboard capacity

For Succession 3.0 or later, your system must have a 32 Mb configuration for the program store and 16 Mb of C: drive flash. You must upgrade Option 11C systems that have the original NTDK21 or NTDK81 Software Daughterboard to the NTTK13AA or NTTK25AA daughterboard. The NTDK21 and NTDK81 were delivered on systems with Release 24 or earlier software.

When you upgrade to a new Software Daughterboard (NTTK13AA or NTTK25AA), follow Procedure 32 on [page 292](#). If you are not changing daughterboards, follow Procedure 33 on [page 294](#).

Upgrade procedures

The following procedures describe how to upgrade and install the software using a Software Daughterboard or a Software Delivery card (PC Card).

Procedure 30

Identifying the type of Software Daughterboard installed in your system

- 1 Check the existing program store.
 - a. Log in to the switch and access LD 135.
 - b. Type the following at the prompt:

stat mem

The output indicates the amount of program store available on the system.

If	Then
The output indicates that the program store size is 24 Mb	the system has an NTDK21. Refer to Procedure 31 on page 288 and Procedure 32 on page 292 to upgrade your Software Daughterboard.
The output indicates that the program store size is 32 Mb and the C: drive flash is 8 Mb	the system has an NTDK81. Refer to Procedure 31 on page 288 and Procedure 32 on page 292 to upgrade your Software Daughterboard.
The output indicates that the program store size is 32 Mb and the C: drive flash is 16 Mb	the system has an NTTK13AA or NTTK25AA. Go to Procedure 31 on page 288 and verify you have the correct Flash Boot ROM version.

End of Procedure

Procedure 31

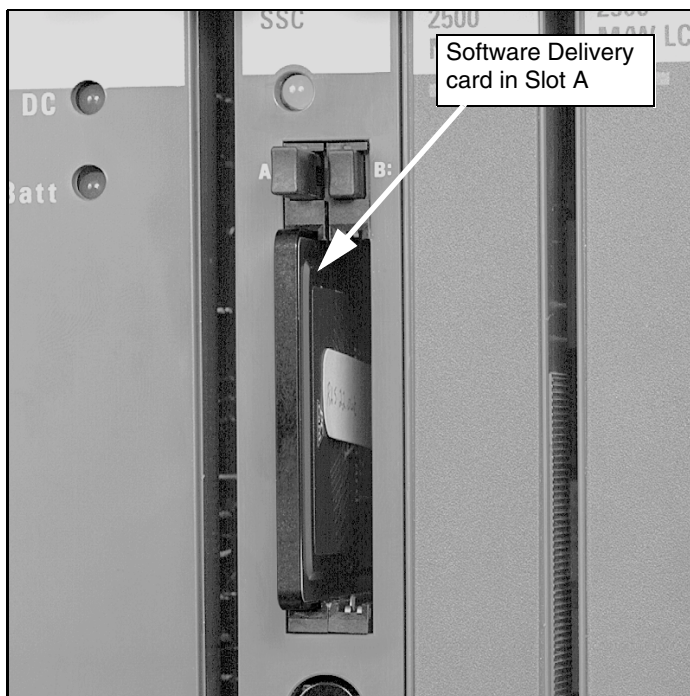
Verifying and/or upgrading the Flash Boot ROM to support the NTTK13AA or NTTK25AA Software Daughterboard

- 1 Insert the Software Delivery card for the required release of software in Slot A in the PC Card socket located in the NTDK20 SSC faceplate. See Table 10 on [page 291](#) for the required release of software.

See Figure 94 on [page 288](#) for the correct position.

Note: Carefully press on the PC Card until it seats tightly.

Figure 94
Software Delivery card



- 2** Call up the Software Installation Program using LD 143 and select the Utilities (item 3) option.

- a.** Issue the **UPGRADE** command in LD 143. Look for the following message:

Call Server/Main Cabinet Software Installation Main Menu:

```
1. New Install or Upgrade from Option 11/11E - From
Software DaughterBoard
2. System Upgrade
3. Utilities
4. New System Installation - From Software Delivery
Card
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr>-
redisplay
```

Enter Selection: **3**

- b.** If the screen displays the message, select item 3 and continue with step 3.
- c.** If the screen does not display the message, repeat step 2 (this step) and make sure you enter the correct information.

- 3** Select the Flash Boot ROM Utilities (item 7) from the **Utilities** menu.

The **Utilities** menu displays:

Utilities Menu:

```
1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities
[q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-
redisplay
```

Enter Selection: **7**

- 4 List Flash Boot ROM (item 1) from the **Flash Boot ROM Utilities** menu.

The **Flash Boot ROM Utilities** menu displays:

```
Flash Boot ROM Utilities Menu:
1. List Flash Boot ROM
2. Upgrade Flash Boot ROM
3. Restore Flash Boot ROM
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr>-
redisplay

Enter Selection: 1

Flash Boot ROM Summary:

Active -- NTDK34FA_r07
Backup -- NTDK34AA_r08
```

Note: It is possible that there will be no entry for the Backup boot ROM.

- 5 Verify your Flash Boot ROM code output from step 4 with the software you are loading.

Use Table 10 on [page 291](#) to determine if you have to update your boot code.

If	Then
Your boot code is current	this procedure is at an end. Continue with Procedure 32 on page 292 .
You must update your boot code	go to step 6.

**WARNING**

The Software Delivery card shows the boot code version required for the software you are loading. The boot code release must be the minimum required version listed in Table 10, or higher. If the release number is lower, you cannot upgrade. Check the Software Delivery card for authenticity.

If the release number and boot code version on the Software Delivery card is greater than the active version shown, perform the upgrade.

If the release number and boot code version on the Software Delivery card is less than the active version shown, do not perform the upgrade.

Table 10
Minimum boot code requirements for the Software Release

Software you are loading	Minimum boot code required
Pre-Release 23	Any
Release 23	NTDK34AA Release 09
Release 24	NTDK34FA Release 03
Release 25	NTDK34FA Release 07

All versions of boot code are backwards compatible.

- 6 Upgrade the Flash Boot ROM (item 2) and select yes to perform the upgrade.

The **Flash Boot ROM Utilities** menu displays:

```
Flash Boot ROM Utilities Menu:
1. List Flash Boot ROM
2. Upgrade Flash Boot ROM
3. Restore Flash Boot ROM
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr>-
redisplay

Enter Selection: 2

Are you sure you wish to perform the Flash Boot ROM
Upgrade/Restore (y/n/[a]bort): Y

Upgrading Active FLash Boot ROM to NTDK34FA_r07

System Restart required to activate Flash Boot ROM
Upgrade.
```

- 7 Restart the system to activate the Flash Boot ROM upgrade.

Go to Procedure 32 on [page 292](#) to upgrade the Software Daughterboard.

End of Procedure

Procedure 32

Upgrading the NTDK21 or NTDK81 Software Daughterboard to the NTTK13AA or NTTK25AA

If you already have an NTTK13AA or NTTK25AA daughterboard and you have upgraded your Flash Boot ROM, go to Procedure 33 on [page 294](#).

- 1 Change the Software Daughterboard.

Note: Prior to Release 25, Option 11C Mini systems do not support the SSC card.

- a. Power down the system.
- b. Remove the NTDK20 SSC card.
- c. Remove the NTDK21 or NTDK81 daughterboard from the SSC card and replace it with the NTTK13AA or NTTK25AA.

- d. Install the NTDK20 SSC card in slot 0 of the main cabinet or chassis.
 - e. Power up the system.
- 2 From the Software Installation Program main menu, do the following:
 - a. From the Main Menu, select "New System Installation - From Software DaughterBoard" (item 1).
 - b. Go to step 5 on [page 293](#) if the Installation menu appears.

The card appears on the Install menu if the target software came programmed in advance on a new Software Daughterboard (NTSKxxAJ or higher).
- 3 If the system has an NTTK13AA or NTTK25AA blank daughterboard, insert the Software Delivery card with Succession 3.0 or later software into Slot A of the SSC card. Proceed with step 4 on [page 293](#).
- 4 From the Main Menu, select "New System Installation - From Software Delivery Card" (item 4).
- 5 Continue with the Installation menu selections as described for a new system installation in the software installation chapter in *Small System: Installation and Configuration (553-3011-210)*. When prompted for the selection of database, select "Basic Configuration" (item 2).

**WARNING**

It is important that you select "Basic Configuration" at this point. If you do not, the system can start an EDD after loading the new software and overwrite the customer data stored on the CPU.

- 6 After you install the software and reboot the system, you must restore the customer's backup configuration files.
 - a. Log in and load LD 143 to access the Main Menu.
 - b. Select "Utilities" (item 3).
 - c. Select "Restore" (item 1).
 - d. Select "Backup Flash Drive" (item 1).

- e. Confirm "Restore Database from the Backup Flash Drive."
- f. Reboot the system by powering down and up.

End of Procedure

Procedure 33

Upgrading the software using a Software Delivery card on the main cabinet or chassis

Note: This procedure requires that the NTTK13AA or NTTK25AA Software Daughterboard is on the SSC card. To check that you have installed the NTTK13AA or NTTK25AA, see Procedure 30 on [page 287](#).

- 1 Perform a datadump (EDD).
 - a. Load LD 43 or 143.
 - b. Enter command **EDD**.
- 2 Disable all DCHs in LD 60.
- 3 Disable any AML links in LD 48.
- 4 Insert the Software Delivery card in Slot A in the PC Card socket. Locate the PC Card socket in the faceplate of the SSC card.

See Figure 94 on [page 288](#) for the correct position.

Note: Carefully press on the PC Card until it seats tightly.

5 Select the method of starting the Software Installation Program.**CAUTION — Service Interruption**

Please read this important message on software upgrades.

There are two methods of starting the Software Installation Program:

- **UPGRADE** method: Log in to the system and select LD 143. Type **UPGRADE** to access the Software Installation Program.
- **SYSLOAD** method: Toggle the power supply to OFF and then to ON. During the reboot, press **Ctrl+I** to access the Software Installation Program.

You cannot use the **UPGRADE** command to upgrade correctly from Release 22 to 23; 22 to 24; or 23 to 24. The **SYSLOAD** method must be used.

If	Then
You are using the UPGRADE command in LD 143	go to next step (step 6).
You are using the SYSLOAD method (by pressing Ctrl+I when prompted during a SYSLOAD)	go to step 7 on page 296 .

6 Log in to the system.

- a. Type **LOGI** and press **<CR>**.

PASS? displays.

- b. Respond to prompt.

Note: The response to PASS? is distinct in each system. The following response is an example only.

```
PASS?  
0000 <CR>  
LD 143 <CR>  
UPGRADE <CR>
```

- c. Go to step 8 on [page 297](#).

7 Call up the Software Installation Program during a SYSLOAD.

During SYSLOAD, the following prompt appears:

```
FIVE SECONDS TO ENTER CONTROL-I TO INVOKE SOFTWARE  
INSTALLATION PROGRAM
```

Press and hold 'control' key and press 'I'.

Note: Perform this step when starting the Software Installation Program during a SYSLOAD. To start the program using LD 143, ignore this step and do step 6 on [page 296](#) instead.

For a Cabinet system, start a system reload (SYSLOAD) by setting the circuit breaker on the front of the power supply to OFF then to ON.

For a Chassis system, start a system reload (SYSLOAD) by turning the power switch located on the inside front panel to OFF and then to ON.

Note: A software upgrade can take from 20 to 30 minutes.

8 Select System Upgrade (item 2) from the Main Menu.

The Main Menu options are displayed:

```
Call Server/Main Cabinet Software Installation Main
Menu:
```

1. New Install or Upgrade from Option 11/11E - From Software DaughterBoard
2. System Upgrade
3. Utilities

```
4. New System Installation - From Software Delivery
Card
```

```
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr> -
redisplay
```

```
Enter Selection: 2
```

9 Select the Option 11C New Software Upgrade (item 2) from the Select type of upgrade to be performed menu.

The **Select type of upgrade to be performed** menu is displayed:

```
Select type of upgrade to be performed:
```

1. Option 11/11E to Option 11C
2. Option 11C New Software Upgrade
3. Option 11C Feature/Parameter Upgrade

```
Enter Selection: 2
```

```
Does this System have a Signaling Server? (y/n):
```

```
*** NOTE: The following prompts require information
on the Keycode Data Sheet.
```

```
Please have it available. ***
```

10 Select the feature set to enable.

Example screen display for the **Select the Feature Set You Wish to Enable** menu is as follows:

```
Select Feature Set You Wish to Enable:
1. General Business (ntskxxxx)
2. Enhanced Business (ntskxxxx)
3. Enterprise Business (ntskxxxx)
4. NAS/VNS (ntskxxx)
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr> -
redisplay

Enter Selection: 2

Feature Set Selection: Enhanced Business
```

Note: The feature set you select is provided with your keycode information.

11 Select the packages you want to add, if any.

Example screen display for adding packages is as follows:

```
Do you wish to add packages? (y/n/[a]bort): Y

Summary of packages
0-2 4-5 7-14 16-21 ...

Enter additional packages: <cr> to continue
100 <CR>

Your feature set is Enhanced Business:
Additional packages selected:
100

Summary of packages:
0-2 4-5 7-14 16-21 100 ...

Is this correct? (y/n/[a]bort): Y
```

12 Select a database using the PC Card.

Note: If you are installing from a preprogrammed Software Daughterboard, refer to Procedure 32, step 5 on [page 293](#) for instructions on database selection.

Select database to Install:

1. Pre-Configured database - Enhanced Services
 2. Basic Configuration
 3. Archived Database
- [q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> redisplay

Enter Selection: **3**

If you selected "Archived Database" (item 3), continue with step 13.
If you selected items 1 or 2, go to step 14 on [page 299](#).

13 Select an archived database.

The terminal screen displays the available archived databases. The following are examples only.

Archived Database available:

1. Company ABC
 2. XYZ.Offices
 3. Green.Packaging
- [q]uit, [m]ain menu, [p]revious menu, <cr> -
redisplay

14 Review ISM parameters.

The ISM parameters displayed on the terminal screen are the default settings connected with the feature set selection. You can accept these settings without changes, or change them to meet the requirements of the system.

Example screen display for ISM parameters:

Current ISM Parameters:

TNS (100)
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)

```
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (0)

Do you wish to change ISM parameters? (y/n/
[a]bort):
```

Do one of the following:

- Enter **n** <CR> (no change) and go to step 17 on [page 302](#).
- Enter **y** <CR> (change) and continue with the next step (step 15).

15 Select ISM parameters.

Example screen display in which the TN and Survivability ISM parameters have changed:

```
Enter new ISM parameters, <CR> to leave unchanged:

TNS (100) 200
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
```



```
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (0) 4
```

16 Confirm the ISM parameters.

Example screen display of the new ISM parameters:

New ISM parameters:

```
TNS (200)
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (4)
```

Is this correct? (y/n/[a]bort): **y**

Do one of the following:

- Enter **n** <CR> (no) and go to step 14 on [page 299](#).
- Enter **y** <CR> (yes) and continue with step 17 on [page 302](#).
- Enter **a** <CR> (abort, return to Main Menu).

17 Define the Auxiliary Identification (AUX ID).

The default AUX ID is either the security ID provided with the Small System, or the original Option 11C, Option 11C Mini, or Option 11/11E site ID.

Note 1: The AUX ID is on your Keycode Data Sheet. The AUX ID must match either the security ID (Meridian 1 Option 11C Cabinet, Succession 1000M Cabinet, Meridian 1 Option 11C Chassis, or Succession 1000M Chassis) or the original site ID (Option 11C, Option 11C Mini, Option 11, or Option 11E).

Note 2: For the Option 11C Mini, the Security ID and the Current AUX ID numbers are always the same.

Example screen display:

```
Security ID: 10000326
Current AUX ID: 10000326
Do you wish to change the AUX ID? (y/n/[a]bort)
```

Do one of the following:

- Enter **y** <CR> (yes) and continue with step 18 on [page 302](#).
- Enter **n** <CR> (no) and go to step 19 on [page 303](#).
- Enter **a** <CR> (abort, return to Main Menu).

18 Enter the AUX ID.

Example screen:

```
Enter the Option 11/11E Security ID for the new AUX
ID, <cr> to maintain.

New AUX ID: 12121212

Is this correct?
```

Do one of the following:

- Enter **y** <**CR**> (yes) and continue with step 19 on [page 303](#).
- Enter **n** <**CR**> (no) and go to step 17 on [page 302](#).
- Enter **a** <**CR**> (abort, return to Main Menu).

19 Review and confirm the information you entered.

Example screen display:

```
Software Upgrade Summary:
Security ID: 10000326
Aux ID: 12121212
Cabinet Type: MAIN
Feature Set: Enhanced Business
Additional Pkgs: none
Database: Pre-Configured Database - Enhanced Business

S/W Release: 254xx
ISM Parameters:

TNS (200)
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (4)
```

Is this correct? (y/n/[a]bort):

Do one of the following:

- Enter **y** <CR> (yes) and continue with step 20 on [page 304](#).
- Enter **n** <CR> (no) and return to step 10 on [page 298](#).
- Enter **a** <CR> (abort, return to Main Menu)

20 Enter the keycodes.

Note: See “Keycode information” on [page 283](#) for important information on keycodes.

- a.** Enter keycodes instead of **x**, **y**, **z** in the following example.

Enter new Keycodes:

Key 1: **xxxxxxxx** <CR>

Key 2: **yyyyyyyy** <CR>

Key 3: **zzzzzzzz** <CR>

- b.** Look for the keycode validation message.

After you enter the last keycode, the system displays a message indicating whether the keycodes are successful or not. See the following message examples.

- i.** Example of a successful screen message:

Keycode validation successful

WARNING A system restart will be invoked as part of the software installation process.

- ii.** Example of an unsuccessful screen message:

Keycode validation unsuccessful

- c.** Do one of the following:

If	Then
The successful message appears	continue with the next step (step 21).
The unsuccessful message appears	repeat this step (step 20).

After three unsuccessful keycode validation attempts, the following message appears:

```
Keycode validation unsuccessful.
```

```
Installation aborted...returning to main menu.
```

21 Complete the software installation.

Example screen display:

```
Are you sure you wish to perform the installation?
```

Do one of the following:

- Enter **y** <**CR**> (yes). This procedure is at an end and a system restart is required.
- Enter **n** <**CR**> (no) and make the necessary changes to your installation.
- Enter **a** <**CR**> (abort).

End of Procedure

Upgrade software on the IP expansion cabinet or chassis

The procedures detailed in this section are specific for upgrading the software on IP expansion cabinet(s) or chassis. The procedures are as follows:

- Procedure 34, “Verifying and/or upgrading the boot code on the SSC card in the IP expansion cabinet/chassis” on [page 306](#).
- Procedure 35, “Upgrading the software on the IP expansion cabinet/chassis using the Software Delivery card” on [page 310](#).
- Procedure 36, “Upgrading or reinstalling software on an active Small System using manual configuration” on [page 312](#).
- Procedure 37, “Reverting to a previous release of software” on [page 316](#).

In addition, this section contains the following procedures for installing software on IP expansion cabinet(s) or chassis:

- Procedure 39, “Installing software for IP expansion, using the preprogrammed software daughterboard” on [page 319](#)

- Procedure 40, “Installing software for IP expansion, using the preprogrammed software daughterboard through the Utilities menu” on [page 321](#)
- Procedure 41, “Configuring IP settings with Expansion Cabinet Installation option” on [page 324](#)
- Procedure 42, “Configuring IP settings through the Utilities menu” on [page 326](#)

Procedure 34

Verifying and/or upgrading the boot code on the SSC card in the IP expansion cabinet/chassis

Note: This procedure is performed from a TTY connected to the IP expansion cabinet or chassis.

- 1 Call up the Software Installation Program during a SYSLOAD.

During SYSLOAD, the following prompt appears:

```
FIVE SECONDS TO ENTER CONTROL-I TO INVOKE SOFTWARE  
INSTALLATION PROGRAM
```

Press and hold 'control' key and press 'I'.

Note: Perform this step when starting the Software Installation Program during a SYSLOAD. To start the program using LD 143, ignore this step and do Procedure 33, step 6 on [page 296](#) instead.

For a Cabinet system, start a system reload (SYSLOAD) by setting the circuit breaker on the front of the power supply to OFF then to ON.

For a Chassis system, start a system reload (SYSLOAD) by turning the power switch located on the inside front panel to OFF and then to ON.

- 2 Select `Expansion Cabinet Installation` from the **Expansion Cabinet Software Installation Main Menu**.

The **Expansion Cabinet Software Installation** menu is displayed:

```
SOFTWARE INSTALLATION PROGRAM
*****
Verify
IP Expansion Cabinet Security ID: xxxxxxxx
Main Cabinet Security ID: xxxxxxxx
*****

Expansion Cabinet Software Installation Main Menu:
1. Expansion Cabinet Installation - From Software
   Delivery Card
2. Utilities
3. Expansion Cabinet Installation - From Software
   DaughterBoard
[q]uit, [h]elp or [?], <cr> - redisplay

Enter Selection: 2
```

- 3** Select the Flash Boot ROM Utilities (item 7) from the **Utilities** menu.

The **Utilities** menu options are listed:

```
Utilities Menu:

1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities
[q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-
redisplay

Enter Selection: 7
```

- 4 List Flash Boot ROM (item 1) from the **Flash Boot ROM Utilities** menu.

The **Flash Boot ROM Utilities** menu displays:

```
Flash Boot ROM Utilities Menu:
1. List Flash Boot ROM
2. Upgrade Flash Boot ROM
3. Restore Flash Boot ROM
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr>-
redisplay

Enter Selection: 1

Flash Boot ROM Summary:

Active -- NTDK34FA_r07
Backup -- NTDK34AA_r08
```

Note: It is possible that there is nothing in the Backup boot ROM. However, the Software Delivery card shows the version that Table 10 gives or a higher release number. If the release number is lower, you cannot upgrade. Check the Software Delivery card for authenticity.

- 5 Verify your Flash Boot ROM code output from step 4 with the software you are loading.

Use Table 11 on page 309 to determine if you have to update your boot code. If your boot code is current, this procedure is at an end. Continue with Procedure 35 on [page 310](#).



WARNING

If the release number and boot code version on the Software Delivery card is greater than the active version shown, perform the upgrade.

If the release number and boot code version on the Software Delivery card is less than the active version shown, do not perform the upgrade.

Table 11
Minimum boot code requirements for the software release

Software you are loading	Minimum boot code required
Release 25.4	NTDK34FA Release 07

Note: All versions of boot code are backwards-compatible.

- 6** Upgrade the Flash Boot ROM (item 2) and select yes to perform the upgrade.

The **Flash Boot ROM Utilities** menu displays:

Flash Boot ROM Utilities Menu:

1. List Flash Boot ROM

2. Upgrade Flash Boot ROM

3. Restore Flash Boot ROM

[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr>-
redisplay

Enter Selection: **2**

Are you sure you wish to perform the Flash Boot ROM
Upgrade/Restore (y/n/[a]bort): **Y**

Upgrading Active FLaSH Boot ROM to NTDK34FA_r07

System Restart required to activate Flash Boot ROM
Upgrade.

- 7** Restart the system to activate the Flash Boot ROM upgrade.

Go to Procedure 35 on [page 310](#) to upgrade the Software
Daughterboard.

End of Procedure

Procedure 35

Upgrading the software on the IP expansion cabinet/chassis using the Software Delivery card

Note: This procedure is performed from a TTY connected to the IP expansion cabinet/chassis.

- 1 Call up the Software Installation Program during a SYSLOAD.

During SYSLOAD, the following prompt appears:

```
FIVE SECONDS TO ENTER CONTROL-I TO INVOKE SOFTWARE
INSTALLATION PROGRAM
```

Press and hold 'control' key and press 'I'.

Note: Perform this step when starting the Software Installation Program during a SYSLOAD. To start the program using LD 143, ignore this step and do Procedure 33, step 6 on [page 296](#) instead.

For a Cabinet system, start a system reload (SYSLOAD) by setting the circuit breaker on the front of the power supply to OFF then to ON.

For a Chassis system, start a system reload (SYSLOAD) by turning the power switch located on the inside front panel to OFF and then to ON.

- 2 Select "Expansion Cabinet Installation" from the **Expansion Cabinet Software Installation Main Menu**.

The **Expansion Cabinet Software Installation** menu is displayed:

```
SOFTWARE INSTALLATION PROGRAM
*****
Verify
IP Expansion Cabinet Security ID: xxxxxxxx
Main Cabinet Security ID: xxxxxxxx
*****

Expansion Cabinet Software Installation Main Menu:
1. Expansion Cabinet Installation - From Software
   Delivery Card
2. Utilities
3. Expansion Cabinet Installation - From Software
   DaughterBoard
[q]uit, [h]elp or [?], <cr> - redisplay

Enter Selection: 1

Do you wish to do IP configuration? (y/n/{a}bort): y
```

- 3** Select the IP configuration method from the **IP Configuration** menu.

The **IP Configuration** menu is displayed:

```
IP Configuration Menu:
1. Automatically Using BootP
2. Using Manual Configuration
3. Keep Existing Configuration
[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay

Enter Selection:
```

IMPORTANT!

BootP is a broadcast message used for IP address discovery.

- For Point-to-Point installation, you must select option 1.
- For Layer 2 LAN installation, the recommended selection is option 1.
- For Layer 3 LAN installation, you must select option 2.

Do one of the following:

- Enter **1** to configure the IP expansion cabinet/chassis automatically using BootP. Continue with step 4 in this procedure.
 - Enter **2** to configure the IP expansion cabinet/chassis using manual configuration. Go to Procedure 36, step 3 on [page 313](#).
- 4** The software installation is completed automatically without user intervention.
- 5** Refer to LD 117 in *Software Input/Output: Maintenance (553-3001-511)* to configure the IP expansion cabinet/chassis IP address.

End of Procedure

Procedure 36

Upgrading or reinstalling software on an active Small System using manual configuration

Note: This procedure is performed from a TTY connected to the IP expansion cabinet/chassis.

- 1 Call up the Software Installation Program during a SYSLOAD.

During SYSLOAD, the following prompt appears:

```
FIVE SECONDS TO ENTER CONTROL-I TO INVOKE SOFTWARE
INSTALLATION PROGRAM
```

Press and hold 'control' key and press 'I'.

Note: Perform this step when starting the Software Installation Program during a SYSLOAD. To start the program using LD 143, ignore this step and do Procedure 33, step 6 on [page 296](#) instead.

For a Cabinet system, start a system reload (SYSLOAD) by setting the circuit breaker on the front of the power supply to OFF then to ON.

For a Chassis system, start a system reload (SYSLOAD) by turning the power switch located on the inside front panel to OFF and then to ON.

- 2 Select Expansion Cabinet Installation from the **Expansion Cabinet Software Installation Main Menu**.

The **Expansion Cabinet Software Installation** menu is displayed:

```
SOFTWARE INSTALLATION PROGRAM
*****
Verify
IP Expansion Cabinet Security ID: xxxxxxxx
Main Cabinet Security ID: xxxxxxxx
*****

Expansion Cabinet Software Installation Main Menu:
1. Expansion Cabinet Installation - From Software
   Delivery Card
2. Utilities
3. Expansion Cabinet Installation - From Software
   DaughterBoard
[q]uit, [h]elp or [?], <cr> - redisplay

Enter Selection: 1

Do you wish to do IP configuration? (y/n/{a}bort): y
```

- 3 Select Manual Configuration (item 2) from the IP expansion cabinet configuration menu.

The **IP Configuration** menu is displayed:

```
IP Configuration Menu:
1. Automatically Using BootP
2. Using Manual Configuration
3. Keep Existing Configuration
[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay
```

```
Enter Selection: 2
```

- 4 Configure IP Expansion Parameters.

For the following menu example, sample IP parameters will be used, as follows:

IP address of the expansion cabinet/chassis 100BaseT(F):

47.147.20.101

Subnet Mask of the expansion cabinet/chassis 100BaseT(F):

255.255.255.0

Gateway address: 47.147.20.1

IP address of the main cabinet/chassis 100BaseT(F): 47.147.10.100

The IP Parameters menu is displayed:

```
Enter Expansion New IP Parameters:
```

```
Expansion IP: 47.147.20.101
```

```
Expansion NetMask: 255.255.255.0
```

```
Main IP: 47.147.10.100
```

```
Expansion Router/Gateway: 47.147.20.1
```

```
Is this correct? (t/n/[a]bort): Y
```

Note: "Expansion Router/Gateway" appears only in a Layer 3 configuration.

- 5 The software installation is completed automatically without user intervention.
- 6 Refer to LD 117 in *Software Input/Output: Maintenance (553-3001-511)* to configure the IP expansion cabinet/chassis IP address.

End of Procedure

Procedure 37

Upgrading or reinstalling software on an active Small System with survivable IP expansion cabinet(s)/chassis

Note: This procedure is recommended to minimize service disruption on an active switch.

- 1 Force all IP expansion cabinet(s)/chassis configured for Survivability to operate in survival mode.
 - a. Log in to the main cabinet or chassis and access LD 135.
 - b. Type the following at the prompt:

SOTS n

The IP expansion cabinet(s)/chassis will reboot and restart in survival mode.
- 2 Complete Procedure 33 on [page 294](#) and reboot the Small System main cabinet or chassis.
- 3 Complete Procedure 35 on [page 310](#) for the IP expansion cabinet(s)/chassis.

Note: The IP expansion cabinets/chassis configured for Survivability will reboot in survival mode.
- 4 Force all IP expansion cabinet(s)/chassis configured for Survivability back into normal mode.
 - a. Log in to the main cabinet or chassis and access LD 135.
 - b. Type the following at the prompt:

SBFS n

The IP expansion cabinet(s)/chassis will reboot and restart in normal mode.

End of Procedure

Revert to the previous release of software

The following procedures describe how to revert to the previous release of software, feature set, customer data, and ISM parameters using the Undo Installation option.

For an upgrade that was done using a PC Card

You can revert a Small System to its previous Small System or Option 11C/Option 11C Mini database. You must install and use the same Software Delivery card (PC Card) that you used to upgrade the Small System or Option 11C/Option 11C Mini.

You cannot use a PC Card used to upgrade a later Small System or Option 11C/Option 11C Mini. The Security ID no longer matches the original system.

Note: When you upgrade a system, it saves (backs up) the existing system's database on the PC Card. The card contains only the backed-up database and Security ID of the last Small System or Option 11C/Option 11C Mini you used it with.

Summary of steps

This list reviews the steps you follow to revert to the previous database:

- 1 Make sure you install the correct Software Delivery card (PC Card).
- 2 Select the **Utilities** menu.
- 3 Select the `Undo Installation` option.
- 4 Revert to the previous database.

Procedure 38

Reverting to a previous release of software

- 1 Install the PC Card.
 - a. Locate Slot A in the PC Card socket in the faceplate of the NTDK20 SSC card.
 - b. Carefully press on the PC Card until it seats tightly.

Note: The PC Card must be the same one that you used to upgrade this Small System or Option 11C/Option 11C Mini. You cannot use a PC Card used to upgrade a later Small System or Option 11C/Option 11C Mini. The Security ID no longer matches the original system and the “undo” function cannot work.

- 2 Select the method of starting the Software Installation Program.

There are two methods of starting the Software Installation Program:

- Use the **UPGRADE** command in LD 143. Continue to step 3.
- Press **Ctrl+I** when prompted during a SYSLOAD (go to step 5 on [page 317](#)).

- 3 Log in to the system.

- a. Type **LOGI** and press **<CR>**.

PASS? displays.

- b. Respond to prompt.

Note: The response to PASS? is distinct in each system. The response shown below is an example only.

```
PASS?  
0000 <CR>  
LD 143 <CR>  
UPGRADE <CR>
```

- c. Look for the following message:

SOFTWARE INSTALLATION PROGRAM

If	Then
The message displays	go to step 5 on page 317 .
The message does not display	repeat step 3 on page 316 and make sure you enter correct information.

4 Start system reload (SYSLOAD).

For a Cabinet system, set the circuit breaker on the front of the power supply to OFF and then to ON. For a Chassis system, turn the power switch located on the inside front panel to OFF and then to ON.

The following prompt appears:

```
FIVE SECONDS TO ENTER CONTROL-I TO INVOKE SOFTWARE
INSTALLATION PROGRAM
```

Press and hold 'control' key and press 'I'.

5 Select Utilities from the Main Menu.

Screen display:

```
SOFTWARE INSTALLATION PROGRAM
```

```
*****
```

```
Verify Security ID: xxxxxxxx
```

```
*****
```

```
Call Server/Main Cabinet Software Installation Main
Menu:
```

1. New Install or Upgrade from Option 11/11E - From Software DaughterBoard
2. System Upgrade
3. Utilities
4. New System Installation - From Software Delivery Card

```
[q]uit, [h]elp or [?], <cr> redisplay
```

```
Enter Selection:
```

Sample selection:

```
3 <CR> (Utilities)
```

6 Select item 6 from the **Utilities** menu.

Screen display:

Utilities Menu:

1. Restore backed Up database
2. Archive Database Utilities
3. Install Archived database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages.
10. IP FPGA Utilities

[q]uit, [p]revious, [m]ain, [h]elp [?], <cr>
redisplay

Enter Selection:

Sample selection:

6 <CR> (Undo Installation)

7 Screen display:

*** WARNING *** A system restart will be invoked as
part of the Undo Installation process.

Are you sure you wish to undo the installation?

Do one of the following:

- Enter **y** <CR> (yes). Procedure is at an end.
- Enter **n** <CR> (no) and go to step 6 on [page 318](#).
- Enter **a** <CR> (abort)

8 Complete the software installation.

End of Procedure

Software installation on the IP expansion cabinet or chassis using the preprogrammed software daughterboard

Point-to-Point or Layer 2 with BootP configuration

For Point-to-Point or Layer 2 with BootP configuration, you do not need a TTY connected to the IP expansion cabinet or chassis. Power up the system, and the software installs automatically.

Layer 2 or Layer 3 with manual configuration

Follow Procedure 39 to install software using a TTY connected to the IP expansion cabinet or chassis.

Procedure 39

Installing software for IP expansion, using the preprogrammed software daughterboard

Note: This procedure is performed from a TTY connected to the IP expansion cabinet/chassis.

- 1 Power up the system, and the following menu appears:

```
SOFTWARE INSTALLATION PROGRAM
*****
Verify
IP Expansion Cabinet Security ID: xxxxxxxx
Main Cabinet Security ID: xxxxxxxx
*****

Expansion Cabinet Software Installation Main Menu:
1. Expansion Cabinet Installation - From Software
   Delivery Card
2. Utilities
3. Expansion Cabinet Installation - From Software
   DaughterBoard

[q]uit, [h]elp or [?], <cr> - redisplay
```

Enter Selection:



WARNING

If there is no input within two minutes, the system will attempt automatic configuration using BootP. A carriage return will disable this timer and leave you in the menu.

Enter Selection: **3**

Do you wish to do IP configuration? (y/n/[a]bort): **y**

- 2** Select Manual Configuration (item 2) from the **IP Configuration** menu.

IMPORTANT!

BootP is a broadcast message used for IP address discovery.

- For Point-to-Point installation, you must select option 1.
- For Layer 2 LAN installation, the recommended selection is option 1.
- For Layer 3 LAN installation, you must select option 2.

The **IP Configuration** menu is displayed:

IP Configuration Menu:

1. Automatically Using BootP
 2. Using Manual Configuration
 3. Keep Existing Configuration
- [q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay

Enter Selection: **2**

- 3** Configure IP Expansion Parameters.

For the following menu example, sample IP parameters will be used, as follows:

IP address of the expansion cabinet/chassis 100BaseT(F):
 47.147.20.101
 Subnet Mask of the expansion cabinet/chassis 100BaseT(F):
 255.255.255.0
 Gateway address: 47.147.20.1
 IP address of the main cabinet/chassis 100BaseT(F): 47.147.10.100

The IP Parameters menu is displayed:

```
Enter Expansion New IP Parameters:
Expansion IP: 47.147.20.101
Expansion NetMask: 255.255.255.0
Main IP: 47.147.10.100

Expansion Router/Gateway: 47.147.20.1

Is this correct? (y/n/[a]bort): y
```

Note: "Expansion Router/Gateway" appears only in a Layer 3 configuration.

- 4 The software installation is completed automatically without user intervention.
- 5 Refer to LD 117 in *Software Input/Output: Maintenance (553-3001-511)* to configure the IP expansion cabinet/chassis IP address.

End of Procedure

Procedure 40

Installing software for IP expansion, using the preprogrammed software daughterboard through the Utilities menu

- 1 Power up the system, and the following menu appears:

```
SOFTWARE INSTALLATION PROGRAM
*****
Verify
IP Expansion Cabinet Security ID: xxxxxxxx
Main Cabinet Security ID: xxxxxxxx
*****

Expansion Cabinet Software Installation Main Menu:
1. Expansion Cabinet Installation - From Software
   Delivery Card
2. Utilities
```

3. Expansion Cabinet Installation - From Software DaughterBoard

[q]uit, [h]elp or [?], <cr> - redisplay

Enter Selection:



WARNING

If there is no input within two minutes, the system will attempt automatic configuration using BootP. A carriage return will disable this timer and leave you in the menu.

Enter Selection: **2**

2 Select IP Configuration from the **Utilities menu.**

Utilities Menu:

1. IP Configuration (L3)
2. Review Upgrade Information
3. Clear Upgrade Information
4. Undo Installation
5. Flash Boot ROM Utilities
6. Current Installation Summary
7. IP FPGA Utilities

[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay

Enter Selection: **1**

3 Enter **y to confirm IP configuration.**

Do you wish to do IP configuration? (y/n/[a]bort): **y**

4 Select the desired method from the **IP Configuration menu displayed.**

IP Configuration Menu:

1. Automatically Using BootP
2. Using Manual Configuration
3. Keep Existing Configuration

[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay

Enter Selection: **2**

5 Configure IP Expansion Parameters.

For the following menu example, sample IP parameters will be used, as follows:

IP address of the expansion cabinet/chassis 100BaseT(F):

47.147.20.101

Subnet Mask of the expansion cabinet/chassis 100BaseT(F):

255.255.255.0

Gateway address: 47.147.20.1

IP address of the main cabinet/chassis 100BaseT(F): 47.147.10.100

The IP Parameters menu is displayed:

```
Enter Expansion New IP Parameters:
```

```
Expansion IP: 47.147.20.101
```

```
Expansion NetMask: 255.255.255.0
```

```
Main IP: 47.147.10.100
```

```
Expansion Router/Gateway: 47.147.20.1
```

```
Is this correct? (y/n/[a]bort): y
```

Note: "Expansion Router/Gateway" appears only in a Layer 3 configuration.

- 6 The software installation is completed automatically without user intervention.
- 7 Refer to LD 117 in *Software Input/Output: Maintenance (553-3001-511)* to configure the IP expansion cabinet/chassis IP address.

End of Procedure

Entering IP Configuration Menu through Expansion Cabinet Installation - From Software Delivery Card option

With a TTY connected to an IP expansion cabinet/chassis, you can use one of the following procedures to configure IP settings.

Procedure 41

Configuring IP settings with Expansion Cabinet Installation option

- 1 Insert the Software Delivery card for the required release of software in Slot A in the PC Card socket located in the NTDK20 SSC faceplate.
- 2 Power up the system, and the following menu appears:

```
SOFTWARE INSTALLATION PROGRAM
*****
Verify
IP Expansion Cabinet Security ID: xxxxxxxxx
Main Cabinet Security ID: xxxxxxxxx
*****

Expansion Cabinet Software Installation Main Menu:
1. Expansion Cabinet Installation - From Software
   Delivery Card
2. Utilities
3. Expansion Cabinet Installation - From Software
   DaughterBoard

[q]uit, [h]elp or [?], <cr> - redisplay

Enter Selection: 1
```

- 3 Enter **y** to confirm IP configuration.

```
Do you wish to do IP configuration? (y/n/[a]bort): y
```

- 4 Select the desired method from the **IP Configuration** menu displayed.

```
IP Configuration Menu:
1. Automatically Using BootP
2. Using Manual Configuration
3. Keep Existing Configuration
[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay

Enter Selection: 2
```


5 Configure IP Expansion Parameters.

For the following menu example, sample IP parameters will be used, as follows:

IP address of the expansion cabinet/chassis 100BaseT(F):

47.147.20.101

Subnet Mask of the expansion cabinet/chassis 100BaseT(F):

255.255.255.0

Gateway address: 47.147.20.1

IP address of the main cabinet/chassis 100BaseT(F): 47.147.10.100

The IP Parameters menu is displayed:

```
Enter Expansion New IP Parameters:
```

```
Expansion IP: 47.147.20.101
```

```
Expansion NetMask: 255.255.255.0
```

```
Main IP: 47.147.10.100
```

```
Expansion Router/Gateway: 47.147.20.1
```

```
Is this correct? (y/n/[a]bort): Y
```

Note: "Expansion Router/Gateway" appears only in a Layer 3 configuration.

- 6** The software installation is completed automatically without user intervention.
- 7** Refer to LD 117 in *Software Input/Output: Maintenance (553-3001-511)* to configure the IP expansion cabinet/chassis IP address.

End of Procedure

Procedure 42

Configuring IP settings through the Utilities menu

- 1 Insert the Software Delivery card for the required release of software in Slot A in the PC Card socket located in the NTDK20 SSC faceplate.

- 2 Power up the system, and the following menu appears:

```
SOFTWARE INSTALLATION PROGRAM
*****
Verify
IP Expansion Cabinet Security ID: xxxxxxxxx
Main Cabinet Security ID: xxxxxxxxx
*****

Expansion Cabinet Software Installation Main Menu:
1. Expansion Cabinet Installation - From Software
   Delivery Card
2. Utilities
3. Expansion Cabinet Installation - From Software
   DaughterBoard

[q]uit, [h]elp or [?], <cr> - redisplay

Enter Selection: 2
```

- 3 Select IP Configuration from the **Utilities** menu.

```
Utilities Menu:

1. IP Configuration (L3)
2. Review Upgrade Information
3. Clear Upgrade Information
4. Undo Installation
5. Flash Boot ROM Utilities
6. Current Installation Summary
7. IP FPGA Utilities
[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay

Enter Selection: 1
```

- 4 Enter **y** to confirm IP configuration.

```
Do you wish to do IP configuration? (y/n/[a]bort): y
```

5 Select the desired method from the IP Configuration menu displayed.

IP Configuration Menu:

```
1. Automatically Using BootP
2. Using Manual Configuration
3. Keep Existing Configuration
[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay
```

Enter Selection: **2**

6 Configure IP Expansion Parameters.

For the following menu example, sample IP parameters will be used, as follows:

IP address of the expansion cabinet/chassis 100BaseT(F):

47.147.20.101

Subnet Mask of the expansion cabinet/chassis 100BaseT(F):

255.255.255.0

Gateway address: 47.147.20.1

IP address of the main cabinet/chassis 100BaseT(F): 47.147.10.100

The IP Parameters menu is displayed:

Enter Expansion New IP Parameters:

Expansion IP: **47.147.20.101**

Expansion NetMask: **255.255.255.0**

Main IP: **47.147.10.100**

Expansion Router/Gateway: **47.147.20.1**

Is this correct? (y/n/[a]bort): **Y**

Note: "Expansion Router/Gateway" appears only in a Layer 3 configuration.

7 The software installation is completed automatically without user intervention.**8 Refer to LD 117 in *Software Input/Output: Maintenance (553-3001-511)* to configure the IP expansion cabinet/chassis IP address.**

End of Procedure

Overview of upgrading to Succession 3.0 Software

Contents

This section contains information on the following topics:

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Choosing a scenario	339
Migration and cutover options	339
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Introduction

The focus of the Succession 3.0 Software upgrade procedures is upgrading Meridian 1 Internet-enabled systems. (See “Terminology” on [page 331](#) for an explanation of “Internet-enabled”.) The scenarios and procedures described in this chapter and in “Succession 3.0 Software upgrade procedures” on [page 349](#) do not apply for upgrades to Meridian 1 systems that are not Internet-enabled to any degree.

In general, there are three types of upgrade that can be performed on Meridian 1 Internet-enabled systems:

- 1 Software and system
- 2 Software only
- 3 System only

Table 12 shows how the types of upgrade relate to current and desired configurations.

Table 12
Types of upgrade of Meridian 1 Internet-enabled systems

Type	Upgrade from this configuration...		To this configuration	
	System	Software	System	Software
Software and system	Meridian 1	X11 25.40 or earlier	Succession 1000M	Succession 3.0
Software only	Meridian 1	X11 25.40 or earlier	no change	Succession 3.0
System only	Meridian 1	Succession 3.0	Succession 1000M	no change
<p>Note 1: Within the upgrade scenarios, some procedures apply to Meridian 1 systems with IP Line, others to IP Trunk.</p> <p>Note 2: To complete a system-only upgrade, you must first complete a software-only upgrade.</p> <p>Note 3: Meridian 1 systems without IP Line or IP Trunk should be treated as software-only upgrades. In these cases, a subsequent system-only upgrade should be treated as a new installation of IP Line and IP Peer Networking.</p>				

There are many scenarios for each type of upgrade. This chapter first presents important information on terminology and specifications, and then proceeds to describe and compare the scenarios in terms of overall approach. The detailed procedures for each scenario are presented in the next chapter.

IMPORTANT!

- The scenarios contain many of the same procedures, but the sequence is different. It is very important to follow the order of the steps provided in the respective scenarios.
- The decision about which type of upgrade to perform and which scenario to follow depends on a number of considerations. Make sure that you read this entire chapter and fully understand it before you decide on an upgrade scenario.

Terminology

The following terms are used in this document:

- **Internet-enabled.** Refers to a Meridian 1 system that is equipped with:
 - IP Line only
 - IP Trunk only
 - both IP Line and IP Trunk

Note: The system is not equipped with a Succession Signaling Server.

- **System upgrade.** Refers to upgrading a Meridian 1 Internet-enabled system (Option 11C, Option 11C Mini) to Succession 3.0 Software with a Succession Signaling Server (Succession 1000M Cabinet, Succession 1000M Chassis).
- **Software upgrade.** Refers to any of the following:
 - upgrading any Meridian 1 system to Succession 3.0 Software
 - upgrading the ITG Trunk 2.xx application software (also known as loadware) to IP Trunk 3.01
 - upgrading the IP Line 2.20 or 3.00 software (also known as loadware) to IP Line 3.10

- **Network upgrade.** Refers to upgrading systems and software across a private IP Telephony network in a coordinated way to minimize cost, service interruption, or both. In general, this must be done gradually, system by system.
- **Migration.** Refers to migrating IP Trunk 3.0 nodes from a node-based dialing plan that is managed through Optivity Telephony Manager (OTM) to a Gatekeeper-resolved Network Numbering Plan that is centrally managed through Element Manager. Migration denotes a gradual, low-risk, system-by-system reconfiguration and testing of the UDP and CDP dialing plans, Network Numbering Plan, and network routing.
- **Cutover.** Refers to reconfiguring and cutting over an upgraded Succession 1000M system from using IP Trunks to using IP Peer Virtual Trunks. If a large IP Trunk 3.0 network has been completely migrated to using the Gatekeeper-resolved Network Numbering Plan, then cutover to using IP Peer Virtual Trunks can proceed gradually, system by system, with low risk of service interruption.
- **Coordinated cutover.** For small networks (for example, 2 to 4 systems) it may be practical to coordinate the simultaneous cutover of all systems from using IP Trunks with node-based dialing plans to using the IP Peer Virtual Trunks and Gatekeeper-resolved Network Numbering Plan *in the same maintenance window*. In this case the IP Trunk migration procedures are eliminated.
- **Conversion.** Refers to converting unused IP Trunk cards to Voice Gateway Media Cards.
- **IP Line.** Refers to a software application that allows an Internet Telephone to be connected to a Meridian 1, Succession 1000, or Succession 1000M. It also provides echo cancellation, and compresses and packetizes voice for transmission over an IP data network. The IP Line application runs on the Meridian 1 and Succession Call Server, Succession Signaling Server, and Voice Gateway Media Cards. On the Voice Gateway Media Card, it provides two independent services:
 - UNISlim Line Terminal Proxy Server (LTPS) at system level
 - Voice Gateway (VGW) media ports at customer level

- **IP Trunk.** Refers to the ISDN-Signaling IP Trunk 3.01 application that enables calls in a private telephony network to travel over the converged enterprise IP network. The IP Trunk application runs on Succession Media Cards or ITG-Pentium (ITG-P) cards that are grouped in IP Trunk nodes hosted by Meridian 1 Internet-enabled or upgraded Succession 1000M systems.

The IP Trunks appear to the Succession Call Server as ISDN Signaling Link (ISL) trunks. MCDN features are supported over IP Trunks, but the Call Servers do not process the H.323 network signaling protocol directly and do not interact with the control signaling for the IP telephony media path. IP Trunk cards have dedicated media ports that are used for all calls.

- **IP Peer Virtual Trunk.** Refers to a software application that supports virtual IP trunks. On Succession 1000M and Succession 1000 systems, IP Peer Virtual Trunk software runs on the Succession Call Server and Signaling Server.

The IP Peer Virtual Trunks appear to the Call Server as an H.323 protocol trunk route. The Succession Call Server supports MCDN features and the H.323 protocol over IP Peer Virtual Trunks, including control signaling for the IP telephony media path. This enables end-to-end direct media path connections between Internet Telephones and Voice Gateway media ports over IP Peer Virtual Trunks.

IP Peer Virtual Trunks are called “virtual” because Voice Gateway (VGW) media ports, located on Voice Gateway Media Cards, are allocated to IP Peer Virtual Trunks per call as needed. VGW media ports are customer-level resources that are shared by IP Lines and IP Peer Virtual Trunks.

Hardware and software specifications

Table 13 lists the software components required to upgrade to Succession 3.0 Software.

Note: The information in Table 13 was valid as of date of publication. However, before you begin the upgrade, check the latest General Release Bulletin, Product Bulletins, and the Nortel Networks Software Download website to confirm that you have the latest versions. In particular, if your upgrade package was shipped some weeks before you begin to perform the upgrade, check the Nortel Networks Software Download website, in case there has been a maintenance up-issue in the interim.

Table 13
Succession 3.0 Software (Part 1 of 2)

Item	Version
Succession Call Server	X21 Release 3.00V
Succession Signaling Server (see note below)	SSE 2.10.80
IP Line application (see note below)	IPL 3.10.80
IP Trunk application	IPT 3.01
Optivity Telephony Manager	OTM 2.10
Voice Gateway Media Card firmware (8051XA Controller)	6.7 for Succession Media Card 5.7 for ITG-P card
i2002 Internet Telephone firmware (see note below)	1.59

Table 13
Succession 3.0 Software (Part 2 of 2)

Item	Version
i2004 Internet Telephone firmware (see note below)	1.59
i2050 Software Telephone	v338
Web browser	Microsoft Internet Explorer v.6.0.2600 or later Other web browsers (such as Netscape Navigator) are <i>not supported</i> .
Note: The Succession Signaling Server IP Line Terminal Proxy Server (LTPS), Gatekeeper, H.323 Gateway, Element Manager, IP Line loadware, and Internet Telephone firmware are contained on the Succession Signaling Server CD-ROM.	

Stand-alone Gatekeepers

You can install stand-alone Succession 1000 Gatekeepers for Network Numbering Plan resolution to simplify network management for IP Trunk 3.00 and BCM 3.01 networking in large, complex networks.

Prior to upgrading any Meridian 1 Internet-enabled system to Succession 3.0 Software with IP Peer Networking, you can order duplicate sets of the NTDU27CB Succession Signaling Server hardware/software package and power cord, in order to install a Primary and an Alternate stand-alone Gatekeeper for centralized management of the Network Numbering Plan for the IP Trunk 3.00 and BCM 3.01 network.

Collocated stand-alone Gatekeepers can be configured later as Succession Signaling Servers when the systems are upgraded to Succession 3.0 Software, with co-resident Gatekeeper, IP Peer Virtual Trunks, and LTPS for IP Line 3.10.

Trunk Route Optimization and Trunk Anti-Tromboning

Prior to Succession 3.0 Software, network call modification and redirection (such as call transfer and call forwarding) causes tandem IP Trunk 3.01 connections that degrade voice quality. Succession 3.0 Software introduces important improvements to Trunk Route Optimization (TRO) and Trunk

Anti-Tromboning (TAT), which you should implement to avoid tandem IP Trunk connections.

IP Trunk 3.01 introduces an important improvement to Trunk Anti-Tromboning (TAT), which complements the operation of TRO to further reduce voice quality degradation due to tandem IP Trunk 3.01 connections.

Surplus equipment

The D-Channel PC Card from the IP Trunk node and its cabling is not required after IP Trunk cards have been converted to Voice Gateway Media cards. This may be kept as a spare for nodes still running IP Trunk or ITG Trunk applications.

The SDI/DCH card D-Channel port is no longer used. This may free up the card slot for the SDI/DCH card unless other SDI ports on the card are in use.

Technical support

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

If you purchased a Nortel Networks service program, contact one of the following Nortel Networks Technical Solutions Centers.

Table 14
Customer Technical Services (CTS) (Part 1 of 2)

Location	Contact
Nortel Networks Global Networks Technical Support (GNTS) PO Box 833858 2370 Performance Drive Richardson, TX 75083 USA	North America Telephone: 1 800 4NORTEL
Nortel Networks Corp. (CTS North America) P.O. Box 4000 250 Sydney Street Belleville, Ontario K8N 5B7 Canada	North America Telephone: 1 800 4NORTEL
Nortel Service Center - EMEA	EMEA Telephone: 00 800 8008 9009 or +44 (0)870 907 9009 E-mail: emeahelp@nortelnetworks.com
Nortel Networks 1500 Concord Terrace Sunrise, Florida 33323 USA	Brazil Telephone: 5519 3705 7600 E-mail: entcts@nortelnetworks.com English Caribbean Telephone: 1 800 4NORTEL Spanish Caribbean Telephone: 1 954 858 7777 Latin America Telephone: 5255 5480 2170

Table 14
Customer Technical Services (CTS) (Part 2 of 2)

Location	Contact
Network Technical Support (NTS)	<p>Asia Pacific Telephone: +61 28 870 8800</p> <p>Australia Telephone: 1800NORTEL (1800 667835) or +61 2 8870 8800 E-mail: asia_support@nortelnetworks.com</p> <p>People's Republic of China Telephone: 800 810 5000 E-mail: chinatsc@nortelnetworks.com</p> <p>Japan Telephone: 010 6510 7770 E-mail: supportj@nortelnetworks.com</p> <p>Hong Kong Telephone: 800 96 4199 E-mail: chinatsc@nortelnetworks.com</p> <p>Taiwan Telephone: 0800 810 500 E-mail: chinatsc@nortelnetworks.com</p> <p>Indonesia Telephone: 0018 036 1004</p> <p>Malaysia Telephone: 1 800 805 380</p> <p>New Zealand Telephone: 0 800 449 716</p> <p>Philippines Telephone: 1 800 1611 0063 or 632 917 4420</p> <p>Singapore Telephone: 800 616 2004</p> <p>South Korea Telephone: 0079 8611 2001</p> <p>Thailand: Telephone: 001 800 611 3007</p>

Choosing a scenario

The decision as to which scenario to follow will depend on your system and circumstances. The primary difference between the scenarios is whether and when:

- you migrate the IP Trunk nodes to a Gatekeeper-resolved Network Numbering Plan
- you cut over the upgraded system from using IP Trunks to IP Peer Virtual Trunks

After considering the information provided in “Migration and cutover options” on [page 339](#) and “Additional considerations” on [page 342](#), choose the upgrade scenario that best suits your organization.

The scenarios presented in these two chapters are not exhaustive. They are intended to cover the most common situations and the most likely desired configurations. After studying the scenarios, you may decide to contact Nortel Networks for assistance with the upgrade, migration, and conversion procedures. See “Technical support” on [page 336](#).

Migration and cutover options

There are three ways to approach migrating the IP Trunks and cutting over to IP Peer Virtual Trunks:

- pre-upgrade migration followed by gradual cutover
- post-upgrade migration followed by gradual cutover
- coordinated cutover without migration

Table 15 describes the three methods and explains the differences between them.

Table 15
Comparison of upgrade, migration, and cutover methods (Part 1 of 2)

Pre-upgrade migration	Post-upgrade migration	Coordinated cutover
<p>You can migrate a large Meridian 1 Internet-enabled IP Trunk 3.01 network to use Succession Signaling Servers configured as stand-alone Gatekeepers in order to take advantage of a simplified, centrally managed Network Numbering Plan in advance of the first Meridian 1 Internet-enabled system upgrade to Succession 1000M.</p>	<p>You can begin to upgrade Meridian 1 Internet-enabled systems one by one to Succession 1000M in a large IP Trunk 3.0 network that is still using the IP Trunk node-based dialing plans.</p> <p>Note: Upgraded systems must continue to use the IP Trunks until you have migrated the IP Trunk 3.01 network to use co-resident or stand-alone Gatekeepers.</p>	<p>For a small network of Meridian 1 Internet-enabled systems with IP Trunk (for example, 2–4 systems), and with sufficient planning, technician resources, and length of maintenance window for IP Trunk service interruption, you may choose to skip the procedures to migrate the IP Trunk network. (You will still need to transfer or duplicate the IP Trunk node-based dialing plans to the Gatekeeper-resolved Network Numbering Plan, but you don't migrate the IP Trunks to actually use that numbering plan.)</p>

Table 15
Comparison of upgrade, migration, and cutover methods (Part 2 of 2)

Pre-upgrade migration	Post-upgrade migration	Coordinated cutover
<p>After the IP Trunk 3.01 network migration is complete, you can upgrade the Meridian 1 Internet-enabled systems one by one to Succession 1000M and immediately reconfigure and cut over each upgraded system to use the IP Peer Virtual Trunks and Gatekeeper-resolved Network Numbering Plan.</p> <p>The Succession Signaling Servers configured as stand-alone Gatekeepers can be reconfigured as co-resident Gatekeepers for upgraded Succession 1000M systems.</p>	<p>After you have upgraded the first two Meridian 1 Internet-enabled systems to Succession 1000M with Primary and Alternate Gatekeepers, you can start to migrate a large IP Trunk 3.01 network to use the Succession Signaling Server Gatekeepers to resolve the Network Numbering Plan. However, <i>only after the IP Trunk 3.01 network migration is complete</i> can you begin to reconfigure and cut over the systems one by one to use the IP Peer Virtual Trunks.</p>	<p>Upgrade the Meridian 1 Internet-enabled systems one by one to Succession 1000M. Continue to use IP Trunks with node-based dialing plans. Configure Primary and Alternate Gatekeepers with IP Peer Gateway endpoints and Network Numbering Plan. Verify registration of all IP Peer Trunk Gateways with the Gatekeeper. Finally, in a single maintenance window, simultaneously reconfigure and cut over all the upgraded Succession 1000M systems to use the IP Peer Virtual Trunks and Gatekeeper-resolved Network Numbering Plan. Thoroughly test the UDP and CDP dialing plans and Gatekeeper-resolved Network Numbering Plan.</p>
<p>You can immediately convert the unused IP Trunk cards in the upgraded systems to Voice Gateway Media Cards.</p>	<p>You must wait to convert the unused IP Trunk cards to Voice Gateway Media Cards until you have completed the IP Trunk 3.01 network migration and reconfigured the upgraded system to use the IP Peer Virtual Trunks.</p>	<p>You can immediately convert the unused IP Trunk cards in the upgraded systems to Voice Gateway Media Cards.</p>

Additional considerations

A critical consideration is whether the IP Trunk nodes use local node-based dialing plans or whether the entire IP Trunk network was initially configured, or has been migrated, to use a Succession Signaling Server Gatekeeper to resolve the Network Numbering Plan into Call Signaling IP addresses for the H.323 endpoints, including IP Trunk and BCM.

When planning upgrades to Succession 1000M for an existing network of Meridian 1 Internet-enabled systems that are networked using IP Trunk (i.e., ISDN-signaling IP trunks), you must consider:

- the size of the network
- the complexity of the dialing plan
- the complexity of the Network Numbering Plan
- the complexity of the public and private trunk routing
- IP Trunk interoperation with BCM systems in the network

You must also consider:

- schedule and budget
- tolerance for temporary service interruption of the IP Trunk network
- the logistics and availability of technicians to simultaneously reconfigure and cut over multiple upgraded systems to use a Gatekeeper-resolved Network Numbering Plan

If it is not practical to reconfigure and cut over all the upgraded systems simultaneously to use IP Peer Virtual Trunks, choose either a pre- or post-upgrade migration scenario. Separating the migration, upgrade, and cutover elements of the process allows you to adopt a phased approach that maintains uninterrupted service of the IP Trunk network while the Meridian 1 Internet-enabled systems are gradually upgraded to Succession 1000M systems.

For a smaller network of Meridian 1 Internet-enabled systems (for example, 2 to 4 systems) using the node-based IP Trunk dialing plans, it may be practical to upgrade all systems, one by one, to Succession 1000M with IP Trunk, and then simultaneously reconfigure and cut over all the upgraded

systems to use IP Peer Networking Virtual IP Trunks within a single maintenance window. In this case you can choose a coordinated cutover scenario.

If you have already completed the migration of a large network of IP Trunk 3.0 and BCM 3.01 nodes (using any of the migration scenarios), you no longer need to consider migration when upgrading any additional Meridian 1 Internet-enabled systems to Succession 1000M. In these post-migration cases, you can choose a gradual, system-by-system cutover scenario, to immediately reconfigure and cut over each upgraded system to use the IP Peer Virtual Trunks and Gatekeeper-resolved Network Numbering Plan.



WARNING

- 1 Succession 3.0 Software (Call Server 3.00V, Signaling Server 2.10.80, IP Line 3.10.80) is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 3.0 within a single system.
- 2 Prior to cutting over any upgraded Succession 1000M system belonging to a large IP Trunk network to use IP Peer Virtual Trunks:
 - a. All ITG Trunk nodes in the network must be upgraded to run IP Trunk release 3.01 and migrated to use the Gatekeeper-resolved Network Numbering Plan.
 - b. BCM systems using IP trunks must be upgraded to Release 3.01 and migrated to use the Gatekeeper-resolved Network Numbering Plan.

Failure to upgrade and migrate all nodes to IP Trunk 3.01 and BCM Release 3.01 using the Gatekeeper will isolate the non-upgraded nodes in the network from the nodes using Gatekeeper for Network Numbering Plan resolution.
- 3 Software releases prior to IP Trunk 3.00 and BCM 3.01 do not interoperate with the Succession 3.0 Gatekeeper and therefore cannot support calls to and from the Succession 3.0 system using the IP Peer Virtual IP trunks.
- 4 IP Trunk 3.00 interoperates with the Succession 3.0 Gatekeeper and IP Peer Virtual IP trunk Gateways, and also with the ITG Trunk 2.xx and BCM 2.50 and 3.00 nodes in the network, because IP Trunk 3.xx supports dual methods of resolving destinations by:
 - a. node-based dialing plan resolution for interoperation with ITG Trunk 2.xx nodes, BCM 2.50 and 3.00, and IP Trunk 3.00 nodes (if desired — for example, for Network QoS Fallback to PSTN)
 - b. the Succession 3.0 Gatekeeper Network Numbering Plan resolution for interoperation with IP Peer Gateways, IP Trunk 3.00, and BCM 3.01.

Upgrade scenarios

Table 16 lists the upgrade scenarios. See “Succession 3.0 Software upgrade procedures” on [page 349](#) for details about the tasks and procedures for each scenario.

Table 16
Upgrade scenarios (Part 1 of 4)

Scenario	Description	General tasks
Software and system upgrades		
1	<p>Software and system upgrade using the pre-upgrade migration method.</p> <p>Refer to “Scenario 1: Software and system (pre-upgrade migration)” on page 352 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Install the stand-alone Succession Signaling Server at two sites and configure Primary and Alternate Gatekeepers to avoid a single point of failure. 2 Migrate the entire IP Trunk 3.0 network and an associated BCM network to use the Gatekeeper-resolved Network Numbering Plan. 3 Later, upgrade the Succession Call Server to Succession 3.0 Software, and simultaneously upgrade IP Line node to IP Line 3.1. 4 Cut over the upgraded Succession 1000M system to use IP Peer Virtual Trunks.

Table 16
Upgrade scenarios (Part 2 of 4)

Scenario	Description	General tasks
2	<p>Software and system upgrade using the post-upgrade migration method.</p> <p>Refer to “Scenario 2: Software and system (post-upgrade migration)” on page 353 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade two or more Meridian 1 Internet-enabled systems to Succession 1000M systems and simultaneously upgrade IP Line node to IP Line 3.10. Continue to use IP Trunks with local node-based dialing plan. 2 Configure Primary and Alternate Gatekeepers to avoid a single point of failure. 3 Migrate the entire IP Trunk 3.01 network to use the Gatekeeper-resolved Network Numbering Plan. 4 Cut over the upgraded Succession 1000M systems to use IP Peer Virtual Trunks.
3	<p>Software and system upgrade using the coordinated cutover method.</p> <p>Refer to “Scenario 3: Software and system (coordinated cutover)” on page 354 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade all Meridian 1 Internet-enabled systems to Succession 1000M. Continue to use IP Trunks with local node-based dialing plan. 2 Coordinate the simultaneous cutover of all the upgraded Succession 1000M systems to use IP Peer Virtual Trunks and the Gatekeeper-resolved Network Numbering Plan.
4	<p>Software and system upgrade of Meridian 1 systems equipped with IP Line only.</p> <p>Refer to “Scenario 4: Software and system (IP Line only)” on page 355 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade the Meridian 1 Internet-enabled system to Succession 1000M system and simultaneously upgrade IP Line node to IP Line 3.10.

Table 16
Upgrade scenarios (Part 3 of 4)

Scenario	Description	General tasks
Software-only upgrades		
5	<p>Software-only upgrade to Succession 3.0 Software.</p> <p>Refer to “Scenario 5: Software only” on page 355 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade the OTM application. 2 Upgrade the IP Line application. 3 Upgrade the system software to Succession 3.0 Software. 4 Configure IP Telephony Node. 5 Upgrade the IP Trunk application.
System-only upgrades		
6	<p>System-only upgrade of a system whose IP Trunk 3.01 network has previously been migrated.</p> <p>Refer to “Scenario 6: System only (post-migration)” on page 356 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Install Succession Signaling Servers on the Succession 3.0 system that is being upgraded to Succession 1000M. 2 Perform keycode expansion on the Succession Call Server to expand the system limit for IP Peer Virtual Trunks. 3 Cut over the upgraded Succession 1000M system to use IP Peer Virtual Trunks.
7	<p>System-only upgrade using the post-upgrade migration method.</p> <p>Refer to “Scenario 7: System only (post-upgrade migration)” on page 356 for the detailed list of tasks and procedures.</p>	<ol style="list-style-type: none"> 1 Upgrade one or more Meridian 1 Succession 3.0 Software systems to Succession 1000M by adding one or more Succession Signaling Servers. 2 Perform keycode expansion on the Succession Call Server to expand the system limit for IP Peer Virtual Trunks. 3 Migrate the entire IP Trunk 3.0 network to use the Gatekeeper-resolved Network Numbering Plan. 4 Cut over the upgraded Succession 1000M system to use IP Peer Virtual Trunks.

Table 16
Upgrade scenarios (Part 4 of 4)

Scenario	Description	General tasks
8	<p>System-only upgrade using the coordinated cutover method.</p> <p>Refer to “Scenario 8: System only (coordinated cutover)” on page 357 for the detailed list of tasks and procedures.</p>	<p>1 Upgrade one or more Meridian 1 Succession 3.0 Software systems to Succession 1000M by adding one or more Succession Signaling Servers.</p> <p>2 Configure the upgraded Succession 1000M systems to use IP Peer Virtual Trunks and Gatekeeper-resolved Network Numbering Plan.</p>
9	<p>System-only upgrade of Meridian 1 systems equipped with IP Line only.</p> <p>Refer to “Scenario 9: System only (IP Line only)” on page 358 for the detailed list of tasks and procedures.</p>	<p>1 Upgrade one or more Meridian 1 Succession 3.0 Software systems to Succession 1000M by adding one or more Succession Signaling Servers.</p>

Succession 3.0 Software upgrade procedures

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Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager	421

Upgrade scenarios

The sequence in which the procedures must be performed depends on the upgrade scenario you are following. Refer to “Overview of upgrading to Succession 3.0 Software” on [page 329](#) for important information you must consider before choosing a scenario.

Table 17 lists the upgrade scenarios.

Table 17
Upgrade scenarios

Scenario	Description
1	Software and system upgrade using the pre-upgrade migration method. Refer to “Scenario 1: Software and system (pre-upgrade migration)” on page 352 for the detailed list of tasks and procedures.
2	Software and system upgrade using the post-upgrade migration method. Refer to “Scenario 2: Software and system (post-upgrade migration)” on page 353 for the detailed list of tasks and procedures.
3	Software and system upgrade using the coordinated cutover method. Refer to “Scenario 3: Software and system (coordinated cutover)” on page 354 for the detailed list of tasks and procedures.
4	Software and system upgrade of Meridian 1 systems equipped with IP Line only. Refer to “Scenario 4: Software and system (IP Line only)” on page 355 for the detailed list of tasks and procedures.
5	Software-only upgrade to Succession 3.0 Software. Refer to “Scenario 5: Software only” on page 355 for the detailed list of tasks and procedures.
6	System-only upgrade of a Succession 3.0 Software system whose IP Trunk 3.01 network has previously been migrated. Refer to “Scenario 6: System only (post-migration)” on page 356 for the detailed list of tasks and procedures.
7	System-only upgrade using the post-upgrade migration method. Refer to “Scenario 7: System only (post-upgrade migration)” on page 356 for the detailed list of tasks and procedures.
8	System-only upgrade using the coordinated cutover method. Refer to “Scenario 8: System only (coordinated cutover)” on page 357 for the detailed list of tasks and procedures.
9	System-only upgrade of Meridian 1 systems equipped with IP Line only. Refer to “Scenario 9: System only (IP Line only)” on page 358 for the detailed list of tasks and procedures.

List of procedures

This section provides a list of the procedures for each scenario. The procedures must be performed in the order given.

Scenario 1: Software and system (pre-upgrade migration)

To upgrade a Meridian 1 Internet-enabled system to Succession 1000M using the pre-upgrade migration method, perform the following procedures in the order given:

- 1 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 2 “Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 392](#)
- 3 “Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 397](#)
- 4 “Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan” on [page 402](#)
- 5 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10” on [page 362](#)
- 6 “Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on [page 367](#)
- 7 “Configuring the Succession Call Server to enable Element Manager” on [page 370](#)
- 8 “Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software” on [page 372](#)
- 9 “Upgrading the firmware on Voice Gateway Media Cards” on [page 374](#)
- 10 “Creating the IP Telephony node in Element Manager” on [page 380](#)
- 11 “Configuring OTM to launch Element Manager” on [page 386](#)
- 12 “Configuring IP Peer Virtual Trunks on the Succession Call Server” on [page 388](#)
- 13 “Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks” on [page 409](#)

- 14 “Converting unused IP Trunk cards to Voice Gateway Media cards” on [page 416](#)
- 15 “Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager” on [page 421](#)

Scenario 2: Software and system (post-upgrade migration)

To upgrade a Meridian 1 Internet-enabled system to Succession 1000M using the post-upgrade migration method, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10” on [page 362](#)
- 2 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 3 “Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on [page 367](#)
- 4 “Configuring the Succession Call Server to enable Element Manager” on [page 370](#)
- 5 “Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software” on [page 372](#)
- 6 “Upgrading the firmware on Voice Gateway Media Cards” on [page 374](#)
- 7 “Creating the IP Telephony node in Element Manager” on [page 380](#)
- 8 “Configuring OTM to launch Element Manager” on [page 386](#)
- 9 “Configuring IP Peer Virtual Trunks on the Succession Call Server” on [page 388](#)
- 10 “Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 392](#)
- 11 “Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 397](#)
- 12 “Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan” on [page 402](#)
- 13 “Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks” on [page 409](#)

- 14 “Converting unused IP Trunk cards to Voice Gateway Media cards” on [page 416](#)
- 15 “Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager” on [page 421](#)

Scenario 3: Software and system (coordinated cutover)

To upgrade a Meridian 1 Internet-enabled system to Succession 1000M using the coordinated cutover method, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10” on [page 362](#)
- 2 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 3 “Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on [page 367](#)
- 4 “Configuring the Succession Call Server to enable Element Manager” on [page 370](#)
- 5 “Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software” on [page 372](#)
- 6 “Upgrading the firmware on Voice Gateway Media Cards” on [page 374](#)
- 7 “Creating the IP Telephony node in Element Manager” on [page 380](#)
- 8 “Configuring OTM to launch Element Manager” on [page 386](#)
- 9 “Configuring IP Peer Virtual Trunks on the Succession Call Server” on [page 388](#)
- 10 “Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks” on [page 409](#)
- 11 “Converting unused IP Trunk cards to Voice Gateway Media cards” on [page 416](#)
- 12 “Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager” on [page 421](#)

Scenario 4: Software and system (IP Line only)

To upgrade a Meridian 1 Internet-enabled system equipped with IP Line only to Succession 1000M, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10” on [page 362](#)
- 2 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 3 “Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on [page 367](#)
- 4 “Configuring the Succession Call Server to enable Element Manager” on [page 370](#)
- 5 “Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software” on [page 372](#)
- 6 “Upgrading the firmware on Voice Gateway Media Cards” on [page 374](#)
- 7 “Creating the IP Telephony node in Element Manager” on [page 380](#)
- 8 “Configuring OTM to launch Element Manager” on [page 386](#)

Scenario 5: Software only

To upgrade a Meridian 1 Internet-enabled system to Succession 3.0 Software, perform the following procedures in the order given:

- 1 “Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10” on [page 362](#)
- 2 “Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on [page 367](#)
- 3 “Configuring the Succession Call Server to enable Element Manager” on [page 370](#)
- 4 “Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software” on [page 372](#)
- 5 “Upgrading the firmware on Voice Gateway Media Cards” on [page 374](#)

- 6 “Configuring IP Telephony node using OTM 2.10” on [page 378](#)
- 7 “Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 3.01 using OTM 2.10” on [page 378](#)

Scenario 6: System only (post-migration)

To upgrade a previously migrated Meridian 1 Succession 3.0 system to Succession 1000M, perform the following procedures in the order given:

- 1 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 2 “Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks” on [page 379](#)
- 3 “Creating the IP Telephony node in Element Manager” on [page 380](#) “Configuring OTM to launch Element Manager” on [page 386](#)
- 4 “Configuring OTM to launch Element Manager” on [page 386](#)
- 5 “Configuring IP Peer Virtual Trunks on the Succession Call Server” on [page 388](#)
- 6 “Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks” on [page 409](#)
- 7 “Converting unused IP Trunk cards to Voice Gateway Media cards” on [page 416](#)
- 8 “Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager” on [page 421](#)

Scenario 7: System only (post-upgrade migration)

To upgrade a Meridian 1 Succession 3.0 system to Succession 1000M using the post-upgrade migration method, perform the following procedures in the order given:

- 1 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 2 “Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks” on [page 379](#)

- 3 “Creating the IP Telephony node in Element Manager” on [page 380](#) “Configuring OTM to launch Element Manager” on [page 386](#)
- 4 “Configuring OTM to launch Element Manager” on [page 386](#)
- 5 “Configuring IP Peer Virtual Trunks on the Succession Call Server” on [page 388](#)
- 6 “Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 392](#)
- 7 “Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 397](#)
- 8 “Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan” on [page 402](#)
- 9 “Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks” on [page 409](#)
- 10 “Converting unused IP Trunk cards to Voice Gateway Media cards” on [page 416](#)
- 11 “Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager” on [page 421](#)

Scenario 8: System only (coordinated cutover)

To upgrade a Meridian 1 Succession 3.0 system to Succession 1000M using the coordinated cutover method, perform the following procedures in the order given:

- 1 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 2 “Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks” on [page 379](#)
- 3 “Creating the IP Telephony node in Element Manager” on [page 380](#)
- 4 “Configuring OTM to launch Element Manager” on [page 386](#)
- 5 “Configuring IP Peer Virtual Trunks on the Succession Call Server” on [page 388](#)
- 6 “Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks” on [page 409](#)

- 7 “Converting unused IP Trunk cards to Voice Gateway Media cards” on [page 416](#)
- 8 “Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager” on [page 421](#)

Scenario 9: System only (IP Line only)

To upgrade a Meridian 1 Succession 3.0 system equipped with IP Line only to Succession 1000M, perform the following procedures in the order given:

- 1 “Installing and configuring the Succession Signaling Server” on [page 363](#)
- 2 “Creating the IP Telephony node in Element Manager” on [page 380](#) “Configuring OTM to launch Element Manager” on [page 386](#)
- 3 “Configuring OTM to launch Element Manager” on [page 386](#)

Summary of scenarios

Table 18 summarizes the upgrade scenarios, for ease of reference. Table 19 on [page 360](#) summarizes and compares the sequence of procedures for each scenario, by indicating the order in which the procedures are performed.

Table 18
Summary of upgrade scenarios

Scenario	Description
1	Software and system upgrade using the pre-upgrade migration method.
2	Software and system upgrade using the post-upgrade migration method.
3	Software and system upgrade using the coordinated cutover method.
4	Software and system upgrade of Meridian 1 systems equipped with IP Line only.
5	Software-only upgrade to Succession 3.0 Software.
6	System-only upgrade of a Succession 3.0 Software system whose IP Trunk 3.01 network has previously been migrated.
7	System-only upgrade using the post-upgrade migration method.
8	System-only upgrade using the coordinated cutover method.
9	System-only upgrade of Meridian 1 systems equipped with IP Line only.
Note: Refer to Table 16 on page 345 for a high-level description of the scenarios.	

Table 19
Order of procedures, by scenario

Procedure	Scenario/Sequence								
	1	2	3	4	5	6	7	8	9
Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10 (p. 362)	5	1	1	1	1				
Installing and configuring the Succession Signaling Server (p. 363)	1	2	2	2		1	1	1	1
Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware (p. 367)	6	3	3	3	2				
Configuring the Succession Call Server to enable Element Manager (p. 370)	7	4	4	4	3				
Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software (p. 372)	8	5	5	5	4				
Upgrading the firmware on Voice Gateway Media Cards (p. 374)	9	6	6	6	5				
Configuring IP Telephony node using OTM 2.10 (p. 378) and/or Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 3.01 using OTM 2.10 (p. 378)					6				
Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks (p. 379)						2	2	2	
Creating the IP Telephony node in Element Manager (p. 380)	10	7	7	7		3	3	3	2
Configuring OTM to launch Element Manager (p. 386)	11	8	8	8		4	4	4	3
Configuring IP Peer Virtual Trunks on the Succession Call Server (p. 388)	12	9	9			5	5	5	
Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper (p. 392)	2	10					6		
Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper (p. 397)	3	11					7		
Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan (p. 402)	4	12					8		
Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks (p. 409)	13	13	10			6	9	6	
Converting unused IP Trunk cards to Voice Gateway Media cards (p. 416)	14	14	11			7	10	7	
Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager (p. 421)	15	15	12			8	11	8	

Procedures

The following are the procedures required to complete the upgrade scenarios. Not all the procedures are required for each scenario, and the order in which the procedures are performed is critical. Refer to the applicable “List of procedures” or to the “Order of procedures, by scenario” on [page 360](#) for the sequence you must follow.

**WARNING**

Before beginning the system upgrade, ensure that a PWD1 username and password has been configured on the Succession Call Server. If there is no PWD1 username and password, configure them in LD 17. This is necessary to enable login to the Voice Gateway Media Cards and Succession Signaling Server.

Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10

Refer to *Optivity Telephony Manager: Installation and Configuration* (553-3001-230) to upgrade OTM 1.20 and OTM 2.00 to OTM 2.10.

Note: If Optivity Telephony Manager (OTM) has already been upgraded on your network, you do not need to perform this procedure.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware" on page 367
2 Software and system (post-upgrade migration)	"Installing and configuring the Succession Signaling Server" on page 363
3 Software and system (coordinated cutover)	"Installing and configuring the Succession Signaling Server" on page 363
4 Software and system (IP Line only)	"Installing and configuring the Succession Signaling Server" on page 363
5 Software only	"Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware" on page 367

Installing and configuring the Succession Signaling Server

Prior to beginning this procedure, obtain all Signaling Server IP addresses and ELAN and TLAN connection information.

When connecting a Signaling Server Leader to the ELAN and TLAN of a system that has an existing IP Line node, you must take care not to disrupt service on the existing IP Line node. To avoid service interruption you must prevent the new Signaling Server Leader from interacting with the existing IP Line node until the node has been appropriately reconfigured (as outlined in step 3).

Procedure 43

Installing and configuring the Succession Signaling Server (Part 1 of 3)

Step	Action
1	<p>Install the Succession Signaling Servers (hardware) and connect all Signaling Servers to the ELAN and TLAN. Refer to:</p> <ul style="list-style-type: none">• <i>Signaling Server: Installation and Configuration (553-3001-212)</i>, section titled “Hardware installation”• <i>Succession 1000 System: Installation and Configuration (553-3031-210)</i>, section titled “System connections”

Procedure 43**Installing and configuring the Succession Signaling Server (Part 2 of 3)**

Step	Action
2	<p>Insert the Succession 3.0 Signaling Server software installation CD into the Succession Signaling Server. Refer to <i>Signaling Server: Installation and Configuration</i> (553-3001-212), section titled “Software installation”.</p> <p>In general:</p> <ol style="list-style-type: none">1 Reset the Succession Signaling Server.2 Follow the online instructions displayed by the Install Tool to prepare the hard disk for installation.3 From the main menu, choose option (a) to perform a complete Succession Signaling Server software installation (includes Voice Gateway Media Card loadware, Internet Telephone firmware, and basic Succession Signaling Server configuration).4 Proceed to step 3 when prompted for Basic Signaling Server Configuration. <p>Note: If this step does not automatically take you into Basic Signaling Server Configuration, then manually choose main menu option (e), Basic Signaling Server Configuration, and proceed to step 3.</p>
3	<p>Configure the first Succession Signaling Server as Leader of the IP Telephony node during the installation. To prevent conflict with the Node ID and Node IP address of an existing IP Line node:</p> <ol style="list-style-type: none">1 Configure a temporary Node ID (e.g., 9999).2 Configure a temporary Node IP address (e.g., the same as the Succession Signaling Server Leader TLAN IP address).3 Configure the Primary (active side) Succession Call Server ELAN IP address when prompted. This action is not required for stand-alone Gatekeeper.
4	<p>Install and configure any additional Succession Signaling Servers as Followers in the IP Telephony node.</p>

Procedure 43

Installing and configuring the Succession Signaling Server (Part 3 of 3)

Step	Action
5	<p>Reboot the Succession Signaling Server Leader after the software installation and basic configuration is complete.</p> <p>Note: Do not reboot the Succession Signaling Server Followers. They will be rebooted in a later procedure, after they have been manually configured in Element Manager (“Creating the IP Telephony node in Element Manager” on page 380, step 7).</p>
6	<p>Log in to the Succession Signaling Server from a TTY where:</p> <p>login ID (default) = admin password (default) = cseadmin</p> <p>Note: You will be prompted to change the Succession Signaling Server password after logging in.</p>
7	<p>Use ping to verify the ELAN and TLAN connection by pinging hosts on the ELAN and TLAN and on other subnets of the Customer Enterprise Network (CLAN).</p> <p>Refer to “Verifying a successful configuration” in <i>Succession 1000 System: Installation and Configuration (553-3031-210)</i>, section titled “<i>Verifying a successful configuration</i>”.</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	“Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on page 392 Note: If IP Trunk migration is already completed, or if there is no existing IP Trunk network, or if the existing IP Trunk network is small, proceed to “Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on page 367
2 Software and system (post-upgrade migration)	“Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on page 367
3 Software and system (coordinated cutover)	“Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on page 367
4 Software and system (IP Line only)	“Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware” on page 367
6 System only (post-migration)	“Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks” on page 379
7 System only (post-upgrade migration)	“Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks” on page 379
8 System only (coordinated cutover)	“Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks” on page 379
9 System only (IP Line only)	“Creating the IP Telephony node in Element Manager” on page 380

Upgrading existing IP Line 3.00 node to IP Line 3.10 loadware

In general, this procedure describes how to download the IP Line 3.10 application software onto the existing IP Line 3.00 or IP Line 2.2 cards. This upgrade can be achieved by using OTM 2.10 IP Line service that you use to manage the existing IP Line 3.00 or IP Line 2.xx node. For more detailed information, refer to the section on configuring IP telephony nodes using OTM 2.10 in *IP Line: Description, Installation, and Operation* (553-3001-365), section titled “*Configuration of IP telephony nodes using OTM 2.1*”.

IMPORTANT!

- The Succession Call Server and IP Line nodes within a single system must be upgraded simultaneously to Succession 3.0.
- Succession 3.0 Software (Call Server X21 Release 3.00V, Signaling Server 2.10.80, IP Line 3.10.80) is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 3.00 within a single system.

Procedure 44

Upgrading existing IP Line 3.00 node to IP Line 3.10 software using OTM 2.10 (Part 1 of 2)

Step	Action
1	<p>Download the Succession 3.0 IP Line 3.10 software (IPL310xx.p2 and IPL310xx.sa) by doing one of the following:</p> <ol style="list-style-type: none"> 1 Download from the Nortel Networks Software Download web page to the OTM Server. OR 2 Place the Succession Signaling Server Succession 3.0 Software CD in the drive of the OTM Server. OR 3 Use FTP client on OTM to download the IP Line 3.10 software (located on the Succession Signaling Server in '/u/fw' directory). <p>Note: In the loadware filename, “xx” represents the issue.</p>

Procedure 44

Upgrading existing IP Line 3.00 node to IP Line 3.10 software using OTM 2.10 (Part 2 of 2)

Step	Action
2	<p>Do one of the following:</p> <p>1 Use OTM IP Line service to select the node.</p> <p>or</p> <p>2 To select all cards in the node of the same host type (e.g., Succession Media Card or ITG-P), right-click the node and choose Synchronize I Transmit, click the appropriate radio buttons for the selected node or selected cards, and check the option box for <i>Card software</i>.</p>
3	<p>Browse for the IP Line 3.10 software file for the appropriate host type (Succession Media Card (IPL310xx.sa) or ITG-P (IPL310xx.p2)) and click Open. Click the Start Transmit button on the Transmit Options dialog box to start transmitting.</p> <p>Note 1: Monitor progress to ensure the IP Line 3.10 software is successfully transmitted to all selected cards.</p> <p>Note 2: In the loadware filename, "xx" represents the issue.</p> <p>Do not reset cards until you are ready to run Succession 3.0 Software on the Succession Call Server. You will be instructed to reset the cards in the next procedure.</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Configuring the Succession Call Server to enable Element Manager" on page 370
2 Software and system (post-upgrade migration)	"Configuring the Succession Call Server to enable Element Manager" on page 370
3 Software and system (coordinated cutover)	"Configuring the Succession Call Server to enable Element Manager" on page 370
4 Software and system (IP Line only)	"Configuring the Succession Call Server to enable Element Manager" on page 370
5 Software only	"Configuring the Succession Call Server to enable Element Manager" on page 370

Configuring the Succession Call Server to enable Element Manager

In Succession 3.0 Software, Login Name must be enabled on the call server in order for the Succession Call Server PWD1, PWD2, and PDT2 to synchronize with the Succession Signaling Server and the Voice Gateway Media Cards when the PBX link to each host comes up. Element Manager also depends on this setting.

Procedure 45

Configuring the Succession Call Server to enable operation of Element Manager

Step	Action
1	Configure a minimum of two (preferably four) pseudo TTYs (PTY) on the Succession Call Server in LD 17 using ADAN command.
2	Enable the Login Name feature on the Succession Call Server by configuring LNAME = YES in LD 17 for data block TYPE PWD .
3	Verify the Login Name and Password (in LD 22 using print type PWD) that you must use for logging into Element Manager. You can use PWD01, PWD02, or LAPW login names and passwords to log in to Element Manager.
4	Verify the Primary (active CP side) IP address and Secondary (inactive CP side) IP address on the Succession Call Server using LD 117 PRT ELNK command or LD 137 STAT ELNK command.
5	Save configuration changes permanently in LD 43 by entering the command: EDD Note: EDD also synchronizes Call Server PWD01 Login Name and Password with the Succession Signaling Servers and Voice Gateway Media Cards if their pbxLinks to the Succession Call Server are established.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software" on page 372
2 Software and system (post-upgrade migration)	"Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software" on page 372
3 Software and system (coordinated cutover)	"Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software" on page 372
4 Software and system (IP Line only)	"Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software" on page 372
5 Software only	"Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software" on page 372

Upgrading the Succession Call Server and rebooting the system to run Succession 3.0 Software

IMPORTANT!

The call server and IP Line nodes within a single system must be upgraded simultaneously to Succession 3.0 Software.

Note: Succession 3.0 Software (Call Server X21 Release 3.00V, Signaling Server 2.10.80, IP Line 3.10.80) is not backwards compatible with Meridian 1 X11 Release 25.40 and IP Line 3.00 within a single system.

Upgrade the Call Server software to Succession 3.0 Software. Refer to “Upgrading or installing software” on [page 279](#).

Immediately prior to service interruption to the call server, reset the IP Line cards so that the Succession Call Server and the IP Line cards reboot simultaneously to run Succession 3.0 Software.

Note: After upgrading, the Small System Controller (SSC) card is referred to as the Succession System Controller (SSC) card, or the Succession Call Server.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Upgrading the firmware on Voice Gateway Media Cards" on page 374
2 Software and system (post-upgrade migration)	"Upgrading the firmware on Voice Gateway Media Cards" on page 374
3 Software and system (coordinated cutover)	"Upgrading the firmware on Voice Gateway Media Cards" on page 374
4 Software and system (IP Line only)	"Upgrading the firmware on Voice Gateway Media Cards" on page 374
5 Software only	"Upgrading the firmware on Voice Gateway Media Cards" on page 374

Upgrading the firmware on Voice Gateway Media Cards

You may need to upgrade the Succession Media Card or ITG-P card firmware as part of the software upgrade. Use the **IPL>firmwareVersionShow** command, as indicated in the following procedure, to display the firmware version and determine if you must upgrade the firmware.

Note: You must upgrade the Succession Media Card or ITG-P card firmware if the following message displays repeatedly on the Command Line Interface (CLI) of the upgraded or converted Voice Gateway Media Card running IP Line 3.10:

(A07) Poll message not received from 8051XA

Procedure 46

Upgrading the firmware on Voice Gateway Media Cards (Part 1 of 3)

Step	Action
1	Verify the 8051XA firmware version of each Succession Media Card and ITG-P card: 1 Telnet to each card and log in to IPL>shell . 2 Check the firmware version by entering: IPL>firmwareVersionShow

Procedure 46

Upgrading the firmware on Voice Gateway Media Cards (Part 2 of 3)

Step	Action				
2	<p>Upgrade the firmware if necessary.</p> <table> <tr> <th>If...</th><th>Then...</th></tr> <tr> <td>Succession Media Card firmware version is less than 6.7...</td><td> <ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Select Support Software Downloads Product Family Succession IP Line. 3 Download the "SMC v6.7 Firmware Upgrade" document. 4 Download "SMC Release 6.7 Firmware". 5 Follow the procedures in the "SMC v6.7 Firmware Upgrade" document to upgrade the 8051XA firmware and reboot the Succession Media Card. <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card in LD 32 using the DISI command, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p> </td></tr> </table>	If...	Then...	Succession Media Card firmware version is less than 6.7...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Select Support Software Downloads Product Family Succession IP Line. 3 Download the "SMC v6.7 Firmware Upgrade" document. 4 Download "SMC Release 6.7 Firmware". 5 Follow the procedures in the "SMC v6.7 Firmware Upgrade" document to upgrade the 8051XA firmware and reboot the Succession Media Card. <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card in LD 32 using the DISI command, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>
If...	Then...				
Succession Media Card firmware version is less than 6.7...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Select Support Software Downloads Product Family Succession IP Line. 3 Download the "SMC v6.7 Firmware Upgrade" document. 4 Download "SMC Release 6.7 Firmware". 5 Follow the procedures in the "SMC v6.7 Firmware Upgrade" document to upgrade the 8051XA firmware and reboot the Succession Media Card. <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card in LD 32 using the DISI command, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>				

Procedure 46
Upgrading the firmware on Voice Gateway Media Cards (Part 3 of 3)

Step	Action				
	<table> <tr> <th>If...</th><th>Then...</th></tr> <tr> <td>ITG-P card firmware version is less than 5.7...</td><td> <ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document. 4 Download "ITG-Pentium Release 5.7 Firmware". <p>Follow the procedures in the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document to upgrade the 8051XA firmware and reboot the ITG-P card.</p> <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card in LD 32 using the disi command, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p> </td></tr> </table>	If...	Then...	ITG-P card firmware version is less than 5.7...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document. 4 Download "ITG-Pentium Release 5.7 Firmware". <p>Follow the procedures in the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document to upgrade the 8051XA firmware and reboot the ITG-P card.</p> <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card in LD 32 using the disi command, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>
If...	Then...				
ITG-P card firmware version is less than 5.7...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document. 4 Download "ITG-Pentium Release 5.7 Firmware". <p>Follow the procedures in the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document to upgrade the 8051XA firmware and reboot the ITG-P card.</p> <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card in LD 32 using the disi command, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>				

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 380
2 Software and system (post-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 380
3 Software and system (coordinated cutover)	"Creating the IP Telephony node in Element Manager" on page 380
4 Software and system (IP Line only)	"Creating the IP Telephony node in Element Manager" on page 380
5 Software only	"Configuring IP Telephony node using OTM 2.10" on page 378 and/or "Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 3.01 using OTM 2.10" on page 378

Configuring IP Telephony node using OTM 2.10

Refer to “Configuration of IP Telephony node using OTM 2.1” in *IP Line: Description, Installation, and Operation* (553-3001-365) to configure IP Telephony node using OTM 2.10.

Next steps

Upon completion of this procedure, go to “Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 3.01 using OTM 2.10” on [page 378](#).

Upgrading ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 3.01 using OTM 2.10

Refer to the procedure “Upgrading IP Trunk 3.0 (and later) software” in *IP Trunk: Description, Installation, and Operation* (553-3001-363) to upgrade all ITG Trunk 2.xx and IP Trunk 3.00 nodes to IP Trunk 3.01 using OTM 2.10.

IP Trunk 3.01 is an important maintenance up-issue that includes improvements to the Trunk Anti-Tromboning (TAT) feature to be fully compatible with the improved TAT feature in Succession 3.0 Software.

Configure Trunk Route Optimization (TRO) and TAT for IP Trunk route to avoid voice quality degradation due to tandem IP Trunk connections.

Next steps

Upon completion of this procedure, Scenario 5 is at an end.

Performing keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks

Refer to the appropriate NTPs listed below to perform keycode expansion on the Succession Call Server to enable IP Peer Virtual Trunks:

- *Large System: Installation and Configuration (553-3021-210)*
- *Small System: Installation and Configuration (553-3011-210)*

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
6 System only (post-migration)	"Creating the IP Telephony node in Element Manager" on page 380
7 System only (post-upgrade migration)	"Creating the IP Telephony node in Element Manager" on page 380
8 System only (coordinated cutover)	"Creating the IP Telephony node in Element Manager" on page 380

Creating the IP Telephony node in Element Manager

If a large multi-card IP Line node exists, it saves time and minimizes user error to import the IP Line node configuration into the Element Manager IP Telephony node configuration.

Refer to *IP Line: Description, Installation, and Operation* (553-3001-365) and *IP Peer Networking* (553-3001-213) during this procedure.

Note: After you have created the IP Telephony node in Element Manager, you must add the configuration data of the Signaling Server Leader and Followers and any new Voice Gateway Media Cards to the IP Telephony node.

Procedure 47

Creating IP Telephony node in Element Manager (Part 1 of 5)

Step	Action
1	<p>Open a web browser on the management PC and go to:</p> <p>http://<Signaling Server Leader ELAN or TLAN IP address></p> <p>Note: Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.</p>
2	<p>Log in to Element Manager via the Signaling Server Leader using the Succession Call Server login name and password for PW01, PW02, or appropriately configured LAPW.</p>
3	<p>Import the IP Line node configuration files from the Leader card of the existing IP Line node by choosing Configuration IP Telephony from the Navigation Tree and clicking on the Import Node button. Refer to <i>IP Line: Description, Installation, and Operation</i> (553-3001-365), section titled "Import node configuration from an existing node".</p>

Procedure 47

Creating IP Telephony node in Element Manager (Part 2 of 5)

Step	Action				
4	<p>Edit the node configuration from Element Manager. Refer to <i>IP Line: Description, Installation, and Operation</i> (553-3001-365), section titled “Import node configuration from an existing node”:</p> <ol style="list-style-type: none"> 1 Add the Signaling Server Leader to the node and configure the Signaling Server Leader as a Primary, Alternate, or Failsafe Gatekeeper. <p>Note: There is only one Primary Gatekeeper and one Alternate Gatekeeper in the network. All other Signaling Servers are configured as Failsafe Gatekeepers.</p> <ol style="list-style-type: none"> 2 Add any additional Signaling Server Followers to the node. 3 Enable Line TPS on Signaling Server Leader and Followers. 4 Enable IP Peer VTRK Gateway on the Signaling Server Leader and Followers. 5 Configure H323-ID for IP Peer VTRK Gateway (e.g., “upgraded_system_IPP-GW”). 6 Configure Primary and Alternate Gatekeeper IP addresses for IP Peer Virtual Trunks: <table> <tr> <th>If...</th><th>Then...</th></tr> <tr> <td>The local IP Telephony node contains the Primary Gatekeeper for the Gatekeeper zone...</td><td> <ul style="list-style-type: none"> • The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the Signaling Server Leader hosting the Primary Gatekeeper in the local IP Telephony node. • The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. </td></tr> </table>	If...	Then...	The local IP Telephony node contains the Primary Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> • The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the Signaling Server Leader hosting the Primary Gatekeeper in the local IP Telephony node. • The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper.
If...	Then...				
The local IP Telephony node contains the Primary Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> • The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the Signaling Server Leader hosting the Primary Gatekeeper in the local IP Telephony node. • The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. 				

Procedure 47

Creating IP Telephony node in Element Manager (Part 3 of 5)

Step	Action						
	<p>(Step 4, Action 6 continued...)</p> <table> <tr> <th>If...</th><th>Then...</th></tr> <tr> <td>The local IP Telephony node contains the Alternate Gatekeeper for the Gatekeeper zone...</td><td> <ul style="list-style-type: none"> The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the Signaling Server Leader hosting the Alternate Gatekeeper in the local IP Telephony node. The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. </td></tr> <tr> <td>The local IP Telephony node does not contain the Primary or Alternate Gatekeeper for the Gatekeeper zone...</td><td> <ul style="list-style-type: none"> The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. </td></tr> </table> <p>7 Add the new Voice Gateway Media Cards to the IP Telephony node (if required by System and Engineering).</p> <p>8 Click the Save/Transfer button to save the configuration to the Succession Call Server and to transfer the configuration to the Succession Signaling Server and cards.</p>	If...	Then...	The local IP Telephony node contains the Alternate Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the Signaling Server Leader hosting the Alternate Gatekeeper in the local IP Telephony node. The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. 	The local IP Telephony node does not contain the Primary or Alternate Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper.
If...	Then...						
The local IP Telephony node contains the Alternate Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the Signaling Server Leader hosting the Alternate Gatekeeper in the local IP Telephony node. The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. 						
The local IP Telephony node does not contain the Primary or Alternate Gatekeeper for the Gatekeeper zone...	<ul style="list-style-type: none"> The Primary Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Primary Gatekeeper. The Alternate Gatekeeper IP address for the IP Peer Gateway must equal the TLAN IP address of the remote Signaling Server Leader hosting the Alternate Gatekeeper. 						

Procedure 47

Creating IP Telephony node in Element Manager (Part 4 of 5)

Step	Action
5	<p>Configure the new Voice Gateway TNs on the Succession Call Server. Do one of the following:</p> <ol style="list-style-type: none"> 1 From the Navigation Tree in Element Manager, choose Configuration IP Telephony. <p>Result: Node Summary Page appears.</p> <ol style="list-style-type: none"> a. Click on the arrowhead. b. Click on the appropriate Voice Gateway Media Card. c. Click on <code>ADD VGW CHANNELS</code>. <p>Note: If an Alert Box appears, you need to log in to the command line of the call server, and use LD 22 to determine if Package 167 is enabled or restricted:</p> <pre>REQ PRT TYPE: 167</pre> <p>If it is restricted, obtain a new keycode to enable GPRI Package 167.</p> <p>Then, in LD 73 perform:</p> <pre>REQ NEW TYPE: DDB</pre> <p>and carriage return through, accepting all the defaults.</p> <p>or</p> <ol style="list-style-type: none"> 2 Use LD 14 from the Succession Call Server CLI to configure the new Voice Gateway TNs.

Procedure 47

Creating IP Telephony node in Element Manager (Part 5 of 5)

Step	Action
6	<p>Clear Leader information on the former Leader card:</p> <ol style="list-style-type: none">1 Using Telnet or a TTY, log in to the technician level shell (IPL>) of the former Leader card of the imported IP Line node.2 Enter the CLI command clearLeader to clear the Leader flag from the card.3 Issue disTPS command to gracefully disable the Terminal Proxy Server and allow the Internet Telephones to reregister to another IP Line card when idle. Be sure to monitor the progress by using the tpsShow or isetShow commands.4 Use LD 32 DISI command to gracefully disable the Voice Gateway TNs of the card when idle on the Succession Call Server. Be sure to monitor the progress using LD 32 STAT command, or IPT> vgwShow command.5 Reset the former Leader card by entering the CLI command cardReset in the IPL> shell.
7	Reboot the Signaling Server Leader and all Signaling Server Followers.
8	Verify that the Signaling Server Leader functions as the new Leader of the IP Telephony upon rebooting (e.g., oam>electShow ; censusShow ; tpsShow).
9	<p>Log in to the Signaling Server Leader and enter:</p> <p>oam> loadBalance</p> <p>Result: All Internet Telephones will be unregistered from the Voice Gateway Media Card and reregistered with the Signaling Server Leader. This may take up to several minutes, resulting in the following message:</p> <p>loadbalance has been completed.</p>
10	<p>Enable the Voice Gateway TNs of the former Leader card using LD 32. The command is:</p> <p>ENLC c</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Configuring OTM to launch Element Manager" on page 386
2 Software and system (post-upgrade migration)	"Configuring OTM to launch Element Manager" on page 386
3 Software and system (coordinated cutover)	"Configuring OTM to launch Element Manager" on page 386
4 Software and system (IP Line only)	"Configuring OTM to launch Element Manager" on page 386
6 System only (post-migration)	"Configuring OTM to launch Element Manager" on page 386
7 System only (post-upgrade migration)	"Configuring OTM to launch Element Manager" on page 386
8 System only (coordinated cutover)	"Configuring OTM to launch Element Manager" on page 386
9 System only (IP Line only)	"Configuring OTM to launch Element Manager" on page 386

Configuring OTM to launch Element Manager

For details on how to configure OTM to launch Element Manager, refer to *Optivity Telephony Manager: System Administration* (553-3001-330).

Note: When you check the option box in **System Properties** in the OTM 2.10 Navigator to indicate that you have added a Signaling Server to an upgraded Meridian 1 system, OTM shows the System Type as Succession 1000M Multi Group (Option 81C), Single Group (Option 61C), Half Group (Option 51C), Cabinet (Option 11C), or Chassis (Option 11C Mini).

If you attempt to open an IP Line 3.10 node for a Succession 1000M system in OTM 2.10 IP Line management service, OTM will automatically log you into Element Manager and open at the Element Manager **Configuration | IP Telephony | Node Summary** webpage, from which you can edit or create IP Telephony nodes. If the node already exists in Element Manager, you can edit the IP Telephony node from this page. If the node does not already exist, you can create the IP Telephony node in Element Manager manually or by importing the node configuration data from an existing IP Line 3.00 node.

Whenever you have changed the node configuration by adding/deleting any elements or by changing the ELAN IP addresses, then, after submitting the changes from Element Manager, you must go to the OTM IP Line configuration service and retrieve the node properties for that node. (This is required for scheduling the collection of Operational Measurement reports.)

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Succession Call Server" on page 388
2 Software and system (post-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Succession Call Server" on page 388
3 Software and system (coordinated cutover)	"Configuring IP Peer Virtual Trunks on the Succession Call Server" on page 388
4 Software and system (IP Line only)	END OF PROCEDURES FOR THIS SCENARIO
6 System only (post-migration)	"Configuring IP Peer Virtual Trunks on the Succession Call Server" on page 388
7 System only (post-upgrade migration)	"Configuring IP Peer Virtual Trunks on the Succession Call Server" on page 388
8 System only (coordinated cutover)	"Configuring IP Peer Virtual Trunks on the Succession Call Server" on page 388
9 System only (IP Line only)	END OF PROCEDURES FOR THIS SCENARIO

Configuring IP Peer Virtual Trunks on the Succession Call Server

In general, this procedure involves configuring the IP Peer Virtual Trunks (IPP VTRK), as described in *IP Peer Networking* (553-3001-213), and then verifying the correct configuration and operational state of the IPP VTRK and the IP Peer H.323 Gateway.

Procedure 48

Configuring IP Peer Virtual Trunks on the Succession Call Server (Part 1 of 3)

Step	Action
1	Configure the IP Peer Virtual Trunk as per <i>IP Peer Networking</i> (553-3001-213), section titled “ <i>Configuring IP Peer networking</i> ”.
2	Verify the operational state of the IP Peer Virtual Trunk D-Channel in LD 96 using the command: STAT DCH <DCH No.>
3	Verify the operational state of the IP Peer Virtual Trunk Route, Members, and D-Channel using LD 32 and the following commands: <ul style="list-style-type: none">on the Succession Call Server: STVT <Cust. No.> <Route No.> <Starting No.><No.of Members> DSRM <Cust. No.> <Route No.> ENRM <Cust. No.> <Route No.>on the Succession Signaling Server: oam> vtrkShow

Procedure 48

Configuring IP Peer Virtual Trunks on the Succession Call Server (Part 2 of 3)

Step	Action				
4	<p>Verify the Gatekeeper registration state of the IP Peer Gateway by doing one of the following:</p> <ol style="list-style-type: none"> 1 Use the Succession Signaling Server command oam> npmShow. 2 Use the Gatekeeper pages in Element Manager and select GK Active DB Admin View Endpoints from the Navigation Tree. <table border="1"> <thead> <tr> <th>If...</th><th>Then...</th></tr> </thead> <tbody> <tr> <td>IP Peer Gateway is not registered with Gatekeeper...</td><td> <ol style="list-style-type: none"> 1 Verify that the Gateway H323-ID matches the Gatekeeper H323AliasName using GK Active DB Admin. 2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> — Click Configuration IP Telephony from the Navigation Tree. — Click the Edit button associated with the IP Telephony node. The Edit webpage displays. — Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Succession Signaling Server's TLAN IP address for each gatekeeper.</p> </td></tr> </tbody> </table>	If...	Then...	IP Peer Gateway is not registered with Gatekeeper...	<ol style="list-style-type: none"> 1 Verify that the Gateway H323-ID matches the Gatekeeper H323AliasName using GK Active DB Admin. 2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> — Click Configuration IP Telephony from the Navigation Tree. — Click the Edit button associated with the IP Telephony node. The Edit webpage displays. — Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Succession Signaling Server's TLAN IP address for each gatekeeper.</p>
If...	Then...				
IP Peer Gateway is not registered with Gatekeeper...	<ol style="list-style-type: none"> 1 Verify that the Gateway H323-ID matches the Gatekeeper H323AliasName using GK Active DB Admin. 2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> — Click Configuration IP Telephony from the Navigation Tree. — Click the Edit button associated with the IP Telephony node. The Edit webpage displays. — Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Succession Signaling Server's TLAN IP address for each gatekeeper.</p>				

Procedure 48
Configuring IP Peer Virtual Trunks on the Succession Call Server (Part 3 of 3)

Step	Action				
	<table><tr><th>If...</th><th>Then...</th></tr><tr><td>The registration is successful...</td><td>Perform outgoing calls from this node using route ACOD. Note: Configure RDB ISDN CTYP = CDP or LOC, etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.</td></tr></table>	If...	Then...	The registration is successful...	Perform outgoing calls from this node using route ACOD. Note: Configure RDB ISDN CTYP = CDP or LOC , etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.
If...	Then...				
The registration is successful...	Perform outgoing calls from this node using route ACOD. Note: Configure RDB ISDN CTYP = CDP or LOC , etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.				

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks" on page 409
2 Software and system (post-upgrade migration)	"Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper" on page 392
3 Software and system (coordinated cutover)	"Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks" on page 409
6 System only (post-migration)	"Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks" on page 409
7 System only (post-upgrade migration)	"Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper" on page 392
8 System only (coordinated cutover)	"Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks" on page 409

Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper

In general, this procedure, together with the procedures “Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 397](#) and “Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan” on [page 402](#), migrates a network of IP Trunk 3.01 nodes and Business Communication Manager (BCM) 3.01 systems from using the node-based Dialing Plan resolution to using the Gatekeeper Network Numbering Plan resolution.

The node-based Dialing Plan resolution identifies destination endpoints by statically configured IP addresses, while the Gatekeeper Network Numbering Plan resolution identifies origination and destination endpoints by H323-IDs or H323AliasNames configured in the Gatekeeper.

The Gatekeeper dynamically obtains the call signaling IP address of each endpoint when the endpoint registers with the Gatekeeper using its preconfigured H323-ID.

Currently, migration procedures are not automated. To migrate a network to use the Gatekeeper Network Numbering Plan, do one of the following:

- Inspect and then manually copy and paste the IP Trunk Dialing Plan data from the OTM IP Trunk Service **Properties** sheets to the Gatekeeper endpoint and numbering plan database.
- Use FTP to get the IP Trunk Dialing Plan text file (C:\table\dptable.1) from the IP Trunk card. Inspect and then manually copy and paste the IP Trunk Dialing Plan data from the text file to the Gatekeeper endpoint and numbering plan database. Consult the *IP Trunk 3.0 Expert Guide* to interpret the format of the data in the text file “dptable.1”.

You must create an endpoint H323-ID for the selected IP Trunk node and assign it to the appropriate CDP domain for each Destination Node name that exists in the Dialing Plan for that IP Trunk node.

Keep notes to track your progress. Note any discrepancies, which may include:

- Endpoints whose node capability is not SL1 or SL1ESN5 (e.g., H.323V2, ISGF, ESGF, CSE)
- Nodes that have Quality of Service (QoS) Monitoring enabled (QoS Monitoring is not supported by Gatekeeper)

Procedure 49

Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper

(Part 1 of 4)

Step	Action
1	Log in to OTM.
2	From the OTM Navigator, choose Services ITG ISDN Trunk .
3	Select an IP Trunk node that has a typical Dialing Plan for the IP Trunk network that is migrating to a Gatekeeper-based Network Numbering Plan.
4	Open the Dialing Plan for the selected node by choosing Configuration Node Dialing Plan (or right-click on the node and choose Dialing Plan) and sort by node name.
5	Using the same OTM PC, open the web browser.
6	In the browser Address field, enter the ELAN or TLAN IP address, followed by “/gk” to access the Gatekeeper pages in Element Manager, and click Go . For example: http://<Succession Signaling Server IP address>/gk
7	Log in to the Gatekeeper pages in Element Manager, using: User = gkadmin Password = gkadmin A welcome webpage is displayed.

Procedure 49**Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper
(Part 2 of 4)**

Step	Action
8	<p>From the Navigation Tree at the left of the webpage, select GK Standby DB Admin CDP Domains Create.</p> <p>The Create CDP domain webpage is displayed.</p> <ol style="list-style-type: none">1 In the CDP Domain Name textbox, enter a CDP domain name that describes the campus or network that shares a Coordinated Dialing Plan.2 Click the Create button to save the CDP domain.
9	<p>From the Navigation Tree, select GK Standby DB Admin H323 Endpoints Add H323 Endpoint. (This is in preparation for the Copy and Paste steps that follow.)</p> <p>The Create H323 Endpoint webpage is displayed. Keep this page open.</p>
10	<p>In the OTM ITG Dialing Plan window, double-click on the first Destination Node in the dialing plan.</p> <p>Result: A Properties sheet for the Destination Node in this dialing plan opens.</p> <ol style="list-style-type: none">1 In the General tab, edit the Node Name to create a consistent format for the H323-IDs so that the type of endpoint is clearly indicated. For example: Rich_Gal-C_IPT Rich_Gal-C_IPP-GW Rich_Card_BCM where: Rich = Site Name Gal = System Name IPT (IP Trunk 3.01), IPP-GW (IP Peer VTRK Gateway), BCM (BCM 3.01) = Type of endpoint2 Click the Apply button to save the edited node name.
11	<p>Copy the edited node name to the Clipboard and close the Destination Node Properties sheet.</p>

Procedure 49

**Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper
(Part 3 of 4)**

Step	Action
12	<p>In the Create H323 Endpoint webpage in Element Manager, paste the edited node name into the H323AliasName field for the IP Trunk 3.01 endpoint that you are adding to the Gatekeeper database.</p> <p>Note: If this endpoint uses CDP Steering Codes in the Dialing Plan, then you must select the appropriate CDP domain name from the drop-down list box.</p>
13	<p>Click the Create H323 button to save the H323AliasName or H323-ID in the Gatekeeper database.</p>
14	<p>Repeat steps 10–13 to add an endpoint H323-ID for every Destination Node that appears in the Dialing Plan for the selected IP Trunk node.</p>
15	<p>Once you have added an endpoint H323-ID for every Destination Node, you must then add an endpoint H323-ID for the IP Trunk node of the Dialing Plan from which you have been working:</p> <ol style="list-style-type: none"> 1 Close the Dialing Plan from which you have been working. 2 Select another IP Trunk node that has a typical Dialing Plan and open the Dialing Plan. 3 Find the Destination Node name for the node whose Dialing Plan you were previously working from. 4 Perform steps 10–13.
16	<p>Select Gatekeeper Standby DB H323 Endpoints View Endpoints from the Navigation Tree to view the newly added endpoints. Note any discrepancies while you inspect and compare the Dialing Plan of at least two typical nodes in OTM.</p> <p>Investigate and resolve any discrepancies. Discrepancies may include:</p> <ul style="list-style-type: none"> • Endpoints whose node capability is not SL1 or SL1ESN5 (e.g., H.323V2, ISGF, ESGF, CSE) • Nodes that have Quality of Service (QoS) Monitoring enabled (QoS Monitoring is not supported by Gatekeeper) <p>Note: Contact Nortel Technical Support (see “Technical support” on page 336) if you require assistance to resolve discrepancies.</p>

Procedure 49

**Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper
(Part 4 of 4)**

Step	Action
17	In the Gatekeeper pages of Element Manager, add endpoint H323-IDs for any new Destination Node names not found in the first typical Dialing Plan selected.
18	Verify that you have added an endpoint H323-ID in the Gatekeeper for each Destination Node in the Dialing Plans of the IP Trunk 3.01 network (may include BCM 3.xx destination nodes).

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	“Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on page 397
2 Software and system (post-upgrade migration)	“Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on page 397
7 System only (post-upgrade migration)	“Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on page 397

Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper

In general, this procedure details the steps to configure the Network Numbering Plan for existing IP Trunk 3.01 nodes and BCM 3.0x systems in Gatekeeper.

Keep notes to track your progress. Note any discrepancies, which may include:

- Digits deleted and inserted (Gatekeeper does not provide digit manipulation capability)
- NXX Dial Plan entry types (Gatekeeper does not support NXX Dial Plan types)

To work around discrepancies, you must create additional Digit Manipulation Tables and Route List Blocks on the host Meridian 1 system, and modify CDP and UDP network translations. Enter the manipulated number in the Gatekeeper Numbering Plan.

Procedure 50

Configuring Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper (Part 1 of 4)

Step	Action
1	Log in to OTM.
2	From the OTM Navigator, choose Services ITG ISDN Trunk .
3	Select an IP Trunk node that has a typical Dialing Plan for the IP Trunk network that is migrating to a Gatekeeper-based Network Numbering Plan. Note: Select the IP Trunk node used in “Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on page 392 .
4	Open the Dialing Plan for the selected node by choosing Configuration Node Dialing Plan (or right-click on the node and choose Dialing Plan) and sort by node name.
5	Using the same OTM PC, open the web browser.

Procedure 50**Configuring Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper
(Part 2 of 4)**

Step	Action
6	In the browser Address field, enter the ELAN or TLAN IP address, followed by “/gk” to the Gatekeeper pages in Element Manager, and click Go . For example: http://<Host Succession Signaling Server IP address>/gk
7	Log in to the Gatekeeper pages in Element Manager, using: User = gkadmin Password = gkadmin
8	From the Navigation Tree, select GK Standby DB Admin Numbering Plan Entries Create . Result: The Select an Endpoint to add an Entry webpage opens. Leave this webpage open in preparation for the Copy and Paste steps that follow.
9	In OTM, double-click the first Destination Node in the Dialing Plan. Result: The ITG Dialing Plan - Remote Node Properties sheet opens. Note: If you are repeating steps 9–13, double-click the next Destination Node in the Dialing Plan sequence.
10	Click on the Digits Dialed tab located on the ITG Dialing Plan - Remote Node Properties sheet and: 1 Select the first item in the list of Dialing Plan entries. Note: If you are repeating steps 10–12, select the next Dialing Plan entry in the list. 2 Copy the Dialing Plan digits to the Clipboard. Note: Take note of the Dialing Plan type. You will use the Dialing Plan type information in the next step. 3 If there are more Dialing Plan entries, leave the Properties sheet open for later use. Otherwise, click Cancel to close.

Procedure 50

**Configuring Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper
(Part 3 of 4)**

Step	Action
11	<p>From the Navigation Tree, select GK Standby DB Admin Numbering Plan Entries Create. The Select an Endpoint to Add an Entry webpage is displayed.</p> <ol style="list-style-type: none"> 1 Select the corresponding endpoint from the Endpoint drop-down list box. 2 Click the Select button. <p>Result: The Add Entry page opens.</p> <ol style="list-style-type: none"> 3 In the Numbering Plan Entries area: <ol style="list-style-type: none"> a. Paste the Dialing Plan digits into the Number field. b. From the Type drop-down list box, select the type of number that corresponds to the OTM Dialing Plan type. 4 Click the Create button to add the entry to the Gatekeeper Numbering Plan for this endpoint.
12	<p>Repeat steps 10–11 until you have copied and pasted all the Dialing Plan entries for that node in the OTM Dialing Plan.</p> <p>Note: Remember to take note of the Dialing Plan type for each Dialing Plan entry you are copying.</p>
13	<p>Repeat steps 9–12 until you have copied and pasted all the Dialing Plan entries for all the Destination Nodes in the OTM Dialing Plan.</p>

Procedure 50**Configuring Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper
(Part 4 of 4)**

Step	Action
14	<p>Once you have added all the Dialing Plan entries for all the Destination Nodes in the typical IP Trunk node's Dialing Plan from which you have been working, you must then add the Dialing Plan entries for that node itself:</p> <ol style="list-style-type: none"> 1 Close the Dialing Plan for the node from which you have been working. 2 Right-click on another typical node and open its Dialing Plan. 3 Find the Destination Node for the typical IP Trunk node from which you were working, and double-click to open its ITG Dialing Plan - Remote Node Properties sheet. 4 Perform steps 10–12 until you have copied and pasted all the Dialing Plan entries for the Destination Node of the typical IP Trunk node from which you were working.
15	<p>From The Navigation tree, select Standby DB Admin NumberingPlanEntries View Entries by Endpoint.</p> <p>Result: The Select an Endpoint to view Entries on Standby Database webpage displays.</p> <ol style="list-style-type: none"> 1 Select an endpoint to view from the Endpoint drop-down list box. 2 Click the Select button. <p>Result: The View Standby Database Endpoint Entries webpage displays.</p> <ol style="list-style-type: none"> 3 Compare the entries contained on the View Standby Database Endpoint Entries page for the selected endpoint against the ITG Dialing Plan table entry for the corresponding Destination Node. 4 Repeat actions 1–3, selecting the next endpoint until you have viewed and compared all the entries for the endpoints and all the Destination Nodes.
16	<p>From The Navigation tree, select GK Standby DB Admin Database Actions and click SingleStepCutoverCommit.</p> <p>Result: The endpoint and numbering plan database is copied to GK Active DB Admin so that it is used by the Gatekeeper to register endpoints and to resolve the telephone numbers in Admission Request (ARQ) messages from endpoints.</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	“Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan” on page 402
2 Software and system (post-upgrade migration)	“Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan” on page 402
7 System only (post-upgrade migration)	“Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan” on page 402

Configuring IP Trunk Network to register with Gatekeeper and to use Gatekeeper Numbering Plan

The following procedure assumes that the procedures “Configuring H323-ID endpoints for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 392](#) and “Configuring the Network Numbering Plan for IP Trunk 3.01 and BCM 3.01 on the Gatekeeper” on [page 397](#) have been completed.

Note: A similar procedure must be performed on BCM 3.01 systems. Refer to the appropriate BCM NTPs.



CAUTION — Service Interruption

To avoid service interruption, do not perform this procedure during high traffic volume.

Procedure 51

Configuring IP Trunk Network to register with Gatekeeper and to use the Gatekeeper Numbering Plan (Part 1 of 6)

Step	Action
1	Log in to OTM.
2	From the OTM Navigator, choose Services ITG ISDN Trunk .
3	<p>You must disable QOS Fallback to PSTN in the Dialing Plans of all IP Telephony nodes that are being migrated to use the Gatekeeper:</p> <ol style="list-style-type: none"> 1 In OTM, open the Dialing Plan for the first IP Telephony node. 2 Open each Destination Node in the Dialing Plan of that IP Telephony node, and uncheck the QOS Fallback PSTN feature. Click the OK button to save. 3 Repeat actions 1–2 for the next IP Telephony node in sequence. 4 After you have changed all the Dialing Plans for every node to be migrated, click the Synchronize/Transmit button.

Procedure 51

Configuring IP Trunk Network to register with Gatekeeper and to use the Gatekeeper Numbering Plan (Part 2 of 6)

Step	Action				
4	Select the first IP Trunk node to be reconfigured to use the Gatekeeper Numbering Plan.				
5	Right-click on the node to be reconfigured and choose Gatekeeper . Result: The ITG Node Gatekeeper Properties sheet opens.				
6	<p>Select the appropriate Gatekeeper Option from the drop-down list box.</p> <p>Note: If OTM 2.10 Navigator has been configured with Gatekeeper zones, then select Use Gatekeeper Zone information from OTM Navigator. Otherwise, select Use Independent Gatekeeper.</p> <table border="1"> <thead> <tr> <th>If...</th><th>Then...</th></tr> </thead> <tbody> <tr> <td>You chose Use Gatekeeper Zone information from OTM Navigator...</td><td> <p>1 Select the Gatekeeper Zone from the drop-down list box.</p> <p>2 In the H323-ID field, enter the H323-ID for this IP Trunk 3.01 endpoint. The endpoint H323-ID must match the H323AliasName previously configured on the Gatekeeper for this IP Trunk 3.01 H323 endpoint. For example: "Host Meridian 1 system_IPT".</p> <p>3 Click the OK button.</p> <p>Note: To determine the previously configured H323-ID, log in to the Gatekeeper pages in Element Manager and select GK Standby DB Admin H323 Endpoints View Endpoints from the Navigation Tree. Select the endpoint corresponding with the IP Trunk node you are configuring. Click on AliasName and copy, then paste into the OTM H323-ID field.</p> </td></tr> </tbody> </table>	If...	Then...	You chose Use Gatekeeper Zone information from OTM Navigator...	<p>1 Select the Gatekeeper Zone from the drop-down list box.</p> <p>2 In the H323-ID field, enter the H323-ID for this IP Trunk 3.01 endpoint. The endpoint H323-ID must match the H323AliasName previously configured on the Gatekeeper for this IP Trunk 3.01 H323 endpoint. For example: "Host Meridian 1 system_IPT".</p> <p>3 Click the OK button.</p> <p>Note: To determine the previously configured H323-ID, log in to the Gatekeeper pages in Element Manager and select GK Standby DB Admin H323 Endpoints View Endpoints from the Navigation Tree. Select the endpoint corresponding with the IP Trunk node you are configuring. Click on AliasName and copy, then paste into the OTM H323-ID field.</p>
If...	Then...				
You chose Use Gatekeeper Zone information from OTM Navigator...	<p>1 Select the Gatekeeper Zone from the drop-down list box.</p> <p>2 In the H323-ID field, enter the H323-ID for this IP Trunk 3.01 endpoint. The endpoint H323-ID must match the H323AliasName previously configured on the Gatekeeper for this IP Trunk 3.01 H323 endpoint. For example: "Host Meridian 1 system_IPT".</p> <p>3 Click the OK button.</p> <p>Note: To determine the previously configured H323-ID, log in to the Gatekeeper pages in Element Manager and select GK Standby DB Admin H323 Endpoints View Endpoints from the Navigation Tree. Select the endpoint corresponding with the IP Trunk node you are configuring. Click on AliasName and copy, then paste into the OTM H323-ID field.</p>				

Procedure 51

Configuring IP Trunk Network to register with Gatekeeper and to use the Gatekeeper Numbering Plan (Part 3 of 6)

Step	Action				
	<table> <tr> <th>If...</th><th>Then...</th></tr> <tr> <td>You chose Use Independent Gatekeeper...</td><td> <ol style="list-style-type: none"> 1 Copy and paste the H323-ID from OTM into the H323-ID field. 2 Under Primary Gatekeeper: <ol style="list-style-type: none"> a. Enter the IP address for the Primary Gatekeeper in the Address field. b. From the Type drop-down list box, select Gatekeeper type CSE1000. c. Enter the Site and System name of the Primary Gatekeeper in the Name field. d. Enter the Contact name of the Primary Gatekeeper in the Contact textbox. e. Enter the Location of the Primary Gatekeeper in the Location field. 3 Repeat for the Alternate Gatekeeper. 4 Click the OK button. </td></tr> </table>	If...	Then...	You chose Use Independent Gatekeeper...	<ol style="list-style-type: none"> 1 Copy and paste the H323-ID from OTM into the H323-ID field. 2 Under Primary Gatekeeper: <ol style="list-style-type: none"> a. Enter the IP address for the Primary Gatekeeper in the Address field. b. From the Type drop-down list box, select Gatekeeper type CSE1000. c. Enter the Site and System name of the Primary Gatekeeper in the Name field. d. Enter the Contact name of the Primary Gatekeeper in the Contact textbox. e. Enter the Location of the Primary Gatekeeper in the Location field. 3 Repeat for the Alternate Gatekeeper. 4 Click the OK button.
If...	Then...				
You chose Use Independent Gatekeeper...	<ol style="list-style-type: none"> 1 Copy and paste the H323-ID from OTM into the H323-ID field. 2 Under Primary Gatekeeper: <ol style="list-style-type: none"> a. Enter the IP address for the Primary Gatekeeper in the Address field. b. From the Type drop-down list box, select Gatekeeper type CSE1000. c. Enter the Site and System name of the Primary Gatekeeper in the Name field. d. Enter the Contact name of the Primary Gatekeeper in the Contact textbox. e. Enter the Location of the Primary Gatekeeper in the Location field. 3 Repeat for the Alternate Gatekeeper. 4 Click the OK button. 				
7	<p>Right-click on the node to be reconfigured and choose Synchronize Transmit.</p> <p>Result: The ITG-Transmit Options window opens.</p> <ol style="list-style-type: none"> 1 Click the check box for Dialing Plan. 2 Click the Start Transmit button. Monitor the Transmit Control window for successful transmission of the Dialing Plans. 				

Procedure 51

Configuring IP Trunk Network to register with Gatekeeper and to use the Gatekeeper Numbering Plan (Part 4 of 6)

Step	Action
8	<p>Verify that the endpoint has registered with Gatekeeper:</p> <ol style="list-style-type: none"> 1 Do one of the following: <ol style="list-style-type: none"> a. From the Navigation Tree in Element Manager, select GK Active DB Admin View Endpoints. OR b. Log in to the ITG shell of the IP Trunk Leader card and enter the gkShow command. <p>Result: A list of all registered endpoints displays.</p> 2 Verify that the node to be reconfigured appears in the list. <p>If the node does not appear in the list, you may have:</p> <ul style="list-style-type: none"> — entered the Alias Name into the OTM H323-ID field incorrectly — entered the Primary (or Alternate) Gatekeeper IP address incorrectly — been unsuccessful in disabling and transmitting the Dialing Plan

Procedure 51

Configuring IP Trunk Network to register with Gatekeeper and to use the Gatekeeper Numbering Plan (Part 5 of 6)

Step	Action
9	<p>1 Back up the Dialing Plan file (C:\table\dptable.1) for the IP Trunk node that you are reconfiguring.</p> <p>Use FTP to get the dptable.1 file and copy it to an appropriately named folder on the OTM Server.</p> <p>The default FTP login is:</p> <p>User = itgadmin Password = itgadmin</p> <p>2 If you need to restore the Dialing Plan entries for this node:</p> <ul style="list-style-type: none">a. Use FTP to put the file back on the IP Trunk active Leader card.b. In OTM ITG ISDN Trunk service, right-click on the node and choose Synchronize Retrieve.c. Click the check box for Dialing plan, and click the Start retrieve button.d. After successfully retrieving the Dialing Plan, you must click the Transmit Dialing plan button to restore the original Dialing Plan.

Procedure 51

Configuring IP Trunk Network to register with Gatekeeper and to use the Gatekeeper Numbering Plan (Part 6 of 6)

Step	Action
10	<p>In OTM, right-click on the node to be reconfigured then:</p> <ol style="list-style-type: none"> 1 Choose Dialing Plan. <p>Result: The ITG Dialing Plan window opens for the selected node.</p> <ol style="list-style-type: none"> 2 Choose Edit Select All. 3 Repeatedly press the Delete key until all Destination Nodes are deleted from the Dialing Plan. 4 Close the Dialing Plan window. 5 Right-click the node and click the Synchronize Transmit button. <p>Result: The ITG - Transmit Options dialog box opens.</p> <ol style="list-style-type: none"> 6 Click the option for Dialing Plan, then click the Start Transmit button. 7 Monitor the progress in the Transmit Control window.
11	<p>Verify that the Gatekeeper Dialing Plan is functioning correctly for calls originating from the reconfigured IP Trunk node by placing test calls from the host system to various Destination Nodes using all the Numbering Plan types and numbers configured on the network.</p> <p>If the test calls are successful, then repeat configuration steps 3–10 until all nodes in the ISDN IP Trunk service have been reconfigured, tested, and verified.</p> <p>If the test calls are not successful, use the LD 96 D-channel monitor to determine what dialed digits and call types are being sent to the Succession Call Server. Verify that the dialed digits and call types are present on the Gatekeeper and that the destination endpoint is registered with the Gatekeeper. You may need to configure appropriate digit manipulation and new RLIs on the host system.</p> <p>Result: At this point, you have successfully migrated the IP Trunk 3.01 network to the Gatekeeper Numbering Plan.</p> <p>Note: A similar procedure must be performed for BCM 3.01 systems.</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Upgrading OTM 1.20 and OTM 2.00 to OTM 2.10" on page 362
2 Software and system (post-upgrade migration)	"Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks" on page 409
7 System only (post-upgrade migration)	"Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks" on page 409

Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks

IMPORTANT!

Regardless of which scenario and method you are following, ensure that you have completed all required preceding procedures prior to beginning this procedure.

If...	Then...
The upgraded Succession 1000M system belongs to a large IP Trunk network...	Ensure that you have completed a Pre- or Post-upgrade migration of the IP Trunk 3.01 and BCM 3.01 network to use the Gatekeeper-resolved Network Numbering Plan.
The upgraded Succession 1000M system belongs to a small IP Trunk network (for example, 2–4 systems), and you have chosen the “Coordinated cutover” method...	Ensure that you have scheduled a sufficient maintenance window and provided for sufficient technician resources to simultaneously reconfigure and cut over all the upgraded Succession 1000M systems in a single maintenance window.

Procedure 52

Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks (Part 1 of 5)

Step	Action				
1	<p>Verify the Gatekeeper registration state of the IP Peer Gateway by doing one of the following:</p> <ol style="list-style-type: none"> 1 Use the Succession Signaling Server command <code>oam> npmShow</code>. 2 Use the Gatekeeper pages in Element Manager and select GK Active DB Admin View Endpoints from the Navigation Tree. <table border="1"> <thead> <tr> <th>If...</th><th>Then...</th></tr> </thead> <tbody> <tr> <td>IP Peer Gateway is not registered with Gatekeeper...</td><td> <ol style="list-style-type: none"> 1 Verify that the Gateway H323-ID matches the Gatekeeper H323AliasName using GK Active DB Admin. 2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> — Click Configuration IP Telephony from the Navigation Tree. — Click the Edit button associated with the IP Telephony node. The Edit webpage displays. — Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Succession Signaling Server 's TLAN IP address for each gatekeeper.</p> </td></tr> </tbody> </table>	If...	Then...	IP Peer Gateway is not registered with Gatekeeper...	<ol style="list-style-type: none"> 1 Verify that the Gateway H323-ID matches the Gatekeeper H323AliasName using GK Active DB Admin. 2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> — Click Configuration IP Telephony from the Navigation Tree. — Click the Edit button associated with the IP Telephony node. The Edit webpage displays. — Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Succession Signaling Server 's TLAN IP address for each gatekeeper.</p>
If...	Then...				
IP Peer Gateway is not registered with Gatekeeper...	<ol style="list-style-type: none"> 1 Verify that the Gateway H323-ID matches the Gatekeeper H323AliasName using GK Active DB Admin. 2 Verify the Primary and Alternate Gatekeeper IP address using Element Manager: <ul style="list-style-type: none"> — Click Configuration IP Telephony from the Navigation Tree. — Click the Edit button associated with the IP Telephony node. The Edit webpage displays. — Click Gatekeeper to display the Primary Gatekeeper and Alternate Gatekeeper IP addresses. <p>The Primary Gatekeeper and Alternate Gatekeeper IP addresses must equal the host Succession Signaling Server 's TLAN IP address for each gatekeeper.</p>				

Procedure 52

Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks (Part 2 of 5)

Step	Action				
	<table> <tr> <th>If...</th><th>Then...</th></tr> <tr> <td>The registration is successful...</td><td> <p>Perform outgoing calls from this node using route ACOD.</p> <p>Note: Configure RDB ISDN CTYP = CDP or LOC, etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.</p> </td></tr> </table>	If...	Then...	The registration is successful...	<p>Perform outgoing calls from this node using route ACOD.</p> <p>Note: Configure RDB ISDN CTYP = CDP or LOC, etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.</p>
If...	Then...				
The registration is successful...	<p>Perform outgoing calls from this node using route ACOD.</p> <p>Note: Configure RDB ISDN CTYP = CDP or LOC, etc. to match the Type of Number of Gatekeeper Numbering Plan entries for outgoing test calls.</p>				
2	<p>Identify all Route List Blocks (RLB) that contain an IP Trunk route entry and that are currently used by CDP Steering Codes and UDP NARS network translations.</p> <p>Note 1: These RLBs must be changed to allow the upgraded Succession 1000M system to use IP Peer Virtual IP Trunk Gateway to make incoming and outgoing Voice-over IP trunk calls with IP Trunk 3.01 and BCM 3.01 nodes.</p> <p>Note 2: By changing the RLBs that contain an IP Trunk route entry, you can avoid making extensive changes to the CDP and UDP network translations.</p>				
3	<p>Change the identified RLBs to insert an IP Peer Gateway Virtual IP Trunk route (IPP-GW VTRK) entry before the IP Trunk route entry:</p> <ol style="list-style-type: none"> 1 Configure SBOC = RRA for the IPP-GW VTRK entry. 2 Configure FRL = 7 for the IPP-GW VTRK entry if you prefer to make test calls only from terminals with an NCOS containing an FRL = 7. This will prevent normal users from using the IPP-GW VTRK for outgoing calls while you are testing the Network Numbering Plan and routing plan. <p>Note: You can instantly revert to using the IP Trunk route for outgoing calls by removing the IPP-GW VTRK entry from the RLB (REQ CHG... ENTR Xnn).</p>				

Procedure 52

Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks (Part 3 of 5)

Step	Action
4	<p>Make test calls from the upgraded Succession 1000M system via IPP-GW to endpoints in the IPT 3.01/BCM 3.01/IPP-GW network:</p> <ol style="list-style-type: none"> 1 Make outgoing test calls for all ESN Call Types (CTYP) that use the IPP-GW VTRK/IPT 3.01 RLBs. 2 Verify that the IPP-GW Route is being used for outgoing calls (On Hold/Off Hold displays Route ACOD).
5	<p>Make incoming test calls from endpoints in the IPT 3.01/BCM 3.01/IPP-GW network.</p> <p>Use LD 80 to verify that the IP Trunk route is still being used for incoming calls. The LD 80 commands are: TRAC or TRAK</p>
6	<p>Test Non-Call-Associated Signaling (NCAS) features to endpoints in the IPT 3.01/BCM 3.01/IPP-GW network.</p> <p>Use MIK/MCK to turn MWI on/off over the network.</p>
7	<p>Using the Gatekeeper pages in Element Manager, change the Numbering Plan entries for the IP Trunk node on the upgraded Succession 1000M system.</p> <p>For H323AliasName = "upgraded_system_IPT", change Cost Factor (Entry Cost) = 1 to Cost Factor (Entry Cost) = 2</p>

Procedure 52

Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks (Part 4 of 5)

Step	Action
8	<p>Using the Gatekeeper pages in Element Manager, duplicate the Numbering Plan entries from the IP Trunk node (H323AliasName = “upgraded_system_IPT”) to the IP Peer Virtual IP Trunk Gateway on the upgraded Succession 1000M system (H323AliasName = “upgraded_system_IPP-GW”) but with Cost Factor (Entry Cost) = 1 for the Numbering Plan entries on H323 endpoint “upgraded_system_IPP-GW”.</p> <ol style="list-style-type: none"> 1 From the Gatekeeper Navigation Tree, choose GK Standby DB Admin Database Actions. 2 Click the Cutover button. <p>Result: The Numbering Plan entry changes are copied to GK Active DB Admin and immediately applied to the operation of the Gatekeeper. The Gatekeeper’s first choice for a route for Numbering Plan entries destined for the upgraded Succession 1000M system has now been changed to the H323 endpoint “upgraded_system_IPP-GW”.</p> <ol style="list-style-type: none"> 3 Test your changes (as described in steps 9–11). Once you are satisfied that the database is working correctly, click the Commit button. <p>Note: As long as you have not yet clicked the Commit button under GK Standby DB Admin Database Actions, you can instantly revert to the previous Gatekeeper configuration and stop incoming calls from using the IP Peer Gateway Virtual IP Trunk route.</p>
9	<p>Make incoming test calls from endpoints in the IPT 3.01/BCM 3.01/IPP-GW network.</p> <p>Using the TRAC or TRAK commands in LD 80, verify that the IP Peer Gateway Virtual IP Trunk route is now being used for incoming calls to the upgraded Succession 1000M system.</p>

Procedure 52

Configuring and cutting over an upgraded Succession 1000M system to use IP Peer Virtual Trunks (Part 5 of 5)

Step	Action
10	<p>Test NCAS features.</p> <p>Use MIK/MCK to turn MWI on/off over the network.</p>
11	<ol style="list-style-type: none"> 1 Disable D-Channel for IPT Route to ensure that all outgoing and incoming calls use the IPP-GW VTRK route. 2 Make incoming and outgoing test calls to all ESN Call Types that are used in the Network Numbering Plan. 3 Test NCAS features. <p>The IP Trunk 3.01 route is no longer required in the upgraded Succession 1000M system, provided that:</p> <ul style="list-style-type: none"> • all nodes in the network have been upgraded to IP Trunk 3.01, BCM 3.01, and Succession 3.0 Software with IP Peer Networking • all nodes have migrated to the Gatekeeper numbering plan resolution <p>Unused IP Trunk 3.01 cards can be converted to Voice Gateway Media Cards. Refer to “Converting unused IP Trunk cards to Voice Gateway Media cards” on page 416.</p>

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Converting unused IP Trunk cards to Voice Gateway Media cards" on page 416
2 Software and system (post-upgrade migration)	"Converting unused IP Trunk cards to Voice Gateway Media cards" on page 416
3 Software and system (coordinated cutover)	"Converting unused IP Trunk cards to Voice Gateway Media cards" on page 416
6 System only (post-migration)	"Converting unused IP Trunk cards to Voice Gateway Media cards" on page 416
7 System only (post-upgrade migration)	"Converting unused IP Trunk cards to Voice Gateway Media cards" on page 416
8 System only (coordinated cutover)	"Converting unused IP Trunk cards to Voice Gateway Media cards" on page 416

Converting unused IP Trunk cards to Voice Gateway Media cards

This procedure converts IP Trunk 3.01 cards (Succession Media Cards and ITG-P line cards) that are no longer used to Voice Gateway Media Cards running IP Line 3.10 loadware.

The recommended method employs the OTM 2.10 ITG ISDN Trunk service that you use to manage the existing IP Trunk 3.01 or ITG Trunk 2.xx node.

In general, for Succession Media Cards and ITG-P cards, download the IP Line 3.10 application loadware onto the existing IP Trunk or ITG Trunk card.

After the IP Trunk cards have been converted to run the IP Line 3.10 application loadware, you can use Element Manager to do one of the following:

- Manually add the converted cards to an IP Telephony node as Voice Gateway Media Cards and configure the corresponding Voice Gateway TNs on the Succession Call Server. Refer to *IP Line: Description, Installation, and Operation* (553-3001-365).
- Import the node configuration from the former IP Trunk Leader card of the newly converted Voice Gateway Media Cards, and create a new IP Telephony node.

Note 1: This procedure assumes that all IP Trunk 3.01 cards have received their IP address configuration data from the Active Leader (Leader 0 or Leader 1) and are functioning in the role of Active Leader, Backup Leader, or Follower.

Note 2: ITG Trunk 2.xx nodes containing Succession Media Cards must first be upgraded and rebooted to run IP Trunk 3.01 before OTM 2.10 can transmit IP Line 3.10 loadware to the IP Trunk cards that are being converted to Voice Gateway Media Cards.

Note 3: The IP Line 3.10 application will automatically remove unnecessary files and directories that may have been created previously by the IP Trunk or ITG Trunk applications. Therefore, the conversion procedure completes without the need to reformat the C: drive.

Procedure 53

Converting unused IP Trunk cards to Voice Gateway Media cards (Part 1 of 3)

Step	Action
1	<p>Download the Succession 3.0 IP Line 3.10 software (IPL310xx.p2 and IPL310xx.sa) from the Nortel Networks Software Download web page to the OTM Server, or place the Signaling Server Succession 3.0 Software CD in the drive of the OTM Server, or use FTP to get the IP Line 3.10 software from the Succession Signaling Server.</p> <p>Note: In the loadware filename, "xx" represents the issue.</p>
2	<p>Use OTM ITG ISDN Trunk service to select the node.</p> <p>To select all cards in the node of the same host type (Succession Media Card or ITG-P), right-click on the node and choose Synchronize I Transmit, and click the appropriate radio buttons for selected node or selected cards, and for Card software.</p>
3	<p>Browse for the IP Line 3.1 loadware file for the appropriate host type (Succession Media Card or ITG-P), then click Open I Start Transmit.</p> <p>Note: Monitor the progress in the Transmit Control window to ensure that the IP Line 3.10 loadware is transmitted successfully to all selected cards.</p>
4	<p>At the Succession Call Server CLI, use the DISI command in LD 32 to disable each IP Trunk card that is being converted.</p>
5	<p>In OTM ITG ISDN Trunk service, double-click on each disabled card that is being converted and then click the Reset button for each card.</p>
6	<p>Verify the 8051XA firmware version of each Succession Media Card and ITG-P card:</p> <ol style="list-style-type: none"> 1 Telnet to each card and log in to <code>IPL>shell</code>. 2 Check the firmware version by entering: <code>IPL>firmwareVersionShow</code>

Procedure 53

Converting unused IP Trunk cards to Voice Gateway Media cards (Part 2 of 3)

Step	Action						
7	<p>Upgrade the firmware if necessary.</p> <table> <tr> <th>If...</th><th>Then...</th></tr> <tr> <td>Succession Media Card firmware version is less than 6.4...</td><td> <ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "SMC v6.6 Firmware Upgrade" document. 4 Download "SMC Release 6.6 Firmware". Follow the procedures in the "SMC v6.6 Firmware Upgrade" document to upgrade the 8051XA firmware and reboot the Succession Media Card. <p>Note 1: If the Succession Media Card is running firmware version 6.4 or 6.5, upgrading to version 6.6 is not necessary.</p> <p>Note 2: Perform this procedure on the IP Line cards one by one. Disable the IP Line card, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p> </td></tr> <tr> <td>ITG-P card firmware version is less than 5.7...</td><td> <ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document. 4 Download "ITG-Pentium Release 5.7 Firmware". Follow the procedures in the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document to upgrade the 8051XA firmware and reboot the ITG-P card. <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p> </td></tr> </table>	If...	Then...	Succession Media Card firmware version is less than 6.4...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "SMC v6.6 Firmware Upgrade" document. 4 Download "SMC Release 6.6 Firmware". Follow the procedures in the "SMC v6.6 Firmware Upgrade" document to upgrade the 8051XA firmware and reboot the Succession Media Card. <p>Note 1: If the Succession Media Card is running firmware version 6.4 or 6.5, upgrading to version 6.6 is not necessary.</p> <p>Note 2: Perform this procedure on the IP Line cards one by one. Disable the IP Line card, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>	ITG-P card firmware version is less than 5.7...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document. 4 Download "ITG-Pentium Release 5.7 Firmware". Follow the procedures in the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document to upgrade the 8051XA firmware and reboot the ITG-P card. <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>
If...	Then...						
Succession Media Card firmware version is less than 6.4...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "SMC v6.6 Firmware Upgrade" document. 4 Download "SMC Release 6.6 Firmware". Follow the procedures in the "SMC v6.6 Firmware Upgrade" document to upgrade the 8051XA firmware and reboot the Succession Media Card. <p>Note 1: If the Succession Media Card is running firmware version 6.4 or 6.5, upgrading to version 6.6 is not necessary.</p> <p>Note 2: Perform this procedure on the IP Line cards one by one. Disable the IP Line card, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>						
ITG-P card firmware version is less than 5.7...	<ol style="list-style-type: none"> 1 Access the www.nortelnetworks.com website. 2 Choose Support Software Downloads Product Family Succession IP Line. 3 Download the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document. 4 Download "ITG-Pentium Release 5.7 Firmware". Follow the procedures in the "ITG-Pentium Rel. 5.7 Firmware Upgrade and Instruction" document to upgrade the 8051XA firmware and reboot the ITG-P card. <p>Note: Perform this procedure on the IP Line cards one by one. Disable the IP Line card, upgrade the firmware, reboot, and then enable each card before performing the 8051XA firmware upgrade on the next card.</p>						

Procedure 53**Converting unused IP Trunk cards to Voice Gateway Media cards (Part 3 of 3)**

Step	Action	
8	If...	Then...
	Part of the IP Trunk node is being retained...	The IP Trunk cards that are being converted must be deleted from the existing IP Trunk node in OTM and the IP Trunk node properties must be transmitted from OTM to the leader of the IP Trunk node.
	None of the IP Trunk node is being retained...	Delete the node from OTM.

Next steps

Upon completion of this procedure, choose one of the following:

For this scenario...	Go to...
1 Software and system (pre-upgrade migration)	"Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager" on page 421
2 Software and system (post-upgrade migration)	"Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager" on page 421
3 Software and system (coordinated cutover)	"Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager" on page 421
6 System only (post-migration)	"Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager" on page 421
7 System only (post-upgrade migration)	"Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager" on page 421
8 System only (coordinated cutover)	"Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager" on page 421

Configuring/importing converted Voice Gateway Media cards into an IP Telephony node using Element Manager

Note: The converted Voice Gateway Media cards are former IP Trunk cards.

This procedure assumes the following:

- The Succession Signaling Server is functioning properly.
- The ELAN and TLAN connections are properly configured.
- The Succession Signaling Server is configured as the Leader in the node.
- The Succession Call Server software has been upgraded to Succession 3.0 Software.
- All unused IP Trunk TNs have been removed from the Succession Call Server database.
- All IP Trunk cards have been converted to Voice Gateway Media Cards (upgraded to IP Line 3.10 application).
- A PC is connected to the LAN.

Choose one of the following methods:

- 1** Procedure 54, “Manually configuring converted Voice Gateway Media Cards into the existing IP Telephony node” on [page 422](#) or
- 2** Procedure 55, “Importing converted Voice Gateway Media Cards into a new IP Telephony node using Element Manager” on [page 425](#).

Procedure 54**Manually configuring converted Voice Gateway Media Cards into the existing IP Telephony node (Part 1 of 3)**

Step	Action
1	Using a PC connected to the LAN, open a web browser. Note: Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.
2	In the browser Address field, enter the ELAN or TLAN IP address of the Succession Signaling Server Leader, and click Go . Note: If the Leader is not responding, then enter the address of a Succession Signaling Server Follower.
3	Log in to Element Manager using a valid user ID and password (for example, Admin1, Admin2, or LAPW password).
4	From the Navigation Tree in Element Manager, choose Configuration IP Telephony . Result: The Node Summary page displays.
5	In the Node Summary, identify the IP Telephony node to which you want to add the converted Voice Gateway Media Cards. (The converted cards will be added as Followers.) Click the Edit button for the IP Telephony node you have chosen. Result: The Edit window opens.
6	Click the Add button next to the Card heading to access the card properties for data entry of a new card. For each card that you are configuring into the system, enter the card's: <ul style="list-style-type: none">• ELAN IP address• ELAN MAC address• TLAN IP address• TLAN gateway IP address• TN• Card Processor type (Pentium or Voice Gateway Media)• Enable set TPS

Procedure 54**Manually configuring converted Voice Gateway Media Cards into the existing IP Telephony node (Part 2 of 3)**

Step	Action
7	Repeat step 6 for each additional card to be configured into the system.
8	<p>Once all the required card properties have been entered for all the cards you are adding, click the Save and Transfer button to save the configuration changes to the Succession Call Server and to transfer the changes to the Succession Signaling Servers and Voice Gateway Media Cards in the node.</p> <p>Monitor progress in the Transfer Progress window.</p> <p>The BOOTP and CONFIG files are saved on the Succession Call Server and transferred to the Succession Signaling Server Leader. The BootP table is updated so the converted cards can receive their IP address configuration.</p> <p>Note: It may be necessary to press the Reset button in the faceplate of the converted Succession Media Cards to trigger a new BootP request. Wait until all converted cards have received their IP address before you reset.</p>
9	Click the Transfer to Failed Elements button to transfer the bootp.tab and config.ini files to the converted Voice Gateway Media Cards.

Procedure 54
Manually configuring converted Voice Gateway Media Cards into the existing IP Telephony node (Part 3 of 3)

Step	Action						
10	<p>Configure the new Voice Gateway TNs on the Succession Call Server by using either Element Manager or LD 14. Do one of the following:</p> <ol style="list-style-type: none"> From the Navigation Tree in Element Manager, choose Configuration IP Telephony. Result: The Node Summary page displays. <ol style="list-style-type: none"> Click on the arrowhead. Click on the appropriate Voice Gateway Media Card. Click on ADD VGW CHANNELS. <table border="1"> <thead> <tr> <th>If</th><th>Then</th></tr> </thead> <tbody> <tr> <td>An Alert Box appears...</td><td>proceed to sub-action (d).</td></tr> <tr> <td>No Alert Box appears...</td><td>this procedure is at an end.</td></tr> </tbody> </table> If an Alert Box appears, log in to the CLI of the Succession Call Server. Use LD 22 to determine if Package 167 is enabled or restricted: <pre> REQ PRT TYPE: 167 If Package 167 is restricted, obtain a new keycode to enable GPRI Package 167. Then, in LD 73 perform: REQ NEW TYPE: DDB and carriage return through, accepting all the defaults. OR 2 From the CLI of the Succession Call Server, use LD 14 to configure the new Voice Gateway TNs.</pre> 	If	Then	An Alert Box appears...	proceed to sub-action (d).	No Alert Box appears...	this procedure is at an end.
If	Then						
An Alert Box appears...	proceed to sub-action (d).						
No Alert Box appears...	this procedure is at an end.						

In general, it is easier to import card configurations than to configure them manually, but the import function is available only for new nodes. Use the following procedure if :

- you want to import the converted Voice Gateway Media Cards into a new, separate node (for example, because you do not require them for LTPS redundancy in the existing node)
- the system is not equipped with IP Line and there is therefore no existing node to which you can add them.

Procedure 55

Importing converted Voice Gateway Media Cards into a new IP Telephony node using Element Manager (Part 1 of 5)

Step	Action
1	Using a PC connected to the LAN, open a web browser. Note: Only Microsoft Internet Explorer v.6.0.2600, or later, is supported.
2	In the browser Address field, enter the ELAN or TLAN IP address of the Succession Signaling Server Leader, and click Go . Note: If the Leader is not responding, then enter the address of a Succession Signaling Server Follower.
3	Log in to Element Manager using a valid user ID and password (e.g., Admin1, Admin2, or LAPW password).
4	From the Navigation Tree in Element Manager, choose Configuration IP Telephony . Result: The Node Summary page displays.
5	Choose Import Node Files .
6	In the text entry box, enter the ELAN IP address of the former Leader 0 of the IP Trunk node that has been converted to Voice Gateway Media Cards. Click Import . Result: The following message displays: The BOOTP.1 and CONFIG1.INI files were retrieved from Voice Gateway Media Card x.x.x.x.

Procedure 55

Importing converted Voice Gateway Media Cards into a new IP Telephony node using Element Manager (Part 2 of 5)

Step	Action
7	<p>Since the BOOTP.1 file does not have a Node ID, enter the Node ID that you want to use for this node, and click Continue.</p> <p>Note: If you have already installed a Succession Signaling Server that will be the Leader for this new node, and if you have already configured this node's sets to point to the Succession Signaling Server Node ID or Virtual Trunk route, use that Succession Signaling Server Node ID when you create this new node, and then add the Succession Signaling Server to this new node in step 8.</p> <p>Once the new node has been created with the imported data, the following message displays:</p> <p>Warning: Call Server IP address in CONFIG.INI file is 0.0.0.0. Please edit the node and update it. BOOTP.TAB and CONFIG.INI files for node yyy were retrieved from Voice Gateway Media Card x.x.x.x, and stored on Call Server z.z.z.z. The new node will appear on the Node Summary page (Configuration > IP Telephony)</p>
8	<ol style="list-style-type: none"> 1 On the Node Summary page, click the Edit button for the new node. 2 Edit the node's properties as follows: <ol style="list-style-type: none"> a. Provision the correct IP address for the Succession Call Server. b. Add the Succession Signaling Server if it exists and is not already part of a larger IP Line node. c. Add any additional Voice Gateway Media Cards.

Procedure 55**Importing converted Voice Gateway Media Cards into a new IP Telephony node using Element Manager (Part 3 of 5)**

Step	Action
9	<p>Once all the required card properties have been entered for all the cards you are adding, click the Save and Transfer button to save the configuration changes to the Succession Call Server and to transfer the changes to the Succession Signaling Servers and Voice Gateway Media Cards in the node.</p> <p>Monitor progress in the Transfer Progress window.</p> <p>The BOOTP and CONFIG files are saved on the Succession Call Server and transferred to the Succession Signaling Server Leader. The BootP table is updated so the converted cards can receive their IP address configuration.</p> <p>Note: It may be necessary to press the Reset button in the faceplate of the converted Succession Media Cards to trigger a new BootP request. Wait until all converted cards have received their IP address before you reset.</p>
10	<p>Click the Transfer to Failed Elements button to transfer the bootp.tab and config.ini files to the converted Voice Gateway Media Cards.</p>

Procedure 55

Importing converted Voice Gateway Media Cards into a new IP Telephony node using Element Manager (Part 4 of 5)

Step	Action						
11	<p>Configure the new Voice Gateway TNs on the Succession Call Server by using either Element Manager or LD 14. Do one of the following:</p> <ol style="list-style-type: none"> From the Navigation Tree in Element Manager, choose Configuration IP Telephony. Result: The Node Summary page displays. <ol style="list-style-type: none"> Click on the arrowhead. Click on the appropriate Voice Gateway Media Card. Click on ADD VGW CHANNELS. <table border="1"> <thead> <tr> <th>If</th><th>Then</th></tr> </thead> <tbody> <tr> <td>An Alert Box appears...</td><td>proceed to sub-action (d).</td></tr> <tr> <td>No Alert Box appears...</td><td>this step is at an end.</td></tr> </tbody> </table> If an Alert Box appears, log in to the CLI of the Succession Call Server. Use LD 22 to determine if Package 167 is enabled or restricted: <pre> REQ PRT TYPE: 167 If Package 167 is restricted, obtain a new keycode to enable GPRI Package 167. Then, in LD 73 perform: REQ NEW TYPE: DDB and carriage return through, accepting all the defaults. OR 2 From the CLI of the Succession Call Server, use LD 14 to configure the new Voice Gateway TNs.</pre> 	If	Then	An Alert Box appears...	proceed to sub-action (d).	No Alert Box appears...	this step is at an end.
If	Then						
An Alert Box appears...	proceed to sub-action (d).						
No Alert Box appears...	this step is at an end.						

Procedure 55**Importing converted Voice Gateway Media Cards into a new IP Telephony node using Element Manager (Part 5 of 5)**

Step	Action
12	If you did not add a Succession Signaling Server to the imported node (see step 8), Telnet to the former IP Trunk Leader 1 card and use the clearLeader command to remove the leader flag from Leader 1.

End of procedures

Upgrading feature set and ISM parameters

Contents

This section contains information on the following topics:

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Upgrade the feature set and ISM parameters	432

Introduction

This chapter describes how to upgrade the feature set and ISM parameters on a Small System. This procedure applies when you are not upgrading to a new software release (same release upgrade). You do not need the Software Delivery card (PC Card) to perform this type of upgrade. This upgrade uses the Software Installation Program (LD 143) and is menu-driven. The program is clear and direct and includes a Help facility to help you make correct selections.

Note: If you need more detailed information, refer to “Upgrading or installing software” on [page 279](#). This chapter contains complete details of the Software Installation Program (LD 143).

Summary of steps

The following list reviews the steps you follow to upgrade and install the feature set and ISM parameters:

- 1 Start the Software Installation Program.
- 2 Select the System Upgrade function.
- 3 Select feature set and packages (optional).
- 4 Select Incremental Software Management (ISM) parameters (optional).
- 5 Validate keycodes.
- 6 Load the software.

Upgrade the feature set and ISM parameters

The following procedure describes how to upgrade the feature set and ISM parameters without upgrading the software release.

Note: To answer the following questions, use the Keycode Data Sheet. Please have it available.

Procedure 56

Upgrading feature set and ISM parameters

- 1 Start the Software Installation Program in LD 143.

The overlay sequence required in LD 143 is prompted as follows:

```
LD 143
CCBR000
.UPGRADE
```

- 2 Select the `System Upgrade` option from the Software Installation Program.

The system displays the **Software Installation Main Menu**.

Call Server/Main Cabinet Software Installation Main Menu:

1. New Install or Upgrade from Option 11/11E - From Software DaughterBoard
 2. System Upgrade
 3. Utilities
 4. New System Installation - From Software Delivery Card
- [q]uit, [h] help or [?], <cr> - redisplay

Select item: **2 (System Upgrade)**

- 3** Select the Option 11C Feature/Parameter Upgrade from the **Select type of upgrade to be performed** menu.

The system displays the **Select type of upgrade to be performed** menu.

Select type of upgrade to be performed:

1. Option 11/11E to Option 11C
2. Option 11C New Software Upgrade
3. Option 11C Feature/Parameter Upgrade

Select item: **3 (Option 11C Feature/Parameter Upgrade)**

Note: In the software menu, "Option 11C" appears for Option 11C, Option 11C Mini, Meridian 1 Option 11C Cabinet, and Meridian 1 Option 11C Chassis systems.

- 4** Indicate if you want to change the current feature set.

The system displays the **Select Feature Set** change menu.

Select Feature Set You Wish to Enable:

1. General Business (ntskxxxx)
 2. Enhanced Business (ntskxxxx)
 3. Enterprise Business (ntskxxxx)
 4. NAS/VNS (ntskxxxx)
 - 5 Retain Current Feature Set
- [q]uit, [p]revious, [m]ain menu, [h] help or [?], <cr> - redisplay

Select the Feature Set you wish to enable:

Note: The feature set selected must match that provided with the keycodes.

- 5** Indicate if there are packages to add.

The system displays the add packages menu.

```
Do you wish to add packages? (y/n/[a]bort):
```

Select **y** to add packages.

```
Summary of packages selected: (example only)
0-2 4-5 7-14-23-29 32-64 67 70-77 79-81 83 86-93
.....
```

```
Enter additional packages: <cr> to continue
```

Enter additional packages followed by a carriage return.

Note: The additional packages must match those provided with the keycodes.

6 Review and make changes to the ISM parameters if required.

The switch displays the current ISM parameters as follows (example only):

```
ISM Parameters will be set to:

TNS (200)
ACDN (300)
AST (100)
LTID (100)
RAN CON (12)
RAN RTE (2500)
MUS CON (100)
BRAND (0)
ACD AGENTS (300)
ANALOGUE TELEPHONES (2500)
ATTENDANT CONSOLES (2500)
BRI DSL (100)
CLASS TELEPHONES (2500)
DATA PORTS (2500)
DIGITAL TELEPHONES (2500)
INTERNET TELEPHONES (0)
PHANTOM PORTS (2500)
WIRELESS TELEPHONES (2500)
WIRELESS VISITORS (0)
ITG ISDN TRUNKS (2500)
TRADITIONAL TRUNKS (2500)
TMDI D-CHANNELS (100)
SURVIVABILITY (4)
```

Do you wish to change any ISM parameter? (y/n/
[a]bort):

Select **y** to change ISM parameter(s).

Note: If you do not change the feature set, the parameters displayed remain as the current ISM parameters. The ISM parameters selected must match those provided with the keycodes.

7 Verify or change the AUX ID.

The default AUX ID is either the security ID provided with the Small System, or the original Option 11C, Option 11C Mini, or Option 11/11E site ID.

Security ID: xxxxxxxx7

Current AUX ID: xxxxxxxx

Do you wish to change the AUX ID? (y/n/[a]bort):

Select your AUX ID option as provided with the keycodes.

8 Review and confirm the information entered.

The screen displays `Same Release Upgrade Summary`. Review and confirm the information displayed.

9 Enter the keycodes when prompted.

After the system confirms and accepts the keycodes, the following prompt appears:

Are you sure you wish to perform the installation?

10 Enter **y** in response to the prompt.

If the only change is an increase in ISM parameter values, a screen message states that you do not need a SYSLOAD. The system has put into operation changes to the ISM values.

If there must be a system reload (SYSLOAD), it does not need to occur immediately. The system stores the information until you perform the SYSLOAD. Because a SYSLOAD interrupts service on the system, it is better to start it later when a service interruption is less inconvenient.

End of Procedure

Important software utilities

Contents

This section contains information on the following topics:

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Review and clear upgrade information	441
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Configure 3900 series language	444
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Introduction

This chapter describes how to use the **Utilities** menu of the Software Installation Program to do the following:

- install an archived database
- review and clear upgrade information
- obtain an installation summary
- configure 3900 series languages
- upgrade the Field Programmable Gate Array (FPGA) on the IP daughterboard

The Utilities menu

The following procedure describes how to use LD 143 to start the Software Installation Program and access the software utilities.

Note: Most of the procedures in this chapter require the use of a Software Delivery card (PC Card). Make sure you install the PC Card before you start the Software Installation Program.

Procedure 57

Accessing the Utilities menu

- 1 Insert the Software Delivery card in Slot A of the PC Card socket. The socket is located in the faceplate of the Small System's NTDK20 Small System Controller (SSC) card or, in an Option 11C Mini that has not been upgraded, the Mini System Controller (MSC) card.

Carefully press on the PC Card until it seats tightly.

- 2 Log in and load LD 143.

- a. Enter **LOGI**.

The screen displays the **PASS?** prompt.

- b. Respond to the **PASS?** prompt.

Note: The response to **PASS?** is different for each system. The response shown below is an example only.

```
LOGI
PASS?
0000 <CR>
LD 143 <CR>
. UPGRADE <CR>
```

- c. Look for the following message.

The **Main Cabinet Software Installation** menu options are displayed:

Call Server/Main Cabinet Software Installation Main Menu:

```
1. New Install or Upgrade from Option 11/11E - From
Software DaughterBoard
2. System Upgrade
3. Utilities
4. New System Installation - From Software Delivery
Card
[q]uit, [p]revious, [m]ain, [h]elp or [?], <cr> -
redisplay
```

Enter Selection:

If the screen displays the message, continue to step 3.

If the screen does not display the message, repeat step 2 (this step) and make sure you enter the correct information.

- 3** Select **Utilities** (item 3) from the **Software Installation Main Menu**.

The **Utilities** menu displays:

Utilities Menu:

```
1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities
[q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-
redisplay
```

Enter Selection:

End of Procedure

Install an archived database

The following procedure describes the steps to install an archived customer database using a Software Delivery card (PC Card).

Procedure 58

Installing an archived database

- 1 Insert the Software Delivery card in Slot A of the PC Card socket in the faceplate of the SSC or MSC card.

Note: For more detailed instructions for the installation of the Software Delivery card (PC Card), see Procedure 57 on [page 438](#).

- 2 Use LD 143 to start the Software Installation Program.

Note: For more detailed instructions for this and the following step, see Procedure 57 on [page 438](#).

- 3 Select **Utilities** (item 3) from the **Software Installation Main Menu**.

The **Utilities** menu displays:

Utilities Menu:

```
1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities
[q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-
redisplay
```

Enter Selection: 3

- 4 Select item 3 (Install Archived Database).

The system displays the list of archived customer databases.

- 5 Select the customer database.

Type the name of the database you want to restore.

The system prompts you to confirm the name of the database.

6 Confirm the database selection.

If you respond **yes**, continue with the next step, step 7.

If you respond **no**, go back to step 5.

7 Restore the archived database.

If the restore is successful, the screen displays the following:

Restoring Archived database to Primary drive...

Restore successful.

System Restart required to activate database.

If	Then
The restore is successful	the procedure is at an end.
The restore is not successful	go back to step 3 on page 440 .

End of Procedure

Review and clear upgrade information

The Review Upgrade Information and Clear Upgrade Information options on the **Utilities** menu allow you to:

- review entered upgrade information
- clear the upgrade information from the Software Installation Program if necessary

Procedure 59**Reviewing and clearing upgrade information**

- 1 Insert the Software Delivery card in Slot A of the PC Card socket in the faceplate of the SSC or MSC card.

Note: For more detailed instructions for the installation of the Software Delivery card (PC Card), see Procedure 57 on [page 438](#).

- 2 Use LD 143 to start the Software Installation Program.

Note: For more detailed instructions for this and the following step, see Procedure 57 on [page 438](#).

- 3 Select **Utilities** (item 3) from the **Software Installation Main Menu**.

The **Utilities** menu displays:

Utilities Menu:

1. Restore Backed Up Database
 2. Archive Database Utilities
 3. Install Archived Database
 4. Review Upgrade Information
 5. Clear Upgrade Information
 6. Undo Installation
 7. Flash Boot ROM Utilities
 8. Current Installation Summary
 9. Change 3900 series set languages
 10. IP FPGA Utilities
- [q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-redisplay

Enter Selection:

- 4** Select the Review Upgrade Information (item 4) or Clear Upgrade Information (item 5) option from the **Utilities** menu.

If	Then
You select 4 (Review)	continue to step 5 on page 442 .
You select 5 (Clear)	go to step 6 on page 442 .

- 5** Review the summary of the upgrade information.

The screen displays the upgrade information for your review. When finished, go to step 4.

- 6** Review and clear or keep upgrade information.

The screen displays the selected upgrade information and the following prompt:

Do you wish to clear the Upgrade information?

Do one of the following:

- Enter **y** <CR> (yes). The procedure is at an end.
- Enter **n** <CR> (no) and go to step 3 on [page 441](#).
- Enter **a** <CR> (abort, return to Main Menu).

End of Procedure

Installation summary

The following procedure describes how to get an installation summary using the Current Installation Summary utility.

Procedure 60

Using the Current Installation Summary utility

- 1 Use LD 143 to start the Software Installation Program.

Note: For more detailed instructions for this and the following step, see Procedure 57 on [page 438](#).

- 2 Select **Utilities** (item 3) from the **Software Installation Main Menu**.

The **Utilities** menu displays:

Utilities Menu:

1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities

[q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-
redisplay

Enter Selection: **8**

- 3 Select **Current Installation Summary** (item 8) from the **Utilities** menu.

- 4 Review the installation summary.

The installation summary displays on the screen for your review.

End of Procedure

Configure 3900 series language

The Language Selections available for the M3900 series sets are as follows:

- **Global 10 Languages** — English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana
- **Western Europe 10 Languages** — English, French, German, Spanish, Swedish, Norwegian, Danish, Finnish, Italian, Brazilian Portuguese
- **Eastern Europe 10 Languages** — English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish
- **North America 6 Languages** — English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana

The following procedure describes how to configure 3900 series set languages in an identified Small System using a Software Delivery card (PC Card).

Procedure 61

Configuring the 3900 series set language

- 1 Insert the Software Delivery card in Slot A of the PC Card socket in the faceplate of the SSC card.

Note: For more detailed instructions for the installation of the Software Delivery card (PC Card), see Procedure 57 on [page 438](#).
- 2 Use LD 143 to start the Software Installation Program.

Note: For more detailed instructions for this and the following step, see Procedure 57 on [page 438](#).
- 3 Select **Utilities** (item 3) from the **Software Installation Main Menu**.

The **Utilities** menu displays:

Utilities Menu:

```
1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities
[q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-
redisplay
```

Enter Selection: **9**

4 Select Change 3900 series set languages (item 9) from the **Utilities** menu.

5 Select the M3900 language set.

```
WARNING: Following selection will overwrite the
existing psdl.rec file
WARNING: Need to perform sysload after psdl file is
changed.
WARNING: All installed M3900 patches will be
removed
```

Select M3900 Language Set:

```
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
[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr> - redisplay
```

Enter selection: **3**

```
Backing up the current psdl.rec file... [wait]
3630080 bytes copied.
Copying current psdl.rec file... [wait] 3630080
bytes copied.
3900 series language set file successfully
installed. 67 bytes copied.
```

- 6 Perform a SYSLOAD to enable the new 3900 series set language.

End of Procedure

Firmware upgrade for IP daughterboard

The following procedure describes the steps to upgrade the Field Programmable Gate Array (FPGA), which resides on the IP daughterboard (with Release 25.30 and later).

Procedure 62

Upgrading the FPGA firmware

Note: This procedure applies only to the main cabinet or chassis.

- 1 Insert the Software Delivery card in Slot A of the PC Card socket in the faceplate of the SSC card.

Note: For more detailed instructions for the installation of the Software Delivery card (PC Card), see Procedure 57 on [page 438](#).

- 2 Use LD 143 to start the Software Installation Program.

Note: For more detailed instructions for this and the following step, see Procedure 57 on [page 438](#).

- 3 Select **Utilities** (item 3) from the **Software Installation Main Menu**.

The **Utilities** menu displays:

Utilities Menu:

```

1. Restore Backed Up Database
2. Archive Database Utilities
3. Install Archived Database
4. Review Upgrade Information
5. Clear Upgrade Information
6. Undo Installation
7. Flash Boot ROM Utilities
8. Current Installation Summary
9. Change 3900 series set languages
10. IP FPGA Utilities
[q]uit, [p]revious, [m]ain, [h]elp, or [?], <cr>-
redisplay

```

Enter Selection: **10**

- 4** Select IP FPGA Utilities (item 10) from the **Utilities** menu.

The following options are listed:

IP FPGA Utilities Menu:

```

1. List IP FPGA versions
2. Upgrade FPGA on IP D/B 1
3. Upgrade FPGA on IP D/B 2
4. Upgrade all IP FPGA's

```

```

[q]uit, [p]revious, [m]ain menu, [h]elp or [?],
<cr>-redisplay

```

- 5** Select List IP FPGA versions (item 1).
- 6** Check the FPGA version, and determine whether it is necessary to upgrade the FPGA.

Look at the version of the active FPGA:

If	Then
The active FPGA version is NTDK87AA Rel a (Hex 10) or later	this procedure is at an end.
The active FPGA version is not adequate and needs to be upgraded	continue with step 7.

- 7** Return to the **IP FPGA Utilities** menu.

- 8 Enter the appropriate selection for the IP daughterboard(s) that you are upgrading.

Note: For the IP expansion cabinet/chassis, you must install the daughterboard on the lower connector (Connector #2) of the SSC card. Therefore, in this case, selection 3 or 4 is the correct selection.

- 9 Once you have made your selection from the **IP FPGA Utilities** menu, the **Main** menu appears once again.
- 10 Reboot the system for the new FPGA version to take effect.

End of Procedure

Meridian 1, Succession 1000M

Small System

Upgrade Procedures

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