Lucent Technologies
Bell Labs Innovations

MERLIN LEGEND® MAIL
Voice Messaging System
for the MERLIN LEGEND® Communications System
Installation and Upgrade

AT&T

Notice

Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

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⚠ WARNING:

- This book is intended for trained technicians only.

- ONLY an authorized Lucent Technologies technician or authorized dealer shall install, set hardware options, or repair this product.

- DO NOT attempt to install or remove this product.

- DO NOT open the cover of the MERLIN LEGEND MAIL module.

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Overview of the MERLIN LEGEND MAIL System

The MERLIN LEGEND® MAIL Voice Messaging System provides the same features and functionality as the MERLIN MAIL® Voice Messaging System Release 3.0. However, its *integrated* design houses both the station port and the voice mail functionality in a single module that plugs into the MERLIN LEGEND backplane.

This new module replaces the hardware previously required to provide the same voice messaging service: an 012 module, separate MERLIN MAIL R3 system, and remote maintenance device. Figure 1-1 shows the MERLIN LEGEND MAIL module with a four-port expansion voice-port card.

System Compatibility

The MERLIN LEGEND MAIL system is compatible with all domestic and international releases of the MERLIN LEGEND Communications System. The MERLIN LEGEND MAIL system is not compatible with MERLIN II systems.

$\equiv\!\!\!>$ **NOTE:**
The MERLIN LEGEND system must have a 391A3 or newer power supply module.

System Capacities

The MERLIN LEGEND MAIL system can provide two-port, four-port, or six-port voice mail service with a message storage capacity of 21 hours. Two ports are built into the base module of the MERLIN LEGEND MAIL system module.
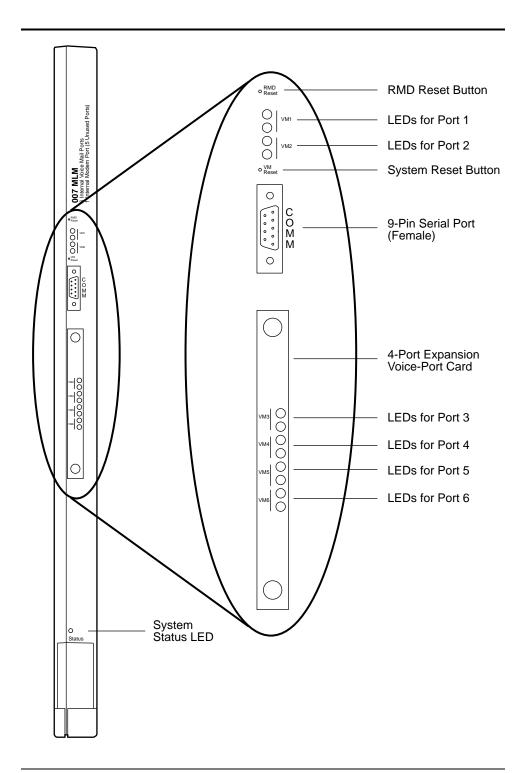
Figure 1-1. MERLIN LEGEND MAIL Module with a Four-Port Expansion Voice-Port Card

System Components

The MERLIN LEGEND MAIL system consists of one module that resembles a MERLIN LEGEND system 012 module with no modular jacks and resides in the MERLIN LEGEND system carrier. The MERLIN LEGEND MAIL system module consists of three subassemblies and their components:

■ a base module (which provides two touch-tone receivers and a 1200-baud remote maintenance device)

Similar to an 012 module, the MERLIN LEGEND MAIL module is equipped with two touch tone receivers (TTRs) that are available as MERLIN LEGEND system resources.

The internal remote maintenance device (RMD) is used for answering inbound remote maintenance calls. It is connected to port 7 of the MERLIN LEGEND MAIL module and to the COM serial port of the voice mail central processing unit. The default settings for the RMD are Auto Answer ON, 1200 baud, 8 data bits, 1 stop bit, and no parity.

The base module also contains the following components:

— a nine-pin serial port that enables you to connect a PC to the MERLIN LEGEND MAIL module

The COM port can be accessed from the front edge of the MERLIN LEGEND MAIL module with a DCE DB-9 connector. When a nine-pin straight-through cable is attached to the DB-9 connector, the module automatically switches the COM port from the modem to the DB-9 connector.

— LEDs

The green LED on the bottom of the module is the system status LED. It is ON when the MERLIN LEGEND MAIL system is operating properly. It blinks when there is a problem with the MERLIN LEGEND MAIL system (for example, a problem with the disk drive on which the system software resides). Additional LEDs associated with the voice mail ports are explained in the following sections describing the two-port, four-port, and six-port systems.

— two reset buttons

There are two reset buttons on the MERLIN LEGEND MAIL module (see Figure 1-1). One button controls the system, and the other controls the modem. The VM Reset button (System Reset button) causes the voice mail system to reboot and reinitialize the voice mail functions. It has no effect on the modem. Conversely, the RMD Reset button causes only the modem to reset. You can use a straightened paper clip or other similar pointed instrument to press the reset button.

■ a detachable disk drive that stores all of the voice mail messages for the MERLIN LEGEND MAIL system

■ an optional expansion voice-port card

Description of the Two-Port MERLIN LEGEND MAIL System

The two-port MERLIN LEGEND MAIL system includes the base module, hard disk, which provides 21 hours of message storage, and two voice ports.

Port Assignments

The ports on the two-port MERLIN LEGEND MAIL system are assigned as follows:

- port 1 - voice mail
- port 2 - voice mail
- port 7 - remote maintenance device

Ports 8 through 12 are not installed, and ports 3, 4, 5, and 6 are not equipped.

> ⇛ **NOTE:**
> The ports on a MERLIN LEGEND MAIL module are numbered from top to bottom (that is, port 1 is the top-most port on the module).

LED Meanings

Table 1-1 summarizes the meaning of the five LEDs on the two-port base unit.

> ⇛ **NOTE:**
> The green LED on the bottom of the module is the system status LED. It is ON when the MERLIN LEGEND MAIL system is operating properly.

The additional two pairs of GREEN-RED LEDs (labeled VM1 and VM2) are the same as those for MERLIN MAIL.

Table 1-1. MERLIN LEGEND MAIL LED Meanings

Red LED	Green LED	Meaning
OFF	ON	On-hook; waiting for a call
ON	OFF	Off hook; speaking or recording
ON	ON/BLINK (momentarily)	Off hook; receiving touch tone
OFF	OFF	Fault condition
ON	ON	Fault condition or maintenance mode

Description of the Four-Port MERLIN LEGEND MAIL System

The four-port MERLIN LEGEND MAIL system includes the base module, hard disk, which provides 21 hours of message storage, and four voice ports. The two-port voice-port card required for this system is shown in Figure 1-2.

Figure 1-2. Two-Port Voice-Port Expansion Card

Port Assignments

The ports on the four-port MERLIN LEGEND MAIL system are assigned as follows:

- port 1 - voice mail
- port 2 - voice mail
- port 3 - voice mail
- port 4 - voice mail
- port 7 - remote maintenance device

Ports 8 through 12 are not installed, and ports 5 and 6 are not equipped.

⇛ NOTE:
The ports on a MERLIN LEGEND MAIL module are numbered from top to bottom (that is, port 1 is the top-most port on the module).

LED Meanings

On the four-port MERLIN LEGEND MAIL system, the two-port voice-port card has two pairs of LEDs (labeled VM3 and VM4). The meaning of these LEDs is the same as for the LEDs labeled VM1 and VM2. (See Table 1-1.)

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Description of the Six-Port MERLIN LEGEND MAIL System

The six-port MERLIN LEGEND MAIL system includes the base module, hard disk, which provides 21 hours of message storage, and voice ports. The four-port expansion voice-port card required for this system is shown in Figure 1-3.
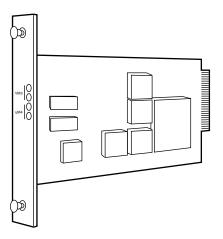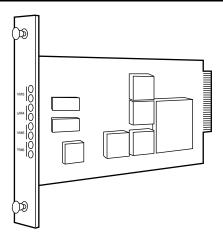

Figure 1-3. Four-Port Voice-Port Expansion Card

Port Assignments

The ports on the six-port MERLIN LEGEND MAIL system are assigned as follows:

- port 1 - voice mail
- port 2 - voice mail
- port 3 - voice mail
- port 4 - voice mail
- port 5 - voice mail
- port 6 - voice mail
- port 7 - remote maintenance device

Ports 8 through 12 are not installed.

➡ **NOTE:**
The ports on a MERLIN LEGEND MAIL module are numbered from top to bottom (that is, port 1 is the top-most port on the module).

LED Meanings

On the six-port MERLIN LEGEND MAIL system, the four-port expansion voice-port card has four pairs of LEDs (labeled VM3, VM4, VM5, and VM6). The meaning of these LEDs is the same as for the LEDs labeled VM1 and VM2. (See Table 1-1.)

The MERLIN LEGEND MAIL System Advantages

The new integrated design of the MERLIN LEGEND MAIL system offers several advantages. For example, it

- eliminates the need to cable two, four, or six voice mail ports as well as the remote maintenance device, which are now hard-coded within the module;

- simplifies remote maintenance because the station number associated with the remote maintenance device can be deduced by examining MERLIN LEGEND translations;

- eliminates the need to provide surge/lightning protection for the voice mail system;

- eliminates the need to wall-mount the voice mail system and/or the remote maintenance device.

MERLIN LEGEND MAIL System Specifications

Before installing the MERLIN LEGEND MAIL module, be sure that your installation site meets the environmental requirements provided in Table 1-2.

Table 1-2. MERLIN LEGEND MAIL System Specifications

Condition	Requirement
Relative Humidity	< 90%
Temperature Range	40°F to 104°F (4°C to 40°C)
Air Quality	Dust-free area (preferably in an office environment)
Environment	No exposure to any liquids (avoid areas near drinking fountains, coffee makers, and so on)
Dimensions	20-5/8" high x 1-1/4" wide x 8-1/2" deep
Voltage	115 or 230 VAC In the United States and Canada, a 391A3 or newer power supply module is required. In countries other than the United States and Canada, a 391B2 or newer power supply module is required.
Weight	4.1 lbs.
Maximum Number of Ports	6

Using This Guide

This guide provides the installation, upgrade, troubleshooting, and ordering information for the MERLIN LEGEND MAIL system. The information in this guide replaces the existing installation, upgrade, and ordering information in Chapter 2, Chapter 7, and Appendix G of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*. This guide also includes acceptance test procedures that supplement those provided in the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use*. Be sure to use this guide with your MERLIN MAIL Voice Messaging System Release 3 documentation.

$\equiv\!\!\!\triangleright$ **NOTE:**
> This guide is intended only for qualified technicians. **This guide is not intended for customers.**

This guide consists of the following chapters:

- **Chapter 1: Introduction**

    This chapter provides an overview of the MERLIN LEGEND MAIL system.

- **Chapter 2: Installing the MERLIN LEGEND MAIL System**

    This chapter describes how to install the MERLIN LEGEND MAIL module. This chapter replaces the information in Chapter 2 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*.

- **Chapter 3: Upgrading the MERLIN LEGEND MAIL System**

    This chapter describes how to upgrade the number of voice mail ports. It includes instructions for installing the expansion module and for replacing the hard disk in the MERLIN LEGEND MAIL module, the module itself, and any defective expansion modules. This chapter replaces the information in Chapter 7 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*.

- **Chapter 4: Performing Acceptance Tests and Troubleshooting**

    This chapter describes how to perform acceptance tests to verify proper operation of the RMD, disk drive, and voice ports. These tests are intended only to supplement the instructions for performing acceptance tests detailed in Chapter 6 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*. You should perform those tests to verify proper operation of each applicable service, including voice mail, automated attendant, and call answer service.

- **Appendix A: Ordering Information**

  This appendix provides the ordering codes for the MERLIN LEGEND MAIL system. This appendix replaces the information in Appendix G of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

- **Appendix B: Busying Out/Restoring the Module**

  This appendix provides the step-by-step instructions for busying out and restoring the MERLIN LEGEND MAIL module. These instructions are cross-referenced in the installation procedures provided in Chapter 2 of this guide.

- **Appendix C: Installing/Removing the Module**

  This appendix provides the step-by-step instructions for installing and removing the MERLIN LEGEND MAIL module. These instructions are cross-referenced throughout upgrade procedures provided in Chapter 3 of this guide.

- **Appendix D: Using the Serial Number Utility**

  This appendix provides the step-by-step instructions for re-serializing the disk drive. These instructions are cross-referenced in the upgrade procedures provided in Chapter 3 of this guide.

- **Appendix E: Resetting the System**

  This appendix provides the step-by-step instructions for resetting the MERLIN LEGEND MAIL module and RMD. These instructions are cross-referenced throughout the upgrade procedures provided in Chapter 3 of this guide.

- **Appendix F: Changing the Far-End Disconnect Setting and Adding a 3 db Boost**

  This appendix provides the step-by-step instructions for changing the far-end disconnect setting and adding a 3 db boost.

  $\Longrightarrow$ **NOTE:**
  These settings should not have to be modified. These settings may only need to be changed if the system is operating in countries other than the United States and Canada.

Related Documents

The documents listed below are MERLIN MAIL Voice Messaging System documents or part of the MERLIN LEGEND Communications System documentation set. These documents can be ordered from the Lucent Technologies Publications Center by calling 1-800-457-1235.

Table 1-3. MERLIN MAIL Voice Messaging System Release 3 and MERLIN LEGEND Communications System Release 3.1 and Release 4.1 Documentation Set

Document No.	Title
	MERLIN MAIL Voice Messaging System Release 3
AT&T 585-320-744	*User's Guide—English (North American)*
AT&T 585-320-744FRCA	*User's Guide—French (Canadian)*
AT&T 585-320-744ES	*User's Guide—Spanish (Latin American)*
AT&T 585-320-142	*Planning, Installation, and Use*
AT&T 585-320-544	*Planning Forms*
555-600-100	*Installation and Upgrade*
	Toll Fraud Security
AT&T 555-025-600	*GBCS Products Security Handbook*
	MERLIN LEGEND Communications System Release 3.1 and Release 4.0 System Documents
AT&T 555-640-118	*System Manager's Guide*
AT&T 555-640-110	*Feature Reference*
AT&T 555-640-116	*Pocket Reference*
AT&T 555-640-111	*System Programming*
AT&T 555-640-112	*System Planning*
AT&T 555-640-113	*System Planning Forms*
AT&T 555-640-105	*Data and Video Reference*
	MERLIN LEGEND Communications System Release 3.1 and Release 4.0 Telephone User Support
AT&T 555-640-122	*MLX-10D®, MLX-10DP™, MLX-16DP™, MLX-28D®, and MLX-20L® Display Telephones User's Guide*
AT&T 555-640-150	*MLX-10D Display Telephone Tray Cards (5 cards)*
AT&T 555-640-152	*MLX-28D and MLX-20L Telephone Tray Cards (5 cards)*
AT&T 555-640-124	*MLX Non-Display Telephones User's Guide*
AT&T 555-640-151	*MLX-10® Non-Display Telephone Tray Cards (6 cards)*
AT&T 555-640-120	*Analog Multiline Telephone User's Guide*
AT&T 555-640-126	*Single-Line Telephone User's Guide*
AT&T 555-640-138	*MDC 9000 and MDW 9000 Telephones User's Guide*
	MERLIN LEGEND Communications System

	Release 3.1 and Release 4.0 Operator Support
AT&T 555-640-134	*MLX Direct-Line Console Operator's Guide*
AT&T 555-640-132	*Analog Direct-Line Console Operator's Guide*
AT&T 555-640-136	*MLX Queued Call Console Operator's Guide*
	MERLIN LEGEND Communications System Release 3.1 and Release 4.0 Miscellaneous User Support
AT&T 555-640-130	*Calling Group Supervisor's Guide*
	MERLIN LEGEND Communications System Release 3.1 and Release 4.0 Documentation for Qualified Technicians
AT&T 555-640-140	*Installation, Programming, & Maintenance (IP&M) Binder*

Installing the MERLIN LEGEND MAIL System

2

Overview

This chapter describes how to install a new MERLIN LEGEND MAIL module.

⚠ WARNING:
The procedures in this chapter are intended for qualified technicians only.

Prepare for Installation

Before you begin, verify that you have:

- the required MERLIN LEGEND MAIL system components (see "System Components" in Chapter 1)

- an installation site that meets the environmental requirements for MERLIN LEGEND MAIL (see "MERLIN LEGEND MAIL System Specifications" in Chapter 1)

- the MERLIN LEGEND Communications system equipment required, including

  — a domestic release of the MERLIN LEGEND Communications System that is functioning properly and has a 391A3 or newer power supply module

  — one available slot in the MERLIN LEGEND system carrier

The MERLIN LEGEND system treats the MERLIN LEGEND MAIL module like an 012 module. When installed, the module has a default of 12 extension numbers that are based on the carrier slot in which the module is located. Though the MERLIN LEGEND MAIL module provides 12 ports, only ports 1 through 7 are used by the MERLIN MAIL system. See Chapter 1 for a description of the port assignments.

> **NOTE:**
> None of the ports on the MERLIN LEGEND MAIL module can be used as standard telephone extensions (that is, you cannot plug a telephone station into any of these ports).

Installation

When installing the MERLIN LEGEND MAIL module, keep in mind the following:

- Make sure the MERLIN LEGEND system has a 391A3 or newer power supply module. MERLIN LEGEND MAIL does not support the 391A1 and 391A2 power supply modules.

- Install the MERLIN LEGEND MAIL module in the first available slot following the installation of other modules in the MERLIN LEGEND system carrier to avoid gaps in the customer's extension dial plan.

- Do not leave an empty slot between the right-most module and the MERLIN LEGEND MAIL module. The MERLIN LEGEND system will ignore modules installed beyond any empty slot.

⚠ CAUTION:
To prevent damage from electrostatic discharge (ESD), avoid touching leads, connectors, pins, and other components. Use a properly grounded wrist strap.

To install MERLIN LEGEND MAIL:

1. Install a completely configured MERLIN LEGEND MAIL module (that is, the correct number of ports physically installed) into the first empty slot in the MERLIN LEGEND system carrier. See Appendix C.

2. Program the MERLIN LEGEND module by following the instructions in Chapter 3 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

3. Program the MERLIN LEGEND system by following instructions in Chapter 4 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)* When programming the RMD, remember that the RMD is port 7 and uses the corresponding extension.

4. Program the internal remote maintenance device by performing the following steps:

   a. (Key mode only) Remove all lines from the RMD. To do this, enter programming mode, select `Extensions`, then `Lines/Trunks` and follow the prompts. For Hybrid/PBX mode, skip this step.

   b. Restrict the RMD from making outside calls. To do this, enter MERLIN LEGEND System Programming, select `Extensions` then `Restriction` and follow the prompts. For Restriction Type, choose `Outward Restrict`.

   ⚠ Security Alert:
   This step must be followed to limit the possibility of toll fraud abuse.

5. Perform the acceptance tests in Chapter 4 of this document and also the acceptance tests in Chapter 6 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

Upgrading the MERLIN LEGEND MAIL System

3

Overview

This chapter describes how to

- upgrade the number of voice mail ports in the MERLIN LEGEND MAIL module
- replace the disk drive in the MERLIN LEGEND MAIL module
- replace the voice-port card in the MERLIN LEGEND MAIL module
- replace the MERLIN LEGEND MAIL module
- replace an existing MERLIN MAIL Voice Messaging System with a MERLIN LEGEND MAIL module

⚠ **WARNING:**
The procedures in this chapter are intended for qualified technicians only.

⚠ **CAUTION:**
Attach a grounded wrist-strap to the bare skin of your body before handling any components sensitive to electrostatic discharge. The wrist strap should be connected to ground through a one megaohm resistor (usually built into the grounding cord).

Installing a Voice-Port Card

Customers with a two-port or four-port configuration may want to upgrade to a four-port or six-port configuration to support more subscribers or a greater volume of calls. The MERLIN LEGEND MAIL system can have a maximum of six ports. Depending on your system, you can make the following upgrades:

- upgrade from a two-port system to a four-port system

- upgrade from a two-port system to a six-port system

- upgrade from a four-port system to a six-port system

The two-port MERLIN LEGEND MAIL module can be upgraded with a two-port voice-port card to provide four ports or upgraded with a four-port voice-port card to provide six ports. The four-port MERLIN LEGEND MAIL module can be upgraded by replacing the two-port voice card with a four-port voice card to provide six ports.

⚠ CAUTION:
To prevent damage from electrostatic discharge (ESD), avoid touching leads, connectors, pins, and other components. Use a properly grounded wrist strap.

To install a voice-port card:

1. Examine the module to determine its current configuration.

   — If there are no "holes" (for LEDs) in the voice-port card cover, there is no voice-port card installed. You can install either a two-port or a four-port voice-port card. Proceed to Step 2.

   — If there are 4 LEDs in the voice-port card cover, a two-port voice-port card is installed already. To upgrade, you must remove the two-port voice-port card and replace it with a four-port voice-port card. Proceed to Step 2.

   — If there are eight LEDs in the voice-port card cover, a four-port voice-port card is installed already. No further upgrade is possible.

2. Busy out the slot in which the MERLIN LEGEND MAIL module is installed. See Appendix B.

3. Remove the MERLIN LEGEND MAIL module. See Appendix C.

4. Pull out both pushpin-like "handles" on the voice-port card cover approximately 1/8 of an inch to the next position.

5. Remove the cover.

   — If a voice-port card is installed already, proceed to Step 6.

   — If a voice-port card is not installed already, proceed to Step 7.

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6. Unplug the voice-port card by sliding it out all of the way.

7. Install the upgrade voice-port card by sliding the card into the card slots, and seating it in the MERLIN LEGEND MAIL module (Figure 3-1). Do not push on the two handles; instead, push on the center of the plastic cover.

⇛ **NOTE:**
The voice-port card must be correctly oriented to be installed properly. If the card stops about 3/8 of an inch prior to being seated, it is not installed properly. (It is probably installed upside down.) If this occurs, remove the voice-port card, rotate it, and then try to install the voice-port card again.
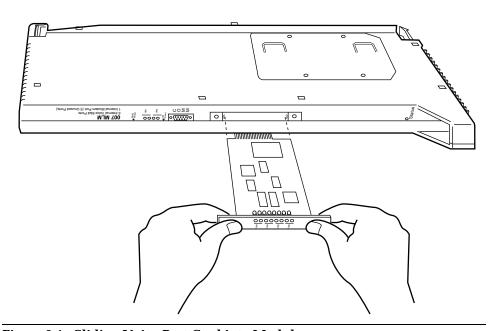
Figure 3-1. Sliding Voice-Port Card into Module

8. After the voice-port card is seated correctly, push down on the two plastic handles. You should hear a click when each handle is in place.

9. Reinstall the MERLIN LEGEND MAIL module. See Appendix C.

10. Restore the slot. See Appendix B.

11. Administer the new ports on the MERLIN LEGEND system. Refer to Chapter 4 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

This section describes how to replace the disk drive in the MERLIN LEGEND MAIL module.

⚠ CAUTION:

Before touching leads, connectors, pins, and other components when handling the disk drive, use a properly grounded wrist strap to prevent damage from electrostatic discharge (ESD).

To replace the disk drive:

1. Busy out the slot in which the MERLIN LEGEND MAIL module is installed. See Appendix B.

2. Remove the MERLIN LEGEND MAIL module. See Appendix C.

3. Place the MERLIN LEGEND MAIL module on its side with the six-sided cutout (with two metal handles) facing up (Figure 3-2).

4. Grasp the two metal handles and gently wriggle the part attached to the handles out of its connectors (Figure 3-2). This is the disk drive assembly (Figure 3-3).
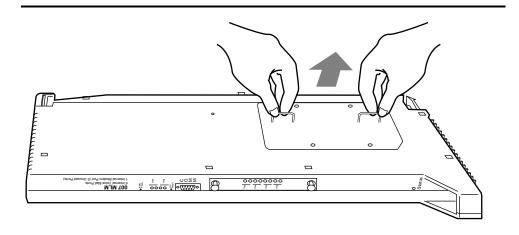
Figure 3-2. Removing Disk Drive Assembly
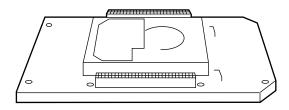
Figure 3-3. Disk Drive Assembly

5. Plug the new disk drive assembly into the MERLIN LEGEND MAIL module.

6. Reinstall the MERLIN LEGEND MAIL module. See Appendix C.

7. Restore the slot. See Appendix B.

8. Using the Serial Number Utility, re-serialize the disk drive to match the serial number that is listed on the bar code label on the top of the MERLIN LEGEND MAIL module. See Appendix D.

9. Reprogram the voice mail system. See Chapter 3 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

Replacing a Two-Port or Four-Port Voice-Port Card

This section describes how to replace a two-port or four-port voice-port card (if it is defective) in a MERLIN LEGEND MAIL module.

⚠ **CAUTION:**
To prevent damage from electrostatic discharge (ESD), avoid touching leads, connectors, pins, and other components. Use a properly grounded wrist strap.

To replace a defective two-port or four-port voice-port card:

1. Determine which voice port is defective.

   — If the defective voice port is port 3, 4, 5, or 6, proceed to Step 2.

   — If the defective voice port is port 1 or 2, the MERLIN LEGEND MAIL module must be replaced. Proceed to "Replacing a MERLIN LEGEND MAIL Module."

2. Busy out the slot in which the MERLIN LEGEND MAIL module is installed. See Appendix B.

3. Remove the MERLIN LEGEND MAIL module. See Appendix C.

4. Pull out both pushpin-like "handles" on the voice-port card cover approximately 1/8 of an inch to the next position.

5. Unplug the voice-port card attached by sliding it out all of the way.

6. Install the replacement voice-port card by sliding the card into the card slots, and seating it in the MERLIN LEGEND MAIL module (Figure 3-1). Do not push on the two handles; instead, push on the center of the plastic cover.

   ⇒ **NOTE:**
   The voice-port card must be correctly oriented to be installed properly. If the card stops about 3/8 of an inch prior to being seated, it is not installed properly. (It is probably installed upside down.) If this occurs, remove the voice-port card, rotate it, and then try to install the voice-port card again.

7. After the voice-port card is seated correctly, push down on the two plastic handles. You should hear a click when each handle is in place.

8. Reinstall the MERLIN LEGEND MAIL module. See Appendix C.

9. Restore the slot. See Appendix B.

Replacing a MERLIN LEGEND MAIL Module

This section describes how to replace a MERLIN LEGEND MAIL module that is defective (for example, port 1 or port 2 is defective or the clock battery is bad). You will want to retain the disk drive from the defective unit so that the customer's messages, greetings, and programming are not lost.

⚠ **CAUTION:**
Before touching leads, connectors, pins, and other components when handling the disk drive, use a properly grounded wrist strap to prevent damage from electrostatic discharge (ESD).

⚠ **CAUTION:**
Although the system is designed for modules to be removed and replaced without affecting call processing, there is still a possibility that partially removing or inserting a module can cause a cold start of the MERLIN LEGEND system.

To replace a MERLIN LEGEND MAIL module:

1. Busy out the slot in which the MERLIN LEGEND MAIL module is installed. See Appendix B.

2. Remove the MERLIN LEGEND MAIL module. See Appendix C.

3. Place the MERLIN LEGEND MAIL module on its side with the six-sided cutout (with two metal handles) facing up (Figure 3-2).

4. Grasp the two metal handles and gently wriggle the part attached to the handles out of its connectors (Figure 3-2). This is the disk drive assembly (Figure 3-3). Place the disk drive to the side. Later, you will install the disk drive into the replacement MERLIN LEGEND MAIL module.

5. Examine the module to determine its current configuration.

   — If there are no "holes" (for LEDs) in the voice-port card cover, there is no voice-port card installed. Proceed to Step 6.

   — If there are LEDs in the voice-port card cover, a voice-port card is installed already. To remove the voice-port card:

      a. Pull out both pushpin-like "handles" on the voice-port card cover approximately 1/8 of an inch to the next position.

      b. Unplug the voice-port card by sliding it out all of the way. Place the voice-port card to the side. Later, you will install the voice-port card into the replacement MERLIN LEGEND MAIL module.

3-7

6. Take the replacement MERLIN LEGEND MAIL module out of its bag.

— If you are not installing a voice-port card, proceed to Step 7.

— If you are installing a voice-port card (that is, either a new voice-port card or the voice-port card from the old MERLIN LEGEND MAIL module), perform the following steps:

   a. Pull out both pushpin-like "handles" on the voice-port card cover approximately 1/8 of an inch to the next position.

   b. Install the upgrade or replacement voice-port card by sliding the card into the card slots, and seating it in the MERLIN LEGEND MAIL module (Figure 3-1). Do not push on the two handles; instead, push on the center of the plastic cover.

   $\Longrightarrow$ **NOTE:**
   The voice-port card must be correctly oriented to be installed properly. If the card stops about 3/8 of an inch prior to being seated, it is not installed properly. (It is probably installed upside down.) If this occurs, remove the voice-port card, rotate it, and then try to install the voice-port card again.

   c. After the voice-port card is seated correctly, push down on the two plastic handles. You should hear a click when each handle is in place.

7. Place the replacement MERLIN LEGEND MAIL module on its side with the six-sided cutout (with two metal handles) facing up (Figure 3-2).

8. Grasp the two metal handles and pull up (Figure 3-2).

9. Plug the disk drive assembly from the old MERLIN LEGEND MAIL module into the replacement module.

10. Install the replacement MERLIN LEGEND MAIL module. See Appendix C.

11. Restore the slot. See Appendix B.

12. Using the Serial Number Utility, re-serialize the disk drive to match the serial number that is listed on the bar code label on the top of the replacement MERLIN LEGEND MAIL module. See Appendix D.

Replacing an existing MERLIN MAIL VMS with a MERLIN LEGEND MAIL Module

To replace an existing MERLIN MAIL Voice Messaging System with a MERLIN LEGEND MAIL module:

1. Install a completely configured MERLIN LEGEND MAIL module (that is, the correct number of ports physically installed) into the first empty slot in the MERLIN LEGEND system carrier. See Appendix C.

2. Following the instructions in Chapter 3 of *the MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)* program the MERLIN LEGEND MAIL module using a temporary VMI group and the first port.

3. When you are finished programming the sample VMI group, remove it.

4. Determine which VMI calling group is used for mail.

5. Remove the "old" MERLIN MAIL system extensions from the VMI group.

6. Add the new extensions associated with the mail system by following the instructions in "Preparing the MERLIN LEGEND Communications System for MERLIN MAIL System Programming" in Chapter 3 of *the MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

7. Perform each procedure in Chapter 4 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)* and verify that the system is operating properly. When programming the RMD, remember that the RMD is port 7 and uses the corresponding extension.

    You must update the following items for the new mail ports, and then redefault these items for the old mail ports:

    — Restriction of System Ports

    — Automatic Route Selection Restriction

8. Program the internal remote maintenance device by performing the following steps:

    a. (Key mode only) Remove all lines from the RMD. To do this, enter programming mode, select `Extensions`, then `Lines/Trunks` and follow the prompts. For Hybrid/PBX mode, skip this step.

b. Restrict the RMD from making outside calls. To do this, enter MERLIN LEGEND System Programming, select `Extensions` then `Restriction` and follow the prompts. For Restriction Type, choose `Outward Restrict`.

⚠ **Security Alert:**
This step must be followed to limit the possibility of toll fraud abuse.

9. Perform the acceptance tests in Chapter 4 of this document and also the acceptance tests in Chapter 6 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

Acceptance Tests and Troubleshooting

4

Overview

This chapter describes how to perform the acceptance test to verify proper operation of the Remote Maintenance Device (RMD). This test is intended only to supplement the instructions for performing acceptance tests detailed in Chapter 6 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*. Instructions for troubleshooting problems with the MERLIN LEGEND MAIL system are also included in this chapter.

⚠ **WARNING:**
The procedures in this chapter should be performed by qualified technicians only.

Performing Acceptance Tests

After you finish programming the MERLIN LEGEND MAIL system, perform the following acceptance test. You should also perform the acceptance tests detailed in Chapter 6 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)* to verify proper operation of each applicable service, including voice mail, automated attendant, and call answer service.

Verifying the Remote Maintenance Device

To verify the RMD, dial the extension of the RMD. The modem should answer the call and provide a high-pitch tone. If the RMD does not answer, reset the RMD.

⚠ **WARNING:**
If you must reset the RMD, press the RMD Reset button. Do not press the VM Reset button.

RMD does not answer

To verify whether the RMD is working properly:

1. Make sure no terminal is connected to the serial port on the MERLIN LEGEND MAIL module.

2. Reset the RMD.

⚠ **WARNING:**
If you must reset the RMD, press the RMD Reset button. Do not press the VM Reset button.

Troubleshooting

This section provides procedures for troubleshooting the MERLIN LEGEND MAIL module. You should also perform the troubleshooting procedures detailed in Chapter 6 of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142)*

MERLIN LEGEND MAIL does not answer

Verify whether the voice ports on the MERLIN LEGEND MAIL are operating properly:

1. Look at the LED at the bottom of the module.

   — If the bottom LED is blinking, the system cannot boot up. Perform the following steps:

     a. Connect a PC/terminal to the COM port on the MERLIN LEGEND MAIL module.

     b. Press the System Reset button using a straightened paper clip or other similar pointed instrument.

     c. Verify that the MERLIN LEGEND MAIL module boots up properly. The Merlin Mail administration menu should appear.

        If the LED continues to blink, call NSAC.

   — If the bottom LED is OFF, make sure the MERLIN LEGEND MAIL module is installed properly. Reseat the module and repeat Steps a through c. If the bottom LED is still OFF, the module is defective.

   — If the bottom LED is ON, proceed to Step 2.

2. Check the translations on the MERLIN LEGEND system to make sure that the port being called is the correct extension being called.

3. Make sure the slot in which the MERLIN LEGEND MAIL module resides is not busied out.

4. Perform an 012 test using the MERLIN LEGEND test procedure.

5. Perform a speech port test using the Merlin Mail Terminal Administration program:

   a. From the Merlin Mail administration menu, type **b**.

      The system shuts down. When the shut down is complete, the message "Merlin Mail is down" is displayed.

   b. Type **f**.

      The speech cards test is performed. When the test is complete, the results are displayed.

   c. Type **a** to restart the MERLIN LEGEND MAIL system.

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The Disk Drive is not Working Properly

To verify whether the disk drive is working properly:

1. From the Merlin Mail administration menu, type **b** to shut down the system.

   When the shut down is complete, the following message appears:

   `Merlin Mail is down.`

2. Type **g** to perform a disk drive test.

   The following message appears:

   `Do you want to continue? (Y/N)`

3. Type **y**.

   The disk test is performed. When the test is completed, the results are displayed.

4. At the DOS prompt, type **mm** and press the ENTER key.

   The Merlin Mail administration menu appears.

5. Type **a** to restart the MERLIN LEGEND MAIL system.

Ordering Codes

A

Overview

This appendix provides the ordering codes for the MERLIN LEGEND MAIL system. This appendix replaces the information in Appendix G of the *MERLIN MAIL® Voice Messaging System Release 3 Planning, Installation, and Use (AT&T 585-320-142.)*

Ordering Codes

Table A-1 provides the ordering codes for the MERLIN LEGEND MAIL System.

Table A-1. Ordering Codes

Component	PEC	Comcode
MERLIN LEGEND MAIL 2-port system	7107-302/A	107831919
MERLIN LEGEND MAIL 4-port system	7107-304/A	107831927
MERLIN LEGEND MAIL 6-port system	7107-306/A	107831935
Upgrade 2-port MERLIN LEGEND MAIL system to 4-port system	7107-308A	
Upgrade 2-port MERLIN LEGEND MAIL system to 6-port system	7107-309A	
Upgrade 4-port MERLIN LEGEND MAIL system to 6-port system	7107-310/A	
Upgrade 2-port MERLIN MAIL R3 system to 4-port MERLIN LEGEND MAIL system	7107-311/A	
Upgrade 2-port MERLIN MAIL R3 system to 6-port MERLIN LEGEND MAIL system	7107-312/A	

Upgrade 4-port MERLIN MAIL R3 system to 6-port MERLIN LEGEND MAIL system	7107-313/A	
MERLIN LEGEND MAIL 2-port voice-port card		107831893
MERLIN LEGEND MAIL 4-port voice-port card		107831901
MERLIN LEGEND MAIL Base Module (without disk drive)		107831851
MERLIN LEGEND MAIL Disk Drive		107831885

Busying Out/Restoring the Module

B

Overview

This appendix provides the step-by-step instructions for busying out and restoring the MERLIN LEGEND MAIL module. These instructions are cross-referenced in the procedures provided in Chapter 3 of this guide.

Busying Out the Module

⚠ CAUTION:
Although the system is designed for modules to be removed and replaced without affecting call processing, there is still a possibility that partially removing or inserting a module can cause a cold start of the MERLIN LEGEND system.

Before removing the MERLIN LEGEND MAIL module, you must busy out the slot where the MERLIN LEGEND MAIL module resides. This procedure discontinues service from module.

To busy out the module:

1. At the SPM Main Menu, select Maintenance .

2. At the Maintenance menu, select Slot.

3. Type the slot number and select Enter .

4. Select Busy-Out .

5. Select Yes.

When the module is busied out successfully, the message "Busy-Out Complete" appears.

B-1

Restoring the Module

After installing the MERLIN LEGEND MAIL module, you must restore it to terminate the busy-out condition.

To restore the module:

1. At the SPM Main Menu, select `Maintenance`.

2. At the Maintenance menu, select `Slot`.

3. Type the slot number and select `Enter`.

4. Select `Restore`.

5. Select `Yes`.

When the module is restored successfully, the message "Restore Complete" appears.

Installing/Removing the Module

C

Overview

This appendix provides the step-by-step instructions for installing and removing the MERLIN LEGEND MAIL module. These instructions are cross-referenced throughout upgrade procedures provided in Chapter 3 of this guide.

⚠ CAUTION:
   To avoid damage, do not force the module. If the module does not insert easily, press the bottom-rear locking tab, remove the module, and inspect the module and carrier for damage or obstruction.

Installing the Module

To install the MERLIN LEGEND MAIL module:

1. Lower the module onto the rod on the top of the carrier in the appropriate slot.

2. Be sure that the connector on the module mates properly with the connector on the carrier.

3. Swing the module into the slot and firmly push the module into the carrier until it locks into place.

⚠ CAUTION:
To avoid damage, do not force the module. If the module does not insert easily, press the bottom-rear locking tab, remove the module, and inspect the module and carrier for damage or obstruction.

If there is no damage and no obstruction, re-insert the module.

A damaged carrier or module must be replaced.

Removing the Module

To remove the MERLIN LEGEND MAIL module from the MERLIN LEGEND system:

1. Push up firmly on the tab at the bottom rear of the MERLIN LEGEND MAIL module.

2. While holding up the tab, swing the bottom of the module toward you, away from the carrier.

3. Lift up the module to disengage it from the rod on the top of the carrier.

Using the Serial Number Utility

D

Overview

This appendix provides the step-by-step instructions for re-serializing the disk drive in the MERLIN LEGEND MAIL module. These instructions are cross-referenced in the upgrade procedures provided in Chapter 3 of this guide.

⚠ **WARNING:**
This procedure should be performed by qualified technicians only.

Re-Serializing the Disk Drive

To re-serialize the disk drive:

1. At the MERLIN LEGEND MAIL administration menu, type **b**.

2. Enter the password to shut down the MERLIN LEGEND MAIL system.

3. When prompted, type **y** to verify that you want to shut down the system.

4. When the MERLIN LEGEND MAIL administration menu reappears, press the ESC key.

5. At the prompt, type **mmsz**, press the SPACEBAR once, and then type the six-digit serial number from the bar code label on the top of the disk drive.

   An example of what you type is:

   mmsz 123456

   where **123456** is the six-digit serial number from the bar code label on the top of the disk drive.

6. Press the ENTER key.

7. Type **mm** and then press the ENTER key.

   The MERLIN LEGEND MAIL administration menu appears.

8. Type **a**.

   You are prompted to enter the password.

9. Enter the password.

   The MERLIN LEGEND MAIL administration menu displays the serial number and the system is up.

Resetting the System

E

Overview

This appendix provides the instructions for resetting the MERLIN LEGEND MAIL module and RMD.

Resetting the MERLIN LEGEND MAIL Module

You should perform a system reset when any of the following conditions occur:

- the MERLIN LEGEND MAIL ports are "locked up" (that is, not answering calls on specific ports).

- the MERLIN LEGEND MAIL system answers calls but does not respond in any other way as it should.

- the red and green LEDs for a MERLIN LEGEND MAIL port remain on constantly (that is, the LEDs do not blink). This indicates that the port is locked.

- None of the LEDs for the MERLIN LEGEND MAIL ports are on.

⚠ WARNING:
This procedure should be performed by qualified technicians only.

To perform a system reset, press the VM Reset button located above the nine-pin serial port of the MERLIN LEGEND MAIL module. You can use a straightened paper clip or similar pointed instrument to press the VM Reset button.

Resetting the Remote Maintenance Device

You should reset the RMD only if instructed by the BCS National Service Assistance Center (NSAC). Typically, you will be asked to reset the RMD if the modem does not answer.

⚠ WARNING:
This procedure should be performed by qualified technicians only.

To reset the RMD, press the RMD Reset button located on the MERLIN LEGEND MAIL module. You can use a straightened paper clip or pen point to press the RMD Reset button.

Changing the Far-End Disconnect Setting and Adding a 3 db Boost

F

Overview

This appendix provides the step-by-step instructions for changing the far-end disconnect setting and adding a 3 db boost.

≡▷ **NOTE:**
These settings should not have to be modified. These settings may only need to be changed if the system is operating in countries other than the United States and Canada.

Changing the Far-End Disconnect Setting

≡▷ **NOTE:**
This setting should not have to be modified. The far-end disconnect setting may only need to be changed if the system is operating in countries other than the United States and Canada.

Switch 1, which is located inside the MERLIN LEGEND MAIL base module, specifies the far-end disconnect signal. If Switch 1 is set to OFF, the far-end disconnect is set to reliable forward disconnect signal (that is, the CO sends a reliable forward disconnect signal). If Switch 1 is set to ON, the far-end disconnect is set to busy tone signal (that is, the CO sends busy tone to signal far-end disconnect). By default, Switch 1 is set to OFF (that is, the MERLIN LEGEND MAIL system is set to reliable forward disconnect signal).

⚠ **CAUTION:**
Before touching leads, connectors, pins, and other components when handling the disk drive, use a properly grounded wrist strap to prevent damage from electrostatic discharge (ESD).

1. Busy out the slot in which the MERLIN LEGEND MAIL module is installed. See Appendix B.

2. Remove the MERLIN LEGEND MAIL module. See Appendix C.

3. Place the MERLIN LEGEND MAIL module on its side with the six-sided cutout (with two metal handles) facing up (Figure F-1).

4. Grasp the two metal handles and gently wriggle the part attached to the handles out of its connectors (Figure F-1). This is the disk drive assembly.
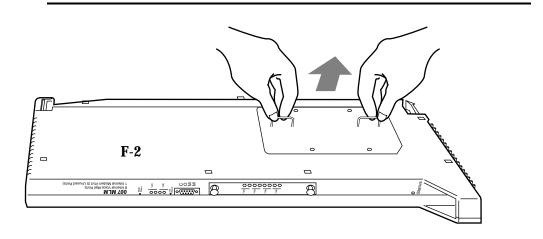
Figure F-1. Removing Disk Drive Assembly

Figure F-2 shows the location of the switch for changing the far-end
disconnect signal.
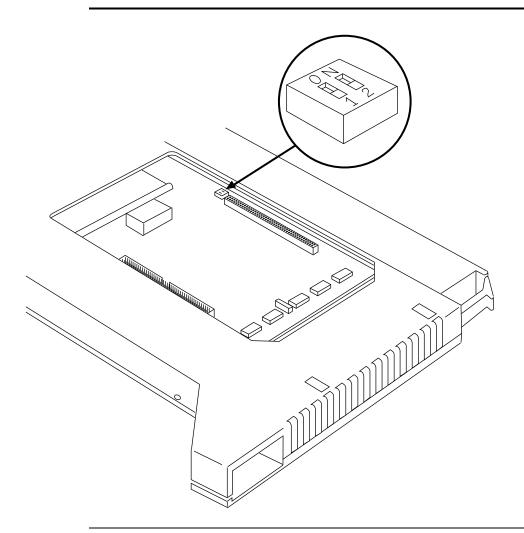
Figure F-2. Location of Switches for Far-End Disconnect and 3 db Boost

5. Set Switch 1 to the appropriate setting:

— **ON**: the CO sends busy tone to signal far-end disconnect.

— **OFF**: the CO sends a reliable forward disconnect signal. (This is the
default.)

6. Plug the disk drive assembly into the MERLIN LEGEND MAIL module.

7. Reinstall the MERLIN LEGEND MAIL module. See Appendix C.

8. Restore the slot. See Appendix B.

Adding a 3 db Boost

Switch 2, which is located inside the MERLIN LEGEND MAIL base module, specifies whether a 3 db boost is applied. If Switch 2 is set to OFF, a 3 db boost is not applied. If Switch 2 is set to ON, a 3 db boost is applied. By default, Switch 2 is set to OFF.

To add a 3 db boost:

⚠ CAUTION:
Before touching leads, connectors, pins, and other components when handling the disk drive, use a properly grounded wrist strap to prevent damage from electrostatic discharge (ESD).

1. Busy out the slot in which the MERLIN LEGEND MAIL module is installed. See Appendix B.

2. Remove the MERLIN LEGEND MAIL module. See Appendix C.

3. Place the MERLIN LEGEND MAIL module on its side with the six-sided cutout (with two metal handles) facing up (Figure F-1).

4. Grasp the two metal handles and gently wriggle the part attached to the handles out of its connectors (Figure F-1). This is the disk drive assembly.

   Figure F-2 shows the location of the switch for adding a 3 db boost.

5. Set Switch 2 to the appropriate setting:

   — **ON**: a 3 db boost is applied.

   — **OFF**: a 3 db boost is not applied. (This is the default.)

6. Plug the disk drive assembly into the MERLIN LEGEND MAIL module.

7. Reinstall the MERLIN LEGEND MAIL module. See Appendix C.

8. Restore the slot. See Appendix B.

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