Integrated Office—Network Services

# Meridian Mail
# Card Option

Installation and Maintenance

# Publication history

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This is the standard version 1.0 for Meridian Mail Release 10.0.

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This is the standard version 1.0 released for Meridian Mail Release 9.4 to incorporate changes from the addition of Meridian ACCESS to the features supported by the Meridian Mail Card Option platform

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# About this guide

The Meridian Mail Card Option adds voice messaging capabilities to a Meridian 1 Option 11 system. This guide describes the installation and maintenance procedures for Meridian Mail hardware and software.

## Assumptions

This guide assumes that the Meridian 1 system hardware and software have already been correctly installed; that all environmental conditions and electrical requirements have been met; that the system has been correctly configured as a basic, networked, or hospitality system; and that a Meridian Mail compatible video display terminal has been installed on the Meridian 1 PBX and correctly configured.

Most of the hardware installation and maintenance procedures require no special knowledge or equipment. You should be familiar with basic electronic assembly and safety procedures. The procedures for installing a networked system or a hospitality system require you to know how to wire a BIX in-building cross-connect system or similar modular distribution frame (MDF).

The software installation and maintenance procedures require no special knowledge. Some of the basic software procedures, however, require you to know how to use the Meridian Mail system administrator terminal.

## Inside this guide

"Hardware installation" (Chapter 1) describes the installation of a basic Meridian Mail Card Option system.

"System installation and modification" (Chapter 2) describes how to use the System Installation and Modification Utility that comes on the Meridian Mail

software tape. This utility is used to install software on new systems, modify the software on existing systems, and perform routine system maintenance.

"Software installation" (Chapter 3) describes how to install the software on a new Meridian Mail system.

"Basic system procedures" (Chapter 4) describes the basic software procedures you need to know in order to set the time and date on the Meridian 1 PBX, to stop and start the Meridian Mail system, to back up and restore a customer's Meridian Mail data, to add and delete blocks of users, and to customize a customer's service DNs.

"Troubleshooting and maintenance" (Chapter 5) describes the procedures you can follow should anything go wrong with Meridian Mail, and the procedures you should follow to make these problems less likely.

"Software upgrades and conversions" (Chapter 6) describes the procedures to follow when updating to the most current release of the Meridian Mail software.

"System expansion" (Chapter 7) describes the procedures to follow when adding new hardware locations or modifying the existing hardware locations, expanding the system's disk storage, adding new languages, or enabling option features.

"Hospitality systems" (Chapter 8) describes the additional hardware installation and software procedures required in order to take advantage of Meridian Mail's Hospitality Voice Services (HVS) capabilities.

"Networked systems" (Chapter 9) describes the additional hardware installation and software procedures required in order to take advantage of Meridian Mail's networking capabilities.

"ACCESS systems" (Chapter 10) describes the additional hardware installation and software procedures required in order to take advantage of Meridian Mail's ACCESS capabilities.

"Meridian Mail defaults" (Chapter 11) lists the default passwords and system parameters on a Meridian Mail Card Option system.

"Terminal configuration" (Chapter 12) describes how to set up the video display terminals supported by Northern Telecom.

"Disk drive configuration" (Chapter 13) contains configuration instructions for the disk drivfor examplefor examplees supported by Northern Telecom.

# Typographic Conventions

The following conventions are used throughout this guide:

- *Softkeys*  Softkeys are displayed on the various administration menus and indicate which keyboard function keys carry out specific Meridian Mail tasks.  These are referred to in the document by using the label of the softkey (as displayed on the given menu), delimited by square brackets (for example, [Exit], [OK to Delete]).

- *Keyboard keys*  Keyboard keys appear as the key's label, delimited by angle brackets (for example, <1>, <2>, <Return>).

- *Text input*  Where you are required tonput specific text, the characters appear in bold print (for example, **abcd**, as opposed to <a><b><c><d>).

- *Fields in a menu*  Field names appear in italics and in a different typeface than the body of the document (for example, *Last Name, Invalid Logon Attempts*).

- *Screen text*  When a sample screen output is shown in the text, the screen typeface is used.  For example:
  ```
  disk pair 0
  boot region:     32-2031
  file region:     2032-665153
  disk 0:   RW
  disk 2:    RW
  ```

  The following typeface may also be used to represent screen text or prompts where necessary to improve the presentation of the material:

  Specify User Mailbox (Blank for all):
  Network Billing Start:    00/00/00 00:00:00
  Network Billing End:      00/00/00 00:00:00

- *Values in Fields*  Where a field displays a set of values from which you must select, these values are in quotes (for example, "Yes", "No", "Enable", "Disable".)

- *Spoken words* Where you are required to speak into the telephone, such as in the recording of greetings and announcements, any suggested words appear in quoted italics (for example, Say *"Please wait on the line, an attendant will be with you shortly."*

# Recommended reading

The following is a list of other documents associated with the Meridian Mail Card Option.

- *Meridian Mail Card Option System Administration, The Basics* (NTP 555-7071-300)

- *How to Use Meridian Mail* (P0746553)

- *Meridian Mail Installation Procedures* (NTP 555-70*x*1-210)

- *Meridian Mail System Administration Guide* (NTP 555-7001-301)

- *Meridian Mail System Administration Tools* (NTP-555-7001-302)

- *Meridian Mail System Event and Error Reports* (NTP 555-7001-510)

## Hospitality, networked, and ACCESS systems

- *Meridian Mail System Administration Guide (Hospitality)* (NTP 555-7001-302)

- *Meridian Mail Modular Option Installation Procedures* (NTP 555-7041-210)

- *Meridian Mail Networking Installation Guide* (NTP 555-7001-213)

- *Meridian ACCESS Configuration Guide* (NTP 555-7001-315)

- *Meridian ACCESS Developer's Guide* (NTP 555-7001-316)

- *Meridian ACCESS Application Programming Interface (API) Reference Manual* (NTP 555-7001-317)

- *Meridian ACCESS Voice Prompt Editor User's Guide* (NTP 555-7001-318)

- *BIX In-building Cross-connect System Material Description* (NTP 631-4511-100)

## The Meridian 1 PBX

- *Meridian 1 Option 11 Technical Reference Guide* (NTP 553-3011-100)
- *Meridian 1 Option 11 General Installation and Planning Guide* (NTP 553-3011-200)
- *Meridian 1 Option 11 Installation Guide* (NTP 553-3011-210)
- *Meridian 1 Option 11 Administration Guide* (NTP 553-3011-300)
- *Meridian 1 Option 11 Fault Clearing Guide* (NTP 553-3011-500)
- *X11 Software Guide Including Supplementary Features* (P0730610)

# Hardware installation

This chapter describes the installation of a basic Meridian Mail Card Option system. Later chapters describe the special hardware you have to install for hospitality, networked, and ACCESS systems.

The basic Meridian Mail hardware consists of the following:

1  68K card (NTAK14BA)

1-2 DVP cards (NTAK15AB)

0-4 C25 cards (NTAK16AB)

1  Disk/power supply card and SCSI terminator (NTAK13AA)

1  Disk drive for five-hour systems (A0377786) or
   Disk drive for ten-hour systems (A0378251) or
   Disk drive for twenty-four-hour systems (A0351371, A0602257)

1  Disk shield kit for mounting the disk drive to the disk/power supply card
   (P0743928)

1  Connector board and Meridian Mail faceplate for three-slot systems
   (NTAK17AA) or
   Connector board and Meridian Mail faceplate for four-slot systems
   (NTAK17BA)

Three slots in the Meridian 1 cabinet are reserved for the 68K card, the DVP card and the disk/power supply card. They are labelled 10/MM1, MM2, MM3 respectively. (Refer to Figure 1-1 on page 1-2.) In four-slot systems, an additional DVP card is placed in slot 9. You can attach up to two C25 cards to each DVP card.

**Figure 1-1**
**An overview of hardware installation (a three-slot system)**



*Note:* Four-slot systems contain a second DVP card in slot 9, to which you can attach up to two C25 cards.
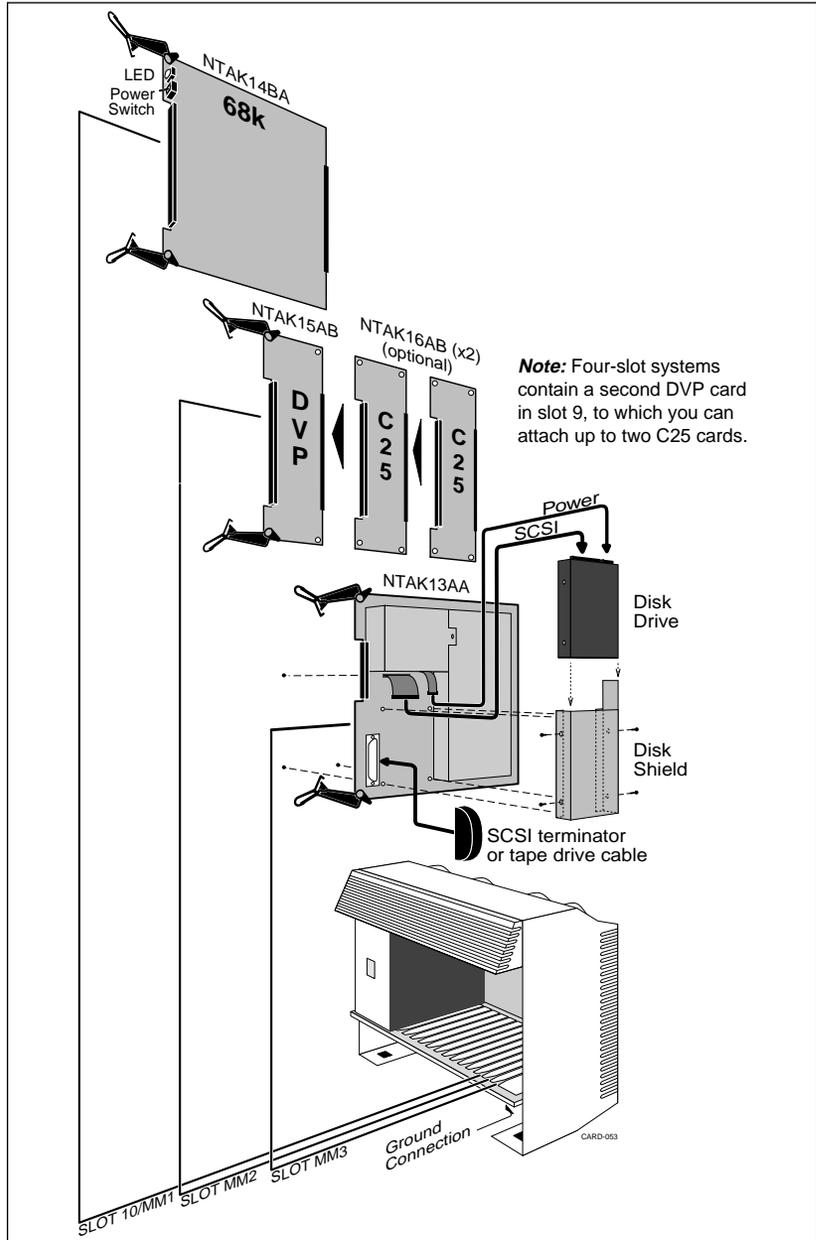
The following are optional:

- External Archive tape drive kit and SCSI cable, North America (NT6P05BA)

- External Tandberg tape drive kit and SCSI cable, North America (NTAK30DA/A0639203)

- External tape drive kit and SCSI cable, United Kingdom (NTAK30EA/A0639205)

- External tape drive kit and SCSI cable, European Mainland (NTAK30AA)

    *Note:* Each tape drive kit comes with a power cord appropriate to its location.

- Tape drive wall mounting kit (NTAK39AA)

- 3M brand DC6250 tapes (A0368760) for system backups

- Northern Telecom (Nortel) Personal Printer (C2501287)

- RSM breakout assembly (NTAK18AA)

- RSM breakout assembly, with enhanced EMI protection (NTAK18BA)

- Hospitality Voice Services (HVS) Hardware Kit, including RSM breakout assembly (NTAK35AA)

- Networking Hardware Kit, including RSM breakout assembly (NTAK40AA)

- ACCESS hardware, including RSM breakout assembly (Refer to page page 10-3.)

The HVS,  Networking, and ACCESS Hardware Kits each contain the RSM breakout assembly which fits under the Meridian 1 card cage and plugs into the far right 25-pair connector, J10.

# Precautions

If you are installing a hospitality, networked, or ACCESS system, you must install the RSM breakout assembly first.

You can install the Meridian Mail hardware while the Meridian 1 PBX is running, but you must ensure that the switch on the 68K card is in the off (down) position. Failing to do so can result in damage to the components or injury to yourself.



> **DANGER**
> **Shock hazard**
> Before removing any cards, ensure that the power switch on the 68K card is in the off (down) position.

Before touching any components, ensure that you are properly grounded by putting on the wrist strap connected to the Meridian 1 cabinet. Static electricity can irreparably damage sensitive electronic components.



> **CAUTION**
> **Risk of equipment damage**
> Use extreme care and wear a grounding strap when handling the PCBs. They are susceptible to electrostatic damage and to damage from rough or improper handling.

# Tools required

Tools required for the installation are listed in Table 1-1.

**Table 1-1**
**Tools required for installation**

| Tool | Description |
|------|-------------|
| Anti-static wrist strap | |
| BIX connector tool | NT product number GYBIX16 |
| Carpenter's level | |
| Extraction tool | P0741489 |
| Hammer | |
| Phillips screwdriver | small, medium |
| Slotted screwdriver | small, large |
| Socket wrenches | 1/4, 5/16, and 9/16-inch |
| Volt meter | |
| Wire cutters | |
| Wire strippers | |

# Removing the cover

Use a screwdriver to unlock the latches on the front of the Meridian 1 cabinet. The latches slide inwards, the cabinet cover swings down and detaches at the base. Remove the cover and put it safely aside.

**Figure 1-2**
**Removing the cover**



CARD-030
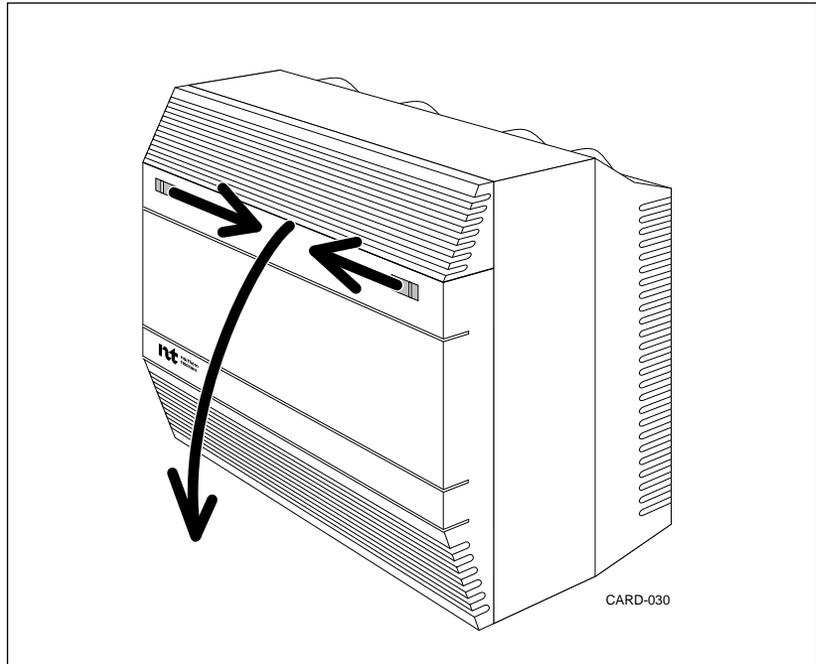
# Installing the RSM breakout assembly (NTAK18AA/BA)

The RSM breakout assembly is a small circuit board that sits in the cavity beneath the three Meridian Mail cards and is connected to connector J10, the rightmost of the 25-pair connectors that run the length of the Meridian 1 cabinet. An MDF cable is attached to this assembly and allows the customer to connect other RS-232 devices to Meridian Mail, most notably those devices required for hospitality, networked, and ACCESS systems.

The RSM breakout assembly is available in two varieties:  NTAK18BA should be installed in areas requiring enhanced protection from electromagnetic interference, NTAK18AA can be used in all other situations.  Apart from this difference, the two cards are installed in exactly the same way and function identically.

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**DANGER**
**Shock hazard**
Before installing the RSM breakout assembly, ensure that the 68K card is not plugged into the back of the Meridian 1 cabinet. Turning off Meridian Mail is not enough.

---

**CAUTION**
**Risk of equipment damage**
Use extreme care and wear a grounding strap when handling the PCBs.  They are susceptible to electrostatic damage and to damage from rough or improper handling.

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**Procedure 1-1**
**Installing the RSM breakout assembly**

If you are installing a new Meridian Mail system, install the RSM breakout assembly before any of the other cards.

**1**    If you are adding an RSM breakout assembly to an existing system:

    a.   Courtesy down Meridian Mail and turn it off. (Refer to page 4-7.)

    b.   Grasping the top three lock latches with one hand and the bottom three latches with the other, unlock all three cards simultaneously and pull the assembly out slowly until the 68K card comes un-plugged from the back of the cabinet. There is no need to remove it completely.

**2**    Remove the cable restraining bar.

**3**    Plug the end of the MDF cable equipped with a cubic ferrite ring into the RSM breakout assembly.

**4**    Move the small switch on the RSM breakout assembly to the "Normal" position as indicated on the assembly.

**5**    Fit the RSM breakout assembly over the plastic extrusion that holds the right end of the cable restraining bar in place, plug it into the rightmost 25-pair connector, and secure it in place with the screw provided.

**6**    Run the MDF cable down through the Meridian 1 cabinet as shown in Figure 1-3.

**7**    Replace the cable restraining bar.

You can now install or reinstall the remaining Meridian Mail cards and turn on the Meridian Mail system.

**Figure 1-3**
**The RSM breakout assembly**



Ferrite ring

Normal/Bypass switch

**RSM Breakout Assembly
installed and secured**

SDI Port
to System
Administrator's
terminal

MDF cable
to BIX
or BIX panel

CARD-031
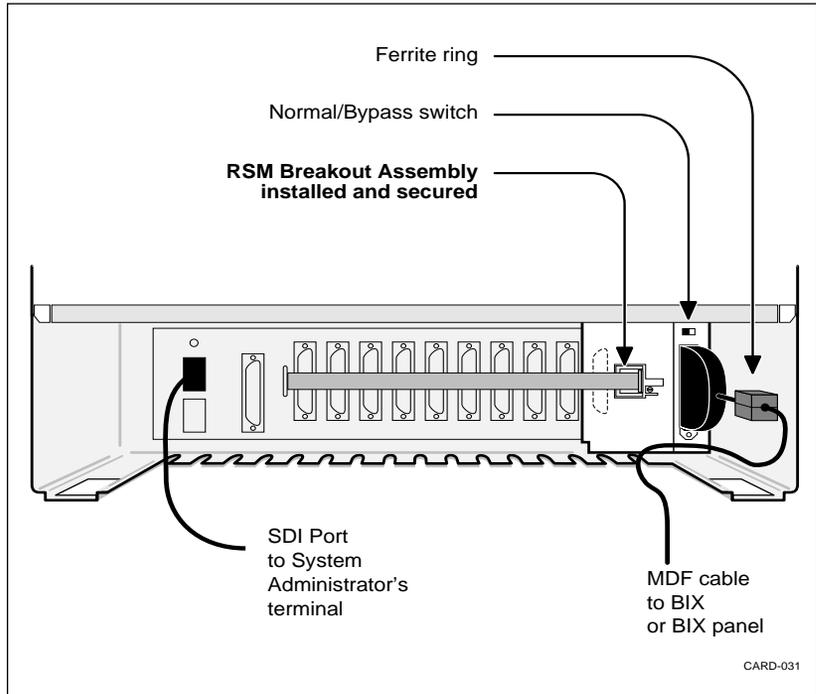
You can work with the RSM cable while the RSM breakout assembly is installed and Meridian Mail is on. For information on connecting peripheral devices to the RSM cable, refer to "Hospitality systems" (Chapter 8) or "Networked systems" (Chapter 9).

# Installing the Meridian Mail cards

The 68K card connects to the Meridian 1 PBX through the connector at the back of the Meridian 1 cabinet. One or two DVP card assemblies and the disk/power supply card are connected to the 68K card through the connector board which plugs in at the front edge of each of these cards.

> **CAUTION**
> **Risk of equipment damage**
> Use extreme care and wear a grounding strap when handling the PCBs. They are susceptible to electrostatic damage and to damage from rough or improper handling.

Due to the force required to install the connector board, you should first assemble and insert the Meridian Mail cards into the card cage. The card cage keeps the cards securely in place while you plug in the connector board.

**Procedure 1-2**
**Inserting the 68K card (NTAK14BA)**

1   Ensure that the switch on the 68K card is in the off (down) position.

2   Insert the card into slot 10/MM1 with the solder side to the left and the components to the right. Do not push it all the way to the back of the cabinet and do not lock the latch levers. (Refer to Figure 1-4.)

**Figure 1-4**
**Inserting the 68K card**

LED

Power
Switch

NTAK14BA

SLOT 10/ MM1

CARD-026
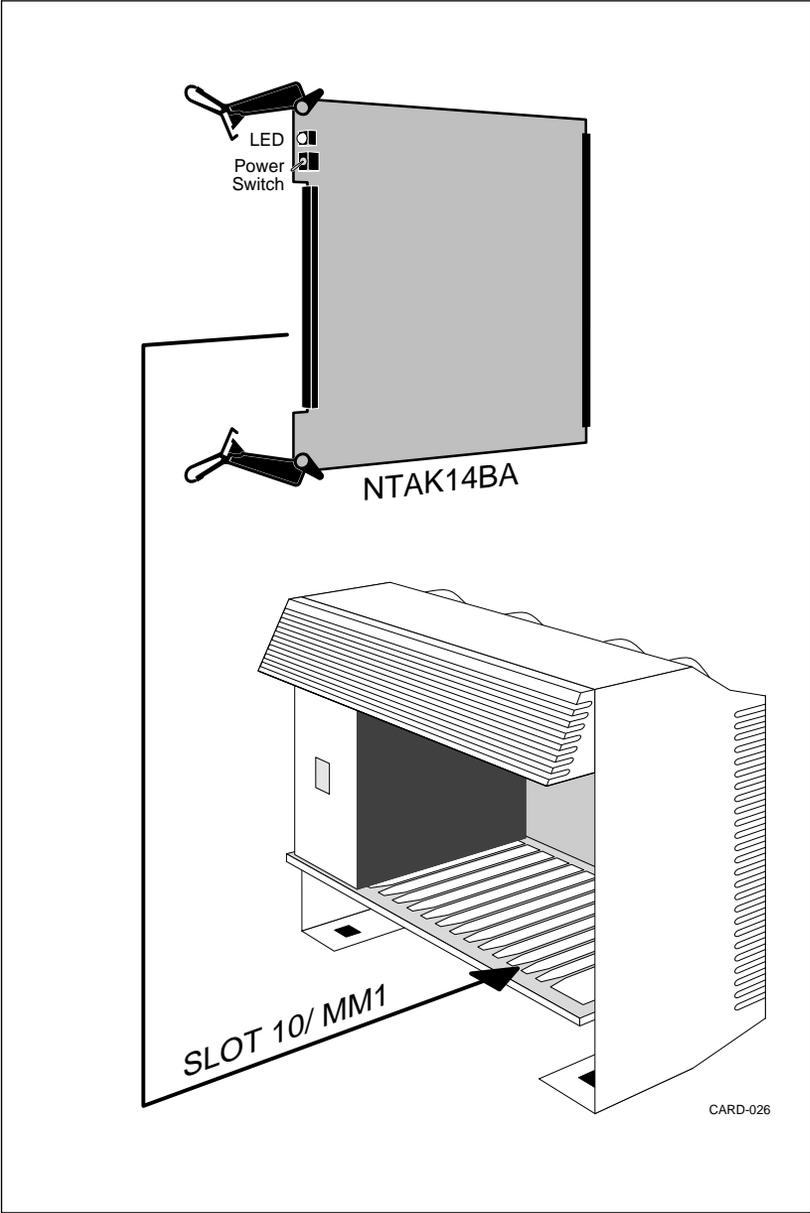
## Assembling and inserting the DVP card (NTAK15AB)

A Meridian Mail Card Option system can have from two to twelve hardware locations according to the configurations in the following table. The number of hardware locations dictates how many people can use Meridian Mail at the same time. This includes both people leaving messages and faxes and people logged on to Meridian Mail.

**Table 1-2**
**Hardware location configurations**

| Hardware Locations | Configuration |
|---|---|
| 2 | First DVP card in slot MM2 with no C25 cards attached. |
| 4 | One C25 card attached to first DVP card in slot MM2. |
| 6 | Two C25 cards attached to first DVP card in slot MM2. |
| 8 | Second DVP card in slot 9 with no C25 cards attached. Two C25 cards attached to first DVP card in slot MM2. |
| 10 | One C25 card attached to second DVP card in slot 9. Two C25 cards attached to first DVP card in slot MM2. |
| 12 | Two C25 cards attached to second DVP card in slot 9. Two C25 cards attached to first DVP card in slot MM2. |

**Procedure 1-3**
**Assembling and inserting the DVP card**

**1**    Attach the supplied C25 cards to the DVP cards. Ensure that the DVP
         card to be installed in slot MM2 has two C25 cards before adding a C25
         card to the second DVP card. (Refer to Figure 1-5.)

         To avoid damaging the cards, lay them on a firm, flat, and static-free sur-
         face as you push them together.

         *Note:* Some systems may be equipped with an older DVP card
         (NTAK15AA) or older C25 cards (NTAK16AA). Do not install any of
         these older cards in slot 9. You can, however, attach new C25 cards
         (NTAK16AB) to an old DVP card, provided you insert the assembled
         cards in slot MM2 only.

**2**    Insert the assembled cards into their correct slots as described in
         Table 1-2 with the solder side to the left and the components to the right.
         Do not push them all the way to the back of the cabinet and do not lock
         the latch levers.

**Figure 1-5**
**Assembling and inserting the primary DVP card**



DVP

C25

C25

NTAK15AB

NTAK16AB (x2)
(optional)

*Note:* Four-slot systems
contain a second DVP card
in slot 9, to which you can
attach up to two
C25 cards.

SLOT MM2

CARD-028
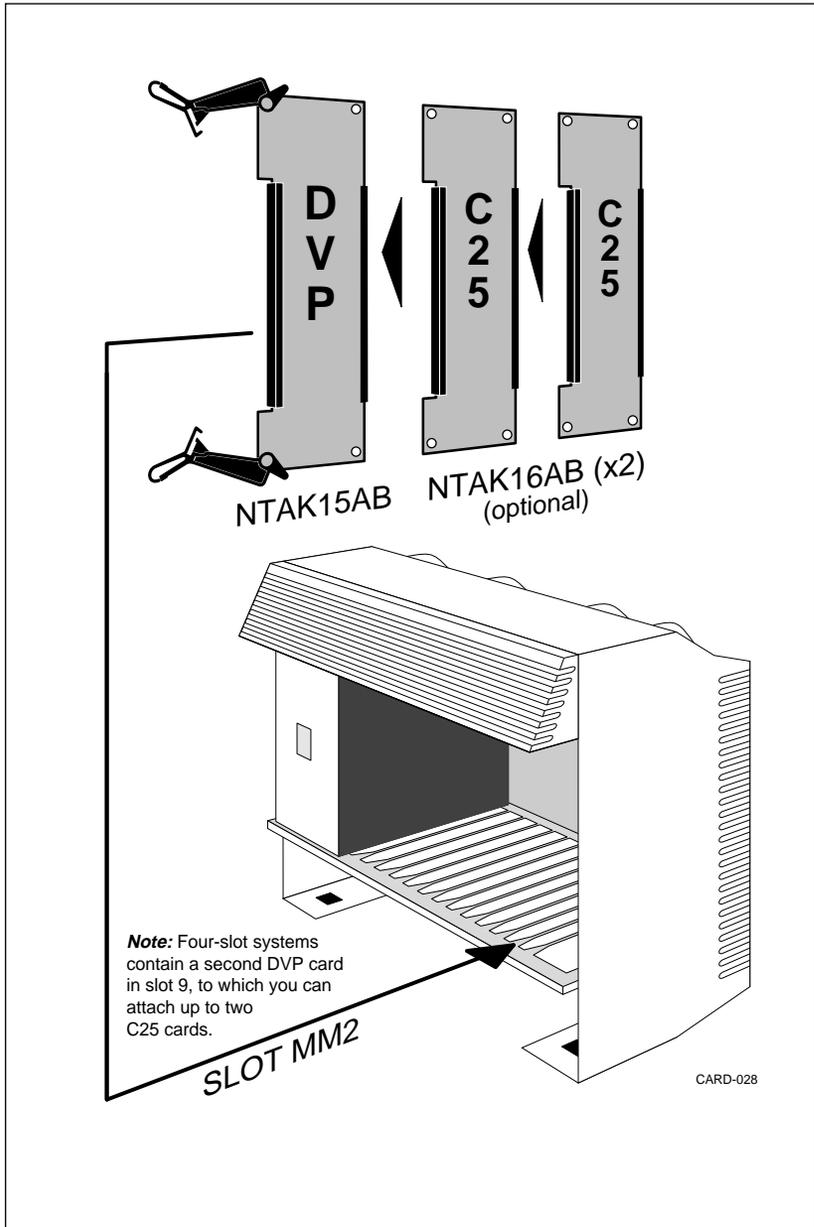
**Procedure 1-4**
**Assembling and inserting the disk/power supply card**
The disk/power supply card (NTAK13AA) contains the power supply for
Meridian Mail and a place to mount the Meridian Mail disk drive.

**1** Remove all terminators from the disk drive. Install the correct jumpers
required for the model of disk drive you're installing and remove all other
jumpers. (Refer to Chapter 13.)

**2** Slide the disk shield over the disk drive and screw it into place on both
sides of the drive with the four screws provided.

**3** Connect the power cable from the disk/power supply card to the power
connector on the disk drive. (Refer to Figure 1-6.)

> **CAUTION**
> **Potential disk drive failure**
> Before installing the SCSI cable that connects the disk drive
> to the disk/power supply card, inspect the plugs at each end.
> A bent pin on one of the plugs can cause a disk drive failure.
>
> When installing the SCSI cable, ensure that the plugs are
> seated properly and pushed down securely.

**4** Connect the SCSI cable from the disk/power supply card to the SCSI
connector on the disk drive.

**5** Secure the disk shield/disk drive assembly to the card using the screws
and insulating washers provided. Place the washers between the heads
of the screws and the disk/power supply card.

**6** If you have already installed the Meridian Mail software on this disk, plug
the supplied SCSI terminator into the SCSI connector on the disk/power
supply card.

   *Note:* If this is a new system, you will be attaching an external tape drive
   to this connector and installing the software after you have finished in-
   stalling the remaining Meridian Mail hardware.

**7** Insert the assembled card into slot MM3 with the solder side to the left
and the components to the right. Do not push it all the way to the back
of the cabinet and do not lock the latch levers.

**Figure 1-6**
**Assembling and inserting the disk/power supply card**
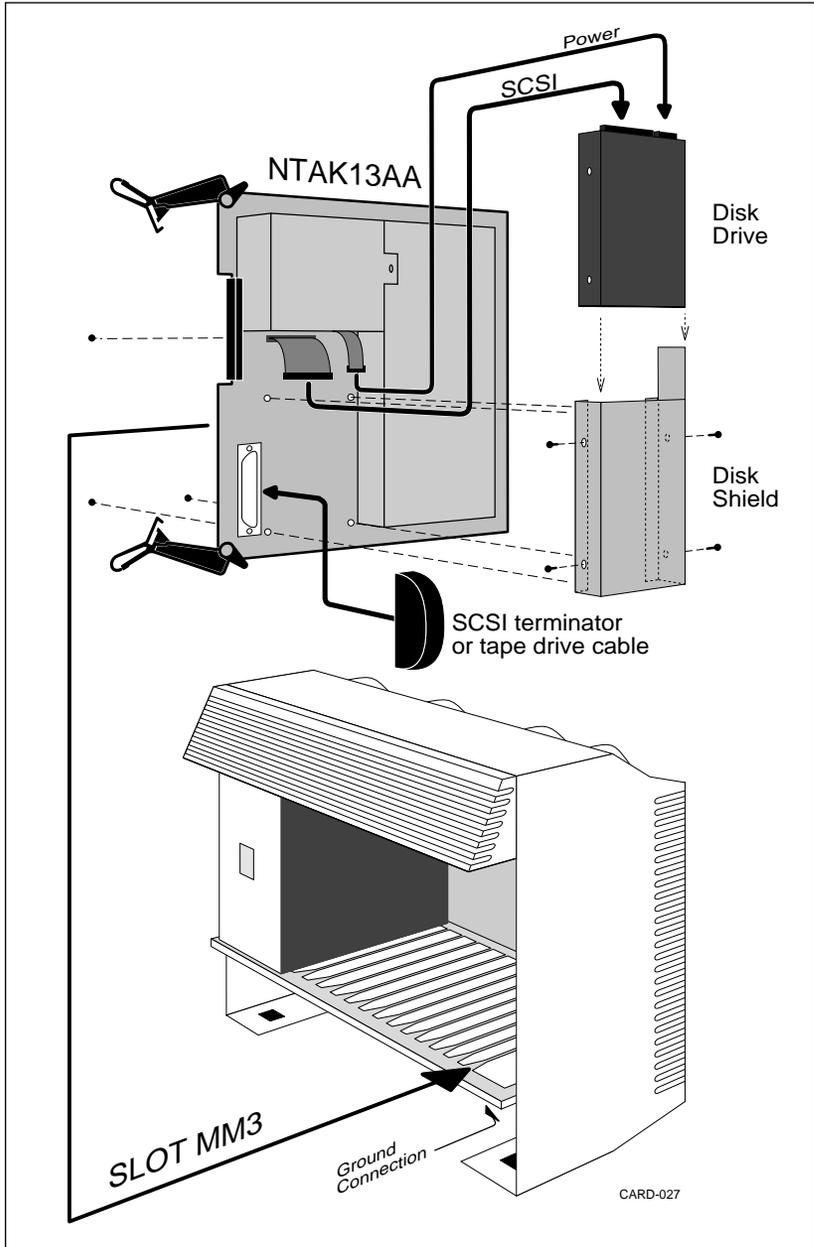
**Procedure 1-5**
**Installing the connector board**
Figure 1-7 shows how to install a three-card Meridian Mail Card Option sys-
tem into a three-plug connector board (NTAK17AA). If the system you are in-
stalling is equipped with a second DVP card, you will require a four-plug
connector board (NTAK17BA).

> *Note:* A four-plug connector board can be used with a three-card sys-
> tem, but the fourth plug will block slot 9 so that it can't be used for any
> other Option 11 cards.

**1**   Ensure that the switch on the 68K card is in the off (down) position.

**2**   Moving from left to right, plug the edge of each card into the appropriate
plug on the connector board.

**Figure 1-7**
**Installing the connector board**



CARD-029
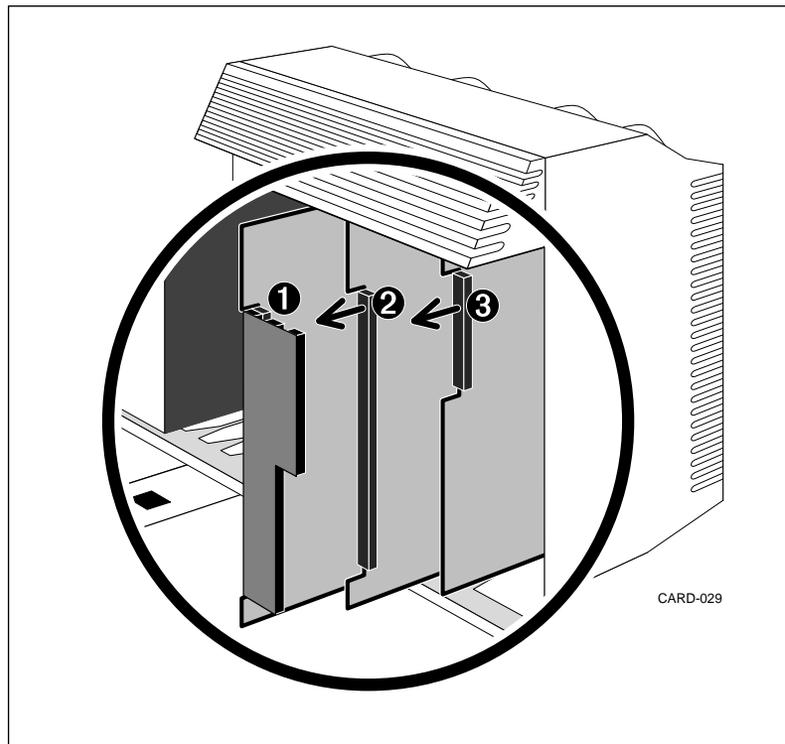
**3**   Slowly and carefully push the connected cards into the cabinet, until the 68K card plugs firmly into the connector at the back of the cabinet. (The other cards do not have connections at the back of the cabinet.)

**4**   Grasping the top lock latches with one hand and the bottom latches with the other, lock all cards simultaneously into the cabinet.

**5**   If this system is to have a permanently connected external tape drive, install it now, following the procedure below.

**6**   If this is a new system and you have yet to install the Meridian Mail software, install it now, following the procedures described in Chapter 3.

**7**   Fit the Meridian Mail face plate into place so that the power switch and the LED line up with the appropriate holes. Be careful not to knock the power switch or bend the leads on the LED.

# Installing the external tape drive

The external tape drive is used to install and upgrade software, and to make backups of Meridian Mail data. It can be attached permanently to the SCSI connector on the disk/power supply card or installed only when needed.

**Procedure 1-6**
**Installing the external tape drive**

**1**   Unless you are installing Meridian Mail for the first time, courtesy down Meridian Mail and turn it off. (Refer to page 4-7.)

**2**   Set the power selector switch at the back of the tape drive to the correct voltage for your area.

**3**   Plug the tape drive's power cord into the same circuit used by the Meridian 1 cabinet.

**4**   Set the SCSI address for the appropriate tape drive to "1", as described in  Table 1-3.

**Table 1-3**
**Setting the tape drive SCSI ID**

| Tape Drive | To set SCSI ID |
|---|---|
| Archive Viper | Press the up and down buttons until "1" appears in the SCSI ID window. See Figure 1-8. |
| Tandberg TDC 4220 | Place the jumper on "0" to set the SCSI ID to "1". See Figure 1-9. |

**Figure 1-8**
**SCSI setting for Archive tape drive**
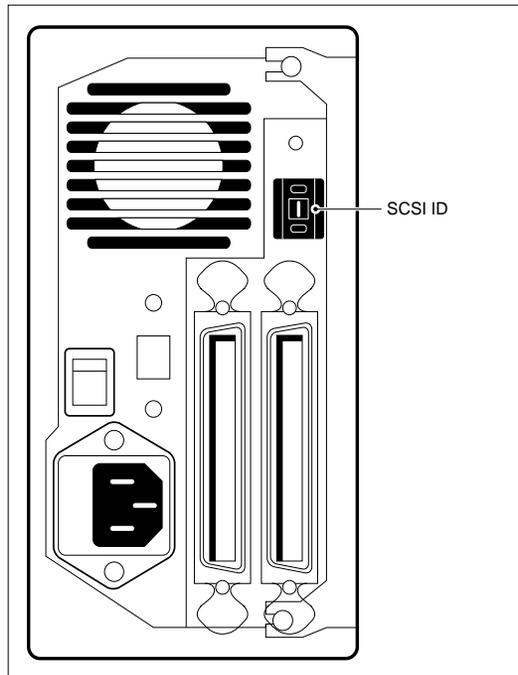
**Figure 1-9**
**SCSI setting for TandbergTDC 4220 tape drive**
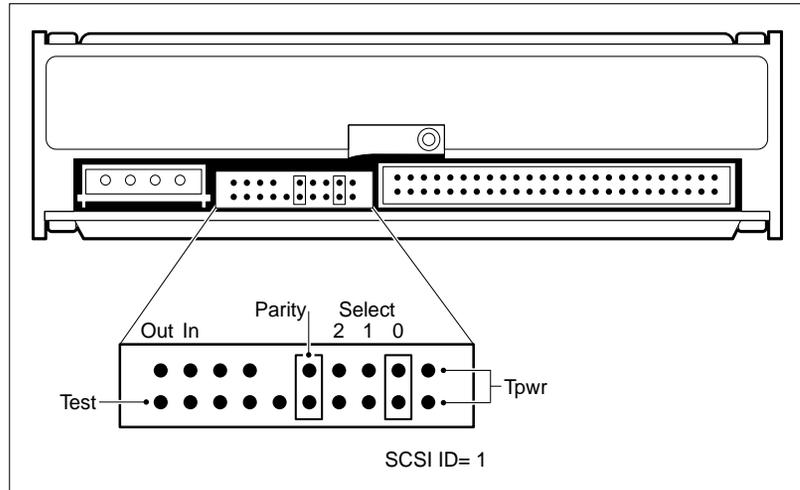


**5** Plug the provided SCSI cable into either SCSI connector on the back of the tape drive and plug the provided SCSI terminator (A0379544) into the other connector.

**6** Run the cable up through the bottom of the card cage, and plug the other end into the SCSI port of the Disk/ Power Supply card. (Refer to Figure 1-6 on page 1-16.)

**7** Run the grounding wire back down through the bottom of the cage and affix it behind the bar that runs the width of the cabinet, using one of the screws holding the bar to the front of the card cage.

**8** If desired, mount the external tape drive below and to the right of the cabinet, following the instructions in Figure 1-10. It should be positioned so that it does not interfere with the cables that run out of the bottom of the Meridian 1 cabinet. Avoid mounting the tape drive where it will be subjected to continuous shock or vibration.

**9** Start Meridian Mail. (Refer to page 4-8.)

*Note:* If you are installing Meridian Mail for the first time refer instead to the installation procedures in Chapter 3.

**Figure 1-10**
**Mounting the external tape drive**



CARD-017

Affix the first bracket to the wall with its lips to the left.

Affix the second bracket to the wall with its lips overlapping the front of the tape drive.

With the top of the tape drive facing the wall, slide it into the bracket.
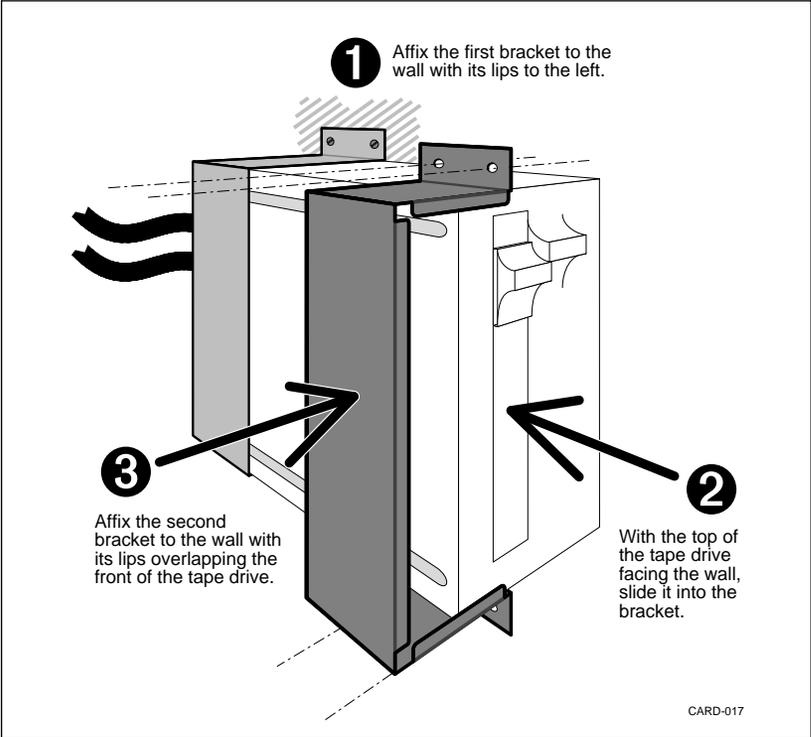
**Procedure 1-7**
**Inserting a tape**

**1**    Position tapes with the label side to the top of the tape drive and the opening towards the front of the drive.
*Note:* If the tape drive has been correctly mounted on the wall, insert tapes with the label facing the wall and the opening facing upwards.

**2**    Insert the tape in the appropriate tape drive as described in Table 1-4.

**Table 1-4**
**Inserting a tape**

| Tape drive | Directions |
|------------|------------|
| Archive tape drive | Push the tape all the way into the drive and slide the handle until the tape cartridge locks into place. |
| Tandberg tape drive | Press the Release button to open the door on the tape drive, and insert the tape. |

**3**    Gently close the tape drive door.
*Note:* The tapes you receive from Nortel are 3M brand DC6250 tapes. Be sure to use this tape format for your backups.

**Procedure 1-8**
**Removing a tape**

**1**   Remove the tape from the appropriate tape drive as described in
Table 1-5.

> **CAUTION**
> **Potential damage**
> Do not attempt to remove a tape when the drive is running,
> or the tape drive could be damaged.

**Table 1-5**
**Removing a tape from the tape drive**

| If | then |
|---|---|
| Archive Viper tape drive | Slide the handle on the front of the drive  until the tape is ejected from the drive. |
| Tandberg tape drive | Press the Release button to open the door, and the tape will be ejected from the drive. |

**Procedure 1-9**
**Removing the external tape drive**
For systems not equipped with a permanently installed external tape drive, the Meridian 1 representative is responsible for all software procedures that require a tape drive and should therefore include a tape drive as part of the standard equipment.

To remove the external tape drive:

**1**   Courtesy Down Meridian Mail and turn it off. (Refer to page 4-7.)

**2**   Turn off the power to the tape drive and unplug it.

**3**   Detach the grounding wire from the Meridian 1 cabinet.

**4**   Unplug the SCSI cable from the disk/power supply card and install a SCSI terminator in its place.

**5**   Start Meridian Mail. (Refer to page 4-8.)

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⚠ **CAUTION**
**Potential data loss**
Whenever an external tape drive is not attached to the disk/power supply card, install the SCSI terminator in its place.

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# Installing a printer

Connecting a printer to the system administrator's terminal allows the administrator to print reports using Meridian Mail's Operational Measurements function.

You can also configure Meridian Mail to print System Error and Event Reports on the same printer as they are generated. System events and error reports contain information about every system event and error that occurs on the Meridian Mail system. For more information on the content of SEERs, refer to *Meridian Mail—System Event and Error Reports.*

Meridian Mail supports two types of printer: the LA75 Plus Companion Printer; and the HP ThinkJet Printer (NT Personal Printer). If the printer you are installing is a different model, match its settings with those described in Table 1-6 on page 1-27 and Figure 1-12 on page 1-29 and use the setup procedures described in the printer's owner's manual.

**Procedure 1-10**
**Connecting and configuring the LA75 Plus Companion printer**

**1**   Connect the printer to the appropriate port at the rear of the system ad-
ministrator's terminal using the following cables:

**For VT220 terminals,** connect the printer to the H87575-A adapter us-
ing a BC16E-10 cable, and connect the adapter to the port labelled "PR"
using an A0369499 cable.

**For VT320 , VT420  and VT520 terminals,** connect the printer to the
port labelled "Printer Port" using a BC16E-10 cable.

**For NT220 terminals,** connect the printer to the H87575-A adapter us-
ing a BC16E-10 cable, and connect the adapter to the port labelled
"Auxiliary" using an NTND82AA/AB cable.

**For HP700/22 terminals,** connect the printer to the port labelled "Print-
er" using an A0369499 cable.

**For HP700/32 terminals,** connect the printer to the H87575-A adapter
using a BC16E-10 cable, and connect the adapter to the port labelled
"Port 2" using an A0369499 cable.

**2**   Plug the printer's AC power cord into an appropriate outlet, and turn on
the power. There is no need for it to be on the same circuit as the Me-
ridian 1 cabinet.

**3**   Ensure that the printer is turned off.

**4**   Press and hold the setup button on the front control panel of the printer
and at the same time power on the printer.

**Figure 1-11**
**The LA75 Plus Companion printer control panel**
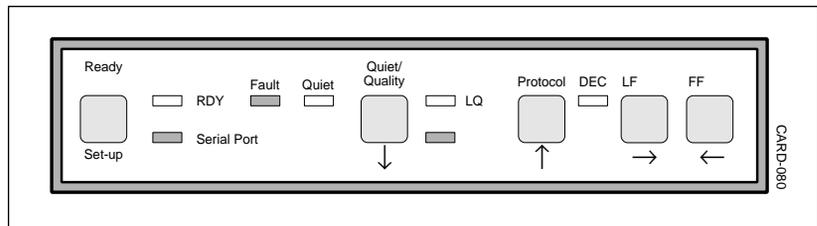
**5**   Release the setup button one to two seconds after powering on.
*The printer prints a list of the default settings. When the list is complete, it goes back to the beginning of the list, reprints the first setting, and stops. Refer to Table 1-6 on page 1-27*

**Table 1-6**
**LA75 Plus Companion printer default settings**

| Feature number | Name | Value number | Name |
|---|---|---|---|
| Generic 1 | Protocol at Power-up | 3 | Port Dependent |
| Generic 2 | Form length | 9 | 11 inches (A) |
| Generic 3 | Vertical pitch | 4 | 6 lines per inch |
| Generic 4 | Automatic advance | 1 | Selected |
| Generic 5 | Print quality control | 1 | Software control |
| Generic 6 | Port selection | 1 | Serial port |
| Generic 7 | Baud rate | 7 | 9600 |
| Generic 8 | Data bits and parity | 7 | 8-none |
| Generic 9 | Buffer control | 1 | XON/XOFF |
| Generic 10 | Error beep | 1 | One beep |
| Generic 11 | Typestyle | 1 | Internal |
| Generic 12 | Input buffer size | 1 | 8K |
| Generic 13 | Disconnect on fault | 1 | Not selected |
| DEC 1 | Horizontal pitch | 7 | 10 Char. per in. (80 Col) |
| DEC 2 | GO character pitch | 1 | US ASCII |
| DEC 3 | User pref. char. set | 1 | DEC Supplemental |
| DEC 4 | Printer ID | 4 | Conf. Level 2 (LA75 Plus) |
| DEC 5 | Text mode right margin | 2 | Wrap |

**6**   If you want to change the current setting, press the left arrow key on the control panel.
*The current feature number is printed again with the new setting.*

**7**   If this is not the setting you require, press the left arrow button again and the next setting for that feature number is printed. Refer to the printer's user manual for the list of options available for each feature.

**8**   Repeat step 7 until the option you want for this feature is printed.

**9**   Press the down arrow to move to the next feature.

**10**   Repeat step 6 to step 9 until you have changed all the settings to your satisfaction.

**11**   Press the setup button on the control panel to save the settings.

For more information, consult the printer's owner's manual.

**Procedure 1-11**
**Connecting and configuring the HP ThinkJet printer**

**1**   Connect the printer to the appropriate port at the rear of the system administrator's terminal using the following cables:

*For VT220 terminals,* connect the printer to the port labelled "PR" using an A0369499 cable.

*For VT320 ,VT420  and VT520 terminals,* connect the printer to the port labelled "Printer Port" using an A0376171 cable.

*For NT220 terminals,* connect the printer to the port labelled "Auxiliary" using an NT0M96DC/DD cable. Some NT220 terminals require an Inmac 328 adaptor (A0351509).

*For HP700/22 terminals,* connect the printer to the port labelled "Printer" using an A0369499 cable.

*For HP700/32 terminals,* connect the printer to the port labelled "Port 2" using an A0376171 cable.

**2**   Set the switches at the back of the printer so that they match those in the Figure 1-12.

**Figure 1-12**
**Configuring the HP ThinkJet printer**



| Switch number and name | | Position | Description |
|---|---|---|---|
| *Mode select switches* | | | |
| **1** | Carriage return definition | Down | CR produces a carriage return only. |
| **2** | Line feed definition | Up | LF produces a line feed and a CR. |
| **3** | Perforation skip mode | Down | No perforation skip. |
| **4** | Page length | Down | 11 inches. |
| **5** | Control sequence mode | Up | Alternate (not HP) mode. |
| **6-8** | Character set selection | U, U, D | IBM 8. |
| *RS-232 protocol switches* | | | |
| **1** | Handshaking mode | Down | XON/OFF |
| **2-3** | Parity and data bits | D, D | 8 bits, no parity. |
| **4-5** | Baud rate | D, D | 9600 baud. |

**3** Plug the printer's AC adaptor into an appropriate outlet. There is no need for it to be on the same circuit as the Meridian 1 cabinet.

**4** Plug the adaptor's power cord into the socket at the back of the printer.

**5** Turn the power on.

**6** To enable the printer, press the button immediately below the power indicator lamp as shown in Figure 1-13.

For more information, consult the printer's owner's manual.

**Procedure 1-12**
**Setting the printer to auto print mode**

**1** Press the S key on the administration terminal to display the Setup screen.

**2** Press E to display the Printer Communication Setup screen.

**3** Use the down arrow cursor key to move to the *Printer Speed* field.

**4** Press E to change the speed field to 9600.

**5** Use the down arrow cursor key to move to the *Print mode* field.

**6** Press E to change to *Auto print mode*. This selection sets the printer to print everything automatically; otherwise, messages are just displayed on the terminal.

**7** Press the S key to exit.

**Figure 1-13**
**Enabling the HP ThinkJet printer**
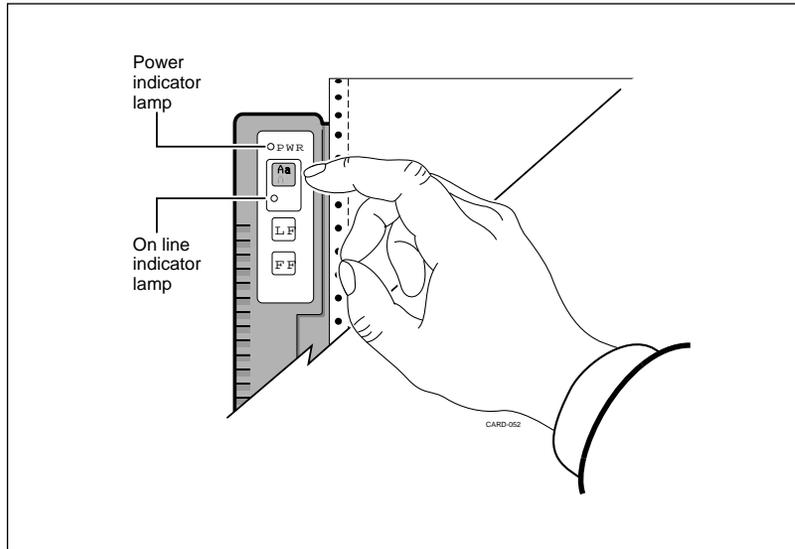


## Configuring Meridian Mail

Meridian Mail is automatically configured to allow the printing of operational measurement reports. If, however you also want the printer to print system event and error reports as they occur, you must configure the printer as follows:

**Procedure 1-13**
**Configuring the printer to print SEERs reports**

**1**   After you have loaded the Meridian Mail software (Chapter 3), log on to the Meridian Mail system at the system administrator's terminal.

**2**   From the Main Menu, choose "2 General Administration"→ "1 General Options."

**3**   Set the field *SEER Printing* to "Enabled."

**4**   Press =+ .

# System installation and modification

This chapter describes how to use the System Installation and Modification Utility that comes on the Meridian Mail software tape. This utility is used to install software on new systems, modify the software on existing systems, restore systems from a backup tape, and perform routine system maintenance.

## The software tape

The software tape you receive depends on the languages you order, as seen in Table 2-1 on page 2-2. If the languages you order are not contained on a single tape, you will receive more than one tape. If, for instance, you order German and Russian, you will receive the North American tape and the Europe 2 tape.

**Table 2-1**
**Software tapes and languages**

| Tape | Order Number | Languages |
|------|--------------|-----------|
| North America | NTAK72AE | North American English<br>Canadian French<br>American Spanish<br>German<br>Japanese<br>Italian<br>Brazilian Portuguese |
| Europe 1 | NTAK72BE | North American English<br>European English—Female<br>European French<br>European Spanish<br>German<br>Italian<br>Dutch |
| Europe 2 | NTAK72CE | North American English<br>Swedish<br>Norwegian<br>Danish<br>Finnish<br>Russian |
| Europe 3 | NTAK72EE | North American English<br>European English—Male<br>Arabic<br>Portuguese<br>Turkish |
| Asia-Pacific | NTAK72DE | North American English<br>New Zealand (Australasian) English<br>Japanese<br>Intec Japanese<br>Mandarin<br>Taiwanese Mandarin<br>Korean |

# Keycodes and labels

Many of the functions available through the System Installation and Modification Utility require you to enter a special access code. This keycode is provided by your Meridian 1 representative and unlocks the capabilities you've purchased for your system, including:

- The amount of disk storage the system can use

- The number of channels and their attributes

- The number of languages

- Any of the following special Meridian Mail features:

  — ACCESS

  — AMIS Networking

  — Bilingual prompting

  — Fax on Demand

  — Hospitality Voice Services

  — Meridian Forms

  — Meridian Mail Networking

  — Multi-customer

  — Network Message Service

  — Outcalling

The keycode for a system is printed on the label on the box containing the Meridian Mail software tape. Figure 2-1 is an example of a typical label for a Card Option system. You should also receive a second, duplicate label. Affix this label to the inside of the door on the Option 11 cabinet; that way, should you misplace the software tape, you will still have the keycode you need. If you are responsible for more than one Meridian Mail system, ensure that you use the correct keycode for each system.

**Figure 2-1**
**A typical Card Option label**

```
┌─────────────────────────────────────────────────────────┐
│  MM SERIAL NBR            Bell Quebec       NTI Number    │
│  ┌────────┐             Montreal Central   ┌──────────┐  │
│  │ 926199 │                07 JUN 94       │3044912299│  │
│  └────────┘                                └──────────┘  │
│  PBX Serial Nbr                      LANGUAGE(S) ┌─┐     │
│  ┌────────┐                                      │2│     │
│  │ 926199 │                            HOURS ┌────┐      │
│  └────────┘              FEATURE(S)          │0024│      │
│                                              └────┘      │
│  ┌──────────────────────────────────────────────────┐  │
│  │ Out Calling      Voice Forms      Dual Lang Prompting│
│  │ Voice Menus                                          │
│  │                                                      │
│  └──────────────────────────────────────────────────┘  │
│                                                          │
│   TYPE    PORTS                                          │
│  Physical   12                                           │
│  Multimedia  2      MM9 UNIVERSAL KEYCODE                │
│  Full Serv  10    ┌─────────────────────────┐           │
│  Basic Serv  0    │C9DD BFE5 2CF4 AB63 1FF2 │           │
│                   └─────────────────────────┘           │
└─────────────────────────────────────────────────────────┘
```

CARD-086

## Serial numbers

A serial number appears on the label—*MM Serial Number*— which is matched to the keycode. The system software will compare the parameters defined by the keycode with the new configuration and serial number during a system operation. If an exact match is not found, the keycode will be rejected.

*Note:* As an option with Release 10.0, an 11-character, alphanumeric serial number can be assigned on the system which matches the 11-digit serial number for the Meridian 1 switch. This allows you to maintain only one serial number for all Northern Telecom (Nortel) products. Contact Nortel for information on changing your serial number, if desired.

## Modifying your system

Should you wish to modify your system, your Meridian 1 representative will provide you with a new keycode to unlock any new capabilities you purchase.

For example you may want to take advantage of the latest release of the software, increase your channels, and add some new features. A single new keycode will unlock all these modifications.

### Precautions

This single keycode enables each of the system modification procedures you will have to perform. It is important, however, that you perform the procedures in the following order:

- Software upgrade or conversion (Refer to Chapter 6.)

- Hardware modification (Refer to page 7-3.)

- Storage expansion (Refer to page 7-5.)

- Language expansion (Refer to page 7-6.)

- Feature expansion (Refer to page 7-8.)

Failure to follow this order may cause problems with the system.

Of course, not all systems will require each of these steps—simply skip the ones you don't have to perform, but maintain the order. Don't, for instance, attempt a feature expansion before a language expansion.

# Using the System Installation and Modification Utility

The System Installation and Modification Utility is run directly from the Meridian Mail software tape, as follows:

**Procedure 2-1**
**Installing the Meridian Mail software tape**

**1**    Courtesy down Meridian Mail and turn it off. (Refer to page 4-7.)

   *Note: There is, of course, no need to turn Meridian Mail off if you have just installed or reinstalled the Meridian Mail hardware and have yet to turn it on.*

**2**    If one is not already connected, connect an external tape drive to the Meridian Mail Disk/Power card and turn on the power switch at the back of the drive. The green light indicates that the tape drive is on. (Refer to "Hardware Installation" for additional instructions.)

**3**    Insert the Meridian Mail software tape into the tape drive. (Refer to page 1-22.)

   *Note:* If you ordered additional languages for your system, you may have received more than one software tape. Each software tape you receive contains the complete Meridian Mail system software, so it doesn't matter which you use to run the System Installation and Modification Utility. Only when you wish to load languages not contained on this tape will you need to insert another software tape.

**4**    Start Meridian Mail. (Refer to page 4-8.)
   *Just above the power switch on the 68K card is a small LED. When the system is first turned on, the LED lights briefly and Meridian Mail proceeds with its internal diagnostics and start-up procedures.*
   *The LED should remain unlit during the entire process—which takes approximately four minutes—and then come back on and remain lit. At almost the same time the LED lights up, the PBX prompts similar to the following are displayed:*
   **ESDA002 9  <time and date>**
   **CSA003 9 <time and date>**

a. While Meridian Mail is booting up, toggle to the PBX terminal and verify the following:

— time and date are correctly set

— the AML link is in auto setup mode (See "For Release 17 systems and earlier" on page 4-5 or "For Release 18 systems and later" on page 4-6.)

— the voice channels (hardware locations) are not disabled. See Table 4-12 on page 4-26.

b. Type **AX** and press R to toggle to the Meridian Mail terminal. *The tape drive starts reading the tape, and—after approximately three minutes—Meridian Mail displays the following menu:*

```
System Installation & Modification Menu
- - - - - - - - - - - - - - - - - - - - - - - - - - - -

1 Install an MM10 system
2 Upgrade to the latest MM10 release
3 Convert MM8 or MM9 system to MM10
4 Feature Expansion
5 Hardware Modification
6 Storage Expansion
7 Language Expansion
8 More Utilities


Please enter the operation number:
```

*If this does not happen, refer to "Troubleshooting and maintenance" (Chapter 5).*

### Responding to the prompts

Many of prompts you see while using the System Installation and Modification Utility contain the standard default for the prompt. To accept the default:

**1**   Press R      .

To choose an alternative:

**1**   Press the up and down arrow keys to move through the list of alternatives.

**2**   Press R      to accept your choice.

To enter custom data:

**1**   Press M       to delete the default.

**2**   Enter your data.

**3**   Press R      .

### Assigning hardware location attributes

Several of the functions available through the System Installation and Modification Utility utility require you to assign specific attributes to the hardware locations.

A Meridian Mail Card Option system can be equipped with up to twelve hardware locations. You must define these hardware locations as either voice ports or multimedia ports. A voice port requires a single hardware location, a multimedia port requires two consecutive hardware locations.

Each of the ports must also be defined as a basic-service or full-service port.

*Basic-service voice* ports can perform the two basic voice functions: Voice Menus and Interactive Voice Response (IVR).

*Full-service voice* ports can perform all the Meridian Mail voice functions available on Card Option systems, including Voice Menus and Interactive Voice Response.

*Basic multimedia* ports are not supported. All multimedia ports are full-service ports by default and use a *single* full-service port in your allocation.

*Full-service multimedia* ports can perform all the functions of a full-service voice port in addition to such multimedia functions as Fax on Demand.

When configuring the hardware location attributes, the system displays a list of the available hardware locations similar to the following:

```
Node  -------- Voice Hardware Location --------
     1  2  3  4   5  6  7  8  9 10 11 12 13 14 15 16
 1   M --  M --  V  V Vb Vb
```

In this example hardware locations 1 to 4 are defined as two multimedia ports. Hardware locations 5 and 6 are defined as full-service voice ports. And hardware locations 7 and 8 are defined as basic voice ports.

When assigning ports on a Meridian Mail Card Option system, remember the following:

•  Card Option systems have only one node and a maximum of twelve hardware locations.

•  Multimedia ports require two consecutive hardware locations.

•  You cannot assign more multimedia ports or full-service voice ports than you have purchased, nor can the total number of ports exceed the number determined by the keycode, whether or not you have the hardware you need.

•  Each multimedia port uses a *single* full-service port in your allocation.

The following procedure allows you to change the attributes of a range of hardware locations:

**Procedure 2-2**
**Changing attributes of hardware locations**

**1**     At the Select operation: prompt, choose "Change"

**2**     For *Port Type,* choose the attributes you want for the range of hardware locations: Basic Voice, Full-service Voice, or Full-service Multimedia.

**3**     For *First Node,* choose "1".

**4**     For *First Location*, choose the first hardware location in the range.

**5**     For *Last Node,* choose "1".

**6**     For *Last Location*, choose the last hardware location in the range.
           *The list of hardware locations is displayed again to reflect the changes.*

**7**     At the prompt, "**Is this correct?**":

           a.    Choose "Yes" to implement the changes.
                 *If you have exceeded any of the limits to the number or type of ports, you are prompted to change the allocation.*

                 or

           b.    Choose "No" to enter more changes.

# Software installation

This chapter describes how to install the software on a new Meridian Mail system and set up the system for the system administrator. Once the software has been installed on a system, it will only ever need to be re-installed in the event of a disk drive failure.

After the initial installation, software can be upgraded or converted to a later release (Chapter 6), restored from backup (Chapter 4), or the system can be expanded (Chapter 7).

## What you need

- The Meridian Mail software tape, NTAK72xE (Refer to Chapter 2 for the exact part number).
- The keycode for your system (Refer to Chapter 2.)

The keycode you need is printed on the label on the box containing the Meridian Mail software tape, together with the serial number of the system. If you are responsible for more than one Meridian Mail system, ensure that you are using the correct keycode for each. If the serial number of the system does not match that on the label, the keycode will be rejected.

## Before installing the software

The Meridian 1 Option 11 PBX comes with several ACD queues predefined to process calls to Meridian Mail. These correspond to the default Meridian Mail DNs described in Chapter 11. If you are installing Meridian Mail on a newly-installed PBX, there is little chance that someone has changed these defaults. If, however, you are installing Meridian Mail on a PBX which has been operating for some time, you must ensure that these DNs have not been assigned to some other purpose.

**Procedure 3-1**
**Printing existing configuration before installation**

**1**    Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**    Print a hardware location report by following the prompts in Table 4-4 on page 4-22; and, using the hardware location table on page 11-4, verify that the default hardware location DNs have not been reassigned or altered.

**3**    Print an ACD queue report by following the prompts in Table 4-3 on page 4-22 and, referring to the parameters listed in Table 4-5, "Creating a new Voice Messaging DN," on page 4-23 and Table 4-10, "Creating a new service DN," on page 4-26, ensure that the default service DNs have not been reassigned or altered.

**4**    If the values in these reports are different from those in the appropriate tables, you can do one of two things:

a.    Reassign the services that are currently using the DNs. (Refer to *Meridian 1 Option 11—Administration Guide.)*

b.    Change the DNs to DNs which are not in use, by following the procedures in "Changing the default Meridian Mail DNs" on page 4-16.

# Automatic and manual configuration

Depending on the options you choose, auto configuration can set up a series of default users, the default services listed in Chapter 11, and the automated attendant described in *Meridian Mail Card Option—System Administration, The Basics.*

It has, however, come to the attention of Northern Telecom (Nortel) that the standard default numbers are being circulated among a growing population of telephone "hackers" who log on to voice mail systems and use them to cause trouble or make long distance telephone calls.

With this in mind, you have the option of manually configuring your own values for these features, after installing the software.

### Default data fill

During software installation you are prompted as follows:

**Do you want default data fill?**

To automatically configure your system, choose "yes." If you choose "no" you must manually configure the system after the software installation is complete. If you choose "yes," you still have the option of later changing some or all of the default data fill values.

### Default users
If you request default data fill, you are prompted as follows:

**Do you want default users created?**

If you choose "yes," you are prompted further for the number of users you want the system to create and the extension number of the first user in the list. The number of users you can add is restricted by the size of your disk drive. The extension numbers are restricted to those defaults defined on the Meridian 1 PBX.

### Default voice services
If you request default data fill, you are prompted as follows:

**Do you want default voice services?**

The default voice services are

- 100  Voice Menu defined as "Auto Attendant"
- 101  Thru-dialer defined as "Dial by Extension"
- 102  Thru-dialer defined as "Dial by Name"

### Default voice service DNs
If you request default data fill, you are prompted as follows:

**Do you want default voice service DNs created?**

The default voice service DNs depend on the type of system you're installing is a hospitality system, and on whether or not you requested default voice services

**Table 3-1**
**Default service DNs**

|  | Hospitality systems | Other systems |
|---|---|---|
| **Without default voice services** | 7000  Guest Messaging | 7000  Voice Messaging |
| **With default voice services** | 7000  Guest Messaging<br>7001  Express Messaging<br>7002  Hotel Menu<br>7003  Published Numbers<br>7004  Post Check-out<br>7005  Staff Messaging | 7000  Guest Messaging<br>7001  Auto Attendant<br>7002  Express Messaging<br>7003  Prompt Maintenance |

# Installing the software

Installing the software for a Meridian Mail card option system takes about 45 minutes from start to finish, plus an extra 20 minutes for each additional language.

**Procedure 3-2**
**Installing the software**

1    Run the System Installation and Modification Utility from the Meridian Mail software tape. (Refer to Chapter 2.)

2    From the System Installation and Modification Menu, choose "1 Install an MM10 system".

3     Be prepared to supply the following values for the system:

— The keycode from the system's label

— The customer's name
     *This is the name that appears on Meridian Mail screens and reports.*

— The languages to install on the system

— The country in which the system will be operating

— The DSP parameters for the system
     *These parameters are determined by the country you choose for the system. You should not have to change the default values.*

— The desired assignment of hardware locations

— The DNs for the users on this system

— The data port locations
*Card Option systems can have up to six data ports: the first two are reserved for the system administration terminal and the link to the Meridian 1 switch, the remaining four are the four ports available on the RSM card, if one is installed. The following are the recommended settings for these ports:*

**Table 3-2**
**Recommended data port settings for Card Option**

| Location | Basic system | Hospitality system | Networked system | Networked hospitality system | ACCESS system |
|---|---|---|---|---|---|
| *Node 1 Card 1* | | | | | |
| Port 1 | Console | Console | Console | Console | Console |
| Port 2 | CSL1 (AML) | CSL1 (AML) | CSL1 (AML) | CSL1 (AML) | CSL1 (AML) |
| *Node 1 Card 3 (RSM)* | | | | | |
| Port 1 | Modem | GAC | Modem | GAC | Modem |
| Port 2 | Printer | GAC (optional) | Printer | Modem | ACCESS |
| Port 3 | Printer | PMS | Printer | PMS | Printer |
| Port 4 | Printer | PMS | Printer | PMS | Printer |

*The port locations you define here must match the connections you make to the RSM breakout assembly. The wiring diagrams for hospitality systems (Figure 8-1 on page 8-3), networked systems (Figure 9-1 on page 9-2), and ACCESS systems (Figure 10-1 on page 10-4) are based on these recommended values. If you customize the port locations, ensure that you change the wiring accordingly.*

**4** Respond to the prompts as they appear. You may choose to auto-configure your system with default values, or you may manually configure your own values for these features after installing the software. See "Automatic and manual configuration" on page 3-2 for additional information.

Don't worry if you respond to a prompt incorrectly. Before the final installation begins you are given another opportunity to re-enter the information.

The final installation takes about 45 minutes from start to finish, plus an extra 20 minutes for each additional language. Be prepared to insert any additional language tapes as the system requests them.

**5**    After the final language has been loaded, you are prompted as follows:

**The operation successfully completed.**
**Remove the tape when it finishes rewinding and boot into service.**
**#TAPE:MMTAPE/>**

**6**   When the tape has finished rewinding, and the light on the front of the tape drive goes out:

a.   Remove the tape from the drive. (Refer to page 1-23.)

b.   Power Meridian Mail down, as outlined in Procedure 4-10.

c.   Wait ten seconds.

**7**   Start Meridian Mail. (Refer to "Starting Meridian Mail" on page 4-8.)

**8**   If, when you start Meridian Mail, the terminal displays the Meridian Mail logon screen but the keyboard does not respond:

a.   Press C        .

b.   Enter **AX** R        to return to Meridian Mail.

If the keyboard still does not respond, refer to "Terminal problems" on page 5-13.

**9**   If the terminal is incorrectly displaying the lines on the Meridian Mail logon screen as a string of "q"s:

a.   Press C        **W**.
*You are presented with a small pop-up menu.*

b.   Enter **IF** R        .
*The screen redraws correctly.*

# Setting up the system

Before anyone can use Meridian Mail, you must ensure that the following items have been defined. After this is done, the system administrator can customize the system by following the procedures in *System Administration— The Basics*:

• the time and date

• the Meridian Mail capabilities of each telephone set

• the Meridian Mail on-switch dialing restrictions

• a system administrator

• the Automated Attendant

• the Voice Services DN table

• a block of voice mailboxes

## Using default values

The final three items may have already been automatically configured during software installation. You may leave them as they are or reconfigure them to your requirements. The procedures in this chapter use the suggested values defined in Chapter 11. Please note, if you choose not to use these default values, you must also change the values defined on the Meridian 1 PBX by following the procedures in "Changing the default Meridian Mail DNs" on page 4-16.

### Passwords

If you do choose to use the default values, ensure that the passwords you choose are not the same as those listed. To prevent unauthorized people from accessing your system you should follow these guidelines:

• Change passwords every three to four weeks.

• Choose passwords that are easy to remember and do not write them down anywhere someone might find them.

• Choose a password (the longer the password the better.)

• Do not choose things related to your organization, such as its telephone number.

## Setting the time and date

The time and date must be set on the Meridian 1 PBX and on Meridian Mail.

**Procedure 3-3**
**Setting the time and date**

**1**    Log on to the Meridian 1 PBX and set the PBX's time and date. (Refer to page 4-3.)

**2**    Log on to Meridian Mail.
*You are prompted to enter the time and date.*

**3**    Enter the time and date in the indicated format and press <Return>.

## Configuring the telephone sets

You must configure each of the telephone sets which are to have access to Meridian Mail so that FDN, HUNT, or a KEY value points to the Voice Messaging DN.

You can configure each telephone individually or assign them to one of the models which are predefined on every Option 11 PBX. Refer to *Option 11 Administration Guide*: "How to activate telephones."

## Setting the on-switch dialing restrictions

After the initial software installation, Meridian Mail starts up with on-switch dialing completely restricted. This means that none of your users can dial Meridian Mail, nor will Meridian Mail answer their phone.

**Procedure 3-4**
**Setting the on-switch dialing restrictions**

**1**     Log on to the Meridian Mail Main Menu.

**2**     Select the following options to access the Voice Security Options form:
"3 Voice Administration"→
"2 Voice Security Options"
*The Voice Security Options form appears*

**Figure 3-1**
**The Voice Security Options form**



```
                        Voice Administration          MORE ABOVE
 Voice Security Options

 Maximum Invalid Logon Attempts Permitted per session: 3_

 Maximum Invalid Logon Attempts Permitted per mailbox: 9_

 Maximum Days Permitted Between Password Changes:       0_

 Minimum Password Length:                               4_

 External Logon:                             Enabled

 Call Answering.Express Messaging Thru-dial   Unrestricted On_switch Local
 restriction/permission codes:                Long_distance_1 Long_distance_2

 List Name:      On switch
 Restriction Codes: 0    1     ___  3    4    5    6    7    8    9
 Permission  Codes: ___ ___ ___ ___ ___ ___ ___ ___ ___
                                                        MORE BELOW

        Save          Cancel
```

CARD-088

**3**     Scroll down until the first *List Name* appears.
*The name should be "On_switch." (Refer to Figure 3-1.)*

4   Move the cursor to the restriction code corresponding to the first digit in your dialing plan. Normally this will be "2."

5   Press M      .

6   Press =+ .

## Assigning a system administrator

Following the procedures in the chapter entitled "Day to day business" in *System Administration—The Basics* (555-7071-300), select the user you wish to make system administrator and set the *Administrator Capability* field to "Yes". Ensure that the password for this mailbox is changed immediately from the default, and that it is changed on a regular basis.

## Setting up the Automated Attendant/Hotel Menu

The following instructions assign an Automated Attendant that functions as described in the chapter, "Customizing your system" in *System Administration—the Basics* (555-7071-300). An Automated Attendant is not normally part of a default Hospitality system, although you can configure the Hotel Menus DN to function as one.

It is important that you set up the Thru-Dial Definition and the Voice Menu Service before you set up the entry in the Voice Services DN table for the Automated Attendant.

**Procedure 3-5**
**Setting up the Thru-Dial Definition**

1   From the Meridian Mail Main Menu, choose
    "3 Voice Administration"→
    "3 Voice Services Administration"→
    "5 Thru-Dial Definitions"
    *You are presented with a list of thru-dial definitions. On a newly installed system, this list should be blank.*

2   Press > – .
    *The Add a Thru-Dial Definition form appears. (Refer to Figure 3-2.)*

**Figure 3-2**
**The Add a Thru-Dial Definition form**

```
                    VS Config/Menu Applications Admin
Add a Thru-Dial Definition

Thru-Dial ID:    101____          Title: Dial by Extension_____

Revert DN:       0_____

Access Password: _____    Update Password: 12345_____

Greeting Recorded (Voice):  No

Language for Prompts:      American_English
                           Canadian_French

Dial by:                   Number Name Both

DN Length                  Variable Fixed

Restriction/Permission Set: Custom On_switch Local Long_distance_1
                                                          MORE BELOW
Select a softkey >

  ┌─────────┐  ┌─────────┐  ┌─────────┐  ┌─────────┐  ┌─────────┐
  │  Save   │  │ Cancel  │  │         │  │  Voice  │  │         │
  └─────────┘  └─────────┘  └─────────┘  └─────────┘  └─────────┘
```

CARD-059

**3**   For *Thru-Dial ID,* enter **101**.

**4**   For *Revert DN,* enter **0**.

**5**   For *Access Password,* enter **12345**.

**6**   For *Update Password,* enter **12345**.

**7**   For *Dial by,* choose "Number".

**8**   For *Restriction/Permission Set,* choose "On_switch".

**9**   Press =+ .

**Procedure 3-6**
**Setting up the Voice Menu Service**

**1**    From the Main Menu, choose
"3 Voice Administration"→
"3 Voice Services Administration"→
"7 Voice Menu Definitions"
*You are presented with a list of voice menu definitions. On a newly in-stalled system, this list should be blank.*

**2**    Press &gt;– .
*The Add a Voice Menu Definition form appears. (Refer to Figure 3-3.)*

**Figure 3-3**
**The Add a Voice Menu Definition form (one)**

```
                    VS Config/Menu Applications Admin
   Add a Voice Menu Definition

   Choice of Menu Actions:
   AS  Announcement Service  CL  Call              RV  Call Revert DN
   DS  Disconnect            EM  Express Messaging PP  Play Prompt
   RP  Repeat Menu Choices   MM  Return to Main Menu TS Thru-Dial Service
   TD  Time-of-Day Control   MS  Voice Menu Service VM  Voice Messaging

   Voice Menu ID:    100____         Title: _____

   Revert DN:        0_____

   Access Password: 12345_____    Update Password:  12345_____

   Greeting Recorded (Voice):  No    Menu Choices Recorded (Voice):  No

   Silent Disconnect:       No Yes
   _____MORE BELOW

   Select a softkey >

       Save         Cancel                      Voice
```

CARD-056

**3**    For *Voice Menu ID,* enter **100**.

**4**    For *Revert DN,* enter **0**.

**5**    For *Access Password,* enter **12345**.

**6**     For *Update Password,* enter **12345**.

**7**     Move downwards until the table of keys and their associated actions
          appears. (Refer to Figure 3-4.)

**Figure 3-4**
**The Add a Voice Menu Definition form (two)**



```
                    VS Config/Menu Applications Admin
Add a Voice Menu Definition

Choice of Menu Actions:
AS  Announcement Service  CL  Call            RV  Call Revert DN
DS  Disconnect            EM  Express Messaging  PP  Play Prompt
RP  Repeat Menu Choices   MM  Return to Main Menu  TS  Thru-Dial Service
TD  Time-of-Day Control   MS  Voice Menu Service   VM  Voice Messaging


Access Password:  12345_____   Update Password:  12345_____

Greeting Recorded (Voice):  No     Menu Choices Recorded (Voice):  No

Silent Disconnect:         No Yes

    Key        Action                          Comments
     1          TS    Thru-Dial ID:    101____  _____
     2          __                     _____   _____
                                                         MORE BELOW
Select a softkey >

   Save        Cancel                     Voice
```

CARD-057

**8**     Under the *Action* for Key 1, enter **TS**.
          *The* Thru-Dial ID *field appears.*

**9**     For *Thru-Dial ID,* enter **101** (the number you entered in step 3 of "For
          Thru-Dial ID, enter 101." on page 3-11).

**10**    Move down to the end of the form. (*Refer to Figure 3-5.*)

**Figure 3-5**
**The Add a Voice Menu Definition form (three)**

```
                    VS Config/Menu Applications Admin
Add a Voice Menu Definition

Choice of Menu Actions:
AS  Announcement Service  CL  Call              RV  Call Revert DN
DS  Disconnect            EM  Express Messaging  PP  Play Prompt
RP  Repeat Menu Choices   MM  Return to Main Menu TS  Thru-Dial Service
TD  Time-of-Day Control   MS  Voice Menu Service VM  Voice Messaging

        2              _              _____   _____
        3              _              _____   _____
        4              _              _____   _____
        5              _              _____   _____
        6              _              _____   _____
        7              _              _____   _____
        8              _              _____   _____
        9              _              _____   _____
Initial No Response RV
Delayed Response    PP

Select a softkey >

     Save         Cancel                      Voice
```

CARD-058

**11**    For *Initial No Response,* enter **RV**.

**12**    For *Delayed Response,* enter **PP**.

**13**    Press =+ .

## Setting up the Voice Services DN Table (basic systems)

The Voice Services DN Table defines the DNs for Voice Messaging, Express Messaging, Voice Prompt Maintenance, and the automated attendant. If you are setting up a Hospitality system, refer to "Setting up the Voice Services DN Table (Hospitality systems)" on page 3-17.

**Procedure 3-7**
**Setting up the Voice Services DN Table for basic systems**

**1**   From the Main Menu, choose
"3 Voice Administration"→
"3 Voice Services Administration"→
"1 Voice Service DN Table"
*You are presented with a list of defined DNs. On a newly installed system, this list should be blank.*

**2**   Press >− .
*The Add DN Information form appears. (Refer to Figure 3-6.)*

**Figure 3-6**
**The Add DN Information form (basic systems)**

```
┌────────────────────────────────────────────────────────┐
│ │              VS Config/Menu Applications Admin        │ │
│ Add DN Information                                      │
│                                                        │
│ Choice of Services:                                    │
│ AS  Announcement Service  EM  Express Messaging  PM  Prompt Maintenance │
│ RA  Remote Activation     TS  Thru-Dial Service  TD  Time-of-Day Control │
│ MS  Voice Menu Service    VM  Voice Messaging          │
│                                                        │
│ Access DN:       _____                  │
│                                                        │
│ Service:         __                                    │
│                                                        │
│ Comment:         _____                         │
│                                                        │
│                                                        │
│                                                        │
│ ───────────────────────────────────────────────────── │
│ Select a softkey >                                     │
│ ┌───────┐  ┌───────┐  ┌──────┐  ┌──────┐  ┌──────┐     │
│ │ Save  │  │ Cancel│  │      │  │      │  │      │     │
│ └───────┘  └───────┘  └──────┘  └──────┘  └──────┘     │
└────────────────────────────────────────────────────────┘
```

CARD-055

**Automated Attendant.**

**3**     For *Access DN,* enter **7001**.

**4**     For *Service,* enter **MS**.
*The* Voice Menu ID *field appears.*

**5**     For *Voice Menu ID,* enter **100** (the number you entered in step 3 of
Procedure 3-6).

**6**     Press =+ .

**Voice Messaging**
**7**     From the Voice Service DN Table, press <Add>.

**8**     For *Access DN,* enter **7000**.

**9**     For *Service,* enter **VM**.

**10**   Press <Save>.

**Express Messaging**
**11**   From the Voice Service DN Table, press <Add>.

**12**   For *Access DN,* enter **7002**.

**13**   For *Service,* enter **EM**.
*The* Mailbox ID *field appears, leave it blank.*

**14**   Press =+ .

**Voice Prompt Maintenance**
**15**   From the Voice Service DN Table, press <Add>.

**16**   For *Access DN,* enter **7003**.

**17**   For *Service,* enter **PM**.

**18**   Press =+ .

*Note:* The default password for this service is the same as the DN. To
change the password, log on to Meridian Mail using this mailbox number
and press 84.

## Setting up the Voice Services DN Table (Hospitality systems)

The Voice Services DN Table defines the DNs for three varieties of voice messaging (Guest Messaging, Published Numbers, and Staff Messaging), Hotel Menu, Express Messaging, and Post Check-out. If you are setting up a basic system, refer to "Setting up the Voice Services DN Table (basic systems)" on page 3-15.

**Procedure 3-8**
**Setting up the Voice Services DN Table for Hospitality systems**

**1**     From the Main Menu, choose
         "3 Voice Administration"→
         "3 Voice Services Administration"→
         "1 Voice Service DN Table"
         *You are presented with a list of defined DNs. On a newly installed system, this list should be blank.*

**2**     Press  ›– .
         *The Add DN Information screen appears. (Refer to Figure 3-7.)*

**Figure 3-7**
**The Add DN Information form (Hospitality systems)**

```
                    VS Config/Menu Applications Admin
 Add DN Information

 Choice of Services:
 AS  Announcement Service  EM  Express Messaging     HM  Hospitality Messaging
 CO  Post Checkout Mailbox PM  Prompt Maintenance    RA  Remote Activation
 TS  Thru-Dial Service     TD  Time-of-Day Control   MS  Voice Menu Service

 Access DN:        _____

 Service:      __

 Comment:          _____



 _____
 Select a softkey ›
 ┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐
 │   Save   │  │  Cancel  │  │          │  │          │  │          │
 └──────────┘  └──────────┘  └──────────┘  └──────────┘  └──────────┘
```

CARD-054

### Guest Messaging

**3**    For *Access DN,* enter **7000**.

**4**    For *Service,* enter **HM**.
*The* Auto-Login *field appears.*

**5**    For *Auto-Login,* choose "Enabled".

**6**    Press =+ .

### Hotel Menu

**7**    From Voice Service DN Table, press <Add>.

**8**    For *Access DN,* enter **7002**.

**9**    For *Service,* enter **MS**.
*The* Voice Menu ID *field appears.*

      a.   If you wish to have this DN function as an automated attendant, enter **100** (the number you entered in step 3 of Procedure 3-6).

      b.   Otherwise, leave this field blank.

**10**    Press =+ .

### Express Messaging

**11**    From Voice Service DN Table, press >− .

**12**    For *Access DN,* enter **7001**.

**13**    For *Service,* enter **EM**.
*The* Mailbox ID *field appears, leave it blank.*

**14**    Press =+ .

**Published Numbers**

**15** From Voice Service DN Table, press >– .

**16** For *Access DN,* enter **7003**.

**17** For *Service,* enter **HM**.
*The* Auto-Login *field appears.*

**18** For *Auto-Login,* choose "Disabled".

**19** Press =+ .

**Post Checkout**

**20** From Voice Service DN Table, press <Add>.

**21** For *Access DN,* enter **7004**.

**22** For *Service,* enter **CO**.

**23** Press =+ .

**Staff Messaging**

**24** From Voice Service DN Table, press <Add>.

**25** For *Access DN,* enter **7005**.

**26** For *Service,* enter **HM**.
*The* Auto-Login *field appears.*

**27** For *Auto-Login,* choose "Enabled".

**28** Press =+ .

## Adding a block of voice mailboxes

You may choose to set up your users all at once in a single block, or the system administrator can add one user at a time. The instructions for adding a block of users can be found on page 4-14 of this guide. The instructions for adding one user at a time can be found in *System Administration—The Basics* (555-7071-300).

Which ever method you choose, you should be aware of the following potential security problems:

- Adding a large block of mailboxes may mean that some mailboxes are not assigned to users. Once everyone has a mailbox, ensure that the extra mailboxes are deleted.

- The passwords for all new mailboxes are set to the mailbox number. Remind your users that they should change their password when they first log on, and that they should also change it on a regular basis.

- When you add a block of users, you can assign them all to a particular Class of Service. If you are concerned about unauthorized long distance calls, you should set the following fields in the Class of Service to "Local":

   — Custom Revert Restriction/Permission Codes

   — Extension Dialing Restriction/Permission Codes

   — External Call Sender Restriction/Permission Codes

   Hospitality systems automatically restrict calls when a room is vacant.

# Basic system procedures

This chapter describes the software procedures you need to know in order to set the time and date on the Meridian 1 PBX, to stop and start the Meridian Mail system, to back up and restore a customer's Meridian Mail data, to add and delete blocks of users, and to customize a customer's service DNs.

Meridian Mail system administration is described in *Meridian Mail Card Option System Administration, The Basics.*

**Procedure 4-1**
**Switching between Meridian Mail and the Meridian 1 PBX**

You use the same terminal to access both Meridian Mail and the Meridian 1 PBX:

**1**   Press C       to switch to the Meridian PBX display from Meridian Mail.

**2**   Enter **AX** R       to return to the Meridian Mail display.

   *Note:* You are returned to the system administrator screen you were using when you accessed the PBX.

If you have any problems accessing the Meridian 1 PBX, refer to the appropriate chapters of *Meridian 1 Option 11—Administration guide.*

**Procedure 4-2**
**Logging on to the Meridian 1 PBX**

To log on to the Meridian 1 PBX:

**1**      If you are in Meridian Mail, press C        **].**

**2**      Press R         .

**3**      If the response is **OVL111 nn TTY or OVL111 nn SL1** (where **nn** is a two-
          digit number), then someone else is logged on to the system. Wait until
          he or she logs off and start again at step 2.

          If the response is **OVL000**> then you are already logged on.

          If the response is **OVL111 nn IDLE** or **OVL111 nn BKGD**, then you are
          ready to log on.

**4**      If you don't get any of these responses, enter **\* \* \* \***   R         and
          start again at step 2.

          If the system does not allow you to enter these four asterisks all in a row,
          simply enter them one line at a time; the system will automatically move
          the cursor to the next line.

**5**      Enter **LOGI** R         .

          **Note:** For this, and all other Meridian 1 commands, use uppercase let-
          ters only.

          *Depending on the status of the system, you may or may not be prompt-
          ed for the Meridian 1 password.*

**6**      At the prompt, enter the Meridian 1 password.
          *You are presented with the* > *prompt.*

**Procedure 4-3**
**Setting the time and date on the switch**

It is crucial to the integrity of Meridian Mail that the Meridian 1 PBX's time and date be set correctly. Occasionally the system administrator is prompted for the time and date, but this does not set the Meridian 1 PBX's time and date.

**1**    Log on to the Meridian 1 PBX. (Refer to page 4-2.)

**2**    At the > prompt, enter **LD 2** R       .

**3**    At the prompt, enter **TTAD.**
        *The system displays the day of the week together with the current date and time in the following format: DD MM YYYY HH MM SS.*

**4**    If the time and date are not correct, enter **STAD**, followed by a space, followed by the correct date and time in the above format, followed by R       .

        **Example:**

        **23 05 1995 15 30 30   (For May 23, 1995, 3:30 p.m.)**

        ***Note:*** Enter the date and time exactly as shown in the format, with a space after each number. You must enter four digits for the year, and you must enter a value for the seconds.

        If you make a mistake while entering these numbers, press <Return> and start entering the date and time again from the beginning.

**5**    Enter **TTAD** again to verify your entry.

**6**    Enter **\*   \*   \*   \* .**

**7**    Enter **AX** R       to return to Meridian Mail.

*Note:* It may take as long as three minutes for your changes to take effect on Meridian Mail.

# Enabling and disabling the console and AML data ports

Meridian Mail uses two data ports on the Meridian 1 switch: port 8 is used by the system administration terminal, and port 9 is used as an Application Module Link (AML).

You must enable these ports before turning Meridian Mail on, and disable them before turning Meridian Mail off. The procedures you follow depend on the release number of the Meridian 1 software running on your switch.

**Procedure 4-4**
**Determining the Meridian 1 software release number**

To determine the release number of the Meridian 1 software running on your switch:

**1**  Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**  At the > prompt, enter **LD 22** R        .

**3**  At the **REQ** prompt, enter **ISS** R        .
*The system responds with a display which includes the system release number.*

**4**  Enter **\*  \*  \*  \*** .

## For Release 17 systems and earlier

Use these procedures if the software running on your Meridian 1 switch is Release 17 or earlier.

**Procedure 4-5**
**Enabling the console and the AML data ports**

**1**   Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**   At the > prompt, enter the following:

   **LD 48** R    .

   **ENL ESDI 8** R     to enable the console's data port

   **ACMS 9** R    to establish the link on port 9

**3**   Enter **\*  \*  \*  \*** .

**Procedure 4-6**
**Disabling the console and the AML data ports**

**1**   Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**   At the > prompt, enter the following:

   **LD 48** R    .

   **DIS ESDI 8** R    to disable the console's data port

   **DIS ESDI 9** R    to disable the link on port 9

**3**   At the prompt, enter **Y** to confirm the disable.

**4**   Enter **\*  \*  \*  \* .**

## For Release 18 systems and later

Use these procedures if the software running on your Meridian 1 switch is Release 18 or later.

**Procedure 4-7**
**Enabling the console and the AML data ports**

**1**   Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**   At the > prompt, enter the following:

   **LD 48** R

   **ENL AML 8 LYR2** R          to enable the console's data port

   **ENL AML 9 ACMS** R          to establish the link on port 9

**3**   Enter **\* \* \* \*** .

**Procedure 4-8**
**Disabling the console and the AML data ports**

**1**   Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**   At the > prompt, enter the following:

   **LD 48** R

   **DIS AML 8 LYR2**  R          to disable the console's data port

   **DIS AML 9 LYR2** R          to disable the link on port 9

**3**   At the prompt, enter **Y** to confirm the disable.

**4**   Enter **\* \* \* \* .**

# Stopping Meridian Mail

Before turning the power off to the Meridian Mail cards, you should courtesy down the system. This allows anyone using Meridian Mail to finish their session before the system is brought down. During this time, no further users are allowed to log on to Meridian Mail, and calls are directed to the Meridian Mail attendant.

### Procedure 4-9
### Courtesying down the system

**1**    Log on to Meridian Mail at the system administrator's terminal.

**2**    From the Main Menu, choose
"5 System Status and Maintenance."→"1 System  Status."

**3**    Press qQ                 .

**4**    At the prompt, Do you want to courtesy down the system?,
use the up and down arrow keys to choose "Yes," and press <Return>.
*The display charts the progress of the courtesy down. Hardware locations are put out of service as users finish their sessions. System Status displays "CourtesyDown" when the process is complete.*

**5**    Power Meridian Mail down as outlined in Procedure 4-10.

### Procedure 4-10
### Powering Meridian Mail down

Powering Meridian Mail off while the Meridian 1 PBX is running can cause a system error. Perform the following procedure whenever you have to turn off Meridian Mail for software upgrades, system restores, or hardware maintenance.

**1**    Disable the data ports for the console and the AML. (Refer to Procedure 4-6 or Procedure 4-8.)

**2**    Turn off the power to Meridian Mail.

*Note:* The power switch is on the 68K card installed in slot 10/MM1; the off position is down and is labelled on the Meridian Mail face plate.

# Starting Meridian Mail

Meridian Mail does not start automatically, you must start it manually under the following circumstances:

- Whenever you power Meridian Mail down to use the System Installation and Modification utility or to perform troubleshooting and maintenance procedures

- Whenever you have courtesied the system down to perform system procedures

- Whenever the Meridian 1 PBX is turned off, as in the event of a power failure.

**Procedure 4-11**
**Restarting the system**

**1**    Enable the data ports for the console and the AML. (Refer to "Enabling and disabling the console and AML data ports" on page 4-4.)

**2**    Enter **AX** R    to view the Meridian Mail screen.

**3**    Turn on the power to Meridian Mail.
*The power switch is on the 68K card installed in slot 10/MM1, the on position is up and is labelled on the Meridian Mail face plate.*

**4**    Wait until the system has loaded and the logon screen is displayed. (Approximately four minutes.)
*If this does not happen, refer to "Troubleshooting and maintenance" (Chapter 5).*

**Procedure 4-12**
**Restarting the system after courtesying down**

**1**    Log on to Meridian Mail at the system administrator's terminal.

**2**    From the Main Menu, choose
"5 System Status and Maintenance."→"1 System  Status."

**3**    Press the Activate System softkey.

**Procedure 4-13**
**Restarting Meridian Mail after turning off the Meridian 1 PBX**

Meridian Mail loads automatically when the Meridian 1 PBX is turned on, but you must complete the following steps to restore Meridian Mail:

**1**     Log on to Meridian Mail at the system administrator's terminal.

**2**     Enter the correct time and date when prompted. Meridian Mail cannot start until these values are entered.

# Backing up the system

Before you perform any significant hardware or software procedures, you should back up the Meridian Mail system from disk to tape so that, in the event that something goes wrong, the customer's data will not be lost.

If an external tape drive is already installed, there is no need to courtesy down. The Meridian Mail system can remain active during a backup. Any changes to the system's data that occur during the backup are recorded at the very end of the backup process. However, since the backup procedure may slow down the system, we recommend you only perform backups when your system isn't busy.

The tapes you receive from Northern Telecom (Nortel) are 3M brand DC6250 tapes. Be sure to use this tape format for your backups.

If you encounter any problems with the following procedure, refer to "Tape drive problems" in Chapter 5.

**Procedure 4-14**
**Backing up the system**

**1**     If one is not already connected, connect an external tape drive to the Meridian Mail Disk/Power card and turn on the power switch at the back of the drive. (Refer to page 1-18.)

**2**     Log on to the Meridian Mail system at the system administrator's terminal.

**3**     From the Main Menu, choose "2 General Administration."→ "2 Volume Administration."

4     Choose the disk volume you wish to backup. (The Meridian Mail card option has only one disk volume, but you still must select it by pressing the space bar.)

5     Press `yY` .
*The Disk to Tape Backup screen appears.*

6     Press `tT` .

7     At the prompt, insert an appropriate tape into the tape drive.

8     Press `ok` .
*The Backup Status screen appears. From here you can follow the progress of the backup. You have the option of aborting the backup or exiting to the Volume Administration screen.*
*The backup should take about 30-60 minutes, and requires only a single tape of the appropriate size for your system.*

9     When the backup is complete, remove the tape and label it clearly. Include the date and time of the backup.

10     Press `xX` to return to the Volume Administration screen.

11     Remove the external tape drive, if required.

## Scheduling backups

Permanently installing an external tape drive allows regular backups to be scheduled. In this way, should anything go wrong with the system, there will always be a recent backup on hand.

**Procedure 4-15**
**Scheduling system backups**

**1**   Log on to the Meridian Mail system at the system administrator's terminal.

**2**   From the Main Menu, choose "2 General Administration."→
"2 Volume Administration."

**3**   Choose the disk volume you wish to schedule for backup. (The Meridian Mail card option has only one disk volume, but you still must select it by pressing the space bar.)

**4**   Press  yY          .
*The Disk to Tape Backup screen appears.*

**5**   Press  /?          .
*The Schedule Backup screen appears.*

**6**   Fill out the appropriate fields.

**7**   Press  \|          .
*You are returned to the Volume Administration screen. From here you can press [View Backup Schedule] to display the schedule you just entered. To edit the schedule, you must begin again at step 3.*

**8**   Turn on the power to the external tape drive and ensure that it is never turned off.

Once you have entered a schedule, backups proceed automatically. You may choose to leave the same tape in the drive at all times. New backup data will overwrite the old backup data.

*Note:* A backup tape will wear out over time. Please ensure that you replace it regularly with a new tape, according to the manufacturer's recommendations.

Scheduled backups are useful in the event of emergencies, but you should still perform an immediate full system backup before proceeding with any significant hardware or software procedures to ensure that no data is lost.

# Restoring the system

Should the system fail, a recent backup tape allows you to restore the system to the point at which the backup was made.

**Procedure 4-16**
**Restoring the system**

**1**  Run the System Installation and Modification Utility from the Meridian Mail software tape. (Refer to Chapter 2.)

    *Note:* Always use the same software release that was used to create the backup. Do not, for example, attempt to restore an MM8 system using an MM10 software tape.

**2**  From the System Installation and Modification Menu, choose "8 More Utilities" → "2 Restore System from Backup".

**3**  At the prompt, insert the most recent full system backup tape you have into the tape drive and press <Return>.

    *Note:* The restore process takes approximately 40-80 minutes to complete.

**4**  At the prompt:

    **The operation successfully completed.**
    **Please remove the tape and boot into service.**

    a.  Remove the tape from the drive. (Refer to page 1-23.)

    b.  Turn off the power to Meridian Mail.

    c.  Wait ten seconds.

**5**  Start Meridian Mail. (Refer to page 4-8**.**)
    *The system starts up in full service as it was when the backup was created.*

**6**  Remove the external tape drive, if required. (Refer to page 1-24.)

# The Tools Menu

The Meridian Mail Tools Menu contains several useful functions which are not used as frequently as those contained in the system administrator's Main Menu. To access the Tools Menu:

**Procedure 4-17**
**Accessing the TOOLS menu**

**1**   From the Meridian Mail logon screen, press ⒢Ⓖ  .

**2**   At the password prompt, enter **TOOLS** Ⓡ      .

**3**   At the password prompt, enter the system administrator's password and press Ⓡ      .
*You are presented with the Tools Menu.*

> ⚠ **CAUTION**
> **Risk of service interruptions**
> Do not attempt to use any function in the Tools Menu unless it is covered in this guide.

The following are brief descriptions of two of the functions available through this menu. For full descriptions of every function, refer to *System Administration Tools*.

## Adding a block of users

This function allows you to bypass the standard system administrator's pro-
cedures and quickly add a large number of consecutive user mailboxes. To
use this function:

**Procedure 4-18**
**Adding a block of users**

**1**     From the Tools Menu, choose "13 Other"→"1 Add/Delete Many Users"

**2**     At the prompt, Please Specify Command?, use the up and down arrow
       keys to choose "Set Parameters".

**3**     At the appropriate prompts, enter:

       — The customer number, if this is a multicustomer system

       — The Class of Service number you wish to assign to the block of us-
         ers. (To define a Class of Service, refer to *Meridian Mail Card Op-
         tion System Administration, the Basics.*)

       — The voice messaging interface for these users: the Meridian Mail
         user interface (MMUI), or the standard defined by the voice mes-
         saging user interface forum (VMUIF). The MMUI is the interface de-
         scribed in *Meridian Mail Card Option System Administration, The
         Basics.*

**4**     At the prompt, Please Specify Command?, choose "Add User".

**5**     At the appropriate prompts, enter

       — The mailbox number of the first user in the block of users

       — The total number of users in the block

         *Note:* You can choose to be prompted before each user is added.
         This allows you to skip certain mailbox numbers in the block. These
         mailboxes will not be added.

**6**     At the prompt, Please Specify Command?, choose "Quit".

## Deleting a block of users

This function allows you to bypass the standard system administrator's procedures and quickly add a large number of consecutive user mailboxes.

**Procedure 4-19**
**Deleting a block of users**

**1** From the Tools Menu, choose "Other"→"Add/Delete Many Users"

**2** At the prompt, Please Specify Command?, use the up and down arrow keys to choose "Set Parameters".

**3** At the appropriate prompts, enter the customer number, if this is a multicustomer system.

**4** At the prompt, Please Specify Command?, choose "Delete User".

**5** At the appropriate prompts, enter
— The mailbox number of the first user in the block of users
— The total number of users in the block

> ***Note:*** You can choose to be prompted before each user is deleted. This allows you to skip certain mailbox numbers in the block. These mailboxes will not be deleted.

**6** At the prompt, Please Specify Command?, choose "Quit".

# Changing the default Meridian Mail DNs

Each Meridian Mail DN is defined in two places: on the Meridian 1 PBX as an ACD-DN and on Meridian Mail as a voice services DN. The DNs on the PBX come predefined according to the defaults described in Chapter 11, but you must ensure that you define these DNs on Meridian Mail, automatically during software installation or manually by following the procedures beginning on page 3-7.

The following procedures allow you to change the ACD-DNs defined on the Meridian 1 PBX.

## Using Meridian 1 overlays

Overlays are utilities that run on the Meridian 1 PBX. The overlays described in this chapter deal primarily with printing reports of the current switch settings, and changing those settings.

Although Meridian 1 overlays can be quite versatile and may offer you a number of options for very specialized operations, we have restricted the following procedures to exactly those steps you should perform. Hereare some pointers:

- Use uppercase letters only. You may want to press <Caps Lock>.
- Respond only to the overlay prompts listed in the procedures.
- After each response, press R        .
- After any prompt not listed, press R        to proceed to the next prompt.
- After the final prompt listed in the procedure, enter **\*\*\*\*** to exit the overlay.

For more information on the Meridian 1 overlays used in these procedures, refer to *X11 software guide including supplementary features.*

## Changing the Voice Messaging DN

Changing the Voice Messaging DN is not as straightforward as changing one of the other service DNs, since so many other entities within the Meridian 1 PBX refer to this DN, and each of these must be changed to refer to the new Voice Messaging DN.

This procedure assumes that the Voice Messaging DN is the DN assigned to the virtual ACD agents which answer calls to Meridian Mail.

**Procedure 4-20**
**Changing the Voice Messaging DN**

**1**     Courtesy down Meridian Mail. (Refer to page 4-7.)

**2**     Disable the console and AML data ports. (Refer to "Enabling and disabling the console and AML data ports" on page 4-4.)

**3**     Print a report for each type of telephone set on the switch, following the prompts in Table 4-1 on page 4-21.

**4**     Print a report for each telephone model on the switch, following the prompts in Table 4-2 on page 4-21.

**5**     Print an ACD queue report, following the prompts in Table 4-3 on page 4-22.

**6**     Print a hardware location report for card 10, following the prompts in Table 4-4 on page 4-22. The devices on this card are the virtual ACD agents which answer calls to Meridian Mail.

**7**     Delete all the ACD agents listed in this report, following the prompts in Table 4-14 on page 4-27.

**8**     Delete the old Voice Messaging DN, following the prompts in Table 4-9 on page 4-25.

**9**     Delete each of the other voice service DNs, following the prompts in Table 4-9 on page 4-25.

**10**    Using the ACD queue report you printed in step 5, delete only those queues which have night call forward (NCFW) set to the old Voice Messaging DN. Follow the prompts in Table 4-9 on page 4-25.

**11**    Create a new Voice Messaging DN, following the prompts in Table 4-5 on page 4-23.

**12**    Create new DNs for the other voice services, following the prompts in Table 4-10 on page 4-26.

**13**    Create new ACD agents to replace those you deleted in step 7, following the prompts in Table 4-15 on page 4-28.

**14**    Change each of the telephone sets on the switch and each of the telephone models so that they refer to the new Voice Messaging DN. For

analog sets follow the prompts in Table 4-7 on page 4-24. For digital sets follow Table 4-8 on page 4-25.

***Note:*** Analog telephone sets (type 500) can refer to the Voice Messaging DN in two different ways: using FTR FDN or using HUNT. Digital phones can refer to the Voice Messaging DN in three different way: using FDN, HUNT, or KEY. Using the reports you printed in step 3 and step 4, you must look for every occurrence of these features that refers to the old Voice Messaging DN and change it to refer to the new Voice Messaging DN.

**15** Nite call forward (NIT1) in the Customer Data Block may have been previously set to forward to Meridian Mail. If it was set to the old Voice Messaging DN, change it so that it refers to the new DN. Refer to *Option 11 Technical Reference Guide.*

**16** Log on to Meridian Mail.

**17** From the Main Menu, choose
"3 Voice Administration"→
"3 Voice Services Administration"→
"1 Voice Service DN Table."

**18** Select the Voice Messaging DN and press [View/Modify].

**19** Change the value of *Access DN* to the new Voice Messaging DN and press =+ .

**20** Return to the Meridian 1 PBX and enable the console and AML data ports. (Refer to "Enabling and disabling the console and AML data ports" on page 4-4.)

**21** Start Meridian Mail. (Refer to page 4-8.)

## Changing a hardware location DN

**Procedure 4-21**
**Changing a hardware location DN**

**1**     Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**     Disable the hardware location following the prompts in Table 4-11 on page 4-26.

**3**     Change the hardware location's DN following the prompts in Table 4-13 on page 4-27.

**4**     Return to Meridian Mail and log on.

**5**     From the Main Menu, choose
        "5 System Status and Maintenance"→
        "3 DSP Port Status."

**6**     Press „ ‚    and at the prompt enter the number of the DSP port you want to change.

**7**     Return to the System Status and Maintenance Menu and choose
        "4 Channel Allocation Table."

**8**     Change the SCN on the port you just disabled to the DN you just assigned on the PBX.

**9**     Return to the System Status and Maintenance Menu and choose
        "3 DSP Port Status."

**10**    Press ˘ ‚    and at the prompt enter the number of the DSP port you want to change.

**11**    Return to the Meridian 1 PBX and enable the hardware location, following the prompts in Table 4-12 on page 4-26.

## Changing the other Meridian Mail DNs

The following procedure allows you to change the other service DNs defined during software installation. It should not be used to change the Voice Messaging DN.

For new DNs to function correctly you must define them in two places: on the Meridian 1 PBX and on the Meridian Mail system administrator's terminal.

**Procedure 4-22**
**Changing the other Meridian Mail DNs**

**1**     Courtesy down Meridian Mail. (Refer to page 4-7.)

**2**     Disable the console and AML data ports. (Refer to "Enabling and disabling the console and AML data ports" on page 4-4.)

**3**     Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**4**     On the Meridian 1 PBX, create a new service DN following the prompts in Table 4-10 on page 4-26.

**5**     From the system administrator's terminal, choose
"3 Voice Administration"→
"3 Voice Services Administration"→
"1 Voice Service DN Table."

**6**     Select the DN you want to change and press [View Modify].

**7**     Change the value of *Access DN* to the new DN you defined in step 4 and press =+  .

**8**     Return to the Meridian 1 PBX and delete the old service DN following the prompts in Table 4-9 on page 4-25.

**9**     Enable the console and AML data ports. (Refer to "Enabling and disabling the console and AML data ports" on page 4-4.)

**10**    Start Meridian Mail. (Refer to page 4-8.)

**Table 4-1**
**Printing a telephone set report**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 20 | Load overlay 20. |
| REQ | PRT | |
| TYPE | _____ | Enter the type of telephone set. |
| TN | *c  u* | Enter a specific location, or press <Return> for all sets of this type. |
| CUST | _____ | Enter the customer number. Note:  This is always 0 in a single customer environment. |

**Table 4-2**
**Printing a telephone model report**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 20 | Load overlay 20. |
| REQ | PRT | |
| TYPE | _____ M | Enter the type of telephone set, followed by a space, followed by **M**. |
| MODEL | _____ | Enter a specific model, or press <Return> for all models for this telephone set. |
| CUST | _____ | Enter the customer number. |

**Table 4-3**
**Printing an ACD queue report**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 23 | Load overlay 23. |
| REQ | PRT | |
| TYPE | ACD | |
| CUST | _____ | Enter the customer number. |

**Table 4-4**
**Printing a hardware location report**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 20 | Load overlay 20. |
| REQ | PRT | |
| TYPE | TNB | |
| TN | 10 | To print all devices on card 10. |

**Table 4-5**
**Creating a new Voice Messaging DN**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 23 | Load overlay 23. |
| REQ | NEW | |
| TYPE | ACD | |
| CUST | _____ | Enter the customer number. |
| ACDN | _____ | Enter the new service DN. |
| MWC | YES | |
| IMS | YES | |
| CMS | YES | |
| IMA | YES | |
| IVMS | YES | |
| VSID | 9 | Enter the number of the Meridian Mail card option ESDI link. |
| MAXP | 12 | Enter the maximum number of Meridian Mail ports on the system. |
| ALOG | YES | |
| NCFW | 0 | Enter the attendant DN. (As defined using Overlay 15.) |

**Table 4-6**
**Changing a hardware location**

| Prompt | Response | Comment |
|--------|----------|---------|
| > | LD 11 | Load overlay 11. |
| REQ | CHG | |
| TYPE | 2008 | |
| TN | *c u* | Enter the Option 11 routing address for the hardware location. (Refer to "Hardware location parameters for Overlay 11" on page 11-4.) |
| KEY | 0 ACD *xxxx yyyy* | *xxxx* is the new Voice Messaging DN and *yyyy* is the position ID for the hardware location. |

**Table 4-7**
**Changing an analog telephone set**

| Prompt | Response | Comment |
|--------|----------|---------|
| > | LD 10 | Load overlay 10. |
| REQ | CHG | |
| TYPE | 500 | To change the analog telephone model, enter **500 M**. |
| TN | *c u* | The location of the set. |
| ECHG | Yes | Easy change. |
| ITEM | HUNT *xxxx*<br>FTR FDN *xxxx* | Set the appropriate ITEM to the new Voice Messaging DN (*xxxx*). |

**Table 4-8**
**Changing a digital telephone set**

| Prompt | Response | Comment |
|--------|----------|---------|
| > | LD 11 | Load overlay 11. |
| REQ | CHG | |
| TYPE | *aaaa* | Enter the type of telephone set. To change a telephone model, enter *aaaa* **M**. |
| TN | *c u* | Enter the location of the set. |
| ECHG | Yes | Easy change. |
| ITEM | HUNT *xxxx*<br>FDN *xxxx*<br>KEY *nn fff xxxx* | Set the appropriate ITEM(s) to the new Voice Messaging DN (*xxxx*). |

**Table 4-9**
**Deleting a service DN**

| Prompt | Response | Comment |
|--------|----------|---------|
| > | LD 23 | Load overlay 23. |
| REQ | OUT | |
| TYPE | ACD | |
| CUST | _____ | Enter the customer number. |
| ACDN | _____ | Enter the old service DN. |

**Table 4-10**
**Creating a new service DN**

| Prompt | Response | Comment |
|--------|----------|---------|
| > | LD 23 | Load overlay 23. |
| REQ | NEW | |
| TYPE | ACD | |
| CUST | _____ | Enter the customer number. |
| ACDN | _____ | Enter the new service DN. |
| MWC | NO | |
| MAXP | 1 | |
| NCFW | _____ | Enter the Voice Messaging DN. |

**Table 4-11**
**Disabling a hardware location**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 32 | Load overlay 32. |
| . | DISU *c u* | *c u* is the Option 11 routing address for the hardware location. (Refer to "Hardware location parameters for Overlay 11" on page 11-4.) |

**Table 4-12**
**Enabling a hardware location**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 32 | Load overlay 32. |
| . | ENLU *c u* | Enter the Option 11 routing address for the hardware location. (Refer to "Hardware location parameters for Overlay 11" on page 11-4.) |

**Table 4-13**
**Changing a hardware location's DN**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 11 | Load overlay 11. |
| REQ | CHG | |
| TYPE | 2008 | |
| TN | *c u* | Enter the Option 11 routing address for the hardware location. (Refer to "Hardware location parameters for Overlay 11" on page 11-4.) |
| ECHG | YES | For easy change. |
| ITEM | KEY 1 SCN *xxxx* | *xxxx* is the new channel DN for the hardware location. |

**Table 4-14**
**Deleting a hardware location's DN**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 11 | Load overlay 11. |
| REQ | OUT | |
| TYPE | 2008 | |
| TN | *c u* | Enter the Option 11 routing address for the hardware location. (Refer to "Hardware location parameters for Overlay 11" on page 11-4.) |

**Table 4-15**
**Creating a hardware location DN**

| Prompt | Response | Comments |
|--------|----------|----------|
| > | LD 11 | Load overlay 11. |
| REQ | OUT | |
| TYPE | 2008 | |
| TN | *c u* | Enter the Option 11 routing address for the hardware location. (Refer to "Hardware location parameters for Overlay 11" on page 11-4.) |
| REQ | **** | |
| KEY | 0 ACD *xxxx yyyy* | *xxxx* is the new Voice Messaging DN and *yyyy* is the position ID for the hardware location. |
| KEY | 1 SCN *zzzz* | *zzzz* is the channel DN for the hardware location. |
| KEY | 2 MSB | |
| KEY | 3 NRD | |
| KEY | 6 TRN | |
| KEY | 7 AO3 | O is the letter O. |
| KEY | 9 RLS | |

# Troubleshooting and maintenance

This chapter describes the procedures you can follow should anything go wrong with Meridian Mail, and the procedures you should follow to make these problems less likely.

The troubleshooting procedures assume that you are completely familiar with the Meridian Mail hardware and software installation procedures described in Chapter 1 and Chapter 3.

## Troubleshooting

For any problems with Meridian Mail you should first consult *Meridian Mail System Event and Error Reports.* This book contains a comprehensive list of the events and errors recorded on the SEER printer. (Refer to "System event and error reports (SEERs)" on page 5-17.)

Troubleshooting Meridian Mail hardware is a simple process of determining the component that is causing the problem and replacing it. The components cannot be repaired in the field; return them to your Northern Telecom (Nortel) distributor for repair.

If you are unable to isolate a problem with Meridian Mail software or hardware consult *Meridian 1 Option 11—Fault Clearing Guide.* Problems with the PBX often cause problems with Meridian Mail.

The following procedures document the problems you might encounter, and the steps you should take to solve them. The steps in each procedure are arranged from the most likely cause to the least likely cause. Eliminate each possibility, until the problem is solved.

Suppose a portion of a procedure reads as follows:

**1**     Ensure that the main Meridian 1 power supply is on.

**2**     Ensure that the Meridian Mail power switch on the 68K card is on.

**3**     Turn off the Meridian Mail power switch on the 68K card, and ensure that the connector board is properly seated.

The first three steps do not—as it first might appear—instruct you to ensure that the power is on and then to turn it off. Rather you should first ensure that the main Meridian 1 power is on. If turning it on does not clear the problem, then ensure that the Meridian Mail power switch is on. If this still does not clear the problem, only then should you proceed to step 3. In this case, it instructs you to turn off the power before touching the connector board.

Unless otherwise stated, an instruction that tells you to replace a component implies that you should then reinstall and restart Meridian Mail to see if the problem has cleared. If replacing the component does not clear the problem, you should reinstall the old component and proceed to the next step in the troubleshooting procedure. For example, the following procedure does not instruct you to replace all of the Meridian Mail cards:

**1**     Replace the 68K card.

**2**     Replace the DVP card in slot MM2.

**3**     Replace the DVP card in slot 9.

**4**     Replace the disk/power supply card.

Rather, you should first try replacing the 68K card, reinstalling the rest of Meridian Mail and restarting the system. If this does not solve the problem, you should reinstall the old 68K card and try replacing the DVP card. If this still does not solve the problem, you should reinstall the old DVP card and try replacing the disk/power supply card.

## Precautions

You must not remove or handle any of the Meridian Mail hardware while Meridian Mail is on and running. If the switch on the 68K card is on, follow the procedure for stopping Meridian Mail in Procedure 4-9. Failing to do so can result in damage to the components or injury to yourself.



**DANGER**
**Shock hazard**
Before removing or handling any Meridian Mail hardware, ensure that the power switch on the 68K card is in the off (down) position.

*Note:* You need not, however, turn off the power to the Meridian 1 PBX. You can safely handle Meridian Mail hardware while the switch is running, so long as the power to Meridian Mail is off.

Before touching any components, ensure that you are properly grounded by putting on the wrist strap connected to the Meridian 1 cabinet. Static electricity can irreparably damage sensitive electronic components.



**CAUTION**
**Risk of equipment damage**
Use extreme care and wear a grounding strap when handling the PCBs. They are susceptible to electrostatic damage and to damage from rough or improper handling.

## Replacing components

Meridian Mail components are replaced in the opposite way to which they are installed. (Refer to the appropriate sections in Chapter 1.) The only exception to this is the removal of the connector board.

**Procedure 5-1**
**Removing the connector board**

The connections between the connector board and the Meridian Mail cards are too tight for you to remove the connector board in one step. It must, instead, be removed one card at a time.

**1**     Courtesy down Meridian Mail and turn it off. (Refer to Procedure 4-9.)

**2**     Grasping the top lock latches with one hand and the bottom latches with the other, unlock all cards simultaneously and pull the assembly slightly out of the cabinet.

**3**     Move all the lock latches so that they are at right angles to the cards.

**4**     Push the cards back into the cabinet until stopped by the edge of the lock latches.

**5**     On the DVP card in slot MM2, grasp the top and bottom lock latches and slowly lock it back into the cabinet.
         *The latches on the other cards prevent them from moving farther into the cabinet, and the DVP card is pulled from the connector board.*

**6**     If there is a DVP card installed in slot 9, repeat step 5 on the card installed in slot 10.

**7**     Remove the leftmost card from the connector board.

**8**     Remove the connector board from the rightmost card.

## Problems at start-up

Just above the power switch on the 68K card is a small LED. When the system is first turned on, the LED lights briefly and Meridian Mail proceeds with its internal diagnostics and start-up procedures. The LED should remain unlit during the entire process which takes approximately four minutes.

When start-up is complete, the LED lights and stays lit. A flashing LED indicates a problem with the start-up procedure.

Refer to Table 5-1 to determine the appropriate procedure to follow based on the LED indicator.

**Table 5-1**
**LED problem indicators**

| LED Indicator | Refer to |
|---|---|
| LED does not light at start-up | Procedure 5-2 |
| LED lights at start-up but does not go out | Procedure 5-3 |
| LED flashes rapidly or does not come back on after four minutes, | Procedure 5-4 |
| LED flashes slowly | Procedure 5-5 |

**Procedure 5-2**
  **LED does not light at start-up**

**1**    Ensure that the main Meridian 1 power supply is on.

**2**    Ensure that the Meridian Mail power switch on the 68K card is on.

**3**    Check the card connections, as follows:

   a.    Ensure that the connector board is properly seated.

   b.    Ensure that the 68K card is firmly pushed into the connector at the back of the Meridian 1 cabinet.

   c.    Ensure that none of the pins on the back connector or on the front connectors of the Meridian Mail cards are bent.

**4** If the LED still does not light, follow these steps:

a. Remove all the Meridian Mail cards.

b. Reinstall all the cards, including the 68K card. Push it all the way to the back of the cabinet and lock the latch levers.

c. Plug the appropriate connector on the connector board into the 68K card.

d. Turn on the Meridian Mail power switch on the 68K card.

e. Using a voltmeter, place the positive terminal on Pin 2 of P2. Place the negative terminal on Pin 10 of P2 on the connector board. (Refer to Figure 5-1.) The meter should read approximately -52 volts. If it does not, the 68K card is defective; replace it.

*Note:* On both *three-card and four-card systems, P2 is the connector that plugs into the primary DVP card. Refer to Figure 5-1.*

**Figure 5-1**
**Testing voltage and resistance on the connector board**



CARD-025
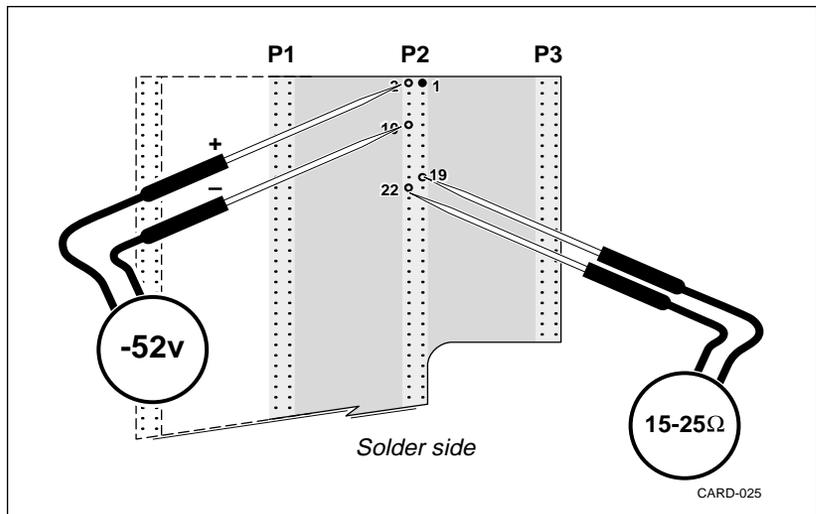
**5**   If the LED still does not light, follow these steps:

    a.   Remove the 68K card with the connector board attached.

    b.   Using an ohmmeter, measure the resistance between Pin 19 of P2 and Pin 22 of P2 on the connector board. On a functional 68K card the meter should read between 15 and 25 ohms. If it does not, then the card is defective. Replace it.

**6**   Replace the disk/power supply card but retain the disk drive; it contains the customer's Meridian Mail data.

**7**   The connector board is defective. Replace it.

**Procedure 5-3**
**LED lights at start-up but does not go out**

**1**   Ensure that you have not installed an older DVP card (NTAK15AA) or an older C25 card (NTAK16AA) in slot 9. These older cards only function in slot MM2.

**2**   Remove the DVP card assemblies and reinstall Meridian Mail without them. If the LED goes out, one of the DVP cards is defective.

    a.   Replace each DVP card assembly individually to determine which is defective.

    b.   Replace the defective card. Retain any C25 cards and attach them to the new DVP card.

**3**   Replace the 68K card.

**4**   Replace the connector board.

**Procedure 5-4**
**LED flashes rapidly or does not come back on after four minutes**
The LED flashes rapidly (approximately one second on and one second off)
or does not come back on after four minutes when either the 68K card or the
SCSI diagnostics have failed.

**1**  Test the 68K card, as follows:

   a.  Disconnect the SCSI cable to the disk drive and the SCSI cable to
       the tape drive, if one is connected. Remove the DVP card assem-
       blies and reinstall the remaining Meridian Mail hardware without
       them.
       *The LED should flash slowly.*

   b.  If the LED still flashes rapidly, replace the 68K card.

**2**  Test the DVP and C25 cards, as follows:

   a.  Reconnect the SCSI cables that were disconnected in step 1 but do
       not reinstall the DVP card assemblies.

   b.  If Meridian Mail now starts correctly, one of the DVP cards or one
       of the C25 cards is defective. Reinstall each card, one at a time, un-
       til the problem reappears. Replace the defective card.

**3**  Replace the disk/power supply card but retain the disk drive; it contains
     the customer's Meridian Mail data.

**Procedure 5-5**
**LED flashes slowly**
The LED flashes slowly (approximately five seconds on and five seconds off)
when the software fails to load.

**1**  If a tape drive is connected, ensure that it is turned on and that its SCSI
     address is set to 1.

**2**  Turn the tape drive off and then on again.

**3**  Check that the power and SCSI connections from the disk/power supply
     card to the disk drive are properly secured and correctly oriented.

4     Check the connector board, as follows:

    a.   Remove the connector board and ensure that there are no bent pins on the front connectors of the Meridian Mail cards.

    b.   Reinstall the connector board, ensuring that it is firmly seated on all cards.

5     Ensure that all terminators have been removed from the disk drive, that the correct jumpers required for the model of disk drive have been installed, and that all other jumpers have been removed. Refer to Chapter 13.

6     If a tape drive is not connected, ensure that the external terminator on the disk/power supply card is firmly in place.

7     Replace the connector board.

8     Reload the Meridian Mail software from tape. (Refer to Chapter 3.)

9     Replace the 68K card.

10    Replace the disk on the disk/power supply card and restore the system from the most recent backup tape. (Refer to page 4-12.)

# Problems during system expansion or software upgrade

Problems can occur while reading from the software tape and writing to the disk during storage expansion, software expansion, or software upgrade. They may be the result of a defective tape, a defective disk, or a problem with the SCSI link between the tape drive and the disk drive.

**Procedure 5-6**
**Restoring and retrying system expansion or software upgrade**

**1**   Restore the system to its original state, as follows:

a.   If you added a new DVP card or any new C25 cards, remove them.

b.   If you installed a new disk drive, replace it with the old disk drive.

c.   Ensure that all cable connections are secure, that the connector board is firmly seated, and that the Meridian Mail cards are locked firmly in place in the cabinet.

d.   Restore the system from the back-up tape (refer to page 4-12) and attempt to start Meridian Mail. (Refer to page 4-8.)

**2**   If Meridian Mail starts, attempt the expansion or upgrade procedure again. If it fails a second time, restore the system and attempt the procedure again but with a different software tape.

or

If Meridian Mail does not start correctly, follow the trouble-shooting procedures beginning on page 5-5.

**3**   Replace the disk drive on the disk/power supply card, restore the system, and attempt the expansion or upgrade procedure again.

## Tape drive problems

### Tape is not recognized by the system

If the tape does not seem to be recognized by the system, try some or all of the following measures:

**1**    If you are performing a restore, ensure that you have inserted the correct tape.

**2**    Ensure that you have inserted the tape correctly. (Refer to page 1-22.)

**3**    Ensure that the tape is of the correct format. (Refer to page 1-3.)

**4**    Ensure that the write protection on the tape is not set.

**5**    Turn the tape drive off and then on again.

**6**    Clean the tape drive. (Refer to page 5-19.)

**7**    Ensure that the tape drive has been correctly installed. (Refer to page 1-18.)

### Tape drive does not correctly retension a tape

If the tape drive does not correctly retension a tape, turn the tape drive off and then on again.

### Starting a backup before inserting a tape

If, while attempting to manually back up the system, you inadvertently press ok *before* inserting a tape:

**1**    Insert a tape into the tape drive.
*An error message is displayed indicating that the backup has failed.*

**2**    Press xX .

**3**    Retry the backup procedure.

**Defective tape during backup**

If, while attempting to manually backup the system, you insert a defective tape:

**1**  Retry the backup procedure with a different tape. If the backup is successful, discard the defective tape.

**2**  Clean the tape drive (refer to page 5-19) and attempt the backup again.

**3**  Restart the system and retry the backup procedure.

**Defective tape during restore**

If, while attempting to restore the system, you are informed that the tape is defective:

**1**  Clean the tape drive (refer to page 5-19) and attempt the restore again.

**2**  If the second attempt is not successful, the tape is unusable. Do one of the following:

— Restore from an earlier backup tape, if one is available.

*Note: Use the most recent backup you can find. Any changes that you've made to the system since that backup will have to be recreated.*

— Install a new system and redefine your users.

*Note: This should be your last resort; and should never have to be done if you make sure to make frequent backups.*

Once you have successfully restored the system:

a.  Perform a new system backup with a different tape.

b.  Discard the tape that caused the error.

## Terminal problems

Under most circumstances the Meridian Mail system should start up automatically and display the Meridian Mail logon screen on the system administrator's terminal. You may notice problems at start-up or the terminal may become disabled during normal operation.

Auxiliary terminals (such as those used with Hospitality systems) are also susceptible to problems with the RSM breakout assembly and the 68K card. First, try to clear the problem as you would with the system administrator's terminal, then follow the steps for auxiliary terminals.

### The terminal does not display Meridian Mail screens

**1**   The system administrator may have inadvertently switched to the Meridian 1 PBX software. If you see the > prompt, enter **AX** R        .

**2**   Press C        **]** to switch to Meridian 1 PBX software and, at the > prompt, enter **AX** R        .

**3**   Reset the console port (port 8) by disabling it and re-enabling it, as follows:

   a.   Follow the procedures described in Procedure 4-4. Reset the console port only; do not reset the AML (port 9).

   b.   Enter **AX** R        to return to Meridian Mail.

### The terminal displays the Meridian Mail screens incorrectly

Occasionally the connection between Meridian Mail and the system administrator's terminal may generate extraneous characters that cause the terminal to display the Meridian Mail screens incorrectly.

To redraw the screen press C          **R**.

If the screen is incorrectly displaying the lines on the Meridian Mail screens as a string of "q"s, follow these steps:

**1**   Press C         **W**.
   *You are presented with a small pop-up menu.*

**2**   Enter IF R        .
   *The screen redraws correctly.*

**The keyboard does not respond**

1  If there is a printer attached to your system, ensure that the printer is ready and on line. (Refer to page 1-30, 6.)

2  Press C        ] to switch to Meridian 1 PBX software. At the > prompt, enter **AX** R       .

3  Reset the console port (port 8) by disabling it and re-enabling it, as follows:

    a.  Follow the procedures described on "Enabling and disabling the console and AML data ports" on page 4-4. Reset the console port only; do not reset the AML (port 9).

    b.  Enter **AX** R       to return to Meridian Mail.

4  Turn the terminal off and on again.

5  Check the connection between the keyboard and the terminal.

6  Check the terminal's connection to the SDI port. (See Figure 1-3 on page 1-9.)

7  Ensure that the terminal settings are correct as described in "Terminal configuration" (Chapter 12).

**Auxiliary terminal problems**

1  Ensure the switch on the RSM breakout assembly is in the Normal (left) position.

2  Ensure that the terminal settings are correct as described in "Terminal configuration" (Chapter 12).

3  Check all cable connections. (Refer to Table 8-3 on page 8-6.)

4  Check for any special null modem requirements.

5  Try the terminal on another, functioning RSM port.

6  Replace the RSM breakout assembly.

7  Replace the 68K card.

## Modem problems

Handle modem problems in the same way as problems with auxiliary terminals.

# Voice mail problems

The majority of problems with voice mail are often the result of faults in one of the DVP or C25 cards, particularly with one or more of the hardware locations. The most obvious problem you might encounter is where Meridian Mail answers the telephone properly but the caller does not hear any voice prompts. Depending on the number of defective hardware locations, this problem may occur intermittently or on all calls to Meridian Mail.

A more subtle problem occurs when a hardware location is defective in such a way that it does not even answer calls to Meridian Mail. Providing the system has other, functional hardware locations, callers may not notice this degradation in service unless they encounter a significant increase in the number of busy signals when they dial Meridian Mail.

You have access to voice card diagnostics through the system administrator's terminal. These tests allow you to isolate the hardware location that is causing the problem.

**Procedure 5-7**
**Voice Card diagnostics**

**1**   Ensure that you have not installed an older DVP card (NTAK15AA) or an older C25 card (NTAK16AA) in slot 9. These older cards only function in slot MM2.

**2**   Check the card connections, as follows:

   a.   Remove the connector board and ensure that there are no bent pins on the front connectors of the Meridian Mail cards.

   b.   Reinstall the connector board, ensuring it is firmly seated on all cards.

   c.   Ensure that the DVP cards and the C25 cards are firmly connected.

**3** Test the DVP and C25 cards as follows:

a. From the Meridian Mail login screen, press C        **W**.
*You are presented with a small pop-up menu.*

b. If you can't see the cursor on this menu, press **I**.

c. Press the up and down arrow keys to move the cursor to "Console" and **S** to select it.
*The terminal displays the results of the Meridian Mail diagnostics.*

**Note:**
*Card 4 is the DVP card in slot MM2.*
*Card 5 is the first C25 card attached to the DVP card in slot MM2.*
*Card 6 is the second C25 card attached to the DVP card in slot MM2.*
*Card 7 is the DVP card in slot 9.*
*Card 8 is the first C25 card attached to the DVP card in slot 9.*
*Card 9 is the second C25 card attached to the DVP card in slot 9.*

d. Press C       **W** and select "MMI" to return to the Meridian Mail logon screen.

e. Replace any cards that have not passed the diagnostics.

f. In order to bring them back into service, you must run Out of Service Diagnostics on each of the cards you replace, as follows:

    i. Log on to Meridian Mail.

    ii. From the Main Menu, choose
"5 System Status and Maintenance"→ "2 Card Status".

    iii. Press ¶°     and at the prompt enter the number of each card that you replaced.

    iv. Press            and enter the card numbers.

    v. Press «« and enter the card numbers.

g. You must also enable the new hardware locations, as follows:

    i. From the Card Status form, press xX .

    ii. From the System Status and Maintenance Menu, choose "3 Channel Status".

      iii.   For each "Out of Service" channel, press [Enable Port] and enter the channel number.

    h.   Restart Meridian Mail and repeat steps 3a through 3d to verify any new cards you've installed.

**4**     Replace the DVP card in slot MM2.

**5**     Replace the DVP card in slot 9.

**6**     Replace the 68K card.

**7**     Replace the Meridian 1 CPU/Conf Pack. (Refer to *Meridian 1 Option 11—Installation Guide.)*

## System event and error reports (SEERs)

System event and error reports contain information about every system event and error that occurs on the Meridian Mail system. To configure Meridian Mail to print SEERs as they occur, refer to page 1-31.

Follow Procedure 5-8 to view the SEERs for a given period:

**Procedure 5-8**
**View SEERs for a given period**

**1**     From the Main Menu on the system administrator's terminal, choose "5 System Status and Maintenance"→ "5 System Event and Error Reports".

**2**     On the System Event and Error Reports form, enter the appropriate dates and times in *Report Period Start* and *Report Period End.*

**3**     Press ,<      .

The reports provide you with a brief description of the system event or error and when it occurred. For a more detailed description consult *Meridian Mail—System Event and Error Reports*.

# Spares planning

Table 5-2 lists the field-replaceable components of the Meridian Mail card option, the mean time between failures (MTBF), the predicted failures per million hours, and the number of spares of each item your location should stock, should you decide to stock spares.

**Table 5-2**
**Spares planning**

| Component | Code | MTBF (years) | Failures/ 1M hrs | Units serviced by location | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 1 | <5 | <10 | <20 | <30 |
| Tape drive | (See page 1-3) | 1.7 | 67.0 | 1 | 3 | 4 | 5 | 5 |
| 80 Mbyte disk | A0377786 | 8.0 | 14.3 | 1 | 2 | 3 | 4 | 4 |
| 170 Mbyte disk | A0378251 | 8.0 | 14.3 | 1 | 2 | 3 | 4 | 4 |
| 300 Mbyte disk | A0351371 A0602257 | 8.0 | 14.3 | 1 | 2 | 3 | 4 | 4 |
| 6Kk card | NTAK14BA | 18.0 | 6.4 | 1 | 2 | 3 | 4 | 4 |
| DVP card* | NTAK15AA/AB | 58.0 | 2.0 | 1 | 2 | 2 | 3 | 3 |
| C25 card* | NTAK16AA/AB | 60.0 | 2.0 | 1 | 2 | 2 | 3 | 3 |
| RSM assembly | NTAK18AA/BA | 240.0 | 0.5 | 1 | 2 | 2 | 3 | 3 |
| Disk/Power card | NTAK13AA | 299.0 | 0.4 | 1 | 2 | 2 | 3 | 3 |
| Connector board | NTAK17AA/BA | | | 1 | 2 | 2 | 3 | 3 |
| **Total system** | | **4.3** | | | | | | |

*Some systems have more than one of these cards. When planning for spares, consider the number of hardware locations on the systems you service.

# Maintaining the external tape drive

To ensure reliable tape drive performance, you should establish a regular cleaning schedule and observe the following precautions:

- Avoid mounting the tape drive where it is subjected to continuous shocks or vibrations.

- Maintain a clean, dust-free environment within the temperature and humidity limits listed in the specifications of the Meridian 1 option 11 system.

- Keep all liquids away from the drive and tapes to prevent spills into the equipment.

- Exercise reasonable care when using and storing tape cartridges. Do not place cartridges on the Meridian 1 cabinet or the monitor of the system administrator's terminal.

- When a stored tape is moved to an environment with a greatly different temperature, allow the tape to slowly reach room temperature before using it.

- Do not open the cartridge access door or touch the tape.

- Keep the tape drive turned on when it is connected to Meridian Mail.

## Cleaning the tape drive

To clean the tape drive, you need the following supplies:

- Low pressure aerosol air.

- Tape head cleaning fluid or reagent grade chemically-pure isopropyl alcohol.

- Tape head cleaning pads, lint-free cotton swabs, or any industry-acceptable head-cleaning swabs, six inches or longer.

You should clean the head assembly after an initial pass with a new tape cartridge and after eight hours of normal use. You should clean the sensor hole and tape cartridge cavity whenever dust is visible.

**Procedure 5-9**
**Cleaning the tape drive with swabs and fluid**

**1**    If there is a tape cartridge in the tape drive, remove it.

**2**    If the power to the tape drive is on, turn it off.

**3**    Push the head loading lever to the load position.

**4**    Carefully blow out dust from the sensor hole and tape cartridge cavity with aerosol air.

**5**    Moisten a pad or swab with the head-cleaning fluid until it is saturated but not dripping.

**6**    Carefully wipe the head in the direction that the tape travels. (Refer to Table 5-2.) Do not wipe perpendicularly or use a circular scrubbing motion.

**Figure 5-2**
**Cleaning the tape head**
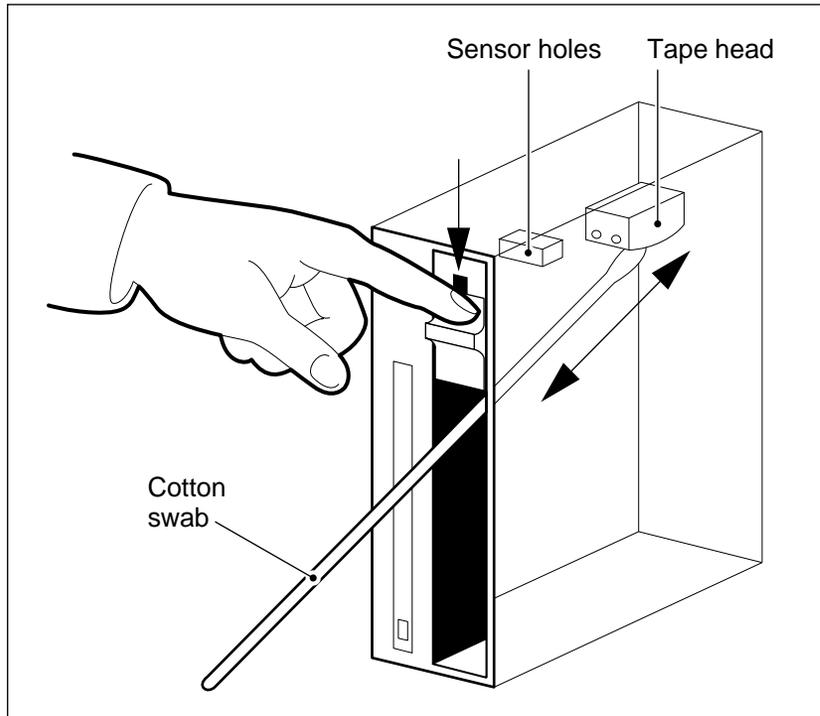


7    Discard the used swab and repeat steps 5 and 6 with new swabs until
     the swab shows no signs of dirt.

8    Use a new, dry swab to remove any remaining cleaning fluid from the
     head.

9    Push the head loading lever away from the load position.

10   If there was a tape cartridge in the tape drive, replace it.

11   If the power to the tape drive was on at the start of this procedure, turn
     it back on.

**Procedure 5-10**
**Using a tape drive cleaning kit**

**1**    If there is a tape cartridge in the tape drive, remove it.

**2**    Push the head loading lever down into the load position (for an Archive tape drive) or press the release button to open the tape drive (on the Tandberg tape drive).

**3**    Carefully blow out dust from the sensor hole and tape cartridge cavity with aerosol air.

**4**    Depending on your tape drive, release the head loading lever or press the release button to open the tape drive.

**5**    Obtain the appropriate tape drive kit for your tape drive. Refer to Table 5-3 for the correct CPC code.

**Table 5-3**
**Tape Drive Cleaning Kits**

| Type of tape drive | Cleaning Kit CPC code |
|---|---|
| Archive Viper | A9378220 |
| Tandberg TDC 4220 | A0622896 |

**6**    Moisten the flexible pad of the cleaning cartridge with four drops of the Streaming Tape Head Cleaning Fluid.

**7**    Insert the cleaning cartridge into the tape drive in the same way as a normal tape cartridge and lock into position.

**8**    Move the moistened pad using four strokes of the guide rod, moving the rod as far as it will go each time.

**9**    Remove the cleaning cartridge from the tape drive.

**10**    Remove the flexible pad by sliding it out of the holder, then discard the pad.

**11**    Insert a new, dry pad into the holder by sliding it into place.

**12**    Insert the cleaning cartridge into the tape drive and lock into place.

**13**   Move the dry pad using four strokes of the guide rod, moving the rod as far as it will go each time.

**14**   Remove the cleaning cartridge.  Store it with the dry pad in its original carton until next use.

# Software upgrades and conversions

Software upgrades and conversions allow you to install new versions of the Meridian Mail software without losing the data currently stored on the disk. If, for instance, any of the DNs on the system you are upgrading have been changed from the defaults, they will not be altered by the upgrade or conversion process.

Software upgrades occur within the same release of Meridian Mail. For example, if you are running Meridian Mail release 8, you might upgrade from version 8.0 to version 8.1 and later to version 8.2. Such incremental updates are released periodically by Northern Telecom (Nortel) to correct problems and improve service, but they all share the same features and capabilities as the initial release of the product.

Software conversion is performed when Nortel introduces a new release of Meridian Mail, with new features and new capabilities. For example, you must convert from Meridian Mail release 8.0 to Meridian Mail Release 10.0, if you wish to take advantage of any of the new features available in that new release.

## What you need

- The new Meridian Mail software tape, NTAK72*x*E. (Refer to Table 2-1 on page 2-2 for the exact part number).

- The new keycode for your system, if applicable. (Refer to Chapter 2.)

The keycode you need is printed on the label on the box containing the Meridian Mail software tape, together with the serial number of the system. If you are responsible for more than one Meridian Mail system, ensure that you are using the correct keycode for each. If the serial number of the system does not match that on the label, the keycode will be rejected.

Unless you have also ordered additional capabilities for your system, you do not have to enter a keycode to upgrade the software.

# Precautions

If you have ordered additional capabilities for your system, you will use the same keycode to enable them after the software upgrade or conversion. You must enable them one at a time and in the following order:

- Software upgrade or conversion
- Hardware modification (Refer to page 7-3.)
- Storage expansion (Refer to page 7-5.)
- Language expansion (Refer to page 7-6.)
- Feature expansion (Refer to page 7-8.)

Failure to follow this order may cause problems with the system. Of course, not all systems will require each of these steps—simply skip the ones you don't have to perform, but maintain the order. Don't, for instance, attempt a feature expansion before a language expansion.



**CAUTION**
**Failure or premature stoppage of conversion**

During conversion, if you receive a message telling you that the new operating system has been copied to the system, you must either complete the operation or restore the old operating system.

If you are interrupted during the process (for example, by a power failure), you must boot the system and rerun the conversion program.

# Performing a software upgrade or conversion

**Procedure 6-1**
**To perform a software upgrade or conversion:**

**1**  Perform a full backup of the Meridian Mail system. (Refer to "Backing up the system" on page 4-9.)

**2**  Run the System Installation and Modification Utility from the Meridian Mail software tape. (Refer to Chapter 2.)

**3**  From the System Installation and Modification Menu, choose "2 Upgrade to the latest MM10 release".

or

"3 Convert your MM8 or MM9 system to MM10".

*Note:* If your system is of an earlier release than MM-8, you must first convert from that release to MM-8 and then proceed to convert to MM-9. You can convert to MM-8 from any release labelled 1.x—1.10 or 1.12c, for example—but you must use an MM-8 software tape.

**4**  Respond to the prompts as they appear.

If you are converting from a pre-MM9 system each of your currently-installed hardware locations will be configured as full-service voice channels.

Don't worry if you respond to a prompt incorrectly. Before the final installation begins you are given another opportunity to re-enter the information.

The final upgrade takes about 45 minutes from start to finish, plus an extra 20 minutes for each additional language, after which you are prompted as follows:

The operation successfully completed.
Remove the tape when it finishes rewinding and boot into service

**5**   At the prompt:

    a.   Remove the tape from the drive. (Refer to Procedure 1-7.)

    b.   Enter **DIS AML 9 LYR2** to disable the AML link.

    c.   Turn off the power to Meridian Mail.

    d.   Wait ten seconds.

**6**   Start Meridian Mail. (Refer to Procedure 4-10.)
*The system starts up in full service.*

**7**   If, when you start Meridian Mail, the terminal displays Meridian Mail screens but the keyboard does not respond:

    a.   Press C         **]**

    b.   Enter **AX**  R         to return to Meridian Mail.

    If the keyboard still does not respond, refer to "Terminal problems" in Chapter 5.

If you have any other problems with this procedure, refer to "Problems during system expansion or software upgrade" in Chapter 5.

# System expansion

This chapter describes the procedures to follow when adding new hardware locations or modifying the existing hardware locations, expanding the system's disk storage, adding new languages, or enabling optional features.

## What you need

- The Meridian Mail software tape, NTAK72*x*E. (Refer to Table 2-1 on page 2-2 for the exact part number).

- The new keycode for your system. (Refer to Chapter 2.)

System expansion is enabled through a security keycode purchased from your Meridian 1 representative. There is no need to purchase any new software.

When you wish to expand an existing system, you receive a pair of new labels from your Meridian 1 representative containing the keycode you need. Stick these labels on top of the old keycode labels, one on the tape and the other inside the door of the Option 11 cabinet.

*Note:* Do not place the label on the metal plate on the back of the tape. This area must be kept clear to allow for the discharge of electrostatic buildup in the tape.

If you order your new features along with the latest software release, the label on the new software tape will contain the keycode you need.

# Precautions

This single keycode enables each of the system modification procedures you have to perform. It is important, however, that you perform the procedures in the following order:

- Software upgrade or conversion (Refer to Chapter 6.)
- Hardware modification (Refer to page 7-3.)
- Storage expansion (Refer to page 7-5.)
- Language expansion (Refer to page 7-6.)
- Feature expansion (Refer to page 7-8.)

Failure to follow this order may cause problems with the system.

Of course, not all systems will require each of these steps—simply skip the ones you don't have to perform, but maintain the order. Don't, for instance, attempt a feature expansion before a language expansion.

# Hardware modification

Hardware modification allows you add new hardware locations to your system or modify the attributes of the existing hardware locations. The number of hardware locations dictates how many people can use Meridian Mail at the same time. The attributes dictate which services each hardware location can provide.

Before adding any DVP or C25 cards, you must ensure that the DNs reserved for the hardware locations the cards will enable have not been reassigned to some other use.

**Procedure 7-1**
**Verify assigned DNs**

**1**    Log on to the Meridian 1 PBX. (Refer to Procedure 4-2.)

**2**    Print a hardware location report by following the prompts in Table 4-13 on page 4-27.

**3**    Using the hardware location table on page 11-4, determine the two default channel DNs for the card you're installing.

**4**    If the values in the report are different from those in the table, you can do one of two things:

    a.    Reassign the service that is currently using the DNs. (Refer to *Meridian 1 Option 11—Administration Guide.)*

    b.    Change the hardware location DNs to DNs which are not in use by following the procedures defined inProcedure 4-21.

**Procedure 7-2**
**Installing voice processor cards**

Once any conflicts have been resolved, you can add the voice processor cards, as follows:

**1**  Perform a full backup of the Meridian Mail system. (Refer to"Backing up the system" on page 4-9 .)

**2**  Courtesy down Meridian Mail and turn it off. (Refer to Procedure 4-9.)

**3**  Install the new voice processor cards. (Refer to "Replacing components" on page 5-4 and "Assembling and inserting the DVP card (NTAK15AB)" on page 1-12.)

**4**  Run the System Installation and Modification Utility from the Meridian Mail software tape. (Refer to Chapter 2.)

**5**  From the System Installation and Modification Menu, choose "5 Hardware Modification".

**6**  Respond to the prompts as they appear. (Refer to "Assigning hardware location attributes" on page 2-8.)

Don't worry if you respond to a prompt incorrectly. Before the final installation begins you are given another opportunity to re-enter the information.

The final expansion should take 30 minutes to complete, after which you are prompted as follows:

The operation successfully completed.
Please remove the tape and boot into service.

**7**  At the prompt:

a.  Remove the tape from the drive. (Refer to Procedure 1-7.)

b.  Turn off the power to Meridian Mail.

c.  Wait ten seconds.

**8**  Start Meridian Mail. (Refer to page 4-8.)
*The system starts up in full service.*

If Meridian Mail does not start correctly, follow the trouble-shooting procedures beginning on page 5-5.

# Storage expansion

Storage expansion expands the hours of message storage on your system, and allows the system to support more users and more system languages.

*Note:* Storage expansion may require the installation of a larger disk drive if your current disk drive is not large enough to handle the expansion.

**Procedure 7-3**
**Performing a storage expansion**

**1**   Perform a full backup of the Meridian Mail system. (Refer to "Backing up the system" on page 4-9.)

**2**   Courtesy down Meridian Mail and turn it off. (Refer to "Stopping Meridian Mail" on page 4-7.)

**3**   If you need to expand the storage capacity of the system beyond that of the current disk drive:

    a.   Replace the disk drive with a new, larger disk drive. (Refer to "Replacing components" on page 5-4 and "Assembling and inserting the disk/power supply card" on page 1-15.)

    b.   Restore the system from the backup you created in step 1. (Refer to "Restoring the system" on page 4-12.)

    c.   Courtesy down Meridian Mail and turn it off. (Refer to "Stopping Meridian Mail" on page 4-7.)

**4**   Run the System Installation and Modification Utility from the Meridian Mail software tape. (Refer to Chapter 2.)

**5**   From the System Installation and Modification Menu, choose "6 Storage Expansion".

**6**   Respond to the prompts as they appear.

Don't worry if you respond to a prompt incorrectly. Before the final installation begins you are given another opportunity to re-enter the information.

The final expansion should take 30 minutes to complete, after which you are prompted as follows:

> The operation successfully completed.
> Please remove the tape and boot into service.

**7**     At the prompt:

a.    Remove the tape from the drive. (Refer to Procedure 1-7.)

b.    Turn off the power to Meridian Mail.

c.    Wait ten seconds.

**8**     Start Meridian Mail. (Refer to "Starting Meridian Mail" on page 4-8.)
*The system starts up in full service.*

If you have any problems with this procedure, refer to "Problems during system expansion or software upgrade" on page 5-10.

# Language expansion

Software tapes are available containing the standard Meridian Mail voice prompts in many different languages. (Refer to Table 2-1 on page 2-2.) Each new language you add to a system requires approximately 1.25 hours of voice space on the Meridian Mail disk. You cannot add a language if voice space will be reduced to less than two hours.

**Procedure 7-4**
**Performing a language expansion**

**1**     Perform a full backup of the Meridian Mail system. (Refer to "Backing up the system" on page 4-9.)

**2**     Run the System Installation and Modification Utility from the Meridian Mail software tape. (Refer to Chapter 2.)

**3**     From the System Installation and Modification Menu, choose "7 Language Expansion".

**4**     Respond to the prompts as they appear.

You should be prepared to supply the feature keycodes from the system's label and to choose the languages you require from the software tapes you received.

Don't worry if you respond to a prompt incorrectly. Before the final expansion begins you are given another opportunity to re-enter the information.

Language expansion takes approximately 30 minutes for the first language plus 20 minutes for each additional language. Be prepared to insert any additional language tapes as the system requests them. After the final language has been loaded, you are prompted as follows:

**The operation successfully completed.**
**Please remove the tape and boot into service.**

**5**   At the prompt:

a.   Remove the tape from the drive. (Refer to Procedure 1-8.)

b.   Turn off the power to Meridian Mail.

c.   Wait ten seconds.

**6**   Start Meridian Mail. (Refer to "Starting Meridian Mail" on page 4-8**.**)
*The system starts up in full service with the new languages installed.*
*The operation of multi-language systems is discussed in Meridian*
*Mail—System Administration Guide.*

**7**   If, when you start Meridian Mail, the terminal displays Meridian Mail screens but the keyboard does not respond:

a.   Press C        **]**

b.   Enter **AX** R        to return to Meridian Mail.

If the keyboard still does not respond, refer to "Terminal problems" on page 5-13.

If you have any other problems with this procedure, refer to "Problems during system expansion or software upgrade" on page 5-10.

# Feature expansion

Optional features on the Meridian Mail card option system include the following:

- ACCESS
- AMIS Networking
- Bilingual prompting
- Fax on Demand
- Hospitality Voice Services
- Meridian Forms
- Meridian Mail Networking
- Multi-customer
- Network Message Service
- Outcalling

Follow Procedure 7-5 to enable one or more of these features:

**Procedure 7-5**
**Performing a feature expansion**

**1**   Perform a full backup of the Meridian Mail system. (Refer to page 4-9.)

**2**   Run the System Installation and Modification Utility from the Meridian Mail software tape. (Refer to Chapter 2.)

**3**   From the System Installation and Modification Menu, choose "4 Feature Expansion".

**4**   Respond to the prompts as they appear. Depending on the optional features you're enabling, you should be prepared to supply the following values for the system:

—   The feature keycode from the system's label.

—   The data port locations.
   *Card Option systems can have up to six data ports: the first two are reserved for the system administration terminal and the link to the Meridian 1 switch, the remaining four are the four ports available on*

*the RSM card, if one is installed. The following are the recommended settings for these ports:*

**Recommended dataport settings for Card Option**

| Location | Basic system | Hospitality system | Networked system | Networked hospitality system | ACCESS system |
|---|---|---|---|---|---|
| *Node 1 Card 1* | | | | | |
| Port 1 | Console | Console | Console | Console | Console |
| Port 2 | CSL1 (AML) | CSL1 (AML) | CSL1 (AML) | CSL1 (AML) | CSL1 (AML) |
| *Node 1 Card 3 (RSM)* | | | | | |
| Port 1 | Modem | GAC | Modem | GAC | Modem |
| Port 2 | Printer | GAC (optional) | Printer | Modem | ACCESS |
| Port 3 | Printer | PMS | Printer | PMS | Printer |
| Port 4 | Printer | PMS | Printer | PMS | Printer |

*The port locations you define here must match the connections you make to the RSM breakout assembly. The wiring diagrams for hospitality systems (Figure 8-1 on page 8-3), networked systems (Figure 9-1 on page 9-2), and ACCESS systems (Figure 10-1 on page 10-4) are based on these recommended values. If you customize the port locations, ensure that you change the wiring accordingly.*

Don't worry if you respond to a prompt incorrectly. Before the final expansion begins you are given another opportunity to re-enter the information.

The final expansion takes about 45 minutes from start to finish, plus an extra 20 minutes for each additional language. Be prepared to insert any additional language tapes as the system requests them. After the final language has been loaded, you are prompted as follows:

**The operation successfully completed.**
**Please remove the tape and boot into service.**

**5** At the prompt:

    a.    Remove the tape from the drive. (Refer to Procedure 1-8.)

    b.    Turn off the power to Meridian Mail.

    c.    Wait ten seconds.

**6**    Start Meridian Mail. (Refer to "Starting Meridian Mail" on page 4-8.)
*The system starts up in full service with the defaults defined in Chapter 11.*

**7**    If, when you start Meridian Mail, the terminal displays Meridian Mail screens but the keyboard does not respond:

    a.    Press C    **]**

    b.    Enter **AX** R    to return to Meridian Mail.

    If the keyboard still does not respond, refer to "Terminal problems" on page 5-13.

If you have any other problems with this procedure, refer to "Problems during system expansion or software upgrade" on page 5-10.

# Hospitality systems

Meridian Mail's Hospitality Voice Services (HVS) option is used by hotels to offer voice messaging services to their staff and guests. It is designed to work with a hotel's Property Management System (PMS). This chapter describes the additional hardware installation and software procedures required in order to take advantage of Meridian Mail's HVS capabilities. The Meridian 1 PBX may or may not already be connected to a PMS.

For complete instructions on installing an HVS system, refer to *Meridian Mail Modular Option—Installation Procedures.*

## Hardware installation

The HVS Hardware Kit (NTAK35AA/A0388201) contains the following:

1   RSM breakout assembly (NTAK18AA/BA)

1   25 pair MDF voice cable, 3.1 m (10 feet), male to male (NE-B25C-FS)

1   25 pair MDF voice cable, 3.1 m (10 feet), male to bare wire (NE-A25C-FS)

1   DB25 peripheral cable, 3.1 m (10 feet), male to bare wire (NTAK37AA)

3   DB25 peripheral cables, 3.1 m (10 feet), female to bare wire (NTAK36AA)

1   DB25 gender changer, female to female (A0351509)

The following are optional:

- VT420 video display terminal (A0376839)

- HP700/32 video display terminal (A0376518—amber)
  HP700/32 video display terminal (A0376519—green)
  HP700/32 video display terminal (A0376520—white)

Figure 8-1 on page 8-3 shows the basic cabling plan for hospitality systems.

## The multiport cable

To install the multiport cable, refer to *Meridian 1 Option 11 Installation Guide.*

## The RSM breakout assembly

Refer to page 1-7 for the RSM breakout assembly installation instructions.

On the RSM breakout assembly is an LED which, when lit, indicates that the Meridian Mail is functioning properly and communicating with the customer's PMS. When Meridian Mail is off or not functioning correctly, the RSM breakout assembly automatically bypasses Meridian Mail and allows the PMS and the Meridian 1 PBX to communicate directly. Below the LED is a switch that allows you to manually bypass Meridian Mail.

As seen in Figure 8-1 on page 8-3, from the RSM breakout assembly you can run one of two voice cables: a male to male or a male to bare wire. The male to male voice cable connects the RSM breakout assembly to a BIX Pack. The male to bare wire voice cable must be wired to a BIX or similar modular distribution frame according to the instructions in the tables on the following pages.

## The hotel's property management system

The instructions you use to wire the hotel's PMS to the BIX pack depend on how the PMS is configured. Refer to the documentation for the product.

For DTE configurations use Table 8-1 on page 8-4.

For DCE configurations use Table 8-2 on page 8-5.

In each table, the columns on the left are for the wires from the MDF cable, and the columns on the right are for the SDI and PMS cables.

For cables exceeding 50ft in length, short haul modems are required. Inmac asynchronous line drivers (#8125) are recommended.

## The guest administration consoles (GACs)

To install the guest administration consoles, follow the wiring instructions in Table 8-3 on page 8-6. The columns on the left are for the wires from the

MDF cable, and the columns on the right are for the wires to the consoles. Configure the consoles according to the instructions in Chapter 12.

# Software installation

You can only enable the Meridian Mail HVS feature during software installation. You cannot add HVS to an existing system without reinstalling the software.

**Figure 8-1**
**Hospitality system cables**
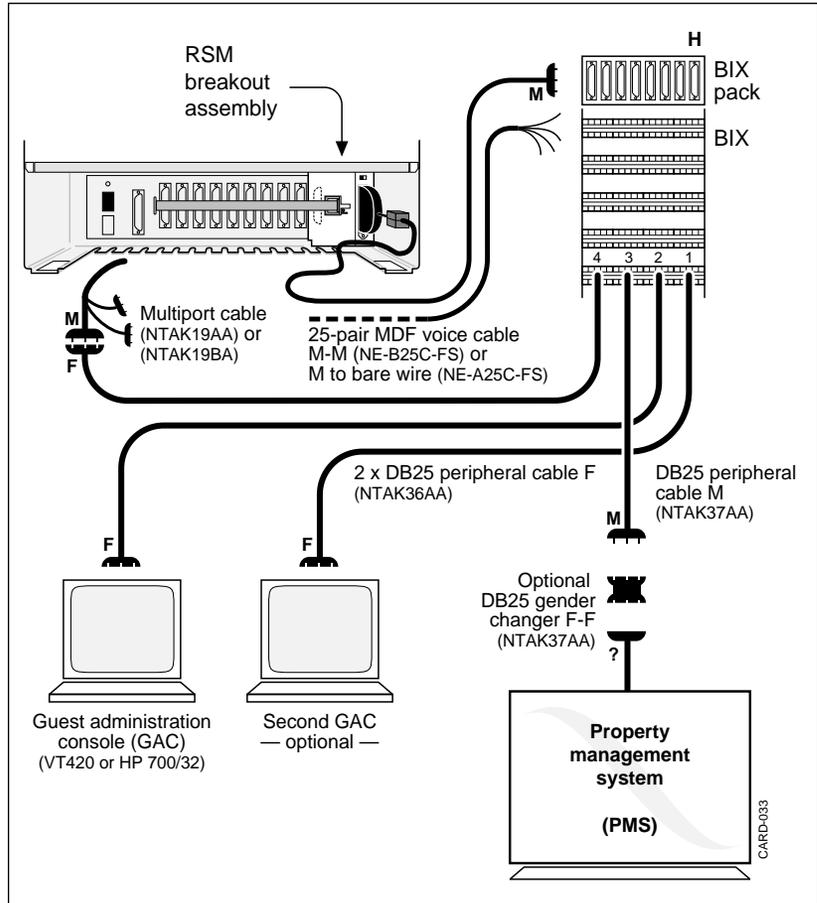
# Hospitality system administration

For more information on the set up and administration of a Meridian Mail hospitality system, consult: *Meridian Mail—System Administration Guide (Hospitality).*

**Table 8-1**
**Wiring for DTE PMS systems**

| Pair No | Colors | BIX Pos# | Cable | Colors | DB25 Pin# | Signal |
|---------|--------|----------|-------|--------|-----------|--------|
| 1 | WH/BL | 1 | SDI | RD/BK | 8 | DCD4 |
|   | BL/WH | 2 | - | - | - | - |
| 2 | WH/OR | 3 | SDI | WH/BK | 6 | DSR4 |
|   | OR/WH | 4 | SDI | BK | 20 | DTR4 |
| 3 | WH/GR | 5 | SDI | BL | 5 | CTS4 |
|   | GR/WH | 6 | SDI | OR | 4 | RTS4 |
| 4 | WH/BR | 7 | SDI | RD | 3 | RXD4 |
|   | BR/WH | 8 | SDI | WH | 2 | TXD4 |
| 5 | WH/SL | 9 | - | - | - | - |
|   | SL/WH | 10 | SDI | GR | 7 | SG |
| 6 | RD/BL | 11 | - | - | - | - |
|   | BL/RD | 12 | SDI | SHLD | 1 | FG |
| 7 | RD/OR | 13 | PMS | RD/BK | 8 | DCD3 |
|   | OR/RD | 14 | - | - | - | - |
| 8 | RD/GR | 15 | PMS | WH/BK | 6 | DSR3 |
|   | GR/RD | 16 | PMS | BK | 20 | DTR3 |
| 9 | RD/BR | 17 | PMS | BL | 5 | CTS3 |
|   | BR/RD | 18 | PMS | OR | 4 | RTS3 |
| 10 | RD/SL | 19 | PMS | RD | 3 | RXD3 |
|    | SL/RD | 20 | PMS | WH | 2 | TXD3 |
| 11 | BK/BL | 21 | - | - | - | - |
|    | BL/BK | 22 | PMS | GR | 7 | SG |
| 12 | BK/OR | 23 | - | - | - | - |
|    | OR/BK | 24 | PMS | SHLD | 1 | FG |

**Table 8-2**
**Wiring for DCE PMS systems**

| Pair No | Colors | BIX Pos# | Cable | Colors | DB25 Pin# | Signal |
|---|---|---|---|---|---|---|
| 1 | WH/BL | 1 | SDI | RD/BK | 8 | DCD4 |
|  | BL/WH | 2 | - | - | - | - |
| 2 | WH/OR | 3 | SDI | BK | 20 | DSR4 |
|  | OR/WH | 4 | SDI | WH/BK | 6 | DTR4 |
| 3 | WH/GR | 5 | SDI | OR | 4 | CTS4 |
|  | GR/WH | 6 | SDI | BL | 5 | RTS4 |
| 4 | WH/BR | 7 | SDI | WH | 2 | RXD4 |
|  | BR/WH | 8 | SDI | RD | 3 | TXD4 |
| 5 | WH/SL | 9 | - | - | - | - |
|  | SL/WH | 10 | SDI | GR | 7 | SG |
| 6 | RD/BL | 11 | - | - | - | - |
|  | BL/RD | 12 | SDI | SHLD | 1 | FG |
| 7 | RD/OR | 13 | PMS | RD/BK | 8 | DCD3 |
|  | OR/RD | 14 | - | - | - | - |
| 8 | RD/GR | 15 | PMS | BK | 20 | DSR3 |
|  | GR/RD | 16 | PMS | WH/BK | 6 | DTR3 |
| 9 | RD/BR | 17 | PMS | OR | 4 | CTS3 |
|  | BR/RD | 18 | PMS | BL | 5 | RTS3 |
| 10 | RD/SL | 19 | PMS | WH | 2 | RXD3 |
|  | SL/RD | 20 | PMS | RD | 3 | TXD3 |
| 11 | BK/BL | 21 | - | - | - | - |
|  | BL/BK | 22 | PMS | GR | 7 | SG |
| 12 | BK/OR | 23 | - | - | - | - |
|  | OR/BK | 24 | PMS | SHLD | 1 | FG |

**Table 8-3**
**Wiring for guest administration terminals (GACs)**

| Pair No | Colors | BIX Pos# | Cable | Colors | DB25 Pin# | Signal |
|---------|--------|----------|-------|--------|-----------|--------|
| 13 | BK/GR | 25 | GAC2 | OR/BK | 17 | RXC2 |
|    | GR/BK | 26 | GAC2 | GR/BK | 15 | TXC2 |
| 14 | BK/BR | 27 | GAC2 | RD/BK | 8 | DCD2 |
|    | BR/BK | 28 | GAC2 | BK | 20 | DTR2 |
| 15 | BK/SL | 29 | GAC2 | WH/BK | 6 | DSR2 |
|    | SL/BK | 30 | GAC2 | OR | 4 | RTS2 |
| 16 | YE/BL | 31 | GAC2 | BL | 5 | CTS2 |
|    | BL/YE | 32 | GAC2 | WH | 2 | TXD2 |
| 17 | YE/OR | 33 | GAC2 | RD | 3 | RXD2 |
|    | OR/YE | 34 | GAC2 | GR | 7 | SG |
| 18 | YE/GR | 35 | GAC2 | BL/BK | 22 | RI |
|    | GR/YE | 36 | GAC2 | SHLD | 1 | FG |
| 19 | YE/BR | 37 | GAC1 | OR/BK | 17 | RXC1 |
|    | BR/YE | 38 | - | - | - | - |
| 20 | YE/SL | 39 | GAC1 | RD/BK | 8 | DCD1 |
|    | SL/YE | 40 | GAC1 | GR/BK | 15 | TXC1 |
| 21 | VI/BL | 41 | GAC1 | WH/BK | 6 | DSR1 |
|    | BL/VI | 42 | GAC1 | BK | 20 | DTR1 |
| 22 | VI/OR | 43 | GAC1 | BL | 5 | CTS1 |
|    | OR/VI | 44 | GAC1 | OR | 4 | RTS1 |
| 23 | VI/GR | 45 | GAC1 | RD | 3 | RXD1 |
|    | GR/VI | 46 | GAC1 | WH | 2 | TXD1 |
| 24 | VI/BR | 47 | - | - | - | - |
|    | BR/VI | 48 | GAC1 | GR | 7 | SG |
| 25 | VI/SL | 49 | - | - | - | - |
|    | SL/VI | 50 | GAC1 | SHLD | 1 | FG |

# Networked systems

This chapter describes the additional hardware installation and software procedures required in order to take advantage of Meridian Mail's networking capabilities.

For complete instructions on installing an Networking system, refer to *Meridian Mail Networking Installation guide.*

## Hardware installation

The Networking Hardware Kit (NTAK40AA/A0388206) contains the following:

1   RSM breakout assembly (NTAK18AA/BA)

1   25 pair MDF voice cable, 3.1 m (10 feet), male to male (NEA25D-DE)

1   25 pair MDF voice cable, 3.1 m (10 feet), male to bare wire (NEA25D-SE)

1   DB25 peripheral cable, 3.1 m (10 feet), male to bare wire (NTAK37AA)

1   Modem (NT3M50AF)

Figure 9-1 on page 9-2 shows the basic cabling plan for networked systems.

### The RSM breakout assembly

Refer to page 1-7 for the RSM breakout assembly installation instructions.

As seen in Figure 9-1, from the RSM breakout assembly you can run one of two voice cables: a male to male or a male to bare wire. The male to male voice cable connects the RSM breakout assembly to a BIX Pack. The male to bare wire voice cable must be wired to a BIX or similar modular distribution frame according to the instructions in the Table 9-1 on page 9-2.

In Table 9-1, the columns on the left are for the wires from the MDF cable, and the columns on the right are for the male DB25 cable that connects to the

modem. Before you attach this cable to the modem, however, the modem must be correctly configured.

**Figure 9-1**
**Networked system cables**
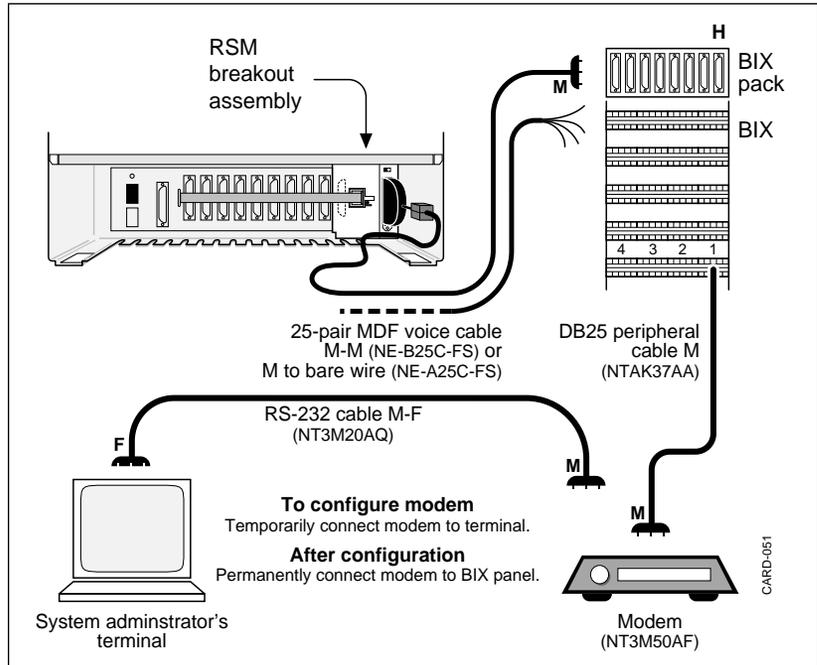


**Table 9-1**
**Wiring for networked systems**

| Pair No | Colors | BIX Pos# | Cable | Colors | DB25 Pin# | Signal |
|---------|--------|----------|-------|--------|-----------|--------|
| 7 | RD/OR | 13 | Modem | RD/BK | 8 | DCD3 |
|  | OR/RD | 14 | - | - | - | - |
| 8 | RD/GR | 15 | Modem | WH/BK | 6 | DSR3 |
|  | GR/RD | 16 | Modem | BK | 20 | DTR3 |
| 9 | RD/BR | 17 | Modem | BL | 5 | CTS3 |
|  | BR/RD | 18 | Modem | OR | 4 | RTS3 |
| 10 | RD/SL | 19 | Modem | RD | 3 | RXD3 |
|  | SL/RD | 20 | Modem | WH | 2 | TXD3 |
| 11 | BK/BL | 21 | - | - | - | - |
|  | BL/BK | 22 | Modem | GR | 7 | SG |
| 12 | BK/OR | 23 | - | - | - | - |
|  | OR/BK | 24 | Modem | SHLD | 1 | FG |

## Configuring the modem

The following procedure assumes that you are configuring the Ven-Tel modem supported by Northern Telecom (Nortel). If your modem is not a Ven-Tel modem, refer to the modem's manual and configure it to correspond to the following settings.

**Procedure 9-1**
**Configuring the modem**

**1** Connect a properly configured system administrator's terminal directly to the modem in order to enter and verify its configuration. Use an RS-232 cable (NT3M20AQ).

**2** Ensure that the switch labeled "SW2" on the circuit board is configured as follows:

| Switch | Position | Description |
|--------|----------|-------------|
| S2-1 | Off | Follows DTR status. |
| S2-2 | Off | Enables word result codes for AT commands. |
| S2-3 | On | Enables generation of AT command result codes. |
| S2-4 | On | Disables AT command echo from modem. |
| S2-5 | On | Disables modem auto answer. If not disabled, the modem will answer phone calls in receiver mode. |
| S2-6 | Off | Carrier detect responds to carrier. |
| S2-7 | On | Speaker control may be on or off. During installation it is recommended that the speaker be on in order to hear the operation of the modem. After verifying the operation, the speaker may be turned off. |
| S2-8 | On | The modem will respond to AT commands. |
| S2-9 | Off | The Ven-Tel NVRAM mode command set is disabled. |
| S2-10 | Off | The Ven-Tel dialer feature is disabled. |

*Note:* Older versions of the Ven-Tel modem may have another switch labelled "SW3." It should have all its switches set to the off position. See your Ven-Tel user's manual for the location of these switches.

**3** Plug the modem and terminal into an appropriate AC receptacle and turn them on.

**4** Enter **at&f** R    to  reset the model to the factory default values.
*The screen displays "OK."*

**5** Enter **at&d3** R    to enable DTR-initiated reset.
*The screen displays "OK."*

**6** Enter **at&w** R    to save the configuration.
*The screen displays "OK."*

**7** Turn the modem off, wait ten seconds, and turn the modem on again.

**8** Enter **at\s** R    to verify the modem settings.
*They should read as follows:*

For EC2400-33 Rev. 5.2:

**\A0, %A0, B0, &C1, \C0, %C1, &D3, \D0, E0, F1, &G0, \G0, \J0, &L0, M1, &M0, \N1, &P0, Q0, \Q0, &R0, \T0, &T4, V1, \V0, X4, &X0, \X0, Y0**

For EC2400-33 Rev. 6.0:

**\A0, %A0, B0, &C1, \C0, %C1, &D3, \D0, E0, F1, &G0, \G0, \J0, &L0, M1, &M0, \N1, &P0, Q0, \Q0, &R0, \T0, &T4, V1, \V0, X4, &X0, \X0, Y0, *N0**

For EC2400 Plus II Rev.4.53:

**\A0, %A0, B0, *B0, &C1, \C0, %C1, &D3, \D0, E0, F1, &G0, \G0, \J0, &L0, M1, &M0, \N1, *N0, &P0, Q0, \Q0, #R0, &R0, *S3, \T0, &T4, V1, \V0, X4, &X0, \X0, Y0, *A=018, 015, 001, 004**

If there are any discrepancies, verify the switch settings from step 2 and repeat steps 4 to 8.

**9** Turn off the modem and connect it to the Meridian 1 system according to the instructions starting on page 9-1.

**10** Turn off the terminal and reconnect it to the Meridian 1 PBX.

# Software installation

You can enable the Meridian Mail network option in one of two ways.

### During initial software installation
The feature is automatically enabled by entering a valid keycode.

### After initial software installation
Refer to "Feature expansion" on page 7-8.

# Network system administration

For more information on the set up and administration of a networked Meridian Mail system consult: *Meridian Mail—System Administration Guide.*

# ACCESS systems

Meridian ACCESS allows a UNIX workstation to access many of Meridian Mail's voice messaging features. Customers can use ACCESS to develop and maintain their own telephone-based voice applications.

With Release 10.0, multiple ACCESS links are supported on a single node which will allow customers to take advantage of more applications. For example, AdminPlus and ACCESS can now run concurrently on the Card Option system.

This chapter describes the additional hardware installation and software procedures required in order to take advantage of Meridian Mail's ACCESS capabilities. For more information on Meridian ACCESS, refer to the following documents:

- Meridian ACCESS—Configuration Guide (NTP 555-7001-315)
- Meridian ACCESS—Developer's Guide (NTP 555-7001-316)
- Meridian ACCESS—Application Programming Interface (API) Reference Manual (NTP 555-7001-317)
- Meridian ACCESS—Voice Prompt Editor User's Guide (NTP 555-7001-318)
- Meridian Mail—System Administration Guide (555-7001-301)

# ACCESS components

There are three primary components on each side of the ACCESS link. They are briefly discussed in the following sections. If you require a more detailed description, refer to the Overview in the *Meridian ACCESS Configuration Guide* (NTP 555-7001-315).

## Meridian Mail components

### Toolkit (TK)

There is a Toolkit for each voice port on the system. The Toolkit is responsible for executing API commands received across the Meridian ACCESS link.

### Toolkit Master (TKM)

The Toolkit Master acts as a resource manager for Toolkit tasks. There will be a Toolkit Master for each node configured to have an ACCESS link.

### Toolkit Communications (TC)

The Toolkit Communications task is responsible for driving the Meridian ACCESS link. It implements a proprietary protocol that supports variable size packets, checksum error handling, virtual channels, and retransmission on errors. Valid command packets received are passed on to the appropriate toolkit task. There will be a TC for each node configured to have an ACCESS link.

## Application processor components

### ACCESS link handler

This task provides functionality equivalent to the Toolkit Communications task for the applications processor side. The link handler is split into two tasks: one receives data and the other handles the output.

### ACCESS Application Programming Interface (API) library

This is the ACCESS object code library containing ACCESS API procedures that are linked in with the applications. Most procedures translate into commands that are put into a data packet and passed on to the link handler.

### Application

This is the 'C' program written by either Northern Telecom (Nortel) or a VAD which uses ACCESS API procedures to answer calls when they arrive. The application controls the interactive voice response (IVR) service being provided.

# Hardware installation

ACCESS systems require the following additional hardware:

1    RSM breakout assembly (NTAK18AA/BA)

1    25 pair MDF voice cable, 3.1 m (10 feet), male to male (NE-B25C-FS) *or* 25 pair MDF voice cable,  3.1 m (10 feet), male to bare wire (NE-A25C-FS)

1    DB25 peripheral cable, 3.1 m (10 feet) , male to bare wire (NTAK37AA) *or* DB25 peripheral cables,  3.1 m (10 feet), female to bare wire (NTAK36AA)

Figure 10-1 on page 10-4 shows the basic cabling plan for ACCESS systems. The cables you require depend on the BIX system you're using and on the interface on the UNIX workstation.

*Note:* If your workstation has a DB9 interface, you will require a DB9 to DB25 adaptor. This part is not supplied by Nortel.

## The RSM breakout assembly

Refer to page 1-7 for the RSM breakout assembly installation instructions.

As seen in Figure  on page 10-4, from the RSM breakout assembly you can run one of two voice cables: a male to male or a male to bare wire. The male to male voice cable connects the RSM breakout assembly to a BIX Pack. The male to bare wire voice cable must be wired to a BIX or similar modular distribution frame according to the instructions in the tables on the following pages.

## The UNIX workstation

The instructions you use to wire the UNIX workstation depend on how the workstation is configured. Refer to the documentation for the product.

For DTE configurations use Table 10-1 on page 10-5.

For DCE configurations use Table 10-2 on page 10-5.

In each table, the columns on the left are for the wires from the MDF cable, and the columns on the right are for the cable to the UNIX workstation.

# Software installation

You can enable the Meridian Mail ACCESS option in one of two ways.

## During initial software installation

The feature is automatically enabled by entering a valid keycode.

## After initial software installation

Refer to "Feature expansion" on page 7-8.

**Figure 10-1**
**Hospitality system cables**
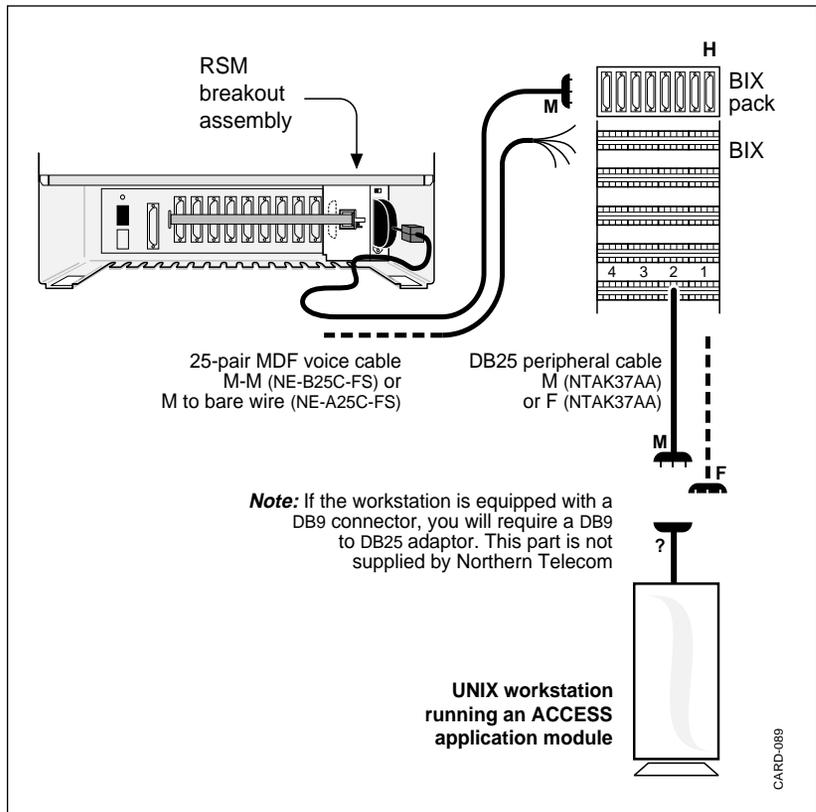
**Table 10-1**
**Wiring for DTE UNIX systems**

| Pair No | Colors | BIX Pos# | Cable | Colors | DB25 Pin# | Signal |
|---------|--------|----------|-------|--------|-----------|--------|
| 13 | BK/GR | 25 | UNIX | OR/BK | 17 | RXC2 |
|    | GR/BK | 26 | UNIX | GR/BK | 15 | TXC2 |
| 14 | BK/BR | 27 | UNIX | RD/BK | 8  | DCD2 |
|    | BR/BK | 28 | UNIX | BK    | 20 | DTR2 |
| 15 | BK/SL | 29 | UNIX | WH/BK | 6  | DSR2 |
|    | SL/BK | 30 | UNIX | OR    | 4  | RTS2 |
| 16 | YE/BL | 31 | UNIX | BL    | 5  | CTS2 |
|    | BL/YE | 32 | UNIX | WH    | 2  | TXD2 |
| 17 | YE/OR | 33 | UNIX | RD    | 3  | RXD2 |
|    | OR/YE | 34 | UNIX | GR    | 7  | SG   |
| 18 | YE/GR | 35 | UNIX | BL/BK | 22 | RI   |
|    | GR/YE | 36 | UNIX | SHLD  | 1  | FG   |

**Table 10-2**
**Wiring for DCE UNIX systems**

| Pair No | Colors | BIX Pos# | Cable | Colors | DB25 Pin# | Signal |
|---------|--------|----------|-------|--------|-----------|--------|
| 13 | BK/GR | 25 | UNIX | OR/BK | 15 | RXC2 |
|    | GR/BK | 26 | UNIX | GR/BK | 17 | TXC2 |
| 14 | BK/BR | 27 | UNIX | RD/BK | 8  | DCD2 |
|    | BR/BK | 28 | UNIX | BK    | 6  | DTR2 |
| 15 | BK/SL | 29 | UNIX | WH/BK | 20 | DSR2 |
|    | SL/BK | 30 | UNIX | OR    | 5  | RTS2 |
| 16 | YE/BL | 31 | UNIX | BL    | 4  | CTS2 |
|    | BL/YE | 32 | UNIX | WH    | 3  | TXD2 |
| 17 | YE/OR | 33 | UNIX | RD    | 2  | RXD2 |
|    | OR/YE | 34 | UNIX | GR    | 7  | SG   |
| 18 | YE/GR | 35 | UNIX | BL/BK | 22 | RI   |
|    | GR/YE | 36 | UNIX | SHLD  | 1  | FG   |

# ACCESS system administration

*Meridian Mail—Installation Procedures* contains information on configuring Meridian Mail for various applications.

*Meridian Mail—System Administration Guide (555-7001-301)* contains information on configuring and administering ACCESS voice services.

# Meridian Mail defaults

This chapter lists the default passwords and system parameters on a Meridian Mail Card Option system. Some of the values listed here are predefined, and some—such as the Voice Service DNs—can be defined automatically during software installation.

Should you choose to configure any of these parameters manually, use the defaults listed here as the basis for your custom values.

## Basic systems

### Passwords
Meridian 1 Representative's PBX password: 0000 (four zeros)

System administrator's terminal password: adminpwd

System administrator's Meridian 1 PBX password: MMAIL (uppercase)

The System administrator's PBX password allows access only to overlay 2 and overlay 48. (Overlay 2 allows the Administrator to set time and date. Overlay 48 allows the Administrator to reset the console and AML data ports.)

### Geographical location
United States (32k DSP package, mu-law, no AGC, no silence compression).

### Primary language
American English, no secondary language.

**Number of users:**

The number of users you can add to a system depends on the size of the disk drive, the number of languages installed, and the size of the each user's voice mailbox. The mailbox of the first user is defined during software installation and may be 2000, 2100, or 2200.

40-Mbyte disk: 48 users recommended.

80-Mbyte disk: 96 users recommended.

170-Mbyte disk and larger: 192 users recommended.

**Service DNs**

Voice Messaging (Meridian Mail): 7000

Automated Attendant: 7001

Express Messaging: 7002

Prompt Maintenance: 7003, password 7003

**Table 11-1**
**Hardware locations**

| Card | Option 11 routing address (c u) | Mail port location | Routing address | Primary DN | Channel DN (SCN) | Position ID | Types of service |
|---|---|---|---|---|---|---|---|
| DVP in MM2 | 10 00 | 01–4–01 | 008–0–02–00 | 7000 | 7800 | 7830 | ALL |
|  | 10 08 | 01–4–02 | 008–0–02–08 | 7000 | 7801 | 7831 | ALL |
| 1st C25 in MM2 | 10 01 | 01–5–01 | 008–0–02–01 | 7000 | 7802 | 7832 | ALL |
|  | 10 09 | 01–5–02 | 008–0–02–09 | 7000 | 7803 | 7833 | ALL |
| 2nd C25 in MM2 | 10 02 | 01–6–01 | 008–0–02–02 | 7000 | 7804 | 7834 | ALL |
|  | 10 10 | 01–6–02 | 008–0–02–10 | 7000 | 7805 | 7835 | ALL |
| DVP in 9 | 10 03 | 01–7–01 | 008–0–02–03 | 7000 | 7806 | 7836 | ALL |
|  | 10 11 | 01–7–02 | 008–0–02–11 | 7000 | 7807 | 7837 | ALL |
| 1st C25 in 9 | 10 04 | 01–8–01 | 008–0–02–04 | 7000 | 7808 | 7838 | ALL |
|  | 10 12 | 01–8–02 | 008–0–02–12 | 7000 | 7809 | 7839 | ALL |
| 2nd C25 in 9 | 10 05 | 01–9–01 | 008–0–02–05 | 7000 | 7810 | 7840 | ALL |
|  | 10 13 | 01–9–02 | 008–0–02–13 | 7000 | 7811 | 7841 | ALL |

Option 11 switches come with these hardware locations correctly configured. Should you ever need to completely redefine a hardware location, respond to the following prompts in Overlay 11. (Refer to Table 4-6 on page 4-24.)

**Table 11-2**
**Hardware location parameters for Overlay 11**

| Prompt | Response | Comment |
|--------|----------|---------|
| KEY | 0 ACD *xxxx yyyy* | *xxxx* is the new Voice Messaging DN and *yyyy* is the position ID for the hardware location. |
| KEY | 1 SCN *zzzz* | *zzzz* is the channel DN for the hardware location. |
| KEY | 2 MSB | |
| KEY | 3 NRD | |
| KEY | 6 TRN | |
| KEY | 7 AO3 | O is the letter O. |
| KEY | 9 RLS | |

# Hospitality system service DNs

The defaults for a hospitality system are the same as those for a basic system except for the service DNs, which are defined as follows:

Guest Messaging: 7000

Express Messaging: 7001

Hotel Menu: 7002

Published Numbers: 7003

Post Checkout: 7004

Staff Messaging: 7005

# Networked and ACCESS systems

The defaults for a networked or ACCESS system are the same as those for a basic system.

# Terminal configuration

The procedures on the following pages describe how to set up the video display terminals supported by Northern Telecom (Nortel).

**Table 12-1**
**Supported terminals**

| Terminal | Refer to |
|---|---|
| NT220 | page 12-2 |
| HP700/22 | page 12-4 |
| HP700/32 | page 12-6 |
| VT220, VT320, VT420 | page 12-8 |
| VT520 | page 12-12 |

If the terminal you are configuring is different from these, use the most similar settings available and follow the instructions in the manual that came with the terminal.

**CAUTION**
**Potential data loss**
Setup mode can be entered at any time, but it is recommended that you do not do so while information is being printed on the screen.

# NT220 terminals

Table 12-2 on page 12-3 contains the setup parameters for NT220 terminals.

**Procedure 12-1**
**Setting up the NT220 terminals**

**1**   Turn on the terminal.

**2**   Press S to enter setup mode.
*The current setup parameters are displayed on a series of screens.*

**3**   Using the following procedures, change the values on each screen to match the parameters in Table 12-2.

To move through the setup screens:

a.   Use the arrow keys to move to *To Next Setup Screen* and press E.

To change the parameter in a field:

a.   Use the arrow keys to move to that field.

b.   Press E to move through the available parameters for that field.

**4**   When you are finished, press S again.

**Table 12-2**
**NT220 setup values**

**General Setup**
Online
Refresh Rate=60 Hz
VT200 Mode, 7-bit Controls
User Defined Keys Unlocked
User Features Unlocked

Application Keypad
Normal Cursor Keys
No New Line
Setup=English
North American Keyboard

**Printer Comm. Setup**
Speed=9600
Normal Print Mode
8bits, No Parity
1 Stop bit
Print Full Page
Print National Only
No Terminator
Bidirectional Off

**Host Comm. Setup**
Transmit=1200 *(for Sys. Admin. terminal)*
Transmit=2400 *(for Auxiliary terminals)*
Receive=Transmit
Xoff at 64
8bits, No Parity
1 Stop Bit
No Local Echo
EIA Port, Data Leads Only
Disconnect, 2 s Delay
Limited Transmit

**Display Setup**
80 Columns
Interpret Controls
Auto Wrap
Jump Scroll
Light Text, Dark Screen
Cursor
Block Style Cursor
25 Lines

**Keyboard Setup**
Typewriter Keys
Caps Lock
Auto Repeat
Keyclick
Margin Bell
Warning Bell
Break
Multinational
DEL=DEL; Shift/DEL=BS

**Answerback/Tab Setup**
No Auto Answerback
*Not Concealed*
*Answerback=*
*Leave Tabs at the default values*

**Enhance/Block Mode Setup**
*Leave these fields at the default values*

# HP700/22 terminals

Table 12-3 on page 12-5 contains the setup values for the HP700/22 terminal. The setup procedure is as follows:

**Procedure 12-2**
**Setting up the HP700/22 terminal**

1    Turn on the terminal.

2    Press S to enter setup mode.
     *The current setup values are displayed on a series of screens.*

3    Using the following procedures, change the values on each screen to match the values in Table 12-3.

     To move through the setup screens:

     a.    Press N and P.

     To change the value in a field:

     a.    Use the arrow keys to move to that field.

     b.    Press E to move through the available values for that field.

4    When you are finished, press S again.

**Table 12-3**
**HP700/22 setup values**

**General Setup**

| | | | |
|---|---|---|---|
| Terminal Mode | EM200, 7bit Ctrls | EM100 ID | EM220 |
| On Line | YES | Interpret Control Mode | YES |
| Columns | 80 | User Features Locked | NO |
| Smooth Scroll | YES | User Defined Keys Locked | NO |
| Block Cursor | YES | Numeric Mode Keypad | NO |
| Cursor OFF | NO | Normal Mode Cursor Keys | YES |
| Light Background | NO | National Character Set | NO |
| Inhibit Auto Wrap | NO | Frame Rate | 72 |
| New Line | NO | Display OFF After (min) | 15 |
| Status Line | Indicator | Multipage | NO |

**Communications Setup**

**Host**

| | | | |
|---|---|---|---|
| Xmit Baudrate | 1200 *(for Sys. Admin. terminal)* | XON/XOFF | @ 64 |
| | 2400 *(for Auxiliary terminals)* | Disconnect Delay | 2 s |
| Recv Baudrate | =Xmit | Stop Bits | 1 |
| Data Bits/Parity | 8/None | Local Echo | NO |
| Check Parity | NO | Unlimited Xmit | NO |
| Port Selection | EIA, Data Leads Only | | |

**Printer**

| | | | |
|---|---|---|---|
| Baudrate | 9600 | Print Mode | Normal |
| Data Bits/Parity | 8/None | Print Scroll Region | NO |
| Stop Bits | 1 | Terminator | None |
| Character Set | National Only | XON/XOFF | @ 64 |

**Keyboard Setup**

| | | | |
|---|---|---|---|
| Keyboard Language | North American | Data Processing Keys | NO |
| Keyclick | YES | Shift Lock | NO |
| Margin Bell | YES | Break | YES |
| Warning Bell | YES | Auto Repeat | YES |
| Answerback= | | Auto Answerback | NO |

*Do not set any tabs or programmed keys.*

# HP700/32 terminals

Table 12-4 on page 12-7 contains the setup values for the HP700/32 terminal. The setup procedure is as follows:

**Procedure 12-3**
**Setting up the HP700/32 terminal**

**1**   Turn on the terminal.

**2**   Press S to enter setup mode.
*The current setup values are displayed on a series of screens.*

**3**   Using the following procedures, change the values on each screen to match the values in Table 12-4.

To move through the setup screens:

a.   Press N and P.

To change the value in a field:

a.   Press the arrow keys to move to that field.

b.   Press left and right arrow keys to move through the available values for that field.

**4**   When you are finished, press S again.

**Table 12-4**
**HP700/32 setup values**

| **Global setup** | | | |
|---|---|---|---|
| Host Port | 2 | Keyboard | U.S. |
| Background | Dark | Message Translations | English |
| Screen Saver | 10 Min | Setup Translations | English |
| Refresh Rate | 72 Hz | Clear Display | |
| Key Click | Yes | Clear Comm | |

| **User Setup** | | | |
|---|---|---|---|
| Smooth Scroll | Jump scroll | Display Width | 80 |
| Cursor Type | Blink Line | Display Width Allowed | 80 or 132 |
| Cursor | Off | Char Cell Height | 16 |
| 2nd Message Line | On | Clr on Width Change | Yes |
| Message Line | On | Aux Mode | Off |
| Status Line | On | Aux to Host | Off |
| On Line | Yes | Print Terminator=FF | No |
| Local Echo | Off | Logical Page Size | 24 |
| Auto Wrap | Off | Number of Pages | 1 |
| Auto Linefeed | Off | | |
| Display Ctrl Codes | Off | | |

| **Emulation Setup** | | | |
|---|---|---|---|
| Emulation | VT320 | Cursor Keys | Normal |
| Terminal Id | VT220 | Print Scroll Region | Off |
| Control Codes | 7-bit | User Features Locked | No |
| Characters Mode | 8-bit | User Keys Locked | No |
| Preferred Char Set | DEC Supplemental | Data Procession Keys | No |
| Key Pad Mode | Application | | |

| **Port 1 Setup** | | | |
|---|---|---|---|
| Communications | Full Duplex | Limited Transmit | Off |
| Data Length | 8-bits | DSRI | No |
| Parity | None | CTS | Ignore |
| Stop Bits | 1 | CD | Ignore |
| Xmit Baud | 1200 *(for Sys. Admin. terminal)* | Break Disconnect | 170ms |
| | 2400 *(for Auxiliary terminals)* | Disconnect Delay | Never |
| Recv Baud | =Xmit | Aux printer Type | National |
| Xmit pace | Xon/Xoff | | |
| Recv Pace | Xoff at 128 | | |

| **Port 2 Setup** | | | |
|---|---|---|---|
| Communications | Full Duplex | Xmit pace | Xon/Xoff |
| Data Length | 8-bits | Recv Pace | Xoff at 128 |
| Parity | None | Limited Transmit | Off |
| Stop Bits | 1 | Break Duration | 170ms |
| Xmit Baud | 9600 | Aux Printer Type | National |
| Recv Baud | =Xmit | | |

| **Keyboard Setup** | | | |
|---|---|---|---|
| Lock Key | Caps Lock | Warning Bell | Yes |
| Kbd Lock Enable | Yes | Auto Answerback | Yes |
| Save Tabs | Yes | Answerback = | |
| Auto Repeat | Yes | Conceal Answerback | No |
| Margin Bell | Yes | *Do not set any tabs or programmed keys.* | |

# VT220, VT320, and VT420 terminals

Table 12-5 on page 12-9 contains the setup values for VT220 terminals.
Table 12-6 on page 12-10 contains the setup values for VT320 terminals.
Table 12-7 on page 12-11 contains the setup values for VT420 terminals.

**Procedure 12-4**
**Setting up the VT220, VT320 and VT420 terminals**
The setup procedure is the same for all three terminals:

**1**   Turn on the terminal.

**2**   Press S  to enter setup mode.
*The current setup values are displayed on a series of screens, as the user scrolls through them.*

**3**   Using the following procedures, change the parameters on each screen to match the values in the appropriate table.

To move to a particular screen from the main setup screen:

a.   Use the arrow keys to move through the menu of setup screens and press E.

To move to the next setup screen:

a.   Use the arrow keys to move to *To Next Setup* and press E.

To change the parameter in a field:

a.   Use the arrow keys to move to that field.

b.   Press E to move through the available parameters for that field.

**4**   When you are finished, press S again.

**Table 12-5**
**VT220 setup values**

**Setup Directory**
On Line

**Display Setup**
| | |
|---|---|
| 80 Columns | Light Text, Dark Screen |
| Interpret Controls | Cursor |
| Auto Wrap | Block Style Cursor |
| Jump Scroll | |

**General Setup**
| | |
|---|---|
| VT200 Mode, 7-bit Controls | Application Keypad |
| User Defined Keys Unlocked | Normal Cursor Keys |
| User Features Unlocked | No New Line |
| Multinational | |

**Communications Setup**
| | |
|---|---|
| Transmit=1200 *(for Sys. Admin. terminal)* | 1 Stop Bit |
| Transmit=2400 *(for Auxiliary terminals)* | No Local Echo |
| Receive=Transmit | Data Leads Only |
| Xoff at 64 | Disconnect, 2 s Delay |
| 8bits, No Parity | Limited Transmit |

**Printer Setup**
| | |
|---|---|
| Speed=9600 | Print Full Page |
| Normal Print Mode | Print National Only |
| 8bits, No Parity | No Terminator |
| 1 Stop bit | |

**Keyboard Setup**
| | |
|---|---|
| Typewriter Keys | Warning Bell |
| Caps Lock | Break |
| Auto Repeat | Answerback= |
| Keyclick | Not Concealed |
| Margin Bell | |

**Tab Setup**
*Leave this screen at the default values*

**Table 12-6**
**VT320 setup values**

**Global Setup**
On Line                                    Comm1=RS232
Sessions on Comm1                          70Hz
CRT Saver                                  Printer Shared

**Display Setup**
80 Columns                                 Light Text, Dark Screen
Interpret Controls                         Cursor
Auto Wrap                                  Block Style Cursor
Jump Scroll                                No Status Display

**General Setup**
VT200 ID Mode, 7-bit Controls              Normal Cursor Keys
User Defined Keys Unlocked                 No New Line
User Features Unlocked                     UPSS DEC Supplemental
Application Keypad

**Communications Setup**
Transmit=1200 *(for Sys. Admin. terminal)*   No Local Echo
Transmit=2400 *(for Auxiliary terminals)*    DEC-423, Data Leads Only
Receive=Transmit                           Limited Transmit
Xoff at 64                                 No Auto Answerback
8bits, No Parity                           Answerback=
1 Stop Bit                                 Not Concealed

**Printer Setup**
Speed=9600                                 1 Stop bit
No printer to Host                         Print Full Page
Normal Print Mode                          Print National Only
XOFF                                       No Terminator
8bits, No Parity

**Keyboard Setup**
Caps Lock                                  Break
Auto Repeat                                Compose
Keyclick                                   <X] Delete
Margin Bell                                ,, and .. Keys Send ,< and .>
Warning Bell                               <> Key
Character Mode                             '~Key

**Tab Setup Screen**
*Leave this screen at the default values*

**Table 12-7**
**VT420 setup value**s

---

**Global Setup**

| | |
|---|---|
| On Line | Comm1=RS232 |
| Sessions on Comm1 | 70Hz |
| CRT Saver | Printer Shared |

**Display Setup**

| | |
|---|---|
| 80 Columns | No Status Display |
| Interpret Controls | Cursor Steady |
| Auto Wrap | 3x24 pages |
| Jump Scroll | 24 Lines/Screen |
| Dark Screen | Vertical Coupling |
| Cursor | Page Coupling |
| Block Style Cursor | Auto Resize Screen |

**General Setup**

| | |
|---|---|
| VT400 Mode, 7-bit Controls | Normal Cursor Keys |
| User Defined Keys Unlocked | No New Line |
| User Features Unlocked | UPSS DEC Supplemental |
| 8-bit Characters | VT420 ID |
| Application Keypad | When Available Update |

**Communications Setup**

| | |
|---|---|
| Transmit=1200 *(for Sys. Admin. terminal)* | Disconnect, 2 s Delay |
| Transmit=2400 *(for Auxiliary terminals)* | Limited Transmit |
| Receive=Transmit | No Auto Answerback |
| Xoff=64 | Answerback= |
| 8bits, No Parity | Not Concealed |
| 1 Stop Bit | Modem High Speed = ignore |
| No Local Echo | Modem Low Speed = ignore |
| Data Leads Only | |

**Printer Setup**

| | |
|---|---|
| Speed=9600 | 8bits, No Parity, 1 Stop bit |
| No printer to Host | Print Full Page |
| Normal Print Mode | Print National Only |
| XOFF | No Terminator |

**Keyboard Setup**

| | |
|---|---|
| Typewriter Keys | Ignore Alt |
| Caps Lock | F1 = Hold |
| Auto Repeat | F2 = Print |
| Keyclick High | F3 = Setup |
| Margin Bell | F4 = Session |
| Warning Bell High | F5 = Break |
| Character Mode | ,< and .> Keys |
| <X] Delete | <> Key |
| Local Compose | '~Key |

**Tab Setup**
*Leave this screen at the default values*

---

# VT520 terminals

Table 12-5 on page 12-9 contains the setup values for VT520 terminal.

**Procedure 12-5**
**Setting up the VT520 terminal**

**1** Press S to enter setup mode.
*Note:* The Main Set-Up window is displayed.

**Figure 12-1**
**VT520 terminal Main Set-Up window**

```
┌─────────────────────────┐
│  Actions            ▷   │
│  Session            ▷   │
│  Display            ▷   │
│  Terminal type      ▷   │
│  ASCII  emulation   ▷   │
│  Keyboard           ▷   │
│  Communication      ▷   │
│  Modem              ▷   │
│  Printer            ▷   │
│  Tabs . . .             │
│  Set-Up language ▷      │
│                         │
│ ☑ On-line               │
│   Save settings         │
│   Restore settings      │
│   Exit Set-Up           │
└─────────────────────────┘
```
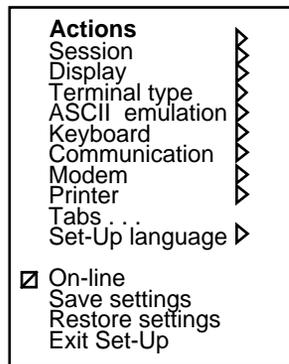
**2** Use the up and down arrow keys to highlight the setup feature which is to be changed (for example, **Actions**).

**3**   When the  setup feature is highlighted, use one of the following methods
to select the appropriate settings:

**Table 12-8**
**Navigating the setup windows**

| If | then |
|---|---|
| a solid triangle (▷ ) appears beside the setup feature | use the right arrow key to automatically display the pop-up window of associated settings. See Figure 12-2 for an example. |
| a box (☑ ) appears beside the setup feature | press E to toggle the setting for the selected feature on or off.  A diagonal line appears in the box when the setting is on. |
| three dots (. . .) appear beside the setup feature | press E to display the associated pop-up window. When all fields have been completed, move the cursor to [OK] or [Cancel], and press E to activate your choice. |

**Figure 12-2**
**VT520 terminal - sample feature pop-up window**

```
┌─────────────────────────────┬──────────────────────┐
│  Actions            ▷       │ Clear Display        │
│  Session            ▷       │ Clear communications │
│  Display            ▷       │ Reset this session   │
│  Terminal type      ▷       │ Restore factory defaults │
│  ASCII  emulation   ▷       │                      │
│  Keyboard           ▷       │ Clock                │
│  Communication      ▷       │ Calculator           │
│  Modem              ▷       │ Show character sets  │
│  Printer            ▷       │ Banner message . . . │
│  Tabs . . .                 │                      │
│  Set-Up language ▷          │                      │
│                             │                      │
│ ☑ On-line                   │                      │
│  Save settings              │                      │
│  Restore settings           │                      │
│  Exit Set-Up                │                      │
└─────────────────────────────┴──────────────────────┘
```

**4**   Configure the terminal to match mandatory settings shown in
 Table 12-9.  If no setting is specified, select the parameter which best
suits your environment.
*Note:* Features shown in parentheses are grayed out on the window.

**5**   When you are finished, press S again.

**Table 12-9**
**VT520 setup values**

| Main Set-Up window | First Level | Mandatory setting or description |
|---|---|---|
| Actions | Clear Display | Press E to clear the display |
| | Clear Communications | Press E to clear communications |
| | Reset this session | Press E to reset this session |
| | Restore factory defaults | Press E to restore the factory default |
| | Clock | Press E to set theVT520 clock |
| | Calculator | Press E to use the VT520 calculator |
| | Show character sets | Press E to display character sets |
| | Banner message... | Press E to set the banner message |
| Session | Select Session | Select Session 1 |
| | Session name . . . | Optional user text |
| | Pages per session . . . | 04 pages maximum |
| | Soft char sets/session | Two each S1 and S2 |
| | Save settings for all | |
| | Restore settings for all | |
| | Copy settings from | |
| | Update session | At regular intervals |
| Display | Lines per screen | 24, 25, or 26 |
| | Lines per page | 24 lines X 01 pages |
| | Review previous lines | ON |
| | Columns per page | 80 columns, Clear on change |
| | Status display | Local status |

| Main Set-Up window | First Level | Mandatory setting or description |
|---|---|---|
| Display (cont'd) | Scrolling mode | Jump |
| | Screen background | Dark |
| | Cursor display | Enable cursor, Steady, Block, Blink |
| | Cursor coupling | Set to "Vertical" and "Page" |
| | Cursor direction | Left to right |
| | Copy direction | Left to right |
| | Zero | Select style of zero you want to display |
| | Auto Wrap | ON |
| | New line mode | |
| | Lock user preferences | |
| | Show control characters | |
| | CRT saver | |
| | Energy saver | |
| | (Overscan) | |
| | Framed windows | ON  (Set to OFF to enable Overscan.  ) |
| | Screen alignment | |
| Terminal type | Emulation mode | VT520 |
| | Terminal ID to host | VT520 |
| | VT default char set | DEC Multinational - See user documentation as well |
| | PC Term character set | DEC Multinational - See user documentation as well |
| | (7-bit NCRS characters) | |
| | Transmit 7-bit cable | ON |

| Main Set-Up window | First Level | Mandatory setting or description |
|---|---|---|
| (ASCII emulation) | | |
| Keyboard | VT Keyboard language | Select appropriate language |
| | (PC Keyboard language) | |
| | Define key . . . | Use Define Key Editor screen to set the following:<br>F1=Hold<br>F2=Print<br>F3=Setup<br>F4=Session<br>F5=Break<br>Ignore Alt<br>,< and .> Keys<br><> Key<br>'~ Key |
| | Save key definitions | |
| | Recall key definitions | |
| | Lock key definitions | |
| | Caps lock function | Caps lock |
| | Keyclick volume | High |
| | Warning bell volume | High |
| | Margin bell volume | OFF |
| | Keyboard encoding | Character (ASCII) |
| | Auto Repeat | |
| | Data processing keys | |
| | Application cursor keys | |
| | Application keypad mode | |
| | (Map PC keyboard to VT) | |
| | Ignore missing keyboard | |

| Main Set-Up window | First Level | Mandatory setting or description |
|---|---|---|
| Communication | Port select . . . | See Figure 12-3 on page 12-19. |
| | Word size | 8 bit |
| | Parity | None |
| | Stop bits | 1 bit |
| | Transmit speed | 2400 baud |
| | Receive speed | Transmit speed |
| | Transmit flow control | XON/XOFF |
| | Flow control threshold | Low |
| | Transmit rate limit | 150 cps |
| | Fkey rate limit | 150 cps |
| | Ignore Null character | ON |
| | Local echo | |
| | Half duplex | |
| | Auto answerback | ON |
| | Answerback message . . . | Enter the answerback message |
| | Answerback concealed | |
| Modem | Enable modem control | |
| | (Disconnect delay) | |
| | (Modem high speed) | |
| | (Modem low speed) | |
| Printer | Port select . . . | See Figure 12-3 on page 12-19 . |
| | Print mode | Normal |
| | Printer type | DEC ANSI |
| | DEC/ISO char sets | |

| Main Set-Up window | First Level | Mandatory setting or description |
|---|---|---|
| Printer (cont'd) | DEC/ISO char sets | Country dependent setting |
| | (PC character sets) | |
| | Print terminator | None |
| | Serial print speed | 9600 baud |
| | 2-way communication | ON |
| | Transmit flow control | XON/XOFF |
| | Receive flow control | XON/XOFF |
| | Word size | 8 bits |
| | Parity | None |
| | Stop bits | 1 bit |
| Tabs . . . | Tab Set-Up screen | |
| Set-Up language | | User dependent |
| On-line | | ON |
| Save settings | | When settings are complete, push E to save |
| Restore settings | | |
| Exit Set-Up | | |

**Figure 12-3**
**Port selection for VT520**

| | | | |
|---|---|---|---|
| **S1** | **S2** | **S3** | **S4** |
| **Comm** | **Comm** | **Comm** | **Comm** |
| ○ | ○ | ● Off | ● Off |
| ● com 1 | ○ | | |
| ○ | ● com 2 | | |
| ○ | ○ | | |
| **Print** | **Print** | **Print** | **Print** |
| ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ |
| ● com3 | ● com 3 | ● com  3 | ● com 3 |
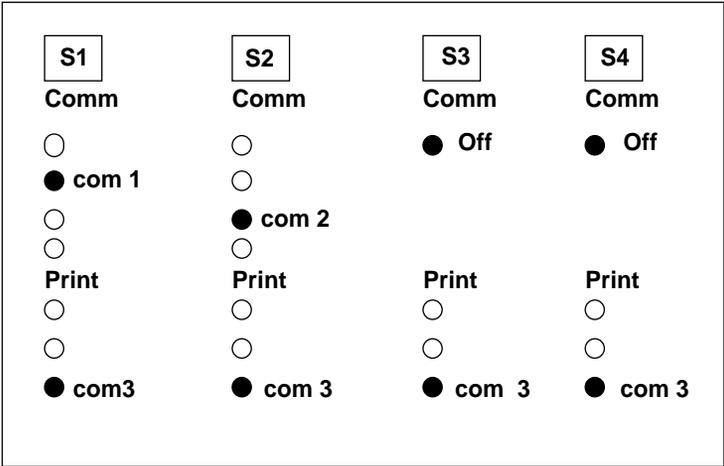
# Disk drive configuration

The following is a list of the disk drives supported by Northern Telecom (Nortel) and the page containing each drive's configuration instructions.

If the drive you're installing does not appear in the following list, consult the latest version of the release bulletin for this guide. Release bulletins are released periodically as new disk drives are added to the Meridian Mail card option product list.

If the drive you're installing is not supported by Nortel, refer to the disk drive's manual for the location of the terminator plugs and the jumper configurations.

## Disk drive requirements for Card Option

For a disk drive to function correctly with the Meridian Mail card option, it must have no terminators, its SCSI address must be set to zero, its parity must be enabled, and its motor must be set to start up when the power is turned on.

## Disk drive configurations

**Figure 13-1**
**Maxtor 7080S & 7080SR disk drive configuration**



Install power-up option jumper only

SCSI connector

PIN 1

Power connector
(with adaptor)

Remove all terminators

J601
J603
J605
J604

Remove all jumpers

**Maxtor 7080S & 7080SR**
**(5-hour/80Mbyte systems)**

CARD-016
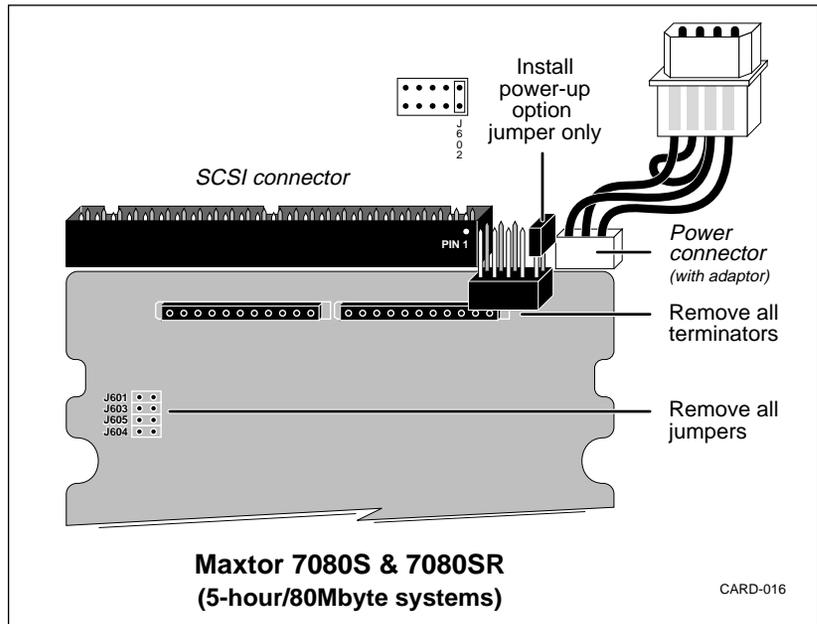
**Figure 13-2**
**Maxtor 7080S-C disk drive configuration**



Power
connector

SCSI connector

PIN 1

Remove all
terminators

J606
J607
J608
J609
J602

J601
J603
J604
J605

Install power
up option
jumper only

Remove all
jumpers

**Maxtor 7080S-C**
**(5-hour/80Mbyte systems)**

CARD-022
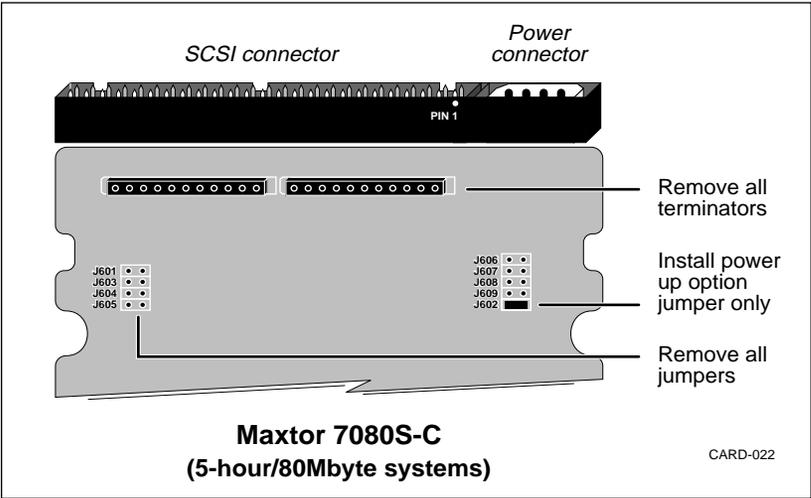
**Figure 13-3**
**Maxtor 7120S disk drive configuration**



Power
connector

SCSI connector

PIN 1

Remove all
terminators

J606
J607
J608
J609
J602

J601
J603
J604
J605

Install power
up option
jumper only

Remove all
jumpers

**Maxtor 7120S**
**(10-hour/170Mbyte systems)**

CARD-023
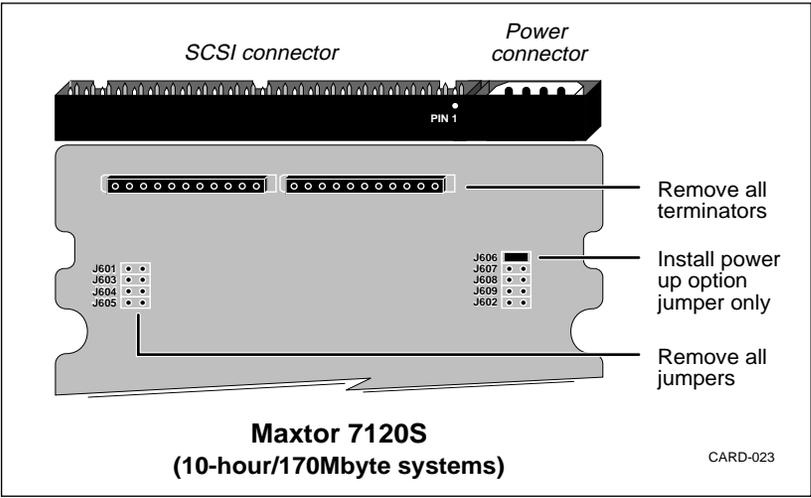
**Figure 13-4**
**Maxtor LXT340SY disk drive configuration (option A)**



*SCSI connector*

*Power connector*

PIN 1

JP6

Install motor start and parity jumpers only

Remove all terminators

**Maxtor LXT340SY—Option A**
**(24-hour/300Mbyte systems)**

CARD-037
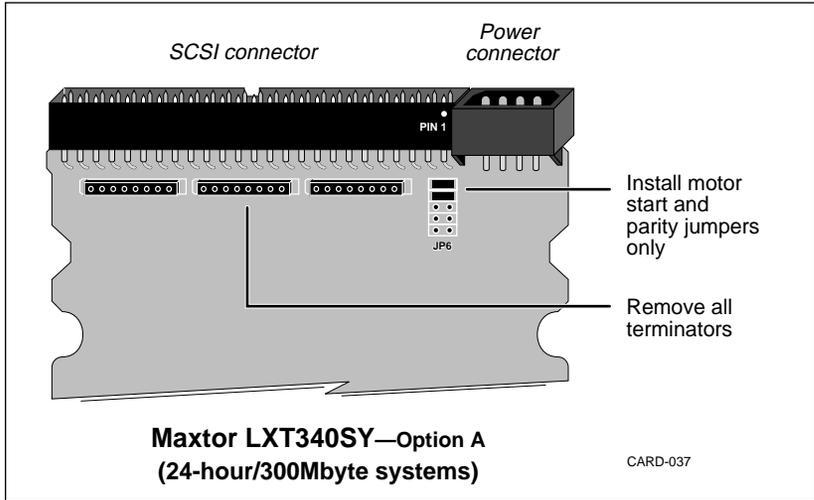
**Figure 13-5**
**Maxtor LXT340SY disk drive configuration (option B)**



*SCSI connector*

*Power connector*

PIN 1

JP6

JP8

JP9

Install motor start and parity jumpers only

Install these two jumpers to define disc for single-ended SCSI signals

Remove all terminators

**Maxtor LXT340SY—Option B**
**(24-hour/300Mbyte systems)**

CARD-038
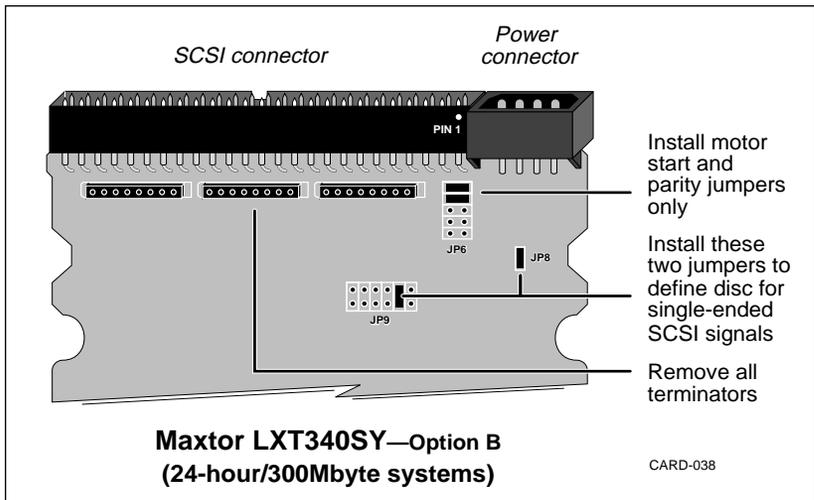
**Figure 13-6**
**Quantum ProDrive 80S disk drive configuration**



SCSI connector

Power connector

Remove all terminators

Remove all jumpers

Install parity enable jumper only

A0
A1
A2

WS
EP
SS

**Quantum ProDrive 80S**
**(5-hour/80Mbyte systems)**

CARD-034
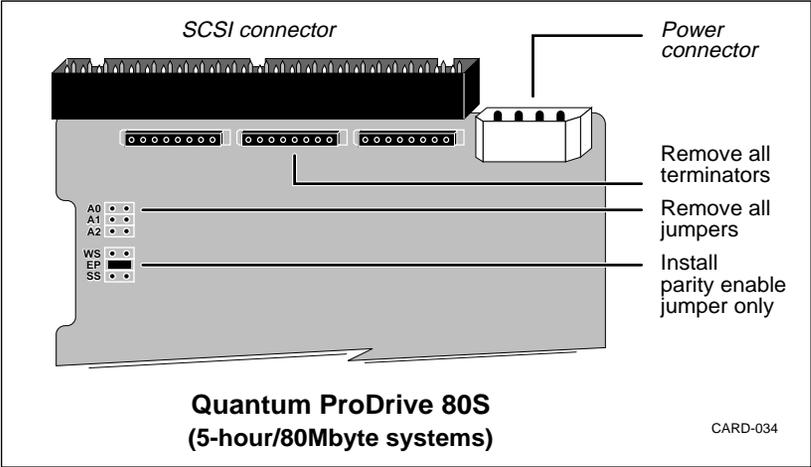
**Figure 13-7**
**Quantum L365**
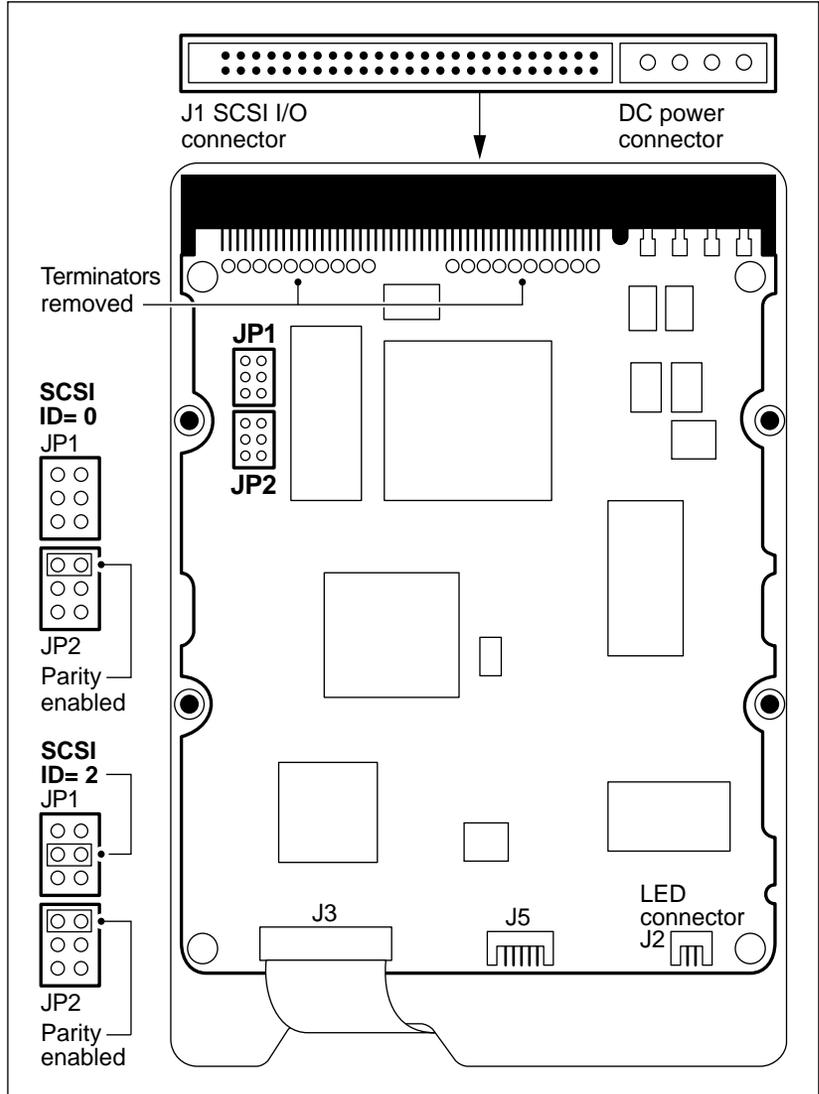
**Figure 13-8**
**Seagate ST1096N disk drive configuration**



Install parity enable jumper only

1 2 4 N C P

*Power connector*

*SCSI connector*

PIN 1

Remove all terminators

**Seagate ST1096N**
**(5-hour/80Mbyte systems)**

CARD-024
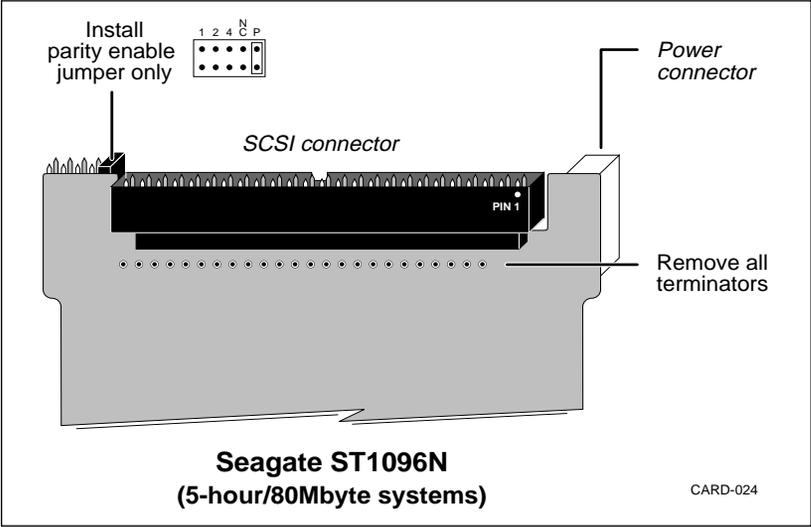
**Figure 13-9**
**Seagate ST1201N disk drive configuration**



*Power connector*

1 3 5 7 9 11
2 4 6 8 10 12

Install parity enable jumper only

*SCSI connector*

PIN 1

Remove all jumpers

Remove all terminators

**Seagate ST1201N**
**(10-hour/170Mbyte systems)**

CARD-021
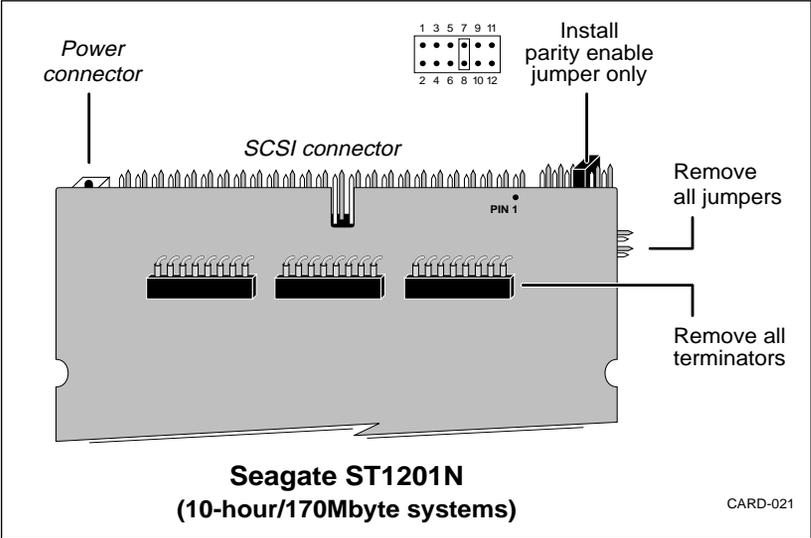
**Figure 13-10**
**Seagate ST1480N disk drive configuration**
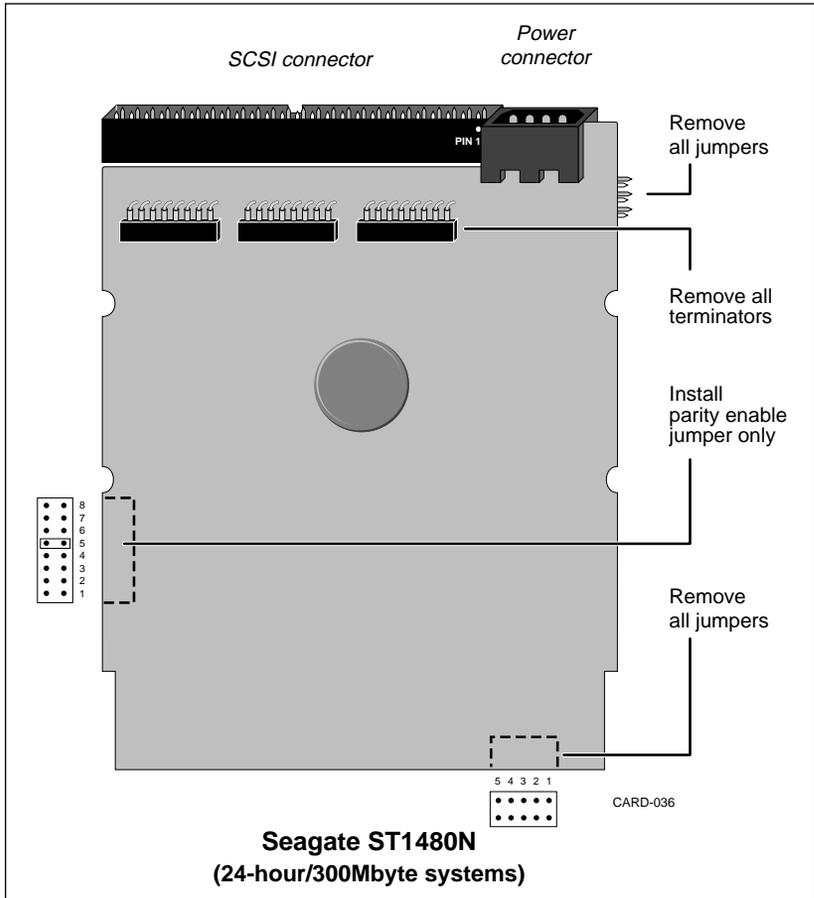
**Figure 13-11**
**Seagate ST3390N disk drive configuration**



*Note:* This view of the disk drive is from the top, through the bracket.
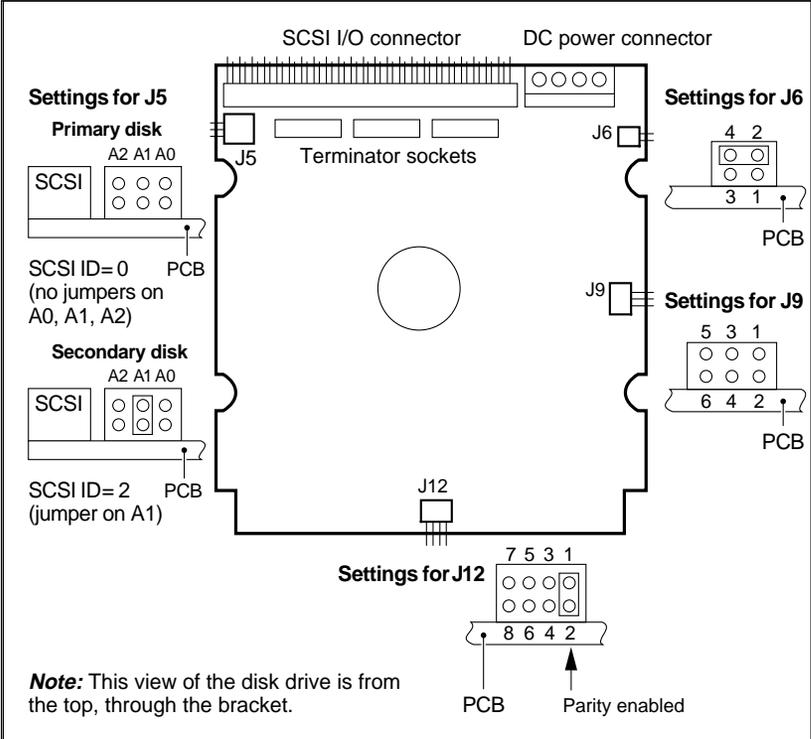
**Figure 13-12**
**Seagate ST5660 disk drive configuration**
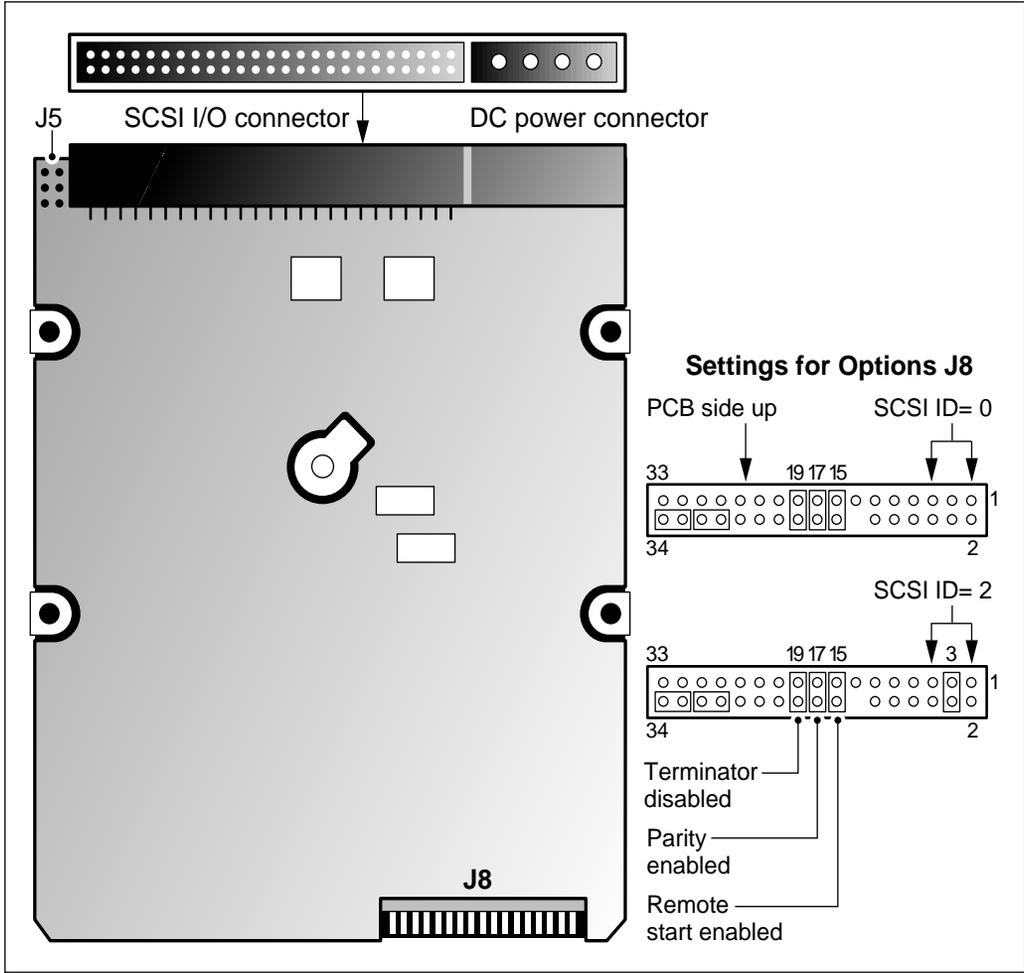
# List of terms

**AML**

The Application Module Link is the communications link established between Meridian Mail and the Meridian 1 switch.

**DCE**

Data communications equipment

**DN**

DN or directory number is the number you dial to reach a user's extension or a Meridian Mail service. Directory numbers are also used to define virtual ACD agent positions responsible for handling Meridian Mail calls.

**DTE**

Data terminal equipment

**Hardware location**

A hardware location is the physical circuitry on the DVP and C25 cards used to process fax and voice data. Each card has two hardware locations. These hardware locations are assigned to ports. A basic or full-service voice port requires one hardware location. A multimedia port requires two hardware locations.

**HVS**

Hospitality Voice Services

**MDF**

Main Distribution Frame

**PBX**

Private branch exchange. The portion of the Meridian 1 system that manages the electronic switching of calls.

**PMS**

Property management system. A standard computer system used by many hotels which can be connected to Meridian Mail hospitality systems.

**Port**

There are two types of port in the Meridian Mail Card Option system. The first type of port is used to move data between Meridian Mail and the Meridian 1 PBX, using the hardware locations on the DVP and C25 cards. The second type of port is used to move data between Meridian Mail and peripheral devices such as modems and printers, using the hardware on the RSM card.

**RSM**

RS-232 service module

**SCSI**

Small Computer System Interface. An international standard for data communication.

**SEERs**

System error and events reports

# Index

# NORTEL

# Reader's Response Form

# NORTEL

# Reader's Response Form
## for
## Meridian Mail Card Option
Installation and Maintenance
NTP 555-7071-210
August 1995

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Tell us about yourself:

Name: _____   Date: _____

Company: _____

Address: _____

_____

Occupation: _____   Phone: _____

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1.  What is your level of experience with this product?

    ❏ New user          ❏ Intermediate          ❏ Experienced          ❏ Programmer

2.  How do you use this book?

    ❏ Learning          ❏ Procedural          ❏ Problem solving          ❏ Reference

3.  Did this book meet all of your needs?

    ❏ Yes          ❏ No

    If you answered No to this question, please answer the following questions.

4.  What chapters, sections, or procedures did you find hard to understand.

    _____
    _____
    _____

5.  What information (if any) was missing from this book?

    _____
    _____
    _____

6.  How could we improve this book? (For example, books can also be evaluated in many other ways, including: ease of information retrieval, presentation, and use of reading aids, such as diagrams.)

    _____
    _____

*Please return your comments by fax to (416) 597-7104, or mail you comments to: Nortel Customer Documentation, 522 University Ave., Toronto, ON, Canada, M5G 1W7.*

Integrated Office—Network Services

# Meridian Mail
# Card Option

Installation and Maintenance

# NØRTEL