Meridian Mail

System Installation and Modification Guide

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This is the standard version of the *System Installation and Modification Guide* for Meridian Mail Release 10.0.

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About this document

This document is intended to be used by service technicians who are familiar with Meridian Mail operation and maintenance procedures. It is divided into chapters, each of which describes a single utility and the procedures necessary to perform the Meridian Mail system operation that the utility facilitates. The chapter entitled “Overview: read me first” is intended to be read before beginning the system operation.

Typographic conventions

The following conventions are used throughout this guide:

- ***Softkeys*** These are displayed on the various menus and screens 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 in the given menu), delimited by square brackets (for example, [Exit], [OK to Delete]).
- ***Keyboard keys*** These are referred to by indicating the label of the key, delimited by angle brackets (for example, <1>, <2>, <Return>).
- ***Screen text*** All depictions of text appearing in screens is presented in bold print.
- ***Text input*** Where you are required to input specific text, the characters are presented in bold print (for example, **abcd**, as opposed to <a><b><c><d>).
- ***Fields in a menu*** When the name of a field or menu item is referred to within a paragraph, it is in italics and in a different typeface than the body of the document. This is not the case if a field name appears in a heading.

- ***Values in Fields*** When a description refers to a set of values from which you must select, these values are in quotes (for example, “Yes”, “No”, “Enable”, “Disable”). Note that quotations are not used in figures since these values do not appear with quotations in the screens themselves.
- ***Prompt for selected values*** When you are asked to select a value using the up or down arrows, the prompt is shown in the procedure, just as it would appear on the screen, followed by one of the possible values bolded. The other possible values are shown in parentheses. For example

  Select operation: Change (Summary, DetailedDisplay, Done)

  means that you pressed the up or down arrow key to select Change from the possible values (unless Change was the default value). The text that follows assumes that you selected the bolded value.

  Note: The bolded value may be, but need not be, the default value.

References

In this manual, where reference is made to another part of the manual, or to another document, the following conventions are used:

- A reference to an NTP number which may differ depending on the platform or features your Meridian Mail system is set up for will include the symbol “x” in it to indicate the variable. For instance, (NTP 555-70x1-250).
- A reference to text in the same chapter appears surrounded by double quotation marks, giving the heading under which the required text is found. For example, “Overview: read me first”.
- A reference to text in another section appears with double quotation marks, giving the name of the chapter and, where necessary, the heading under which the required text is found.
- A reference to text in another manual gives, in italics, the title of the manual in which the required text is found, along with any applicable reference number. For example, see *Meridian Mail Modular Option EC Installation and Maintenance Procedures* (NTP 555-7061-250).

Administration and Application Guides

While working with this document, you may need to consult the System Administration Guide or Application Guide that applies to your platform or feature set in order to obtain more information. The following is a description of each of these NTPs.

555-7001-301—System Administration Guide

This NTP is for single-customer Meridian Mail systems connected to a Meridian 1 or SL-1. It describes how to initially configure and maintain the Meridian Mail system using the MMI screens. Topics include: user administration, general administration, dialing translations, voice administration (not including voice menus, voice forms or fax on demand), hardware administration, system status and maintenance, operational measurements, Meridian Networking administration, AMIS networking administration, network message service administration, hospitality administration, and class of service administration.

555-7001-302—System Administration Guide for Multi-Customer Systems

This NTP is for Multi-Customer Meridian Mail systems connected to a Meridian 1/SL-1. It describes the administrative activities that are carried out at the system administration level. These include: general administration, dialing translations, voice administration (not including voice menus, voice forms or fax on demand), hardware administration, system status and maintenance, operational measurements, AMIS networking administration, and class of service administration. This manual is to be used in conjunction with NTP 555-7001-303.

555-7001-303—Customer Administration Guide for Multi-Customer Systems

This NTP is for Multi-Customer Meridian Mail systems connected to a Meridian 1/SL-1. It describes the administrative tasks that are carried out at the customer administration level. Topics include: user administration, general administration, voice administration (not including voice menus, voice forms or fax on demand), SEERs, operational measurements, Meridian Networking administration, AMIS networking administration, hospitality administration, and class of service administration.

555-7001-307—System Administration Guide

This NTP is for single-customer Meridian Mail systems connected to a DMS family switch or other switches (using Meridian Connections). It describes how to initially configure and maintain the Meridian Mail system using the MMI screens. Topics include: user administration, general administration, dialing translations, voice administration (not including voice menus, voice forms or fax on demand), hardware administration, system status and maintenance, operational measurements, Meridian Networking administration, AMIS networking administration, and class of service administration.

555-7001-308—System Administration Guide for Multi-Customer Systems

This NTP is for Multi-Customer Meridian Mail systems connected to a DMS family switch or other switches (using Meridian Connections). It describes the administrative activities that are carried out at the system administration level. These include: general administration, dialing translations, voice administration (not including voice menus, voice forms or fax on demand), hardware administration, system status and maintenance, operational measurements, AMIS networking administration, and class of service administration. This manual is to be used in conjunction with NTP 555-7001-309.

555-7001-309—Customer Administration Guide for Multi-Customer Systems

This NTP is for Multi-Customer Meridian Mail systems connected to a DMS family switch or other switches (using Meridian Connections). It describes the administrative tasks that are carried out at the customer administration level. Topics include: user administration, general administration, voice administration (not including voice menus, voice forms or fax on demand), SEERs, operational measurements, Meridian Networking administration, AMIS networking administration, and class of service administration.

555-7001-325—Voice Menus Application Guide

This guide documents the planning, implementation, and administration of the Voice Menus feature (including announcements, thru-dial services and time-of-day controllers as well as voice menus). This guide is intended for the Meridian Mail administrator who is responsible for configuring Meridian Mail services. This is a stand-alone document which contains all of the information necessary for implementing voice menus.

555-7001-326—Voice Forms Application Guide

This guide documents the planning, implementation, and administration of the Voice Forms feature. The guide is intended for the Meridian Mail administrator who is responsible for configuring Meridian Mail services. This is a stand-alone document which contains all of the information necessary for implementing voice forms.

Voice Forms Transcriber User Guide

This guide describes how to use the transcription service in order to transcribe voice forms which have been set up by the Meridian Mail administrator. This document is primarily written for administrative staff who have been delegated the task of transcribing voice forms. This document is in the form of an end-user guide, rather than an NTP. The Meridian Mail administrator is also expected to be aware of the contents of the guide in order to properly train transcribers.

555-7001-327—Fax on Demand Application Guide

This guide documents the planning, implementation, and administration of the Fax on Demand feature (including the fax information service and the fax item maintenance service). This guide is intended for the Meridian Mail administrator who is responsible for configuring Meridian Mail services. This is a stand-alone document which contains all of the information necessary for creating and maintaining fax items and creating fax menus. Related topics such as dialing translations and the session profile are explained.

Chapter 1: Overview: Read me first

This chapter provides a brief overview of Meridian Mail system operations. Since this section contains critical information, make sure to read it thoroughly before attempting any procedure described in the remainder of this guide.

MM10 is a software release which supports the new SBC board with the 68040 processor. This software supports all platforms including Card Option, which does not use the MMP40 card. Throughout this document, the new board is most often referred to as the MMP40. The MMP40 board replaces the MC68010 SBC board (68K card or ESBC) which uses the 68010 processor.

Terminology

References to all systems operating under MM10 will presume that MMP40 boards have been installed in all nodes.

For instance, the Modular Option EC is no longer supported in its 68K configuration. The exception to this terminology is the Card Option which still contains a 68K card.

System operations

System operations includes software installation, upgrade, conversion, hardware modification, feature expansion, language expansion, storage expansion, platform migration, and restore.

System Reboot

Many procedures in this NTP call for rebooting the system as part of the operation. For system reboots, the faceplate RESET switch on the MMP40 card may be used in place of the instructions to power off and power on. Please note that Node 1 should be reset first, then nodes 2 through 5 as

applicable. If there is a question of the system state after reboot, revert to a full power off and on sequence as before.

There are a number of other utilities used for system maintenance. They are

- toggle disk to disk backup
- standardize volume size
- restore system from backup
- change to default system password (revert to the default password for the system)
- move voice services cabinet
- modify number of HVS users
- the telephony port reconfiguration utility.

All of the above utilities use a menu-based interface which is displayed when a system boots from tape.

> ***Note:*** Please be aware that the Card Option platform has only one node and one disk. Any information within the scope of this document concerning disk shadowing, disk to disk backup, disk syncing or multiple nodes is not applicable.

The following section provides a brief overview of the available system operations covered by this document.

Software installation

Software installation is the initial software installation operation on a Meridian Mail system. The configuration of the system will be defined by the keycode. In most cases software installation is performed when the hardware is originally assembled by Northern Telecom (Nortel) personnel. This utility exists on the system operations menu to allow customer installation if necessary.

CAUTION
Risk of loss of Data
It is important to remember that this operation will overwrite the existing hardware and software configuration information stored in your system's database.

Telephony port reconfiguration

Telephony port reconfiguration is a utility which allows the user to modify voice port capacity.

This utility allows maintenance, installation, and administration personnel to assign port type and capability to *hardware locations* on each card of every node in a system. In this way, they are established as usable voice ports. This is important so that multimedia ports, which are necessary for Fax on Demand, can be defined. The extent to which hardware locations can be reconfigured as ports is determined by the keycode. For a detailed description of these limits see the section entitled "Keycodes" in this chapter.

The telephony port reconfiguration system operation differs from Hardware modification in the following ways:

- It does not require a keycode.
- It does not allow you to add any new hardware.
- It performs port reconfiguration more quickly.
- It does not allow you to reconfigure the dataports.

Telephony port reconfiguration allows you to reconfigure your ports within the bounds of your existing keycode. For example you may have the ability, as defined in your keycode, to redefine two full service voice ports to create one more multimedia port in order to meet additional fax traffic needs. If it is permitted by the keycode, you may also redefine one multimedia port as two additional full service ports. In order to accomplish this, you would run the telephony port reconfiguration system operation. However, if you require a new keycode in order to get this new capacity, you would have to perform a hardware modification.

The term *hardware location* is used to describe the physical port (on a node) which is available to be configured as a basic service voice, full service voice, or part of a multimedia port. This distinction between hardware location and port is especially necessary since multimedia ports need two hardware locations whereas full service voice and basic service voice only take up one hardware location each. For more information on multimedia ports see the *Site and Installation Planning Guide* (NTP 555-70x1-200) relevant to your platform.

Upgrading

Upgrading is the process of changing the system software within a given release (for example, from Release 9.6.1 to Release 9.6.2). The keycode is not required when performing an upgrade. Features (storage hours, languages, hardware) cannot be changed during an upgrade. If a user wishes to install new features, the system must first be upgraded, and then expanded to permit the desired features.

Conversion

Conversion is the process of changing from one release to another (for example, from Release 8.11B to 9.6.1 or Release 9.19.4 to 9.6.1). When converting a system, you are prompted for a keycode. However, features, storage hours, and the number of languages cannot be changed during this process. When converting from MM8 or MM9 to MM9.6, it is necessary to ensure that the AML baud rate is changed from 4800 BPS to 9600, unless the platform is Card Option. The AML baud rate is set using prompt “BPS” in overlay 17 on the Meridian 1. See the “Configuring the Meridian 1” chapter in the *Installation* or *Installation and Maintenance Guide* for your hardware platform.

Language expansion

The language expansion process allows you to increase the number of languages up to a maximum of four. If you have fewer languages installed on your system than are allowed by your current keycode, you will not be required to enter a keycode when increasing the number of languages. If you are expanding to more languages than are currently allowed by your keycode, you will be required to enter a new keycode in order to add more languages.

Storage expansion

The storage expansion process allows you to increase the storage space on your hard disk and nothing more. Features cannot be changed during this process. Depending on how many hours of storage you want, it may not be necessary to perform a storage expansion if nodes are being added during hardware modification. (See the Storage expansion and Hardware modification chapters for more information.)

Hardware modification

Hardware modification allows you to change your hardware configuration, as in adding one or more nodes. Adding nodes will add additional storage capacity. However, to expand storage to the maximum allowed by the keycode, you may have to run Storage expansion after Hardware modification. (See the Storage expansion and Hardware modification chapters for more information.) Hardware modification is also used to change the port definitions of hardware locations.

You can use hardware modification to expand from your present system configuration to the maximum number of hardware locations. However, you must have a keycode which specifies the storage hours and number of ports required for the expanded configuration.

Feature expansion

The feature expansion process permits you to add all features, except SMDI and HVS. They can only be added during a new system installation. You can also remove the AdminPlus or ACCESS features during feature expansion. No other features can be removed. Storage hours, languages, and hardware cannot be changed through feature expansion.

Enabling features

A keycode is required to enable the following features during feature expansion:

- ACCESS enable option
- AdminPlus
- AMIS
- Dual Language Prompting
- Fax on Demand
- Hospitality

- Meridian Mail Connections
- Meridian Mail Networking
- Multi-Admin (not on Card Option)
- Multi-Customer
- Multi-SMDI (Modular Option GP systems only)
- Network Message Services (NMS)
- Outcalling
- SMDI Link
- VMUIF Voice Messaging (Modular GP systems only)
- Voice Forms
- Voice Menus

Sequence of events

In order to get your Meridian Mail system to the desired configuration, you may have to perform a number of the system operations sequentially. Each system operation consists of a number of general steps including: powering down, rebooting from the Install/data tape, performing system operations, and rebooting the system.

When you need to perform more than one system operation in order to achieve a desired configuration, use the following sequence:

1 Backup

2 Conversion to the latest release

3 Hardware modification

4 Storage expansion

5 Feature expansion

6 Language expansion

7 Restore

For example, to increase your storage capacity (after changing the hardware) you must first run hardware modification in order to add another node and then perform a storage expansion.

Keycodes

What is a keycode?

A keycode consists of 20 alphanumeric characters divided into 5 groups of 4 characters. The keycode is obtained from Nortel and contains information about the features and hardware configuration purchased by the customer. If new features or capacities are required, a new keycode must be obtained.

One keycode will permit you to do a number of system operations. For example you may obtain a keycode from Nortel that will enable you to add features, add nodes, and increase storage capacity. In order to complete your system modification, you will have to follow the sequence of events described on page 1-6. In general, keycodes do not contain information about which languages are to be enabled, the type of cards you have installed, or whether disk to disk backup or disk shadowing is on or off. However, new keycodes contain information which permits them to detect the presence or absence of MMP40 cards.

What is a keycode used for?

For each system operation that requires a keycode, the software will prompt the operator to enter each of the five groups of characters that make up a twenty-character keycode. The system software compares the information in the keycode with the present hardware/software configuration and/or the desired configuration to make sure the proposed operation is valid. Keycodes define the system in terms of the following:

- the maximum number of storage hours permitted
- the minimum number of multimedia ports
  - The keycode defines a “minimum” number of multimedia ports that must be configured on your system. You can increase or decrease the number of multimedia ports during software installation, hardware modification, and telephony port reconfiguration. *Keep in mind, however, that each multimedia port requires two physical hardware locations whereas voice ports require only one.* For more information about configuring multimedia ports see your platform’s *Site and Installation Planning Guide* (NTP 555-70x1-200).

Note: You cannot decrease the number of ports below the minimum number identified in the keycode.

- the maximum number of full service voice ports
  - — This is the number of full service voice ports that has been purchased with the keycode. This means, for instance, that you can only configure your system up to this number of full service voice ports without purchasing a new keycode. For more information about configuring voice ports see your platform's *Site and Installation Planning Guide* (NTP 555-70x1-200).
- number of physical DSP ports (= hardware locations)
- number of nodes
- number of languages permitted
- features permitted

Differences between MM8 and MM10.x keycodes

Meridian Mail Release 10.x and Meridian Mail Release 8 differ significantly in the way that they use keycodes.

- First, an MM8 keycode contains 4 blocks of 4 characters for a total of 16 alphanumeric characters, whereas, the MM10.x keycode contains 5 blocks of 4 characters for a total of 20 characters.

  Note: The keycode characters do not include B, I, Z and O because they can be misread as numbers.

- Second, MM8 requires separate keycodes for hardware modification, conversion, feature expansion, language expansion, and storage expansion, while MM10.x allows one keycode to be used for any combination of the above system operations.
- Third, the MM10.x keycode controls both the number and the type of ports configured on your system, while the MM8 keycode did not.
- Fourth, the MM10.x keycode controls the number of nodes on your system, while the MM8 keycode did not.
- Fifth, the MM10 keycode contains information about the MMP40 card.
- Sixth, the MM10 keycode supports the new, optional 11-digit serial number label.

System operations requiring a keycode

The following system operations require a keycode to be entered:

- System installation
- Conversion

- Feature expansion
- Hardware modification
- Storage expansion
- Language expansion
- Platform migration

None of the other system operations require a keycode. However, they are constrained by the limits defined in the last keycode that was used.

> ***Note:*** Some system operations are hardware dependent. They may require both a hardware modification and a keycode. See the introductory section of each system operation for more information.

What to do if a keycode is rejected

If the keycode is rejected, either reenter the keycode (it may have been entered incorrectly) or abort the procedure and reboot the system into service. (The system has not been altered because the operation was stopped when the keycode was rejected.)

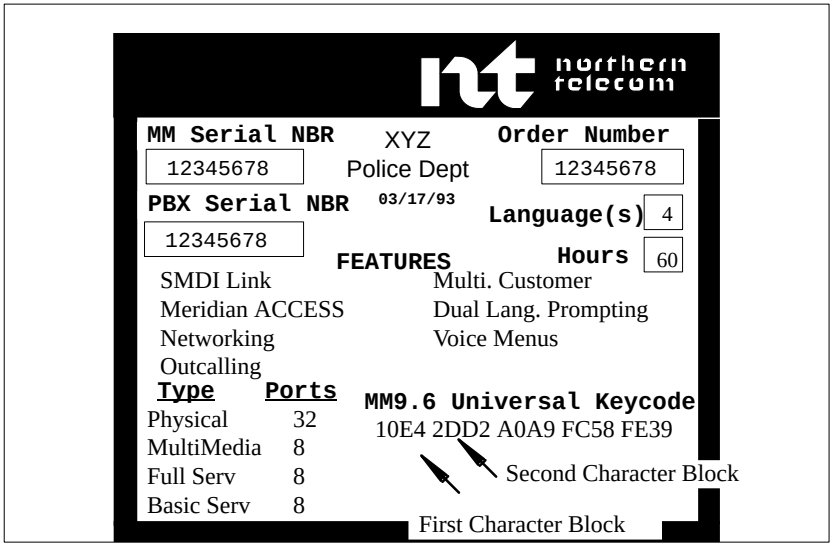
Changing incorrect keycode entries

If an error is made during entry of a keycode, you have two opportunities to correct it. First, if the error is noted during entry of a particular group of four alphanumeric characters, you can simply backspace and enter the correct character(s). Second, if you have already pressed <Return> following entry of a wrong group of characters, you can start again after entering the remainder of the keycode.

Keycode labels

Keycode labels identify the keycode that you purchased with your system. A set of these labels is attached to your tape(s) and a second set is provided as a loose item with your shipped system. Store the second set in a safe location. Keycode labels are as shown in Figure 1-1.

Figure 1-1
Example of a keycode label



Reading keycode labels

During the system operation, you will be prompted for a keycode. There will only be one keycode listed on your keycode label. Keycodes are read from left to right.

The keycode on the keycode label can be used for multiple system operations; therefore, it is necessary to keep the label available. For example, if you wish to do a system conversion and add a second language, the keycode is used for the system conversion and used again for the language expansion.

Likewise, if you want to perform a hardware modification and feature expansion, the keycode is used for the hardware modification and again for the feature expansion.

Keycodes are checked before shipping. However, if a keycode does not work for the product capabilities that were purchased, please contact your Nortel representative, or check the most recent Customer Release Bulletin for the current keycode hotline numbers.

Serial numbers

Serial numbers are only entered during initial installation of a system. However, other system operations that require keycode information check to see if the serial number on the system is the same as the one defined in the keycode. In these cases the user is not prompted for the serial number.

Keycodes are matched to serial numbers. The system software will compare the parameters that the keycode defines 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 Nortel products. Contact Nortel for information on changing your serial number, if desired.

Figure 1-1 shows the label on which the serial number is displayed. A set of these labels is attached to your tape(s) and a second set is provided as a loose item with the shipped system. Store the second set in a safe place. (Card Option systems do not prompt for a serial number.)

Supported platforms

Meridian Mail Release 10.0 (MM10) software operates on the following Meridian Mail systems:

- Modular Option EC
- Modular Option GP
- Modular Option
- Options (ST/RT, NT/XT)
- Card Option
- MSM

  Note: Platforms *not* supported in MM10 are any system which does not have a 68040 processor in all nodes (with the exception of Card Option and MSM).

Before starting system operation procedures

Before performing any system operation, review and act on the following points:

- The Meridian Mail system must be in proper working order. It is considered to be in proper working order if it can pass the System Acceptance Test outlined in your platform's *Installation Guide* or *Installation and Maintenance Guide* (NTP 555-70x1-250).
- The Meridian Mail system must be properly configured as specified in your platform's *Installation Guide* or *Installation and Maintenance Guide* (NTP 555-70x1-250).
- Make a backup of your system as it currently exists, including the user voice volumes.

CAUTION
Risk of loss of data
Make a backup prior to performing any of the system operations described in this guide, to avoid the possibility of loss of data. *When performing multiple system operations, one backup is sufficient.*

- You must have the correct Install/data tape and backup tape on hand. (See "Media" in this chapter for more information.) Also have a blank tape available for archiving.
- You must have the hardware necessary for the particular feature (for example, modems for networking). See "Hardware prerequisites" in this chapter for more information.
- For all procedures other than installation, upgrade, and conversion, check that the Meridian Mail software version on the tape matches your disk version. To verify the disk version, use the MMI. Compare the disk version number with the version written on the tape label. If they do not match, you may run upgrade or conversion *only.* If any other operation is run, the following message is displayed:

  Software versions on the tape and disk do not match.

  Please upgrade your software on disk prior to this operation.

- Read the sections entitled “Points to consider” and “What to do before you start” at the beginning of each chapter for the system operations you wish to perform.
- Make sure that SEER printing is on. See page 3-2 for details. Many of the options will print SEERs during their operation.

  To ensure you capture all screen output on paper, press CONTROL-W to see the CobraVT window. If –P does not show in the window, immediately after “Cobra VT”, press P followed by <Return>. If it does show in the window simply press <Return>.
- Perform a courtesy-down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being abruptly terminated when the operation commences.

  Note: Never attempt to downgrade a system. You cannot “upgrade” or “convert” from a newer release of Meridian Mail to an older release.

Hardware prerequisites

If you have existing hardware (MM8 or earlier), check this section for your hardware needs before beginning the desired system operation.

Note: The Card Option system requires no special hardware other than a tape drive and existing voice cards.

Tape drives

Meridian Mail Release 10.0 is distributed as the Install/data tape on DC6250 tape format using the Viper 6150 tape units.

Higher density tape formats are available in MM10 but they are used only for backup.

Note: Never perform a backup onto the Install/data tape.

Media

The media used by the Viper tape drive is normally a DC6250 250-Mbyte tape cartridge (A0368760)

Note: This tape cartridge can be ordered for backup purposes. The DC6150 150-Mbyte tape cartridge (A0368769) can also be used for data backup purposes but at reduced capacity compared to the DC6250.

CAUTION
Risk of a faulty backup
Be sure to use the correct cartridge. If you use the wrong cartridge in the Tandberg or Viper drive, the backup will not be useable.

The Install/data tape is required for all system operations described in this guide including conversion, software installation, upgrade, feature expansion, language expansion, toggle disk to disk backup, standardizing volume sizes, and restore.

Note 1: For processes that require more than one tape, ensure that all necessary tapes are of the same release level.

Note 2: For all procedures other than installation, upgrade, and conversion, the tape version should match your disk version. Refer to page 1-12.

Disk drive replacement and restore

- Since system reliability is impaired by an unreliable disk, it is normally recommended that if a disk in a non-shadowed system generates errors, it should be replaced immediately with a new disk. The data should be restored to the new disk from the most recent tape backup or shadow disk.

Disk drive reformatting and restore

- A disk drive which generates media errors can often be repaired by reformatting. Reformatting occurs automatically as a part of restore. As part of the reformatting operation (which can take up to 60 minutes), the disk drive checks each block on the disk and substitutes good blocks for defective blocks by drawing on a pool of spare blocks. This does not reduce the capacity of the disk since spare blocks have already been set aside. All data is erased from the disk and a restore must be done using the most recent backup disk or tape.

Disk drive failures

- The most common type of disk drive failure is a “media error” which results in an unrecoverable read error and loss of data. Media errors are caused by defects or scratches in the coating on the disk platters at one or more places in the drive. Once such defects occur, Meridian Mail system operation is likely to become unreliable unless repair action is taken.
- When media errors occur, the disk drive automatically retries the read operation multiple times and attempts to recover the data using error correcting codes. If all attempts fail, the data is lost and an error reported. Depending on which data block is lost, the system may or may not be seriously affected.
- Related System Error and Event Reports (SEERs) can also be generated when higher-level software components report that they encountered disk errors. These SEERs will usually mention return code 1130. From these higher level SEERs it is usually possible to determine what is being affected by the lost data, and therefore how serious the impact will be.
- If the disk error is something other than an unrecoverable read error, the error codes may be different.

Tape drives

Tape drive operation

- Meridian Mail systems use industry standard 1/4″ data cartridges. Data is recorded on multiple tracks on the tape. Each track runs from one end of the tape to the other. At the end of the tape, the tape head moves to the next track and the tape direction is reversed.
- The tape drive has a tape head assembly with multiple heads. For each direction of tape movement there are two write heads and two read heads.
- All data blocks have an associated error checking code so that errors can be detected. After a data block is written on the tape, it is automatically checked by reading it back with the read head. If a block cannot be correctly read, it is written again. This allows a proper backup to be made even if the tape has media defects. A block will be rewritten up to 16 times before the user is informed of an error.

- The tape drive determines the beginning and end of tape optically by detecting holes in the tape. The drive can identify the exact type of tape by the positions of the holes. Use only the tapes recommended for the tape drive.
- Tapes can be write-protected by turning the knob on the tape cartridge until the arrow points to SAFE. Any attempt to write on a write-protected tape will generate an error.

Cleaning tape heads

- As a tape drive is used, debris collects on the tape heads. When too much debris collects, the tape drive is unable to write or read data correctly and the tape heads must be cleaned. Note that this is not only a problem with Meridian Mail systems but is an inherent characteristic of all high-capacity removeable media such as tapes and floppy disks.

  The tape drive manufacturers recommend cleaning the tape heads after a brand new tape has been used for the first time, and after every eight hours of tape drive operation. If media (parity) errors occur when reading or writing tapes, it is an indication of either a faulty tape or dirty tape heads.

Retensioning tape cartridges

- Tape cartridge manufacturers recommend that their tapes be retensioned when first inserted into the drive. This is done by winding the tape from one end to the other and back to increase tape reliability. Meridian Mail software automatically retensions tapes before writing or reading them. The retensioning takes about two minutes for a 6150 tape (137.16 m/450 ft) and about five minutes for a 6250 tape (304.8 m/993 ft).

Tape drive formats

- Meridian Mail 10 systems will be supplied with the 2.5 Gigabyte Tandberg TDC4220 tape drive. The Tandberg can read and write tapes with a capacity up to 2.5 Gbytes and is backwards compatible with all existing MM tapes.
- The Tandberg is shipped with all new MM10 systems. However, the Tandberg is not necessary to convert to the new release. Prior to MM10, Meridian Mail systems used a Viper tape drive manufactured by the Archive Corporation.

- Existing tapes written by Archive drives which the Tandberg can read include voice prompts written by the voice prompt transfer tool (VPTT), and full and partial backups.
- The Tandberg and Viper drives can read and write on a number of tape formats. These tape formats are listed below.

Table 1-1
Tape drives supported in the field

Tape drive	Tape format	Tape media	Tape capacity
Tandberg 4220	QIC-24	DC300XL	40 Mb
	QIC-120	DC600	60 Mb
	QIC-150/QIC-150	DC6150/DC6250	155 Mb/250 Mb
	QIC-525	DC6525	525 Mb
	QIC-1000	DC9100	1 Gb
	QIC-2GB/QIC-2GB	Magnus 2.0/Magnus 2.5	2 Gb/2.5 Gb
Archive 2150	QIC-24 (R)	DC300XL	40 Mb
	QIC-150	DC6150/DC6250	155 Mb/250 Mb

Note: Both the Tandberg and the Archive drives can read the old QIC-24 format tapes, but neither drive can write on QIC-24 format.

- It is possible an older system may have a tape drive that cannot read the Install/data tape. In this case, the drive will have to be replaced before using the MM10 Install/data tape.

Note: The amount of data which can be written on a tape depends on the condition of the cartridge. If a cartridge has many media imperfections, it will store less data since blocks will have to be rewritten.

General restore information

- The purpose of this section is to provide background information about the disk and tape devices used to backup and restore Meridian Mail systems.

  Note: High-capacity magnetic disks are a central part of a voice messaging system. These disks can fail from time to time; therefore, backups are essential.

- Backup copies of the system data are fundamental to restoring the system with as little disruption and data loss as possible. For this reason, it is important that the system administrator backup the system on a regular basis.

Meridian Mail backup devices for non-shadowed systems

- Meridian Mail systems feature a streaming tape drive to allow system and user information to be copied from disk to one or more quarter-inch tape cartridges. If a disk drive fails, the system can be restored to a working state by copying the data back from the tape to a replacement disk. It is also possible to copy data onto another Meridian Mail system, if necessary, as in platform migration.

  Larger Meridian Mail systems have multiple nodes, each node having its own disk drive. On these systems, a disk to disk backup feature is available (when it is enabled). Rather than copying to tape, the data is copied to one of the other disks in order to minimize data loss in the event of single disk failure. This is not a full system backup. For more information on disk to disk backup see Chapter 10, "Toggle disk to disk backup." A disk to disk backup reduces the voice message storage space available. Tape backup copies are used to restore the system after multiple disk failures.

Meridian Mail backup devices for disk shadowed systems

- Meridian Mail systems that have the disk shadowing option have two disk drives per node. On these systems, all data is written to both disks. In the event that one disk fails, the system automatically writes data to and reads from the functioning disk until the faulty disk is replaced. The result is that there is no data loss.

Voice processing card requirements for feature support

The Voice Processing cards, VP4 (NT6T04AA) and VP8 (NT6P08AA) in the Modular Option EC (MMP40 and 68K) support all MM9.6 features. Modular Option and Options systems must have at least one 32-kbyte NVP card (NT4R01AC) to support Outcalling, AMIS Networking, Meridian Mail (proprietary) Networking, and Multimedia.

If you are not certain that a 32-kbyte NVP card is in the system, examine the outer edge of the card, noting the release number. The number will be REL. 04 or higher for a 32-kbyte card. The 32K NVP card does not apply to the Card Option platform.

Features/dataport allocations

If you are doing a feature expansion for any of the features below, make sure that you have the dataports on the RSM/Utility card and the SBC card allocated for it. The allocation of (RS-232) data ports varies according to the features enabled and number of nodes equipped, as indicated in Table 1-2.

Table 1-2
Feature/RSM/Utility port allocations

Feature	Dataports
Access	1 or more ports on node 1 (ports on the RSM card) 1 or 2 ports on any other voice node (ports on the SBC card))
AdminPlus	1 or more ports on node 1 (ports on the RSM card) 1 or 2 ports on any other voice node (ports on the SBC card))
Networking	1 modem port is required, 2 (or more) are recommended
HVS	Up to 4 GAC ports on a system 1 per node (except node 1 may have 2)
Multi-Admin	Up to 3 MAT terminals on a system Maximum of 1 MAT terminal on a node
Combined HVS and Multi-Admin	A given node may have a mixture of not more than 2 GAC/UAT ports (that is, 1 GAC port and 1 UAT port).
Multi-SMDI	Up to 4 SMDI ports on a node Up to 8 on a system
All systems	0 or more printer ports 1 or more console ports

Note 1: All nodes have at least two ports plus four ports for each RSM or utility card installed. Two ports are pre-allocated. The first is for the console. The second is for either the AML link or the SMDI link.

Note 2: Card Option systems have 2 ports and a single RSM card.

Note 3: Card Option systems have only one node and only one UAT per system.

Note 4: The user selects UAT to configure the dataports on the MAT (Multi-Admin Terminal.)

MM10 dataport rules for ACCESS and AdminPlus

In MM10, there are new rules that govern the maximum available baud rates for dataports:

- If ACCESS is installed, there must be at least one ACCESS port.
- If AdminPlus is installed, there must be an AdminPlus port.
- On systems with MMP40 cards, ACCESS and AdminPlus ports will only be allowed on Node one RSM and Utility cards, and the MMP40 cards of the voice nodes.
- The minimum baud rate for AdminPlus is 2400 bps; the maximum is 9600 bps.
- The minimum baud rate for ACCESS is 4800 bps, the maximum is 9600 bps; the maximum baud rate is 9600 bps for Card Option, Utility or RSM cards or 38 400 bps for MMP40 cards.
- On Card Option, ACCESS and AdminPlus are only allowed on the RSM card.

There are also restrictions on the *cumulative baud rate* for ACCESS and AdminPlus dataports:

- On Card Option, the maximum cumulative baud rate cannot exceed 9600 bps.
- The maximum cumulative baud rate for the node 1 RSM or Utility card cannot exceed 19 200 bps.
- The maximum cumulative baud rate for MMP40 cards cannot exceed 38 400 bps.

The remaining rules govern the installation or conversion of ACCESS and AdminPlus dataports.

- The maximum total of combined ACCESS and AdminPlus ports on a system is eight.
- During conversion, the system drops the AdminPlus feature and the AdminPlus dataport changes to CONSOLE — the user will be warned.

- During conversion, if there is an ACCESS port on either a RSM or Utility card on a voice node, the port will be reset to its default dataport settings and the user will be warned.
- There is no relationship between number of voice ports and the minimum number of ACCESS ports.

Port/storage capacity

Meridian Mail Release 10.0 supports 24 hardware locations (voice ports) per voice node to a maximum of 96 voice ports on a five-node Modular Option EC MMP40 system. Card Option has one node and supports 12 hardware locations.

Table 1-3
Port and node limits by platform

System type	1 node	2 nodes	3 nodes	4 nodes	5 nodes
Modular Option EC MMP40 Total voice ports	24 24	24 + 24 48	0 + 24 + 24 48	0 + 24 + 24 + 24 72	0 + 24 + 24 + 24 + 24 96
Modular Option GP Total voice ports	12 12	8 + 16 24	0 + 16 + 16 32	0 + 16 + 16 + 16 48	0 + 16 + 16 + 16 + 16 64
Modular Option Total voice ports	12 12	8 + 16 24	0 + 16 + 16 32	0 + 16 + 16 + 16 48	0 + 16 + 16 + 16 + 16 64
Options ST/RT, NT/XT Total voice ports	12 12	8 + 16 24			
Card Option Total voice ports	12 12				

The storage hours permitted in a system depends on the number of nodes and the size of disk(s) provided as indicated in Tables 1-4 to 1-7.

Storage expansion

You can increase your storage in two ways:

1 through a hardware modification, where nodes are added.
In this case you will read the following tables *down* from the number of nodes and hours you have, to the row for the total number of nodes you will have.

2 through a storage expansion.
In this case you would read the tables *to the right* to the number of hours you want.

A system may not have a large enough disk drive to permit storage expansion. After replacing the old drive with a larger drive (to permit storage expansion), the data on the old drive must be backed up, then restored to the new drive, followed by storage expansion. Storage expansion will recognize the larger capacity.

Depending on the number of hours you wish to expand to, you may have to do both a hardware modification and a storage expansion in order to get the desired number of hours.

For instance, you may have a one-node Modular Option system with 24 hours of storage and you want to expand it to 400 hours of storage, which requires four more nodes. To accomplish this you must use the following steps.

1 Add the necessary hardware components.

2 Run hardware modification to add four more nodes. The system now has been increased to 120 hours of storage.

3 Perform a storage expansion to increase the storage to 400 hours.

(See the “Storage Expansion”, “Hardware Modification”, and “Restore System from Backup” chapters for more information.)

Table 1-4 lists the available storage hours for the Card Option platform.

Table 1-4
Card Option storage capacity

Number of nodes	Available storage hours			
	240MB disk			
	120MB			
	80MB			
	40MB			
1	2	5	10	24

Table 1-5 lists the available storage hours for the Modular Option EC platform.

Table 1-5
Modular Option EC (storage capacity)

Number of nodes	Available storage hours					
	1.0-Gbyte disk					
	300-Mbyte disk					
1	5	11	24	36	54	100
2	26	26	54	84	114*	200*
3	30	30	60	90	120	200
4	45	45	90	120	180	300
5	60	60	120	180	240	400

Note 1: Multi-node, disk in Node 1 = 300 Mbytes or larger

Note 2: *114 hours and 200 hours require two 1.0-Gbyte disks.

Table 1-6 lists the available storage hours for the Modular Option and Modular Option GP.

Table 1-6
Options, Modular Option, and Modular Option GP storage capacity

Number of nodes	Available storage hours					
	1.0-Gbyte disk					
	600-Mbyte disk					
	300-Mbyte disk					
1	5	11	24	36	54	100
2	26	26	54	84	114**	200***
3	30	30	60	90	120	200
4	45	45	90	120	180	300
5	60	60	120	180	240	400

Note 1: Multi-node, disk in Node 1 = 300 Mbytes or larger.

Note 2: **114 hours requires the disk in Node 1 to be 600 Mbytes or larger.

Note 3: *** 200 hours requires two 1.0-Gbyte disks.

Table 1-7 lists the available storage hours for Options platforms.

Table 1-7
ST/RT, NT/XT Options platforms port/storage capacity

Number of nodes	Available storage hours				
	600-Mbyte disk				
	300-Mbyte disk				
1	5	11	24	36	54
2	26	26	54	84	114**

Note: Multi-node, Drive 1 = 300 Mbyte or larger.
** 114 hours requires Drive 1 to be 600 Mbyte or larger.

Multi-language impact on storage capacity

The impact of multiple languages on storage capacity is as follows:

- For 1-2 node systems, the voice storage lost per additional language is three hours.
- For 3-5 node systems, the voice storage lost for a third and fourth language is three hours total.

Table 1-8
Maximum languages per storage hours

Storage hours	Max languages
5 hours	2
11 hours or more	4

Volume sizes

The following tables list all volume sizes for the various Meridian Mail models available. The following points apply to the tables:

- all sizes are in blocks (1 kbyte for text volumes, 8 kbytes for voice volumes)
- the Hours value is voice message storage, assuming nominal user-recorded prompt size
- MI_Server disk configuration values:

  300-Mbyte: 319 130 kbytes (when a 300-Mbyte disk is specified, it must format to a minimum of 319 130 kbytes)

  600-Mbyte: 585 945 kbytes (when a 600-Mbyte disk is specified, it must format to a minimum of 585 945 kbytes)

  1.0-Gbyte: 1 018 600 kbytes (when a 1.0-Gbyte disk is specified, it must format to a minimum of 1 018 600 kbytes)

Card Option system volume sizes

Hours	VS1T	VS1V
2	20896	3856
5	20896	7392
10	20896	12432
24	23744	12432

1-node system volume sizes

Hours	VS1T	VS1V	VS2T	VS2V
5	27120	2125	7000	8500
11	27120	2125	7000	12912
24	30512	3712	8160	27472
36	30512	3712	14208	40128
54	30512	3712	19792	59392
100	37040	5792	47104	109440

2-node system volume sizes

No disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T	VS202T	VS202V	VS902T
26	32480	2125	7000	12912	7360	7000	17888	7360
54	35904	3712	8160	27472	7360	9856	33920	7360
84	35904	3712	8160	27472	7360	21488	65760	7360
114	35904	3712	19792	59392	7360	21488	65760	7360
200	37040	5792	47104	109440	11488	47104	109440	11488

With disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T	VS202T	VS202V	VS902T	B102
26									N/A
46.2	32480	3712	8160	27472	7360	9856	25594	7360	66604
76.2	35904	3712	8160	27472	7360	21488	57434	7360	66604
106.2	35904	3712	19792	59392	7360	21488	57434	7360	66604
190.1	37040	5792	47104	109440	11488	47104	98892	11488	84380

Note: Disk to disk backup cannot be performed on two-node 26-hour systems unless you first increase the storage capacity. This is done as indicated in the “Storage expansion” chapter of this document.

3-node system volume sizes

No disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T
30	44720	19440	1024	6256	15360
60	44720	19440	1024	6256	15360
90	44720	19440	1024	6256	15360
120	44720	19440	1024	6256	15360
200	44720	19440	1024	6256	15360
Hours	**VS202T**	**VS202V**	**VS203T**	**VS203V**	
30	7000	17888	7000	17888	
60	9856	33920	9856	33920	
90	21488	65760	9856	33920	
120	21488	65760	21488	65760	
200	47104	109440	47104	109440	

With disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T
30					N/A
36.3	44720	19440	1024	6256	15360
66.3	44720	19440	1024	6256	15360
96.3	44720	19440	1024	6256	15360
176.3	44720	19440	1024	6256	15360
Hours	**VS202T**	**VS202V**	**B102**	**VS203T**	**VS203V**
30					N/A
36.3	9856	9764	201244	9856	33920
66.3	21488	40604	201244	9856	33920
96.3	21488	40604	201244	21488	65760
176.3	47104	84284	201244	47104	109440

Note: Disk to disk backup cannot be performed on three-node 30-hour systems unless you first increase the storage capacity. This is done as indicated in the “Storage expansion” chapter of this document.

4-node system volume sizes

No disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T	VS202T
45	52720	19440	1024	6256	15360	7000
90	52720	19440	1024	6256	15360	9856
120	52720	19440	1024	6256	15360	21488
180	52720	19440	1024	6256	15360	21488
300	52720	19440	1024	6256	15360	47104
Hours	**VS202V**	**VS203T**	**VS203V**	**VS204T**	**VS204V**	
45	17888	7000	17888	7000	17888	
90	33920	9856	33920	9856	33920	
120	65760	9856	33920	9856	33920	
180	65760	21488	65760	21488	65760	
300	109440	47104	109440	47104	109440	

With disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T	VS202T
45						N/A
65.4	52720	19440	1024	6256	15360	9856
95.4	52720	19440	1024	6256	15360	21488
155.4	52720	19440	1024	6256	15360	21488
275.4	52720	19440	1024	6256	15360	47104
Hours	**VS202V**	**B102**	**VS203T**	**VS203V**	**VS204T**	**VS204V**
45						N/A
65.4	7764	209244	9856	33920	9856	33920
95.4	39604	209244	9856	33920	9856	33920
155.4	39604	209244	21488	65760	21488	65760
275.4	83284	209244	47104	109440	47104	109440

Note: Disk to disk backup cannot be performed on four-node 45-hour systems unless you first increase the storage capacity. This is done as indicated in the “Storage expansion” chapter of this document.

5-node system volume sizes

No disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T	VS202T	VS202V
60	67760	20704	1024	6256	20352	7000	17888
120	67760	20704	1024	6256	20352	9856	33920
180	67760	20704	1024	6256	20352	21488	65760
240	67760	20704	1024	6256	20352	21488	65760
400	67760	20704	1024	6256	20352	47104	109440
Hours	**VS203T**	**VS203V**	**VS204T**	**VS204V**	**VS205T**	**VS205V**	
60	7000	17888	7000	17888	7000	17888	
120	9856	33920	9856	33920	9856	33920	
180	9856	33920	9856	33920	21488	65760	
240	21488	65760	21488	65760	21488	65760	
400	47104	109440	47104	109440	47104	109440	

With disk to disk backup

Hours	VS1T	VS1V	VS2T	VS2V	VS901T	VS202T	VS202V
60							N/A
92.4	67760	20704	1024	6256	20352	9856	4260
152.4	67760	20704	1024	6256	20352	21488	36460
212.4	67760	20740	1024	6256	20352	21488	36460
372.4	67760	20740	1024	6256	20352	47104	80140
Hours	**B102**	**VS203T**	**VS203V**	**VS204T**	**VS204V**	**VS205T**	**VS205V**
60							N/A
92.4	218364	9856	33920	9856	33920	9856	33920
152.4	218364	9856	33920	9856	33920	21488	65760
212.4	218364	21488	65760	21488	65760	21488	65760
372.4	218364	47104	109440	47104	109440	47104	109440

Note: Disk to disk backup cannot be performed on five-node 60-hour systems unless you first increase the storage capacity. This is done as indicated in the “Storage expansion” chapter of this document.

While performing system operations

For each system operation covered in this guide, you must boot from your Install/data tape. Only one system operation can be performed at a time, after which you should reboot the system from disk. Rebooting verifies that the procedure worked correctly. In addition, if an error occurs, rebooting identifies the procedure which caused the fault. If several system operations are run prior to booting, it will not be possible to determine which one caused a specific fault.

During the installation or modification, if you are interrupted prior to entering the complete keycode, you can safely rerun the process or reboot your system back into service, without restoring from backup. If you have entered the entire keycode, you must complete the operation.

During all system maintenance procedures, SEER filtering will be reset to system level. Please reset to the original level once the procedure is complete. For more information, see the description of SEER filtering in the introduction to the *Maintenance Messages (SEERs)* guide (NTP 555-7001-510) and the "SE_UTIL" chapter in the *System Administration Utilities* (NTP 555-7001-306).

In most cases, the procedures described in this guide are self-recovering in case of an error. If a problem does occur and the guide suggests a workaround that is not successful, contact your support organization for assistance.

Disk shadow audit

If your system has disk shadowing, the system will prompt you to run the disk shadow audit after you have booted from the Install/data tape. The audit checks for data mismatches between the disks and takes corrective action, if required. If the prime node's disk is shadowed, a disk shadowing audit prompt appears during the system bootup sequence:

Program Resource Manager Node 1 Ver. nnn
PRM (Info): Using software volume :BOOT100:

PRM: found shadowed disk on prime node

Run audit on shadowed disks (10 sec) No

The prompt is displayed for ten seconds waiting for operator input. To initiate the disk shadowing audit, toggle the "No" selection to "Yes", or

type “Yes” directly, then press <Return>. If no input is provided, the system does not run the audit. Depending on what action is taken, the following acknowledgement is displayed showing either “OFF” or “ON”:

PRM: Shadowed disk audit is OFF

If the system does not use disk shadowing, the following prompt is displayed:

PRM: No shadow disk found on prime node rc -2

It is recommended that the disk shadowing audit be run as a precaution during the reboot of systems with this feature.

CAUTION
Risk of loss of data
It is imperative that the audit runs for shadowed systems reboot after a crash under load (for example, a crash due to a power failure while the system was under load).

Disk shadowing

Disk shadowing is available for the following platforms:

- Modular Option EC
- Modular Option
- Modular Option GP

Disk shadowing is applied on a node-by-node basis, giving added system security by providing full storage redundancy for each node that is shadowed. On a shadowed node, information in the node is written to both disks. Read operations are alternated between disks. When a read error is detected, the read operation is retried on the alternate disk. In the event of a disk problem, error reports are generated and operation of the node reverts to the other disk. See your platform’s *Installation and Maintenance* manual (NTP 555-70x1-250) for information on how to install disk shadowing.

After completing system operations

After every system operation your system must be booted to full service. Prior to booting, the following items must be checked on the Meridian 1 switch:

- The time is set properly.
- The virtual agents are in idle state.
- The corresponding link is in autosetup.

See the chapter “Configuring the Meridian 1” in the *Installation and Maintenance Guide* (NTP 555–70x1–250) for more information.

> ***Note:*** Also make sure to remove the Install/data tape and store it, along with your keycode, in a safe place. This will ensure that if you need to re-install the system you will have access to both the Install/data tape and the keycode.

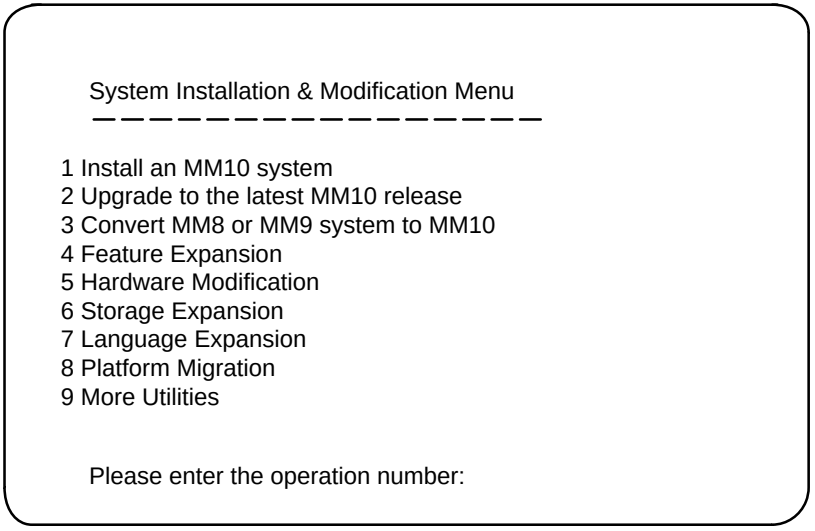
System installation and modification

Procedure 1-1
Displaying the System Installation and Modification Menu

1. Read through the entire procedure before starting any operation.
2. Insert the Install/data tape into the tape drive prior to performing the following procedures.
3. Courtesy down the system. For information on how to do this see the chapter entitled “System Status and Maintenance” in your System Administration Guide. See “About this document” for the appropriate Administration Guide for your system.
4. Power the system down, wait ten seconds, then power up.
5. The system will automatically run a series of diagnostic routines. This should take two to three minutes. Once these routines have been executed the Meridian Mail software will be loaded from the tape.

   After a few minutes, a menu will appear (see Figure1-2).

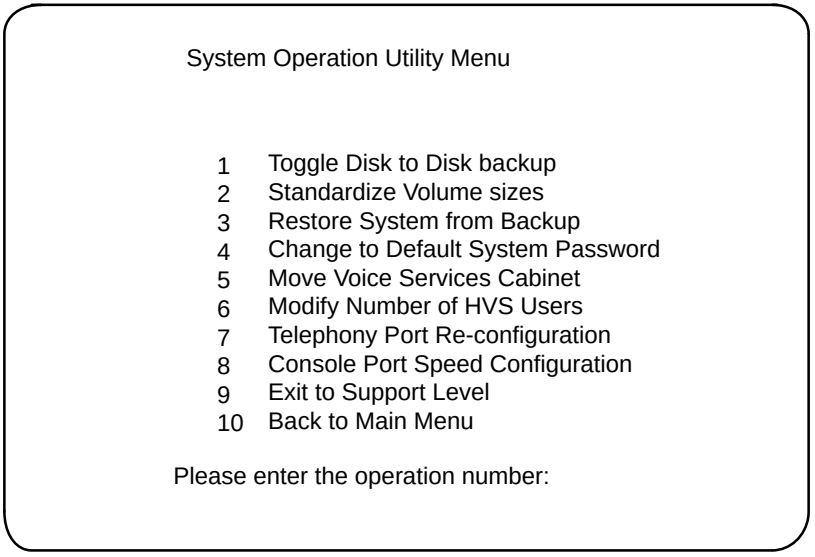
Figure 1-2
System Installation and Modification Menu



Note: Not all of these functions are available for all systems, particularly the Card Option platform. The menu for Card Option is shown in the Card Option-specific portions of this NTP. Check with your Nortel representative to see if the feature you want is available on your platform.

6 Enter the number for “More Utilities”. The System Operation Utilities Menu will appear (see Figure1-3).

Figure 1-3
System Operation Utilities Menu



Note: Not all of these functions are available for all systems. Check with your Nortel representative to see if the feature you want is available on your platform.

7 Choose an item by typing its number and pressing <Return>. Refer to the appropriate chapter for details on specific procedures. The system will then ask you to confirm the selection. For example

You have chosen to ...
Do you wish to continue? Yes

8 Proceed to the appropriate chapter of this document for further instructions:

Chapter 2	Installation
Chapter 3	Upgrade
Chapter 4	Conversion
Chapter 5	Feature expansion
Chapter 6	Hardware modification
Chapter 7	Storage expansion
Chapter 8	Language expansion
Chapter 9	Platform migration
Chapter 10	Toggle disk to disk backup
Chapter 11	Standardize volume sizes
Chapter 12	Restore system from backup
Chapter 13	Change to default system password
Chapter 14	Move voice service cabinet
Chapter 15	Modify number of HVS users
Chapter 16	Telephony port reconfiguration
Chapter 17	Change console port speed
Chapter 18	Exit to support level

Chapter 2: Software installation

What is software installation?

Software installation installs the Meridian Mail software onto the system. This procedure is most often performed during a new equipment installation, but can also be performed after a disk crash, or when you do not have backup tapes. See “Points to consider” below.

Points to consider

- A software installation requires a keycode.
- Software installation destroys any data stored on the system.
- You cannot perform a software installation until all of the Meridian Mail hardware has been installed.
- If you are performing a software installation on an existing system, you do *not* have to rebuild the entire database if you have backup tapes on hand. Since user data can be restored from tapes, this is one of the most important reasons why regular backups should be performed.
- Software installations are performed under the following circumstances:
  - — the disk (hard drive) crashes and the entire system needs to be rebuilt.
  - — you are converting a small system from a lower release (7 or prior) to Release 10.0. Instead of performing one conversion from 7 to 8, and then another one from 8 to 10, it may be much quicker to simply perform a Meridian Mail 10.0 software installation and rebuild the database.

What to do before you start

1 Make sure you have read and understood Chapter 1, “Overview: read me first.”

2 Determine the port capacity of your Meridian Mail system.

3 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

4 Enable your terminal’s autoprint mode (<Control>W followed by P) in order to capture everything that appears on your screen

5 Obtain a Meridian Mail Release 10.0 Install/data tape.

CAUTION
Correct release number
If a second tape is required, be sure that the second tape is the same release of MM10. Using a tape from a different release results in incorrect prompts.

6 Obtain the keycode.

7 Verify that all the appropriate hardware is installed, particularly the hardware associated with the features defined in your keycode. If additional hardware needs to be added, obtain the hardware. Refer to your platform’s *Installation and Maintenance Guide* (NTP 555-70x1-250) for more information (for Options, refer to *Installation Guide* [NTP 555-7011-210]; for Card Option, refer to [555-7071-210]).

All platforms except Modular Option EC require an RSM card for the features listed below. The following is a brief summary of requirements:

- Modem networking requires a modem port.
- HVS requires an RSM/utility card.
- Multi-Admin requires ports for UATs.
- Outcalling and AMIS require NVP 32-kbyte cards, for all systems except Card Option, Modular Option EC–MMP40, and Modular Option GP.

- Fax on Demand requires a minimum of one multimedia port and an NVP 32-kbyte card for all platforms except Card Option, Modular Option EC–MMP40, and Modular Option GP systems. (This will be a full-service port.)

Information you need before you start

The following is a list of information you need before you perform the software installation. For Modular Option GP systems only, obtain the information requested in steps 1 through 3. For all systems, obtain the information requested in steps 7 through 11 and 12 through 14.

1 For Modular Option GP systems only, obtain the Meridian Mail Connections UCDDNs and other voice services DNs.

2 For Modular Option GP systems only, identify the message desk and terminal assignments to be used by UCD agents.

3 For Modular Option GP systems only, identify the DN assignment for the UCD agents.

4 Identify the Meridian Mail ACD DN (not for Modular Option GP systems).

5 Identify the TN assignments for ACD agents (not for Modular Option GP systems).

6 Identify the DN assignments for ACD queues (ACD queue number) (not for Modular Option GP systems).

7 Identify the serial number for your Meridian Mail system.

8 Identify Meridian Mail's current number of ports.

9 Identify the Meridian 1 or SL-1 customer number (not for Modular Option GP systems).

10 Identify the Key 1 designation for SCN of Meridian 1 (channel DN).

11 Identify the language(s) required .

12 For Meridian Mail Connections, identify the Meridian Mail UCDDN and other voice services DNs.

13 For Meridian Mail Connections, identify the message desk and terminal assignments to be used by Meridian Mail voice channels.

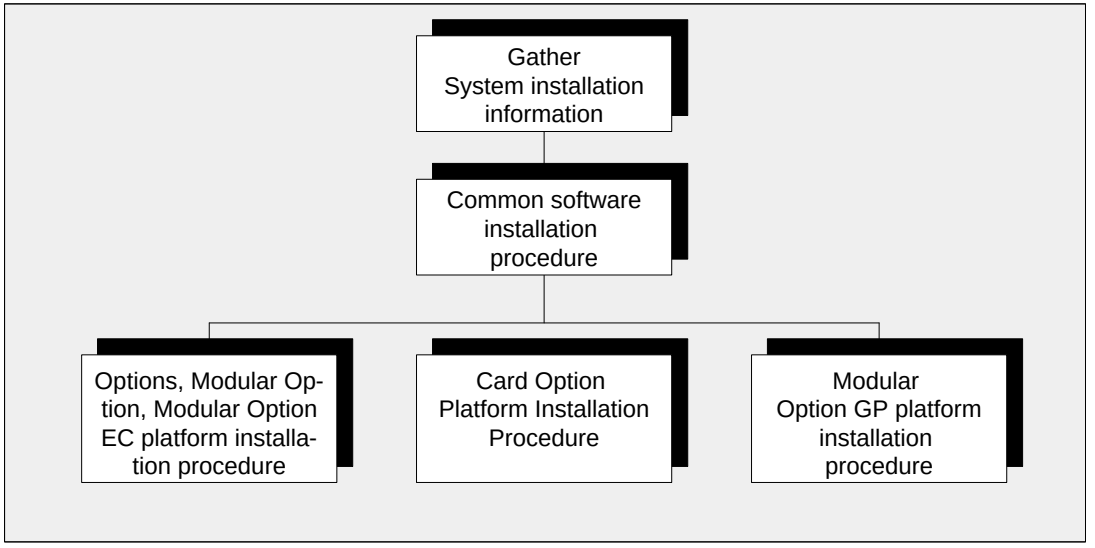
14 For Meridian Mail Connections, identify the DN assignment for the PBX loop-start lines associated with the Meridian Mail voice channels.

Performing a software installation

This chapter provides information about installing Meridian Mail software. The procedure has several parts. The first part is common to all platforms and must be performed for all installations. Following the common procedure are those procedures required for each hardware platform supported by Meridian Mail Release 10.0 software.

Figure 2-1 illustrates how the individual procedures in this document relate to each other. Once system installation information has been collected, perform the common software installation procedure. Depending on your system platform, go to the appropriate platform installation procedure.

Figure 2-1
Software installation procedures



Common software installation procedure

The entire software installation procedure should take approximately 45 minutes plus an additional 20 minutes for each additional language installed plus 30 to 40 minutes if the system is shadowed. Before beginning

this procedure, read through the sections entitled “Points to consider” and “What to do before you start.”

Note: Card Option systems are delivered without the system installed. You will have to perform the following procedure in order to make your system usable.

Procedure 2-1
Common software installation

1. Perform a courtesy-down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being abruptly terminated when the operation commences.
2. Power the system down.
3. Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.
4. Power the system up (must be at least ten seconds after powering down).
5. The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed:

   Tape retension

   Then, once the diagnostic routines are complete, the Meridian Mail software is loaded from the tape. Depending on the number of nodes in the system, it takes between five and ten minutes to load the software. Once loaded, the System Installation and Modification Menu is shown.

Figure 2-2
System Installation & Modification Menu (all systems except Card Option)

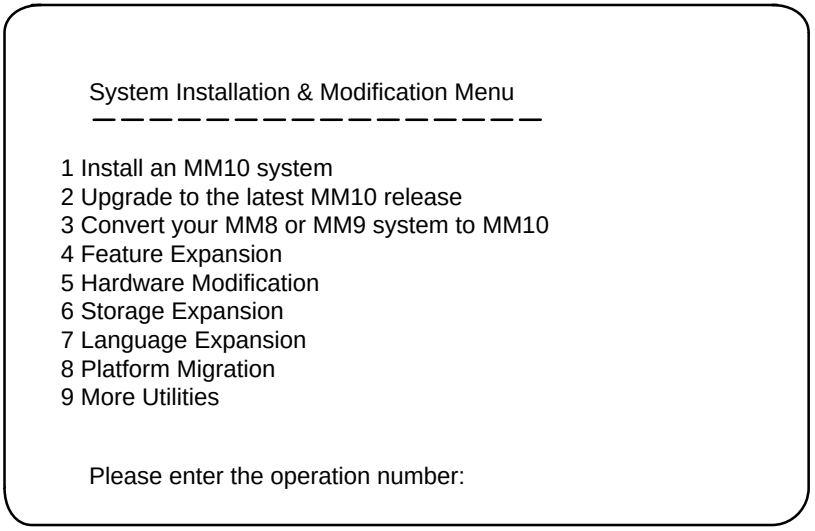
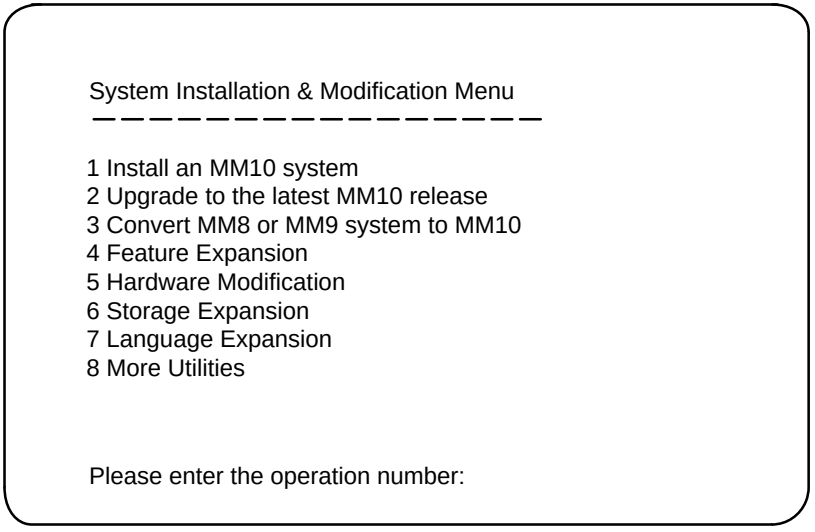


Figure 2-3
System Installation & Modification Menu (Card Option only)



6 Using the up or down arrow keys, choose 1, or type 1, then press <Return>.

You have chosen to install an MM10 system.
Do you wish to continue? No (Yes)

Note: Executing this procedure erases any existing system information. All users and all messages are lost.

7 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>. The following message appears informing you that the procedure has begun.

Install an MM10 system

8 A series of messages appear on the screen. There are several pauses with no apparent action. In approximately five minutes, the following prompt is displayed:

Enter the Serial Number:

Note: The Card Option system gets its serial number automatically from its switch, therefore the preceding prompt is not displayed.

9 Type in the serial number, then press <Return>.

10 You are then asked to enter the 20-character keycode. Enter the keycode four letters at a time as prompted, exactly as it appears on your keycode label, pressing <Return> after each four-character entry.

Enter the Keycode:

Enter 4 character Block 1 :

Enter 4 character Block 2 :

Enter 4 character Block 3 :

Enter 4 character Block 4 :

Enter 4 character Block 5 :

If you enter the wrong number of characters, the system responds with

Please enter 4 characters

Enter 4 Character Block 1

If you make an error entering the keycode, the system responds with

That Block contains invalid Characters – Please Enter Again

Enter 4 Character Block 1 :

11 If the above entries are valid, the system displays a listing of the features and hardware parameters defined by your keycode. Your display may differ, based on your platform, features and hardware installed. (The following example is for a Modular Option EC–MMP40.)

This keycode is for an EC–MMP40 system:

Storage Hours	**: 60**
Meridian Mail Stream	**: 9**
Max Hardware locations	**: 32**
Max Full Service Channels	**: 16**
Min Multimedia Channels	**: 8**
Storage Nodes	**: 3**
Max Languages	**: 2**

AdminPlus

AMIS

Dual Language

Outcalling

Voice Forms

Multi Customer

Networking

Voice Menus

Fax on Demand

Is this correct? Yes

12 If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word "No" appears, then press <Return>. You are asked to enter the keycode again.

If the keycode is for the wrong platform, you are advised at this point. You are not be warned of hardware shortcomings until the hardware is displayed.

13 Once you confirm that the information is correct, the system prompts:

Customer Name: MeridianMail

This name is user assigned and may be an alpha-numeric string up to 30 characters long. Press backspace to delete the default customer name (MeridianMail) then enter the desired name.

Note: The following characters cannot be used in a customer name: + (plus sign), _ (underscore), ? (question mark) and * (asterisk).

14 Enter the new name, then press <Return>.

The preceding steps (1 through 14) dealt with information that is common to all platforms. For your specific platform (Card Option, Modular Option EC–MMP40, Options, Modular Option, Modular Option GP) refer to the sections of this chapter as listed in Table 2-1.

Table 2-1
Platform-specific installation procedures

Platform	Continue with	See
Options, Modular Option, Modular Option EC–MMP40	Procedure 2-2 Options, Modular Option, and Modular Option EC–MMP40 platform installation	Page 2-9
Card Option	Procedure 2-3 Card Option Platform Installation	Page 2-24
Modular Option GP	Procedure 2-4 Modular Option GP platform installation	Page 2-35

Options, Modular Option, Modular Option EC–MMP40 platform installation

The following procedure deals with information that is specific to the Options, Modular Option and Modular Option EC–MMP40 platforms. For the Modular Option GP platform, refer to page 2-35. Be sure to perform the common software installation procedure first.

Procedure 2-2
Options, Modular Option and Modular Option EC–MMP40 platform installation

1 Continue here after completing Step 14 of Procedure 2-1. You are prompted for the link type and the customer number:

Please enter the following system information.

Link Type: CSL (NoLink)

2 Next you are prompted for the switch customer number:

Switch Customer Number: 0

3 After you enter the customer number, the system responds by showing you the current configuration as in the following examples. The first is for the Modular Option EC–MMP40 platform. The second is for the Options and Modular Option platforms. The column on the left side of your screen represents the node number. Your display may differ, because of the platform and equipment actually installed.

Platform	Continue with
Modular Option EC–MMP40	a
Options or Modular Option	b

Example of Modular Option EC–MMP40 configuration display

a. The example shown below is for a three-node Modular Option EC–MMP40 platform. Your display may differ.

Node	Card 1	Card 2	Card 3	Card 4	Card 5	Card 6	Card 7	Card 8
1	Empty	Empty	Empty	Empty	Empty	UTIL	SBC	Empty
2	SBC	NVP8	NVP8	Empty	Empty	Empty	Empty	Empty
3	NVP8	NVP8	Empty	Empty	SBC	Empty	Empty	Empty

Go to step 4.

Example of Modular Option or Options configuration display

b. The example shown next is for a one-node Options or Modular Option platform. Your display may differ.

Node	Card 1	Card 2	Card 3	Card 4	Card 5	Card 6	Card 7	Card 8
1	EMPTY	EMPTY	MMP40	EMPTY	NVP32	EMPTY	EMPTY	RSM

If you have more physical ports present than are defined in the keycode, the operation aborts with a message similar to the following depending on your configuration and keycode definition:

Your system has 32 hardware locations
Your keycode only permits 24
Please check your hardware configuration. After correcting any problems, you may restart this operation by booting from tape

4 If your keycode information is consistent with your present system configuration, you are then asked to confirm that the hardware configuration is correct:

Is the configuration correct? Yes (No)

Note: If you enter “No”, the installation procedure aborts. Then do the following:

a. Power down the system.

b. Correct the hardware fault.

c. Start the software installation procedure again.

5 Depending on the number of hours on your system, you may be asked if you want to enable disk to disk backup.

For the smallest systems, you are not be asked. The smallest systems are: any single node system; two nodes (26 hours), three nodes (30 hours), four nodes (45 hours) and five nodes (60 hours).

Do you wish to enable disk to disk backup? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>.

If you choose “Yes”, disk to disk backup are enabled. If you choose “No”, it will not. In either case, the installation process continues as indicated below. If you have a Modular Option EC–MMP40 system continue with Steps 6 and 7, if not go to Step 8.

6 For Modular Option EC–MMP40 systems you are then be asked for the utility card loop numbers. For more information, refer to your *Modular Option EC Installation and Maintenance Guide* (NTP 555-7061-250).

Please enter the loop number associated with J4 on node 1’s utility card: 255

Use the backspace key to delete the default number, enter the loop number (a number between 0 and 255), then press <Return>.

Please enter the loop number associated with J5 on node 1’s utility card: 255

Use the backspace key to delete the default number, enter the loop number (a number between 0 and 255), then press <Return>.

Beyond 48 ports, an additional utility card is required. The software installation process reads the location of the utility card and prompts for loop numbers associated with J4 and J5 of the second utility card.

Note: You can use either J4 or J5, depending on where your loop is attached. If no loop is attached, use the default values. Modular Option EC–MMP40 supports up to four network loops.

7 If you have a second utility card, enter the utility card loop numbers for it as well.

Please enter the loop number associated with J4 on node n's utility card: 255

Use the backspace key to delete the default number, enter the loop number (a number between 0 and 255), then press <Return>.

Please enter the loop number associated with J5 on node n's utility card: 255

Use the backspace key to delete the default number, enter the loop number (a number between 0 and 255), then press <Return>.

Note: You can use either J4 or J5 depending on where your loop is attached. If no loop is attached, use the default values.

8 The system then displays the various languages available on the Install/data tape. The following display is an example; the numbers and languages on your tape may differ.

Note: The user should select the languages they want in the order that they appear on the screen (for example, select 1, 2, 5).If the languages selected are not in the correct order, the installation takes much longer time to complete.

Languages available from this tape are:

1: American English
2: Canadian French
3: Latin American Spanish
4: Brazilian Portuguese
5 German
6: Japanese
7: From Another Tape

Enter the number of the language you require (0 = done): 1

9 Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and type a number), then press <Return>. If you choose either 0 or the number for From Another Tape without selecting a language at this point, you are advised that you must choose at least one language from this menu and the selection prompt is repeated.

You have chosen (language name).
Is this correct? No (Yes)

10 Select “Yes” or “No” as appropriate and press <Return>. If you select “No”, the language prompt is repeated. If your keycode calls for more than one language, these prompts are repeated until the number of languages specified in the keycode have been selected or until you select “Done.”

For two or more languages, follow the screen prompts.

11 If you selected “From Another Tape”, you are prompted to remove the current tape and insert the new tape during Step 26 in this procedure. Follow the instructions on the screen.

12 The next step is to select the Call Progress Tone Detection (CPTD) country index number.

If Call Progress Tone Detection (CPTD) is set to France, the retry limits and intervals for Remote Notification and Outcalling are affected. For more information, see the chapter entitled “Class of service administration” in the Customer Administration Guide for your system.

1 : Generic - Ver Fe.94	**2 : Australia**	**3 : Austria**
4 : Belgium	**5 : Canada**	**6 : Denmark**
7 : Finland	**8 : France**	**9 : Germany**
10 : Hong Kong	**11 : Ireland**	**12 : Italy**
13 : Japan	**14 : Netherlands**	**15 : New Zealand**
16 : Norway	**17 : Portugal**	**18 : Saudi Arabia**
19 : Singapore	**20 : Sweden**	**21 : Switzerland**
22 : Taiwan	**23 : Turkey**	**24 : United Kingdom**
25 : United States		

Please enter the CPTD country index number : 1

Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and enter the number), then press <Return>.

13 Next, enter the DSP parameters. Enter the desired value for each item, pressing <Return> after each entry. The defaults (in bold print) are those common to North America. Press <Return> at the following prompt and continue to Step 15. The defaults (in bold print) are those common to North America.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

If the above DSP encoding parameter is set incorrectly, severely degraded voice quality may result.

Disable Silence Compression: No (Yes)

14 You are now asked if you want to change other DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 15.

Do you wish to change other DSP parameters? No (Yes)

The following parameters are not changed in most installations and, as a result, are only displayed if you select "Yes" above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

*** DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO Yes

***AGC Center: –20** (–20 to –10 dBm)

Telescan Ring time: 1024 (224-1024 in increments of 16). For Australia use 288.

Telescan Debounce: (128) (96, 112, 128, . . . 512 in increments of 16)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024 in increments of 16)

**** Note 1:*** The above marked parameters cannot be modified. They are reserved for future enhancements.

Note 2: If Fax on Demand is included in your configuration, the following prompt appears. Otherwise, the final prompt of this step appears.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", you are prompted to reenter DSP parameters as listed below.

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None
Enter Poor Quality Page Threshold: 10

Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

15 If you select "No", you are next presented with a summary of channel information and asked to define voice channels. The following entries depend on your system configuration as defined by your keycode and the hardware you have installed. In order to complete this section read the sections entitled "Points to consider" and "What to do before you start" at the beginning of this chapter.

Note: Please read the information in this step carefully before going on to Step 16.

The example which follows is for a 3-node system. Node 1 is not displayed because it has no voice ports. If you have a 1- or 2-node system, voice ports for node 1 WILL display. In addition, if you have fewer than 16 hardware locations (physical ports) on a node, the unused ones are blank.

Note: For Options and Option ST/RT and NT/XT, Meridian Mail has a maximum of 24 channels.

Please define the voice channels

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

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, eight multimedia ports have been automatically assigned according to the minimum number defined in the keycode. The software assigns the port type and port capability to the hardware locations according to the following hierarchy:

– first, full service multimedia ports are assigned to the first set of hardware locations.

– second, full service voice ports are assigned.

– third, the basic service voice ports are assigned to the remaining hardware locations.

The term hardware location is used here to describe the physical port on the node available to be configured as a basic voice, full voice, or multimedia port. In the preceding example, node 2 has 16 physical hardware locations configured as eight multimedia ports because multimedia ports take up two hardware locations.

Since node 2 consists entirely of multimedia ports, the table above only displays the odd-numbered hardware locations from 1 to 16.

16 You are now given the opportunity to reallocate your ports for each hardware location on each node. You may select a range of nodes and a range of hardware locations to view or to change.

Note: When reallocating ports, you can do the following:

a. Select “Change” if you want to change the port definition on a range of hardware locations on or across nodes and to modify default values to the Meridian 1 agent configuration.

b. Select “Summary” if you want to display the above table based on all the hardware locations in the system.

c. Select “DetailedDisplay” for a detailed display of all hardware locations on a particular node or range of nodes based on the range you select below.

d. Select “Done” to accept the changes and move on to the next step.

For example

Select operation: Change (Summary, DetailedDisplay, Done)

17 Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>.

Port type	**: Voice_Basic** (Voice_Full, Multimedia)	
First Node	**: 2**	(First node in the range you want to select)
First Location	**: 9**	(First hardware location in the range you want to select)

Last Node **: 2** (Last node in the range you want to select)

Last Location **: 12** (Last hardware location in the range you want to select)

ACDDN **: 3651** (Meridian Mail ACDDN)

SECDN **: 2800** (Key 1 assignment of Meridian Mail agents)

Port Density **: Double** (Only double density is supported by EC)

Loop Number **: 12**

Shelf Number **: 0** (0 or 1 only for EC)

Card Number **: 2** (EC requires card slot assignments of 2 and 3 only)

Unit Number **: 0**

Switch Type **: Meridian_SL1** (default)

Select Operation: Summary (Change, DetailedDisplay, Done)

Note: You cannot modify shelf, card, or unit in the Tools Level utility. You can only modify the loop number.

18 Continue the above operations by selecting "Change" until all the ports on all nodes have been assigned. If you select "Summary," the following display appears showing what you have just defined:

Node	**––––––––––––––––Voice Hardware location––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**Vb**	**Vb**	**Vb**	**Vb**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

Notice that ports 9 through 12 have now been defined as Voice Basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full service voice), you are prompted to reconfigure them. In this example, there are fewer multimedia ports than the minimum number of multimedia ports defined by the keycode.

You have defined 6 Multimedia channels
You must define at least 8 channels

You can now go back to Step 16 and reconfigure four more full-service ports to get two multimedia ports.

19 If you chose “DetailedDisplay” in Step 18, you are prompted to enter a range of nodes and hardware locations, and then the following table appears.

First Node	**: 2**	(first node in the range you want to select)
First Location	**: 1**	(first hardware location in the range you want to select)
Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 16**	(last hardware location in the range you want to select)

NUM	VP Locn	Type	ACD	SECDN	Loop	Shelf	Card	Unit	Density	Switch
2-1	2-2-1-1	M	3650	2800	12	0	2	0	Double	0
2-3	2-2-2-1	M	3650	2802	12	0	2	2	Double	0
2-5	2-3-1-1	M	3650	2804	12	0	2	4	Double	0
2-7	2-3-2-1	M	3650	2806	12	0	2	6	Double	0
2-9	2-3-3-1	Vb	3650	2808	12	0	3	0	Double	0
2-10	2-3-3-2	Vb	3650	2809	12	0	3	1	Double	0
2-11	2-3-4-1	Vb	3650	2810	12	0	3	2	Double	0
2-12	2-3-4-2	Vb	3650	2811	12	0	3	3	Double	0
2-13	2-4-1-1	M	3650	2812	12	0	3	4	Double	0
2-15	2-4-2-1	M	3650	2814	12	0	3	6	Double	0

Select operation: Done (Change, Summary, DetailedDisplay)

You need to select “Change” or “Display” as necessary, until the configuration is correct.

When the display is correct, select “Done” when prompted to select operation.

In the preceding example, part of the range selected consists of multimedia ports. In this case the table only displays the odd-numbered hardware locations from 1 to 8 and 13 to 16 because multimedia ports take up two hardware locations.

If you do not use the default TNs you may have to change the TNs to match those assigned for the Meridian Mail ACD agents. This information must be obtained prior to starting an installation. On a Modular Option EC–MMP40 system, cards are either assigned as 2 or 3, and the density is always double.

The parameters for each channel within the selected range are set to the values entered except, starting with the value entered:

DN	- is incremented by 1 for a voice port and 2 for a multimedia port
Terminal Number	- is incremented by 1 for a voice port and 2 for a multimedia port

Double density cards increment the TN as follows:

loop	0 - 159
shelf	0 - 1 (will not change automatically)
card	2 or 3 (the only values permitted)
unit	0 - 7

ATTENTION

If you do not change the loop or shelf numbers, the system will use the default values. If the range that you are selecting changes the loop or shelf, the system will use the incorrect default card slots.

For ACDDN and SECDN, you may change the value by pressing the backspace key and entering the desired number followed by <Return>. In all other cases, press the up or down arrow key until the desired selection appears on the screen. Press <Return> to confirm after each selection. Repeat this operation until all voice channels have been defined.

20 The next system action is to assign the dataports. Review Table 1-2 in Chapter 1, “Overview: Read me first” for the dataport requirements associated with particular features before proceeding with Step 21.

21 A table similar to the one following appears on your terminal identifying your dataports. The first example is for a three-node Modular Option EC–MMP40 system and the second is for a one-node Options/Modular Option system. Your display may differ.

Note: Some dataports cannot be changed and are not be displayed when selecting “Change.”

Example of Modular Option EC–MMP40 dataport display

The example which follows is for a three-node Modular Option EC–MMP40 platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**6**	**UTIL**	MODEM-CON	PRT0162	MOD0163	MOD0164
1	**3**	**MMP40**	CONSOLE	CSL1		
2	**3**	**MMP40**	PRT0231	PRT0232		
3	**3**	**MMP40**	PRT0331	PRT0332		

Please assign dataport locations

Select operation : Display (Done, Change, Reset, Redraw)

The following dataports are on this system:

Node 1, Type UTIL, Port 1: Dataport Name = MODEMCON
Node 1, Type UTIL, Port 2: Dataport Name = PRT0162
Node 1, Type UTIL, Port 3: Dataport Name = MOD0163
Node 1, Type UTIL, Port 4: Dataport Name = MOD0164
Node 1, Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1, Type MMP40, Port 2: Dataport Name = CSL1
Node 2, Type MMP40, Port 1: Dataport Name = PRT0231
Node 2, Type MMP40, Port 2: Dataport Name = PRT0232
Node 3, Type MMP40, Port 1: Dataport Name = PRT0331
Node 3, Type MMP40, Port 2: Dataport Name = PRT0332

The above are default port assignments for the system.

For another example, Change allows you to modify the card or port configuration one line at a time.

Please assign the data port locations.

Select operation : Change (Display, Reset, Redraw, Done)

Node 1 Card 6 Port 1 : MODEMCON
Node 1 Card 6 Port 2 : PRT0162
Node 1 Card 6 Port 3 : MOD0163
Node 1 Card 6 Port 4 : MOD0164

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

Note: Some dataports cannot be changed and are not be displayed when selecting “Change.”

Example of Modular Option or Options dataport display

The example shown below is for a one-node Options/ Modular Option platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**MMP40**	CONSOLE	CSL1		
1	**8**	**RSM**	PRINTER	PRINTER	MODEM	MODEM

Please assign the data port locations.

Select operation : Display (Done, Change, Reset, Redraw)

Display shows the card types and port locations but is read-only.

The following dataports are on this system:

Node 1, Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1, Type MMP40, Port 2: Dataport Name = CSL1
Node 1, Type RSM, Port 1: Dataport Name = PRINTER
Node 1, Type RSM, Port 2: Dataport Name = PRINTER
Node 1, Type RSM, Port 3: Dataport Name = MODEM
Node 1, Type RSM, Port 4: Dataport Name = MODEM

For another example, Change allows you to modify the card or port configuration one line at a time.

Please assign the data port locations.

Select operation : Change (Display, Reset, Redraw, Done)

Node 1 Card 8 Port 1 : PRINTER
Node 1 Card 8 Port 2 : PRINTER
Node 1 Card 8 Port 3 : MODEM
Node 1 Card 8 Port 4 : MODEM

Dataports for card slot 8, ports 1 to 4 require an RSM card in slot 8.

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

22 If you wish to use something other than the default settings, select “Change.” When you are finished entering the information, select “Done” and go on to Step 24. For dataport restrictions. see page 1-19.

Is this correct? No (Yes)

If a feature has been enabled which requires a port, but none have been assigned, you are informed of the problem when you select "Done." For example, if you have Multi Admin, but have not assigned any UAT ports, you are told that there must be a UAT port on Node 1. The following message appears telling you to assign a system.

Your system has ___but no ports have been configured as ____

Would you like to go back and configure one? Yes (No)

23 If you select "Yes", go back to Step 17 and re-enter the dataport information. If you select "No", you continue with the installation but the feature identified above will not be operational.

24 The system now informs you that all required information has been entered and it gives you the opportunity to restart the entire procedure.

All required information has been input.
Do you wish to continue, re-enter information, or abort? Continue (Abort, Re-enter).

25 If you have entered all the information correctly, press the up or down arrow key until the word "Continue" appears.

a. If you select "Continue", the system runs a variety of routines, informing you that the software installation is ending, as indicated below.

b. If you select "Re-enter", you are returned to the beginning of the ENTIRE installation procedure. When you select re-enter, all the data you have entered is lost and must be entered again. The system returns you to the point where you were prompted for a serial number and keycode.

c. If you select "Abort", all changes made to this point are lost. Selecting "Abort" terminates the current operation. Reboot the system from tape and try the operation again, or reboot the system into service.

26 This is the final operation when installing a system. If you previously selected "From Another Tape" for Language Expansion, you are prompted to remove the current tape, insert the new tape, and repeat Step 8. The final messages are

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into Service.

Shutting down tape server

#TAPE:MMTAPE1>

27 Prior to booting, ensure that the BPS of the AML link has been updated from 4800 to 9600. (For Modular Option EC–MMP40 systems, set the baud rate to 9600.) See the chapter entitled ”Configuring your Meridian 1” in the *Installation and Maintenance Guide* (NTP 555-70x1-250).

28 After removing the tape turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. This takes from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen appears and normal operation can commence. Logon using the system default password ADMINPWD (not case sensitive), then change the password immediately.

Note: It is important that the Install/data tape be stored in a safe place. This ensures that you have access to the tape if you need to reinstall or modify the system.

Card Option platform installation

The following procedure deals with information that is specific to the Card Option platform. For other platforms, refer to Table 2-1 for the specific sections of this chapter dealing with them. Be sure to perform the common software installation procedure first.

Procedure 2-3
Card Option installation

1 After completing Step 14 of Procedure 2-1, continue from here.

2 Once you confirm that the information is correct, the system displays the various languages available on the INSTALL/DATA tape. The following display is an example; the numbers and languages on your tape may differ.

Languages available from this tape are:

1: American English
2: Canadian French
3: Latin American Spanish
4: Brazilian Portuguese
5 German
6: Japanese
7: From Another Tape

The example which follows is for a 3-node system. Node 1 is not displayed because it has no voice ports. If you have a 1- or 2-node system, voice ports for node 1 WILL display. In addition, if you have fewer than 16 hardware locations (physical ports) on a node, the unused ones are blank.

Enter the number of the language you require (0 = done): 1

Press the up or down arrow key until the desired number is displayed on the screen (or press backspace), then press <Return>. If you choose either 0 or the number for From Another Tape, without selecting a language at this point, you are advised that you must choose at least one language from this menu and the selection prompt is repeated.

Choose the appropriate entry and press <Return>. The system then responds with

You have chosen (language name).
Is this correct? Yes

Select “Yes” or “No”, as appropriate and press <Return>. If you select “No”, the language prompt is repeated. If your keycode calls for more than one language, these prompts are repeated until the number of

languages specified in the keycode have been selected or until you select “Done.”

If you selected “From Another Tape”, you are prompted to remove the current tape and insert the new tape during Step 29. Follow the instructions on the screen.

For two or more languages, follow the screen prompts.

3 The next step is to select the Call Progress Tone Detection (CPTD) country index number.

Note: If Call Progress Tone Detection (CPTD) is set to France, the retry limits and intervals for remote notification and outcalling are affected. For more information, see the chapter entitled “Class of service administration” in the *Customer Administration Guide for Multi-Customer Systems* (NTP 555-7001-309).

1 : Generic Settings	**2 : Australia**	**3 : Austria**
4 : Belgium	**5 : Canada**	**6 : Denmark**
7 : Finland	**8 : France**	**9 : Germany**
10 : Hong Kong	**11 : Ireland**	**12 : Italy**
13 : Japan	**14 : Netherlands**	**15 : New Zealand**
16 : Norway	**17 : Portugal**	**18 : Saudi Arabia**
19 : Singapore	**20 : Sweden**	**21 : Switzerland**
22 : Taiwan	**23 : Turkey**	**24 : United Kingdom**
25 : United States		

Please enter the CPTD country index number :

Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and enter the number), then press <Return>.

4 Next, enter the DSP parameters. Enter the desired value for each item, pressing <Return> after each entry. The defaults (in bold print) are those common to North America. Pressing <Return> after each entry causes the default setting to be kept.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

If the above DSP encoding parameter is set incorrectly, severely degraded voice quality may result.

Disable Silence Compression: No (Yes)

5 You are now asked if you want to change DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to step 6.

Do you wish to change other DSP parameters? No (Yes)

The following parameters are not changed in most installations and, as a result are only displayed if you select "Yes" above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

*** DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO Yes

***AGC Center: –20** (–20 to –10 dBm)

Telescan Ring time: 1024 (224-1024 in increments of 16). For Australia use 288.

Telescan Debounce: (128) (96, 112, 128, . . . 512)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024)

**** Note 1:*** The above marked parameters cannot be modified. They are reserved for future enhancements.

Note 2: If Fax on Demand is included in your configuration, the following prompt appears. Otherwise, the final prompt of this step appears.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", the defaults of the following the DSP parameters appears. They may be changed using arrow keys.

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None
Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75

Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

6 If you select "No," you are next presented with a summary of channel information and asked to define voice channels. The following entries depend on your system configuration as defined by your keycode and the hardware you have installed. In order to complete this section, read the sections entitled "Points to consider" and "What to do before you start" at the beginning of this chapter.

Note: Please read the information in this step carefully before going on to step 7.

The following example is for a 12-channel Card Option system. In addition, if you have fewer than twelve hardware locations (physical ports), the unused ones are blank in the summary table below

Please define the voice channels

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**	**V**	**V**	**V**	**V**	**Vb**	**Vb**				

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, two multimedia ports have been automatically assigned according to the minimum number defined in the keycode. The software assigns the port type and port capability to the hardware locations according to the following hierarchy:

– First, full service multimedia ports are assigned to the first set of hardware locations.

– Second, full service voice ports are assigned.

– Third, the basic service voice ports are assigned to the remaining hardware locations.

The term hardware location is used here to describe the physical ports on the node available to be configured as basic service voice, full service voice, or multimedia ports. In the above example, the system has 12 physical hardware locations configured with 2 multimedia ports, 6 full service voice ports and 2 basic service voice ports for a total of 10 voice ports. This is because multimedia ports take up 2 hardware locations instead of one.

7 You are now given the opportunity to reallocate your ports for each hardware location. You may select a range of hardware locations to view or make changes on.

Note: When reallocating ports, you can do the following,

a. Select “Change” if you want to change the port definition on a range of hardware locations.

b. Select “Summary” if you want to display the above table, based on the range of hardware locations you select below.

c. Select “DetailedDisplay” for a detailed display of all hardware locations, based on the range you select below.

d. Select “Done” to accept changes and move on to the next step.

Select operation: Change (Summary, DetailedDisplay, Done)

8 Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>.

Port type	**: Voice_Basic** (Voice_Full, Multimedia)	
First Node	**: 1**	(first node in the range you want to select)
First Location	**: 3**	(first hardware location in the range you want to select)
Last Node	**: 1**	(last node in the range you want to select)
Last Location	**: 4**	(last hardware location in the range you want to select)

9 **ACDDN** **: 3650**

10 Continue the above steps until all ports have been assigned. If you select “Summary,” the following is an example of what appears on your screen showing you what you have just defined:

Select Operation: Summary (DetailedDisplay, Change, Done)

Node	–––––––––––––––Voice hardware location–––––––––––––––––															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1	**M**	**––**	**Vb**	**Vb**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**				

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

Notice that in the above example, ports 3 through 4 have now been defined as Voice Basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full service voice), you are prompted to reconfigure them. In this example, the multimedia ports are less than the minimum number of multimedia ports defined by the keycode.

You have defined 1 Multimedia channels
You must define at least 2 channels

You can now go back and reconfigure two more full-service ports to get one multimedia port.

11 If you chose "DetailedDisplay" in step 10, you are prompted to enter a range of nodes and hardware locations and the following table appears:

First Node	**: 1**	(Card Option systems have only one node; therefore, enter 1 here.)
First Location	**: 1**	(First hardware location in the range you want to select.)
Last Node	**: 1**	(Enter 1 here.)
Last Location	**: 12**	(Last hardware location in the range you want to select.)

NUM	VP Locn	Type	ACD	SECDN	Loop	Shelf	Card	Unit	Density	Switch
1-1	1-4-1-1	M	7000	7800	8	0	2	0	Octal	0
1-3	1-5-1-1	M	7000	7802	8	0	2	1	Octal	0
1-5	1-6-1-1	V	7000	7804	8	0	2	2	Octal	0
1-6	1-6-1-2	V	7000	7805	8	0	2	10	Octal	0
1-7	1-7-1-1	V	7000	7806	8	0	2	3	Octal	0
1-8	1-7-1-2	V	7000	7807	8	0	2	11	Octal	0
1-9	1-8-1-1	V	7000	7808	8	0	2	4	Octal	0
1-10	1-8-1-2	V	7000	7809	8	0	2	12	Octal	0
1-11	1-9-1-1	Vb	3650	7810	8	0	2	5	Octal	0
1-12	1-9-1-2	Vb	3650	7811	8	0	2	13	Octal	0

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, part of the range selected consists of multimedia ports. In this case, the table only displays the odd numbered hardware locations from 1 to 4 because multimedia ports take up two hardware locations.

Select operation: Done (Change, Summary, DetailedDisplay)

12 Select “Done” at the above prompt if the configuration is correct. You may need to select “Change” or “Display” as necessary until you are satisfied that the configuration is correct.

13 The next system action is to assign the dataports. Review Table 1-2 in Chapter 1, “Overview: Read me first,” for the dataport requirements associated with particular features before proceeding with step 14.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	3	ESBC	CONSOLE	CSL1		
1	8	RSM	MOD0181	PRT0182	PRT0183	PRT0184

Please assign the data port locations.

Select operation : Display (Done, Change, Reset, Redraw)

Note: Some dataports cannot be changed and are not be displayed when selecting “Change.”

The following dataports are on this system:

Node 1, Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1, Type MMP40, Port 2: Dataport Name = CSL1
Node 1, Type RSM, Port 1: Dataport Name = MOD0181
Node 1, Type RSM, Port 2: Dataport Name = PRT0182

Node 1, Type RSM, Port 3: Dataport Name = PRT0183
Node 1, Type RSM, Port 4: Dataport Name = PRT0184

For another example, Change allows you to modify the card or port configuration one line at a time.

Please assign the data port locations.

Select operation : Change (Display, Reset, Redraw, Done)

Node 1 Card 8 Port 1 : MOD0181
Node 1 Card 8 Port 2 : PRT0182
Node 1 Card 8 Port 3 : PRT0183
Node 1 Card 8 Port 4 : PRT0184

14 If you wish to use something other than the default settings, select "Change." The options available depend on the feature set installed on your system, with Console and CSL1 being available on all systems. When you are finished entering the information, select "Done" and you go on to step 16. "Reset" allows you to go back to the original dataport settings before a change procedure was initiated.

If a feature has been enabled which requires a port, but none have been assigned, you are informed of the problem when you select "Done." For example, if you have hospitality voice service but have not assigned any GAC ports, you are told that you must assign at least one port. The following message appears telling you to assign a dataport::

Your system has ___but no ports have been configured as ____

Would you like to go back and configure one? Yes (No)

15 If you select "Yes", go back to step 13 and re-enter the dataport information. If you select "No", you continue with the installation but the feature identified above is not be operational.

16 You are now asked if you want a default datafill. You are given the opportunity to add default users, default voice services, or voice service DN table entries.

Do you want Default Data fill? No (Yes)

17 Press the up or down arrow key until the word "Yes" or "No" appears and press <Return>. If you select "Yes" proceed with steps 18 to 27. If you select "No" go to step 27.

18 You are next asked if you want default users to be created. Press the up or down arrow key until the word "Yes" or "No" appears and then <Return>.

Do you want Default Users Created? No (Yes)

19 If you select “Yes” you are prompted to enter the number of default users you want to be created on your system. If you select “No” proceed with step 23. The maximum number depends on the size of the system disk.

Number of Default Users to be Created? 1

20 Enter the number of users you want and press <Return>.

21 You are next asked to provide the starting DN of the default users.

What is the Starting DN of the Default Users? 2200 (2100, 2000)

22 Enter the start DN and press <Return>.

23 You are next asked if you want to define default voice services.

Do you want Default Voice Services? No (Yes)

24 Press the up or down arrow key until the word “Yes” or “No” appears and press <Return>. If you select “Yes” the following table appears indicating your default voice services. If you select “No” go to step 25.

The default voice services are:

Voice Services ID	Voice Service
100	**Voice Menu defined as “Auto Attendant”**
101	**Thru-dialer “Dial by Extension”**
102	**Thru-dialer “Dial by Name”**

25 You are next asked if you want to create default voice service DN table entries.

Do you want Default Voice Service DN Table Entries Created? No (Yes)

26 Press the up or down arrow key until the word “Yes” or “No” appears and press <Return>. If you select “Yes” the following table appears indicating your default Voice Service DN table entries. If you select “No” go to step 27.

Values in this table depend on whether you have requested Default Voice Services and whether you have installed a HVS system.

On a non-HVS system without default voice services, the default voice services DN table is as follows

DN	Service	Details
7000	**Voice Messaging**	

On a non-HVS system with default voice services, the default voice services DN table is as follows

DN	Service	Details
7000	**Voice Messaging**	
7001	**Auto Attendant**	**Voice Service ID 100**
7002	**Express Messaging**	**No Mailbox**
7003	**Prompt Maintenance**	

On an HVS system with default voice services, the default voice services DN table is as follows.

DN	Service	Details
7000	**Guest Messaging**	**Auto-Login Enabled**
7001	**Express Messaging**	**No Mailbox**
7002	**Hotel Menu**	**Voice Service ID 100**
7003	**Published Numbers**	**Auto-Login Disabled**
7004	**Post Check-Out**	
7005	**Staff Messaging**	**Auto-Login Enabled**

On an HVS system without default voice services, the default voice services DN table is as follows.

DN	Service	Details
7000	**Guest Messaging**	**Auto-Login Enabled**

27 The system informs you that all required information has been entered and gives you the opportunity to restart the entire procedure.

All required information has been input.
Do you wish to continue, re-enter information, or abort? Continue (Abort, Re-enter)

28 If you have entered all the information correctly press the up or down arrow key until the word “Continue” appears.

a. If you select “Continue”, the system runs a variety of routines, informing you that the software installation is ending as indicated below.

b. If you select “Re-enter”, you are returned to the beginning of the ENTIRE installation procedure and may review and/or change information as it is presented again.

c. If you select “Abort”, all changes made to this point are lost.

29 This is the final operation when installing a system. If you previously selected “From Another Tape” for your languages you are prompted to remove the current tape, insert the new tape and repeat Step 2. The final messages are:

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into Service.

#TAPE:MMTAPE1>

30 Go to the PBX terminal and verify that the AML link is disabled before rebooting.

31 After removing the tape turn the power off. Then after approximately 10 seconds, boot the system by turning the power on again. After booting, the Meridian Mail logon screen appears and normal operation can commence.

Note: It is important that the INSTALL/DATA tape be stored in a safe place. This ensures that if you need to re-install or modify the system you have access to it.

Modular Option GP platform installation

The following procedure deals with information that is specific to the Modular Option GP platform. For other platforms, refer to Table 2-1 for the specific sections of this chapter dealing with them. Be sure to perform the common software installation procedure first.

Procedure 2-4
Modular Option GP installation

1 After completing Step 14 of Procedure 2-1, continue from here. If the SMDI feature is enabled, the prompt “System Environment” appears.

Please enter the following system information.

System Environment: CPE (CO)

The default response is CPE (customer premises equipment), the alternative is CO (central office). If necessary, change the response using the up/down arrow keys.

2 After you enter the system environment, the system responds by showing you the current configuration as in the following example, which is for a 1-node Modular Option GP platform. The column on the left side of your screen represents the node number. (Your display may differ based on the equipment actually installed.)

Node	Card1	Card2	Card3	Card4	Card5	Card6	Card 7	Card8
1	EMPTY	EMPTY	MMP40	EMPTY	GSVP	GSVP	EMPTY	RSM

If you have more physical ports present than are defined in the keycode, the operation aborts with a message similar to the following, depending on your configuration and keycode definition:

Your system has 8 hardware locations
Your keycode only permits 4
Please check your hardware configuration. After correcting any problems, you may restart this operation by booting from tape

3 If your keycode information is consistent with your present system configuration, you are then asked to confirm that the hardware configuration is correct:

Is the configuration correct? Yes (No)

Note: If you enter “No”, the system installation procedure aborts. Do the following:

a. Power down the system.

b. Correct the hardware fault.

c. Start the software installation procedure again.

4 Depending on the number of hours on your system, you may be asked if you want to enable disk to disk backup.

For the smallest systems, you are not be asked. The smallest systems are: any single node system; two nodes (26 hours), three nodes (30 hours), four nodes (45 hours) and five nodes (60 hours).

Do you wish to enable disk to disk backup? No (Yes)

Press the up or down arrow key until the desired response is displayed, then press <Return>.

If you choose “Yes”, disk to disk backup are enabled. If you choose “No”, it will not. In either case, the installation process will continue as indicated below.

5 If you have VMUIF and Multi-customer features, you are asked to select which user interface to use for the default customer.

Please select the primary customers user interface: MMUI (VMUIF)

6 The system then displays the various languages available on the Install/data tape. The following display is an example; the numbers and languages on your tape may differ.

Languages available from this tape are:

1: American English
2: Canadian French
3: Latin American Spanish
4: Brazilian Portuguese
5 German
6: Japanese
7: From Another Tape

Enter the number of the language you require (0 = done): 1

Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and type a number), then press <Return>. If you choose either 0 or the number for From Another Tape, without selecting a language at this point, you are advised that you must choose at least one language from this menu and the selection prompt is repeated.

Choose the appropriate entry and press <Return>. The system then responds with:

You have chosen (language name).
Is this correct? No (Yes)

Select “Yes” or “No”, as appropriate and press <Return>. If you select “No”, the language prompt is repeated. If your keycode calls for more than one language, these prompts are repeated until:

- you have selected the number of languages specified in the keycode, or
- you have reached the maximum number of languages permitted, or
- you select “Done.”

If you selected “From Another Tape”, you are prompted to remove the current tape and insert the new tape during Step 26. Follow the instructions on the screen.

7 The next step is to select the Call Progress Tone Detection (CPTD) country index number. If the country you require is not listed in the display, select “Generic Settings.”

Note: If Call Progress Tone Detection (CPTD) is set to France, the retry limits and intervals for Remote Notification and Outcalling are affected. For more information, see the chapter entitled “Class of service administration” in the *Administration Guide* for your system.

1 : Generic Settings	**2 : Australia**	**3 : Austria**
4 : Belgium	**5 : Canada**	**6 : Denmark**
7 : Finland	**8 : France**	**9 : Germany**
10 : Hong Kong	**11 : Ireland**	**12 : Italy**
13 : Japan	**14 : Netherlands**	**15 : New Zealand**
16 : Norway	**17 : Portugal**	**18 : Saudi Arabia**
19 : Singapore	**20 : Sweden**	**21 : Switzerland**
22 : Taiwan	**23 : Turkey**	**24 : United Kingdom**
25 : United States		

Please enter the CPTD country index number: 1

Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and enter the number), then press <Return>.

8 You are now asked if you want to change DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 9. The defaults (in bold print) are those common to North America. Regardless of where the system is installed, the DSP encoding type for the Modular Option GP Platform should be **MuLaw**. If **ALaw** is selected, voice quality is uneven and the system must to be re-installed.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

Disable Silence Compression: No (Yes)

Do you wish to change other DSP parameters? Yes (No)

The following parameters are not changed in most installations and as a result are only displayed if you select "Yes" above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3dB increments)

***DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4dBm)

Disable AGC: NO (Yes)

***AGC Center: –20** (–20 to –10 dBm)

Telescan Debounce: (128) (96, 112, 128, . . . 512)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024)

For Meridian Connections, use 480 for Hook Flash Pulse on ROLM PBXs.

**** Note 1:*** The foregoing parameters cannot be modified. They are reserved for future enhancements and the values in bold are applied.

Note 2: If Fax on Demand is included in your configuration, the following prompt appears. Otherwise, the final prompt of this step appears.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", the defaults of the following the DSP parameters appear. They may be changed using arrow keys.

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)

Equalizer : None
Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select “Yes”, return to the previous step.

9 You are next asked to enter information to create or redefine your links.

Please enter the information to create or redefine a Link

On Meridian Connections installations, Login code, Logout code, Agent Position ID and NRDD code are not used. Change the following entries to blank.

Link ID:	**1**	(If the system has more than 1 SMDI Link, you must enter the unique SMDI Link ID)
Login Code:	***85**	(See entry for UCDA in Table IBNXLA in *Translations Guide* [NTP 555-7001-310]). Change to blank unless otherwise specified by the System Administrator.
Logout Code:	***86**	(See entry for UCDD in Table IBNXLA in *Translations Guide* [NTP 555-7001-310]). Change to blank unless otherwise specified by the System Administrator.
RDD Code:	***88**	Change to blank unless otherwise specified by the System Administrator.
Switch Type:	**DMS100_Centrex** *	

* If you need to modify the switch record data after the software installation, please refer to *System Administration Utilities* (NTP 555-7001-310).

Note: The following switch types are supported for Modular Option GP: DMS100_Centrex, DMS100_POTS, Meridian_1, AT&T_1A_ESS, AT&T_5_ESS and DMS_10. If Meridian Mail Connections software is loaded, then the following additional switch types are also supported: AT&T_PBX, ROLM_PBX and NEC_PBX. (The names of these switches are shown as they appear on the screen.)

ATTENTION

The DSP Telescan Ring parameters must be compatible with the switch type. Therefore, do not change the default parameters unless you are informed to do so by Nortel personnel.
In those cases, the administrator may change the DSP Telescan Ring parameters to match the type of switch.

DSP Telescan Ring: **1024** (ranges 224-1024 in increments of 16) For Australia use 288. For Meridian Connections, use 400.

Agent Position ID: **9999**

Are you done defining the links? Yes (No)

10 If you chose “No” at the above prompt you will repeat the step and be given the opportunity to create or redefine links, reuse a previously entered Link ID, or create a new unique Link ID.

11 If you select “Yes” you are presented with a summary of channel information and asked to define the voice channels. The following entries depend on your system configuration as defined by your keycode and the hardware you have installed. In order to complete this section, read the sections entitled “Points to consider” and “What to do before you start” at the beginning of this chapter.

Note: When reallocating ports and changing channel information, you can do the following:

a. Select “Change” if you want to change the port definition on a range of hardware locations on or across nodes and to modify default values.

b. Select “Summary” if you want to display the following table which is based on all of the hardware locations in the system.

c. Select “DetailedDisplay” for a detailed display of all hardware locations on a particular node or range of nodes based on the range you select below.

d. Select “Done” to accept changes and move on to the next step.

Note: Please read the information in this step carefully before going on to Step 12.

The following example is for a three-node system. Node 1 is not displayed because there are no voice ports on Node 1 for this size of a system. If you have a one- or two-node system voice ports for Node 1 displays in the following screen. In addition, if you have fewer than 16 hardware locations (physical ports) on a node, the unused ones are blank in the summary table below

Please define the voice channels

Node	**––––––––––––––––Voice Hardware location––––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, eight multimedia ports have been automatically assigned according to the minimum number defined in the keycode. The software assigns the port type and port capability to the hardware locations according to the following hierarchy:

– First, full service multimedia ports are assigned to the first set of hardware locations.

– Second, full service voice ports are assigned.

– Third, the basic service voice ports are assigned to the remaining hardware locations.

The term hardware location is used here to describe the physical ports on the node available to be configured as basic service voice, full service voice, or multimedia ports. In the preceding example, node 2 has 16 physical hardware locations configured as eight multimedia ports because multimedia ports take up two hardware locations.

Since Node 2 consists entirely of multimedia ports, the table above only displays the odd-numbered hardware locations from 1 to 16.

12 Once you get the preceding summary display, select “DetailedDisplay” to get a more complete picture of your port information. First define the range you want displayed when the following prompts appear.

First Node	**: 2**	(First node in the range you want to select)
First Location	**: 1**	(First hardware location in the range you want to select)
Last Node	**: 2**	(Last node in the range you want to select)
Last Location	**: 16**	(Last hardware location in the range you want to select)

13 You then see a listing *similar* to the following example, depending on your hardware and what has been defined in your keycodes:

Number	DN	Type	UCDDN	Login	Logout	Link ID	Agt Posn
2-1	2801	M	3650	*85	*86	1	9999
2-3	2803	M	3650	*85	*86	1	9999
2-5	2805	M	3650	*85	*86	1	9999
2-7	2807	M	3650	*85	*86	1	9999
2-9	2809	M	3650	*85	*86	1	9999
2-11	2811	M	3650	*85	*86	1	9999
2-13	2813	M	3650	*85	*86	1	9999
2-15	2815	M	3650	*85	*86	1	9999

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, the range selected consists of exclusively multimedia ports. In this case the table only displays the odd-numbered hardware locations because multimedia ports take up two hardware locations and these have been assigned across the entire node.

ATTENTION

If the user selects Change or Done and receives an error message, there may be an incorrect assignment of the voice ports to the link.
The error must be corrected before the user can proceed.

The links assigned to the voice ports must be compatible. The Telescan ring parameters associated with the link must be the same for the identified, paired voice ports.

For instance, the installer may receive a message similar to the following:

The links assigned to the following paired voice ports are not compatible with each other because the DSP Telescan Ring setting assigned to each link of the pair(s) is not the same

Voice port 1 & 2 on Node 1

Please assign links with the same DSP Telescan Ring Setting to each of the paired voice ports.

In this case, the Telescan Ring settings associated with the link for the pair of voice ports (node 1, location 1 and node 1, location 2)have been changed — they do not match.

If Voice port 1 has a link associated with a ring of 1024, and voice port 2 has a link associated with a ring of 224, then the user must assign a link with the same telescan ring setting for both voice ports (this could mean both links are associated with the same switch.)

14 You are now given the opportunity to reallocate your ports for each hardware location on each node and to enter channel information. You may select a range of nodes and a range of hardware locations to view or make changes on.

15 If the display in Step 13 is not correct, or you wish to change it, select "Change." You are now given the opportunity to change the assignment of the ports and other channel information.

Port type	**: Voice_Basic** (Voice_Full, Multimedia)		
First Node	**: 2**	(First node in the range you want to select)	
First Location	**: 9**	(First hardware location in the range you want to select)	
Last Node	**: 2**	(Last node in the range you want to select)	
Last Location	**: 12**	(Last hardware location in the range you want to select)	
DN:		**2800**	(On DMS installation, may be up to 7 digits. See Service Orders section of *Translations Guide,* [NTP 555-7001-310]. For other PBX, use a DN appropriate to the dialing plan.)
Link Type:		**SMDI**	

UCDDN:	**3650**	(For DMS installation see Table DNROUTE in *Translations Guide,* [NTP 555-7001-310]. For Meridian Mail Connections specify the DN (or pilot DN) of the integration unit.)
Link ID:	**1**	(The previously entered Link ID appears here.)
Message Desk:	**63**	(For DMS installations, see message desk field in Table UCDGRP in *Translations Guide* [NTP 555-7001-310]. For Meridian Mail Connections, the same desk number should be defined on the integration unit.)
Message Terminal:	**1**	(Position of the Agent)
Select operation:	**Done**	

16 Continue the above operations until all your ports on all nodes have been assigned. If you select "Summary" at this point, the system creates a display similar to the following, showing what you have just defined:

Node	**––––––––––––––––Voice hardware location––––––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**Vb**	**Vb**	**Vb**	**Vb**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

Select operation: DetailedDisplay, (Change, Summary, Done)

Notice, in this example, that ports 9 through 12 have now been defined as Voice Basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full service voice), you are prompted to reconfigure them. In this example, there are fewer multimedia ports than the minimum number of multimedia ports defined by the keycode.

You have defined 6 Multimedia channels
You must define at least 8 channels

You can now go back to Step 15 and reconfigure four more full service ports to get two multimedia ports

17 If you chose “DetailedDisplay” in Step 16, you are prompted with a range and the following table appears.

First Node	**: 2**	(First node in the range you want to select)
First Location	**: 1**	(First hardware location in the range you want to select)
Last Node	**: 2**	(Last node in the range you want to select)
Last Location	**: 16**	(Last hardware location in the range you want to select)

Number	DN	Type	UCDDN	Login	Logout	Link ID	Agt Posn
2-1	**2800**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-3	**2802**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-5	**2804**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-7	**2806**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-9	**2808**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-10	**2809**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-11	**2810**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-12	**2811**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-13	**2812**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-15	**2814**	**M**	**3650**	***85**	***86**	**1**	**9999**

Select operation: **Done** (Summary, DetailedDisplay, Change)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

18 Select “Done” if you are finished configuring the voice ports. If the information you have entered above is consistent with the configuration defined by your keycode, you are then presented with a list of current dataport assignments and given an opportunity to change them.

19 The next system action is to assign the dataports. Review Table 1-2 in Chapter 1, “Overview: read me first” for the dataport requirements associated with particular features before proceeding.

The example shown below is for a one-node Modular Option GP platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**MMP40**	CONSOLE	SMDI		
1	**8**	**RSM**	PRINTER	PRINTER	MODEM	MODEM

Please assign the data port locations.

Select operation : Display (Done, Change, Reset, Redraw)

The following dataports are on this system:

Node 1,	**Type MMP40,**	**Port 1:**	**Dataport Name = CONSOLE**
Node 1,	**Type MMP40,**	**Port 2:**	**Dataport Name = SMDI**
Node 1,	**Type RSM,**	**Port 1:**	**Dataport Name = PRINTER**
Node 1,	**Type RSM,**	**Port 2:**	**Dataport Name = PRINTER**
Node 1,	**Type RSM,**	**Port 3:**	**Dataport Name = MODEM**
Node 1,	**Type RSM,**	**Port 4:**	**Dataport Name = MODEM**

For another example, Change allows you to modify the card or port configuration one line at a time.

Select operation : Change (Display, Reset, Redraw, Done)

Node 1	**Card 8**	**Port 1**	**:**	**PRINTER**
Node 1	**Card 8**	**Port 2**	**:**	**PRINTER**
Node 1	**Card 8**	**Port 3**	**:**	**MODEM**
Node 1	**Card 8**	**Port 4**	**:**	**MODEM**

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

20 If you need to change the dataport assignments from those displayed, press the up or down arrow key until “Change” is displayed on the screen, then press <Return>. See page 1-19 for restrictions on dataports.

If a feature has been enabled which requires a port, but none have been assigned, you are informed of the problem when you select “Done.” For example, if you have Multi Admin, but have not assigned any UAT ports, you are told that there must be a UAT port on Node 1. The following message appears telling you to assign a system.

Your system has ___but no ports have been configured as ____

Would you like to go back and configure one? Yes (No)

21 If you select “Yes”, go back to Step 119 and re-enter the dataport information. If you select “No”, you can continue with the installation but the feature identified above will not be operational.

22 Next, you are asked to set the SMDI baud rates and link IDs:

Set SMDI baud rates
Node 1 Card 3 Port 2
Enter the baud rate for this SMDI port: 2400 (1200) ****
Enter the Link ID : 1 (up to eight alpha-numeric characters — these must match the switch ID)

***DMS installations: for HS1X89 card use 2400 baud. For 1X67FA card use 1200 baud.*
***Meridian Mail Connections installations: use either 1200 or 2400 baud. Make sure that the same baud rate is used in the integration unit.*

Do you wish to re-enter the Baud rates or Link IDs? No (Yes)

23 Select “No” by using the up/down arrow keys followed by <Return> if the information is correct. If you select “No” you are returned to Step 22.

24 The system now informs you that all required information has been entered and gives you the opportunity to restart the entire procedure. The system responds with the message

All required information has been input.
Do you wish to continue, re-enter information, or abort? Continue (Abort, Re-enter)

25 If you have entered all the information correctly press the up or down arrow key until the word “Continue” appears.

a. If you select “Continue”, the system displays a sequence of messages, informing you that the software is installing. It ends as indicated below in Step 26.

b. If you select “Re-enter”, you are returned to the beginning of the ENTIRE installation procedure. When you select re-enter, all the data you have entered is lost and must be entered again. The system returns you to the point where you were prompted for a serial number and keycode.

c. If you select “Abort”, all changes made to this point are lost. Selecting “Abort” terminates the current operation. Reboot the system from tape and try the operation again or reboot the system into service.

26 This is the final operation when installing a system. If you previously selected “From Another Tape” for your Languages you are prompted to remove the current tape, insert the new tape and repeat Step 6. The final messages are:

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into service.
#TAPE:MMTAPE1>

27 After removing the tape turn the power off. Then after approximately 10 seconds, boot the system by turning the power on again. This takes from ten to fifteen minutes per node. After booting, the Meridian Mail logon screen appears and normal operation can commence. Logon using the system default password ADMINPWD (not case sensitive), then change the password immediately.

Note: It is important that the Install/data tape be stored in a safe place. This ensures that if you need to re-install the system you will have access to the tape.

Chapter 3: Upgrade

What is an upgrade?

Upgrading is the process of changing the system software from, say, MM10.2x.x to MM10.3x.x. (Conversion is required when going from MM8, MM9.19, MM9.4, MM9.5, or MM9.6x.x to MM10.x.x.)

Points to consider

- An upgrade does *not* require a keycode because upgrading does not allow the modification of the system in any way. Features, storage hours, languages, and hardware cannot be changed during an upgrade. If a user wishes to install new features, the system must first be upgraded and then expanded to permit the desired features.
- An upgrade has nothing to do with improving the features or services available on a Meridian Mail system. It is strictly a process of changing the system software within a given release.
- A typical upgrade procedure can take anywhere from 30 minutes to a couple of hours depending on the sizes of the volumes. This is because the upgrade reads every volume on the system.
- Card Option has only one node and one disk. Ignore references to Disk to Disk backup, Disk Syncing, and multiple nodes.

What to do before you start

1 Make sure that you have read and understood Chapter 1, “Overview: Read me first”.

2 Go to the Disk Usage Detail report under Operational Measurements to make sure all of the users are equally distributed across nodes.

3 Perform a full backup of the database. A partial backup is OK, but a full backup is recommended since user data can then be restored.

4 Disable disk to disk backup.

5 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

6 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

7 Enable your terminal's auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen.

8 Obtain the latest Release 10.0 Install/data tape.

9 Make sure you have the old release Install/data tape on hand. This is important in the event that a problem occurs during this procedure or the new tape is corrupted. You may have to reinstall the old release of the software.

10 If your Install/data tape does not contain all of the languages you require for your system, you will be prompted to insert another tape. Ensure that you have that tape available before starting this procedure.

Performing an upgrade

Procedure 3-1
Performing an upgrade

1 Perform a courtesy-down procedure on the system. This will prevent calls from being abruptly terminated when the operation commences.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down. Wait 10 seconds.

4 Power the system up.

5 The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape retension

Then, once the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between five and ten minutes to load

the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 3-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

```
System Installation & Modification Menu
———————————————————

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

Please enter the operation number:
```

Figure 3-2
System Installation and Modification Menu (Card Option only)

```
System Installation & Modification Menu
———————————————————

1 Install an MM10 system
2 Upgrade to the latest MM10 release
3 Convert your 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:
```

Please enter the operation number:

6 Using the up or down arrow keys, choose the menu number (or type the number) for Upgrade, then press <Return>.

You have chosen to upgrade to the latest MM10 software.
Do you wish to continue? No (Yes)

7 Press the up or down arrow key until the word "Yes" is displayed on the screen, then press <Return>. The following message will be displayed on shadowed systems only:

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

8 If all the languages presently installed on your system are not on your Install/data tape, you will be prompted to insert another tape after the languages on the present tape are copied.

9 After running a series of routines, the system responds with

The operation successfully completed

Remove the tape when it finishes rewinding and boot into service.

#TAPE:MMTAPE1>

10 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall the system, you will have access to the tape.

11 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen and enable disk syncing for each pair of disks on your system. See the chapter entitled "System Status and Maintenance" in the *System Administration Guide* (NTP 555-7001-30x) for more information.

Standardize volume sizes

If the volume sizes allowed by the keycode have been changed prior to upgrading to MM10, a further step is required since Upgrade does not increase volume sizes. You must increase volume sizes by standardizing

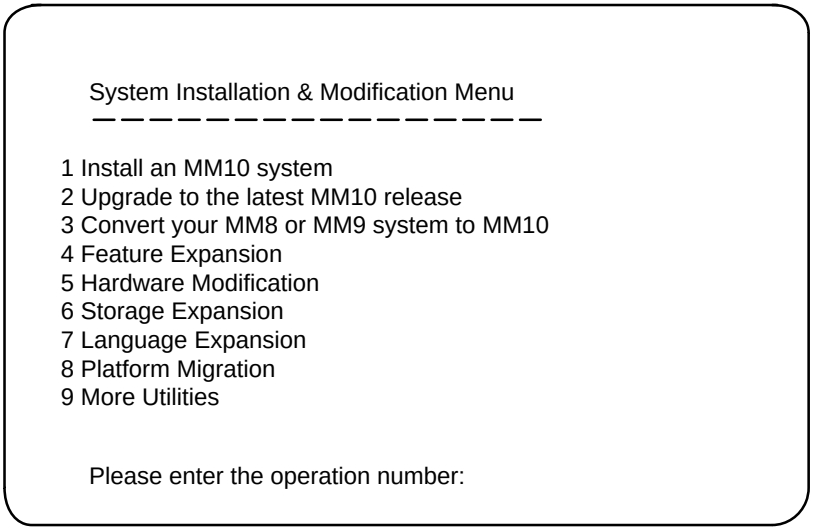
volume sizes. Use the following steps. For more detailed information, refer to Chapter 11, “Standardize volume sizes.”

Procedure 3-2
Standardizing volume sizes

1. Perform a courtesy-down procedure on the system. This will prevent calls from being abruptly terminated when the operation commences.
2. Power the system down.
3. Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down. Wait ten seconds.
4. Power the system up.
5. The system automatically runs a series of diagnostic routines. followed by a pause of approximately five to ten minutes while the tape is automatically retensioned.

   When the routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between five and ten minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 3-3
System Installation and Modification Menu



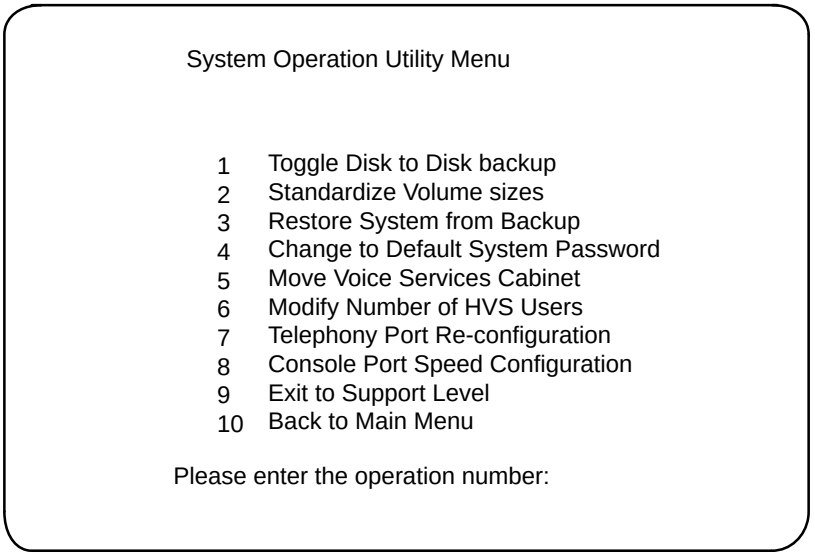
Note: Screen selections may vary slightly depending on platform

Please enter the operation number:

6 Using the up or down arrow keys, choose the menu number (or type the number) for More Utilities, then press <Return>.

The system displays the System Operations Utilities Menu. See Figure 3-4 which follows.

Figure 3-4
System Operation Utilities Menu



Note: Screen selections may vary slightly depending on platform.

Please enter the operation number:

7 Using the up or down arrow keys, choose the menu number (or type the number) for Standardize Volume Sizes, then press <Return>.

You have chosen to standardize volume sizes
Do you wish to continue? No (Yes)

8 Use the up or down arrow key to select “Yes” and press <Return>.

9 The system then runs a series of routines which could take up to 45 minutes, ending with

Your system’s volume sizes have been updated to the most current sizes. Please reboot your system into full service.
#TAPE:MMTAPE1>

10 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. This will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall the system, you will have access to the tape.

Chapter 4: Conversion

What is conversion?

Conversion is the process of changing from one release to another when new software and the conversion of system data is required. For example, conversion must be performed to change a system from MM8.11b, MM8.28d, MM9.19.4, MM9.5 or MM9.6x to MM10.x.

Because some systems which are converted to MM10 are considered to be new platforms, elements of the Platform Migration utility (see Figure 4-1, System Installation and Modification Menu) are included in the conversion process. The Platform Migration utility is also available as an element of the Hardware Modify utility. However, Platform Migration on its own, continues as a utility for migrating platforms *within* this software release.

Conversion will “register” the MMP40 card into the hardware database without running Hardware modification.

As in previous software releases, Conversion will not prompt the user for input. As a result, the user will not be able to change dataports or voice ports during the operation. If dataports or voice ports are to be changed or added, run Hardware Modify after the conversion.

The following tables show the operations involved in conversion:

Table 4-1
Conversion from MM8

Starting platform (MM8)	Ending platform (MM10)	Details
X-Cabinet	Modular Option EC (MMP40)	Backup X-Cabinet, restore on Modular Option EC MMP40 Run “Conversion” Run “Platform Migration”[2]
X-Cabinet	Modular Option	Backup X-Cabinet, restore on Modular Option Run “Conversion” Run “Platform Migration”[2]
Modular Option EC	Modular Option EC (MMP40)	Run “Conversion” Run “Hardware Modify”, if needed[1]
Modular Option	Modular Option EC (MMP40)	Backup Modular Option, restore on Modular Option EC MMP40 Run “Conversion” Run “Platform Migration”[2]
Modular Option	Modular Option	“Conversion” Run “Hardware Modify”, if needed[1]
Options	Modular Option EC (MMP40)	Backup Options, restore on Modular Option EC MMP40 Run “Conversion” Run “Platform Migration”[2]
Options	Modular Option	Backup Options, restore on Modular Option Run “Conversion” Run “Platform Migration” [2]
Options	Options	Run “Conversion”
Card Option	Card Option	Run “Conversion”
Modular Option GP	Modular Option GP	Run “Conversion” Run “Hardware Modify”, if needed[1]

[1] Hardware modify is most commonly required if data ports are added. For a complete list of applications for Hardware Modify, refer to Chapter 6.

[2] Platform Migration provides a feature similar to Hardware Modify; it can also be used to add data ports. For a complete list of applications for Platform Migration, refer to Chapter 9.

Table 4-2
Conversion from MM9

Starting platform (MM9)	Ending platform (MM10)	Details
Modular Option EC (68K)	Modular Option EC (MMP40)	Run “Conversion” Run “Hardware Modify”, if needed[1]
Modular Option	Modular Option	Run “Conversion” Run “Hardware Modify”, if needed[1]
Shelf Option	Shelf Option	Run “Conversion” Run “Hardware Modify”, if needed[1]
Card Option	Card Option	Run “Conversion”

[1] Hardware modify is most commonly required if data ports are added. For a complete list of applications for Hardware Modify, refer to Chapter 6.

Points to consider about conversion

- The procedure can take from as little as 30 minutes to more than 2 hours, depending on volume sizes and the number of users. This is due to the fact that the system audits all of the volumes.
- Conversion converts *only* the release. The addition of features, nodes, storage hours, or additional hardware must be done through separate system operations. The only exception to this is the MMP40 board, as noted below.
- Before starting the conversion to MM10, make sure that the 68K cards (in the case of Modular Option or Option systems, the ESBC, SCSI RAM, and 2/2.5 Mbyte cards) on all nodes have been removed and replaced with the MMP40 cards. This does not apply to the Card Option platform.
- Conversion requires a keycode. The keycode must match the current system serial number or it will be rejected.
- The users should be distributed equally across all nodes.
- Direct conversion to Release 10.0 is possible from Release 8 or from Release 9. If you wish to convert from a version earlier than 8, you must *first* convert to Release 8 and then to Release 10.0. (Refer to the Release 8 Meridian Mail *System Installation and Modification Guide*, [NTP 555-7001-215].)

Note: If the system has the *Access*, *AdminPlus*, or *HVS* software features, then before conversion to MM8, install a 2.5-Mbyte memory card. This does not apply to Card Option systems.

- Voice volumes must be less than 90% full and the system text volume should be less than 85% full to ensure that there is sufficient space to perform a conversion to Release 10.0. Space can be recovered in both the system text and the voice volumes by asking all users on the system to clean out all unneeded messages from their mailboxes.
- Modular Option and Options systems with Meridian Mail (proprietary) Networking, Outcalling, AMIS Networking, Meridian Mail Networking, and Fax on Demand must have at least one 32-kbyte NVP card (NT4R01AC) installed.
- No additional hardware is needed for Card Option conversion from MM8 to MM10.
- In MM10, you may want different features, storage hours, or number of languages than in MM8 or MM9. However, you will have to perform separate system operations in order to effect those changes. For example, if your conversion keycode indicates that you have more nodes in your system than you did before, you must run Hardware modify after you complete conversion, for the changes to take place. See Chapter 1, "Overview: Read me first," for the order of operations.
- Conversion will retain your current local call sender permission/ restriction settings in the Voice Security Options screen.
- When going from Options, X-Cabinets, or Modular Option to a Modular Option EC-MMP40, for the migration of mailboxes and applications to succeed during a platform migration, the target platform must have at least as many nodes and the same size or larger disks as the original system. In addition, when the migration is complete, the target platform will have the identical serial number, storage hours, optional features, and languages as the original system.
- The AdminPlus PC should be disconnected from the Meridian Mail system, (from Node 1 Port 1), and a standard terminal should be reconnected to the dataport before booting from the tape in order to run the conversion procedure. (A standard terminal was shipped with the original Meridian Mail system.)

  Note: If AdminPlus is a required feature in MM10, the feature expansion procedure must be run after the conversion is completed in order to include that feature and the AdminPlus dataport.

CAUTION
Risk of 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 (such as by a power failure), you must boot the system and rerun the conversion program. Follow the recovery steps outlined at the end of this chapter.

What to do before you start

1 Make sure that you have read and understood Chapter 1, “Overview: Read me first”.

2 Go to the Display System Record screen under the TOOLS menu and record the following information (*See your System Administration Tools Guide* [NTP 555-7001-305] for more information):

   a. serial number

   b. options presently installed

3 Go to the Volume Administration screen under General Administration (see your *System Administration Guide* listed in ”About this guide” for more information) and record the number of hours of storage on your system.

4 Go to the Dataport Configuration screen under Hardware Administration and record the ACCESS dataport settings (if they exist) on the RSM or Utility Cards on the voice nodes.

5 Go to the Dataport Configuration screen under Hardware Administration and record the AdminPlus dataport setting (if AdminPlus is a feature) on the prime node.

6 Go to the channel allocation table and record the following information:

   a. number of channels

   b. Voice volumes percentage full (See the preceding “Points to consider”.)

7 Go to the Disk Usage Detail report under Operational Measurements to make sure all of the users are equally distributed across nodes.

8 Obtain your new keycode.

9 Make sure that you have an MMP40 card on hand for each node (except for Card Option).

10 Identify what hardware dependent features are going to be added in MM10 after the conversion, and make sure that the appropriate hardware has been installed.

11 ***Note:*** Remember that in order to install hardware dependant features, you will have to perform a hardware modification and then a feature expansion. You may also have to perform a storage expansion depending on the feature. (See Chapter 5, “Feature expansion,” for more information.)

12 Reconfigure the AML link from 4800 BPS to 9600 BPS (except for Card Option which stays at 4800). For more information, see the chapter entitled “Configuring your Meridian 1” in the *Installation and Maintenance Guide* (NTP 555-70x1-250) (for Options systems refer to *Installation Guide* [NTP 555-7011-210]).

13 Go to the Voice Security Options screen under Voice Administration and make sure that all Restriction/Permission lists are appropriate.

14 Perform a *full* backup of the database. When Conversion results in migration to a new platform, a full backup of the original system is needed in order to restore the database to the new platform.

CAUTION
Risk of data loss
Make sure you have a *full* backup of your system prior to conversion in the event that problems occur during this procedure. If you perform a partial backup, messages and prompts will not be backed up.

15 Disable disk to disk backup.

16 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

17 Enable your terminal’s autoprint mode (<Control>W followed by P) in order to capture everything that appears on your screen.

18 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

19 Obtain the Meridian Mail Release 10.0 Install/data tape.

20 Obtain your old Release Install/data tape. This is important in the event that a problem occurs during this procedure or the tape is corrupted. You may have to reinstall the old release of the software.

21 If your Install/data tape does not contain all of the languages you require for your system, you will be prompted to insert another tape. Ensure that you have this tape available before starting this procedure.

CAUTION
Correct release number
When a second tape is required, be sure that the second tape is the same release of MM10. Using a tape from a different release will result in incorrect prompts.

Performing a system conversion

Procedure 4-1
Performing a conversion

1 From the “System Status and Maintenance” menu, go to the “System Status” screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the *System Administration Guide* (NTP 555-7001-30x) for your system.

2 Power the system down, and wait ten seconds.

3 Install the MMP40 board. This is mandatory for all platforms except Card Option.

– Open the ejectors on the 68K card. Gently pull the card toward you until it clears the shelf.
– Insert the new MMP40 card in the slot that contained the 68K card.
– Press on the faceplate of the card to ensure that the card is fully seated in the module, then close the ejectors.

For more information, refer to your *Installation and Maintenance Guide* NTP (555-70x1-250) (for Options systems, refer to [*Installation Guide* NTP 555-7011-210]).

4 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

5 Power up again.

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed:

Tape Retension

Then, once the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between five and ten minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 4-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

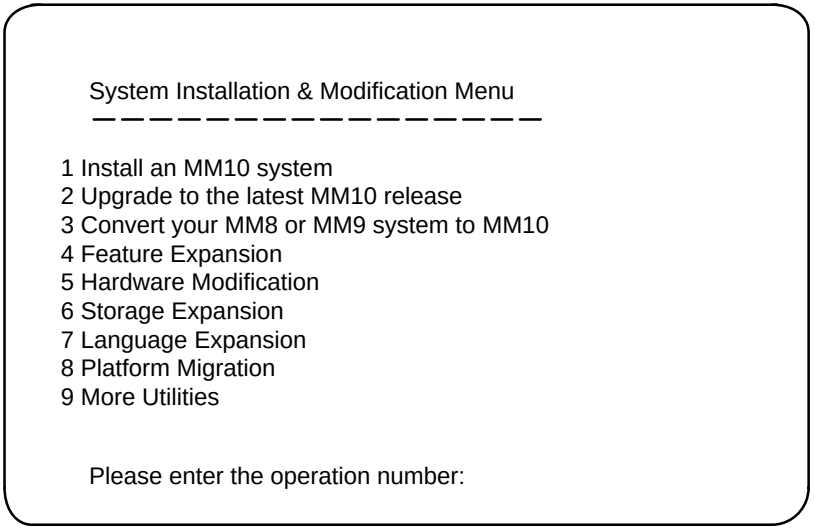
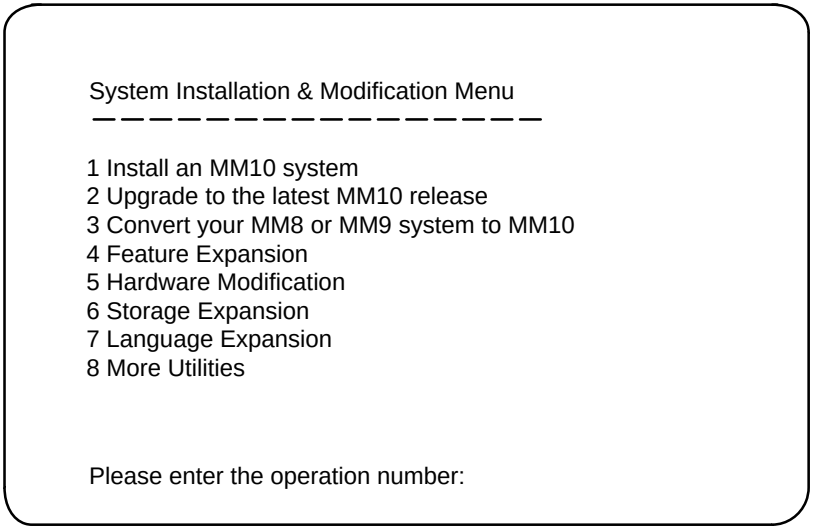


Figure 4-2
System Installation and Modification Menu (Card Option only)



Please enter the operation number:

6 Using the up or down arrow keys, choose “Convert your MM8 or MM9 system to MM10” (or type the number) for the operation that you require, then press <Return>. The prompt shown below results from choosing to convert from MM8 to MM10.

You have chosen to convert the system to the MM10 release.
Do you wish to continue? No (Yes)

7 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>.

After a few seconds, the following prompt appears, letting you know that the procedure has begun.

Package MMCNV_PKG loaded

Your MM8 system will be converted to the MM10 release.

Reading MM8 System Record...

8 You are then asked to enter the keycode. This is the 20-character code found on your keycode label. Enter the keycode four characters at a time, as prompted (exactly as they appear on your keycode label), pressing <Return> after each four-character entry.

Enter the keycode:

Enter 4 character Block 1 :

Enter 4 character Block 2 :

Enter 4 character Block 3 :

Enter 4 character Block 4 :

Enter 4 character Block 5 :

If you enter the wrong number of characters, the system responds with

Please enter 4 characters

Enter 4 Character Block 1

If you make an error entering the keycode, the system responds with

That Block contains invalid Characters – Please Enter Again

Enter 4 Character Block 1 :

If the above entries are valid, the system displays a listing of the features and hardware parameters defined by your keycode. Your display may differ based on your platform, features, and hardware installed. (The following example is for a Modular Option EC–MMP40 system.)

This keycode is for an EC–MMP40 system:

Storage Hours	**: 60**
Meridian Mail Stream	**: 9**
Max Hardware locations	**: 32**
Max Full Service Channels	**: 16**
Multi Media Channels	**: 8**
Storage Nodes	**: 2**
Max Languages	**: 2**

AMIS

Dual Language

Outcalling

Voice Forms

Multi Customer

Networking

Voice Menus

Fax on Demand

Is this correct? Yes (No)

9 If the information presented is correct, press <Return>. If this information is not correct press the up or down arrow key until the word “No” appears, then press <Return>. If you choose “No”, you will be asked to enter the key code again.

If the features to be enabled by the key code require additional hardware, you will be advised at this point. Refer to the appropriate chapters in this document for more information. Also, refer to the section entitled “Sequence of Events” in Chapter 1.

ATTENTION

The engineering rules for ACCESS ports have changed as of MM10.
During conversion, if there is an ACCESS port on an RSM or a Utility card on a voice node, it will be removed from the system due to the changed rules.
The installer may run a Hardware Modify or Feature expansion to redefine the ACCESS port on the voice node(s).

The following message may appear on the Classic or ModOp EC–MMP40 platforms which have ACCESS installed:

Any Access ports on RSM or Utility cards on voice nodes will be removed.

ATTENTION

The engineering rules for AdminPlus ports have changed as of MM10.
During conversion, the AdminPlus feature and its dataport are removed due to the changed rules.
The installer must run a Feature Expansion to install the AdminPlus feature after the conversion (if the feature is included in the keycode.) At that time, the installer can redefine the AdminPlus dataport(s).
Please refer to the dataport rules for MM10 in Chapter 1 and the “Feature Expansion” chapter.

The following message may appear on the Classic or ModOp EC–MMP40 platforms which have AdminPlus installed:

The feature AdminPlus will be removed and the AdminPlus port will be reset to the CONSOLE terminal port.

Do you wish to continue? Yes (No)

10 When you choose “Yes” (in Step 9), you will see a warning message—on shadowed systems only—followed by a prompt indicating that the system is converting:

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

System record is converted

A number of system messages will be displayed indicating that system conversion is under way. The procedure will continue unaided for approximately one hour.

Note: *If a language on the original system came from a second tape, the following prompts will appear.*

<language name> not found in current tape

Do you want to insert another language tape? Yes

Do you want to add another language?	**Go to**
Yes	Step 11
No*	Step 14

***Note:** If NO is selected, the conversion will skip “Copy language” from the second tape and will continue the conversion. If some languages are not copied, the system may not be functional.
A software upgrade will be required to install the missing languages before the system is brought into service.

11 Select “Yes” by pressing <Return>. The system responds with

Shutting down the tape server

12 Press <Return> to continue.

Please remove the tape currently in the tape drive

Hit <CR> to continue

Please insert Install/data tape

13 Insert the tape containing the required language.

Hit <CR> to continue

After the language has been copied from the tape, the system responds with

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into Service.

14 On the Classic and ModOp EC–MMP40 platforms, the conversion will allow the operator to select a new console port speed.

Shutting down tape server.

Loading console port speed configuration utility...

Console Port Speed Configuration Utility

This utility displays the current setting for the console port and allows the setting to be reset to 2400 or 9600 bps.

Node 1 Console Port Speed: 2400 bps

Do you want to change the console port speed? Yes

15 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>. The system responds with

Enter new console port speed (bps): 9600

MMP40 Console Port speed reset to 9600.
Adjust Terminal speed to requested port speed (within 45 seconds).

Note: See the appropriate Installation and Maintenance NTP for your platform to find the Setup screen for the terminal.

#TAPE:MMTAPE1>

16 Prior to booting into full service, ensure that the baud rate of the AML link has been updated from 4800 BPS to 9600 for all platforms except Card Option. See the chapter entitled ”Configuring your Meridian 1” in the *Installation and Maintenance Guide* (NTP 555-70x1-250) (for Options systems, refer to *Installation Guide* [NTP 555-7011-210]).

17 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. This will take from ten to fifteen minutes. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that both the Install/data tape and the software keycode be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to both the Install/data tape and the keycode.

18 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide* (NTP 555-7001-30x) for more information.

System Recovery

First scenario

The conversion failed before entering the keycode or because of a bad keycode. Remove the Install/Date tape from the tape drive, restore the original hardware configuration, and reboot the system into service. A software restore is not needed.

Second scenario

If you receive the following message

The operation has failed.
The system can be booted into service without performing the restore operation.

The conversion failed in an early phase after entering the keycode. Remove the Install/Date tape from the tape drive, restore the original hardware configuration, and reboot the system into service. A software restore is not needed.

Third scenario

If you receive the following message

Operation has failed.
Restore operation from backup (tape or disk) is required if you want to bring the system back to the previous working state.

The operation failed after some of the system was converted beyond a point of return.
You must restore the system from shadow disk (Procedure 4-2), or follow the restore procedure for your previous release (MM8 or MM9).

System recovery from shadow disk

Procedure 4-2
System recovery from shadow disk

For systems with disk shadowing, you can recover your MM8 or MM9 system from shadow disks that are disabled automatically. To do this, the following steps are necessary:

> ***Note:*** Shadowed disk not available on Options or Card Option platforms, therefore this procedure does not apply.

1 Power the system down.

2 Replace all shadow disks, 68K cards (which had been replaced by MMP40 cards), and SCSI and memory cards, if applicable.

3 Insert the MM8 or MM9 Install/data tape.

4 Power the system up again.

5 Using the up or down arrow keys, select the number (or type the number) for “More Utilities” from the System Installation and Modification menu, then press <Return>.

6 Select the number for “Exit to Support level”, then press <Return>.

Single-node systems

7 If the system has a single node, at the prompt type the following:

Load #tape:mmtape1:software:m1.mirror_pkg <Return>

Enable 2 0 <Return>

8 At the following prompt, press <Enter> in order to accept the default buffer size value of 64.

Buffer size (k) :64

9 Go to Step 24.

Systems with two or more nodes

10 Type the following at the prompt:

fork #tape:mmtape1:prm_tape <Return>

11 Wait until the operating system for all nodes is loaded.

12 Enter the following at the prompt:

fork ci[2] <<:CONSOLE:N2 >>:CONSOLE:N2 <Return>

13 If the system has three or more nodes, enter the following at the prompt:

fork ci[3] <<:CONSOLE:N3 >>:CONSOLE:N3 <Return>

14 If the system has four or more nodes, enter the following at the prompt:

fork ci[4] <<:CONSOLE:N4 >>:CONSOLE:N4 <Return>

15 If the system has five or more nodes, enter the following at the prompt:

fork ci[5] <<:CONSOLE:N5 >>:CONSOLE:N5 <Return>

Note: In order to recover the fifth node, you may close the window of a previous node. However, the user must wait until the restore of the previous node is complete.

16 Next, enter the following:

Load #tape:mmtape1:software:m1.mirror_pkg <Return>

Enable 2 0 <Return>

17 At the following prompt, press <Enter> in order to accept the default buffer size value of 64:

Buffer size (k) :64

18 In order to get the CobraVT window, press <Control-W>.

19 Move the cursor using the up or down arrow keys to **N2** and press <Enter>.

20 At the prompt, type in the following:

Load #tape:mmtape1:software:m1.mirror_pkg <Return>

Enable 2 0 <Return>

21 At the following prompt, press <Enter> in order to accept the default buffer size value of 64:

Buffer size (k) :64

22 Repeat Steps 18 to 21 for **N3**, **N4**, and **N5,** according to the number of nodes in your system**.**

23 Wait until all nodes have generated the following SEER indicating that the disks are synced:

INF 6601 ADMIN

24 Remove your Install/data tape and reboot to full service.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall the system, you will have access to the tape.

Chapter 5: Feature expansion

What is feature expansion?

Feature expansion increases or decreases the number of features on a particular system. The features that can be added to a system are

- Voice Forms
- Voice Menus
- ACCESS enable option
- AdminPlus
- Multi-SMDI (Modular Option GP systems only)
- AMIS
- Meridian Mail Networking
- Network Message Services (NMS)
- Multi-Customer
- Multi-Admin (Not on Card Option)
- Dual Language Prompting
- Outcalling
- Meridian Mail Connections (Modular Option GP systems only)
- Fax on Demand
- VMUIF Voice Messaging (Modular Option GP systems only)

Points to consider

- A feature expansion requires a keycode.

- The voice processing cards, VP4 (NT6P04AA) and VP8 (NT6P08AA) in the Modular Option EC–MMP40 support all MM10 features. Modular Option and Options platforms must have at least one 32-kbyte NVP card (NT4R01AC) to support Outcalling, AMIS Networking, Meridian Mail (proprietary) Networking, and Multimedia.
- Card Option platforms will require an RSM card for HVS and Meridian Mail Networking. No other hardware is needed for the MM10 feature set.
- Card Option has only one node and one disk. Ignore references to Disk to Disk backup, Disk Syncing, and multiple nodes.
- Certain channels may need to be dedicated for Outcalling and/or Fax Outcalling capability. Be prepared to modify the CAT table if this is something you wish to do.
- Fax On Demand requires multimedia ports.
- If Dual Language Prompting is going to be added, the system must be equipped with at least two languages. If not, a language expansion will need to be performed before booting into service.
- A system *can* be expanded to include both NMS and Multi-Customer.
- Only the AdminPlus and ACCESS features can be removed during feature expansion.
- Hospitality Voice Services (HVS) cannot be added to an existing system using feature expansion. You must perform a new installation to obtain this feature.
- SMDI cannot be added to an existing system using feature expansion. You must perform a new installation to obtain this feature.
- The feature expansion procedure can take from 30 minutes to over 2 hours to perform, depending on volume sizes. This is due to the fact that this procedure audits the volumes.

What to do before you start

1 Make sure you have read and understood Chapter 1, “Overview: Read me first”.

2 Perform a *full* back up of the database (partial backup is acceptable, but a full backup is recommended).

3 Disable disk to disk backup.

4 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

5 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

6 Enable your terminal's auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen.

7 Obtain the Meridian Mail Release 10.0 Install/data tape.

8 Obtain a new keycode.

9 Verify that all the appropriate hardware is installed, particularly the hardware associated with the features defined in your keycode. If additional hardware needs to be added, obtain the hardware. Refer to your platform's *Installation and Maintenance Guide* (NTP 555-70x1-250) (for Options systems refer to *Installation Guide* [NTP 555-7011-210]) for more information. The following is a brief summary of feature requirements (See Table 1-2 in Chapter 1, "Overview: Read me first," for more information):

- Networking requires a modem port.
- HVS requires a port.
- ACCESS requires an ACCESS port or the MMP40 card on a voice node.
- Multi-Admin requires UAT ports for MAT terminals.
- All platforms except the EC–MMP40 require an RSM card for the items listed above.
- Outcalling, Meridian Mail Networking, Fax on Demand, and AMIS require NVP 32-kbyte cards, for Options and Modular Option.

10 Outcalling and AMIS require NVP32 cards for all systems except Card Option and Modular Option EC–MMP40.

- FAX on Demand requires a minimum of one multimedia port.

11 If all of the languages you require for your system are not on your Install/data tape, you will be prompted to insert another tape. Make sure that you have this tape available before starting this procedure.

Performing a feature expansion

Procedure 5-1
Performing a feature expansion

1 From the “System status and maintenance” menu, go to the “System status” screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the *System Administration Guide* (NTP 555-7001-30x) for your system.

2 With the metal to the left side, and the window facing up and to the rear, insert the Install/data tape into the tape drive. Press the locking lever down.

3 Power the system down, wait ten seconds, then power up.

For more information on power up/down procedures, refer to the Installation and Maintenance guide for your platform *(NTP 555-70x1-250). For Options systems refer to the* Installation Guide *(NTP 555-7011-210). For Card Option systems, refer to the Card* Option Installation and Maintenance guide *(NTP 555-7071-210).*

The system automatically runs a series of diagnostic routines. followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed:

Tape retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between five and ten minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 5-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

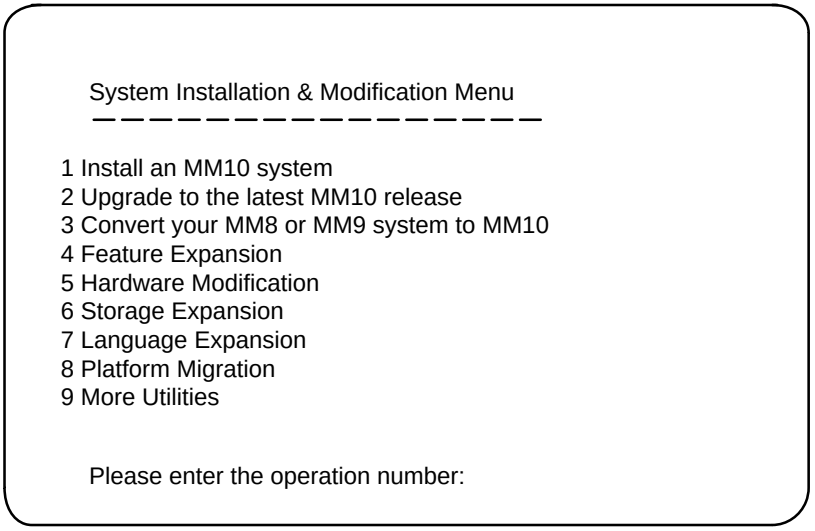
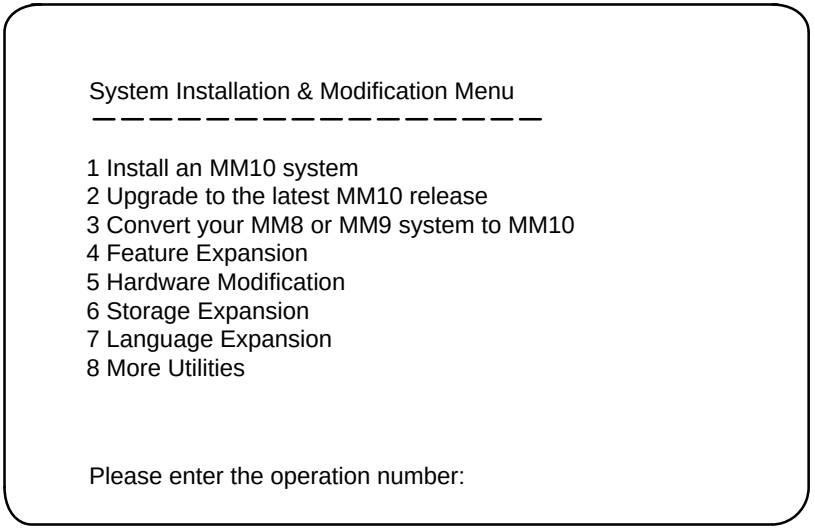


Figure 5-2
System Installation and Modification Menu (Card Option only)



Please enter the operation number:

4 Using the up or down arrow keys, choose the number (or type the number) for Feature Expansion, then press <Return>.

You are then prompted as follows:

You have chosen to perform a feature expansion.
Do you wish to continue? No (Yes)

5 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>. If you select “No”, you will be taken completely out of the procedure.

6 You are then asked to enter the keycode. This is a 20-character code (which is not case sensitive) that enables the features you have purchased for your system. Enter the keycode four characters at a time as prompted, pressing <Return> after each four-character entry.

Enter the keycode:

Enter 4 character Block 1 :

Enter 4 character Block 2 :

Enter 4 character Block 3 :

Enter 4 character Block 4 :

Enter 4 character Block 5 :

If you enter the wrong number of characters, the system responds with

Please enter 4 characters
Enter 4 Character Block 1:

If you make an error entering the keycode the system responds with

That Block contains invalid Characters – Please Enter Again

Enter 4 Character Block 1 :

7 If the preceding entries are valid, the system displays a listing of the features defined by the keycode. Your display may differ based on your platform, features, and hardware installed. (The following example is for a Modular Option EC–MMP40 system.)

This keycode is for an EC–MMP40 system:

Storage Hours	**:60**
Meridian Mail Stream	**:9**
Max Hardware locations	**:32**
Max Full Service Channels	**:16**
Multi Media Channels	**:8**

Storage Nodes **:3**

Max Languages **:2**

AMIS

Dual Language

Outcalling

Voice Forms

Multi Customer

Networking

Voice Menus

Fax on Demand

Is this correct? Yes (No)

8 If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word "No" appears, then press <Return>. If you choose "No", you will be asked to enter the key code again.

9 If the features to be enabled by the key code require additional hardware, you will be advised at this point. Power the system down. Install the appropriate hardware, run Hardware modify, then start again.

Note: During feature expansion, you cannot change the number of storage hours, languages, or hardware. The only features that can be dropped are AdminPlus and ACCESS.

After a keycode is successfully accepted, the system will run various routines then display the following message on shadowed systems only.

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

10 The next system action is to assign the dataports. Review Table 1-2 in Chapter 1, "Overview: Read me first," for the dataport requirements associated with particular features before proceeding with Step 11. The following are examples of the dataport display for the various Meridian Mail platforms.

Note: Some dataports cannot be changed and will not be displayed when selecting "Change."

Example of a Modular Option EC–MMP40 dataport display

The following example is for a two-node Modular Option EC–MMP40 platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**UTIL**	MODEM-CON	PRT0132	PRT0133	PRT0134
1	**8**	**MMP40**	CONSOLE	CSL1		
2	**8**	**MMP40**	UAT0281	PRT0282		

Please assign the data port locations.

Select operation : Display (Change, Done, Reset, Redraw)

The following dataports are on this system:

Node 1, Type UTIL, Port 1: Dataport Name = MODEMCON
Node 1, Type UTIL, Port 2: Dataport Name = PRT0132
Node 1, Type UTIL, Port 3: Dataport Name = PRT0133
Node 1, Type UTIL, Port 4: Dataport Name = PRT0134
Node 1, Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1, Type MMP40, Port 2: Dataport Name = CSL1
Node 2, Type MMP40, Port 1: Dataport Name = UAT0281
Node 2, Type MMP40, Port 2: Dataport Name = PRT0282

The above are default port assignments for the system.

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

The following dataports are on this system:

Example of a Card Option dataport display

The example shown below is for a Card Option platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**SBC**	CONSOLE	CSL1		
1	**8**	**RSM**	MOD181	PRT0182	PRT0183	PRT0184

Please assign the data port locations.

Select operation : Display (Change, Done, Reset, Redraw)

The following dataports are on this system:

Node 1,	**Type SBC,**	**Port 1:**	**Dataport Name = CONSOLE**
Node 1,	**Type SBC,**	**Port 2:**	**Dataport Name = CSL1**
Node 1,	**Type RSM,**	**Port 1:**	**Dataport Name = MOD181**
Node 1,	**Type RSM,**	**Port 2:**	**Dataport Name = PRT0182**
Node 1,	**Type RSM,**	**Port 3:**	**Dataport Name = PRT0183**
Node 1,	**Type RSM,**	**Port 4:**	**Dataport Name = PRT0184**

Note: Dataports for card slot 3, ports 1 to 4 require an RSM card to be installed in the node.

Example of Modular Option or Options dataport display

The example shown below is for a one-node Options or Modular Option platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**MMP40**	CONSOLE	CSL1		
1	**8**	**RSM**	PRT0181	PRT0182	MOD0183	MOD0184

Please assign the data port locations.

Select operation : Display (Change, Done, Reset, Redraw)

The following dataports are on this system:

Node 1,	**Type MMP40,**	**Port 1:**	**Dataport Name = CONSOLE**
Node 1,	**Type MMP40,**	**Port 2:**	**Dataport Name = CSL1**
Node 1,	**Type RSM,**	**Port 1:**	**Dataport Name = PRT0181**
Node 1,	**Type RSM,**	**Port 2:**	**Dataport Name = PRT0182**
Node 1,	**Type RSM,**	**Port 3:**	**Dataport Name = MOD0183**
Node 1,	**Type RSM,**	**Port 4:**	**Dataport Name = MOD0184**

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

Note: Dataports for card slot 8, ports 1 to 4, require an RSM card to be installed in the node.

Example of Modular Option GP dataport display

The example shown below is for a one-node Modular Option GP platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**MMP40**	CONSOLE	SMDI		
1	**8**	**RSM**	PRT0181	PRT0182	MOD0183	MOD0184

Please assign the data port locations.

Select operation : Display (Change, Done, Reset, Redraw)

The following dataports are on this system:

Node 1,	**Type MMP40,**	**Port 1:**	**Dataport Name = CONSOLE**
Node 1,	**Type MMP40,**	**Port 2:**	**Dataport Name = SMDI**
Node 1,	**Type RSM,**	**Port 1:**	**Dataport Name = PRT0181**
Node 1,	**Type RSM,**	**Port 2:**	**Dataport Name = PRT0182**
Node 1,	**Type RSM,**	**Port 3:**	**Dataport Name = MOD0183**
Node 1,	**Type RSM,**	**Port 4:**	**Dataport Name = MOD0184**

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

Note 1 : Dataports for card slot 8, ports 1 to 4, require an RSM card to be installed in the node.

Note 2 : The above are all default values. On the Modular Option GP platform, CONSOLE and SMDI cannot be changed.

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

11 If you need to change the dataport assignments from what is displayed on your screen, press the up or down arrow key until the desired selection is displayed, then press <Return>. For this operation, the options are “Change”, “Display”, “Reset” and “Done”. See page 1-19 for dataport restrictions.

If a feature has been enabled which requires a port but none have been assigned, you will be informed of the problem when you select “Done”. For example, if you have ACCESS but have not assigned any ACCESS ports, you will be told that there must be an ACCESS port on Node 1. The following message will appear telling you to assign a dataport:

Your system has ___but no ports have been configured as ____

Would you like to go back and configure one? Yes (No)

12 If you select “Yes”, go back to Step 10 and reenter the dataport information. If you select “No”, you will continue with the expansion but the feature identified above will not be operational.

13 For platforms other than Modular Option GP, go to Step 14. You will be asked

Set SMDI Baud Rates:
Node 1 Card 3 Port 2
Enter the baud rate for this SMDI port: 2400 (1200)
Enter link ID: 1

The baud rate entered may be either 1200 or 2400.

14 Once you have selected “Done” in Step 10 and pressed <Return>, the procedure continues without further intervention until the final messages appear.

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into Service.

#TAPE:MMTAPE1>

15 After removing the tape, turn the power off. Then after approximately 10 seconds, boot the system by turning the power on again. This will take from ten to fifteen minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape and keycode be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

16 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide* (NTP 555-7001-30x) for more information.

Chapter 6: Hardware modification

What is hardware modification?

The hardware modification utility enables the administrator or technician to modify or add hardware to the system. Hardware modification permits channel and/or node expansions, allowing expansion of a system from any channel or node capacity to any other higher channel or node capacity. In addition, it permits you to reassign ports and change the minimum and maximum number of basic service voice, full-service voice, and multimedia ports.

A hardware modification should be performed when any of the following is done:

- adding nodes
- replacing a disk with one of larger capacity
- adding or removing any of the circuit cards and their associated cabling
- adding or removing terminals (administration terminal, GAC, and so on)
- adding or removing modems and other networking hardware
- increasing the number of Meridian Mail ports

Points to consider

- Hospitality voice services (HVS) users must follow Procedures 6-1 and 6-2 in this chapter.
- A hardware modification requires a new keycode if ports or nodes are being added. The current keycode can be used for all other hardware modifications.

- A hardware modification is sometimes erroneously referred to as a node expansion, or channel expansion, since these are two of the processes that can be accomplished with this procedure.
- Make sure that you have the appropriate hardware installed.
- You will need to know the size of the existing disk(s) and existing storage hours, as well as the size of the new disk(s) and new storage hours, prior to performing the procedure.
- Before doing a node expansion, you must make sure you have enough storage hours on the system.
- If you are adding nodes, run hardware modification. This will automatically give you more storage capacity. However, once your nodes have been added, you then can perform a storage expansion to a greater number of storage hours, providing you have the appropriate disk and the hours are defined in your keycode.

Storage expansion options

The following is a generic table giving storage expansion options. For platform-specific information, refer to Tables 1-4 to 1-7 in Chapter 1 entitled “Overview: Read Me first.”

Table 6-1
Available storage hours

Number of nodes	1.0-Gbyte Disk					
	600-Mbyte Disk					
	300-Mbyte Disk					
1	5	11	24	36	54	100
2	26	26	54	84	114	200
3	30	30	60	90	120	200
4	45	45	90	120	180	300
5	60	60	120	180	240	400

During a hardware modify you will in effect be adding storage hours by adding nodes. However, in order to obtain the number of storage hours you require, you may have to perform a storage expansion after the hardware modification procedure. For the hardware modification, you would read

Table 6-1 down the column from your present node number and storage hours to the total number of nodes you will have.

For example, if you want to go from a 24-hour one-node system to a 5-node system, the hardware modify procedure would take you to 120 hours of storage even if your keycode has defined 400 hours as the amount you want. Using the same keycode, perform a storage expansion to expand the available storage to the 400 hours defined in the keycode. For the preceding example, you would also need to install a 1.0 Gbyte disk before running hardware modification.

What to do before you start

1 Make sure you have read and understood Chapter 1, “Overview: Read me first.”

2 Identify the size of the existing disk(s) and storage hours.

3 Identify the size of the new disk(s) and storage hours.

4 Perform a full system backup of the database (partial backup is acceptable, but a full backup is recommended).

5 Disable disk to disk backup.

6 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

7 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

8 Enable your terminal’s auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen.

9 Obtain a Meridian Mail Release 10.0 Install/data tape.

10 Obtain a new keycode.

Performing hardware modification for Options, Modular Option, and Modular Option EC–MMP40 platforms

The following procedure deals with information that is specific to the Options, Modular Option, and Modular Option EC–MMP40 platforms only. For Modular Option GP, go to page 6-28. For Card Option, go to page 6-20.

Procedure 6-1
Options, Modular Option, Modular Option EC–MMP40 hardware modification

1 From the “System Status and Maintenance” menu, go to the “System status” screen and perform a courtesy down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the *System Administration Guide*, (NTP 555-7001-30x) for your system.

2 Power down the system.

3 Install the new hardware. Refer to your *Installation and Maintenance Guide* NTP 555-70x1-250 for installation details (for Option systems, refer to *Installation Guide* [NTP 555-7011-210]).

4 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

5 Power up the system.

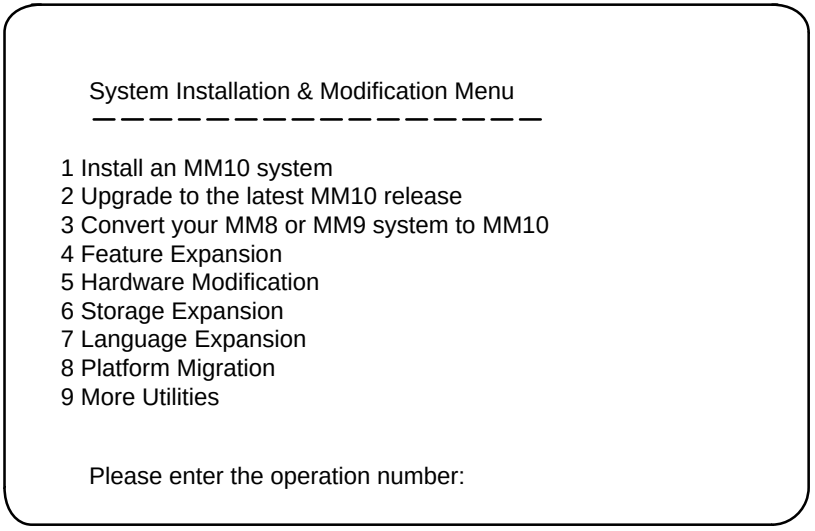
For more information on power up and power down procedures, refer to the Installation and Maintenance Guide *(NTP 555-7061-250) (for Option systems, refer to* Installation Guide*, NTP [555-7011-210]).*

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 6-1
System Installation and Modification Menu



Please enter the operation number:

6 Using the up or down arrow keys, choose the number (or type the number) for Hardware Modification, then press <Return>.

The following message appears:

You have chosen to modify the hardware configuration
Do you wish to continue? Yes (No)

7 Use the up or down arrow key to select "Yes," and press <Return>. You are then asked to enter the keycode. This is a 20-character code (which is not case sensitive) that allows you to alter your system configuration. Enter the keycode four characters at a time as prompted, pressing <Return> after each four-character entry.

Enter the keycode:

Enter 4 Character Block 1:

Enter 4 Character Block 2:

Enter 4 Character Block 3:

Enter 4 Character Block 4:

Enter 4 Character Block 5:

If you enter the wrong quantity of characters, the system responds with

Please enter 4 characters

Enter 4 Character Block 1:

If you make an error entering the keycode the system responds with

That Block contains invalid Characters – Please Enter Again

Enter 4 Character Block 1 :

If the preceding entries are valid, the system displays a listing of the features and hardware parameters defined by your keycode. Your display may differ based on your platform, features and hardware installed. (The following example is for a Modular Option EC- MMP40 system.)

This keycode is for an EC–MMP40 system:

Storage Hours	**: 60**
Meridian Mail Stream	**: 9**
Max Hardware locations	**: 32**
Max Full Service Channels	**: 16**
Multi Media Channels	**: 8**
Storage Nodes	**: 3**
Max Languages	**: 2**

AMIS

Dual Language

Outcalling

Voice Forms

Multi Customer

Networking

Voice Menus

Fax on Demand

Is this correct? Yes (No)

8 If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word “No” appears, then press <Return>. If you choose “No”, you will be asked to enter the keycode again.

9 If the features to be enabled by the key code require additional hardware, you will be advised at this point. Refer to the appropriate chapters in this document for more information. Also, refer to the section entitled “Sequence of Events” in Chapter 1.

The system responds by showing you the current configuration as in the following examples. The first is for the Modular Option EC–MMP40 platform and the second is for the Options and Modular Option platforms. The column on the left side of your screen represents the node number. (Your display may differ according to the platform and equipment actually installed.)

10 After a few seconds the system displays a number of system messages.

Note: The following message is displayed on shadowed systems only:

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

Example of Modular Option EC–MMP40 configuration display

The example shown below is for a three-node Modular Option EC–MMP40 platform. Your display may differ.

N	Card1	Card2	Card3	Card4	Card5	Card6	Card 7	Card8
1	Empty	Empty	Empty	Empty	Empty	UTIL	MMP40	Empty
2	MMP40	NVP8	NVP8	Empty	Empty	Empty	Empty	Empty
3	NVP8	NVP8	Empty	Empty	MMP40	Empty	Empty	Empty

Example of Modular Option or Options configuration display

The example shown below is for a one-node Options/ Modular Option platform. Your display may differ.

N	Card1	Card2	Card3	Card4	Card5	Card6	Card 7	Card 8
1	EMPTY	EMPTY	MMP40	EMPTY	NVP32	EMPTY	EMPTY	RSM

If you have more physical ports present than are defined in the keycode, the operation will abort with a message similar to the following, depending on your configuration and keycode definition:

Your system has 32 hardware locations
Your keycode only permits 24

Please check your hardware configuration. After correcting any problems, you may restart this operation by booting from tape

11 If your keycode information is consistent with your present system configuration, you are then asked to confirm that the hardware configuration is correct:

Is the configuration correct? Yes (No)

Note: If you enter "No", the hardware modify procedure aborts. Do the following:

a. Power down the system.

b. Correct the hardware fault.

c. Start the hardware modification procedure again.

12 The following prompt will then appear:

Do you wish to change your CPTD selection: No

13 Next, you will be asked to define the voice channels.

The parameters for each channel within the selected range are set to the values entered except, starting with the value entered:

DN – is incremented by one
Terminal Number – is incremented by one

Double density cards increment the TN as follows:

loop	0 - 159
shelf	0 - 1 (will not change automatically)
card	2 or 3 only
unit	0 - 7

14 You are next presented with a summary of channel information and asked to define voice channels. The entries will depend on your system configuration as defined by your keycode.

The following example is for a 3-node system. Node 1 is not displayed because there are no voice ports on Node 1 for this size of system. If you have a 1- or 2-node system, voice ports for Node 1 WILL display. In addition, if you have fewer than 16 hardware locations (physical ports) on a node, the unused ones will be blank in the example.

Multimedia ports will only show up in the following table if they are already configured in your system. If you are adding them for the first time, you can configure them in Step 15 below, providing they are defined in your keycode.

Note: Option ST/RT and NT/XT, and Modular Option have a maximum of 24 channels. Modular Option EC-MMP40 has a maximum of 96 channels. All other platforms are limited to 64 channels.

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

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

The term hardware location is used here to describe the physical port on the node available to be configured as a Basic Voice, Full Voice, or Multimedia port. In the preceding example, Node 2 has 16 physical hardware locations configured as eight multimedia ports because multimedia ports take up two hardware locations.

Since Node 2 consists entirely of multimedia ports, the preceding table only displays the odd-numbered hardware locations from 1 to 16.

15 You will now be given the opportunity to reallocate your ports for each hardware location on each node. You may select a range of nodes and a range of hardware locations to view or make changes on.

Note: When reallocating ports, you can do the following,

a. Select “Change” if you want to change the port definition on a range of hardware locations on or across nodes and to modify default values of the Meridian 1 agent configuration.

b. Select “Summary” if you want to display the above table based on the range of hardware locations and nodes you will select below.

c. Select “DetailedDisplay” for a detailed display of all hardware locations on a particular node or range of nodes based on the range you will select below.

d. Select “Done” to accept changes and move on to the next step.

Select operation: Change (Summary, DetailedDisplay, Done)

16 Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>.

Port type **: Voice_Basic** (Voice_Full, Multimedia)

First Node **: 2** (first node in the range you want to select)

First Location **: 9** (first hardware location in the range you want to select)

Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 12**	(last hardware location in the range you want to select)
ACDDN	**: 3651**	(Meridian Mail ACDDN)
SECDN	**: 2800**	(Key 1 assignment of Meridian Mail agents)
Port Density	**: Double**	(Only double density is supported by EC.)
Loop Number	**: 12**	
Shelf Number	**: 0**	(0 or 1 only for EC)
Card Number	**: 2**	(EC requires card slot assignments of 2 and 3 only.)
Unit Number	**: 0**	
Switch Type	**: SL1**	

Select operation : Summary (Change, DetailedDisplay, Done)

Note: You cannot modify shelf, card, or unit in the tools level utility. You can only modify the loop number.

17 Continue the above operations by selecting "Change" until all the ports on all nodes have been assigned. If you select "Summary," the following display will appear showing what you have just defined:

Node	**––––––––––––––––Voice hardware location––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**Vb**	**Vb**	**Vb**	**Vb**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

Notice that ports 9 through 12 have now been defined as Voice Basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full service voice), you will be prompted to reconfigure them. In this example, the number of multimedia ports is less than the minimum number of multimedia ports defined by the keycode.

You have defined 6 MultiMedia channels
You must define at least 8 channels

You will now go back to Step 15 and reconfigure four more full service ports to get two multimedia ports

18 If you chose “DetailedDisplay” in Step 17, you are prompted to enter a range and the following table appears.

First Node	**: 2**	(first node in the range you want to select)
First Location	**: 1**	(first hardware location in the range you want to select)
Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 16**	(last hardware location in the range you want to select)

NUM	VP Locn	Type	ACD	SECDN	Loop	Shelf	Card	Unit	Density	Switch
2-1	2-2-1-1	M	3650	2800	12	0	2	0	Double	0
2-3	2-2-2-1	M	3650	2802	12	0	2	2	Double	0
2-5	2-3-1-1	M	3650	2804	12	0	2	4	Double	0
2-7	2-3-2-1	M	3650	2806	12	0	2	6	Double	0
2-9	2-3-3-1	Vb	3650	2808	12	0	3	0	Double	0
2-10	2-3-3-2	Vb	3650	2809	12	0	3	1	Double	0
2-11	2-3-4-1	Vb	3650	2810	12	0	3	2	Double	0
2-12	2-3-4-2	Vb	3650	2811	12	0	3	3	Double	0
2-13	2-4-1-1	M	3650	2812	12	0	3	4	Double	0
2-15	2-4-2-1	M	3650	2814	12	0	3	6	Double	0

Select operation: Done (Change, Summary, DetailedDisplay)

In the above example, part of the range selected consists of multimedia ports. In this case, the table only displays the odd–numbered hardware locations from 1 to 8 and 13 to 16 because multimedia ports take up two hardware locations.

19 You will need to select “Change” or “Display” as necessary until you are satisfied that the configuration is correct. When the display is correct, select “Done.”

20 On EC–MMP40 systems, you will always have to change the TNs to match those assigned for ACD agents. Cards are either assigned as 2 or 3, and density is always double.

ATTENTION

If you do not change the loop or shelf numbers, the system will use the default values. If the range that you are selecting changes the loop or shelf, the system will use the incorrect default card slots.

21 For ACDDN and SECDN, you may change the value by pressing the backspace key and entering the desired number followed by <Return>. In all other cases, press the up or down arrow key until the desired selection appears on the screen. Then press <Return> to confirm after each selection. Repeat this operation until all voice channels have been defined.

22 If you select “Done” in Step “18”, the next system action is to configure the DSP parameters. Enter the desired value for each item, pressing <Return> after each entry. The defaults (in bold print) are those common to North America. Press <Return> at the following prompt and continue to Step 15. The defaults (in bold print) are those common to North America.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

If the above DSP encoding parameter is set incorrectly, corrupted voice quality may result.

Disable Silence Compression: No (Yes)

23 You will now be asked if you want to change other DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 15.

Do you wish to change other DSP parameters? No (Yes)

The following parameters are not changed in most installations and, as a result, are only displayed if you select “Yes” above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

*** DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO Yes

***AGC Center: –20** (–20 to –10 dBm)

Telescan Ring time: 1024 (224-1024 in increments of 16). For Australia use 288.

Telescan Debounce: (128) (96, 112, 128, . . . 512 in increments of 16)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024 in increments of 16)

**** Note 1:*** The above marked parameters cannot be modified. They are reserved for future enhancements.

Note 2: If Fax on Demand is included in your configuration, the following prompt will appear. Otherwise, the final prompt of this step will appear.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", the defaults of the following the DSP parameters will appear.They may be changed using arrow keys.

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None
Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

24 Assign the dataports. Review Table 1-2 in Chapter 1, "Overview: Read me first," for the dataport requirements associated with particular features before proceeding with Step 25.

Note: Some dataports cannot be changed and will not be displayed when selecting "Change."

25 A table similar to the one following will appear on your terminal identifying your dataports. The first example is for a three-node Modular Option EC–MMP40 system and the second is for a one-node Options/Modular Option system. Your display may differ.

Example of Modular Option EC–MMP40 dataport display

The example shown below is for a three-node Modular Option EC–MMP40 platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**6**	**UTIL**	MODEM-CON	PRT0162	MOD0163	MOD0164
1	**3**	**MMP40**	CONSOLE	CSL1		
2	**3**	**MMP40**	PRT0231	PRT0232		
3	**3**	**MMP40**	PRT0331	PRT0332		

Please assign dataport locations

Select operation : Display (Done, Change, Reset, Redraw)

The following dataports are on this system:

Node 1, Type UTIL, Port 1: Dataport Name = MODEMCON
Node 1, Type UTIL, Port 2: Dataport Name = PRT0162
Node 1, Type UTIL, Port 3: Dataport Name = MOD0163
Node 1, Type UTIL, Port 4: Dataport Name = MOD0164
Node 1, Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1, Type MMP40, Port 2: Dataport Name = CSL1
Node 2, Type MMP40, Port 1: Dataport Name = PRT0231
Node 2, Type MMP40, Port 2: Dataport Name = PRT0232
Node 3, Type MMP40, Port 1: Dataport Name = PRT0331
Node 3, Type MMP40, Port 2: Dataport Name = PRT0332

The above are default port assignments for the system.

Example of Modular Option or Options dataport display

The following example is for a one-node Options/ Modular Option platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**MMP40**	CONSOLE	CSL1		
1	**8**	**RSM**	PRT0181	PRT0182	MOD0183	MOD0184

Please assign dataport locations

Select operation : Display (Done, Change, Reset, Redraw)

The following dataports are on this system:

Node 1,	**Type MMP40,**	**Port 1:**	**Dataport Name = CONSOLE**
Node 1,	**Type MMP40,**	**Port 2:**	**Dataport Name = CSL1**
Node 1,	**Type RSM,**	**Port 1:**	**Dataport Name = PRT0181**
Node 1,	**Type RSM,**	**Port 2:**	**Dataport Name = PRT0182**
Node 1,	**Type RSM,**	**Port 3:**	**Dataport Name = MOD0183**
Node 1,	**Type RSM,**	**Port 4:**	**Dataport Name = MOD0184**

Dataports for node 1, card slot 8, ports 1 to 4, require an RSM card in the node.

Reset allows you to go back to the original dataport settings before a change procedure was initiated.

Note: The above are default port assignments for the system.

26 If you wish to use something other than the default settings, select "Change." When you are finished entering the information, select "Done" and you will go on to Step 27. See page 1-19 for dataport restrictions.

If a feature has been enabled which requires a port but none have been assigned, you will be informed of the problem when you select "Done." For example, if you have ACCESS but have not assigned any ACCESS ports, you will be told that there must be an ACCESS port on Node 1. The following message will appear telling you to assign a dataport:

Your system has ___but no ports have been configured as ____

Would you like to go back and configure one? Yes (No)

If you select "Yes", go back to Step 25 and reenter the dataport information. If you select "No", you will continue with the hardware modification, but the feature identified with the particular data port above will not be operational. In either case, the installation process will continue as indicated below.

27 If you have a Modular Option EC–MMP40 system, continue with Steps 28-31; if not, go to Step 34.

28 For Modular Option EC–MMP40 systems you will then be asked for the utility card loop numbers. (For more information, refer to your *Modular Option EC Installation and Maintenance Guide* [NTP 555-7061-250]).

Please enter the loop number associated with J4 on node 1's utility card: 255

29 After using the backspace key to delete the default number, enter the loop number using a number between 0 and 255, then press <Return>.

Please enter the loop number associated with J5 on node 1's utility card: 255

30 After using the backspace key to delete the default number, enter the loop number using a number between 0 and 255, then press <Return>.

Beyond 48 ports, an additional utility card is required. The software installation process reads the location of the utility card and prompts you for loop numbers associated with J4 and J5 of the second utility card.

Note: You can use either J4 or J5, depending on where your loop is attached. If no loop is attached, use the default values. Modular Option EC–MMP40 supports up to four network loops.

31 If you have a second utility card, enter its loop number as well.

Please enter the loop number associated with J4 on node n's utility card: 255

32 After using the backspace key to delete the default number, enter the loop number, using a number between 0 and 255, then press <Return>.

Please enter the loop number associated with J5 on node n's utility card: 255

33 After using the backspace key to delete the default number, enter the loop number, using a number between 0 and 255, then press <Return>.

34 This has been the final step of the operation when performing a hardware modification. The final messages are

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into full service.

#TAPE:MMTAPE1>

35 After removing the tape, turn the power off. Then after approximately 10 seconds, boot the system by turning the power on again. This will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to re-install or modify the system you will have access to the tape.

36 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide* (NTP 555-7001-301) for more information.

If you have HVS and you have added one or more nodes, go to Procedure 6-2.

Procedure 6-2
Online DR reload for hospitality systems

Systems using HVS (Hospitality voice service) must complete the following steps after adding a node through hardware modification.

1 After the reboot is finished, the Meridian Mail title page screen appears showing the soft keys. Press the function key for logon.

2 The system now requests a password. Enter RSC, then press <Return>.

3 The system requests the RSC-level password (this may be the same as the default system password). Enter the password, then press <Return>.

The RSC menu (which follows) will now be displayed.

```
                          MM9 Special Tools Package

                                RSC Level Access

 1     Change password        -   change RSC/Admin pwd
 2     ad_util                -   Administration utility
 3     burp                   -   Backup & Restore Program
 4     om_util                -   Operational Measurements
 5     se_util                -   SEER Utility
 6     rsm_utils              -   RSM Maintenance Utility
 7     scsi_util              -   SCSI Utility (Disk/Tape)
 8     ocs_util               -   Outcalling Server Utility
 9     cptd_util              -   Call Progress Tone Detector Utility
10     Online DR reload       -   reload the organization directory

Select an item >

   Logoff      Redraw      Help      Release Version
```

4 Using the up or down arrow keys, choose the number (or type the number) for “Online DR reload”, and press enter.

The Online DR reload package is now ready to start. You will be presented with the following warning:

You are about to perform an online reload of the organization directory. This should only be done as part of node expansion of HVS systems to recover data in known cases of organization directory corruption.

IMPORTANT: Read the NTP on this tool before you begin.*

Continue? No (Yes)

***** Before you begin, read Procedure 6-2 carefully.

5 Using the up or down arrows, select Yes. Turn on autoprint (Control-W followed by p), then press <Return> to continue. If you select No, the operation will be aborted and you will be returned to the RSC-level menu.

The system will now begin reloading the organization directory (DR) by creating a second copy and transferring data from the original. This process will take approximately three to five seconds per user. During this time, messages will be displayed to indicate the progress of the process.

6 Once the operation has completed, you will be prompted as follows:

About to enable reloaded directory. Note that some errors may occur for a few seconds during the directory switchover. Perform the switchover? No (Yes)

7 Using the up or down arrows, select “Yes,” and press <Return> to continue. (A series of system messages will appear at this point.) The system will now start using the reloaded organization directory. If you select “No,” the operation will be aborted and you will be returned to the RSC-level menu. However, the second organization directory has been created, and is taking up space on the VS1T volume. You will now be prompted:

Do you wish to remove the old directory? Yes (No)

8 Press <Return> to select “Yes” to continue. This will cause the system to erase the old (original) directory from the VS1T volume. If you select ”No.” the operation will be aborted and you will be returned to the RSC-level menu. However, the old organization directory has not been erased, and continues to take up space on the VS1T volume.

Press <Enter> to return to menu.

9 Press <Return> to return to the menu.

Performing Card Option hardware modification

The following procedure deals with information that is specific to the Card Option platform. For other platforms, go to the appropriate sections of this chapter.

Procedure 6-3
Card Option hardware modification

1. Perform a courtesy-down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being abruptly terminated when the operation commences.
2. Power the system down. Wait 10 seconds.
3. Install the new hardware. Refer to *Meridian Mail Card Option Installation Procedures* (NTP 555-7071-210) for installation details.
4. Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.
5. Power the system up.

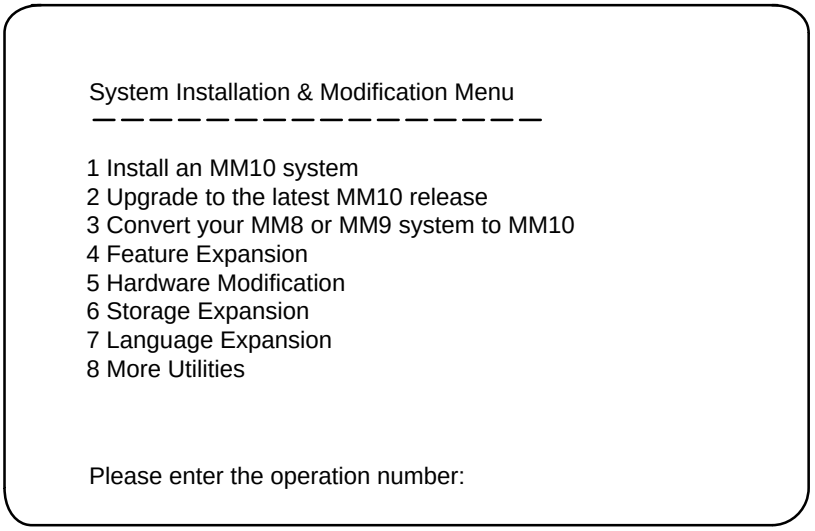
   For more information on power up/down procedures, refer to the Meridian Mail Card Option Installation Procedures *(NTP 555-7071-210*).

   The system automatically runs a series of diagnostic routines, followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

   Tape Retension

   When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 6-2
System installation and modification menu



Please enter the operation number:

6 Using the up or down arrow keys, choose the number for the operation that you require, then press <Return>.

You have chosen to modify the hardware configuration
Do you wish to continue?

7 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>.

8 You are then asked to enter the keycode. This is a 20-character code (which is not case sensitive) that allows you to alter your system configuration. Enter the keycode four characters at a time as prompted, pressing <Return> after each four-character entry.

Enter the keycode:

Enter 4 Character Block 1:

Enter 4 Character Block 2:

Enter 4 Character Block 3:

Enter 4 Character Block 4:

Enter 4 Character Block 5:

If you enter the wrong quantity of characters, the system responds with

Please enter 4 characters

Enter 4 Character Block 1

If you make an error entering the keycode, the system responds with:

That Block contains invalid Characters – Please Enter Again

Enter 4 Character Block 1

9 If the above entries are valid, the system displays a listing of the features and hardware parameters as defined by your keycode. Your display may differ based on your platform, features, and hardware installed. (The following example is for a typical Card Option system.)

This keycode is for a Card Option system:

Storage Hours	**: 24**
Meridian Mail Stream	**: 9**
Max Hardware locations	**: 12**
Max Full Service Channels	**: 12**
Multi Media Channels	**: 0**
Storage Nodes	**: 1**
Max Languages	**: 2**

AMIS

Dual Language

Outcalling

Networking

Is this correct? Yes

If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word "No" appears, then press <Return>. When you choose "No", you will be asked to enter the key code again.

10 Next, the following prompt will appear:

Do you wish to change your CPTD selection? No (Yes)

If you select Yes, go to Step 11. If you select No, go to Step 12.

11 If Call Progress Tone Detection (CPTD) is set to France, the retry limits and intervals for remote notification will be affected. For more information, see the chapter entitled "Class of service administration" in the *Customer Administration Guide for Multi-Customer Systems* (NTP 555-7001-309.)

1 :	**Generic Settings**	**2 : Australia**	**3 : Austria**		
4 :	**Belgium**	**5 : Canada**	**6 : Denmark**		
7 :	**Finland**	**8 : France**	**9 : Germany**		
10 :	**Hong Kong**	**11 : Ireland**	**12 : Italy**		
13 :	**Japan**	**14 : Netherlands**	**15 : New Zealand**		
16 :	**Norway**	**17 : Portugal**	**18 : Saudi Arabia**		
19 :	**Singapore**	**20 : Sweden**	**21 : Switzerland**		
22 :	**Taiwan**	**23 : Turkey**	**24 : United Kingdom**		
25 :	**United States**				

Please enter the CPTD country index number :

Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and enter the number), then press <Return>.

12 You are next presented with a summary of channel information and asked to define voice channels. The following entries will depend on your system configuration as defined by your keycode and the hardware you have installed. In order to complete this section, read the sections entitled “Points to consider” and “What to do before you start” at the beginning of this chapter.

Note: Please read the information in this step carefully before going on to step 13.

The following example is for a 12-channel Card Option system. In addition, if you have fewer than 12 hardware locations (physical ports), the unused ones will be blank in the summary table below

Please define the voice channels

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**	**V**	**V**	**V**	**V**	**Vb**	**Vb**				

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, two multimedia ports have been automatically assigned according to the minimum number defined in the keycode. The software will assign the port type and port capability to the hardware locations according to the following hierarchy:

– First, full-service multimedia ports will be assigned to the first set of hardware locations.

– Second, full-service voice ports will be assigned.

– Third, the basic-service voice ports will be assigned to the remaining hardware locations.

The term hardware location is used here to describe the physical ports on the node available to be configured as basic service voice, full service voice, or multimedia ports. In the above example, the system has 12 physical hardware locations configured with 2 multimedia ports, 6 full service voice ports and 2 basic service voice ports for a total of 10 voice ports. This is because multimedia ports take up 2 hardware locations instead of one.

13 You will now be given the opportunity to reallocate your ports for each hardware location. You may select a range of hardware locations to view or make changes on.

Note: When reallocating ports, you can do the following:

a. Select “Change” if you want to change the port definition on a range of hardware locations.

b. Select “Summary” if you want to display the above table based on the range of hardware locations you will select below.

c. Select “DetailedDisplay” for a detailed display of all hardware locations based on the range you will select below.

d. Select “Done” to accept changes and move on to the next step.

Select operation: Change (Summary, DetailedDisplay, Done)

14 Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>.

Port type **: Voice_Basic** (Voice_Full, Multimedia)

First Node **: 1** (first Node in the range you want to select)

First Location **: 3** (first Hardware location in the range you want to select)

Last Node **: 1** (last Node in the range you want to select)

Last Location **: 4** (last Hardware location in the range you want to select)

15 **ACDDN** **: 3650**

16 Continue the above steps until all ports have been assigned. If you select “Summary,” the following is an example of what will appear on your screen showing you what you have just defined:

Select Operation: Summary (DetailedDisplay, Change, Done)

Node	–––––––––––––––Voice hardware location–––––––––––––––––															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	M	––	Vb	Vb	V	V	V	V	V	V	Vb	Vb				

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

Notice that in the above example, ports 3 through 4 have now been defined as Voice Basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full service voice), you will be prompted to reconfigure them. In this example, the multimedia ports are less than the minimum number of multimedia ports defined by the keycode.

You have defined 1 Multimedia channels
You must define at least 2 channels

You will now go back and reconfigure two more full-service ports to get one multimedia port.

17 If you chose "DetailedDisplay" in step 10, you are prompted to enter a range of nodes and hardware locations, and the following table appears:

First Node	**: 1**	(Card Option systems have only one node, therefore enter 1 here.)
First Location	**: 1**	(first hardware location in the range you want to select.)
Last Node	**: 1**	(Enter 1 here.)
Last Location	**: 12**	(last hardware location in the range you want to select.)

NUM	VP Locn	Type	ACD	SECDN	Loop	Shelf	Card	Unit	Density	Switch
1-1	1-4-1-1	M	7000	7800	8	0	2	0	Octal	0
1-3	1-5-1-1	M	7000	7802	8	0	2	1	Octal	0
1-5	1-6-1-1	V	7000	7804	8	0	2	2	Octal	0
1-6	1-6-1-2	V	7000	7805	8	0	2	10	Octal	0
1-7	1-7-1-1	V	7000	7806	8	0	2	3	Octal	0
1-8	1-7-1-2	V	7000	7807	8	0	2	11	Octal	0
1-9	1-8-1-1	V	7000	7808	8	0	2	4	Octal	0
1-10	1-8-1-2	V	7000	7809	8	0	2	12	Octal	0
1-11	1-9-1-1	Vb	3650	7810	8	0	2	5	Octal	0
1-12	1-9-1-2	Vb	3650	7811	8	0	2	13	Octal	0

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, part of the range selected consists of multimedia ports. In this case, the table only displays the odd-numbered hardware locations from 1 to 4 because multimedia ports take up two hardware locations.

Select operation: Done (Change, Summary, DetailedDisplay)

18 Select “Done” at the above prompt if the configuration is correct. You may need to select “Change” or “Display” as necessary until you are satisfied that the configuration is correct.

19 You are then presented with a list of current dataport assignments and given an opportunity to change them.

The following example is for a one-node Options/ Modular Option platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	3	MMP40	CONSOLE	CSL1		
1	8	RSM	PRT0181	PRT0182	MOD0183	MOD0184

Please assign dataport locations

Select operation : Display (Done, Change, Reset, Redraw)

The following dataports are on this system:

Node 1,	**Type MMP40,**	**Port 1:**	**Dataport Name = CONSOLE**
Node 1,	**Type MMP40,**	**Port 2:**	**Dataport Name = CSL1**
Node 1,	**Type RSM,**	**Port 1:**	**Dataport Name = PRT0181**
Node 1,	**Type RSM,**	**Port 2:**	**Dataport Name = PRT0182**
Node 1,	**Type RSM,**	**Port 3:**	**Dataport Name = MOD0183**
Node 1,	**Type RSM,**	**Port 4:**	**Dataport Name = MOD0184**

"Reset" allows you to go back to the original dataport settings before a Change procedure was initiated.

20 If you select "Done," continue with step 21. If you select "Change" at the prompt above, you may change to any of the available options. Options available depend on the feature set installed on your system, with Console and Printer being available on all systems. The options are

— If you have networking, you must assign MODEM ports.

— If you have hospitality, you may assign GAC ports.

If you need to change the dataport assignments from those displayed, press the up or down arrow key until "Change" is displayed on the screen, then press <Return>.

If a feature has been enabled which requires a port, but none have been assigned, you will be informed of the problem when you select "Done."

21 This is the final operation when performing a hardware modification. The final messages are

The operation successfully completed.
Remove the tape when it finishes rewinding and boot into full service.
#TAPE:MMTAPE1>

After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. After booting, the Meridian Mail logon screen will appear and normal operation can commence. This will take from 10 to 15 minutes per node.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to it.

Performing Modular Option GP hardware modification

The following procedure deals with information that is specific to the Modular Option GP platform. For other platforms, go to the appropriate sections of this chapter.

Procedure 6-4
Modular Option GP hardware modification

1. From the “System Status and Maintenance” menu, go to the “System status” screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the *System Administration Guide* (NTP 555-7001-30x) for your system.
2. Power the system down.
3. Install the new hardware. Refer to *Meridian Mail Installation and Maintenance Guide* (NTP 555-7051-250) for installation details.
4. Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.
5. Power the system up.

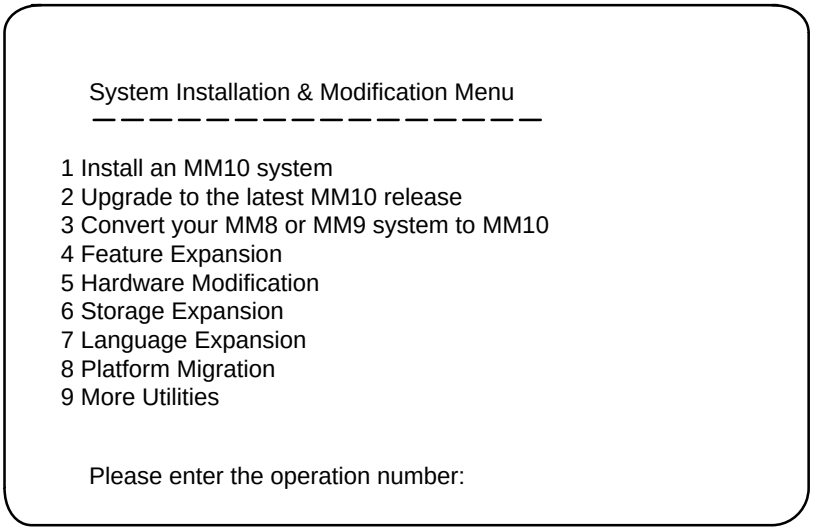
   For more information on power up and power down procedures, refer to the Installation and Maintenance Guide (NTP 555-7051-250).

   The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

   Tape retension

   When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 6-3
System Installation and Modification Menu



Please enter the operation number:

6 Using the up or down arrow keys, choose the number (or type the number) for Hardware Modification, then press <Return>.

You have chosen to modify the hardware configuration
Do you wish to continue? Yes (No)

7 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>.

8 You are then asked to enter the keycode. This is a 20-character code (which is not case sensitive) found on your keycode label. Enter the keycode four characters at a time as prompted, pressing <Return> after each four-character entry.

Enter the keycode:

Enter 4 Character Block 1:

Enter 4 Character Block 2:

Enter 4 Character Block 3:

Enter 4 Character Block 4:

Enter 4 Character Block 5:

If you enter the wrong number of characters, the system responds with

Please enter 4 characters

Enter 4 Character Block 1

If you make an error entering the keycode, the system responds with

That Block contains invalid Characters – Please Enter Again

Enter 4 Character Block 1 :

If the above entries are valid, the system displays a listing of the features and hardware parameters as defined by your keycode. Your display may differ according to your platform, features, and hardware installed. (The following example is for an Modular Option GP system.)

This keycode is for a Modular Option GP:

Storage Hours	**: 60**
Meridian Mail Stream	**: 9**
Max Hardware locations	**: 32**
Max Full Service Channels	**: 16**
Multi Media Channels	**: 8**
Storage Nodes	**: 3**
Max Languages	**: 2**

AMIS

Dual Language

SMDI

Outcalling

Voice Forms

Multi Customer

Networking

Voice Menus

Fax on Demand

Is this correct? Yes (No)

9 If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word “No” appears, then press <Return>. If you choose “No”, you will be asked to enter the key code again.

10 If the features to be enabled by the key code entered require additional hardware, you will be advised at this point. Power the system down. Install the appropriate hardware, and start again.

11 After selecting “Yes”, if the system is a shadowed system, the following message is displayed. Otherwise, go to the next step.

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

12 The system displays a listing of the hardware in your configuration. The display for your system may differ:

Node	Card1	Card2	Card3	Card4	Card5	Card6	Card 7	Card8
1	EMPTY	HABC	MMP40	EMPTY	EMPTY	EMPTY	EMPTY	RSM
2	EMPTY	EMPTY	MMP40	EMPTY	GSVP	GSVP	EMPTY	EMPTY
3	EMPTY	EMPTY	MMP40	EMPTY	GSVP	GSVP	EMPTY	EMPTY

If you have more physical ports present than are defined in the keycode, the operation will abort with a message similar to the following depending on your configuration and keycode definition:

Your system has 16 hardware locations
Your keycode only permits 8
Please check your hardware configuration. After correcting
any problems, you may restart this operation by booting from tape

If your keycode information is consistent with your present system configuration, you are then asked to confirm that the hardware configuration is correct:

Is the configuration correct? Yes (No)

Note: If you enter “No,” the system installation procedure aborts. Do the following:

a. Power down the system.

b. Correct the hardware fault.

c. Start the software installation procedure again.

13 Next, the following prompt will appear:

Do you wish to change your CPTD selection? Yes (No)

If you select “No,“ go to Step 15.

Note: If the CPTD is set to France, the retry limits and intervals for remote notification will be affected. For more information, see the chapter entitled “Class of service administration” in the *Customer Administration Guide* for your system.

1 :	**Generic Settings**	**2 : Australia**	**3 : Austria**
4 :	**Belgium**	**5 : Canada**	**6 : Denmark**
7 :	**Finland**	**8 : France**	**9 : Germany**
10 :	**Hong Kong**	**11 : Ireland**	**12 : Italy**
13 :	**Japan**	**14 : Netherlands**	**15 : New Zealand**
16 :	**Norway**	**17 : Portugal**	**18 : Saudi Arabia**
19 :	**Singapore**	**20 : Sweden**	**21 : Switzerland**
22 :	**Taiwan**	**23 : Turkey**	**24 : United Kingdom**
25 :	**United States**		

Please enter the CPTD country index number : 1

14 Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and enter the number), then press <Return>.

15 Next, the existing Link IDs will be displayed. You will see a table similar to the following depending on your configuration:

Link ID	Login	Logout	NRDDcode	AgtPosn	SwitchType
1	***85**	***86**	***88**	**9999**	**DMSCentrex**
3	***85**	***86**	***88**	**9999**	**DMSCentrex**

16 You are next asked to enter information to create or redefine your links.

Please enter the information to create or redefine a Link

17 On Meridian Connections installations, Login code, Logout code, and NRDD code are not used. Change the following entries to blank.

Link ID:	**1**	If more than one SMDI Link, you must enter a unique SMDI Link ID for each link.
Login Code:	***85**	See entry for UCDA in Table IBNXLA in *Translations Guide* [NTP 555-7001-310]). Change to (blank) unless otherwise specified by the System Administrator.

Logout Code:	***86**	See entry for UCDD in Table IBNXLA in *Translations Guide* [NTP 555-7001-310]). Change to (blank) unless otherwise specified by the System Administrator.
NRDD Code:	***88**	Change to (blank) unless otherwise specified by the System Administrator.

Switch Type: **DMS100_Centrex****

** If you need to modify the switch record data after hardware modification, please refer to *System Administration Utilities* (NTP 555-7001-310).

Note: The following switch types are supported for Modular Option GP: DMS100_Centrex, DMS100_POTS, Meridian_1, AT&T_1A_ESS, AT&T_5_ESS and DMS_10. If Meridian Mail Connections software is loaded, then the following additional switch types are also supported: AT&T_PBX, ROLM_PBX and NEC_PBX. (The names of these switches are shown as they appear on the screen.)

ATTENTION

The DSP Telescan Ring parameters must be compatible with the switch type. Therefore, do not change the default parameters unless you are informed to do so by Nortel personnel.
In those cases, the administrator may change the DSP Telescan Ring parameters to match the type of switch.

DSP Telescan Ring: **1024** (ranges 224-1024 in increments of 16) For Australia, use 288. For Meridian Connections, use 400.

Agent Position ID: **9999**

Are you done defining the Links? Yes (No)

18 If you chose “No,” you will repeat the above step and be given the opportunity to create or redefine links, reuse a previously entered Link ID, and create a new unique Link ID. If you now choose “Yes”, a summary table *similar* to the following will appear.

The following example is for a 3-node system. Node 1 is not displayed because there are no voice ports on Node 1 for this size of a system. If you have a 1- or 2-node system, voice ports for Node 1 will display in the following screen. In addition, if you have fewer than 16 hardware

locations (physical ports) on a node, the unused ones will be blank in the summary table which follows.

Node	––––––––––––––––Voice hardware location––––––––––––––––															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	M	––	M	––	M	––	M	––	M	––	M	––	M	––	M	––
3	V	V	V	V	V	V	V	V	Vb	Vb	Vb	Vb	Vb	Vb	Vb	Vb

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

The term hardware location is used here to describe the physical port on the node available to be configured as a Basic Voice, Full Voice, or multimedia port. In the above example, Node 2 has 16 physical hardware locations configured as 8 multimedia ports because multimedia ports take up 2 hardware locations.

Since Node 2 consists entirely of multimedia ports, the table above only displays the odd numbered hardware locations from 1 to 16.

19 Once you get the preceding summary display, select “DetailedDisplay” to get a more complete picture of your port information. First, define the range you want displayed when the following prompts appear:

First Node	**: 2**	(first node in the range you want to select)
First Location	**: 1**	(first hardware location in the range you want to select)
Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 16**	(last hardware location in the range you want to select)

20 You will then see a listing *similar* to the following example depending on your hardware and what has been defined in your keycodes:

Number	DN	Type	UCDDN	Login	Logout	Link ID	Agt Posn
2-1	2801	M	3650	*85	*86	1	9999
2-3	2803	M	3650	*85	*86	1	9999
2-5	2805	M	3650	*85	*86	1	9999
2-7	2807	M	3650	*85	*86	1	9999
2-9	2809	M	3650	*85	*86	1	9999
2-11	2811	M	3650	*85	*86	1	9999
2-13	2813	M	3650	*85	*86	1	9999
2-15	2815	M	3650	*85	*86	1	9999

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

In the above example, the table only displays the even number hardware locations because multimedia ports take up two hardware locations, and these have been assigned across the entire range requested.

Select operation: Change (Summary, DetailedDisplay, Done)

ATTENTION

If the user selects Change or Done and receives an error message, there may be an incorrect assignment of the voice ports to the link.
The error must be corrected before the user can proceed.

The links assigned to the voice ports must be compatible. The Telescan ring parameters associated with the link must be the same for the identified, paired voice ports.

For instance, the installer may receive a message similar to the following:

The links assigned to the following paired voice ports are not compatible with each other because the DSP Telescan Ring setting assigned to each link of the pair(s) is not the same

Voice port 1 & 2 on Node 1

Please assign links with the same DSP Telescan Ring Setting to each of the paired voice ports.

In this case, the Telescan Ring settings associated with the link for the pair of voice ports (node 1, location 1 and node 1, location 2) have been changed — they do not match.

If Voice port 1 has a link associated with a ring of 1024, and voice port 2 has a link associated with a ring of 224, then the user must assign a link with the same telescan ring setting for both voice ports (this could mean both links are associated with the same switch.)

21 If the display is not correct or you wish to change it, select “Change.” You will now be given the opportunity to change the assignment of the ports and other channel information. The following entries will depend on your system configuration as defined by your keycode and the hardware you have installed. In order to complete this section, read the sections entitled “Points to Consider” and “What to do before you Start” at the beginning of this chapter.

Note: When reallocating ports and changing channel information, you can do the following:

a. Select “Change” if you want to change the port definition on a range of hardware locations on or across nodes and to modify default values.

b. Select “Summary” if you want to display the above table based on the range of hardware locations and nodes you will select below.

c. Select “DetailedDisplay” for a detailed display of all hardware locations on a particular node or range of nodes based on the range you will select below.

d. Select “Done” to accept changes and move on to the next step.

Note: Please read the information in this step carefully before going on to Step 22.

Port type	**: Voice_Basic** (Voice_Full, Multimedia)		
First Node	**: 2**	(first node in the range you want to select)	
First Location	**: 9**	(first hardware location in the range you want to select)	
Last Node	**: 2**	(last node in the range you want to select)	
Last Location	**: 12**	(last hardware location in the range you want to select)	
DN:		**2800**	(On DMS installations, may be up to 7 digits. See Service Orders section of *Translations Guide,* [NTP 555-7001-310]. For other PBXs, use a DN appropriate to the dialing plan.)
Link Type:		**SMDI**	
UCDDN:		**3650**	(For DMS Installations, see Table DNROUTE in *Translations Guide,* [NTP 555-7001-310]. For Meridian

		Mail Connections, specify the DN (or pilot DN) of the integration unit.)
Link ID:	**1**	(Enter appropriate Link ID)
Message Desk:	**63**	(For DMS installations, see message desk field in Table UCDGRP in *Translations Guide* [NTP 555-7001-310]. For Meridian Mail Connections, the same desk number should be defined on the integration unit.)
Message Terminal:	**1**	Position of the Agent
Select operation:	**Done**	

Select Operation: Summary

22 Continue the above operations until all ports on all nodes have been assigned. If you select "Summary" the following display will appear showing what you have just defined:

Node	**––––––––––––––––Voice hardware location––––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**Vb**	**Vb**	**Vb**	**Vb**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

Notice, in this example, that ports 9 through 12 have now been defined as Voice Basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full-service voice), you will be prompted to reconfigure them. In this example, there are fewer multimedia ports than the minimum number of multimedia ports defined by the keycode.

You have defined 6 MultiMedia channels
You must define at least 8 channels

23 You will now go back to Step 21 and reconfigure four more full service ports to get two multimedia ports.

24 If you now choose "DetailedDisplay," you are prompted with a range and the following table appears. You can also make changes within the detailed display table.

First Node	**: 2**	(first node in the range you want to select)
First Location	**: 1**	(first hardware location in the range you want to select)
Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 16**	(last hardware location in the range you want to select)

Number	DN	Type	UCDDN	Login	Logout	Link ID	Agt Posn
2-1	**2800**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-3	**2802**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-5	**2804**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-7	**2806**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-9	**2808**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-10	**2809**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-11	**2810**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-12	**2811**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-13	**2812**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-15	**2814**	**M**	**3650**	***85**	***86**	**1**	**9999**

Select operation: Done (Summary, DetailedDisplay, Change)

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

In the above example, part of the range selected consists of multimedia ports. In this case, the table only displays the odd-numbered hardware locations from 1 to 8 and 13 to 16 because multimedia ports take up two hardware locations.

25 Select “Done” if you are finished configuring the voice ports. If the information you have entered above is consistent with the configuration defined by your keycode, you are then presented with a list of current dataport assignments and given an opportunity to change them.

26 You will now be asked if you want to change DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 9. The defaults (in bold print) are those common to North America. Regardless of where the system is installed, the DSP encoding type for the Modular Option GP Platform should be **MuLaw**. If **ALaw** is selected, voice quality will be uneven and the system will have to be reinstalled.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

Disable Silence Compression: No (Yes)

Do you wish to change other DSP parameters? Yes (No)

The following parameters are not changed in most installations and, as a result, are only displayed if you select "Yes" above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

***DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO (Yes)

***AGC Center: –20** (–20 to –10 dBm)

Telescan Debounce: (128) (96, 112, 128, . . . 512)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024)

For Meridian Connections, use 480 for Hook Flash Pulse on ROLM PBXs.

**** Note 1:*** The foregoing parameters cannot be modified. They are reserved for future enhancements, and the values in bold are applied.

Note 2: If Fax on Demand is included in your configuration, the following prompt will appear. Otherwise, the final prompt of this step will appear.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", the defaults of the following DSP parameters will appear. They may be changed using arrow keys.

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None
Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

27 The next system action is to assign the dataports. Review Table 1-2 in Chapter 1, "Overview: Read me first," for the dataport requirements associated with particular features before proceeding.

You are then presented with a list of current dataport assignments and given an opportunity to change them:

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**MMP40**	CONSOLE	SMDI		
1	**8**	**RSM**	PRT0181	PRT0182	MOD0183	MOD0184

Please assign dataport locations

Select operation : Display (Done, Change, Reset, Redraw)

The following dataports are on this system:

Node 1, Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1, Type MMP40, Port 2: Dataport Name = SMDI
Node 1, Type RSM, Port 1: Dataport Name = PRT0181
Node 1, Type RSM, Port 2: Dataport Name = PRT0182
Node 1, Type RSM, Port 3: Dataport Name = MOD0183
Node 1, Type RSM, Port 4: Dataport Name = MOD0184

"Reset" allows you to go back to the original dataport settings before a Change procedure was initiated.

Note: Some dataports cannot be changed and will not be displayed when selecting "Change."

28 If you select "Done," continue with Step 29. If you need to change the dataport assignments from those displayed, press the up or down arrow key until "Change" is displayed on the screen, then press <Return>. For dataport restrictions, see page 1-19.

If a feature has been enabled which requires a port but none have been assigned, you will be informed of the problem when you select "Done." For example, if you have ACCESS but have not assigned any ACCESS ports, you will be told that there must be an ACCESS port on Node 1. The following message will appear telling you to assign a dataport:

Your system has ___but no ports have been configured as ____

Would you like to go back and configure one? Yes (No)

29 Next, you are asked to set the SMDI baud rates and link IDs:

Set SMDI baud rates
Node 1 Card 3 Port 2
Enter the baud rate for this SMDI port: 2400 1200 ******

Enter the Link ID : 1 (up to eight alpha-numeric characters — these must match the switch ID)

***DMS installations: for HS1X89 card, use 2400 baud. For 1X67FA card, use 1200 baud.*
***Meridian Mail Connections installations: use either 1200 or 2400 baud. Make sure that the same baud rate is used in the integration unit.*

Do you wish to re-enter the Baud rates or Link IDs? No (Yes)

30 Select “No” by using the up/down arrow keys followed by <Return> if the information is correct.

31 This is the final operation when performing a hardware modification. The final messages are

The operation successfully completed.
Remove the tape when it finishes rewinding and boot into full service.
#TAPE:MMTAPE1>

32 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

33 For systems with Disk Shadowing, go to the the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen, and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide* (NTP 555-7001-301) for more information.

Chapter 7: Storage expansion

What is storage expansion?

Storage expansion increases the number of hours of storage available on the hard disk. By expanding the storage hours, it is possible to add more features, languages, and other services.

> ***Note:*** Card Option has only one node and one disk. Ignore references to disk to disk backup, disk Syncing, and multiple nodes. For more information on the Card Option platform, see the *Card Option Installation and Maintenance Guide* (NTP 555-7071-210).

Points to consider

- A storage expansion requires a keycode.
- You will need to know the number of nodes and size of the disk that you are *currently* using,
- Based on the number of storage hours you are planning to expand to, you need to know the appropriate number of nodes necessary for your desired storage capacity and the disk capacity that supports the hours of storage you wish to expand to. Table 7-1 gives you an indication of the storage capacities and disk sizes available. Refer to Tables 1-4 to 1-7 in Chapter 1, “Overview: Read me first” for platform-specific storage capacities and disk sizes as well. If you find that your hardware configuration is less than your storage needs, you will have to perform a Hardware modification before performing a storage expansion.
- If you are adding nodes, run hardware modification. This will automatically give you more storage capacity. However, once your nodes have been added, you then can perform a storage expansion provided you have the appropriate disk and the hours defined in your keycode.

- Storage expansion is used to increase the storage hours on an existing disk or to increase storage hours by replacing an existing disk with a larger disk. When an existing disk is replaced with a larger disk, the system must be fully backed up, the disk replaced, and the system restored before running storage expansion.
- Storage expansion does not allow you to expand the number of channels. It only increases the storage capacity. Hardware modification, however, allows you to do both.
- The keycode necessary for this operation will be rejected if it defines a storage volume smaller than that already enabled, or if the system serial number defined in the keycode does not match the one entered in the procedure.

Storage expansion options

The following is a generic table giving storage expansion options. For platform-specific information, refer to Tables 1-4 to 1-7 in Chapter 1 entitled "Overview: Read me first."

Table 7-1
Available storage hours

Number of nodes	1.0-Gbyte Disk					
	600-Mbyte Disk					
	300-Mbyte Disk					
1	5	11	24	36	54	100
2	26	26	54	84	114	200
3	30	30	60	90	120	200
4	45	45	90	120	180	300
5	60	60	120	180	240	400

During a hardware modify, you will in effect be adding storage hours by adding nodes. However, in order to obtain the number of storage hours you require, you may have to perform a storage expansion after the hardware modification procedure. For the hardware modification, you would read Table 7-1 down the column from your present node number and storage hours to the total number of nodes you will have.

For example, if you want to go from a 24-hour one-node system to a 5-node system, the hardware modify procedure would take you to 120 hours of storage even if your keycode has defined 400 hours as the amount you want. Using the same keycode, perform a storage expansion to expand the available storage to the 400 hours defined in the keycode. For the above example, you will also have needed to install a 1.0-Gbyte disk during hardware modification. (Refer to Table 1-4 to Table 1-7 in Chapter 1, "Overview: Read me first," for platform-specific storage capacities).

The following is another example that will help to illustrate a storage expansion. If you have a 2-node system with 26 hours of storage on a 300-Mbyte disk, you can expand your storage hours to a maximum of 54 hours without the need for a hardware modification. This is because 54 hours of storage can still be supported on a 300-Mbyte disk.

However, if you have a 2-node system with 26 hours of storage and want to go to 84 hours, you will need to install a 600-Mbyte (or a 1.0-Gbyte) disk drive first, then do a hardware modification, and then perform the storage expansion. If you try to perform a storage expansion to 84 hours immediately, the procedure will fail because you cannot put 84 hours of storage onto a 300-Mbyte disk.

> ***Note:*** When an existing disk is replaced with a larger disk, the system must be fully backed up, the disk replaced, and the system restored before running Storage expansion.

Multi-node systems

On multi-node systems, Node 1 must have at least a 300-Mbyte disk drive (see Table 7-1). Nodes 2 through 5 must have a minimum of 300 Mbytes for 24, 54, 60, 90, or 120 hours of storage. On Modular Option EC–MMP40 systems, a 1.0-Gbyte disk drive is required on all but Node 1. On a 2-node system, both drives must be 600-Mbyte for 114 hours. For 200 hours, both must be 1.0 Gbyte.

What to do before you start

1 Make sure you have read and understood Chapter 1. "Overview: Read me first."

2 Check to make sure the number of nodes and disk capacity you currently have will support the storage hours you are planning to expand to. To do this, log on to the tools level and go to the "Display system record" screen. (For more information on how to do this see the *System Administration Tools Guide* [NTP 555-7001-305].) If you cannot support the number of storage hours, install the necessary hardware first, then perform a hardware modification.

3 Prior to running the expansion program, ensure that the system has been upgraded to the latest version of MM10 software. See Chapter 3, "Upgrade," for more information.

4 Perform a full backup of the database (partial backup is acceptable but a full backup is recommended).

5 If you are installing new disks, the system must be fully backed up before disk installation and fully restored from backup after disk installation. (For more information about the Restore procedure, see Chapter 12, "Restore system from backup.")

6 Disable disk to disk backup.

7 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

8 Enable SEER printing. Go to the general options screen under general administration in order to do this.

9 Enable your terminal's auto-print mode in order to capture everything that appears on your screen. (See the instructions for your terminal.)

10 Obtain the Meridian Mail Release 9.6 Install/data tape.

11 Obtain a keycode.

Performing storage expansion

Procedure 7-1
Storage expansion

1 Ensure that the correct disks have been installed prior to expanding storage space. For more information on disk installation, see the specific *Installation and Maintenance Guide* (NTP 555-70x1-250) for your platform. For Options systems, refer to the *Installation Guide* (NTP 555-7011-210). For Card Option, refer to the *Installation and Maintenance Guide* (NTP 555-7071-210).

2 From the “System status and maintenance” menu, go to the “System status” screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the *System Administration Guide* (NTP 555-7001-30x) for your system.

3 Power down the system.

4 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

5 Power up the system.

For more information on power up/down procedures, refer to the specific Installation and Maintenance Guide *(NTP 555-70x1-250)* for your platform*. For Options systems, refer to the* Installation Guide *(NTP 555-7011-210). For Card Option the* Installation and Maintenance Guide*, (NTP 555-7071-210).*

The system automatically runs a series of diagnostic routines. followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 7-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

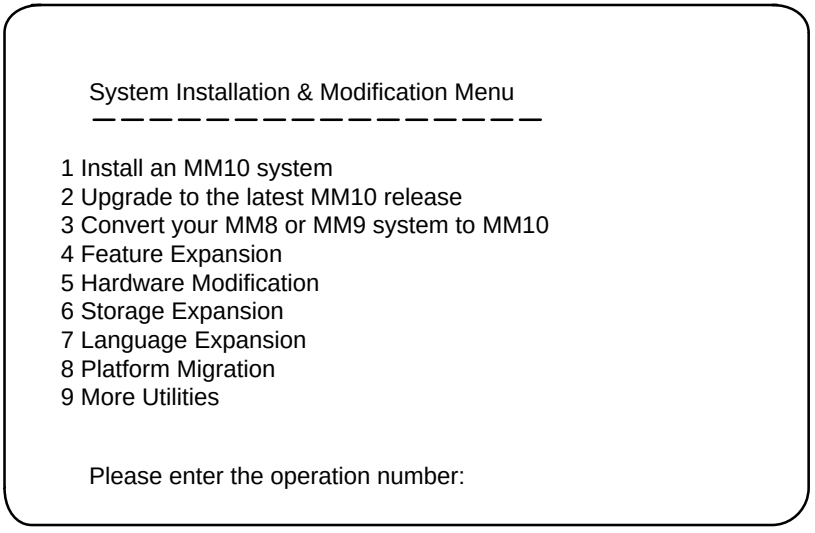
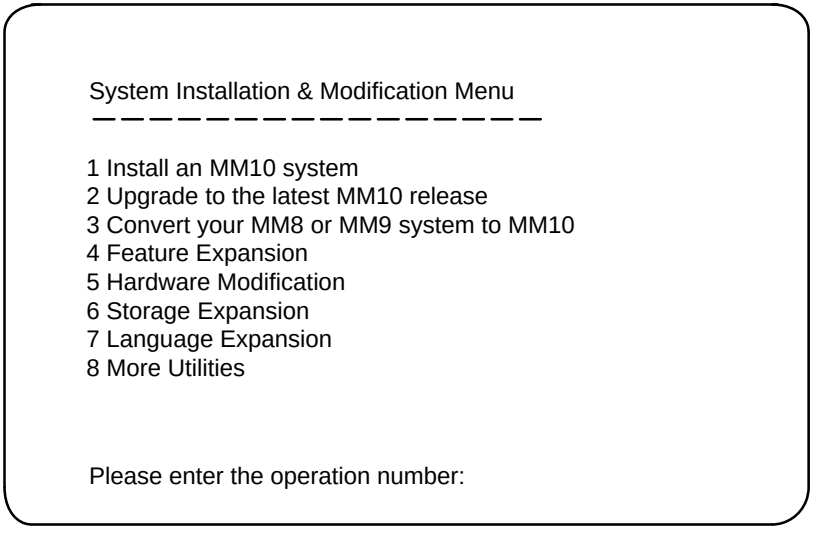


Figure 7-2
System Installation and Modification Menu (Card Option only)



Please enter the operation number:

6 Press the up or down arrow key until the number for Storage Expansion is displayed on the screen (or type the number), then press <Return>.

You have chosen to expand storage hours.
Do you wish to continue? Yes (No)

7 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>.

8 The system then responds with

Reading hardware database

You cannot decrease the storage space or change the system features or hardware during this operation. If the new keycode has a different set of features or number of languages, both the feature expansion and language expansion utilities must be run later to perform those system operations. If fewer hours are defined in your keycode, you will be forced to enter a new keycode.

Please enter the keycode:
Enter the keycode:

9 You are then asked to enter the keycode. This is a 20-character code (which is not case-sensitive) that allows you to alter your system configuration. Enter the keycode four characters at a time as prompted, pressing <Return> after each four-character entry.

Enter the keycode:

Enter 4 character Block 1 :

Enter 4 character Block 2 :

Enter 4 character Block 3 :

Enter 4 character Block 4 :

Enter 4 character Block 5 :

If you enter the wrong number of characters, the system responds with

Please enter 4 characters

Enter 4 Character Block 1

If you make an error entering the keycode the system responds with

That Block contains invalid Characters – Please Enter Again

Note: The numbers and line entries in the following example will differ based on the features actually enabled by the keycode.

10 If the above entries are valid, the system displays a listing of the features and hardware parameters defined by your keycode. Your display may differ based on your platform, features, and hardware installed. (The following example is for a Modular Option EC–MMP40 system.)

This keycode is for an EC–MMP40 system:

Storage Hours	**: 54**
Meridian Mail Stream	**: 9**
Max Hardware locations	**: 32**
Max Full Service Channels	**: 16**
Multi Media Channels	**: 8**
Storage Nodes	**: 2**
Max Languages	**: 2**

AMIS

Dual Language

Outcalling

Voice Forms

Multi Customer

Networking

Voice Menus

Fax on Demand

Is this correct? Yes (No)

11 If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word “No” appears, then press <Return>. If you choose “No”, you will be asked to enter the keycode again.

If the features to be enabled by the keycode require additional hardware, you will be advised at this point. Refer to the appropriate chapters in this document for more information. Also, refer to the section entitled “Sequence of events” in Chapter 1.

12 This is the final operation when performing a storage expansion. The final messages are

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI

after the operation has completed and the system has passed sanity test.

Note: This message will be displayed on shadowed systems only.

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into full service.
#TAPE:MMTAPE1>

13 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Rebooting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

14 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide*, NTP (555-7001-30x) for more information.

Chapter 8: Language expansion

What is language expansion?

Language expansion allows you to add additional languages to your Meridian Mail system. A maximum of four languages can be installed on a Meridian Mail system at one time as long as the memory and storage capacity can support them (see "Points to consider," noted below). Dual language prompting is an enhancement to the language services allowing a user to hear prompts in two different languages. Dual language prompting is a feature and is, therefore, part of the feature expansion procedure and not language expansion.

> ***Note:*** Card Option has only one node and one disk. Ignore references to Disk to Disk backup, Disk Syncing, and multiple nodes. For more information on the Card Option platform, see the *Card Option Installation and Maintenance Guide* (NTP 555-7071-210).

Points to consider

- A language expansion requires a keycode. The keycode defines the maximum number of languages that you may install on your Meridian Mail system. Even though you may have purchased a number of languages, you do not need to install all of them at this time if you do not currently require them.
- Storage hours and features cannot be changed during language expansion. This means that if you want dual language prompting, you will have to perform a feature expansion, and if you need more storage hours to support the additional languages, you will have to perform a storage expansion and/or a hardware modification.

- Adding languages to a system will affect storage capacity. You will, therefore, need to make sure you have enough storage capacity to support the languages that you are about to install. Refer to Table 8-1 while keeping the following points in mind:
  - — For 1- and 2-node systems, the voice storage lost per additional language is three hours.
  - — For 3–5 node systems, the voice storage lost for a third and fourth language is three hours total.
  - — A system with five hours of storage can have no more than two languages.
  - — A system with 11 or more hours of storage can support the maximum of 4 languages.
- If dual-language prompting is going to be added (feature expansion), the system must already be equipped with two or more languages. If not, a language expansion will need to be performed first.
- The keycode necessary for this operation will be rejected if it defines fewer languages than that already enabled, or if the system serial number defined in the keycode does not match the one entered in the procedure.
- If your Install/data tape does not contain all of the languages you require for your system, you will be prompted to insert another tape. Ensure that you have this tape available before starting this procedure.
- When considering additional languages and their impact on available storage hours, the rule is that the prompts for each additional language decrease the available storage time by three hours. The storage time for the prompts for one language are already included in the following table:

CAUTION
Correct release number
When a second tape is required, be sure that the second tape is the same release of MM10. Using a tape from a different release will result in incorrect prompts.

Table 8-1
Available storage hours

Number of nodes	1.0-Gbyte Disk					
	600-Mbyte Disk					
	300-Mbyte Disk					
1	5	11	24	36	54	100
2	26	26	54	84	114	200
3	30	30	60	90	120	200
4	45	45	90	120	180	300
5	60	60	120	180	240	400

Note: This is a generic table. For platform-specific information, refer to tables 1-4 to 1-7 in Chapter 1.

What to do before you start

1. Make sure you have read and understood Chapter 1, “Overview: Read me first”.
2. Check to make sure the storage capacity you have will support the number of languages you are planning to add. To do this, log on to the tools level and go to the “Display System Record” screen. (For more information on how to do this, see the *System Administration Tools Guide* [NTP 555-7001-305].) You may have to perform a storage expansion and/or a hardware modification before you proceed with the language expansion .
3. Perform a full system backup (a partial backup is acceptable, but a full backup is recommended).
4. Disable disk to disk backup.
5. Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)
6. Enable SEER printing. Go to the general options screen under general administration in order to do this.
7. Enable your terminal’s auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen.

8 Obtain the Meridian Mail Release 10.0 Install/data tape, with the appropriate languages on it.

9 Obtain a keycode.

Performing a language expansion

Procedure 8-1
Language expansion

1 From the “System Status and Maintenance” menu, go to the “System Status” screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the *System Administration Guide* (NTP 555-7001-30x) for your system.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

4 Power up the system. *Be sure to wait 10 seconds after power down.*

For more information on power up/down procedures, refer to the Installation and Maintenance Guide *NTP (555-70x1-250). For Options systems, refer to the* Installation Guide *(NTP 555-7011-210). For Card Option, refer to the* Installation and Maintenance Guide *(NTP 555-7071-210).*

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 8-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

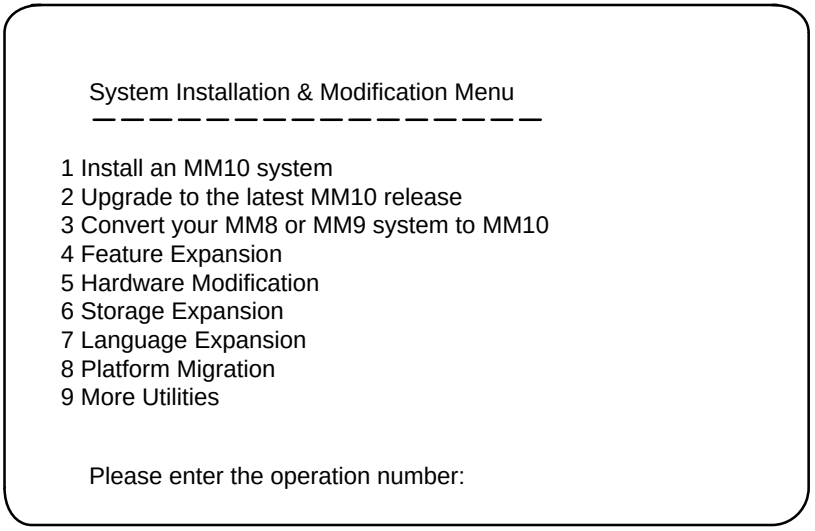
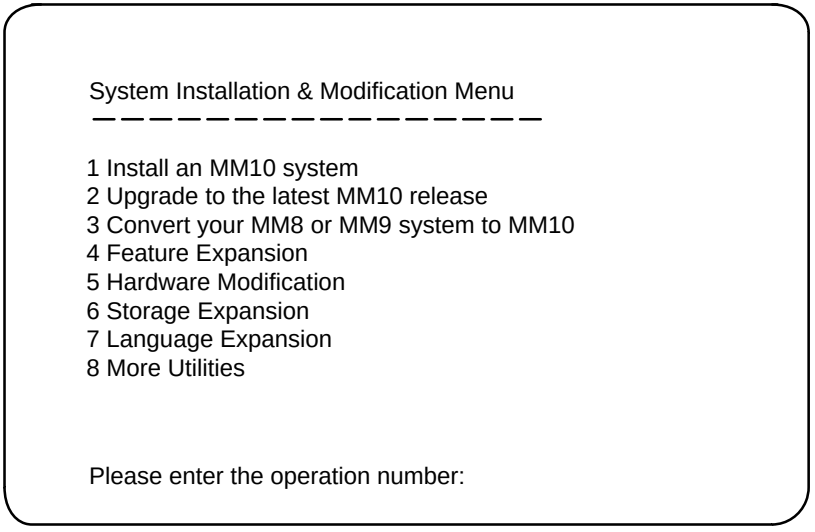


Figure 8-2
System Installation and Modification Menu (Card Option only)



Please enter the operation number:

5 Using the up or down arrow keys, choose the number (or type the number) for Language Expansion, then press <Return>.

You have chosen to add one or more languages to the system. Do you wish to continue? No (Yes)

6 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>.

Note: At this point, there is a pause before the system will prompt you to answer yes or no. Do not do anything during the pause. If you press <Return>, the system will think that you are responding with the default answer “No”.

Do you wish to increase the number of allowed languages? No (Yes)

7 If you select “Yes”, you are asked to enter a keycode. This is to increase the maximum number of languages allowed and to select the languages to be installed. If you select “No”, you simply select the languages desired and continue at Step 11. However, a language which has already been installed cannot be removed and replaced by another language.

Note: During language expansion, you cannot change the number of hours or the hardware, nor can features be dropped. In order to perform the feature expansion or storage expansion system operation, you must run these utilities separately.

Please Enter the keycode:

8 You are then asked to enter the keycode. This is a 20-character code (which is not case sensitive) that allows you to alter your system configuration. Enter the keycode four characters at a time as prompted, pressing <Return> after each four-character entry.

Enter 4 character Block 1 :

Enter 4 character Block 2 :

Enter 4 character Block 3 :

Enter 4 character Block 4 :

Enter 4 character Block 5 :

If you enter the wrong number of characters, the system responds with

Please enter 4 characters.
Enter first block of 4 characters: 1

If you enter the wrong number of characters, the system responds with

Please enter 4 characters

Enter 4 Character Block 1

If you make an error entering the keycode, the system responds with

That Block contains invalid Characters – Please Enter Again

9 If the above entries are valid, the system displays a listing of the features and hardware parameters defined by your keycode. Your display may differ according to your platform, features, and hardware installed. (The following example is for a Modular Option EC system).

This keycode is for a EC system:

Storage Hours	**: 60**
Meridian Mail Stream	**: 9**
Max Hardware locations	**:32**
Max Full Service Channels	**:16**
Min Multi Media Channels	**:8**
Storage Nodes	**:3**
Max Languages	**: 2**
AMIS	
Dual Language	
Outcalling	
Voice Forms	
Multi Customer	
Networking	
Voice Menus	
Voice Messaging	
Fax on Demand	

Is this correct? Yes (No)

10 If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word “No” appears, then press <Return>. If you choose “No”, you will be asked to enter the keycode again.

11 The system then displays the language(s) currently installed on the system as well as the various languages available on the Install/data tape. The display will be *similar* to the following:

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

Note: This message will be displayed on shadowed systems only.

The following languages are already installed on the system:
American English

You may include 1 more language(s).

Note: If more than one language may be added, the user should select the languages they want in the order that they appear on the screen (for example, select 1, 2, 5).If the languages selected are not in the correct order, the installation will take much longer to complete.

Languages Available from this tape are:

1 – American English
2 – Canadian French
3 – Latin American Spanish
4: Brazilian Portuguese
5 German
6: Japanese
7: From Another Tape

Enter the number of the language you require (0 = done): 2

12 Enter the number associated with the language that you want installed on the system and press <Return> The system responds with a message similar to the following:

You have chosen Canadian French
Is this correct? Yes (No)

If your selection is not correct, choose "No" at the prompt and you are given the opportunity to select the correct language. You can then enter the correct number by pressing the up/down arrow keys until the correct number is shown, then press <Return>. Go to Step 11.

13 You cannot force the system to reinstall an existing language. If the language you wish to install is not on the currently available tape, then select "From Another Tape." The system will prompt you to insert a new tape after you have selected "Done" and all of the selected languages have been copied from the current tape. You will be prompted later for the languages to install from the new tape. Go back to Step 11 after inserting the new language tape.

14 After the selected language is installed, the screen in Step 11 is displayed again so that you can add another language if necessary. When you have finished adding all your languages, enter “0” at the prompt.

Unless you have chosen “From Another Tape”, the language expansion procedure proceeds without further intervention until the following message appears:

The number of languages on this system is now n
(where n is the number of languages on your system)
Please reboot the system into full service.
#TAPE:MMTAPE1>

15 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. This will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall the system, you will have access to the tape.

16 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen, and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide* (NTP 555-7001-301) for more information.

Chapter 9: Platform migration

What is platform migration?

Platform migration occurs when a Modular Option is changed to a Modular Option EC-MMP40 under the same release of software (for example, MM10). This is different from Conversion which would occur when an MM9 Modular Option EC 68K is changed to MM10 Modular Option EC-MMP40.

A platform migration reconfigures the Meridian Mail system so that it can operate on a new hardware platform. For example, if you were changing from Modular Option to Modular Option EC–MMP40, you would need to perform a platform migration so that the Meridian Mail system could operate using the new hardware. Not all systems are capable of migrating to new platforms (see Table 9-1 below).

The platform migration system operation allows you to change your system so that it functions correctly on a new hardware platform.

> ***Note:*** Platform migration is not available to existing Card Option systems. To change platforms, a new system must be installed and the users redefined.

Table 9-1
Supported platform migration paths

Starting platform (MM10)	Ending platform (10)	Details
Modular Option	Modular Option EC–MMP40	Backup Modular Option, restore on Modular Option EC–MMP40 Run “Platform Migration”
— continued —		

Starting platform (MM10)	Ending platform (10)	Details
Options	Modular Option EC–MMP40	Backup Options, restore on Modular Option EC–MMP40 Run “Platform Migration”
Options	Modular Option	Backup Options, restore on Modular Option Run “Platform Migration”
— end —		

Note 1: The Card Option, Modular Option GP, and MSM platforms cannot be migrated to other platforms.

Note 2: In MM10 platform migration, the final platforms all use the MMP40 card.

Points to consider

- A platform migration requires a new keycode.
- A platform migration actually involves more than one procedure. In most cases, you will perform a “Restore from backup” along with a platform migration and, in some cases, you may also have to do a hardware modification in order to get to the desired configuration. See Table 9-1 for a summary of the procedures needed.
- The platform migration procedure described in this chapter only applies to the starting and ending platforms in Table 9-1. If the current system is running MM8 or MM9, use the Conversion procedure in Chapter 4.
- If you are expanding the size of your system as well as changing to a different platform (for example, from a one-node Options to a three-node Modular Option EC–MMP40), you will need to perform two procedures:
  - — First, when the new hardware is in place, you will need to perform a “Restore from backup” to move the software onto the new hardware.

    Note: Before performing the “Restore from backup” procedure, power down the additional nodes. The restore requires the system to have the same number of nodes as that on the original system.

— Second, you will need to perform a “Platform migration” in order to reconfigure the software to operate on the new platform and to add the new nodes.

Note: In this software release, hardware modification is not required as a separate step in order to add nodes.

- For the migration of mailboxes and applications to succeed during a platform migration, the target platform must have at least as many nodes, and the same size or larger disks, as the original system. In addition, when the migration is complete, the target platform will have the identical serial number, storage hours, optional features, and languages as the original system.

What to do before you start

1. Make sure you have read and understood Chapter 1, “Overview: Read me first.”
2. Using Table 9-1, make sure you are able to perform a platform migration.
3. Perform a full backup of the database on your original system (a partial backup is acceptable, but a full backup is recommended).
4. Disable disk to disk backup on the new system.
5. Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)
6. Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.
7. Enable your terminal’s auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen.
8. Using your Meridian Mail Release 10.0 Install/data tape and the backup tape, perform the “restore from backup” operation on the new system.
9. If you are increasing the size of your new system, obtain a keycode which will enable you to perform a “Hardware Modification.” Then perform the hardware modification. (For specific instructions, refer to Chapter 6.)
10. You are now ready to perform the platform migration.

Performing the common platform migration procedure

Procedure 9-1
Common platform migration

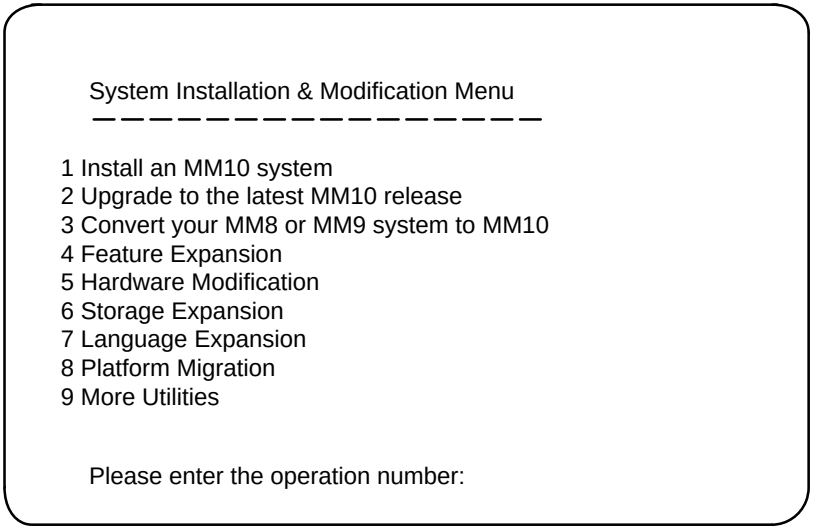
1. From the “System status and maintenance” menu, go to the “System status” screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the System Administration guide (NTP 555-7001-30x) for your system.
2. Power down the system. For more information on power up procedures refer to the *Installation and Maintenance Guide* (NTP 555-70x1-250). For Options systems, refer to the *Installation Guide,* NTP [555-7011-210]).
3. Install the new hardware.
4. Power up the system.
5. Restore backup tapes to the new system. (For more information about the restore procedure, see Chapter 12, *“Restore System from Backup.”*)
6. Power down the system.
7. Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.
8. Power up the system.

   The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

   Tape Retension

   When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 9-1
System Installation and Modification Menu



Please enter the operation number:

9 Using the up or down arrow keys, choose the number (or type the number) for the operation that you require, then press <Return>.

You have chosen to migrate to new hardware platform
Do you wish to continue? Yes (No)

10 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>. The system will respond with

The system will be migrated to (new platform type will be displayed)
Do you wish to continue: Yes (No)

11 If you select “Yes”, you are then asked to enter the keycode. This is a 20-character code that allows you to alter your system configuration. Enter the keycode four characters at a time as prompted, exactly as it appears on the keycode label, pressing <Return> after each four-character entry.

Enter the keycode:

Enter 4 Character Block 1:

Enter 4 Character Block 2:

Enter 4 Character Block 3:

Enter 4 Character Block 4:

Enter 4 Character Block 5:

If you enter the wrong number of characters, the system responds with:

Please enter 4 characters

Enter 4 Character Block 1:

If you make an error entering the keycode, the system responds with:

That Block contains invalid Characters – Please Enter Again

Enter 4 Character Block 1 :

If the preceding entries are valid, the system displays a listing of the features and hardware parameters defined by your keycode. Your display may differ based on your platform, features, and hardware installed. (The following example is for a Modular Option EC-MMP40 system.)

This keycode is for an EC-MMP40 system:

Storage Hours	**: 60**
Meridian Mail Stream	**: 9**
Max Hardware locations	**: 32**
Max Full Service Channels	**: 16**
Multi Media Channels	**: 8**
Storage Nodes	**: 3**
Max Languages	**: 2**
AMIS	
Dual Language	
Outcalling	
Voice Forms	
Multi Customer	
Networking	
Voice Menus	
Fax on Demand	

Is this correct? Yes

12 If the information presented is correct, press <Return>. If this information is not correct, press the up or down arrow key until the word “No” appears, then press <Return>. If you choose “No”, you will be asked to enter the keycode again.

13 If the features to be enabled by the keycode require additional hardware, you will be advised at this point. Refer to the appropriate chapters in this document for more information. Also, refer to the section entitled “Sequence of Events” in Chapter 1.

The system responds by showing you the current configuration as in the following examples. The first is for the Modular Option EC–MMP40 platform and the second is for the Modular Option platforms. The column on the left side of your screen represents the node number. (Your display may differ according to the platform and equipment actually installed.)

14 If the system is a shadowed system, the following message will appear:

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

Example of Modular Option EC–MMP40 configuration display

The example shown below is for a three-node Modular Option EC–MMP40 platform. Your display may differ.

Node	Card 1	Card 2	Card 3	Card 4	Card 5	Card 6	Card 7	Card 8
1	Empty	Empty	Empty	Empty	Empty	UTIL	MMP40	Empty
2	MMP40	NVP8	NVP8	Empty	Empty	Empty	Empty	Empty
3	NVP8	NVP8	Empty	Empty	MMP40	Empty	Empty	Empty

Example of Modular Option configuration display

The example shown below is for a one-node Modular Option platform. Your display may differ.

Node	Card 1	Card 2	Card 3	Card 4	Card 5	Card 6	Card 7	Card 8
1	EMPTY	EMPTY	MMP40	EMPTY	NVP32	EMPTY	EMPTY	RSM

If you have more physical ports present than are defined in the keycode, the operation will abort with a message similar to the following depending on your configuration and keycode definition:

Your system has 32 hardware locations
Your keycode only permits 24
Please check your hardware configuration. After correcting any problems, you may restart this operation by booting from tape

15 If your keycode information is consistent with your present system configuration, you are then asked to confirm that the hardware configuration is correct:

Is the configuration correct?
Enter: Yes (No)

Note 1: If you enter "No", the platform migration procedure aborts. Do the following:

a. Power down the system.

b. Correct the hardware fault.

c. Start the platform migration procedure again.

Note 2: The preceding steps (1 through 15) dealt with information that is common to all platforms. For your specific platform (Modular Option EC–MMP40, Modular Option platforms, and Modular Option GP platforms), refer to the following sections of this chapter.

Performing a Modular Option or Modular Option EC–MMP40 platform migration

Procedure 9-2 deals with information that is specific to the Modular Option or Modular Option EC–MMP40 platform migration only. For Modular Option GP see the "Performing a Modular Option GP platform migration" section. Be sure to perform the common platform migration procedure first.

Procedure 9-2
Modular Option or Modular Option EC–MMP40 platform migration

1 After completing Step 15 of Procedure 9-1, continue from here for Modular Option EC–MMP40 systems. For Modular Option platform migrations, go to Step 2.

2 The next step is to select the Call Progress Tone Detection (CPTD) country index number. If the country you require is not displayed, select "Generic Settings."

If Call Progress Tone Detection (CPTD) is set to France, the retry limits and intervals for Remote Notification and Outcalling will be affected. For more information, see the chapter entitled "Class of service administration" in the Administration Guide for your system, (NTP 555-7001-30x).

1 : Generic Settings	**2 : Australia**	**3 : Austria**
4 : Belgium	**5 : Canada**	**6 : Denmark**
7 : Finland	**8 : France**	**9 : Germany**
10 : Hong Kong	**11 : Ireland**	**12 : Italy**
13 : Japan	**14 : Netherlands**	**15 : New Zealand**
16 : Norway	**17 : Portugal**	**18 : Saudi Arabia**
19 : Singapore	**20 : Sweden**	**21 : Switzerland**
22 : Taiwan	**23 : Turkey**	**24 : United Kingdom**
25 : United States		

Please enter the CPTD country index number : 1

3 Press the up or down arrow key until the desired number is displayed on the screen (or press backspace and enter the number), then press <Return>.

4 Next, enter the DSP parameters. Enter the desired value for each item, pressing <Return> after each entry. The defaults (in bold print) are those common to North America. Pressing <Return> after each entry will cause the default setting to be kept.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

If the above DSP encoding parameter is set incorrectly, corrupted voice quality may result.

Disable Silence Compression: No (Yes)

5 You will now be asked if you want to change DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 15.

Do you wish to change other DSP parameters? No (Yes)

The following parameters are not changed in most installations and, as a result, are only displayed if you select "Yes" above.

Transmit Level: 0 (–10 to +10dBm)

Receive Level: 0 (–10 to +10dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

*** DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO Yes

***AGC Center: –20** (–20 to –10 dBm)

Telescan Ring time: 1024 (224-1024 in increments of 16). For Australia, use 288.

Telescan Debounce: (128) (96, 112, 128, . . . 512 in increments of 16)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024 in increments of 16)

**** Note 1:*** The above marked parameters cannot be modified. They are reserved for future enhancements.

Note 2: If Fax on Demand is included in your configuration, the following prompt will appear. Otherwise, the final prompt of this step will appear.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", you will be prompted to reenter DSP parameters, as listed below:

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None
Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

6 Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

7 If you select “No,” you are presented with a summary of channel information and asked to define voice channels. The following entries will depend on your system configuration as defined by your keycode and the hardware you have installed. In order to complete this section, read the sections entitled “Points to consider” and “What to do before you start” at the beginning of this chapter.

Note: Please read the information in this step carefully before going on to Step 16.

The following example is for a 3-node system. Node 1 is not displayed because there are no voice ports on Node 1 for this size of a system. If you have a 1- or 2-node system, voice ports for Node 1 WILL display in the following screen. In addition, if you have fewer than 16 hardware locations (physical ports) on a node, the unused ones will be blank in the summary table below:

Node	**––––––––––––––––Voice Hardware location––––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

In the preceding example, eight multimedia ports have been automatically assigned according to the minimum number defined in the keycode. The software will assign the port type and port capability to the hardware locations according to the following hierarchy:

- *First, Full Service multimedia ports will be assigned to the first set of hardware locations.*
- *Second, Full Service Voice ports will be assigned.*
- *Third, the Basic Service Voice ports will be assigned to the remaining hardware locations.*

The term hardware location is used here to describe the physical port on the node available to be configured as a basic service voice, full service voice or multimedia port. In the above example, Node 2 has 16 physical hardware locations configured as eight multimedia ports because multimedia ports take up two hardware locations.

Since Node 2 consists entirely of multimedia ports, the table above only displays the odd-numbered hardware locations from 1 to 16.

8 You will now be given the opportunity to reallocate your ports for each hardware location on each node. You may select a range of nodes and a range of hardware locations to view or make changes on.

Note: When reallocating ports, you can do the following:

a. Select “Change” if you want to change the port definition on a range of hardware locations on or across nodes, and to modify default values to the Meridian 1 agent configuration.

b. Select “Summary” if you want to display the preceding table based on the range of hardware locations and nodes you will select below.

c. Select “DetailedDisplay” for a detailed display of all hardware locations on a particular node or range of nodes based on the range you will select below.

Select operation: Change (Summary, DetailedDisplay, Done)

9 Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>.

Port type	**: Voice_Basic** (Voice_Full, multimedia)	
First Node	**: 2**	(First node in the range you want to select)
First Location	**: 9**	(First hardware location in the range you want to select)
Last Node	**: 2**	(Last node in the range you want to select)
Last Location	**: 12**	(Last hardware location in the range you want to select)
ACDDN	**: 3651**	(Meridian Mail ACDDN)
SECDN	**: 2800**	(Key 1 assignment of Meridian Mail agents)
Port Density	**: Double** (Only double density is supported by EC.)	
Loop Number	**: 12**	
Shelf Number	**: 0**	(0 or 1 only for EC)
Card Number	**: 2**	(EC requires card slot assignments of 2 and 3 only.)
Unit Number	**: 0**	
Switch Type	**: SL1**	

Select Operation: Summary (Change, DetailedDisplay, Done)

Note: You cannot modify shelf, card, or unit in the tools level utility. You can only modify the loop number.

10 Continue the above operations by selecting “Change” until all the ports on all nodes have been assigned. If you select “Summary,” the following display will appear showing you what you have just defined:

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

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multi-Media, V = Voice Full Service, Vb = Voice Basic)

Notice that ports 9 through 12 have now been defined as Voice_basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full-service voice), you will be prompted to reconfigure them. In this example, the multimedia ports are less than the minimum number of multimedia ports defined by the keycode.

You have defined 6 multimedia channels
You must define at least 8 channels

11 You will now go back to Step 10 and reconfigure four more full-service ports to get two multimedia ports

12 If you chose "DetailedDisplay" in Step 9, you are prompted to enter a range and the following table appears.

First Node	**: 2**	(first node in the range you want to select)
First Location	**: 1**	(first hardware location in the range you want to select)
Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 16**	(last hardware location in the range you want to select)

NUM	VP Locn	Type	ACD	SECDN	Loop	Shelf	Card	Unit	Density	Switch
2-1	2-2-1-1	M	3650	2800	12	0	2	0	Double	0
2-3	2-2-2-1	M	3650	2802	12	0	2	2	Double	0
2-5	2-3-1-1	M	3650	2804	12	0	2	4	Double	0
2-7	2-3-2-1	M	3650	2806	12	0	2	6	Double	0
2-9	2-3-3-1	Vb	3650	2808	12	0	3	0	Double	0
2-10	2-3-3-2	Vb	3650	2809	12	0	3	1	Double	0
2-11	2-3-4-1	Vb	3650	2810	12	0	3	2	Double	0
2-12	2-3-4-2	Vb	3650	2811	12	0	3	3	Double	0
2-13	2-4-1-1	M	3650	2812	12	0	3	4	Double	0
2-15	2-4-2-1	M	3650	2814	12	0	3	6	Double	0

Select operation: Done (Change, Summary, DetailedDisplay)

13 You will need to select “Change” or “Display” as necessary, until you are satisfied that the configuration is correct. When the display is correct, select “Done.”

> **ATTENTION**
>
> If you do not change the loop or shelf numbers, the system will use the default values. If the range that you are selecting changes the loop or shelf, the system will use the incorrect default card slots.

14 For ACDDN and SECDN, you may change the value by pressing the backspace key and entering the desired number followed by <Return>. In all other cases, press the up or down arrow key until the desired selection appears on the screen. Then, press <Return> to confirm after each selection. Repeat this operation until all voice channels have been defined.

15 The next system action is to assign the dataports. Review Table 1-2 in Chapter 1, “Overview: Read me first” for the dataport requirements associated with particular features before proceeding.

Note: Some dataports cannot be changed and will not be displayed when selecting “Change.”

A table similar to the one following will appear on your terminal, identifying your dataports. The first example is for a three-node Modular Option EC–MMP40 system and the second is for a one-node Options/Modular Option system. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**8**	**UTIL**	MODEM-CON	PRT0182	MOD0183	MOD0184
1	**3**	**MMP40**	CONSOLE	CSL1		
2	**3**	**MMP40**	PRT0231	PRT0232		
3	**3**	**MMP40**	PRT0331	PRT0332		

Please assign the data port locations.

Select operation : Display (Change, Reset, Redraw, Done)

The following dataports are on this system:

Node 1 Type UTIL, Port 1: Dataport Name = MODEMCON
Node 1 Type UTIL, Port 2: Dataport Name = PRT0182

Node 1 Type UTIL, Port 3: Dataport Name = MOD0183
Node 1 Type UTIL, Port 4: Dataport Name = MOD0184
Node 1 Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1 Type MMP40, Port 2: Dataport Name = CSL1
Node 2 Type MMP40, Port 1: Dataport Name = PRT0231
Node 2 Type MMP40, Port 2: Dataport Name = PRT0232
Node 3 Type MMP40, Port 1: Dataport Name = PRT0331
Node 3 Type MMP40, Port 2: Dataport Name = PRT0332

The above are default port assignments for the system.

Example of Options or Modular Option dataport display

The example shown below is for a one-node Options/ Modular Option platform. Your display may differ.

Node	Card	Type	Port 1	Port 2	Port 3	Port 4
1	**3**	**MMP40**	CONSOLE	CSL1		
1	**8**	**RSM**	PRT0181	PRT0182	MOD0183	MOD0184

Please assign the data port locations.

Select operation : Display (Change, Reset, Redraw, Done)

The following dataports are on this system:

Node 1, Type MMP40, Port 1: Dataport Name = CONSOLE
Node 1, Type MMP40, Port 2: Dataport Name = CSL1
Node 1, Type RSM, Port 1: Dataport Name = PRT0181
Node 1, Type RSM, Port 2: Dataport Name = PRT0182
Node 1, Type RSM, Port 3: Dataport Name = MOD0183
Node 1, Type RSM, Port 4: Dataport Name = MOD0184

Dataports for card slot 8, ports 1 to 4, require an RSM card in slot 8.

16 If you wish to use something other than the default settings, select "Change." When you are finished entering the information, select "Done" and you will go on to Step 17. See page 1-19 for dataport restrictions.

If a feature has been enabled which requires a port but none have been assigned, you will be informed of the problem when you select "Done." For example, if you have ACCESS but have not assigned any ACCESS ports, you will be told that there must be an ACCESS port on Node 1. The following message will appear telling you to assign a dataport:

Your system has ___but no ports have been configured as ____

Would you like to go back and configure one? Yes (No)

17 If you select “Yes”, go back to Step 15 and reenter the dataport information. If you select “No”, you will continue with the installation but the feature identified above will not be operational.

18 For Modular Option EC–MMP40 systems, you will next be asked for the utility card loop numbers. (For more information, refer to your *Modular Option EC Installation and Maintenance Guide* [NTP 555-7061-250].)

Please enter the loop number associated with J4 on Node 1’s utility card: 255

19 After using the backspace key to delete the default number, enter the loop number from a number between 0 and 255 then press <Return>.

Beyond 48 ports, an additional utility card is required. The software installation process reads the location of the utility card and prompts you for loop numbers associated with J4 and J5 of the second utility card.

Note: You can use either J4 or J5 depending on where your loop is attached. If no loop is attached, use the default values. Modular Option EC–MMP40 supports up to four network loops.

20 If you have a second utility card, enter the utility loop number for it as well.

Please enter the loop number associated with J4 on Node n’s utility card: 255

21 After using the backspace key to delete the default number, enter the loop number using a number between 0 and 255, then press <Return>.

22 This is the final operation for platform migration. The final messages are

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into full service.

#TAPE:MMTAPE1>

23 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

24 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen, and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide* (NTP 555-7001-301, for more information).

Chapter 10: Toggle disk to disk backup

What is toggle disk to disk backup?

This procedure is used to turn on or off the disk to disk backup feature that is available on systems with more than one node. If turned on, the feature reduces the available storage space on VS202 (located on node two) but allows you to do a partial backup without the use of tapes. See the tables in the "Volume sizes" section in Chapter 1, "Overview: read me first" (starting at page 1-26) for storage capacities with disk to disk backup enabled.

Disk to disk backup allows the administrator to schedule the periodic backup of the system volumes, VS1T and VS1V on node 1, onto B102 on Node 2. Other nodes (2, 3, and the rest) are backed up onto node 1. Disk to disk backup can only be performed on multi-node systems. For a complete description of the disk volumes, see the disk volume summary on page 12-3. For more information on message storage and voice services storage hours available per system size, see the *Site and Installation Planning Guide* (NTP 555-70x1-200) for your platform.

> ***Note:*** Card Option systems, having only one disk, do not have disk to disk backup available.

Points to consider

- A disk to disk backup does not require a keycode. It is considered a management procedure.

- Disk to disk backup is not the same as disk shadowing. Disk to disk back up is performed on systems that have *one* disk per node. It involves backing up the text data on one node to a special volume on another node. The node 1 user volume (2-node systems only) is backed up on VS902T on node 2. The user volumes on nodes 2, 3, 4, and 5 are backed up on VS901T on node 1. Disk shadowing is where each node has two separate disks, each pair storing the same data.
- Disk to disk backup is not available on single node systems or on 2-node 26-hour systems, 3-node 30-hour systems, 4-node 45-hour systems, or 5-node 60-hour systems.

What to do before you start

1 Make sure you have read and understood Chapter 1, “Overview: Read me first,” particularly the section entitled “Volume sizes.”

2 Perform a full backup of the database (a partial backup is acceptable, but a full backup is recommended).

3 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

4 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

5 Enable your terminal’s auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen.

6 Obtain the Meridian Mail Release 9.6 Install/data tape.

Performing disk to disk backup

CAUTION
Volume size reduction
Volume sizes will be reduced if disk to disk backup is turned on. See the section entitled “Volume sizes” in Chapter 1, “Overview: Read me first.”

Procedure 10-1
Toggle disk to disk backup

1 From the “System status and maintenance” menu, go to the “System status” screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the *System Administration Guide* (NTP 555-7001-30x) for your system.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

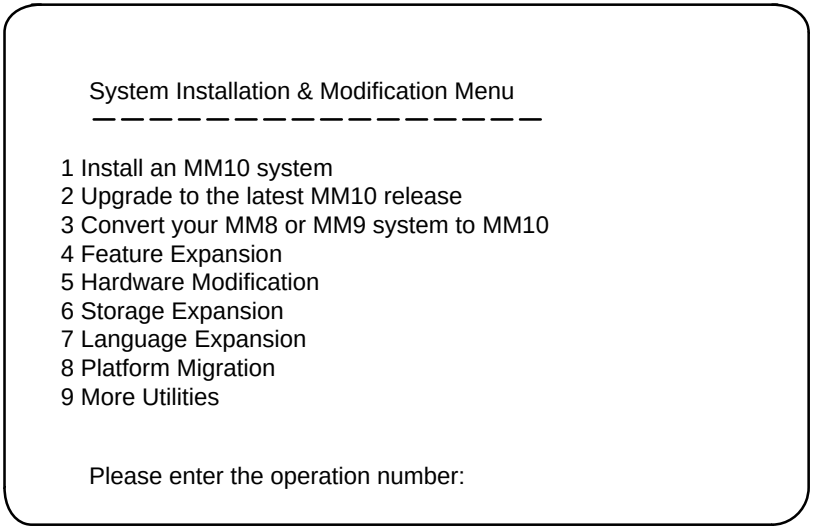
4 Power the system up. Be sure to wait 10 seconds after powering down before powering up.

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

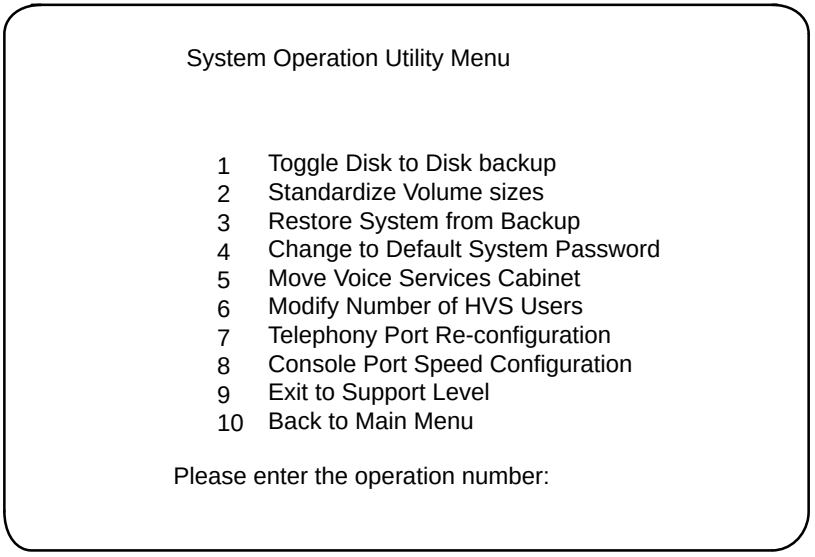
Figure 10-1
System Installation and Modification Menu



Note: Screen selections may vary slightly depending on platform.

5 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return> to get the additional utilities. The following menu should appear:

Figure 10-2
System Operation Utilities Menu



Note: Screen selections may vary slightly depending on platform.

6 Using the up or down arrow key. choose the number (or type the number) next to the desired selection, then press <Return>. This will begin the utility. The following prompt should appear asking you if you want to continue:

You have chosen to toggle disk to disk backup
Do you wish to continue? Yes (No)

7 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>.

8 The following messages can be displayed, depending on your current status:

Turn disk to disk backup on? Yes (No)

or

Turn disk to disk backup off? Yes (No)

9 If disk to disk backup is “On,” you can toggle it off or, if “Off,” you can toggle it on, by using the up/down arrow keys and pressing <Return> when the appropriate response is shown.

Note: You must turn disk to disk backup off for most system installation and modification procedures. However, be sure to turn it back on after completing the procedures.

If no changes to the system records have occurred since installation or the last backup, the following message is displayed:

Disk to disk backup has been turned on (off)

As a final step the system prompts you with

The operation successfully completed.
Remove the tape when it finishes rewinding and boot into Service.
#TAPE:MMTAPE1>

10 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

Chapter 11: Standardize volume sizes

What is standardizing volume sizes?

Standardizing volume sizes involves the optimization of the various text volume sizes on a Meridian Mail system. A text volume is a volume that stores information entered into the system as part of the database configuration (not voice volumes that store prompts, greetings, messages and so on). This system operation is somewhat like a compression technique: it cleans up and organizes the volumes to create more free space.

Note: If you are attempting to run any other utility from the system installation and modification menu and you get a "Volume too full" message, run the standardize volume size utility and then try running the other utility again.

Points to consider

- A keycode is *not* required to standardize volume sizes because this is considered a maintenance procedure.
- Standardizing volumes is a one-way procedure. It cannot be reversed.
  - — This procedure should only be performed as a temporary measure until additional disk storage can be obtained.

What to do before you start

1. Make sure you have read and understood Chapter 1, "Overview: Read me first."
2. Perform a full system backup (partial backup is acceptable, but a full backup is recommended).
3. Disable disk to disk backup.
4. Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

5 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

6 Enable your terminal's auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen.

7 Obtain the Meridian Mail Release 10.0 Install/data tape.

Performing a standardization of volume sizes

Procedure 11-1
Standardize volume sizes

1 From the "System Status and Maintenance" menu, go to the "System Status" screen and perform a courtesy-down procedure on the system, prior to commencing any of the following steps. This will prevent calls from being abruptly terminated when the operation commences. For more information, see the System Administration guide (NTP 555-7001-30x) for your system.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

4 Power up again. (Wait 10 seconds after powering down before powering up.)

For more information on power up and power down procedures, refer to the Installation and Maintenance Guide *(NTP 555-70x1-250).*

The system automatically runs a series of diagnostic routines, followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 11-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

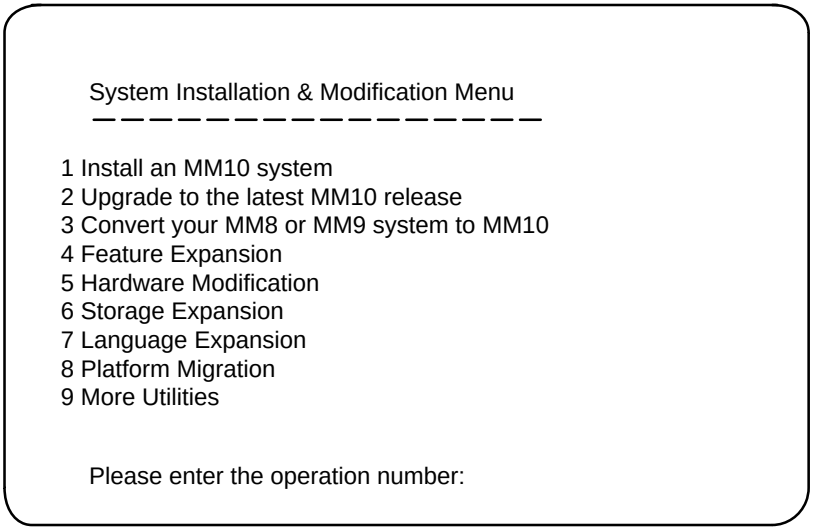
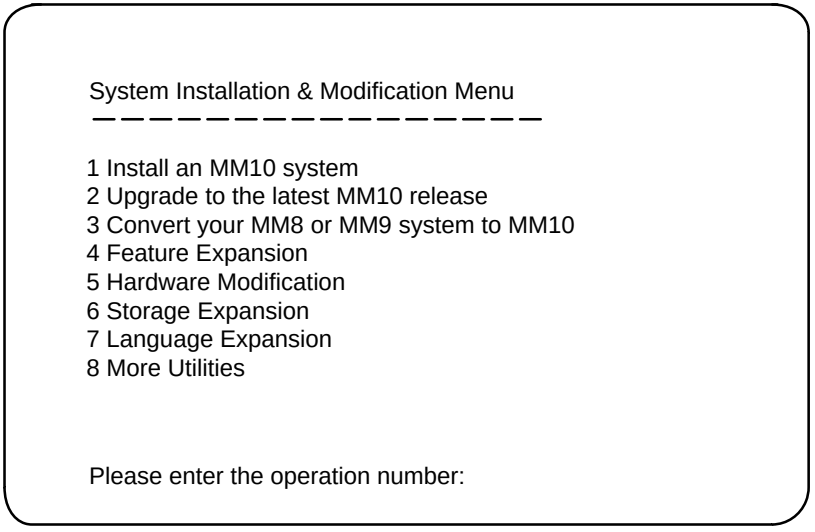


Figure 11-2
System Installation and Modification Menu (Card Option only)



Note: Screen selections may vary slightly depending on platform.

5 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return>. The following menu should appear for the operation that you require:

Figure 11-3
System Operation Utilities Menu

System Operation Utility Menu

1 Toggle Disk to Disk backup
2 Standardize Volume sizes
3 Restore System from Backup
4 Change to Default System Password
5 Move Voice Services Cabinet
6 Modify Number of HVS Users
7 Telephony Port Re-configuration
8 Console Port Speed Configuration
9 Exit to Support Level
10 Back to Main Menu

Please enter the operation number:

Note: Screen selections may vary slightly depending on platform.

6 Press the up or down arrow key until the number next to Standardize Volume Sizes is displayed on the screen (or enter the desired selection number), then press <Return>. This will begin the utility. The following prompt should appear asking you if you want to continue:

You have chosen to standardize volume sizes
Do you wish to continue? No (Yes)

7 Use the up or down arrow key to select "Yes," and press <Return>.

If the system has multiple drives, it then runs a series of routines, which could take up to 45 minutes, ending with

Disk shadowing has been disabled.
Please re-enable disk shadowing manually in the MMI
after the operation has completed and
the system has passed sanity test.

Note: This message will be displayed on shadowed systems only.

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into Service.
Shutting down tape server
#TAPE:MMTAPE1>

8 After removing the tape, turn the power off. Then after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

9 For systems with disk shadowing, go to the System Status and Maintenance Screen and verify that the system is working correctly. If it is working correctly, go to the Disk Maintenance Screen and then to the Disk Pair Status screen, and enable disk syncing for each pair of disks on your system. See the chapter entitled “System Status and Maintenance” in the *System Administration Guide* (NTP 555-7001-301) for more information.

Chapter 12: Restore system from backup

What is restore system from backup?

Restoring a system from backup involves reloading the system's database from a tape that contains a partial or full backup system database. The aim is to restore a failed system to the same operational state (or as close as possible) that it had before the problem occurred. This procedure might be necessary when there has been a major disk failure or when a system has been reinstalled.

Restore system from backup is also used when migrating software and/or applications from one platform to another.

> ***Note:*** In systems with disk shadowing, it is possible to restore from the good disk that shadows the defective disk rather than restoring from tape which this procedure describes. Refer to your *System Administration guide* (NTP 555-7001-30x) for details.

For single-node systems, perform the steps indicated for single-node systems.

For multi-node systems, perform the steps indicated for multi-node systems.

Points to consider

- A keycode is *not* required to restore a system from backup because this is considered a maintenance procedure. You are not actually changing the system configuration, just bringing it back into operation.

- When restoring a system that does not have disk shadowing, if you have not been performing backups of the database on a regular basis, the system cannot be restored to current condition. You must have a recent copy of the system's database on a backup tape in order for this procedure to be successful. It is possible to use an old backup tape, but you may be faced with making numerous modifications due to the changes that occurred since the last backup. Performing regular and frequent (at least weekly) backups is therefore essential.
- The restore procedures are slightly different if the system has disk shadowing. You will be restoring from the surviving disk, rather than an external backup disk. See the preceding note.
- There are really two kinds of restore procedures: a full restore and a partial restore. This is because you are actually restoring from a backup tape that was produced during a full backup or a partial backup. If you are doing a partial restore, you will use the Install/data tape twice during the procedure; therefore, keep the tape nearby.
- If restoring a system from backup as part of migrating software or software and applications from one platform to another, and the new system has more nodes than the original system, be sure to power down the excess nodes before booting from the Install/data tape and running the restore. Restore requires the system to have the same number of nodes as that captured in the backup tapes. After the restore has completed, power the nodes back up before performing other software modifications.

  Note: When restoring from a Modular Option EC 2-node system to an EC 3-node non-shadowed system, *do not restore any volumes to node 3.* (Refer to NTP 555-7001–301, Appendix A.)

- The following sections describe essential information necessary for restoring the system from backup.
- The Card Option platform has only one node and one disk. Some of the information below will not apply.

Volume and backup information

Disk volume summary

- A Meridian Mail system may consist of one to five nodes with one or two disks per node. (Systems with disk shadowing have two disks per node.) Each physical disk drive is divided into multiple *volumes*. Different types of data are stored in different volumes according to access and backup requirements.
- If a volume name ends in "T", it is a *text volume* having a 1-kbyte block size. If it ends in "V", it is a *voice volume* having an 8-kbyte block size. Except for VS1 and VS2 which are both on node 1, the last two digits of a volume name are the node number on which it is stored.

Boot tracks

- The operating system of all Meridian Mail systems is stored in the first 1016 kbytes of the disk on node 1. These are not disk volumes in the normal sense. The boot tracks are rewritten as part of the node 1 disk initialization procedure.

VS1T

- This volume is on Node 1. It is the system volume where program software, user directory, system distribution lists, organization profile, operational measurements, languages and other system information is stored. This volume may also include the Voice Menus.

VS1V

- This is a voice volume associated with VS1T. It stores the user personal verifications and may also store voice menus and announcements. VS1V is on node 1.

VS2T

- This is a user volume on node 1. It contains user cabinets, profiles, personal distribution lists and message handlers. It stores languages one and two for all systems except Meridian Mail Option 11. (Meridian Mail Option 11 languages are on VS1T.)

VS2V

- This is the voice volume associated with VS2T. It stores the voice portion of user messages for users whose cabinets reside on VS2T. It also stores their greetings and may contain voice menus and announcements. It is on node 1. It also contains languages one and two.

VS2*xx*T

- This is a user volume. It stores the cabinets, profiles, personal distribution lists and message headers of users added to volume 2*xx*.

  Note: ‘xx’ is the node number. For example, VS205T is on node 5.

VS2*xx*V

- The voice part of VS2*xx* holding user voice messages and greetings on node xx. It may also contain voice menus and announcements

  Note: ‘xx’ is the node number. For example, VS205V is on node 5.

VS*x*B

- Volumes ending in the letter ‘B’ are temporary volumes created during an on-line backup of the VS*x* volume. They are deleted after being copied to tape.

VS901T

- This exists on node 1 of multi–node systems. It stores a copy of all the user profiles on user volumes VS202T, VS203T, VS204T, and VS205T. This includes personal distribution lists. The profiles are copied to VS901T by a partial backup. In the case of a disk to tape backup, VS901T is then copied to tape.

VS902T

- This is present on node 2 of 2-node systems. It holds copies of all user profiles on volume VS2. The profiles are copied to VS902 by a partial backup. In the case of a disk to tape backup, VS902T and VS902V are then copied to tape.

B102

- This is the backup of VS1 on node 2 of multi-node systems having disk to disk backup enabled. It contains copies of VS1T, VS1V and VS1B created during the last disk to disk backup.

Types of backup

Full backup

- A full backup copies all system and user data to tape. This includes all user voice messages, all user greetings and all voice menus. Due to the large amount of data, full backups can require many tapes and a considerable length of time to perform. Full backup can only be done to tape.

Partial backup

- The purpose of a partial backup is to save the administrative configuration of the system but not all the user voice messages and greetings. This saves the effort of reentering the user database and parameters should a disk drive fail. A partial backup saves the user directory, user profiles, personal distribution lists, system distribution lists, personal verifications, user passwords, operational measurements, network configuration, and other system configuration information.

CAUTION
Loss of voice services profile
If voice services profile files are stored in one of the user volumes (that is, VS2/VS202) and not in VS1, then restore from a full backup in order to include the voice services profile.

- If a system is restored from a partial backup (a *partial restore*), the user mailboxes on the volumes restored will be empty and greetings will be lost. This is usually acceptable since voice messages are so transient that it is of little value to restore old voice messages.

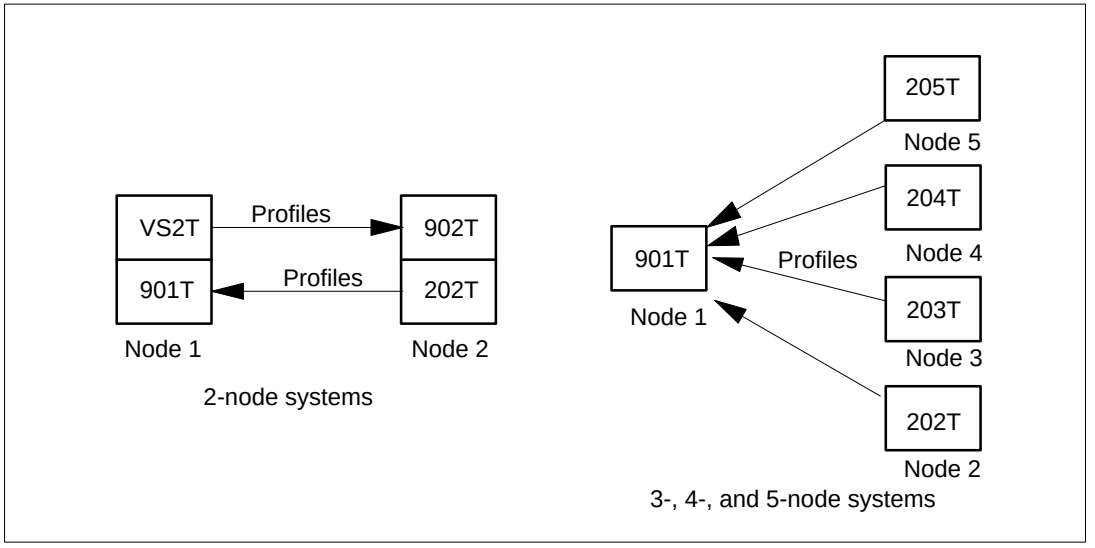
Single-node systems

- On a single-node system, partial backup is done by backing up VS1T, VS1V, and VS2T to tape.

Multi-node systems

- Partial backups to tape on multi-node systems are done by backing up VS1T, VS1V, and the (T) volumes of all nodes to VS901T and VS902T. VS1T, VS1V, VS901T, and VS902T (if it is a two-node system) are then backed up to tape. Figure 12-1 illustrates how partial backups are done for multi-node systems.

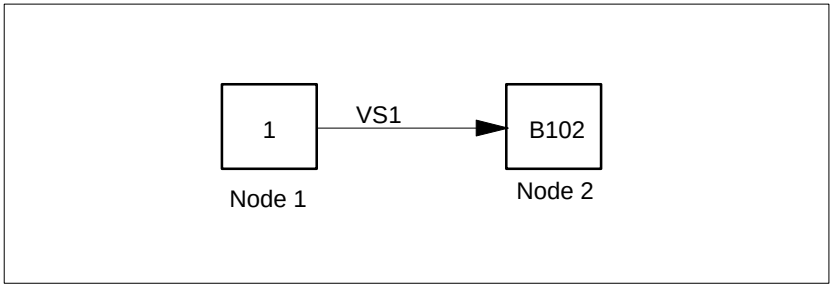
Figure 12-1
Partial backups for multi–node systems



Disk to disk backup

- Disk to disk backup allows the administrator to backup the system volume, VS1T, and VS1V, onto B102 on node 2 as in Figure 12-2. The same process for a partial backup as described in Figure 12-1 is followed before the volumes VS1T and VS1V are backed up to disk. Disk to disk backup can only be performed on multi-node systems. For a complete description of the disk volumes, see the disk volume summary on page 12-3. For more information on message storage and voice services storage hours available per system size, see the *Site and Installation Planning Guide* (NTP 555-70x1-200) for your platform.

Figure 12-2
Disk to disk backup



On-line backup

- Normally, an administrator will do an on-line backup while the system is still providing service. The on-line backup mechanism takes a “snapshot” of the state of the disk volume at the time the backup was started. This ensures that the data within a volume is consistent even though the volume may be changed during the time the backup is in progress.
- On-line backup should not be done at hours of peak system usage since it increases the load on the disk drives. It cannot be performed between 1:00 a.m. and 5:30 a.m. since various system audit programs are active at this time. Backups can be performed automatically using the scheduled backup feature. A temporary volume, VSnB, is created by an on-line backup.

What to do before you start

1 Make sure you have read and understood Chapter 1, “Overview: Read me first.”

2 Obtain a tape head cleaning kit. For information, see *Meridian Mail Installation and Maintenance Procedures* (NTP 555-70x1-250).

3 Obtain the disk switch setting information found in *Meridian Mail Installation and Maintenance Procedures* (NTP 555-70x1-250).

4 If restoring a system equipped with disk shadowing, remove the failed disk drive, install the new one, and synchronize from the old drive to the new drive.

5 If you are installing a new hard disk, obtain disk switch settings for your new drive. For information see *Meridian Mail Installation and Maintenance Procedures* (NTP 555-70x1-250) (for Options systems, refer to the *Installation Guide* [NTP 555-7011-210]).

6 If restoring a system not equipped with disk shadowing, make sure you have the latest copy of the backup tape.

7 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

8 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

9 Enable your terminal's autoprint mode (<Control>W followed by P) in order to capture everything that appears on your screen

10 Obtain the Meridian Mail Release 10.0 Install/data tape.

11 Go to the Volume Administration screen from General Administration and check to see how many nodes you have.

Performing restore from backup

Restore refers to the process of copying the necessary data from the backup media (disk or tape) to the new disk drive that will now be used in normal system operation.

Procedure 12-1
Common restore procedures

1 From the "System Status and Maintenance" menu, go to the "System Status" screen and perform a courtesy-down procedure on the system prior to commencing any of the following steps. This will prevent calls from being terminated abruptly when the operation commences. For more information, see the *System Administration guide* (NTP 555-7001-30x) for your system.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

4 Power up again. (Wait 10 seconds after powering down before powering up.)

For more information on power up and power down procedures, refer to the Hardware Chapter in the Installation and Maintenance Guide *(NTP 555-70x1-250) (for Options systems, refer to the* Installation Guide *[NTP 555-7011-210]).*

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 12-3
System Installation and Modification Menu (all platforms except Card Option and MSM)

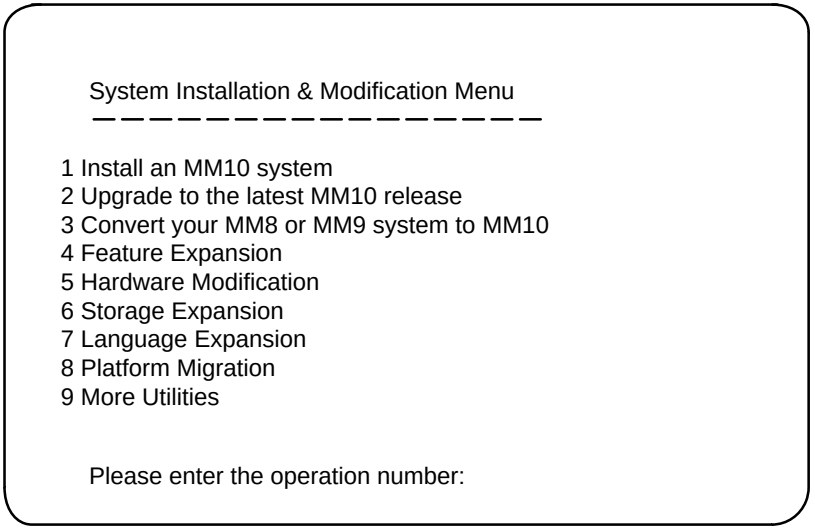
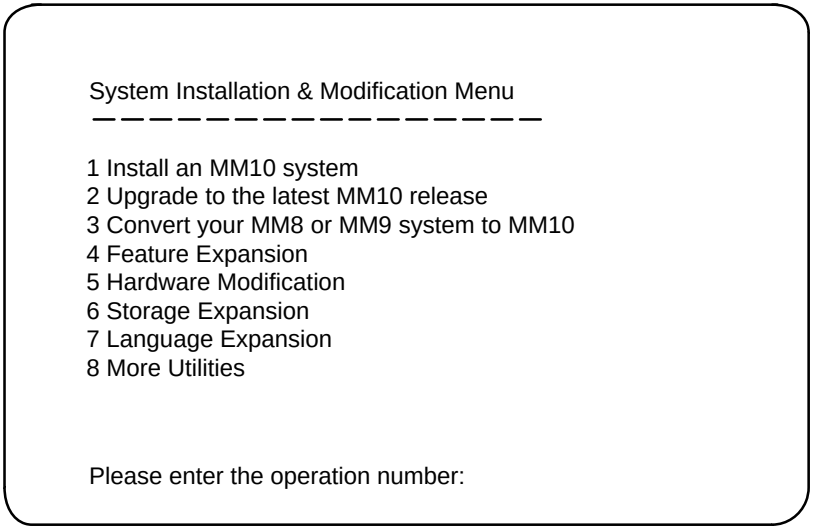
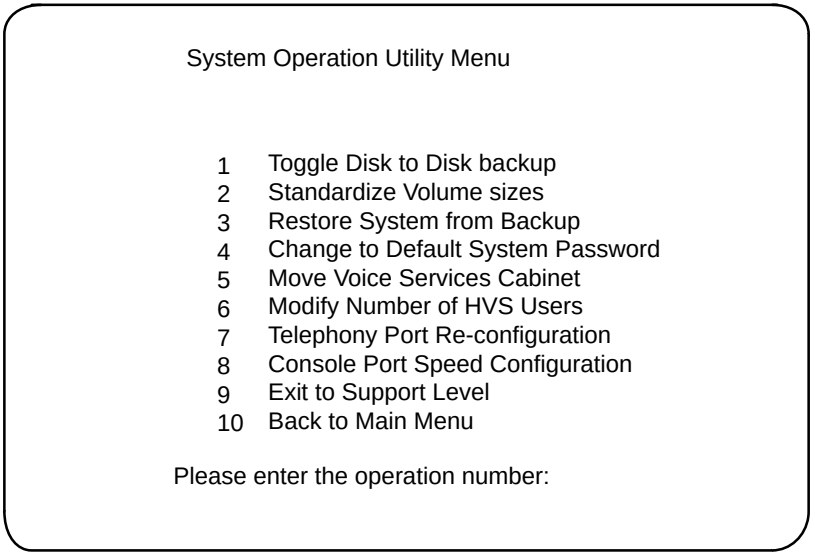


Figure 12-4
System Installation and Modification Menu (Card Option only)



5 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return> . The following menu should appear:

Figure 12-5
System Operation Utilities Menu



Note: Screen selections may vary slightly depending on platform.

6 Press the up or down arrow key until the number corresponding to Restore System from Backup is displayed on the screen (or enter the desired selection number), then press <Return>. This will begin the utility.

Restoring a system

After completing Procedure 12-1 described earlier in this chapter, continue as follows:

Procedure 12-2
Restore from backup

1 The system responds with:

You have chosen to restore from backup

Do you wish to continue? No (Yes)

Note: The restore procedure is unable to validate any of the information entered. Please ensure that the information you enter is valid; otherwise, the restore will fail.

2 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>. (If you select “No,” you will be taken out of the procedure.) The system will then display:

Please consult your documentation before answering the following prompts

3 A number of system prompts will appear on the screen until the following messages appear asking you if you wish to restore node n, where “n” is the number of the node you wish to restore. By selecting “No you will be taken out of the entire procedure.

Do you wish to restore node n? Yes (No)

If the backup is	Go to
disk to disk	Step 4
tape to disk	Step 9

4 You will be asked if your system has disk to disk backup installed. (For multi–node Options, Modular Option, and Modular Option EC systems only.)

Note: For multi-node systems, restore node 1 (the prime node) last.

Did system have Disk to Disk Backup? No (Yes)

5 Press the up or down arrow key until the correct response is displayed on the screen, then press <Return>.

6 You will be next asked what type of backup it was. If it was a disk to disk backup (which is a partial backup) or a partial backup on tape, then you *must* select “Data.” If it was a full backup, choose “Voice_data”

What type of backup was volume VS2n? Data (Voice_data)

7 Press the up or down arrow key until the correct response is displayed on the screen, then press <Return>.

8 If your system has disk to disk backup installed you will be prompted for the media you want your system restored from (for multi–node Options, Modular Option, and Modular Option EC systems only.)

Restore volume VS20n from what media? Tape (Disk)

9 Press the up or down arrow key until the appropriate answer, “Tape” or “Disk”, is displayed on the screen, then press <Return>. If you chose “Disk,” you will not have to insert backup tapes during Steps 11 to 14.

The system then responds with the following summary of what you have chosen to restore. Your display may differ.

You have selected to restore the following:

Node	Volume	Type	From
n	**VS1**	**Data and Voice**	**Tape**
n	**VS2**	**Data only**	**Tape**
n	**VS2**	**Data only**	**Tape**

Next,you will be given the opportunity to change the above information and to quit the procedure altogether.

Do you wish to change the above information? No (Yes)

Do you wish to continue? No (Yes)

10 Press the up or down arrow key until the appropriate answer, “Yes” or “No”, is displayed on the screen at either of the above two prompts, then press <Return>. The following message will appear:

Formatting disks to be restored: this will take approximately 45 minutes for unshadowed systems and 90 minutes for shadowed systems.
Warning: Do not attempt to power off the system while disks are being formatted.

CAUTION
Risk of corrupted disks
Do not power down system while disk format is in progress, or the disks will be damaged.

The system then runs several routines, taking from 30 to 45 minutes. When the disks are successfully prepared, the following messages will appear along with information telling you what blocks of memory have been copied.

System successfully written to disk

Shutting down tape server

11 You will now be prompted to insert the tape where the volume is stored. This is because the Install/data tape does not contain a backup on it and because you may have volumes stored on more than one tape. For volumes after VS1, you will be prompted to insert the tape containing “VS20n” where n is the node number.

Please insert tape containing VS1 and then press <Return>.

12 Remove the Install/data tape and insert the tape containing the volume to be restored on it. Press <Return>.

A number of system messages will appear giving you information on the backup. The following messages should appear:

Starting DR Server

Creating required cabinets

Copying Prompts from Tape to Disk

13 If you have more than one backup tape, go back to Step 11 until all the volumes have been restored from all of your backup tapes. You will keep getting prompted until you are done.

14 When all your backup information has been copied from tape to disk, you will next be asked to insert your Install/data tape so that various system prompts can be reinstalled.

Please insert the Install/data tape

Hit <CR> to continue

15 Remove the backup tape and insert your Install/data tape. Press <return>. The system will continue without intervention until completed. A number of system messages will appear giving you information on what is happening with the system until the following final message appears informing you that the procedure is done.

Restore completed

Reboot system into full service

#TAPE:MMTAPE1>

16 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

Chapter 13: Change to default system password

What does it mean to change to the default system password?

If you have forgotten the customized logon password for the Meridian Mail system, it is possible to revert back to the default system password (ADMINPWD) that was supplied with the system when it was shipped.

Points to consider

1 A keycode is not required to change to default system password, because this is considered a maintenance procedure.

2 Make sure you have read and understood Chapter 1, “Overview: Read me first.”

Performing a change to the default system password

Procedure 13-1
Change to default system password

1 Perform a courtesy–down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being terminated abruptly when the operation commences.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

4 Power up again. (Wait 10 seconds after powering down before powering up.)

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed:

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 13-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

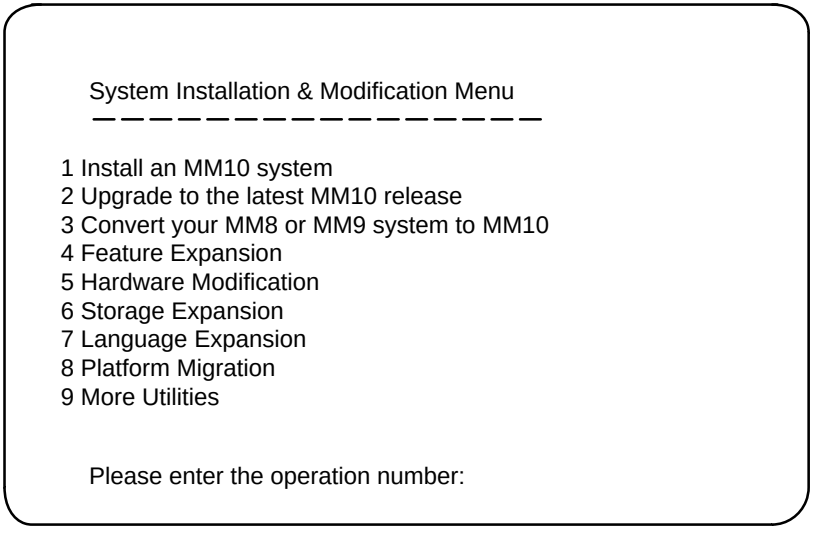
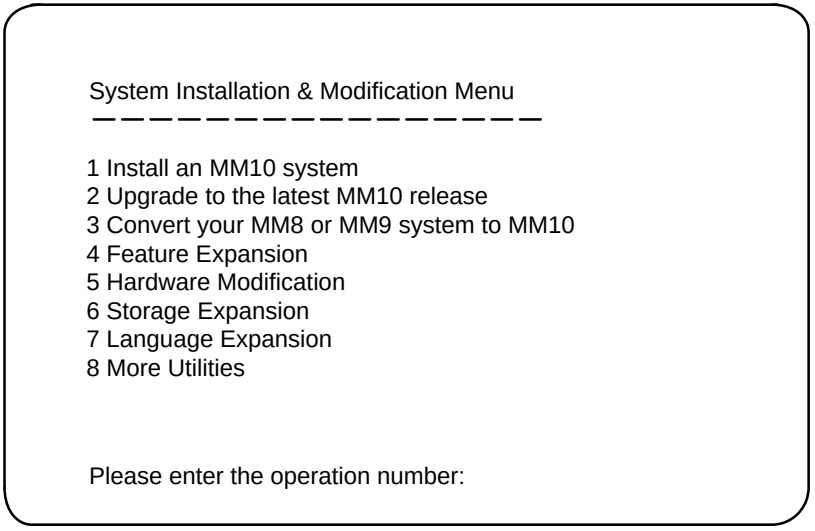


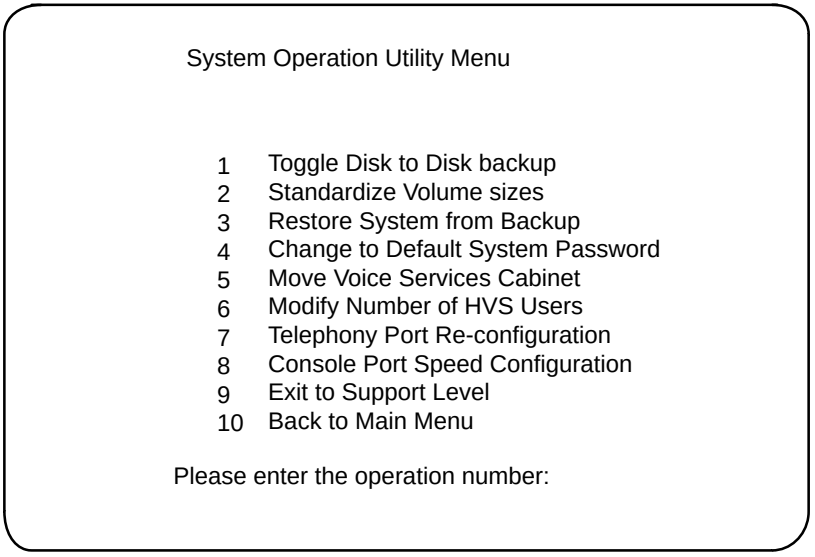
Figure 13-2
System Installation and Modification Menu (Card Option only)



Note: Screen selections may vary slightly depending on platform.

5 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return>. The following menu should appear:

Figure 13-3
System Operation Utilities Menu (except Card Option and MSM)



Note: Screen selections may vary slightly depending on platform.

6 Press the up or down arrow key until the number for Change to Default System Password is displayed on the screen (or enter the desired selection number), then press <Return>. This will begin the utility. The following prompt should appear asking if you want to continue:

You have chosen to reset system password to default.
Do you wish to continue? No (Yes)

7 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>.

The system will then display

System Administrator’s Password has been reset to the default.

Please reboot your system into full service

Shutting down the tape server
#TAPE:MMTAPE1>

8 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

The password has now been reset to the default (ADMINPWD).

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

Chapter 14: Move voice service cabinet

The utility “Move voice service cabinet” is used to move the voice service cabinet from volume VS1 to another volume.

Note: This feature is not available in Card Option.

What is the voice service cabinet?

The voice service cabinet is used to store the following information:

- voice menu recordings
- announcement recordings
- voice service profile
- fax documents

Why move the voice service cabinet?

In most cases, the voice service cabinet is kept in Volume VS1 on node 1. This allows the voice service information to be saved automatically during a partial backup of the database. If the database is large, this volume may become too full, particularly due to the storage requirements of features such as Fax on Demand. This prompts the need to reassign the voice service cabinet to another volume in order to prevent the system from becoming overloaded. The Move voice service cabinet utility performs this reassigning process for you. For more information on voice services storage, see the *Site and Installation Planning Guide* (NTP 555-70x1-200) for your platform.

Points to consider

- A keycode is *not* required to move voice service cabinets, because this is considered a maintenance procedure.

- Before voice service cabinets are moved to another volume, always perform a *full* backup in order to save the data. The system will not "remember" where the voice service cabinets have been moved to and will not copy them from their new location. It is up to the administrator to identify the volume to be backed up by selecting the volume where the voice services are located when performing the full backup. For more information, see the chapter on voice services administration in your *System Administration Guide* (NTP 555-7001-30x).
- If your voice services have been moved prior to a conversion to MM10, you need to know what volume these services are stored in. For more information on how to check your volumes, see the chapter on voice services administration in your *System Administration Guide* (NTP 555-7001-30x).

What to do before you start

1 Make sure you have read and understood Chapter 1, "Overview: Read me first."

2 Perform a full backup of the database (partial backup is acceptable, but a full backup is recommended).

3 Disable disk to disk backup.

4 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

5 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

6 Enable your terminal's auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen

7 Obtain Release 10.0 Install/Data tape.

Moving the voice service cabinet

Procedure 14-1
Move voice service cabinet

1 Perform a courtesy-down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being abruptly terminated when the operation commences.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

4 Power up again. (Wait 10 seconds after powering down before powering up.)

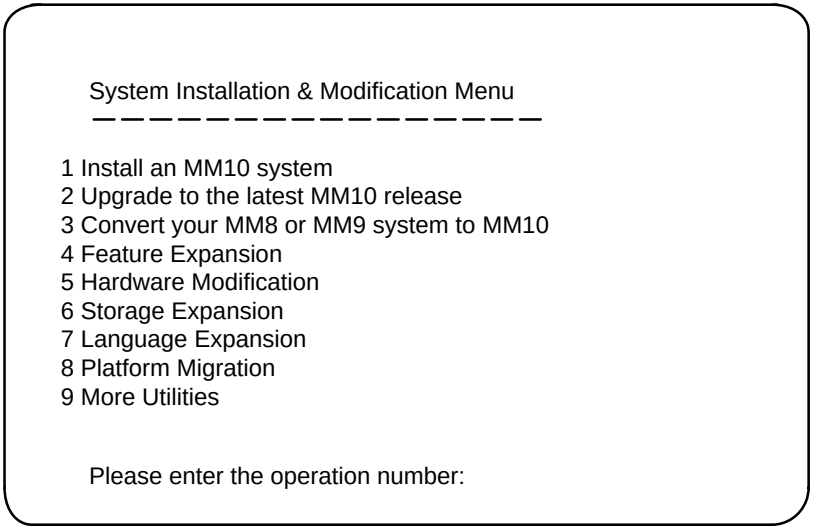
For more information on power up and power down procedures, refer to the Installation and Maintenance *Guide (NTP 555-70x1-250) (for Options systems, refer to the* Installation Guide *[NTP 555-7011-210]).*

The system automatically runs a series of diagnostic routines, followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

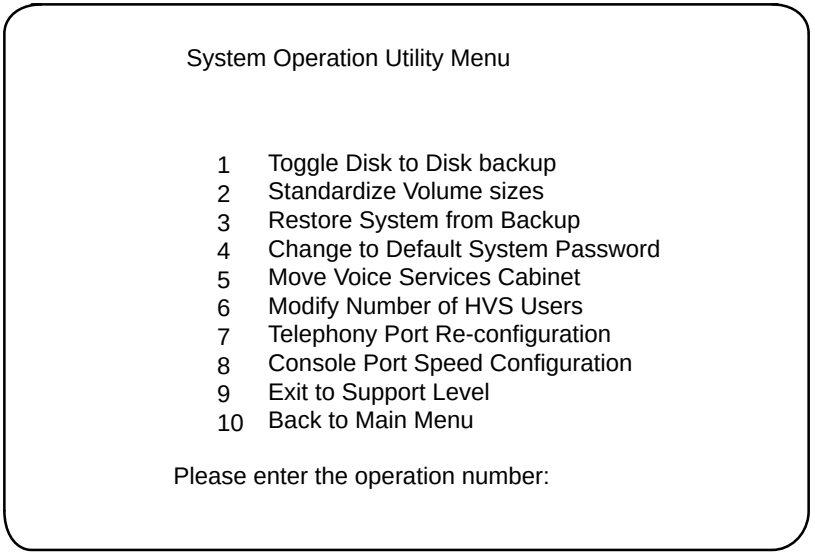
Figure 14-1
System Installation and Modification Menu



Note: Screen selections may vary slightly depending on platform.

5 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return>. The following menu should appear:

Figure 14-2
System Operation Utilities Menu



Note: Screen selections may vary slightly depending on your platform.

6 Press the up or down arrow key until the number (or type the number) for Move Voice Services Cabinet is displayed, then press <Return>. This will begin the utility.

7 The following message will then be displayed:

You have chosen to move voice service cabinet.

Do you wish to continue? (Yes) (No)

8 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>. The following system prompt will appear:

Move Voice Service Cabinet

A number of system messages will now appear. After about three minutes, the following prompt will appear asking you to identify your destination volume:

Destination Volume: 1

9 Press the up or down arrow and press <Return> in order to select the destination volume. A one-node system will toggle between volumes VS1 and VS2. A multi-node system will toggle between Volumes VS1 and VS202.

You will next be given the opportunity to verify your choice or to quit the procedure. Your display may differ depending on your destination volume.

The Voice Services will be moved from volume 1 to volume 2

Do you want to continue? Yes (No)

10 Press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>, and the voice service cabinet will be moved. At this point, the software will query all possible nodes in the system and a timeout will occur for each node location that is not installed.

The procedure continues without further operator intervention until the completion message appears:

The operation successfully completed

Remove the tape when it finishes rewinding and boot into Service.

Shuting down tape server.

#TAPE:MMTAPE1>

11 After removing the tape, turn the power off. Then after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

Chapter 15: Modify the number of HVS users

What does it mean to modify the number of HVS users?

An HVS user is any guest mailbox. A system is normally equipped to support a certain number of users per node. If a hospitality institution is adding more mailboxes, it may be necessary to modify the number of users. The maximum number of users allowed is 9800.

Note: This system operation is not available for the Card Option Platform.

Points to consider

- A keycode is not required to modify the number of HVS users.
- This system operation will allow a temporary measure for adding more HVS users than are recommended. Eventually, more storage will be required.

What to do before you start

1. Make sure you have read and understood Chapter 1, “Overview: Read me first,” before proceeding.
2. Perform a full backup of the database (a partial backup is acceptable, but a full backup is recommended).
3. Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)
4. Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.
5. Enable your terminal’s auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen
6. Disable disk to disk backup.

7 Obtain Meridian Mail Release 10.0 Install/data tape.

Modifying the number of HVS users

Procedure 15-1
Modifying the number of HVS users

1 Perform a courtesy-down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being abruptly terminated when the operation commences.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

4 Power up again. (Wait 10 seconds after powering down before powering up.)

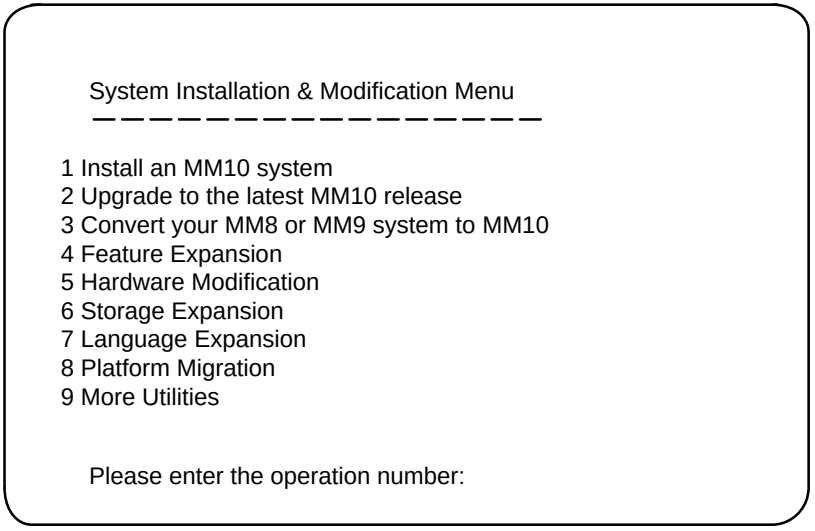
For more information on power up and power down procedures, refer to the Installation and Maintenance Guide *(NTP 555-70x1-250) (for Options systems, refer to the* Installation Guide *[NTP 555-7011-210]).*

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed.

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

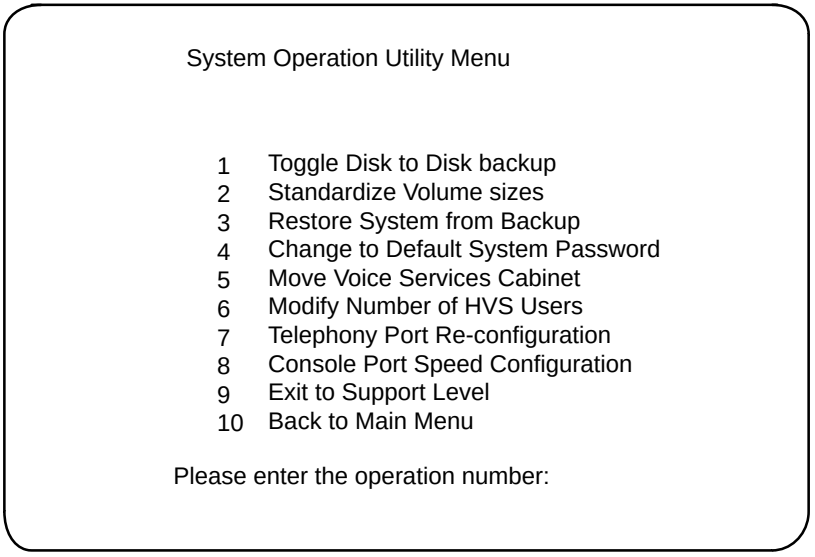
Figure 15-1
System Installation and Modification Menu



Note: Screen selections may vary slightly depending on platform.

5 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return> . The following menu should appear:

Figure 15-2
System Operation Utilities Menu



Note: Screen selections may vary slightly depending on platform.

6 Press the up or down arrow key until the number next to Modify Number of HVS Users is displayed on the screen (or enter the desired selection number), then press <Return>. This will begin the utility. The following prompt should appear asking you if you want to continue:

You have chosen to modify the number of HVS users
Do you wish to continue? Yes

You will receive either of the following prompts:

Enter the number of HVS users on your system:

or, if HVS has not been installed

HVS is not installed on your system

Note: If the HVS feature is required but has not been enabled on your system, a new software installation is required using a keycode which permits HVS. Refer to Chapter 5, “Feature expansion.”

7 If HVS is installed on your system, enter the number of HVS users desired. The system then responds with

The number of HVS users on your system has been changed to nnnn.

(where ”nnnn” is the number of users you entered.)

Please reboot into full service
#TAPE:MMTAPE1>

8 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall the system, you will have access to the tape.

Chapter 16: Telephony port reconfiguration

What is telephony port reconfiguration?

The telephony port reconfiguration utility allows maintenance and installation personnel to reassign port type and port capability to hardware locations on each node of a system. Its main function is to provide the administrator the ability to redefine multimedia and/or voice ports. The Telephony port reconfiguration utility allows you to

- add multimedia ports by converting full-service voice ports to multimedia ports at a 2 to 1 ratio
- convert multimedia ports back to full-service voice ports at a 1 to 2 ratio

Points to consider

- A keycode is not required to reconfigure the telephone ports, *but* the extent to which ports can be reconfigured is determined by the limits defined in the keycode. For a detailed description of these limits, see the “Keycode” section in Chapter 1, “Overview: Read me first,” of this document.
- multimedia ports are required for features such as Fax on Demand.

What to do before you start

1 Make sure you have read and understood Chapter 1, “Overview: Read me first,” before proceeding.

2 Perform a full backup of the database (a partial backup is acceptable, but a full backup is recommended).

3 Disable disk to disk backup.

4 Make sure that there is paper in the printer. (If your printer runs out of paper during the procedure, your screen will freeze.)

5 Enable SEER printing. Go to the General Options Screen under General Administration in order to do this.

6 Enable your terminal's auto-print mode (<Control>W followed by P) in order to capture everything that appears on your screen

7 Obtain the Meridian Mail Release 10.0 Install/data tape.

8 Obtain your latest keycode label and check its defined limits for the minimum number of multimedia ports, the maximum number of full-service voice ports and the number of physical ports or hardware locations.

Performing common telephony port reconfiguration procedures

This section describes the procedure necessary to reconfigure telephony ports. The procedures are divided into several parts. The first is common to all platforms. Following the common procedure are those required for each hardware platform supported by Meridian Mail Release 10.0 software.

Procedure 16-1
Common procedures for telephony port reconfiguration

1 Perform a courtesy-down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being abruptly terminated when the operation commences.

2 Power the system down.

3 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

4 Power the system up (must be at least ten seconds after powering down).

For more information on power up and power down procedures, refer to the Installation and Maintenance Guide *(NTP 555-70x1-250) (for Options systems, refer to the* Installation Guide *[NTP 555-7011-210]).*

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed:

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 16-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

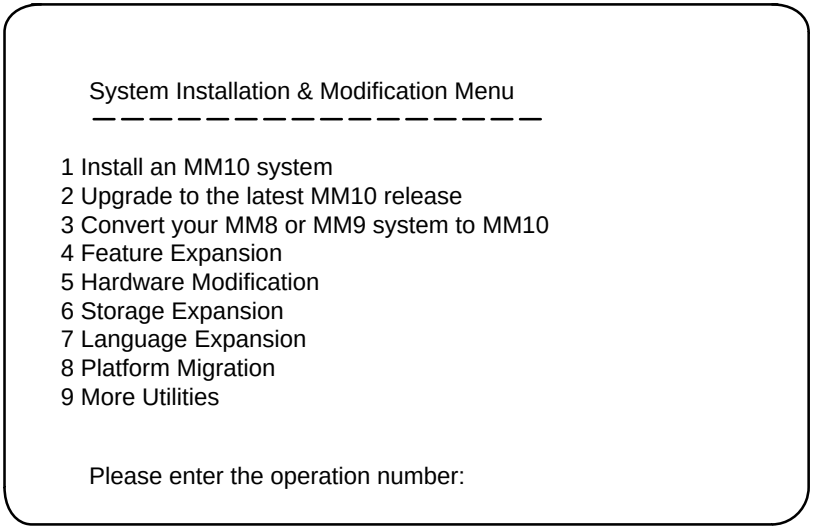
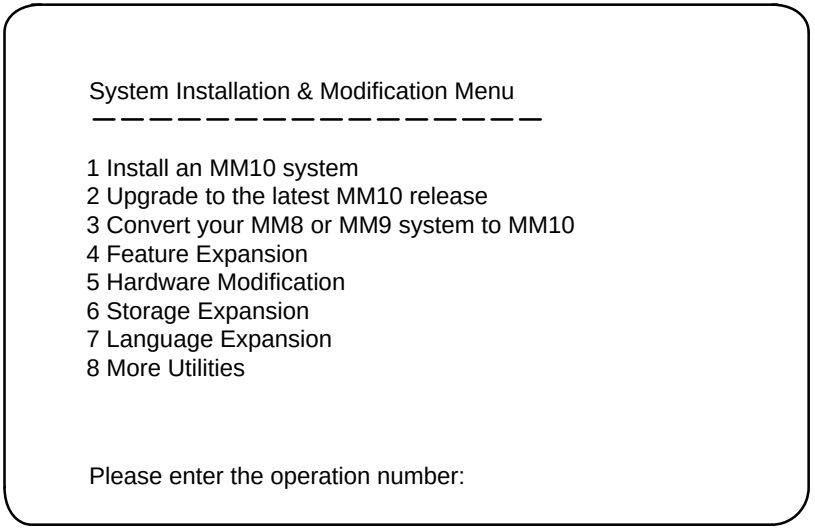


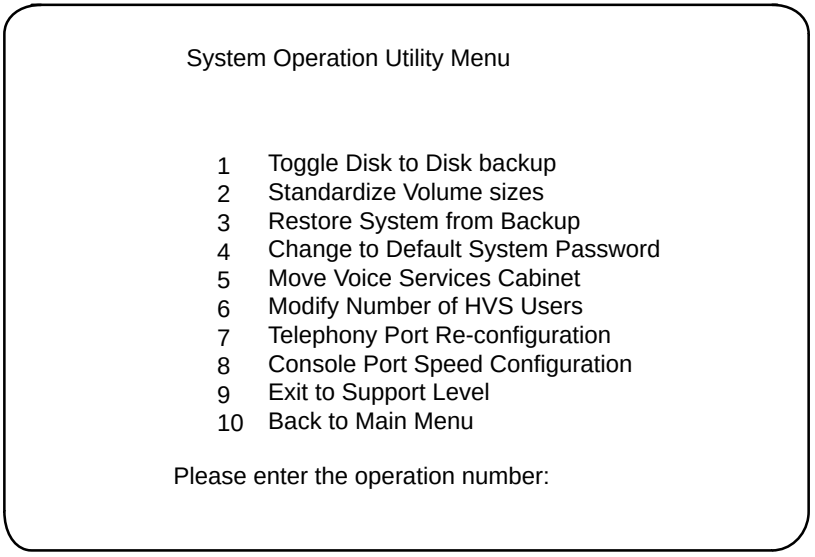
Figure 16-2
System Installation and Modification Menu (Card Option only)



Note: Screen selections may vary slightly depending on platform.

5 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return> s. The following menu should appear:

Figure 16-3
System Operation Utilities Menu



Note: Screen selections may vary slightly depending on platform.

6 Press the up or down arrow key until the number (or type the number) for Telephony Port Reconfiguration is displayed , then press <Return>. This will begin the utility. The following prompt should appear asking you if you want to continue:

You have chosen telephony port reconfiguration.

Do you wish to continue? Yes (No)

7 If you select “Yes,” you will proceed to Step 1 of your specific platform below. If you select “No”, you will be taken out of the entire procedure.

Modular Option EC, Options, and Modular Option telephony port reconfiguration

Procedure 16-2
Modular Option EC, Options, and Modular Option platform telephony port reconfiguration procedures

1 After following Steps 1-7 in the common procedures, you will see a summary table *similar* to the following after a few minutes:

Please define the voice channels

Node	–––––––––––––––Voice Hardware location–––––––––––––––––															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: Change (Summary, DetailedDisplay, Done)

The above example reflects the current port configurations on your system. These ports will have been assigned during software installation or hardware modification. Node 2 consists entirely of multimedia ports. The example above only displays the odd-numbered hardware locations from 1 to 16 because multimedia ports take up two hardware locations.

The term hardware location is used here to describe the physical port on the node available to be configured as one of basic-service voice, full-service voice, or multimedia port. In the above example, node 2 has 16 physical hardware locations configured as 8 multimedia ports.

2 You will now be given the opportunity to reallocate your ports for each hardware location on each node. You may select a range of nodes and a range of hardware locations to view or make changes on.

Note: When reallocating ports, you can do the following:

a. Select “Change” if you want to change the port definition on a range of hardware locations on or across nodes and to modify default values of the Meridian 1 agent configuration.

b. Select “Summary” if you want to display the above table for all the hardware locations in the system.

c. Select “DetailedDisplay” for a detailed display of all hardware locations on a particular node or range of nodes based on the range you will select below.

d. Select “Done” to accept changes, and move on to the next step.

Port type	**: Voice_Basic** (Voice_Full, Multimedia)	
First Node	**: 2**	(first node in the range you want to select)
First Location	**: 9**	(first hardware location in the range you want to select)
Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 12**	(last hardware location in the range you want to select)

ACDDN **: 3651** (Meridian Mail ACDDN)

SECDN **: 2800** (Key 1 assignment of Meridian Mail agents)

Port Density **: Double** (Only double density is supported by EC.)

Loop Number **: 12**

Shelf Number **: 0** (0 or 1 only for EC)

Card Number **: 2** (EC requires card slot assignments of 2 and 3 only.)

Unit Number **: 0**

Switch Type **: SL1**

Select Operation: Summary

Your options for port allocations are defined by both your hardware configuration and keycode. The above information must be obtained before beginning this system operation.

3 Continue the above operations until all your ports on all nodes have been assigned. If you select "Summary," the following display will appear showing you what you have just defined:

Node	**––––––––––––––––Voice Hardware location––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**Vb**	**Vb**	**Vb**	**Vb**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: DetailedDisplay, (Change, Summary, Done)

Notice that ports 9 through 12 have now been defined as Voice_basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full service voice), you will be prompted to reconfigure them. In this example, there are fewer multimedia ports than the minimum number of multimedia ports defined by the keycode.

You have defined 6 MultiMedia channels
You must define at least 8 channels

You will now go back to step 2 and reconfigure four more full-service ports to get two multimedia ports

4 If you chose "DetailedDisplay" in step 3, you are next prompted for a range and the following table appears:

First Node **: 2** (first node in the range you want to select)

First Location **: 1** (first hardware location in the range you want to select)

Last Node **: 2** (last node in the range you want to select)

Last Location **: 16** (last hardware location in the range you want to select)

NUM	VP Locn	Type	ACD	SECDN	Loop	Shelf	Card	Unit	Density	Switch
2-1	2-2-1-1	M	3650	2800	12	0	2	0	Double	0
2-3	2-2-2-1	M	3650	2802	12	0	2	2	Double	0
2-5	2-3-1-1	M	3650	2804	12	0	2	4	Double	0
2-7	2-3-2-1	M	3650	2806	12	0	2	6	Double	0
2-9	2-3-3-1	Vb	3650	2808	12	0	3	0	Double	0
2-10	2-3-3-2	Vb	3650	2809	12	0	3	1	Double	0
2-11	2-3-4-1	Vb	3650	2810	12	0	3	2	Double	0
2-12	2-3-4-2	Vb	3650	2811	12	0	3	3	Double	0
2-13	2-4-1-1	M	3650	2812	12	0	3	4	Double	0
2-15	2-4-2-1	M	3650	2814	12	0	3	6	Double	0

Select operation: Done (Change, Summary, DetailedDisplay)

5 If you are finishing reconfiguring your ports, press the up or down arrow key until the word “Done” appears. A summary of the configuration similar to the following will appear:

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

6 You will now be asked to confirm your telephony port configuration. If the information is correct, use the up or down arrow key to select “Yes” and press <Return>. If it is not correct, select “No” and you will be given the opportunity to change the information.

Is this correct? Yes (No)

7 Next, enter the DSP parameters. Enter the desired value for each item, pressing <Return> after each entry. The defaults (in bold print) are those common to North America. Press <Return> at the following prompt and continue to step 15. The defaults (in bold print) are those common to North America.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

If the above DSP encoding parameter is set incorrectly, corrupted voice quality may result.

Disable Silence Compression: No (Yes)

8 You will now be asked if you want to change other DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 15.

Do you wish to change other DSP parameters? No (Yes)

The following parameters are not changed in most installations and, as a result, are only displayed if you select "Yes" above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

*** DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO Yes

***AGC Center: –20** (–20 to –10 dBm)

Telescan Ring time: 1024 (224-1024 in increments of 16). For Australia, use 288.

Telescan Debounce: (128) (96, 112, 128, . . . 512 in increments of 16)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024 in increments of 16)

**** Note 1:*** The above marked parameters cannot be modified. They are reserved for future enhancements.

Note 2: If Fax on Demand is included in your configuration, the following prompt will appear. Otherwise, the final prompt of this step will appear.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", you will be prompted to reenter DSP parameters, as listed below:

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None

Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

9 If you have a Modular Option EC–MMP40 system, continue with Steps 10 and 11; if not, go to Step 12.

10 For Modular Option EC–MMP40 systems you will then be asked for the utility card loop numbers. (For more information, refer to your *Modular Option EC Installation and Maintenance Guide*, NTP 555-7061-250).

Please enter the loop number associated with J4 on node 1's utility card: 255

After using the backspace key to delete the default number, enter the loop number using a number between 0 and 255, then press <Return>.

Please enter the loop number associated with J5 on node 1's utility card: 255

After using the backspace key to delete the default number, enter the loop number using a number between 0 and 255 then press <Return>.

Beyond 48 ports, an additional utility card is required. The software installation process reads the location of the utility card and prompts you for loop numbers associated with J4 and J5 of the second utility card.

Note: You can use either J4 or J5 depending on where your loop is attached. If no loop is attached, use the default values. Modular Option EC–MMP40 supports up to four network loops.

11 If you have a second utility card, enter the Utility loop number for it as well.

Please enter the loop number associated with J4 on node n's utility card: 255

After using the backspace key to delete the default number, enter the loop number using a number between 0 and 255, then press <Return>.

Please enter the loop number associated with J5 on node n's utility card: 255

After using the backspace key to delete the default number, enter the loop number from a number between 0 and 255 then press <Return>.

12 The system will continue uninterrupted until the following message appears:

Shutting down tape server

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into full service.

13 The telephony port reconfiguration procedure is now complete. Remove the tape.

14 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

Card Option telephony port reconfiguration

1 After performing steps 1 to 7 of the common telephony port reconfiguration procedures, you are presented with a summary of channel information and asked to reconfigure voice channels. The following entries will depend on your system configuration as defined by your keycode and the hardware you have installed. In order to complete this section read, the sections entitled “Points to consider” and “What to do before you start” at the beginning of this chapter.

Note: Please read the information in this step carefully before going on to step 2.

The following example is for a 12-channel Card Option system. If you have fewer than 12 hardware locations (physical ports), the unused ones will be blank in the summary table below:

Please define the voice channels

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**	**V**	**V**	**V**	**V**	**Vb**	**Vb**				

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, two multimedia ports have been automatically assigned according to the minimum number defined in the keycode. The software will assign the port type and port capability to the hardware locations according to the following hierarchy:

– First, full-service multimedia ports will be assigned to the first set of hardware locations.

– Second, full-service voice ports will be assigned.

– Third, the basic-service voice ports will be assigned to the remaining hardware locations.

The term hardware location is used here to describe the physical ports on the node available to be configured as basic service voice, full-service voice, or multimedia ports. In the above example, the system has 12 physical hardware locations configured with 2 multimedia ports, 6 full-service voice ports and 2 basic service voice ports for a total of 10 voice ports. This is because multimedia ports take up 2 hardware locations instead of one.

2 You will now be given the opportunity to reallocate your ports for each hardware location. You may select a range of hardware locations to view or make changes on.

Select operation: Change (Summary, DetailedDisplay, Done)

Note: When reallocating ports, you can do the following:

a. Select “Change” if you want to change the port definition on a range of hardware locations.

b. Select “Summary” if you want to display the above table.

c. Select “DetailedDisplay” for a detailed display of all hardware locations based on the range you will select below.

d. Select “Done” to accept changes, and move on to the next step.

3 Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>.

Port type	**: Voice_Basic**	(Voice_Full, Multimedia)
First Node	**: 1**	(first node in the range you want to select)
First Location	**: 3**	(first hardware location in the range you want to select)
Last Node	**: 1**	(last node in the range you want to select)
Last Location	**: 4**	(last hardware location in the range you want to select)

4 Continue the above steps until all ports have been assigned. If you select “Summary” the following is an example of what will appear on your screen, showing what you have just defined:

Select Operation: Summary (DetailedDisplay, Change, Done)

Node	**––––––––––––––––Voice hardware location––––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1	**M**	**––**	**Vb**	**Vb**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**				

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

Notice that in the above example, ports 3 through 4 have now been defined as Voice Basic according to the range selected above.

If you select "Done" at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full-service voice), you will be prompted to reconfigure them. In this example, the multimedia ports are less than the minimum number of multimedia ports defined by the keycode.

You have defined 1 Multimedia channels
You must define at least 2 channels

You will now go back and reconfigure two more full service ports to get one multimedia port.

5 If you chose "DetailedDisplay" in step 10, you are prompted to enter a range of nodes and hardware locations, and the following table appears:

First Node	**: 1**	(Card Option systems have only one node, therefore enter 1 here.)
First Location	**: 1**	(first hardware location in the range you want to select)
Last Node	**: 1**	(Enter 1 here.)
Last Location	**: 12**	(last hardware location in the range you want to select)

NUM	VP Locn	Type	ACD	SECDN	Loop	Shelf	Card	Unit	Density	Switch
1-1	1-4-1-1	M	7000	7800	8	0	2	0	Octal	0
1-3	1-5-1-1	M	7000	7802	8	0	2	1	Octal	0
1-5	1-6-1-1	V	7000	7804	8	0	2	2	Octal	0
1-6	1-6-1-2	V	7000	7805	8	0	2	10	Octal	0
1-7	1-7-1-1	V	7000	7806	8	0	2	3	Octal	0
1-8	1-7-1-2	V	7000	7807	8	0	2	11	Octal	0
1-9	1-8-1-1	V	7000	7808	8	0	2	4	Octal	0
1-10	1-8-1-2	V	7000	7809	8	0	2	12	Octal	0
1-11	1-9-1-1	Vb	3650	7810	8	0	2	5	Octal	0
1-12	1-9-1-2	Vb	3650	7811	8	0	2	13	Octal	0

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the above example, part of the range selected consists of multimedia ports. In this case, the table only displays the odd-numbered hardware locations from 1 to 4 because multimedia ports take up two hardware locations.

6 If you are finishing reconfiguring your ports, press the up or down arrow key until the word "Done" appears. A summary of the configuration similar to the following will appear:

Node	–––––––––––––––Voice hardware location–––––––––––––––––															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	M	––	Vb	Vb	V	V	V	V	V	V	Vb	Vb				

7 You will now be asked to confirm your telephony port configuration. If the information is correct, use the up or down arrow key to select “Yes,” and press <Return>. If it is not correct, select “No” and you will be given the opportunity to change the information.

Is this correct? Yes (No)

8 Next, enter the DSP parameters. Enter the desired value for each item, pressing <Return> after each entry. The defaults (in bold print) are those common to North America. Press <Return> at the following prompt and continue to Step 15. The defaults (in bold print) are those common to North America.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

If the above DSP encoding parameter is set incorrectly, corrupted voice quality may result.

Disable Silence Compression: No (Yes)

9 You will now be asked if you want to change other DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 15.

Do you wish to change other DSP parameters? No (Yes)

The following parameters are not changed in most installations and, as a result, are only displayed if you select “Yes” above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

*** DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO Yes

***AGC Center: –20** (–20 to –10 dBm)

Telescan Ring time: 1024 (224-1024 in increments of 16). For Australia, use 288.

Telescan Debounce: (128) (96, 112, 128, . . . 512 in increments of 16)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024 in increments of 16)

**** Note 1:*** The above marked parameters cannot be modified. They are reserved for future enhancements.

Note 2: If Fax on Demand is included in your configuration, the following prompt will appear. Otherwise, the final prompt of this step will appear.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", you will be prompted to reenter DSP parameters as listed below:

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None
Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

10 The system will continue uninterrupted until the following message appears:

Shutting down tape server

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into full service.

11 The telephony port reconfiguration procedure is now complete. Remove the tape and reboot the system.

After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. After booting, the Meridian Mail logon screen will appear and normal operation can commence. This will take from 10 to 15 minutes per node.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to it.

Modular Option GP telephony port reconfiguration

Procedure 16-3
Modular Option GP telephony port reconfiguration procedures

1 After following Steps 1-7 in the common procedures, press the up or down arrow key until the word “Yes” is displayed on the screen, then press <Return>. After a series of system messages, you will be see a summary table *similar* to the following:

Please define the voice channels

Node	**––––––––––––––––Voice Hardware location––––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

Note: When installing agent information, do the following:

The term Hardware location is used here to describe the physical port on the node available to be configured as one of basic-service voice, full-service voice or multimedia port. In the above example, node 2 has 16 physical hardware locations configured as 8 multimedia ports.

2 Once you get the above summary display, select “DetailedDisplay” to get a more complete picture of your port information. First, define the range you want displayed when the following prompts appear.

First Node : 2 (first node in the range you want to select)

First Location **: 1** (first hardware location in the range you want to select)

Last Node **: 2** (last node in the range you want to select)

Last Location **: 16** (last hardware location in the range you want to select)

3 You will then see a listing *similar* to the following example depending on your hardware and what has been defined in your keycodes:

Number	DN	Type	UCDDN	Login	Logout	Link ID	Agt Posn
2-1	2801	M	3650	*85	*86	1	9999
2-3	2803	M	3650	*85	*86	1	9999
2-5	2805	M	3650	*85	*86	1	9999
2-7	2807	M	3650	*85	*86	1	9999
2-9	2809	M	3650	*85	*86	1	9999
2-11	2811	M	3650	*85	*86	1	9999
2-13	2813	M	3650	*85	*86	1	9999
2-15	2815	M	3650	*85	*86	1	9999

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

In the preceding example, the table only displays the even number hardware locations because multimedia ports take up two hardware locations and these have been assigned across the entire node.

Select operation: Change (Summary, DetailedDisplay, Done)

4 If the display is not correct, or you wish to change it, select “Change”. You will now be given the opportunity to change the assignment of the ports and other channelling information.

Port type **: Voice_Basic** (Voice_Full, Multimedia)

First Node **: 2** (first node in the range you want to select)

First Location **: 9** (first hardware location in the range you want to select)

Last Node **: 2** (last node in the range you want to select)

Last Location **: 12** (last hardware location in the range you want to select)

DN: **2800** On DMS installation, it may be up to 7 digits. See Service Orders section of *Translations Guide* (NTP 555-7001-310). For other

		PBXs, use a DN appropriate to the dialing plan.
Link Type:	**SMDI**	
UCDDN:	**3650**	For DMS Installations, see Table DNROUTE in *Translations Guide* (NTP 555-7001-310). For Meridian Mail Connections, specify the DN (or pilot DN) of the integration unit.
Link ID:		Current SMDI link IDs
Message Desk:	**63**	For DMS installations, see message desk field in Table UCDGRP in *Translations Guide* NTP 555-7001-310. For Meridian Mail Connections, the same desk number should be defined on the integration unit.
Message Terminal:	**1**	Position of the Agent
Select operation:	**Done**	

Select Operation: Summary

5 Continue the above operations until all your ports on all nodes have been assigned. If you select “Summary,” the following display will appear showing you what you have just defined:

Node	**––––––––––––––––Voice Hardware location––––––––––––––––**															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**Vb**	**Vb**	**Vb**	**Vb**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

Select operation: DetailedDisplay, (Change, Summary, Done)

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

Notice, in this example, that ports 9 through 12 have now been defined as Voice_basic according to the range selected above.

If you select “Done” at this point and you have not configured your ports within the parameters defined by the keycode (minimum multimedia and maximum full-service voice), you will be prompted to reconfigure them. In this example, there are fewer multimedia ports than the minimum number of multimedia ports defined by the keycode.

You have defined 6 MultiMedia channels
You must define at least 8 channels

You will now go back to Step 4 and reconfigure four more full-service ports to get two multimedia ports

6 If you now choose “DetailedDisplay,” you are prompted for a range and the following table appears. You can also make changes within the detailed display table.

First Node	**: 2**	(first node in the range you want to select)
First Location	**: 1**	(first hardware location in the range you want to select)
Last Node	**: 2**	(last node in the range you want to select)
Last Location	**: 16**	(last hardware location in the range you want to select)

Note: For Option ST/RT and NT/XT, Meridian Mail has a maximum of 24 channels.

Number	DN	Type	UCDDN	Login	Logout	Link ID	Agt Posn
2-1	**2800**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-3	**2802**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-5	**2804**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-7	**2806**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-9	**2808**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-10	**2809**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-11	**2810**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-12	**2811**	**Vb**	**3650**	***85**	***86**	**1**	**9999**
2-13	**2812**	**M**	**3650**	***85**	***86**	**1**	**9999**
2-15	**2814**	**M**	**3650**	***85**	***86**	**1**	**9999**

Select operation: Done (Summary, DetailedDisplay, Change)

ATTENTION

If the user selects Change or Done and receives an error message, there may be an incorrect assignment of the voice ports to the link.
The error must be corrected before the user can proceed.

The links assigned to the voice ports must be compatible. The Telescan ring parameters associated with the link must be the same for the identified, paired voice ports.

7 If you are finishing reconfiguring your ports, press the up or down arrow key until the word “Done” appears. A summary of the configuration similar to the following will appear:

Node	––––––––––––––––Voice Hardware location––––––––––––––––															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
2	**M**	**––**	**M**	**––**	**M**	**––**	**M**	**––**	**Vb**	**Vb**	**Vb**	**Vb**	**M**	**––**	**M**	**––**
3	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**V**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**	**Vb**

(M = Multimedia, V = Voice Full Service, Vb = Voice Basic)

8 You will now be asked to confirm your telephony port configuration.

Is this correct? Yes (No)

9 If the configuration is correct, press the up or down arrow keys until the word “Yes” appears.

10 Next, enter the DSP parameters. Enter the desired value for each item, pressing <Return> after each entry. The defaults (in bold print) are those common to North America. Press <Return> at the following prompt and continue to Step 15. The defaults (in bold print) are those common to North America.

Please enter the DSP parameters.

DSP Encoding Type: MuLaw (Alaw)

If the above DSP encoding parameter is set incorrectly, corrupted voice quality may result.

Disable Silence Compression: No (Yes)

11 You will now be asked if you want to change other DSP parameters. Unless instructed by Nortel support, do not change DSP parameters. Press <Return> at the following prompt and continue to Step 15.

Do you wish to change other DSP parameters? No (Yes)

The following parameters are not changed in most installations and, as a result, are only displayed if you select “Yes” above.

Transmit Level: 0 (–10 to +10 dBm)

Receive Level: 0 (–10 to +10 dBm)

DTR Reject Level: (–57) (–60 to –30 in 3 dB increments)

*** DTR Max Accept Level: (1)** (–11, –8, –5, –2, 1, or 4 dBm)

Disable AGC: NO Yes

***AGC Center: –20** (–20 to –10 dBm)

Telescan Debounce: (128) (96, 112, 128, . . . 512 in increments of 16)

Hook Flash Pulse: 320 (304, 320, 336, . . . 1024 in increments of 16)

**** Note 1:*** The above marked parameters cannot be modified. They are reserved for future enhancements.

Note 2: If Fax on Demand is included in your configuration, the following prompt will appear. Otherwise, the final prompt of this step will appear.

Do you want to change the Fax specific DSP parameters? No (Yes)

Note: If you select "Yes", you will be prompted to reenter DSP parameters as listed below.

Fax Transmit Level (dB) : (–13)
CNG/CED Gain (dB) : (–6)
Equalizer : None
Enter Poor Quality Page Threshold: 10
Enter Rx CDET Threshold : –47 dBm
Call Connect Timeout (sec) : 35
Handshake Timeout (sec) : 7
Switch Over Time (sec) : 75
Response Timeout (100 ms) : 35
***Training Length : 200**
V29/V27 CDET timeout (100 ms) : 20

**** Note :*** Training Length is measured in data words ranging from 75 to 250. It increases in increments of 25, and 25 words = 200 msec.

Do you want to re-enter the DSP parameters? No (Yes)

Press the up or down arrow key until the desired response is displayed on the screen, then press <Return>. If you select "Yes", return to the previous step.

12 The system will continue uninterrupted until the following message appears:

Shutting down tape server

The operation successfully completed.

Remove the tape when it finishes rewinding and boot into full service.

13 The telephony port reconfiguration procedure is now complete. Remove the tape.

14 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

Chapter 17: Change console port speed

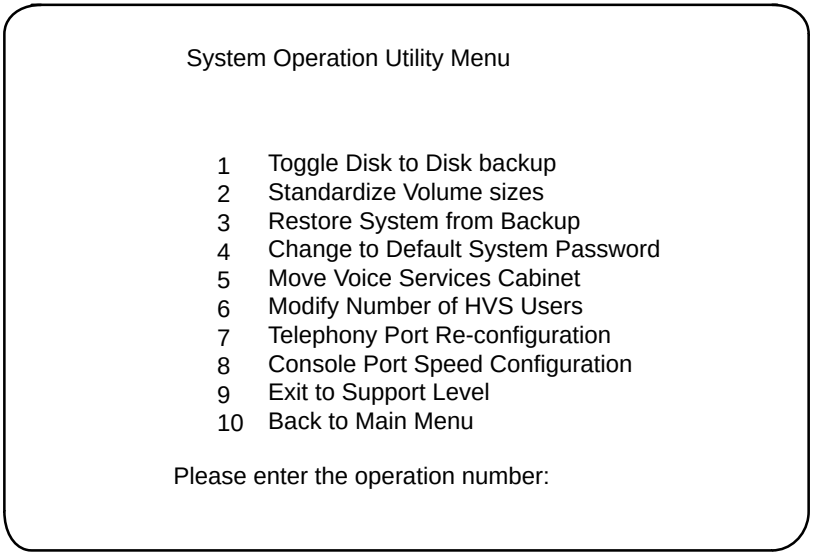
Console Port Speed Configuration Utility

The Console Port Speed Configuration Utility allows the administrator or installer to change the default console port speed in the Non-volatile RAM (NVRAM) of the MMP40 card.

The Console Port Speed Configuration Utility is accessed through the System Operation Utilities Menu from the System Installation and Modification screen, and can be used to change the baud rate on the administration terminal, MATs, and GACs.

> ***Note:*** The Console Port Speed Configuration Utility is only available on the Modular Options EC and Classic platforms.

Figure 17-1
System Operation Utilities Menu



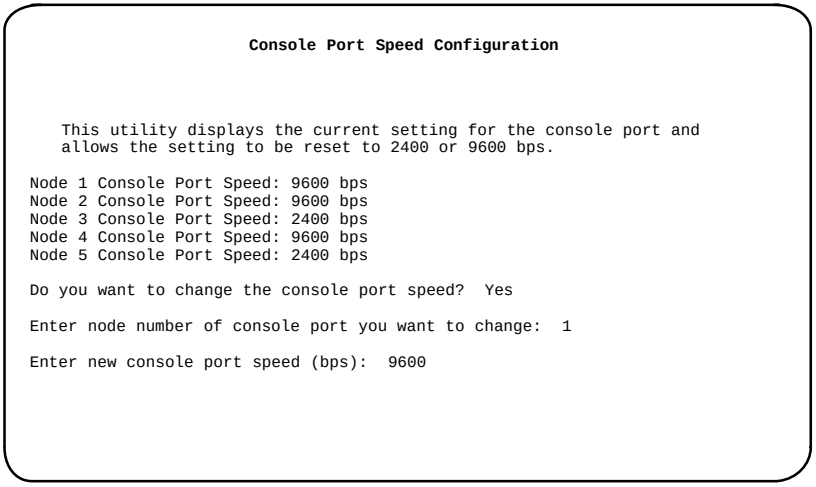
Procedure 17-1
Selecting the Console Port Speed Configuration

Starting point: The System Installation and Modification screen

1 Select More Utilities from the System Installation and Modification screen and press <Return>.

2 Select Console Port Speed Configuration and press <Return>.

Figure 17-2
Console Port Speed Configuration screen



The following fields are displayed on this screen:

- ***Node X Console Port Speed*** This field indicates the current setting for the console port speed stored in the NVRAM for the indicated node. Possible values that can be displayed in this field are 300, 600, 1200, 2400, 4800, 9600, and 19 200 bps, although only 2400 bps and 9600 bps are officially supported. If the stored value in NVRAM is invalid, 2400 bps is displayed.
- ***Do you want to change the console port speed?*** To exit the utility without changing the console port speed, select “No”. Select “Yes” to reset the console port speed to either 2400 bps or 9600 bps.
- ***Enter node number of console port you want to change*** For multi-node systems only, enter the number of the node which is to be modified. The default value is 1.

- ***Enter new console port speed (bps)*** Enter the appropriate console port speed to reset the value to 9600 or 2400 bps. The default value for this field is “9600”.

  For node 1 only, this is an on-line operation, that is, no system reboot is required. For non-prime nodes, if an on-line change is required, use “Modify Hardware” at the TOOLS level. A warning message is issued to indicate that the speed of the attached device (that is, the terminal or modem) should be adjusted.

  Note: The User may wish to verify the terminal speed. Please also see the appropriate Installation and Maintenance Guide to configure your terminal.

Procedure 17-2
Configuring the console port speed

1 After Configure the Console Port Speed is selected, the operator is prompted.

You have chosen to configure Console Port Speed.

Do you wish to continue? Yes

2 Select “Yes” by pressing <Return>. The system responds with

Console Port Speed Configuration Utility

This utility displays the current setting for the console port and allows the setting to be reset to 2400 or 9600 bps.

Loading console port speed configuration utility...

Node 1 Console Port Speed: 2400 bps

Do you want to change the console port speed? Yes

3 Select “Yes” by pressing <Return>. The system responds with

Enter new console port speed (bps): 9600

MMP40 Console Port speed reset to 9600.
Adjust Terminal speed to requested port speed (within 45 seconds).

In order to select the Set-Up screen to modify your terminal speed, see the reference material in the appropriate Installation and Maintenance Guide for your platform.

In the event that you do not match the console port speed with the terminal speed, you will receive a garbled message. You must reselect the terminal speed, and CTRL-R will refresh the screen.

Once the terminal setup is complete, you will see the following prompt:

#TAPE:MMTAPE1>

If you wish to continue with other utilities, use the next step.

4 Type **SC_OPS** in order to return to the System Operation Utility Menu.

Verifying the MMP40 card baud rate

A replacement MMP40 card may have a line speed of 2400 or 9600 baud. The user determines the speed using the following procedure:

Procedure 17-3
Verifying the MMP40 card baud rate

1 Boot the system from the Install/data tape.

Diagnostic and bootup messages will appear correctly on the console even if the terminal and NVRAM values are different.

The operating system will start up and the following message will appear: "Change Your Console & Modem Setup for XXXX bps Access," where XXXX is the MMP40 NVRAM value for the port speed displayed on the terminal.

2 If the MMP40 NVRAM value does not match the desired speed, use Procedure 17-2 to change the console port speed.

Chapter 18: Exit to support level

This procedure is most commonly used by support level personnel who need access to specialized utilities and should only be used by qualified technicians.

Procedure 18-1
Exit to support level

3 Perform a courtesy-down procedure on the system prior to commencing any of the procedures described in this guide. This will prevent calls from being abruptly terminated when the operation commences.

4 Power the system down.

5 Insert the Install/data tape into the tape drive, with the metal to the left side, and the window facing up and to the rear. Press the locking lever down.

6 Power up again. (Wait 10 seconds after powering down before powering up.)

For more information on power up and power down procedures, refer to the Installation and Maintenance Guide *(NTP 555-70x1-250) (for Options systems, refer to the* Installation Guide *[NTP 555-7011-210]).*

The system automatically runs a series of diagnostic routines followed by a pause of approximately five minutes while the tape is automatically retensioned. When retensioning begins, the following message is displayed:

Tape Retension

When the diagnostic routines are complete, the Meridian Mail software will be loaded from the tape. Depending on the number of nodes in the system, it will take between 5 and 10 minutes to load the software. Once loaded, the System Installation and Modification Menu will be shown.

Figure 18-1
System Installation and Modification Menu (all platforms except Card Option and MSM)

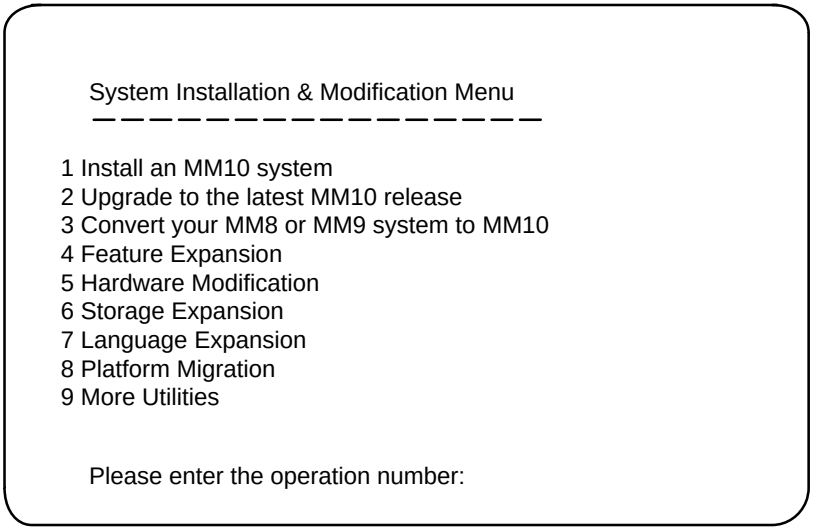
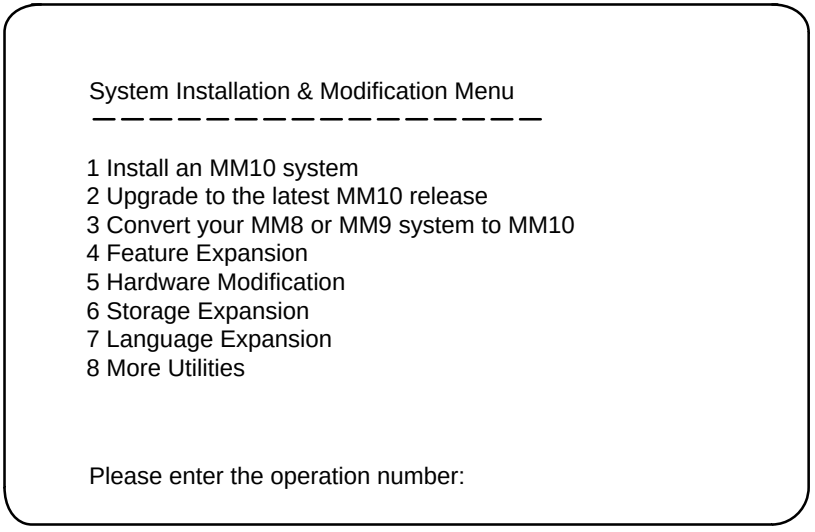


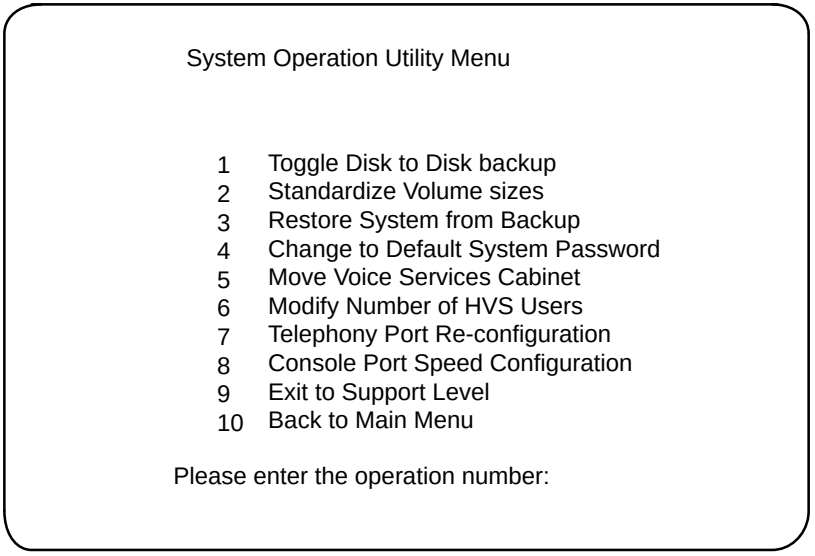
Figure 18-2
System Installation and Modification Menu (Card Option only)



Note: Screen selections may vary slightly depending on platform.

7 Using the up or down arrow keys, choose the number (or type the number) for More Utilities, then press <Return> . The following menu should appear:

Figure 18-3
System Operation Utilities Menu



Note: Screen selections may vary slightly depending on platform.

8 Using the up or down arrow keys, choose the number (or type the number) for Exit to Support Level (8).

#TAPE:MMTAPE>

9 After performing the required support services, type SC_OPS followed by <Return> to return to the System Installation and Modification Menu, or boot to full service.

10 After removing the tape, turn the power off. Then, after approximately 10 seconds, boot the system by turning the power on again. Booting will take from 10 to 15 minutes per node. After booting, the Meridian Mail logon screen will appear and normal operation can commence.

Note: It is important that the Install/data tape be stored in a safe place. This will ensure that if you need to reinstall or modify the system, you will have access to the tape.

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Reader's Response Form for

Meridian Mail

System Installation and Modification Guide, **555-7001-215**, **August 1995**

Tell us about yourself:

Name: _____ **Date:** _____

Company: _____

Address: _____

_____

Occupation: _____ **Phone:** _____

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 your comments to: Nortel, Customer Documentation, 522 University Ave., 12th Floor, Toronto, ON, Canada M5G 1W7

Meridian Mail

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