Multiprotocol Switched Services (MSS) Server

Service and Maintenance Manual

GY27-0354-04

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Note

Before using this information and the product it supports, be sure to read the safety information under Appendix E, Safety Information and the general and emission notices under Appendix F, Notices.

Fifth Edition (March 1999)

This edition applies to Version 2.2 of the Multiprotocol Switched Services (MSS) Server.

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About This Manual

This manual describes how to service the IBM Multiprotocol Switched Services (MSS) Server. The primary method of problem determination by the Level 1 Support Center will be through the dial-in connection using the supplied PCMCIA modem in the 8210 MSS Server or the MSS Server Module. Some diagnostics and service will be provided through a Web browser. Level 1 Support Center will run the hardware tests.

There are two types of MSS Server:

- The IBM 8210 Nways MSS Server Model 003 (8210-003), which is a stand-alone product
- The IBM MSS Server Module

In addition, there are two types of MSS Server Module:

- The IBM MSS 3.0 Server Module (A-MSS 3.0 Server Module), which replaces the A-MSS 2.5 Server Module
- The IBM MSS Server Module (A-MSS Server Module)

The A-MSS 3.0 Server Module can be installed as a module in the IBM 8265 Nways ATM Switch (8265). The A-MSS Server Module can be installed as a module in the 8265 (with some restrictions) or in the IBM 8260 Nways Multiprotocol Switching Hub (8260).

Note: Unless explicitly stated, the term *MSS Server Module* applies to both MSS Server Modules, and the term *MSS Server* applies to both the 8210 MSS Server and the MSS Server Modules.

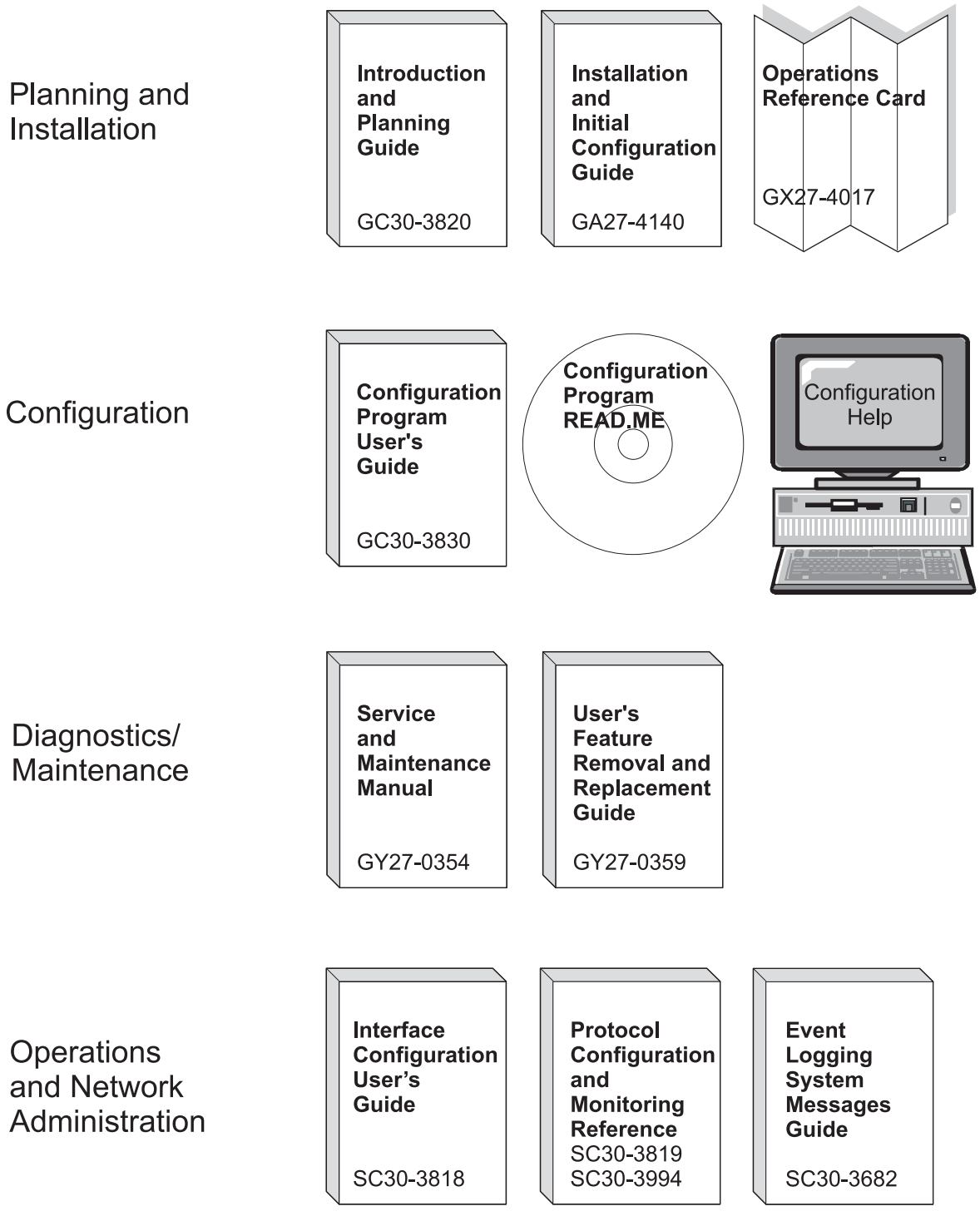
The hardware tests and replacement procedures are described in this manual. It can be used to train service representatives and for reference when servicing an MSS Server. Service for the MSS Server is to be performed by a trained person only.

Who Should Read This Manual

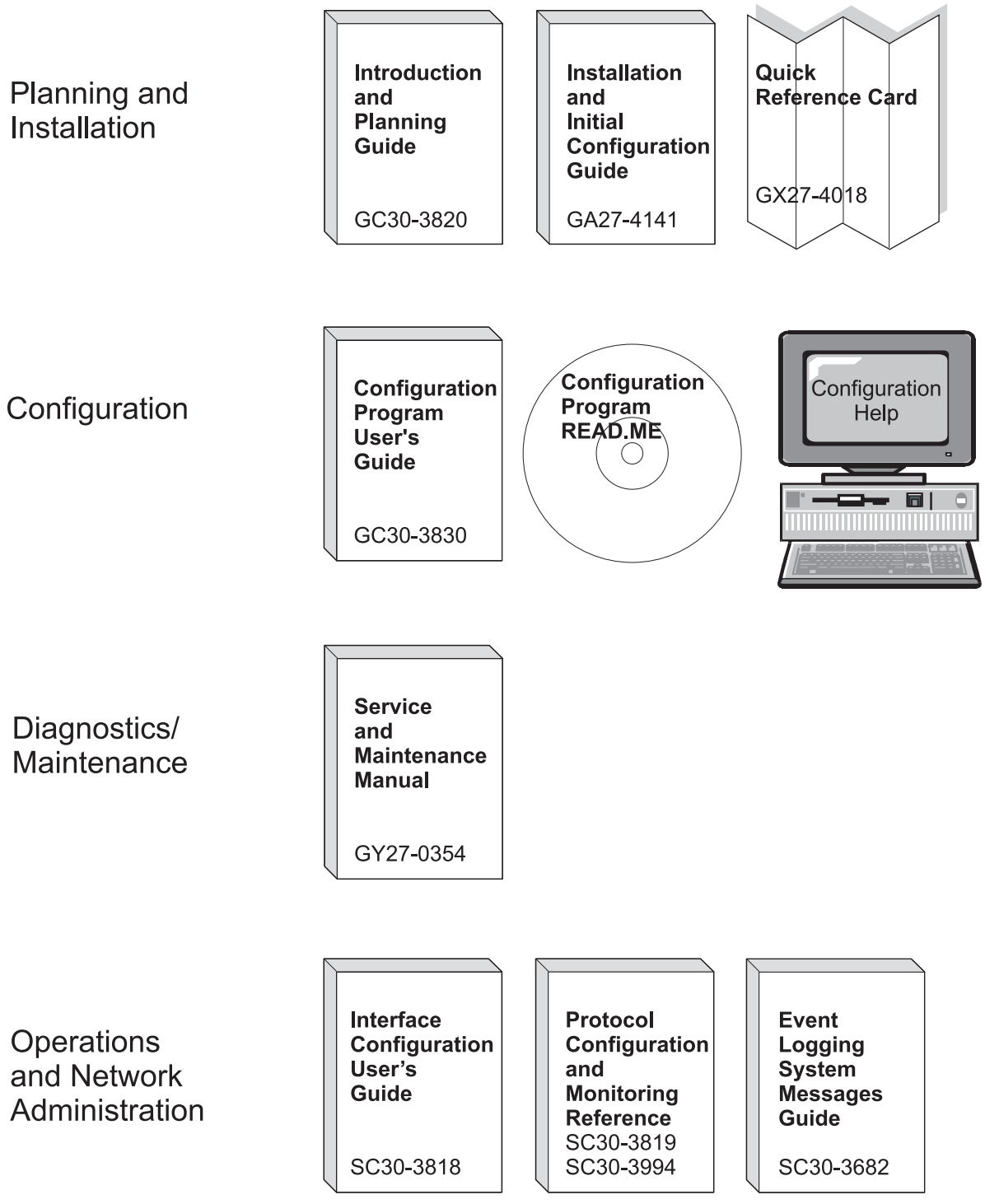
This manual is for the use of the person providing level 1 remote support of the MSS Server. IBM service representatives will refer to this manual when servicing the MSS Server on site. The person using this manual should be:

- Trained to service the MSS Server
- Familiar with the configuration and operation of the MSS Server

8210-003 Library



MSS Server Module Library



MSS Server Library Overview

The following IBM hardcopy manuals are shipped with the product. The manuals in this list are also included in displayable softcopy form on the MSS Softcopy Library CD-ROM (LK2T-0378). This CD-ROM is shipped with initial orders for the MSS Server.

The reference cards and the safety information booklet are shipped in hardcopy only and are not included on the CD-ROM.

- *MSS Server Installation and Initial Configuration Guide,* GA27-4140
- *8210 Nways MSS Server Operations Reference Card,* GX27-4017
- *MSS Server Module Installation and Initial Configuration Guide,* GA27-4141
- *MSS Server Module Quick Reference Card,* GX27-4018
- *8210 Nways MSS Server User's Feature Removal and Replacement Guide*, GY27-0359
- *Caution: Safety Information - Read This First,* SD21-0030

The following manuals are not shipped in hardcopy, but are provided in softcopy form on the MSS Softcopy Library CD-ROM. All of these manuals (with the exception of the *Event Logging System Messages Guide*) can be separately ordered in hardcopy form through your IBM marketing representative.

- *MSS Server Introduction and Planning Guide,* GC30-3820
- *MSS Server Service and Maintenance Manual,* GY27-0354
- *MSS Server Interface Configuration and Software User's Guide,* SC30-3818
- *MSS Server Protocol Configuration and Monitoring Reference, Volume 1* SC30-3819
- *MSS Server Protocol Configuration and Monitoring Reference, Volume 2* SC30-3994
- *Configuration Program User's Guide for Nways Multiprotocol Access, Routing and Switched Services,* GC30-3830
- *Event Logging System Messages Guide,* SC30-3682

Accessing the MSS Server Softcopy Library

Important: Whether you choose to read the softcopy MSS Server publications directly from the CD-ROM or to copy the individual books to your hard disk, you first must install the Library Reader program (contained on the CD-ROM) on your workstation to enable you to view the publications. Alternatively, you can view the PDF files using a Web browser.

The *MSS Server Softcopy Library* (included with the CD-ROM) describes how to install the Library Reader and how to access the softcopy books from a personal computer or PS/2 computer running DOS, Windows, or OS/2.

For more information, see the *Online Reference Library* that is on the CD-ROM.

Visit Our Web Sites

You can obtain the latest information on and support for the MSS Server by visiting our Web sites.

Information Updates and Corrections

To remain informed of engineering changes, clarifications, and fixes that are implemented after the manuals have been printed, refer to the IBM MSS Server home page at:

`http://www.networking.ibm.com/820/820prod.html`

Online Support

To obtain support information, including technical tips, current product information, and code updates and fixes for the MSS Server, refer to the IBM Networking Tech Support page at:

`http://www.networking.ibm.com/netsupt.html`

Summary of Changes

This manual has been revised to include the following changes and enhancements:

- 233-MHz 740 PowerPC processor on the 8210-003 and the A-MSS 3.0 Server Module
- Replacement of the 8210-003 ATM adapters with new, enhanced-performance ATM adapters

The technical changes and additions are indicated by a vertical line (|) to the left of the change.

All packaging and other features remain the same as in the previous release.

Chapter 1. Problem Determination

This chapter briefly describes the Multiprotocol Switched Services (MSS) Server, ways of providing hardware and operational code service with the provided tools, and methods of diagnosing hardware problems. Pointers are given to the individual chapters in this manual that provide more detail.

MSS Server Hardware

There are two types of MSS Server:

- The IBM 8210 Nways MSS Server Model 003 (8210 MSS Server or 8210-003), which is a standalone product
- The IBM MSS Server Module

In addition, there are two types of MSS Server Module:

- The IBM MSS 3.0 Server Module (A-MSS 3.0 Server Module), which replaces the A-MSS 2.5 Server Module
- The IBM MSS Server Module (A-MSS Server Module)

The A-MSS 3.0 Server Module can be installed as a module in the IBM 8265 Nways ATM Switch (8265). The A-MSS Server Module can be installed as a module in the 8265 (with some restrictions) or the IBM 8260 Nways Multiprotocol Switching Hub (8260).

Note: Unless explicitly stated, the term *MSS Server Module* applies to both MSS Server Modules, and the term *MSS Server* applies to both the 8210 MSS Server and the MSS Server Modules.

The standalone version, the 8210-003, is connected to the ATM network over 155-Mbps optical fiber cable equipped with industry-standard, SC connectors. The MSS Server Module connects to the ATM network when it is installed and made operational in the 8260 or 8265.

The 8210-003 and the MSS Server Module have all the connectors and light-emitting diodes (LEDs) placed on the front, with the exception of the 8210-003's power cord, which is located on the back.

Both the 8210-003 and the MSS Server Module have a 10BASE-T, Ethernet service port.

Both the 8210-003 and the MSS Server Module also have one, standard, serial, service port: an EIA-232, male, 9-pin, D-shell connector. (In the MSS Server Module, the EIA-232 service port is identified as an RS-232 port.) The serial service port can be attached locally through a null-modem cable or remotely through a modem attachment.

See Appendix C, 8210 MSS Server Hardware Characteristics for a description of physical and environmental characteristics of the 8210 MSS Server and pin assignments for the EIA-232 service port.

In the U.S., Canada, and most other countries, the MSS Server is shipped with a Personal Computer Memory Card International Association (PCMCIA) modem.[1] This modem is provided so that you can access the MSS Server remotely to perform product configuration and maintenance. The MSS Server supports auto-answer for both the PCMCIA and the external modem attachment.

Troubleshooting

See Chapter 2, Removal and Replacement Procedures for information on removal and replacement procedures for field-replaceable units (FRUs).

Both hardware and software (operational code and configuration) problems can affect the MSS Server. LEDs, diagnostic programs, and error messages provide information needed for problem determination. This manual is chiefly concerned with diagnosing and correcting hardware problems, but it includes some software information for your convenience.

Accessing the MSS Server

The MSS Server is remotely supported. Chapter 3, Accessing the MSS Server has information about accessing it. This information is covered in the *MSS Server Interface Configuration and Software User's Guide*, but it is repeated in this manual for your convenience.

Diagnosing Hardware Problems

Generally, errors that occur ***before*** the operational code is loaded are hardware-related. LEDs on the front of the MSS Server are indicators of the status of hardware components within the MSS Server.

Go to "8210 MSS Server LED Status Indicators" on page 1-3 for LED status and indicators for the MSS Server, or go to "MSS Server Module LED Status Indicators" on page 1-8 for LED status and indicators for the MSS Server Module.

Refer to the *MSS Server Interface Configuration and Software User's Guide* or see Chapter 4, Using Operational Diagnostics (depending on how you are connected to the MSS Server) to run hardware diagnostics ***before*** the MSS Server has been configured.

Diagnosing Operational Code and Configuration Problems

Generally, errors that occur ***after*** the operational code is loaded indicate problems with the operational code or configuration file.

Error codes and corrective action are described in the *Event Logging System Messages Guide*.

Refer to the *MSS Server Interface Configuration and Software User's Guide* or see Chapter 4, Using Operational Diagnostics to run diagnostics ***after*** operational code and configuration files have been loaded. Also see Appendix D, Managing Operational Code and Configuration Files for information on reconfiguring the MSS Server, should it become necessary.

[1] If you are not sure whether this feature is available in your country, see your IBM marketing representative.

8210 MSS Server LED Status Indicators

This section describes the LED status indicators for the 8210 MSS Server.

Figure 1-1 shows the locations of the LEDs, Table 1-1 indicates the meanings of the LEDs, and Figure 1-2 on page 1-5 provides information on using the LEDs to identify and correct problems.

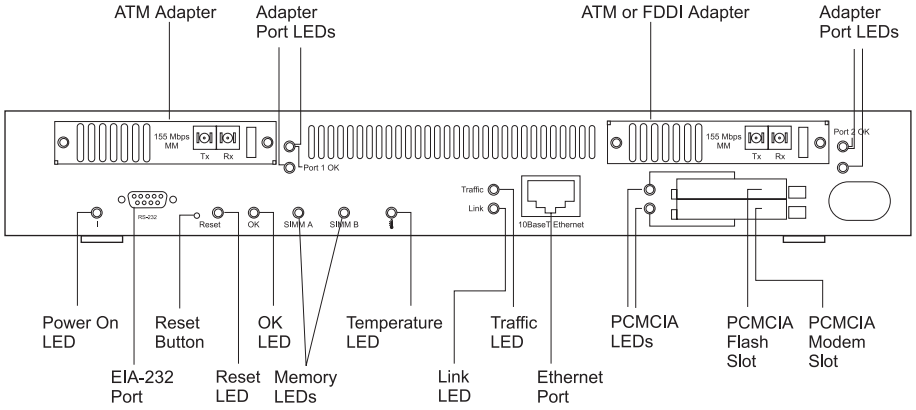


Figure 1-1. Front Panel of the 8210-003

Table 1-1 (Page 1 of 2). Meanings of the 8210 MSS Server LEDs

LED	Color	State	Explanation
I (Power On)	Green	ON	There is ac power to the 8210 MSS Server and the power supply is OK.
		OFF	No ac power is present or there is a power supply failure.
Reset	Yellow	ON	Reset is in progress. The LED remains ON until the reset is complete.
		OFF	Reset is complete.
OK	Green	ON	Hardware logic components are OK.
		OFF	MSS Server fault (if OFF for more than 2 minutes). Press the Reset button. If the LED is still OFF, there is a system fault.
		Blinking	Operational code load is in progress.
SIMM A or B	Yellow	ON	Memory module (SIMM A or B) fault.
		OFF	Memory module (SIMM A or B) is OK.
Temperature symbol	Yellow	ON	The 8210 MSS Server has an over-temperature condition. (See Appendix C, 8210 MSS Server Hardware Characteristics.)
		OFF	The 8210 MSS Server operating temperature is within the normal range.
Traffic	Green	ON (flick-ering)	Traffic is flowing across the Ethernet network.
		OFF	No traffic is flowing across the Ethernet network. There is a fault in the Ethernet connection. Check the Ethernet cable.

Table 1-1 (Page 2 of 2). Meanings of the 8210 MSS Server LEDs

LED	Color	State	Explanation
Link	Green	ON	The Ethernet port is connected correctly.
		OFF	There is a fault in the Ethernet connection. Check the Ethernet cable.
PCMCIA slots 1 or 2	Yellow (unlabeled)	ON	A PCMCIA device is absent, is not seated correctly, or is faulty.
		OFF	A PCMCIA device is present and is seated correctly.
Adapter ports 1 or 2	Green (Port OK)	ON	An adapter is in the port, configured, enabled, and operational. **Note:** If you have installed a FDDI adapter in Port 2 (right slot), see "FDDI Adapter LED Status Indicators" on page 1-6.
		OFF	The adapter is not configured, not enabled, or not operational; or, no adapter is in the port.
	Yellow (unlabeled)	ON (not blinking)	The adapter in the port has failed.
		ON (blinking)	If blinking occurs for more than 1 minute, there is a potential network or adapter problem.
		OFF	No problem is detected in the adapter, or no adapter is in the port.

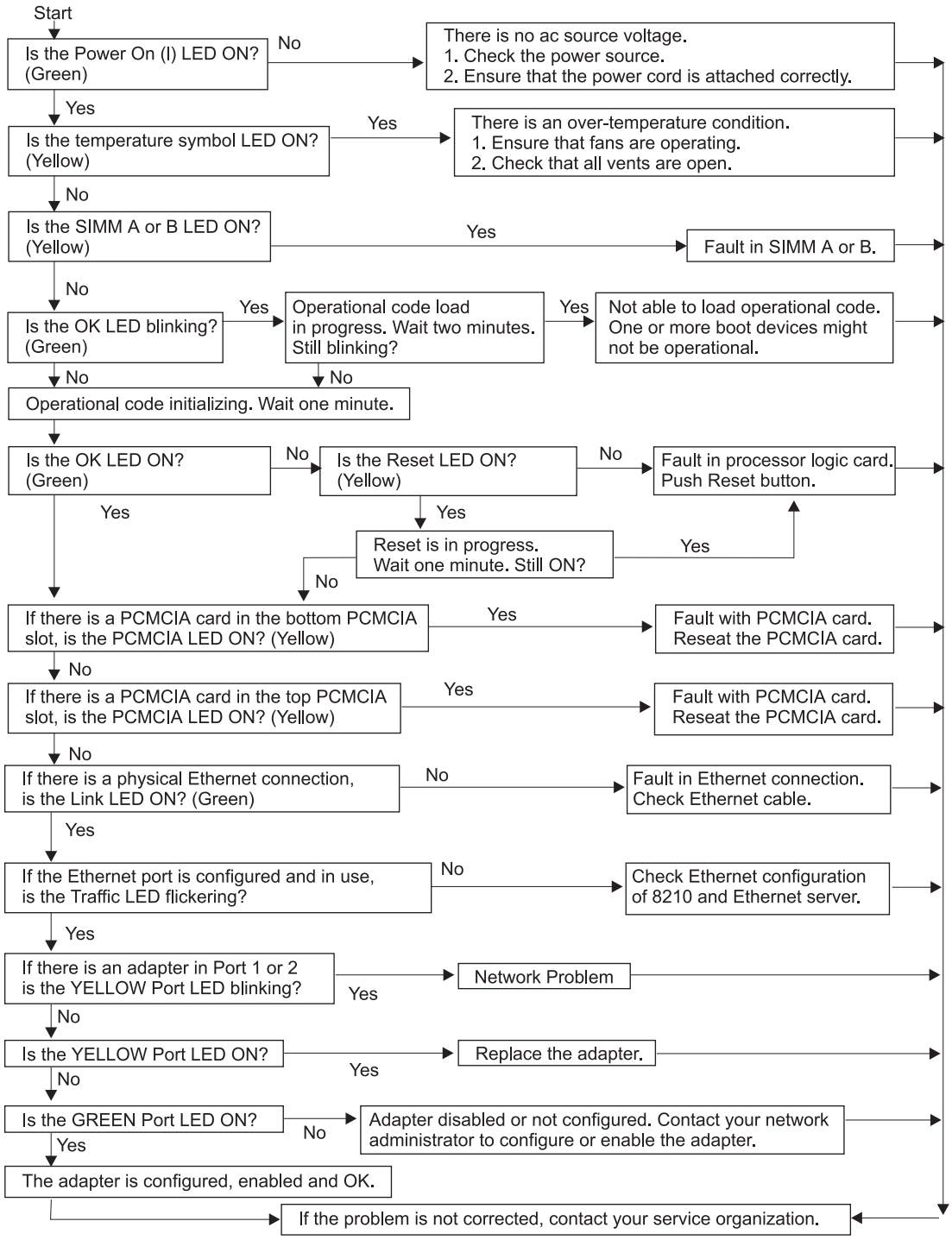


Figure 1-2. Problem Solving for the 8210 MSS Server

FDDI Adapter LED Status Indicators

If you have installed a FDDI adapter in Port 2 (right slot), and the Adapter Port 2 green LED is ON, check the condition of the green and yellow LEDs on the FDDI adapter in Table 1-2.

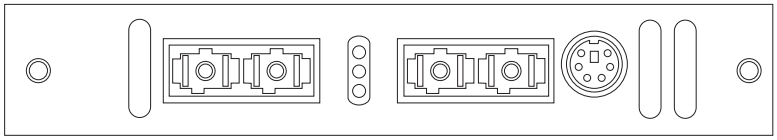


Figure 1-3. Front Panel of the FDDI Adapter

Table 1-2. Meanings of the FDDI Adapter LEDs

LED	Color	State	Explanation
FDDI Adapter	Green	ON	If both green LEDs are ON, both ports are connected correctly to the FDDI hub or port in the network, there is a primary and a redundant data path to the next FDDI hop, and data can be transmitted. If one green LED is ON (in either position), there is only one primary data path and only one port is connected to the next hop in the FDDI network. The other port could be faulty because of one of the following conditions: • The port is not connected to the next FDDI port. • The port has a bad cable connection to the next FDDI port. • The next FDDI port in the network is faulty. When only one green LED is ON, the yellow LED is always OFF.
		OFF	There is no data path to the next hop in the FDDI network, or the adapter is not configured, enabled, or operational. When two green LEDs are OFF, the yellow LED is always ON.
	Yellow	ON	No data path is available. Neither port is connected to another valid FDDI port. This could be caused by one of the following conditions: • No cable is connected to the FDDI port. • You are using incorrect cables. • You have placed the cables in the wrong order to complete the correct data path needed for FDDI. • The connecting FDDI port in the network is faulty. • Code is loaded, but the adapter interface is not enabled. • The FDDI adapter is faulty. Perform the FDDI adapter wrap test (see “FDDI Adapter Wrap Test”) on the FDDI adapter ports to check the adapter before removing and replacing it.

FDDI Adapter Wrap Test

If the FDDI adapter yellow LED is ON, perform the following wrap test to ensure that the FDDI adapter is functional before removing and replacing it.

1. Insert and completely seat the ends of a small piece of optical fiber cable into the cable connectors on the FDDI adapter.
2. Observe the yellow LED.
   a. If the yellow LED goes OFF, the adapter is functioning normally. Check your FDDI cabling and the connecting FDDI port in the network.

b. If the yellow LED remains ON, the adapter is faulty. Contact your network administrator or your service organization to remove and replace the faulty FDDI adapter. See “Removing the Adapter from Port 2 (Right Slot)” on page 2-19 and “Replacing the Adapter in Port 2” on page 2-20.

MSS Server Module LED Status Indicators

This section describes the LED status indicators for the MSS Server Module.

Generally, errors occurring ***before*** the operational code is loaded are hardware-related. LEDs on the front of the MSS Server Module reflect the status of the hardware components within the MSS Server Module.

Figure 1-4 shows the locations of the LEDs, Table 1-3 on page 1-9 indicates the meanings of the LEDs, and Figure 1-5 on page 1-10 provides information on using the LEDs to identify and correct problems.

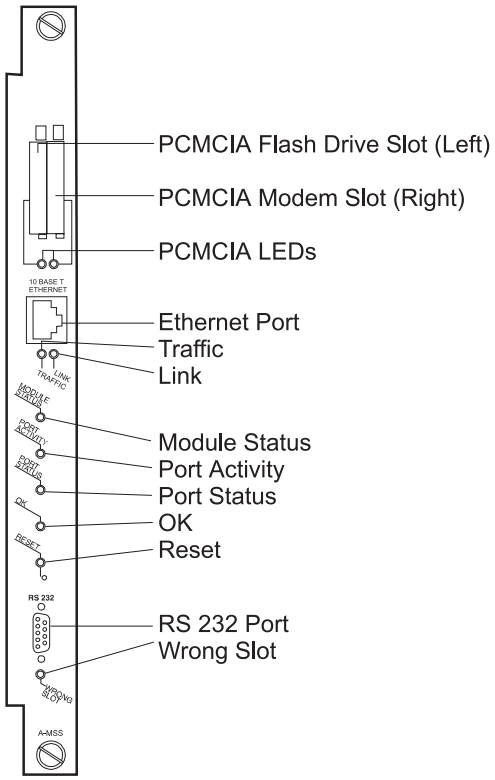


Figure 1-4. Front Panel of the MSS Server Module

Table 1-3. Meanings of the MSS Server Module LEDs

LED	Color	State	Indicates
PCMCIA slots 1 and 2	Yellow	ON	The PCMCIA device is absent, or not seated correctly, or failed the test.
		OFF	The PCMCIA device is present and is seated correctly.
Traffic	Green	ON (Flick-ering)	Traffic is flowing across the Ethernet network.
		OFF	No traffic is flowing across the Ethernet network. There is a fault in the Ethernet connection. Check the Ethernet cable.
Link	Green	ON	The Ethernet port is connected correctly.
		OFF	There is a fault in the Ethernet connection. Check the Ethernet cable.
Module Status	Green	ON	The module is logically connected to the hub ATM backplane.
		OFF	The module is not logically connected to the hub ATM backplane. Use **SET MODULE** *slot* **CONNECTED** (where the value for *slot* indicates the position of the module).
		Blinking	The module is powered on, but diagnostics have failed.
Port Activity	Yellow	ON	Traffic is flowing to the MSS Server Module.
		OFF	No traffic is flowing to the MSS Server Module.
Port Status	Green	ON	The ATM backplane port is enabled.
		OFF	The ATM backplane port is not enabled. Use **SET PORT** *slot.1* **ENABLE UNI** (where the value for *slot* indicates the position of the module).
OK	Green	ON	Hardware logic components are OK.
		OFF	MSS Server Module fault (if OFF for more than 2 minutes). Press Reset.
		Blinking	Operational code load in progress.
Reset	Yellow	ON	Reset is in progress.
		OFF	Reset is complete.
Wrong Slot	Yellow	ON	The MSS Server Module is in an incorrect module slot.
		OFF	The MSS Server Module is in the correct slot and is correctly seated.

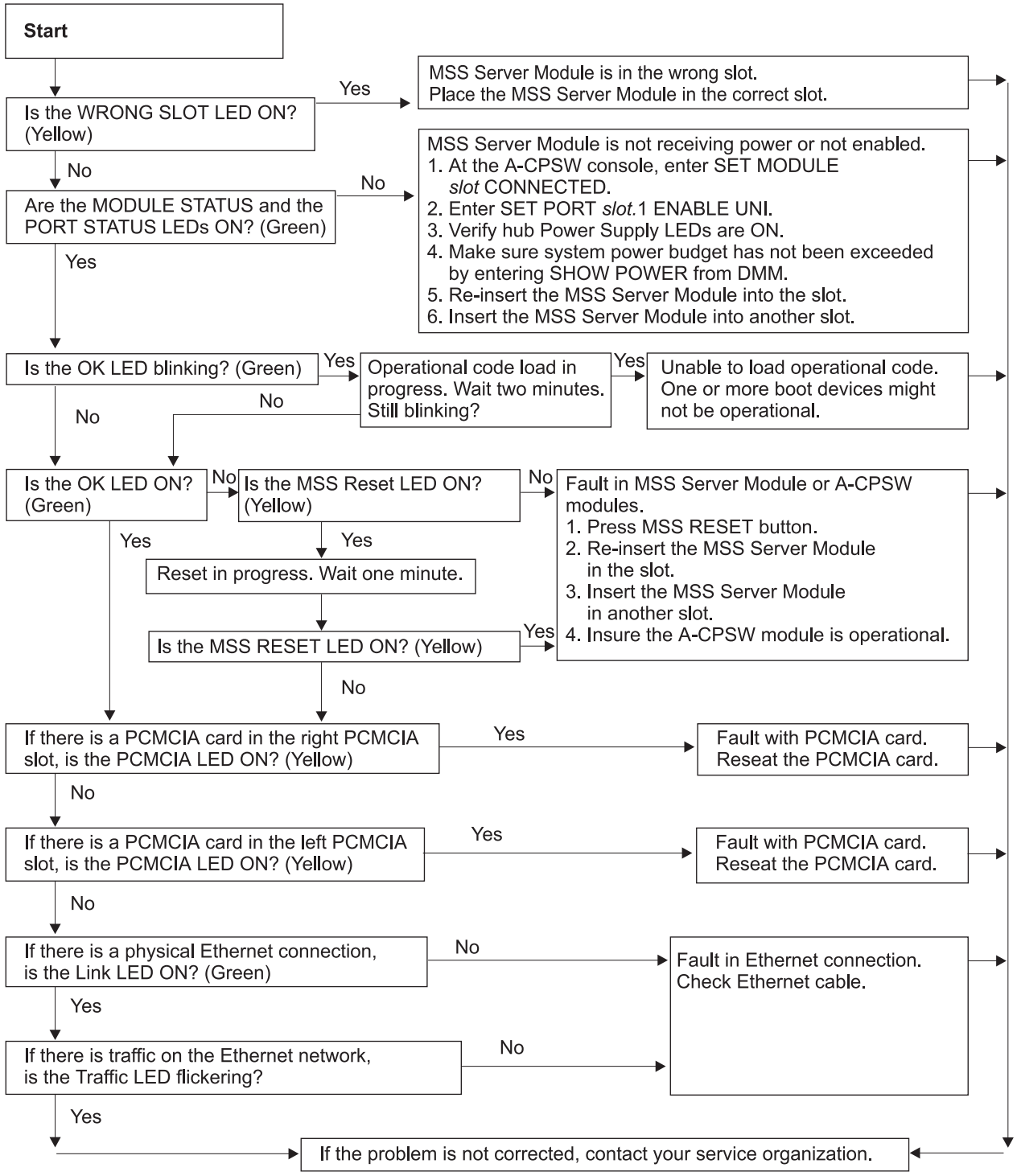


Figure 1-5. Problem Solving for the MSS Server Module

Chapter 2. Removal and Replacement Procedures

This chapter provides the following information on removal and replacement procedures for field-replaceable units (FRUs) for both the 8210-003 and the MSS Server Module:

- Preparatory information that applies to the removal and replacement procedures (see “Before You Start”). This information includes:
  - An overview of the common procedures that you must carry out before you remove or replace FRUs in the 8210-003.
  - A list of the equipment that you will need for both the 8210-003 and the MSS Server Module.
  - A description of the required safety precautions for both the 8210-003 and the MSS Server Module.
- Descriptions of the common removal and replacement procedures for the 8210-003 (see “Common Removal and Replacement Procedures” on page 2-2).
- Descriptions of the individual FRU removal and replacement procedures for both the 8210-003 and the MSS Server Module (see “FRU Removal and Replacement Procedures” on page 2-6).

For an overall perspective on the FRUs and their relative positioning to each other and the chassis, see Appendix B, Parts Listings.

Before You Start

Several common procedures need to be performed in sequence to gain access to the FRUs in the 8210-003. These common procedures are placed at the beginning of this chapter because they must be performed before you actually begin removing or replacing the FRUs.

Before you begin any removal or replacement activity, review the list of equipment you will need, read the common safety precautions and then proceed to the “Common Removal and Replacement Procedures” on page 2-2.

Equipment You Need

You need the following equipment to remove and replace the FRUs in the 8210-003:

- Flat-blade screwdriver
- 4-mm nut driver
- 6-mm nut driver
- 3/16-inch nut driver
- Torx screwdriver T10 (PN 93F2834)
- Screw starter (optional)
- ATM adapter wrap plug, PN 16G5609 (separately orderable)

IBM recommends that you have a flat-blade screwdriver when removing and replacing the MSS Server Module.

Safety Precautions

The MSS Server Module does not have its own power supply and can function only when correctly installed in the 8260 or 8265; therefore, some of the safety notices in this chapter and “Danger Notices” on page E-5 apply only to the 8210 MSS Server.

DANGER

To avoid a shock hazard, do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm. (Refer to DANGER 1 in “Danger Notices” on page E-5 for translations.)

DANGER

Hazardous voltages exist inside this machine when it is powered on. Anytime you service this unit with the cover off, be sure to unplug the power cord. (Refer to DANGER 5 in “Danger Notices” on page E-5 for translations.)

Common Removal and Replacement Procedures

This section describes the procedures you need to perform to gain access to FRUs in the 8210-003.

Disconnecting the Power Cord

Attention: Disconnecting the power cord will disrupt users in your network. Consult the network administrator before disconnecting the power cord.

You need to disconnect the power cord if you are replacing any of the following FRUs:

- IDE hard drive
- Power supply
- Cooling fan
- Blower
- ATM Adapter in Port 1
- ATM or FDDI Adapter in Port 2
- PCI logic card
- Single in-line memory modules (SIMMs)
- Processor logic card

Disconnect the power cord from the ac power outlet and then from the 8210-003.

Where to Go Next

If you are replacing the power cord only, continue with “Reconnecting the Power Cord” on page 2-3. Otherwise, go to “Preparing the 8210-003 for Service” on page 2-3.

Reconnecting the Power Cord

DANGER

To avoid shock hazard:

- **The power cord must be connected to a properly wired and grounded receptacle.**
- **Any equipment to which this product will be attached must also be connected to properly wired receptacles.**

(Refer to DANGER 4 in "Danger Notices" on page E-5 for translations.)

1. Connect the power cord to the 8210-003 and then to the ac power outlet.
2. Test the 8210-003 as outlined in the *MSS Server Interface Configuration and Software User's Guide*.

Preparing the 8210-003 for Service

1. Disconnect and label the cables attached to the adapter connectors.
2. Disconnect the Ethernet and EIA-232 cables.
3. Remove the PCMCIA devices (the flash drive and modem).
4. Remove all loose items from the top of the 8210-003.

Where to Go Next

If the 8210-003 is rack-mounted, go to "Removing the 8210-003 from the Rack" on page 2-4. Otherwise, go to "Removing the Top Cover" on page 2-5.

Preparing the 8210-003 for Network Connection

1. Install the PCMCIA modem in the bottom slot (when facing the front of the 8210-003). Install and connect the modem cable.
2. Install the PCMCIA flash drive.
3. Connect the Ethernet, EIA-232, and adapter cables.

Where to Go Next

Go to "Reconnecting the Power Cord."

Removing the 8210-003 from the Rack

CAUTION:
You must support the unit while you are removing or tightening the screws to avoid dropping it on the floor or on other equipment beneath it in the rack. The unit weighs approximately 6.7 kg (14.5 lb). (Refer to CAUTION 1 in "Caution Notices" on page E-20 for translations.)

1. Remove the two screws that hold the 8210-003 in the rack.
2. Remove the 8210-003 from the rack by pulling it toward you.
3. Place the 8210-003 on a flat surface.

Where to Go Next

You need to remove the top cover if you are replacing any of the following FRUs:

- IDE hard drive
- Power supply
- Cooling fan
- Blower
- ATM Adapter in Port 1
- ATM or FDDI Adapter in Port 2
- PCI logic card
- SIMMs
- Processor logic card

Go to "Removing the Top Cover" on page 2-5 for instructions about removing the top cover.

Reinstalling the 8210-003 in the Rack

CAUTION:
You must support the unit while you are removing or tightening the screws to avoid dropping it on the floor or on other equipment beneath it in the rack. The unit weighs approximately 6.7 kg (14.5 lb). (Refer to CAUTION 1 in "Caution Notices" on page E-20 for translations.)

1. Insert one of the screws into the 8210-003 bracket.
2. Lift the 8210-003 into position, aligning the screw and the 8210-003 with the rack.
3. Partially tighten the screw.
4. Insert and partially tighten the screw in the other bracket.
5. Tighten both screws.

Where to Go Next

Go to "Preparing the 8210-003 for Network Connection" on page 2-3.

Removing the Top Cover

1. Remove the three screws on each side of the 8210-003 and remove the brackets that hold the 8210-003 in the rack. Save the screws to use when you reinstall the top cover.
2. Lift the rear edge of the top cover and pull it to the rear of the 8210-003 to disengage the tabs on the top cover that engage the front of the 8210-003.
3. Lift up the rear of the top cover and pull it up and away from the front of the 8210-003.

Where to Go Next

Go to "FRU Removal and Replacement Procedures" on page 2-6 to find the procedures for the FRU that you need to remove or replace.

Reinstalling the Top Cover

1. Align the top cover tabs with the slots in the inside of the front of the 8210-003 and slide the top cover forward until the tabs engage the slots.
2. Secure the brackets on each side of the 8210-003 with the six screws you removed during removal of the cover.

Where to Go Next

If the 8210-003 is rack-mounted, go to "Reinstalling the 8210-003 in the Rack" on page 2-4. Otherwise, go to "Preparing the 8210-003 for Network Connection" on page 2-3.

FRU Removal and Replacement Procedures

This section outlines the removal and replacement procedures for each of the FRUs in the 8210-003.

Note: The figures in this section do not always show all the parts (FRUs). Do not remove a part just because it is not shown in a figure.

Use the following table to find the appropriate procedure for the FRU you need to remove or replace.

FRU	Procedure
PCMCIA flash drive	Go to “Removing and Replacing the PCMCIA Flash Drive” on page 2-8.
PCMCIA modem	Go to “Removing and Replacing the PCMCIA Modem” on page 2-8.
IDE hard drive	Go to “Removing the IDE Hard Drive” on page 2-9.
Power supply	Go to “Removing the Power Supply” on page 2-11.
Cooling fan	Go to “Removing the Cooling Fan” on page 2-13.
Blower	Go to “Removing the Blower” on page 2-15.
ATM Adapter in Port 1	Go to “Removing the Adapter from Port 1 (Left Slot)” on page 2-17.
ATM or FDDI Adapter in Port 2	Go to “Removing the Adapter from Port 2 (Right Slot)” on page 2-19.
PCI logic card	Go to “Removing the PCI Logic Card” on page 2-21.
Memory SIMMs	Go to “Removing the SIMMs” on page 2-23.
Processor logic card	Go to “Removing the Processor Logic Card” on page 2-25.

Familiarize yourself with the location of each FRU (Figure 2-1 on page 2-7).

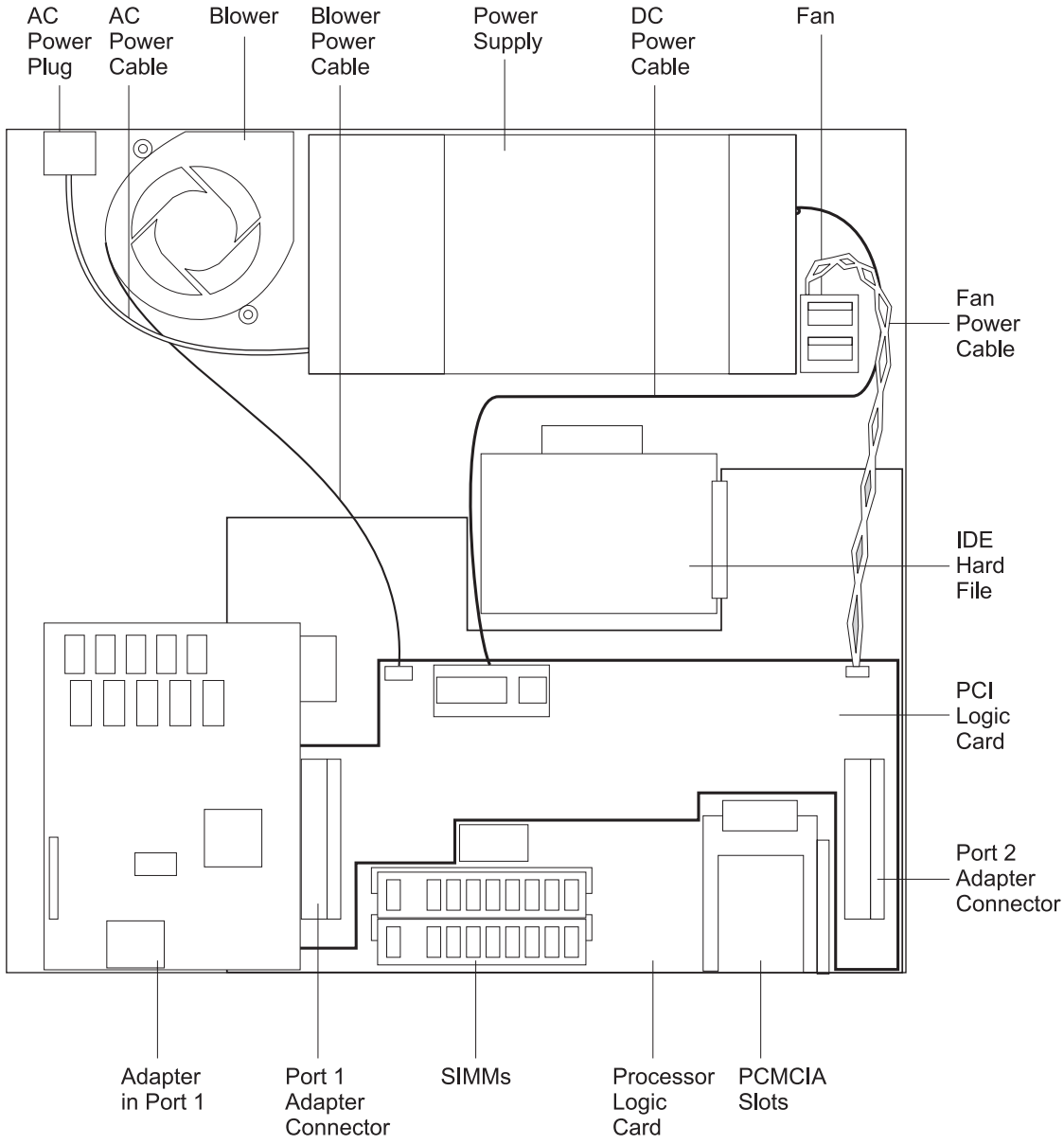


Figure 2-1. View of the 8210-003 with Top Cover Removed

Removing and Replacing the PCMCIA Flash Drive

Attention: The PCMCIA flash drive must be located in either the top slot of the 8210-003 or the leftmost slot of the MSS Server Module.

The PCMCIA flash drive is a hot-swappable device; therefore, it is not necessary to disconnect power before removing and reinstalling these PCMCIA devices. The operational code can dynamically recognize the flash drive, but removal or installation during firmware operation requires that you reset the MSS Server.

To remove and replace the flash drive:

1. Holding one hand beneath the PCMCIA device slot, press the device eject button (located to the right or top of the device).
2. Insert the replacement device in the slot. Ensure that the device is completely seated (yellow LED goes off).
3. Verify that the replacement device is operational by using the LEDs. See “8210 MSS Server LED Status Indicators” on page 1-3 or “MSS Server Module LED Status Indicators” on page 1-8.

Removing and Replacing the PCMCIA Modem

Attention: Correct installation according to these instructions is a condition for compliance with the regulations of electromagnetic interference.

The PCMCIA modem must be located in the bottom slot (when facing the front of the 8210-003) or in the rightmost slot (when facing the front of the MSS Server Module).

The PCMCIA modem is a hot-swappable device; therefore, it is not necessary to disconnect power before removing and reinstalling this PCMCIA device. The operational code can dynamically recognize the PCMCIA modem, but removal or installation during firmware operation requires that you reset the MSS Server.

To remove and replace the PCMCIA modem:

1. Disconnect the cable from the PCMCIA modem.
2. Holding one hand beneath the PCMCIA device slot, press the device eject button (located to the right or top of the device).
3. Obtain the replacement device and insert it in the slot. Ensure that the device is completely seated (yellow LED goes off).
4. Reconnect the PCMCIA modem cable.
5. See “8210 MSS Server LED Status Indicators” on page 1-3 or“MSS Server Module LED Status Indicators” on page 1-8 and verify that the replacement device is operational.

Removing the IDE Hard Drive

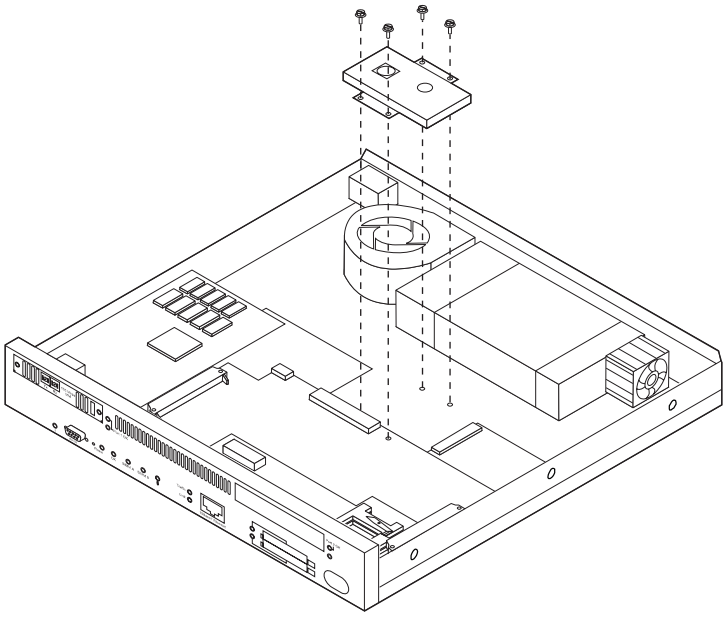


Figure 2-2. IDE Hard Drive

To remove the IDE hard drive:

1. Remove the ATM or FDDI adapter in Port 2. See “Removing the Adapter from Port 2 (Right Slot)” on page 2-19.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the IDE hard drive until you are ready to replace it in the 8210-003.
   - Use correct grounding techniques when inspecting and installing the IDE hard drive. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the IDE hard drive.

2. Unplug the dc power cable from the PCI logic card and move that end of the cable away from the IDE hard drive.
3. Using a 4-mm nut driver, remove the four screws that secure the IDE hard drive to the inside bottom of the 8210-003. Set them aside for reuse in the replacement procedure.
4. Carefully unseat the IDE hard drive from the processor logic card by sliding it to the left along the bottom of the chassis.
5. Remove the IDE hard drive.

Where to Go Next

If your only task was to remove and replace the IDE hard drive, you are ready to go to “Replacing the IDE Hard Drive” on page 2-10.

Replacing the IDE Hard Drive

To replace the IDE hard drive:

1. Remove the new IDE hard drive, in its antistatic bag, from its shipping container.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the IDE hard drive until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the IDE hard drive. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the IDE hard drive.

   Always handle the IDE hard drive by the edges (preferably grasp it between the forefinger and thumb); do not touch the components. If the IDE hard drive appears to be damaged, return it to the antistatic bag and contact the supplier.
2. Grasping the IDE hard drive between thumbs and forefingers with the printed circuit board facing up, slide the front IDE hard drive bracket under the processor logic card.
3. Being sure to align the pins correctly, carefully plug the pins into the IDE hard drive connector (J15).
4. Reinstall the four screws that secure the IDE hard drive to the bottom of the chassis.
5. Reconnect the dc power cable to the PCI logic card.
6. Reinstall the ATM or FDDI adapter in Port 2 (see “Replacing the Adapter in Port 2” on page 2-20).

Where to Go Next

If your only task was to remove and replace the IDE hard drive, you are ready to reinstall the top cover and side brackets.

1. Go to “Reinstalling the Top Cover” on page 2-5.
2. Follow the procedures through reconnecting the ac power cord.
3. Notify the user to reload his latest microcode configuration. Refer the user to the *MSS Server Interface Configuration and Software User’s Guide*.

Removing the Power Supply

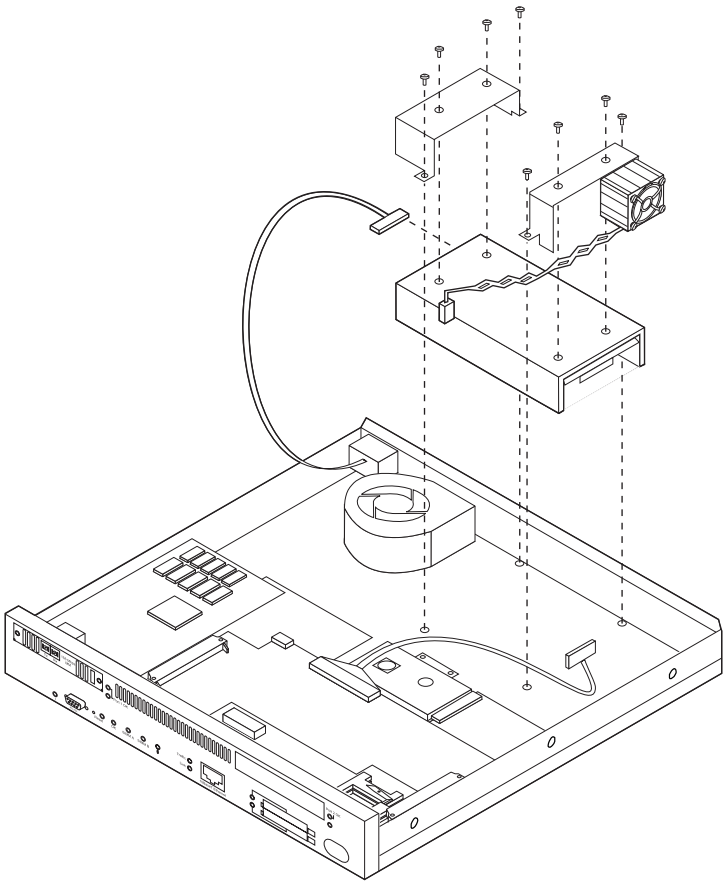


Figure 2-3. 8210 MSS Server Power Supply

1. Disconnect the cable that connects the cooling fan to the PCI logic card, and then disconnect the dc power cable from the PCI logic card.
2. Using a flat-blade screwdriver, loosen and remove the four screws on the top of the power supply cover.
3. Using a Torx screwdriver, loosen and remove the four screws that hold the power supply cover to the bottom of the chassis.
4. Remove the two brackets securing the power supply to the bottom of the chassis.
5. Unhook the dc power cable from the cable retainer and turn the power supply over.
6. Disconnect the ac and dc power cable connectors from the power supply.
7. Carefully remove the power supply from the 8210-003.

Where to Go Next

If your only task was to remove and replace the power supply, you are ready to go to “Replacing the Power Supply” on page 2-12.

Replacing the Power Supply

1. Position the new power supply, with the components facing up and the dc cable connector on the right, on the bottom of the chassis.
2. Reconnect the ac and dc power cable connections to the power supply, making sure that the connector tabs face the retaining clips.
3. Turn the power supply over.
4. Reposition the brackets and attach them to the power supply by reinstalling the four flat-head screws.
5. Reattach the brackets and the power supply to the bottom of the chassis by reinstalling the four Torx screws.
6. Slip the dc power cable under the cable retainer.
7. Reconnect the dc power cable to the PCI logic card, making sure that the connector tab faces the retaining clip.
8. Reconnect the cable that connects the cooling fan to the PCI logic card.

Where to Go Next

If your only task was to remove and replace the power supply, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5.

Removing the Cooling Fan

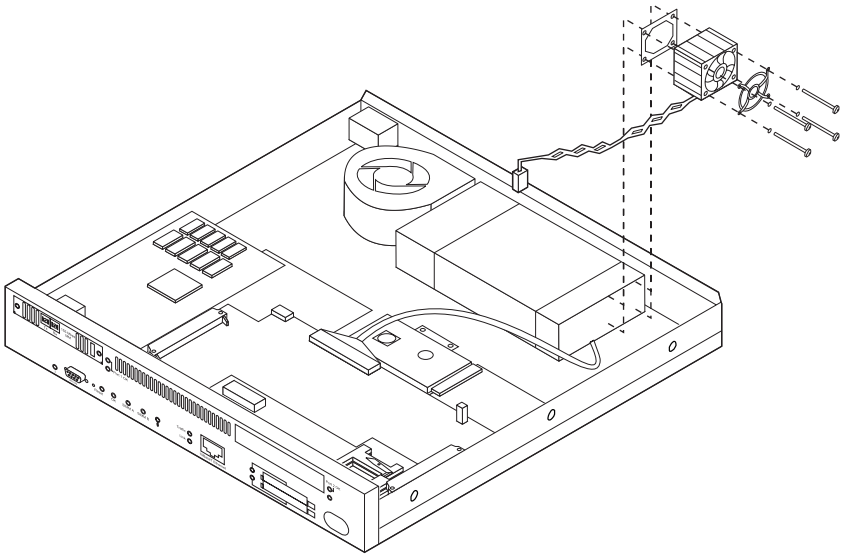


Figure 2-4. Fan Locations in the 8210-003

1. Disconnect the cable that connects the cooling fan to the PCI logic card.
2. Using a flat-blade screwdriver, remove the two screws on the top of the right-hand bracket that secures the power supply to the bottom of the chassis.
3. Using a Torx screwdriver, remove the two screws on the bottom of the right-hand bracket that secures the power supply to the bottom of the chassis.
4. Remove the bracket with the cooling fan attached.
5. Using a flat-blade screwdriver, remove the four screws that hold the cooling fan and fan guard assembly in place on the bracket.
6. Carefully remove the cooling fan and fan guard from the bracket.
7. Remove the fan guard and the screws from the cooling fan.

Where to Go Next

If your only task was to remove and replace the cooling fan, you are ready to go to “Replacing the Cooling Fan” on page 2-14.

Replacing the Cooling Fan

1. Aligning the bracket, the new cooling fan, and the fan guard, install the four screws and washers that hold the fan guard in place.
2. Realign the bracket and the attached cooling fan with the power supply and reinstall the two flat-head screws and two Torx screws.
3. Connect the cable that connects the cooling fan to the PCI logic card.

Where to Go Next

If your only task was to remove and replace the cooling fan, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5.

Removing the Blower

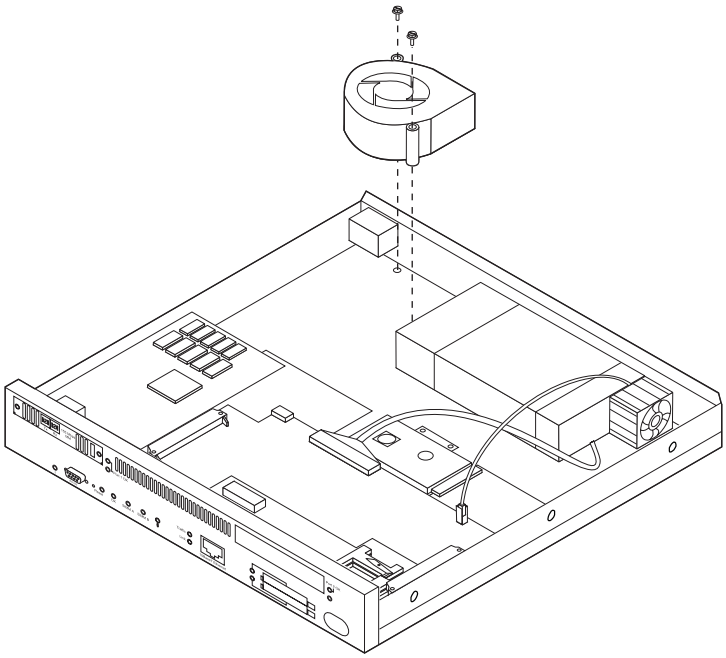


Figure 2-5. Blower

1. Disconnect the blower power cable from the PCI logic card.
2. Using a flat-blade screwdriver, remove the two screws from the top of the blower.
3. Remove the blower from the chassis.

Where to Go Next

If your only task was to remove and replace the blower, you are ready to go to “Replacing the Blower” on page 2-16.

Replacing the Blower

1. Reposition the blower in the chassis.
2. Reinstall the two screws in the top of the blower.
3. Reconnect the blower power cord to the PCI logic card.

Where to Go Next

If your only task was to remove and replace the blower, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5.

Removing the Adapter from Port 1 (Left Slot)

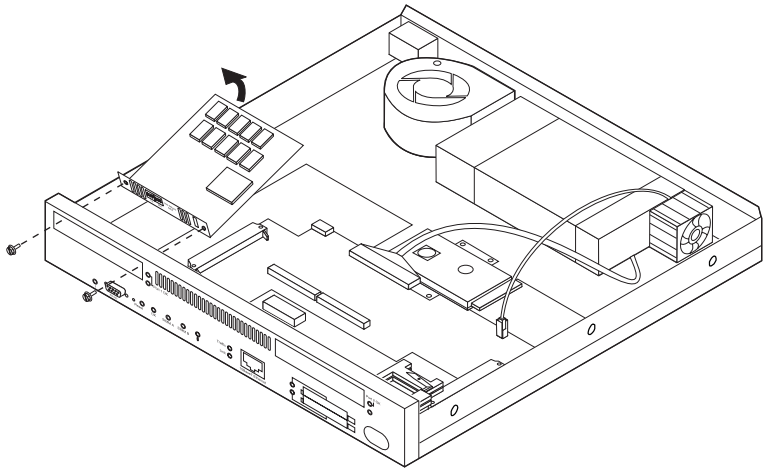


Figure 2-6. Adapter in Port 1

Note: Only ATM adapters can be installed in Port 1 (left slot).

To remove the adapter from Port 1 (left slot):

1. Using a flat-blade screwdriver, remove the two screws on the front of the 8210-003 that hold the adapter in place.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the adapter until you are ready to replace it in the 8210-003.
   - Use correct grounding techniques when inspecting and installing the adapter. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the adapter.

2. Disconnect the optical fiber cable.
3. Grasping the adapter, gently press the adapter toward the left of the 8210-003 until the card connector clears its connector socket.
4. Holding the adapter by the back edge, lift the back of the adapter until the faceplate clears the front lip of the chassis and remove it from the 8210-003.

Where to Go Next

If your only task was to remove and replace the adapter in Port 1, you are ready to go to “Replacing the Adapter in Port 1” on page 2-18.

Replacing the Adapter in Port 1

Note: Only ATM adapters can be installed in Port 1 (left slot).

1. Remove the new adapter, in its antistatic bag, from its shipping container.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the adapter from its antistatic bag until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the adapter. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the adapter.

   Always handle the adapter by the faceplate; do not touch its components. If the adapter appears to be damaged, return it to the antistatic bag and contact the supplier.

2. Holding the adapter by the back edge, position it vertically inside the front of the chassis.
3. Gently rotate the back of the adapter towards the bottom of the chassis, aligning the edge tabs to the connector on the PCI logic card. Carefully seat the edge tabs in the PCI logic card connector.
4. Reinstall the two, flat-head screws on the faceplate.

Where to Go Next

If your only task was to remove and replace the adapter in Port 1, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5.

Removing the Adapter from Port 2 (Right Slot)

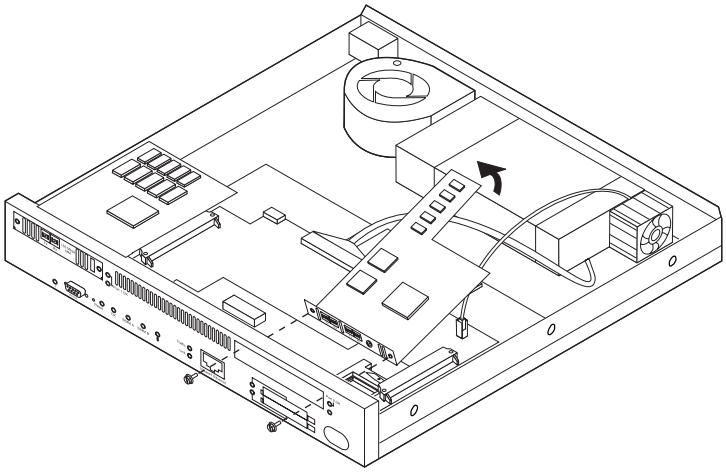


Figure 2-7. Adapter in Port 2

Note: FDDI and ATM adapters can be installed in Port 2 (right slot). This is the only slot in which FDDI adapters can be installed.

1. If you are removing a FDDI adapter, use a 4-mm nut driver to remove the screw attaching the back of the adapter to the standoff.
2. Using a flat-blade screwdriver, remove the two screws on the front of the 8210-003 that hold the adapter in Port 2 (right slot).

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the adapter until you are ready to replace it in the 8210-003.
   - Use correct grounding techniques when inspecting and installing the adapter. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the adapter.
3. Disconnect the optical fiber cable.
4. Grasping the adapter, gently press the adapter toward the left of the 8210-003 until the card connector clears its connector socket.
5. Holding the adapter by the back edge, lift the back of the adapter until the faceplate clears the front lip of the chassis and remove it from the 8210-003.
6. Remove the copper-colored ground clip from the bottom of the faceplate and set it aside for reuse.

Where to Go Next

If your only task was to remove and replace an adapter in Port 2, you are ready to go to “Replacing the Adapter in Port 2” on page 2-20.

Replacing the Adapter in Port 2

Note: FDDI and ATM adapters can be installed in Port 2 (right slot). This is the only slot in which FDDI adapters can be installed.

1. Remove the new adapter, in its antistatic bag, from its shipping container.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the adapter from its antistatic bag until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the adapter. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the adapter.

   Always handle the adapter by the faceplate; do not touch its components. If the adapter appears to be damaged, return it to the antistatic bag and contact the supplier.

2. Attach the copper-colored ground clip to the bottom of the adapter faceplate so that the fingers are pointing to the back of the adapter.
3. Holding the adapter by the back edge, position it vertically inside the front of the chassis with the faceplate resting on top of the PCMCIA connector.
4. Gently rotate the back of the adapter towards the bottom of the chassis, aligning the edge tabs to the connector on the PCI logic card. Carefully seat the edge tabs in the PCI logic card connector.
5. If you are installing a FDDI adapter, reinstall the screw on the standoff.
6. Reinstall the two, flat-head screws on the faceplate.

Where to Go Next

If your only task was to remove and replace the adapter in Port 2, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5.

Removing the PCI Logic Card

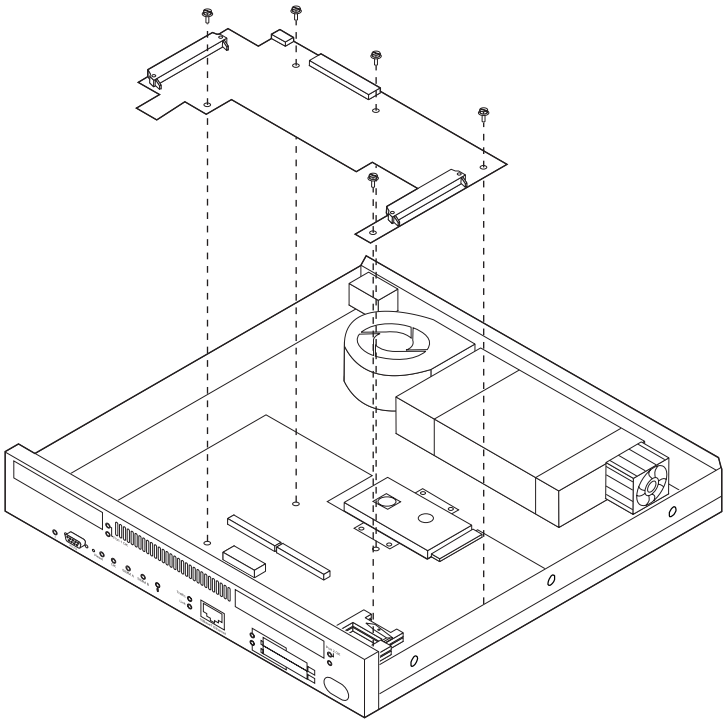


Figure 2-8. PCI Logic Card

1. Remove the ATM adapter in Port 1. See “Removing the Adapter from Port 1 (Left Slot)” on page 2-17.
2. Remove the ATM or FDDI adapter in Port 2. See “Removing the Adapter from Port 2 (Right Slot)” on page 2-19.
3. Disconnect the fan power cable, the blower power cable, and the dc power cable.
4. Using a 4-mm nut driver, remove the five screws fastening the PCI logic card.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the PCI logic card until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the PCI logic card. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the PCI logic card.
5. Gently lift the PCI logic card out of its connector socket on the processor logic card.

Where to Go Next

If your only task was to remove and replace the PCI logic card, you are ready to go to “Replacing the PCI Logic Card” on page 2-22.

Replacing the PCI Logic Card

1. Remove the new PCI logic card, in its antistatic bag, from its shipping container.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the PCI logic card from its bag until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the PCI logic card. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the PCI logic card.

   Always handle the PCI logic card by the edges (preferably grasp it between the middle finger and thumb; do not touch the components). If the PCI logic card appears to be damaged, return it to the antistatic bag and contact the supplier.
2. Grasping the PCI logic card between the middle finger and thumb, position its bottom connector over its processor logic card connector socket, and align its LEDs with the LED holes in the front of the 8210-003.
3. Gently insert the PCI logic card into its connector on the processor logic card. Correctly seat the PCI logic card into its connectors.
4. Align and reinstall the five 4-mm screws.
5. Reconnect the fan power cable, the blower power cable, and the dc power cable.

Where to Go Next

If your only task was to remove and replace the PCI logic card:

1. Reinstall the ATM adapter in Port 1 (see “Replacing the Adapter in Port 1” on page 2-18).
2. Reinstall the ATM or FDDI adapter in Port 2 (see “Replacing the Adapter in Port 2” on page 2-20). You are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5.

Removing the SIMMs

The 8210-003 comes with two SIMMs (see Figure 2-9). SIMM sockets are located directly behind the front faceplate of the 8210-003.

This procedure can be used for removing faulty SIMMs or to install memory upgrades to your 8210-003.

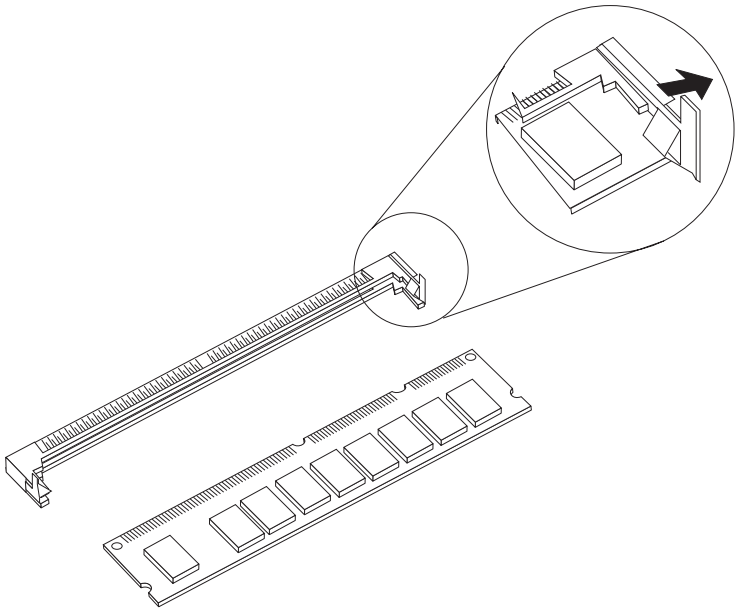


Figure 2-9. SIMM

1. When the top cover is removed, the SIMM sockets are exposed. SIMM-B is positioned closest to the front of the 8210-003, and SIMM-A is positioned in the back. Spring latches at each end of the SIMM socket secure the memory module. Using your thumbnail or a small, non-metallic device, gently move the spring latches away from the ends of the SIMM while moving the SIMM card toward the back of the 8210-003.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the SIMM until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the SIMM. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the SIMM.

2. When the ends of the SIMM are free of the latches, lift the SIMM up and out of its connector socket, and remove it from the 8210-003.

Where to Go Next

If your only task was to remove and replace the SIMM, you are ready to go to “Replacing the SIMMs” on page 2-24.

Replacing the SIMMs

1. Remove the new SIMM, in its antistatic bag, from its shipping container.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the SIMM until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the SIMM. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the SIMM.

   Always handle the SIMM by the ends (preferably grasp it between the middle finger and thumb; do not touch the components). If the SIMM appears to be damaged, return it to the antistatic bag and contact the supplier.

2. Grasping the SIMM between the middle finger and thumb, place it, connector-edge down, into the SIMM socket. Applying slight pressure to the top edge of the SIMM, move it forward until it is correctly aligned and snaps into place in the spring clips.

Where to Go Next

If your only task was to remove and replace or initially install a SIMM, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5.

Removing the Processor Logic Card

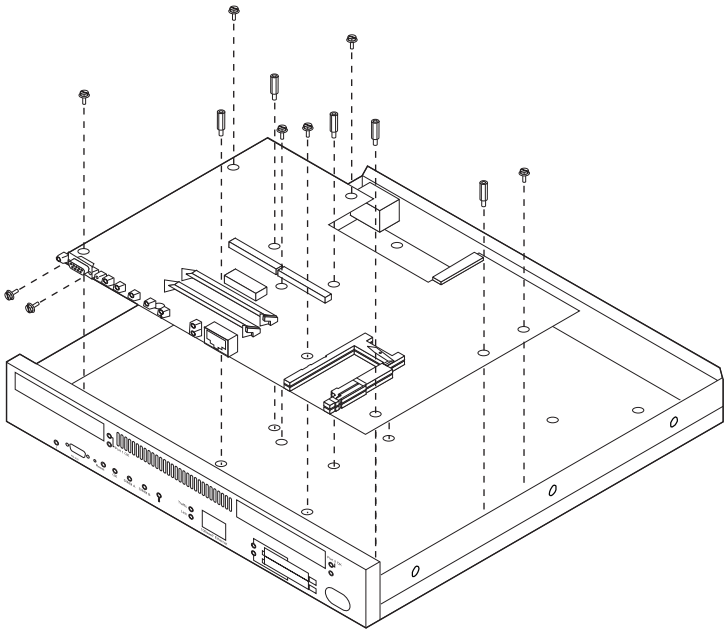


Figure 2-10. Processor Logic Card

1. Before beginning the removal procedure, record the current hardware Vital Product Data (VPD) by performing the following steps:
   a. Access the firmware by stopping the boot process. To do this, you must have a TTY console directly attached to the EIA-232 service serial port. When the MSS Server starts its boot process, press and hold **Ctrl-C** or **F1** at the terminal keyboard. The Main Menu panel appears.
   b. Select **Utilities**, and then select **View or Set Vital Product Data**. The View or Set Vital Product Data panel appears.
   c. Select **Hardware Vital Product Data**. Record the values for the various VPD fields, for example, SN (serial number), PN (manufacturing part number), and so on. Press **Esc** when you are through.
2. Remove the PCMCIA flash drive and modem, if applicable, and set them aside.
3. Remove all cables from the front of the 8210-003.
4. Remove the ATM or FDDI adapter in Port 2 and set it aside for reinstallation. See “Removing the Adapter from Port 2 (Right Slot)” on page 2-19.
5. Remove the ATM adapter in Port 1 and set it aside for reinstallation. See “Removing the Adapter from Port 1 (Left Slot)” on page 2-17.
6. Remove the PCI logic card and set it aside for reinstallation (see “Removing the PCI Logic Card” on page 2-21).
7. Remove the SIMMs and set them aside for reinstallation (see “Removing the SIMMs” on page 2-23).
8. Using a 6-mm nut driver, loosen and remove the five standoffs that support the PCI logic card. Set them aside for reuse in the replacement procedure.

9. Remove the IDE hard drive and set it aside for reinstallation (see “Removing the IDE Hard Drive” on page 2-9).
10. Using a 4-mm nut driver, remove the six screws that secure the processor logic card to the inside bottom of the 8210-003. Set them aside for reuse in the replacement procedure.
11. Using a 3/16-inch nut driver, remove the two screws that secure the 9-pin, EIA-232, service-port connector to the chassis.
12. Remove the processor logic card.

    Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

    - Do not remove the processor logic card until you are ready to insert it into the 8210-003.
    - Use correct grounding techniques when inspecting and installing the processor logic card. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the processor logic card.
13. Remove any unidentified items from the inside of the 8210-003 chassis. Clean the bottom inside surface to remove dust and so forth.

Where to Go Next

If your only task was to remove and replace the processor logic card, you are ready to go to “Replacing the Processor Logic Card” on page 2-27.

Replacing the Processor Logic Card

1. Remove the new processor logic card, in its antistatic bag, from its shipping container.

   Attention: Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the processor logic card until you are ready to insert it into the 8210-003.
   - Use correct grounding techniques when inspecting and installing the processor logic card. Use a foot strap or grounding mat, or wear a grounded static-discharge wrist strap, or touch a grounded rack or other source of ground before you handle the processor logic card.

   Always handle the processor logic card by the edges (preferably grasp it between the forefinger and thumb); do not touch the components. If the processor logic card appears to be damaged, return it to the antistatic bag and contact the supplier.

2. Ensure that the inside bottom of the 8210-003 is clear and clean.
3. Grasping the processor logic card, place it in the bottom of the 8210-003, aligning the six hold-down screw holes.
4. Reinstall the IDE hard drive (see “Replacing the IDE Hard Drive” on page 2-10).
5. Check the alignment of the hold-down screw holes.
6. Reinstall the five standoffs that support the PCI logic card.
7. Reinstall the two screws that secure the 9-pin, EIA-232, service-port connector to the chassis.
8. Reinstall the six 4-mm screws that secure the processor logic card to the bottom of the chassis.
9. Reinstall the SIMMs (see “Replacing the SIMMs” on page 2-24).
10. Reinstall the PCI logic card (see “Replacing the PCI Logic Card” on page 2-22).
11. Reconnect the cable connectors for the cooling fan, the blower, and the power supply.
12. Reinstall the ATM adapter in Port 1 (see “Replacing the Adapter in Port 1” on page 2-18).
13. Reinstall the ATM or FDDI adapter in Port 2 (see “Replacing the Adapter in Port 2” on page 2-20).
14. Reinstall the PCMCIA modem (see “Removing and Replacing the PCMCIA Modem” on page 2-8).
15. If applicable, reinstall the PCMCIA flash drive (see “Removing and Replacing the PCMCIA Flash Drive” on page 2-8).

Where to Go Next

1. If your only task was to remove and replace the processor logic card, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-5, follow all procedures through connecting the ac power cord, and return here to continue.
2. Using the firmware utility, reload the appropriate hardware VPD by performing the following steps:
   a. Access the firmware by stopping the boot process. When the MSS Server starts its boot process, press and hold **Ctrl-C** or **F1** at the terminal keyboard. The Main Menu panel appears.
   b. Select **Utilities**, and then select **View or Set Vital Product Data**. The View or Set Vital Product Data panel appears.
   c. Select **Hardware Vital Product Data**, and then press **F2** to display the VPD file on your C drive; the file name is equal to the MSS Server serial number.
   d. Select the file and press **Enter** to update VPD with the VPD that existed at the time the MSS Server was manufactured.
   e. If the VPD file does not appear (that is, it does not exist), you must create one. Separately create a text file named `ppc.vpd` listing all the VPD tags and their values that you recorded in step 1 on page 2-25.
   f. Select **Copy Remote Files** from the Utilities menu, and then transfer the `ppc.vpd` file by means of XMODEM or TFTP.
   g. Select **View or Set Vital Product Data** from the Utilities menu. The View or Set Vital Product Data panel appears.
   h. Select **Hardware Vital Product Data**, press **F2**, select the VPD file that you just transferred, and then press **Enter** to transfer the VPD from that file to the MSS Server
   i. Press **Esc** when you are finished.

Chapter 3. Accessing the MSS Server

This chapter explains how to access the MSS Server using a workstation.

Methods of Connecting

There are four methods of connecting to the MSS Server:

- A teletype (TTY) connection
- A serial line IP (SLIP) connection
- An Ethernet connection
- The ATM network

TTY, SLIP, and Ethernet are considered *out-of-band* connections. Out-of-band connectivity is usually employed when the ATM network is not operational, or the MSS Server has not been configured yet. Therefore, if you are performing an initial (quick) configuration, you should use an out-of-band method (usually TTY).

The connection via the ATM network is *in-band*. In-band connectivity requires IP connectivity over the MSS Server's ATM network attachment. To enable in-band IP connectivity, you must configure one of the following connectivity methods on your workstation:

- Classical IP client or server
- LAN emulation client to which an IP address has been assigned
- IP host services

The in-band and out-band connectivity are discussed in detail in the following sections.

TTY Connection

For this method you have three alternatives:

- A local connection through a null modem cable attached to the EIA-232 service port (see Figure 3-1 on page 3-2)
- A remote connection through a modem attached to the EIA-232 service port (see Figure 3-2 on page 3-2)
- A remote connection through the PCMCIA modem, the Voice/Data/Fax PCMCIA Modem, or the Data/Fax PCMCIA Modem (see Figure 3-3 on page 3-2).

You can set up both remote and local connections, but only one connection can be active at any given time. For example, if a workstation is connected locally to the EIA-232 service port and a call comes in over the Voice/Data/Fax PCMCIA Modem or the Data/Fax PCMCIA Modem, priority is given to the call. After the call, the workstation will have to log back into the MSS Server.

Either connection, local or remote, must be made using communications software that enables terminal emulation and file transfer. You can continue to use local or remote access to the MSS Server after it has been configured.

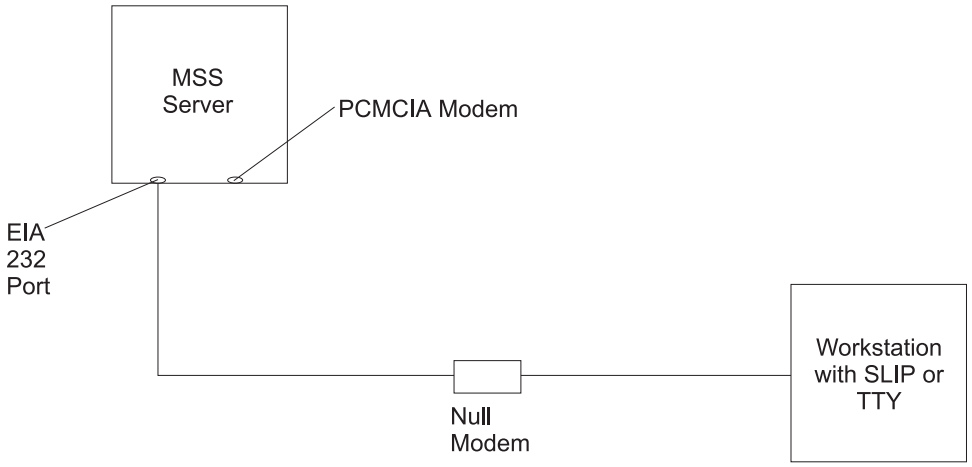


Figure 3-1. Local Serial Connection to the EIA-232 Port

Note: Refer to “Pin Assignments for the Null-Modem Cable” on page C-3 for pin assignments for the null-modem cable.

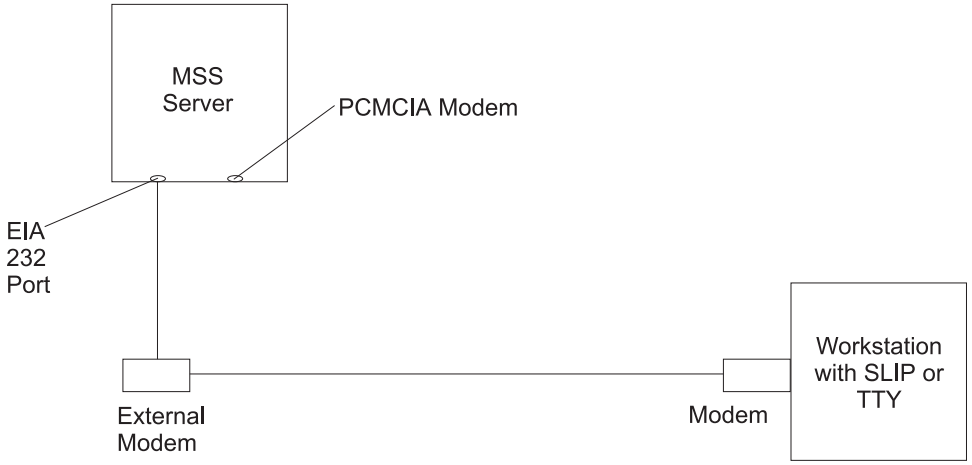


Figure 3-2. Remote Serial Connection to the EIA-232 Port

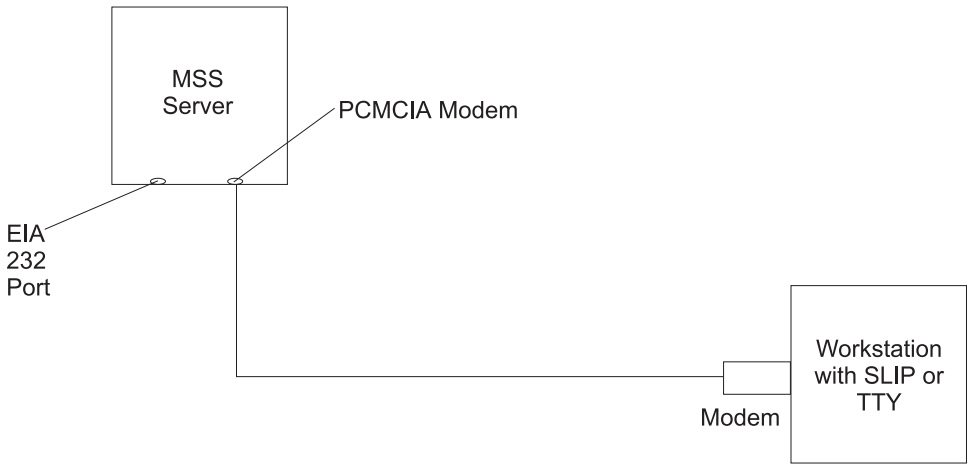


Figure 3-3. Remote Serial Connection to the PCMCIA Modem (Voice/Data/Fax PCMCIA Modem or Data/Fax PCMCIA Modem)

Local and Remote Console Access

When accessing the MSS Server locally on a null modem cable attached to the EIA-232 service port or remotely through the PCMCIA modem, use VT220 or VT100 terminal emulation. Because VT100 does not define function keys above F4, when using VT100, edit the keyboard mapping for your terminal emulation as follows:

- For key definition F6, enter the mapping (ESC)OU.
- For key definition F9, enter the mapping (ESC)(Left square bracket)009q.

Note: (ESC) represents the carat symbol followed by the left square bracket.

Default Settings for Serial Port

These are the default settings for the serial port:

Speed 19.2 Kbps
Parity None
Data Bits 8
Stop Bits 1

Once the MSS Server operational code has loaded, the line speed for the serial port is automatically set to 19.2 Kbps.

Default Settings for PCMCIA Modem

The PCMCIA modem is either a 28.8-Kbps V.32 or a 56-Kbps V.90 bis modem. It is set up with a default speed of auto-detect.

Note: At the time of this printing, the 28.8-Kbps V.32 bis modem is still being shipped with the MSS Server.

These are the default settings for PCMCIA modem:

Speed Auto detect
Parity None
Data Bits 8
Stop Bits 1

SLIP Connection

Over the local or remote connection described on page 3-1, you can choose to use the SLIP protocol instead of the TTY connection. Using SLIP requires TCP/IP on the workstation that connects to the MSS Server.

To configure SLIP, use these addresses:

The default SLIP address of MSS Server
10.1.1.2

The default IP address of the workstation
10.1.1.3

For instructions about installing SLIP, refer to the documentation for your version of TCP/IP.

Ethernet Connection

Through a 10BASE-T Ethernet cable attached to the Ethernet service port, you can use Telnet (see Figure 3-4). Using Telnet requires TCP/IP on the workstation that connects to the MSS Server.

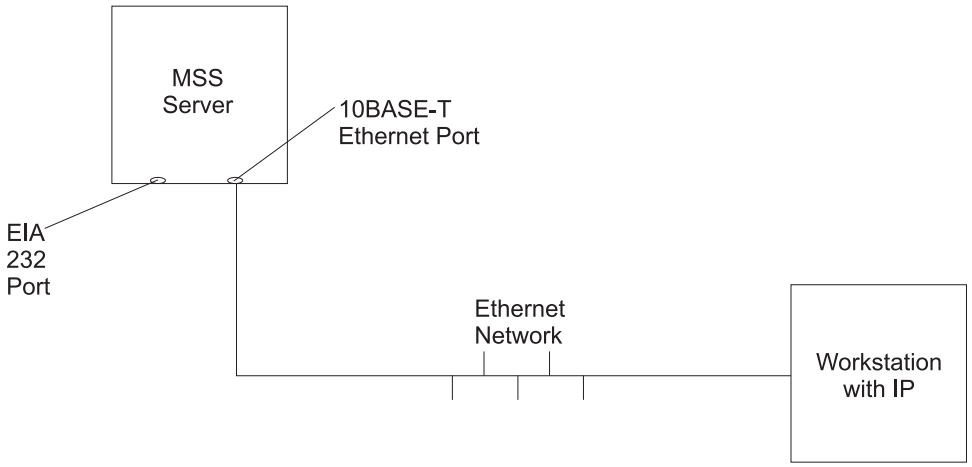


Figure 3-4. Connection Using IP through the Ethernet Port

To use Telnet over the Ethernet connection, use these addresses:

The default IP address of the MSS Server
10.1.2.2

The default IP address of the workstation and gateway
10.1.2.3

The default subnet mask of the MSS Server
255.255.255.0

For instructions about using Telnet over Ethernet, refer to the documentation for your version of TCP/IP.

If you need to change these default IP addresses, refer to the firmware section of the *MSS Server Interface Configuration and Software User's Guide*.

ATM Network Connection

Figure 3-5 shows an *in-band* connection over the ATM network.

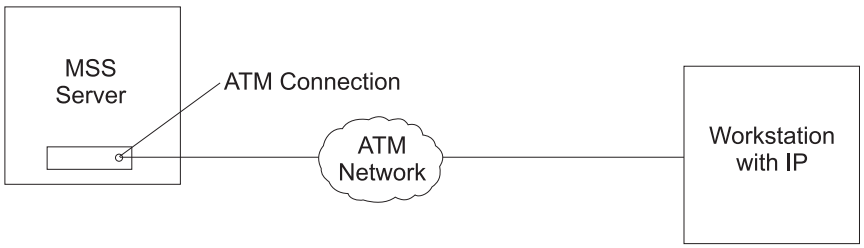


Figure 3-5. Connection Using IP Over the ATM Network (shown with the 8210). The 8210-003 or the module must be operational in the network to use this connection.

You can access the MSS Server via the ATM network only after it has been configured or by using the default configuration (see the *Installation and Initial Configuration Guide* for more information about the default configuration and its limitations). Therefore, for an initial (quick) configuration, you usually use one of the three connection methods described in the previous three sections.

After you have completed the initial configuration, you have to reload the MSS Server to activate the configuration. After this reload, the MSS Server is operational in the network, and you can access it via a LAN emulation or a Classical IP client.

Managing the Operational and Configuration Software

The MSS Server comes from the factory with its operational software loaded. However, if the operational software needs an upgrade or replacement, you must reload it. Binary configuration files can be created by using the Configuration Program. These files can be uploaded to the MSS Server to reconfigure it. Binary configuration files also can be created at the MSS Server by using the command line interface or the Web browser.

MSS Server Software and Configuration Change Management

The MSS Server is capable of storing three copies of its operational software: two copies on the hard drive and one copy on the flash memory. (The flash memory is located on the optional flash drive.) The MSS Server can store four copies of configuration information for each copy of the operational software. You can store files in the MSS Server without interrupting its operation. Changes are subsequently activated in one of the following ways: immediately, after a timed interval, or at the next restart.

Should the MSS Server fail when a new version of the operational software is activated, one of the backup versions can be restored.

You use the command line interface for operational code change management operations and TFTP to transfer files.

You can use the System Management Services for change management operations and TFTP to transfer files from the operational code console.

File Transfer

You can transfer operational code files using TFTP. The MSS Server is designed so that it can get files from another device, but another device cannot put files in it; this design prevents another device from putting inappropriate or harmful software in the MSS Server. To get a file, telnet into the MSS Server and use the TFTP **get** command to bring the file from the TFTP server into the MSS Server.

Chapter 4. Using Operational Diagnostics

You can invoke operational diagnostics for the configured MSS Server through either the HTML interface or the command line interface. If the MSS Server is booted up and in config only mode (that is, it is not configured), you cannot invoke operational diagnostics.

The preferred access method is the HTML interface; this method is recommended if you access the MSS Server through Telnet. Use the command line interface in the following situations:

- You are using a workstation attached to the EIA-232 service port (serial port) of the MSS Server.
- You dialed in through a modem and your workstation does not support SLIP.
- You do not have a Web browser.

The content of the HTML interface diagnostics pages and the command line interface are similar. Words and choices are the same; only the methods you use to make your selections differ. If you are using HTML, point and click to make your selections. Selections for the command line interface are numbered and enclosed in the less-than symbol (<) and the greater-than symbol (>) (for example, <**1. View Device Status>**). Type in the number of your choice and press **Enter** to make a selection. At any time, you can press **E** and **Enter** to return to the command line interface top-level prompt (*****).

Chapter 3, Accessing the MSS Server discusses what is required to access the MSS Server.

This chapter describes general procedures for invoking operational diagnostics and includes sample screens.

Overview of Diagnostic Functions and Status Information

Diagnostics are available to test each adapter. In some cases, you may also be able to test individual ports of multi-port adapters. These tests execute concurrently with normal operation on other adapters and ports.

The following types of diagnostic pages are available:

- **Device List** to show a summary list of devices.
- **Device Status and Control** to enable you to disable and test a device.
- **Test Results** to present the results of the test for a device.
- **Test Options** to enable you to choose specific testing options for a device.
- **Setup for Loop Test** to prompt for the presence of diagnostic aids such as wrap plugs.
- **Restore from Loop Test** to prompt you to remove diagnostic aids that have been installed prior to testing.

Many of the diagnostic pages have help information that provides definitions of the status fields and testing options.

These diagnostics operate in a multi-tasking environment that allows several diagnostic processes to be active at the same time. The Diagnostic Control Program controls which test processes are active and which one has access to the user interface.

When you make a selection from the Device Status and Control page for a device, a separate testing process is started that runs independently of the other diagnostic menus. You can then go back to the Device List page or exit from the diagnostic menus, returning later to view the results of the test.

When an active test process needs to report results or obtain information from you, the diagnostic status for the device will change to MESSAGE. When you select the device on the Device List page, the testing process is given access to the console interface and the message is displayed.

Note: It is necessary to refresh the Device List and Device Status and Control pages in order to see the changing status of active test processes.

Using the HTML Interface Operational Diagnostics

If you access the MSS Server through the HTML interface:

1. If you are using SLIP, ensure that SLIP is configured in your workstation. The default SLIP addresses for both the 8210-003 and the MSS Server Module are:

   Workstation 10.1.1.3
   MSS Server 10.1.1.2

   If you are using Telnet over the Ethernet connection, ensure that IP is configured in your workstation. The default IP addresses for the 8210-003 are:

   Client 10.1.1.2
   Server 10.1.1.1
   Gateway 10.1.1.1
   Subnet mask 255.255.255.0

   The default IP addresses for the MSS Server Module are:

   Client 10.1.2.2
   Server 10.1.2.3
   Gateway 10.1.2.3
   Subnet mask 255.255.255.0

2. Open your Web browser and give it the SLIP or IP address of the MSS Server. The MSS Server Home Page appears.
3. Select **Diagnostics**. The Diagnostic Menu appears.
4. Select **View Device Status** and continue to point and click on your choices to test the ATM devices in the MSS Server, to enable or disable a device, and to view hardware test or error log data.
5. When you have finished running diagnostics, close by clicking **Exit diagnostics** on the Diagnostic Menu.

Using the Command Line Interface Operational Diagnostics

The following example shows how to access the MSS Server diagnostics through the command line interface:

1. At the asterisk (*****), type **diags** and press **Enter**.
2. The Diagnostic Menu appears (Figure 4-1). To make your selection, type in the number of your choice and press **Enter**.

```
                        DIAGNOSTIC MENU

Select from the following list of functions:

<1. The Device List>
    shows operational and diagnostic status for each of the installed devices.
    From this page you can also link to the Device Status and Control page
    for each adapter.

<2. The Diagnostic Test History Log>
    contains a summary of recent diagnostic testing activity.

<3. The Diagnostic Error Log>
    contains error information for recent diagnostic tests that have
    detected errors.


First time users should review the <4.Introduction> to using the diagnostics.

Select (1-4 or E=Exit Diagnostics):
```

Figure 4-1. Operational Diagnostics Main Menu

3. Select <**1. The Device List** > to view a list of installed devices. (Status and test options for each device are from the Device List page.) The Device Status and Control page (similar to the one in Figure 4-2 on page 4-4) appears.

```
                          Device List

 For more information on each device select from the following list:

   Device       Location                                  Status
< 1. ATM SMF >   Slot 1      Port 1     Net # 0       ENABLED
< 2. ATM MMF >   Slot 2      Port 1     Net # 1       DISABLED









Some of the devices are not currently available for testing.  This can occur
when a test is not available for the device or when the device must be
configured in order to be tested,

Select (1-4 or D=Down B=Back  R=Refresh H=Help):
```

Figure 4-2. Sample of Device List Page Showing Interfaces

The Device List is the starting point for running a test. It also lets you verify whether all of the installed devices are being recognized by the MSS Server.

The Device List includes a summary status for each device. The devices that are testable or that have additional status available can be selected. Selecting a device will then display the Device Status and Control page for that device.

The Status displayed for a device may have the following values:

ENABLED	Device is enabled for normal operation. For multi-port devices this status means that at least one port is enabled.
ENABLE PENDING	Waiting for completion of enable request.
Special	Device is in a special state that is explained on the Device Status and Control page.
DISABLED	Device is disabled. Diagnostic testing can now be performed. For multi-port devices, this status indicates that all ports are disabled.
DISABLE PENDING	Waiting for completion of disable request.
MESSAGE	Select the device to view and respond to the message.
TESTING	The device is being tested.
NOT CONFIGURED	The device is not configured for normal operation.
MIS CONFIGURED	The configuration does not match the physical device.
HARDWARE ERROR	A hardware error has been detected that prevents further use of the device.

4. If you select the ATM interface (<**2. ATM MMF**> on the Device List page), the Device Status and Control page for the ATM adapter appears (Figure 4-3 on page 4-5).

```
                          Device Status and Control

155Mb/s ATM over multi-mode fiber, Slot 2,- Net # 1

 Operational Status   Diagnostic Status  Fault Status   Network Connection
      DISABLED           ACTIVE              OK              UP

Select from the following:
    Disable Device
<1. Enable Device >
<2. Run Default Test >
<3. Run Interactive test >
<4. Loop Test - stop on first error >
<5. Loop Test - Log all errors >
     Stop Test
<6. View Hardware Test Log >
<7. View Hardware Error Log >


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

Select (1-7 or B=Back R=Refresh H=Help):
```

Figure 4-3. Device Status and Control Page (Device Disabled)

The Device Status and Control page displays status and a menu of actions for the selected device. The status fields that are displayed are dependent on the characteristics of the device. Table 4-1 on page 4-6 shows the status fields that are displayed for most devices and their meanings.

The menu items that are active on the Device Status and Control page are dynamically determined depending on the state of the device (that is, whether it is enabled, disabled, or testing). See Table 4-2 on page 4-7 for more information about menu items.

In this example, the device is disabled. The Enable Device choice and all of the choices to start a test are active and can be selected. If the device were enabled, it would need to be disabled before testing.

When the Device Status and Control page is displayed (and the status for the device is ENABLED), you can disable the device by selecting the Disable option.

When testing is complete, the device can be enabled using the diagnostic menus or using the MSS Server's **talk 5** commands.

Select **Refresh** periodically to update the status information for a device.

Table 4-1. Device Status Field Meanings

	Operational Status
ENABLED	The device is enabled for normal operation. For multi-port devices, this status indicates that at least one port is enabled.
ENABLED PENDING	The device is waiting for completion of enable request.
See Note	The device is in a special state that is explained on the page.
DISABLED	The device is disabled. Diagnostic testing can now be performed. For multi-port devices, this status indicates that all ports are disabled.
DISABLED PENDING	The device is waiting for completion of disable request.
DIAGNOSTICS	A configured device is being used by the diagnostics.
NOT CONFIGURED	The device is not configured for normal operation.
MIS-CONFIGURED	The configuration does not match the physical device.
HARDWARE ERROR	A hardware error has been detected that prevents further use of the device.
	Diagnostic Status
ACTIVE	Diagnostic for the device is running.
INACTIVE	Diagnostic for the device is not running.
TESTING	A testing process for the device is active and the device is being tested.
LOOP AND LOG	A testing process for the device is active and will loop and log any errors until stopped.
LOOP UNTIL ERROR	A testing process for the device is active and will loop until an error occurs or it is stopped.
MESSAGE	A testing process for the device is active and it is waiting for user input.
	Fault Status
OK	The last test of the device completed without error.
ISOLATED	A hardware failure has been detected and isolated to the device.
NON-ISOLATED	A problem has been detected, but the failure might be external to the device. This status most often occurs with the network adapters that have external cables, modems, or LAN connections.
UNKNOWN	No test results are currently available for the device.
	Network Status
UP	The network connection is established.
DOWN	A network connection cannot be detected.
TESTING	The MSS Server is attempting to determine if a network connection exists.
UNKNOWN	The state of a network connection cannot be determined at this time.
N/A	Network status does not apply to this device.

Table 4-2 displays all of the menu choices that can appear for each device, but only those that are appropriate for the current state of the device will be active for a selection.

Table 4-2. Explanation of Menu Choices

Choice	Meaning
Enable Device	The device will be enabled for normal operation. This choice performs the same function as the **enable** or **test** commands available at the MSS Server's monitoring (**talk 5**) prompt (**+**).
Disable Device	The device is taken out of its normal operational state. If this menu option is available, then the device must be disabled before any diagnostic test can be started. This choice performs the same function as the **disable** command available at the MSS Server's monitoring (**talk 5**) console.
Run Default Test	This choice starts a test that assumes that the device is set up for normal operation. For a communication adapter, the assumption is that it has a cable attached and is connected to the network.
Run Interactive Test	This choice starts a test which will present an additional menu of options such as cable attachment and wrap plugs can be specified.
Stop Test	This choice stops a looping test. Depending on the length of each test loop, it could take up to a minute to stop the test.
Loop Test - stop on first error	This choice starts a looping test that will stop when the first error is detected. A menu of additional test options may be presented before the loop is started.
Loop Test - Log all errors	This choice starts a looping test that will loop until a Stop Test request is made. All detected errors are logged. A menu of additional test options may be presented before the loop is started.
View Test History Log	This choice displays a history of recent diagnostic tests that have been executed.
View Hardware Error Log	This choice displays a list of errors detected by diagnostic tests.

5. Type **E** and press **Enter** to exit from the diagnostic menus and return to the command line interface prompt (*****).

Appendix A. Hardware Error Codes

The error log that is displayed when you use the Display Event / Error Log firmware utility accessed through the serial port (refer to *MSS Server Interface Configuration and Software User's Guide*), contains error codes. This appendix contains explanations for those error codes.

Error Code	Physical Location	Software Subsystem	Explanation
00010000	Processor Logic Card	Processor	Error occurred during processor test.
00011000	Processor Logic Card	NVRAM	Non-volatile RAM test failure.
00015001	Processor Logic Card	Firmware flash	Error occurred while erasing the system firmware.
00015002	Processor Logic Card	Firmware flash	Error occurred while updating the system firmware.
00015011	Processor Logic Card	Main flash array	Error occurred while erasing the system main flash array.
00015012	Processor Logic Card	Main flash array	Error occurred while updating the system main flash array.
00015500	Processor Logic Card	Interrupts	Processor logic card interrupt test failure.
00015501	Processor Logic Card	Interrupts	Error occurred during processor interrupt test.
00015502	Processor Logic Card	Interrupts	Error occurred during real-time clock interrupt test.
00015503	Processor Logic Card	Interrupts	Error occurred during timer interrupt test.
00015504	Processor Logic Card	Interrupts	Error occurred during dead-man timer interrupt test.
00016000	Processor Logic Card	RTC-NVRAM	CRC error.
00016002	Processor Logic Card	RTC-NVRAM	Read/write failure.
00017001	Processor Logic Card	RTC-NVRAM	Battery drained.
00017006	Processor Logic Card	RTC-NVRAM	Security data missing or not valid.
00017007	Processor Logic Card	Security	Maximum unsuccessful attempts to enter password was reached.
00018000	Processor Logic Card	Firmware flash	Firmware code image is corrupted.
000210y0	Processor Logic Card	Memory	Memory error with SIMM slot *y* (where *y*=0 or 1); 0=SIMM A, 1=SIMM B.
00170000	IDE	IDE	Unable to allocate memory for IDE diagnostics.
001701xy	IDE	IDE	IDE device ID *y* on controller *x* not responding.
001702xy	IDE	IDE	Formatter device error occurred on IDE device ID *y* on controller *x*.
001703xy	IDE	IDE	Sector buffer error occurred on IDE device ID *y* on controller *x*.
001704xy	IDE	IDE	Controlling microprocessor error occurred on IDE device ID *y* on controller *x*.
001706xy	IDE	IDE	Two masters may be present on IDE controller *x*. This configuration is not valid.
001707xy	IDE	IDE	IDE device ID *y* on controller *x* is not responding.
001708xy	IDE	IDE	IDE device ID *y* on controller *x* is not responding.
2209E000	Processor Logic Card	Thermal sensor	Thermal sensor configuration error occurred.
2259E000	Processor Logic Card	Thermal sensor	Thermal sensor interrupt error occurred.
2269Exxx	Processor Logic Card	Thermal sensor	Thermal sensor reached maximum operating conditions, where *xxx*=degrees Celsius over maximum conditions in hexadecimal.
30001000	IDE	IDE	Error occurred while running the IDE diagnostics.

Error Code	Physical Location	Software Subsystem	Explanation
30002000	IDE	IDE	Error occurred while preparing the hard drive.
5abcdefg	Processor Logic Card	PCMCIA	Error occurred during the PCMCIA test, where *abcdefg* = detailed information.
710sdddd	155-Mbps MMF adapter	ATM diagnostics	Error occurred with ATM adapter in slot “s,”. where *dddd*=detailed status.
720sdddd	155-Mbps SMF adapter	ATM diagnostics	Error occurred with ATM adapter in slot “s,” where *dddd*=detailed status.
740ddddd	8260 ATM Interface	ATM diagnostics	Error with the 8260 ATM interface.
750sdddd	FDDI adapter	FDDI diagnostics	Error occurred with FDDI adapter in slot “s,” where *dddd*=detailed status.
7msceddd	PCI slots		Adapters *m*=unique for adapter type, *s*=subtest, *c*=slot id, *e*=error id, *ddd*=debug.
80000000	Processor Logic Card	8260 interface	Echo response test with 8260 failed.
801000xy	Processor Logic Card	Mailbox memory	Error testing mailbox memory, where *x* = indicates page 2 error and *y* = indicates page 1 error.
81xyzzzz	Processor Logic Card	Memory	Error occurred while testing main flash array memory pages, where *x*, *y*, *zzzz* = detailed information.

Appendix B. Parts Listings

This appendix contains a reference drawing and a corresponding index for all field-replaceable units (FRUs). The index provides the part number, the quantity required (units), and a description of the part. Separate indexes list the FRUs for the MSS Server Module or the 8210 MSS Server.

This parts catalog contains reference drawings and a corresponding index for all field-replaceable parts. The index provides the part number, the quantity required (units), and a description of the part.

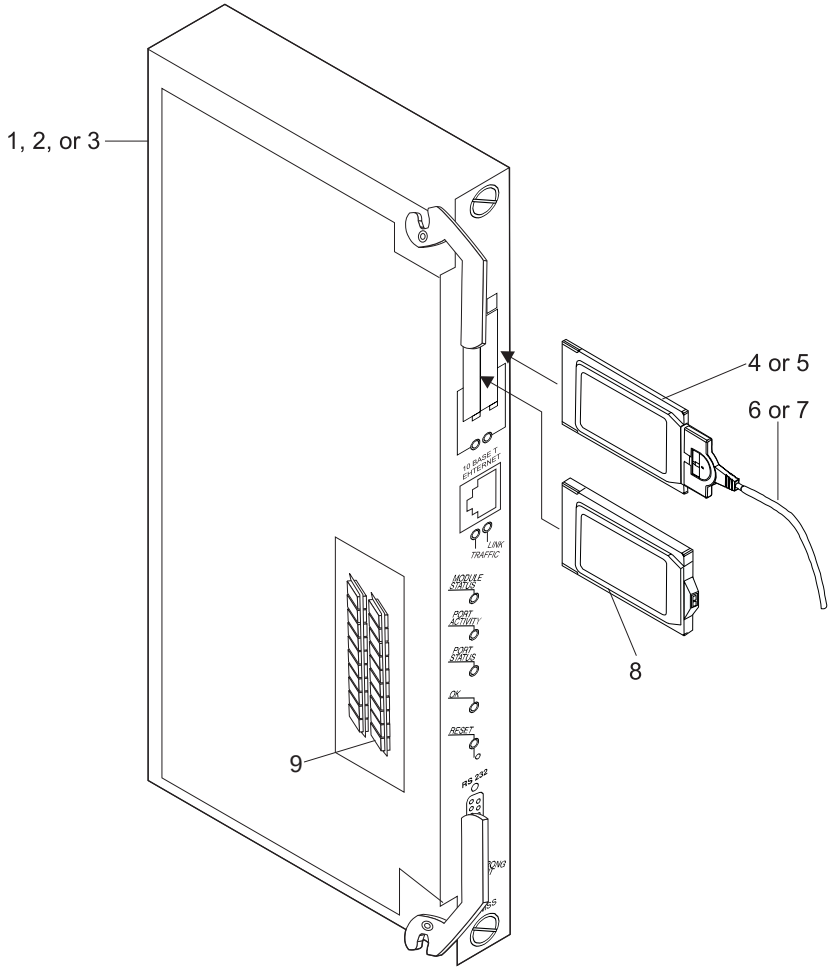
The following is additional information about the parts assembly index.

- SIMILAR ASSEMBLIES: If two assemblies contain a majority of identical parts, they are broken down on the same list. Common parts are shown by one index number. Parts peculiar to one or the other of the assemblies are listed separately and identified by description.

- AR: (As Required) in the Units column indicates that the quantity is not the same for all machines.

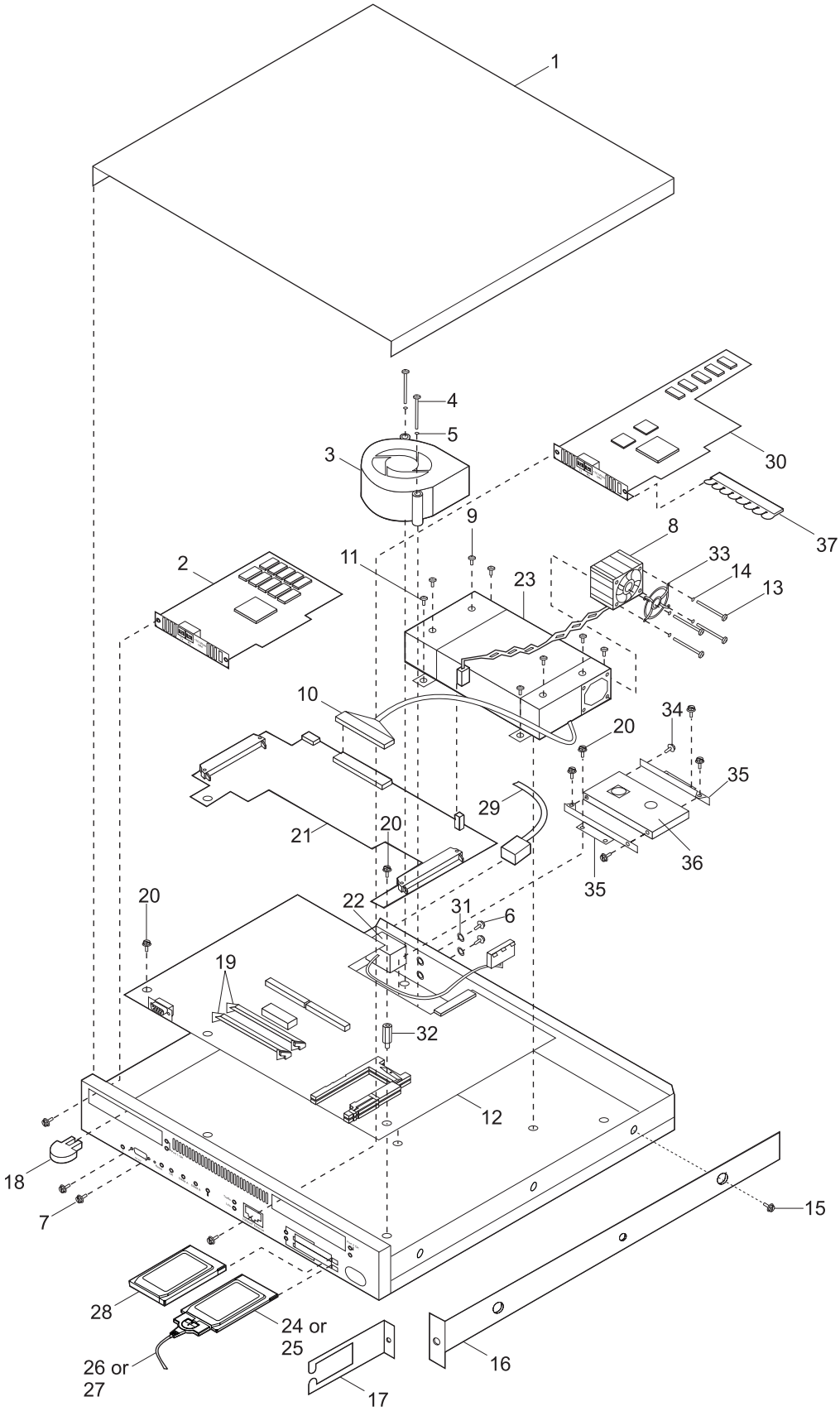
- NP: (Non-Procurable) in the Units column indicates that the part is non-procurable and that the individual parts or the next higher assembly should be ordered.

Assembly 1: Final Assembly, A-MSS Server Module



Asm–Index	Part Number	Units	Description
1–1	02L1315	1	Final Assembly - A-MSS Server Module (no memory, no PCMCIA devices)
–2	85H9606	1	Final Assembly - A-MSS 2.5 Server Module (no memory, no PCMCIA devices)
–3	31L3416	1	Final Assembly - A-MSS 3.0 Server Module (no memory, no PCMCIA devices)
–4	31L3414	1	PCMCIA Data/Fax/Voice Modem - US/Canada
–5	85H3550	AR	PCMCIA Data/Fax/ Modem Programmed for Austria
–	85H3551	AR	PCMCIA Data/Fax/ Modem Programmed for Australia
–	85H3552	AR	PCMCIA Data/Fax/ Modem Programmed for Belgium
–	85H3553	AR	PCMCIA Data/Fax/ Modem Programmed for Denmark
–	85H3554	AR	PCMCIA Data/Fax/ Modem Programmed for Finland
–	85H3555	AR	PCMCIA Data/Fax/ Modem Programmed for France
–	85H3556	AR	PCMCIA Data/Fax/ Modem Programmed for Germany
–	85H3557	AR	PCMCIA Data/Fax/ Modem Programmed for Hong Kong
–	85H3558	AR	PCMCIA Data/Fax/ Modem Programmed for Ireland
–	85H3559	AR	PCMCIA Data/Fax/ Modem Programmed for Italy
–	85H3560	AR	PCMCIA Data/Fax/ Modem Programmed for Japan
–	85H3561	AR	PCMCIA Data/Fax/ Modem Programmed for Korea
–	85H3562	AR	PCMCIA Data/Fax/ Modem Programmed for Luxembourg
–	85H3563	AR	PCMCIA Data/Fax/ Modem Programmed for Netherlands
–	85H3564	AR	PCMCIA Data/Fax/ Modem Programmed for New Zealand
–	85H3565	AR	PCMCIA Data/Fax/ Modem Programmed for Norway
–	85H3569	AR	PCMCIA Data/Fax/ Modem Programmed for Sweden
–	85H3570	AR	PCMCIA Data/Fax/ Modem Programmed for Switzerland
–	85H3571	AR	PCMCIA Data/Fax/ Modem Programmed for UK
–6	85H3589	1	PCMCIA Data/Fax Modem Cable
–7	31L3415	1	PCMCIA Data/Fax/Voice Modem Cable
–8	02L1838	1	PCMCIA Flash Drive
–9	55H7492	AR	32-MB 72-Pin DRAM SIMM

Assembly 2: Final Assembly, 8210 Nways MSS Server



Asm–Index	Part Number	Units	Description
2–		NP	Final Assembly - 8210 MSS Server
–1		NP	Cover (for illustration only)
–2A	31L3412	1	155-MM enhanced performance ATM Adapter
–2B	31L3413	1	155-SM enhanced performance ATM Adapter
–2C	08L3351	1	155-MM ATM Adapter
–2D	08L3352	1	155-SM ATM Adapter
–3	08L3348	1	Blower
–4	55H9101	2	Screw (M3.5 x 37)
–5	1622317	2	Washer (M3.5)
–6	25H1934	2	Screw (8-32)
–7	62X0388	2	Standoff Screw (4-40)
–8	08L3354	1	Fan
–9	72H2752	4	Screw (6-32)
–10	55H9117	1	DC Power Cable
–11	21F4419	4	Screw (T-10 Torx)
–12	31L3411	1	Processor Logic Card, Model 003
–	08L3349	1	Processor Logic Card, Model 002
–13	1621169	4	Screw (M3 x 30)
–14	1622316	4	Washer (M3)
–15	92G8546	4	Screw (M4 x 8)
–16		NP	Rack mounting bracket (illustration only)
–17		NP	Cable mounting bracket (illustration only)
–18	85H3588	1	Wrap plug kit
–19	55H7492	2	32-MB 72-Pin DRAM SIMM
–20	33G3907	15	Screw (M3 x 5)
–21	08L3361	1	PCI Logic Card
–22	55H9112	1	Internal AC Power Cable
–23	08L3198	1	Power Supply
–24	31L3414	1	PCMCIA Data/Fax/Voice Modem - US/Canada
–25	85H3550	AR	PCMCIA Data/Fax/ Modem Programmed for Austria
–	85H3551	AR	PCMCIA Data/Fax/ Modem Programmed for Australia
–	85H3552	AR	PCMCIA Data/Fax/ Modem Programmed for Belgium
–	85H3553	AR	PCMCIA Data/Fax/ Modem Programmed for Denmark
–	85H3554	AR	PCMCIA Data/Fax/ Modem Programmed for Finland
–	85H3555	AR	PCMCIA Data/Fax/ Modem Programmed for France
–	85H3556	AR	PCMCIA Data/Fax/ Modem Programmed for Germany
–	85H3557	AR	PCMCIA Data/Fax/ Modem Programmed for Hong Kong
–	85H3558	AR	PCMCIA Data/Fax/ Modem Programmed for Ireland
–	85H3559	AR	PCMCIA Data/Fax/ Modem Programmed for Italy
–	85H3560	AR	PCMCIA Data/Fax/ Modem Programmed for Japan
–	85H3561	AR	PCMCIA Data/Fax/ Modem Programmed for Korea
–	85H3562	AR	PCMCIA Data/Fax/ Modem Programmed for Luxembourg
–	85H3563	AR	PCMCIA Data/Fax/ Modem Programmed for Netherlands
–	85H3564	AR	PCMCIA Data/Fax/ Modem Programmed for New Zealand
–	85H3565	AR	PCMCIA Data/Fax/ Modem Programmed for Norway
–	85H3569	AR	PCMCIA Data/Fax/ Modem Programmed for Sweden
–	85H3570	AR	PCMCIA Data/Fax/ Modem Programmed for Switzerland
–	85H3571	AR	PCMCIA Data/Fax/ Modem Programmed for UK
–26	85H3589	1	PCMCIA Data/Fax Modem Cable
–27	31L3415	1	PCMCIA Data/Fax/Voice Modem Cable
–28	02L1838	1	PCMCIA Flash Drive

–29	10H5553	AR	Power cord (9 ft. 100-125V)
–	10H5554	AR	Power cord (6 ft. 100-125V)
–	10H5555	AR	Power cord (9 ft. 230-240V)
–	10H5556	AR	Power cord (6 ft. 200)
–	10H5557	AR	Power cord (9 ft. 200-250V)
–	10H5558	AR	Power cord (9 ft. 200-220V)
–	10H5559	AR	Power cord (9 ft. 230-240V)
–	10H5560	AR	Power cord (9 ft. 230-240V)
–	10H5561	AR	Power cord (9 ft. 230-240V)
–	10H5562	AR	Power cord (9 ft. 230-240V)
–	10H5563	AR	Power cord (9 ft. 200-220V)
–	10H5564	AR	Power cord (9 ft. 200-220V)
–	10H5565	AR	Power cord (9 ft. 230-240V)
–30	08L3353	1	Dual-Ring optical fiber FDDI adapter
–31	55901	2	Washer (8-32)
–32	72H4417	5	Standoff Spacer (10mm)
–33	55H9113	1	Fan Guard
–34	1621176	4	Screw (M3 x 4)
–35	72H3683	2	IDE Hard File Bracket
–36	08L3347	1	IDE Hard File
–37	55H9103	1	Ground Clip
–38	1622346	2	Star Washer (M4) (internal grounding attachment, not pictured)
–39	1622403	1	Hex Nut (M4) (internal grounding attachment, not pictured)

Appendix C. 8210 MSS Server Hardware Characteristics

This appendix describes physical characteristics of the 8210 MSS Server. Similar information about the MSS Server Modules is not included because they are installed in the 8260 or the 8265. The MSS Server Modules are connected to the ATM network when they are installed in the 8260 or 8265.

Physical Specifications

Width	440 mm (17.3 in.) without rack-mounting flanges 480 mm (18.9 in.) with rack-mounting flanges
Depth	406.4 mm (16.0 in.)
Height	43.65 mm (1.7 in.) from the top of the 8210 MSS Server to the top of the next machine that is mounted in the rack
Weight	6.7 kg (14.7 lb) with two ATM Adapters

Service Clearance

The 8210-003 can be rack- or surface-mounted. It should have at least 100 mm (4.0 in.) minimum clearance at the rear and 300 mm (11.8 in.) clearance at the front. The air flow for ventilation is from front to back.

Power Requirements

Electrical power	0.107 kVA
Starting current	less than 40 A
Leakage current	1.5 mA maximum

The ac power cord connector is in the back of the MSS Server. The 8260 or 8265 supplies power to the MSS Server Module.

Environmental Specifications

Power-on temperature	10°C—40°C (50°F—104°F)
Storage temperature	0.0°C—51.7°C (32°F—125°F)
Relative humidity	8%—80%
Max. wet bulb	26.7°C (80°F)
Heat output	46.5 kcal/hr (184 BTU/hr)
Capacity of exhaust	0.566 m^3/min. (20 cubic ft/min.)
Noise level	44 dB

Over-Temperature Condition

If the temperature in the MSS Server approaches the maximum operating (power-on) temperature, the operational code issues a warning message. If the temperature exceeds the maximum operating temperature and thermal shutdown is enabled, the over-temperature LED will light, and the MSS Server will shut down. The MSS Server will restart when the inside temperature returns to the operating range.

An over-temperature condition could indicate that the cooling fan or blower has malfunctioned or that there is an abnormally high room temperature where the MSS Server is located.

Acoustic Characteristics

The following table is a declaration of the 8210 MSS Server noise emission characteristics.

Table C-1. Declaration of IBM Product Noise Emission Values

Type	Description	LwAd		LpAm		<LpA>m	
		Operating (bels)	Idle (bels)	Operating (dB)	Idle (dB)	Operating (dB)	Idle (dB)
8210	MSS Server	4.8	4.8	N/A	N/A	44	44

Notes:

LwAd is the declared (upper limit) sound power level for a random sample of machines.

LpAm is the mean value of the A-weighted sound pressure levels at the operator position (if any) for a random sample of machines.

<**LpA**>**m** is the mean value of the A-weighted sound pressure levels at the 1-meter (bystander) positions for a random sample of machines.

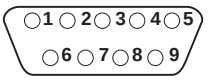
N/A Indicates “not applicable” (that is, having no defined operator position.)

All measurements were made in accordance with ANSI S12.10 and reported in conformance with ISO DIS 9296.

Pin Assignments for the EIA-232 Service Port

Both the 8210 MSS Server and the MSS Server Module have a standard, EIA-232 service port: a male, 9-pin, D-shell connector. It can be attached locally through a null-modem cable, or remotely through a modem attachment. The service port is provided so that you can access the MSS Server to perform configuration or maintenance. The line speed is 19.2 Kbps.

Figure C-1 shows the pin assignments for the service port connector. Connectors for the 8210 MSS Server and the MSS Server Module are identical.



1 - CD
2 - RX
3 - TX
4 - DTR
5 - GND
6 - DSR
7 - RTS
8 - CTS
9 - RI

Figure C-1. EIA-232, Service-Port, Pin Assignments

Pin Assignments for the Null-Modem Cable

Figure C-2 shows the pin assignments for the null-modem cable.

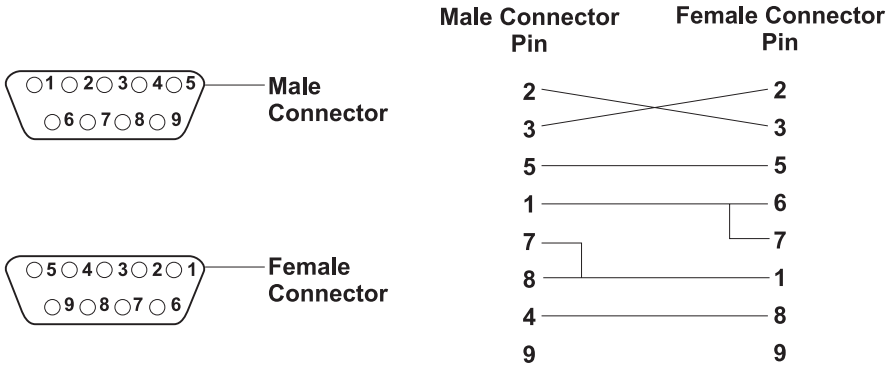


Figure C-2. Null-Modem Cable Pin Assignments

Ethernet Service Port

In addition to the EIA-232 service port, both the 8210-003 and the MSS Server Module have an additional 10BASE-T Ethernet service port.

Appendix D. Managing Operational Code and Configuration Files

This appendix explains how to manage the operational code images and configuration files.

Reconfiguring

You might find it hard to detect problems caused by configuration errors. A configuration error can initially appear to be a hardware problem because the MSS Server will not start or data will not flow through a port. In addition, problems with configuration may not result in an error initially; an error may occur only when specific conditions are encountered or when heavy network traffic occurs.

If you cannot resolve a problem after making a few changes to your configuration or after restoring the active configuration file, it is recommended that you generate a new configuration. Too many changes to a configuration can compound the problem, whereas you can usually generate and test a new configuration within a few hours.

How Software Files Are Managed

To help you manage operational software upgrades and configurations, the MSS Server has a software change-management feature. This utility enables you to determine which operational software file and which configuration file are active while the MSS Server is running.

How to View the Files

To use the change management tool in the command line interface to view the operational software image and the configuration files, follow these steps:

1. From the prompt for OPCON, which is an asterisk (*), type **talk 6**. The prompt `Config>` appears.
2. Enter **boot**. You will see the prompt `Boot config>`.
3. Enter **list** to display information about which load images and configuration files are available and active.

   Syntax: list

   Example: `Boot config>`**`list`**

```
+------ BankA -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 03 Apr 1998 00:15 |
| CONFIG 1 - AVAIL       |                                 | 03 Apr 1998 00:26 |
| CONFIG 2 - AVAIL   *   |                                 | 03 Apr 1998 01:13 |
| CONFIG 3 - AVAIL       |                                 | 03 Apr 1998 00:58 |
| CONFIG 4 - AVAIL       |                                 | 03 Apr 1998 00:39 |
+------ BankB -----------+--------- Description ----------+------ Date -------+
| IMAGE - ACTIVE         |                                 | 03 Apr 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 03 Apr 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 03 Apr 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 03 Apr 1998 00:14 |
| CONFIG 4 - ACTIVE  *   |                                 | 03 Apr 1998 00:24 |
+------ BankF -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 03 Apr 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 03 Apr 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 03 Apr 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 03 Apr 1998 00:14 |
| CONFIG 4 - AVAIL       |                                 | 03 Apr 1998 00:24 |
+------------------------+---------------------------------+-------------------+
  * - Last Used Config      L - Config File is Locked
```

Each bank represents one image of the operational code. The images in BANK A, BANK B, and BANK F are stored on the hard drive. The Configs represent the configuration files that are stored with each bank.

IMAGE refers to the status of the operational software and *CONFIG* refers to the status of the configuration files.

The possible IMAGE and CONFIG statuses are:

ACTIVE This file is currently loaded in active memory and is running on the MSS Server.

Note: The status of this file can be changed only by resetting the MSS Server. *If a config or an image is active, it is locked and cannot be overwritten or erased.*

AVAIL This file is a good file that can be made active.

CORRUPT This file was damaged or was not loaded into the MSS Server completely.

PENDING This file will be loaded and become active the next time the MSS Server is reset.

NONE There is no image or configuration file loaded.

LOCAL This file will become active at the next reset. This reset will cause the currently ACTIVE file to become PENDING. LOCAL is a status that makes a file ACTIVE only for one reset of the MSS Server.

Only one bank at a time contains an ACTIVE image. Only one configuration file is ACTIVE and it must be within the ACTIVE bank.

How to Reset the MSS Server

Attention: A reset interrupts the function of the MSS Server for up to 90 seconds. Be sure that the network users are prepared for the interruption.

As previously stated, PENDING and LOCAL files are not loaded into active memory until you reset the MSS Server.

You can reset the MSS Server using any one of these methods:

- Press the hardware Reset button.
- At the `Config only>` prompt, type **reload** and press **Enter**.

  Note: The `Config only>` prompt appears when no file is active. Lack of an active file indicates that an active configuration has become corrupted or that the MSS Server is not configured.
- At the OPCON prompt (*), type **reload** and press **Enter**.

File Transfer Using TFTP

Use this sequence of commands to transfer a file from a workstation or server to the MSS Server using TFTP. Substitute your own values for the IP address and path for those given as examples. The number of bytes received is also an example.

Note: You transfer the files to banks within the MSS Server. The banks represent the directories; you do not have to be concerned about transferring the files to a particular directory within the MSS Server.

TFTP File Transfer Using the Operating Software

Note: You cannot use the TFTP file transfer method in the operating software to migrate from Version 1 to Version 2 of the MSS Server code. See "Migrating to a New Code level" on page D-5 for migration directions that explicitly lead you through the firmware method to migrate to a new level of code.

1. From the OPCON prompt, which is an asterisk (*), type **talk 6** and press **Enter**. The `Config>` prompt appears.
2. Type **boot** and press **Enter**. The `Boot config>` prompt is displayed.
3. To get the MSS Server software code load:
   - Enter **tftp get load modules** (for MSS Server software V2 or higher).
   - Enter **tftp get load single image** (below MSS Server software V2).

   To get a configuration file, enter **tftp get config**

   You cannot overwrite a currently active bank image.
4. When prompted, specify the IP address of the TFTP server.
5. When prompted, specify either:
   - The path/file name for a single image
   - The path name for load modules

   With Version 2, when you specify that you want load modules to transfer, all of the appropriate load modules in the specified directory will be transferred.

   All load modules must be in the same directory to enable the successful transfer of all the modules.
6. When prompted, enter **Y** to confirm the transfer or anything else to exit.

   The following example shows a V2 software code load:

```
* talk 6
Config> boot
Boot config> tftp get load modules
Specify the server IP address (dotted decimal): [1.2.3.4] 192.9.200.1
Specify the remote files directory: :(/u/bin/) /usr/601bin/204img/
Select the destination bank: (A,B): [A] a
TFTP SW load image
     get: /usr/601bin/204img/LML.ld
     from: 192.9.200.1
     to:   bank A.

Operation completed successfully.
```

TFTP File Transfer Using the Firmware

1. From the main firmware menu (System Management Services), select **Utilities**.
2. From the Systems Management Utilities menu, select **Change Management**.
3. From the Change Management Software Control menu, select **TFTP software**.
4. Select the type of software from the Select Type dialog box.
5. Select the bank to load from the Select Bank dialog box.
6. If you selected Load Image, you will be prompted to select the type of load image (that is, single image or modules).
   - For Version 2.0 or higher, if the code load you want to transfer consists of an LML.ld file plus other load modules ending in .ld, select **modules**.
   - For Version 1.0 and 1.1, if you want to transfer a single image (the type that existed in MSS Server Version 1), select **single image**.
7. When prompted, type in either the directory path to the modules or the path/filename for the single image. The modules should all be in one directory.
8. If you selected modules and the directory path that you entered has all read permissions correct for anybody to retrieve, successive message boxes will appear as each load module is transferred.

   If you selected single image, only one message box will appear to inform you of the file transfer.
9. Select the **Set Boot Information** option on the Change Management menu and then select:
   - The Bank to boot from
   - The Config to boot with
   - Permanent or once

File Transfer Using Xmodem

If you use Xmodem, you will get prompts similar to those provided by TFTP. These prompts enable you to specify the bank for the image files or the bank and the config number for the configuration files that you transfer. Xmodem is available only from the firmware.

For transfers via modem, each load module must be separately named and transferred individually.

Note: When using Xmodem to transfer a multiple load module image (used in Version 2 in the form of several files ending in .ld), ***you must*** transfer each of the modules (.ld files) one by one to get the entire load module image.

When an entire load image has transferred, the status of the bank will change from CORRUPT to AVAIL. Transfer file LML.ld first. Unless the information message `ERROR WRITING FILE` appears, assume that each individual transfer has been successful.

Migrating to a New Code level

Note: In Version 1 of the MSS Server, the lower level code does not have any enhanced ability to retrieve the new operating code levels. If you attempt to use a **talk 6** operating code method (TFTP), the file transfer attempt will be unsuccessful.

To upgrade from any earlier version of operational code to a later level, perform the following steps:

1. Follow the instructions on updating the system firmware (refer to *MSS Server Interface Configuration and Software User's Guide*) to update the system firmware to the Version 2 level.
2. From the Utilities menu, select **Change Management**, and then select the **Copy Software** option.
3. When prompted, select the type of load (a configuration file or a load image).
4. When prompted, select which bank to load.

   Note: Files to be retrieved from the server should all be in the same directory, and their permissions should permit anybody to retrieve them.
5. Select **Load Image**. You will then be prompted to select the type of load image (that is, single image or modules).
   - If the code load that you want to transfer consists of an LML.ld file plus other load modules ending in .ld, select **modules**.
6. When prompted for the directory path to remote load modules, enter the *pathname* to retrieve all load modules belonging to this load image.

   Notes:

   a. Information boxes appear as each load module is being transferred using TFTP. Some time will transpire as each transferred load module is written to the disk. An average load may take 10 to 12 minutes. When the entire load has been transferred, the previous menu is displayed.

   b. The Version 2 operational code comes in the form of multiple load modules, headed by LML.ld. All load modules for a load must be in the same directory on the server for this transfer.
7. Select the Set Boot Information option on the Change Management menu and then select:
   - The bank to boot from
   - The config to boot with
   - Permanent or once

Once you have Version 2 operational code, you will be able to use the **tftp get load modules** option under `boot config>` to obtain any further Version 2 or Version 1 load images.

If you are not able to use TFTP and instead use Xmodem to try to upgrade, select the Xmodem Software option instead of TFTP Software option. In the case of Xmodem file transfers, Xmodem does not retrieve a set of load modules. They must be transferred one by one.

Using the Configuration Program to Manage the Configuration Files

For optimal configuration management, it is recommended that you use the Configuration Program and its configuration database to manage all your MSS Server configuration files.

The design of change management facilitates good control of the configuration files. Keeping the ACTIVE file and the file that is stored in the configuration database the same assures that a copy of the ACTIVE file is always available.

When you use the Send option to send a new configuration to the MSS Server, the new configuration is written to the ACTIVE bank and overwrites the file located in the position just below the currently ACTIVE configuration. The new configuration is PENDING if a time is set for a reset. If the configuration file is sent without a specified time for the reset to occur, it gets AVAIL status.

For example, suppose that CONFIG 2 is ACTIVE. The new configuration file is written to CONFIG 3. It has a status of PENDING if a reset time is associated with it; if not, it has a status of AVAIL.

If the file has a status of PENDING, CONFIG 2 becomes AVAIL and CONFIG 3 becomes ACTIVE when a reset occurs. The next file that is sent from the Configuration Program will be placed in CONFIG 4. If a reset time is associated with the file, it will have the PENDING status and will become ACTIVE when the next reset occurs. If another file is then sent, it is placed in CONFIG 1 because the currently ACTIVE file is now in CONFIG 4. This arrangement results in a circular queue.

If the downloaded file has a status of AVAIL, a reset does not change its status. If another file is sent down, it overwrites that file because the ACTIVE file has not changed and the newly downloaded file always occupies the location just behind the ACTIVE file.

Example of Sending a File from the Configuration Program

Suppose that this is the view of the software that is displayed by the **List** command:

```
+------ BankA -----------+--------- Description ----------+------ Date -------+
| IMAGE - ACTIVE         |                                 | 06 May 1998 00:15 |
| CONFIG 1 - ACTIVE      |                                 | 06 May 1998 00:26 |
| CONFIG 2 - AVAIL       |                                 | 06 May 1998 01:13 |
| CONFIG 3 - NONE        |                                 |                   |
| CONFIG 4 - NONE        |                                 |                   |
+------ BankB -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 06 May 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 06 May 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 06 May 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 06 May 1998 00:14 |
| CONFIG 4 - NONE        |                                 |                   |
+------ BankF -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 06 May 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 06 May 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 06 May 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 06 May 1998 00:14 |
| CONFIG 4 - AVAIL       |                                 | 06 May 1998 00:24 |
+------------------------+---------------------------------+-------------------+
```

The Configuration Program sends a configuration file to BANK A, CONFIG 2. If the configuration is marked in the Configuration Program to be loaded immediately, the MSS Server performs a reset immediately after it receives the new configuration. The **Send** command of the Configuration Program in this situation is composed of these two actions:

1. Send configuration to CONFIG 2 as PENDING
2. Reset

After these two actions, the MSS Server configuration looks like this:

```
Boot Config> list

+------ BankA -----------+--------- Description ----------+------ Date -------+
| IMAGE - ACTIVE         |                                 | 17 Mar 1998 00:15 |
| CONFIG 1 - AVAIL       |                                 | 17 Mar 1998 00:26 |
| CONFIG 2 - ACTIVE      |                                 | 17 Mar 1998 01:13 |
| CONFIG 3 - NONE        |                                 |                   |
| CONFIG 4 - NONE        |                                 |                   |
+------ BankB -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 17 Mar 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 17 Mar 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 17 Mar 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 17 Mar 1998 00:14 |
| CONFIG 4 - NONE        |                                 |                   |
+------ BankF -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 17 Mar 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 17 Mar 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 17 Mar 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 17 Mar 1998 00:14 |
| CONFIG 4 - AVAIL       |                                 | 17 Mar 1998 00:24 |
+------------------------+---------------------------------+-------------------+
```

CONFIG 1 has become AVAIL and CONFIG 2 has become ACTIVE.

If the Configuration Program were now used to send down a new configuration to the MSS Server and the file were not marked to be loaded at any specified time, the view of the software in the MSS Server would look like this:

```
Boot Config> list

+------ BankA -----------+--------- Description ----------+------ Date -------+
| IMAGE - ACTIVE         |                                 | 12 May 1998 00:15 |
| CONFIG 1 - AVAIL       |                                 | 12 May 1998 00:26 |
| CONFIG 2 - ACTIVE      |                                 | 12 May 1998 01:13 |
| CONFIG 3 - AVAIL       |                                 | 12 May 1998 01:13 |
| CONFIG 4 - NONE        |                                 |                   |
+------ BankB -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 12 May 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 12 May 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 12 May 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 12 May 1998 00:14 |
| CONFIG 4 - NONE        |                                 |                   |
+------ BankF -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                 | 12 May 1998 00:16 |
| CONFIG 1 - AVAIL       |                                 | 12 May 1998 00:54 |
| CONFIG 2 - AVAIL       |                                 | 12 May 1998 00:01 |
| CONFIG 3 - AVAIL       |                                 | 12 May 1998 00:14 |
| CONFIG 4 - AVAIL       |                                 | 12 May 1998 00:24 |
+------------------------+---------------------------------+-------------------+
```

After this action, CONFIG 3 is AVAIL. The new configuration file has been loaded in this location.

Note: Exercise caution, because any on-board configuration changes could result in overwriting the CONFIG 3 file. Because the configuration file in CONFIG 3 was sent down without any time specified for resetting the server, it is currently not in use. It can be overwritten either when another file is sent from the Configuration Program or when a file is saved using the **Write** command from the command line interface. You can use the **Copy** command to move it to another location to protect it (see “Copy” on page D-10).

Using the Set Boot Configuration Command

Note: You must be the supervisory user to use the **Set Boot** command.

The Set Boot command enables you to perform the following tasks:

- Set load image
- Set configuration

Set Load Image/Configuration

To make an image file PENDING, type **set** at the `Boot config>` prompt.

This command will display the current settings for load as the list command did. However, you can change the setting of AVAIL code and configuration files to PENDING. After the code and configuration files are PENDING, they will be changed to ACTIVE when the MSS Server is next reset. After the reset, the current ACTIVE code and configuration files become AVAIL.

```
Boot Config>set

+------ BankA -----------+--------- Description ----------+------ Date -------+
| IMAGE - PENDING        |                                | 12 Apr 1998 00:15 |
| CONFIG 1 - PENDING *   |                                | 12 Apr 1998 00:26 |
| CONFIG 2 - NONE        |                                |                   |
| CONFIG 3 - AVAIL       |                                | 12 Apr 1998 00:58 |
| CONFIG 4 - NONE        |                                |                   |
+------ BankB -----------+--------- Description ----------+------ Date -------+
| IMAGE - NONE           |                                |                   |
| CONFIG 1 - NONE        |                                |                   |
| CONFIG 2 - NONE        |                                |                   |
| CONFIG 3 - NONE        |                                |                   |
| CONFIG 4 - NONE        |                                |                   |
+------ BankF -----------+--------- Description ----------+------ Date -------+
| IMAGE - AVAIL          |                                | 12 Apr 1998 00:16 |
| CONFIG 1 - AVAIL       |                                | 12 Apr 1998 00:54 |
| CONFIG 2 - AVAIL       |                                | 12 Apr 1998 00:01 |
| CONFIG 3 - AVAIL       |                                | 12 Apr 1998 00:14 |
| CONFIG 4 - AVAIL       |                                | 12 Apr 1998 00:24 |
+------------------------+--------------------------------+-------------------+
  * - Last Used Config      L - Config File is Locked

 Auto-boot mode is disabled.   Fast-boot mode is disabled.

Select the source bank:  (A, B, F) :  [A]

Select the source configuration:  (1, 2, 3, 4) :  [1] 3

Select the duration to use for booting:  (once, always) :  [always]

Select SW to boot using bank A and configuration 3, always.

Operation completed successfully.
Boot Config>
```

Set Configuration

This command displays the current settings for load as the **List** command did. However, you can change the current setting of a configuration file that is in an ACTIVE or PENDING bank from AVAIL to PENDING.

To use the Set Configuration command, type **set config image** or **set config** at the `Boot config>` prompt and follow the prompts.

Other Change Management Functions

These are the other change management commands:

- Describe load images
- Disable dumping
- Enable dumping
- Erase files
- Copy

Describe Load Images

At `Boot config>`, type **describe**. The product ID, microcode version number, release number, maintenance number, PTF, feature, and RPQ numbers and the date of the operational software image are displayed.

Disable Dumping

The MSS Server can be set up to dump the contents of memory to permanent storage in the event of a system failure. If dumping is enabled, using this selection will cause the MSS Server ***not*** to dump to disk.

To disable dumping:

1. Type **talk 6** or **t 6** at the * prompt, and press **Enter**.
2. Type **disable dump memory** or **dis dump** at the `Config>` prompt. You will see the message:

   ```
   System memory dump function disabled successfully.
   ```

Enable Dumping

This command enables the dumping of memory without intervention from anyone if the MSS Server has a catastrophic error. The MSS Server will dump memory onto the hard disk. Once a successful dump has been completed, the MSS Server attempts to restart. Depending upon the failure of the MSS Server, it cannot always restart. In this case, you should restart it manually and call a service person who will dial into the MSS Server to determine the nature and the causes of the failure.

Before you can enable dumping, you must first enable system rebooting. To enable system rebooting, enter the following commands at the `Config>` prompt.

- `enable reboot-system`
- `enable dump-memory`

Finally, to enable dumping:

1. Type **t 6** at the * prompt, and press **Enter**.
2. Type **enable** or **ena** at the `Config>` prompt. You will see the message:

   ```
   System memory function enabled successfully
   ```

Dumping enabled is the default setting.

Erase Files

The MSS Server has a DOS file system structure with user access files in the /sys0 and /sys1 banks. These banks contain the operational software load images and the configuration files. Note that the following rules apply to erasing files from the MSS Server:

- Image files that are not ACTIVE can be overwritten anytime
- ACTIVE image files ***cannot*** be erased
- ACTIVE configuration files ***cannot*** be erased

To erase a file, at the `Boot config>` prompt, type **erase**. Follow the prompts. If you select a file to erase that is BROKEN or NONE, the erase option is discontinued.

Copy

The Copy command enables you to move a file from one location in the storage area to another. This command enables you to change the status as well. The file that you move always receives the status of the storage area to which it is moved. For example, suppose that:

- The configuration file in BANK A CONFIG 1 is AVAIL. The configuration file in BANK B CONFIG 1 is PENDING.
- You copy the configuration in BANK A CONFIG 1 to BANK B CONFIG 1.

In this case, the original configuration file in BANK A CONFIG 1 remains unchanged and AVAIL. The configuration that was in BANK B CONFIG 1 is over-written by a copy of the configuration file that is in BANK A CONFIG 1. This copy retains the status of the file that it overwrote, in this case, PENDING.

These are the prompts that you would use to perform this example of the copy process.

```
Boot config> copy config

Copy FROM Bank number? A

Copy FROM Config number? 1

Copy TO Bank number? B

Copy TO Config number? 1
```

If you copy an image, the same rules apply except that image files can be copied only from bank to bank. These steps describe how the copy of an image affects the image that was previously in the bank:

1. The copy overwrites the image that was previously in the bank.
2. The copy acquires the status of the image that was previously in the bank.

File Transfer

Table D-1 defines the ways in which you can transfer configuration files and operational software files to and from the MSS Server.

Table D-1. File Transfer

File Transfer Method	Type of Connection
TFTP Get command from the MSS Server to the workstation that has the binary configuration file; this action downloads operational software images and configuration files to the MSS Server. Files sent using TFTP must be binary, or the MSS Server cannot use them. Use the **Create** command of the Configuration Program to save configuration files in binary format before downloading them to the MSS Server. After the MSS Server is operational in the network, you can use the TFTP **Put** command over IP to upload a file from the MSS Server to a workstation. The file will be uploaded in binary format. Both operational software and configuration files can be uploaded. Use the Read router configuration option of the Configuration Program to make an uploaded configuration file usable by the Configuration Program if you need to change some parameter values in it. **Note:** Use TFTP **Put** to retrieve files from the MSS Server if the Retrieve option of the Configuration Program is not available.	1. SLIP connection (using the TFTP Get command to download files to the MSS Server). 2. IP connection of operational MSS Server over functioning network (using the TFTP Get and Put commands to download and upload files).
Xmodem in ProComm or an equivalent communications program from the workstation. This method uses ASCII terminal emulation and can download files to the MSS Server. The MSS Server cannot be operational in the network to use this method. Configuration and operational files must be in binary format to be used by the MSS Server. **Note:** This is a second way to retrieve files from the MSS Server if the Retrieve option of the Configuration Program is not available.	Serial connection through a modem (PCMCIA or an external modem) or through a null modem.
The Communications Option of the **Configuration Program** (actually, the protocol for this is SNMP). This method cannot be used until the MSS Server is operational in the network. The files are not binary, but are in a format that is internal to the Configuration Program. This function can send configuration files to the MSS Server and retrieve them from the server. **Note:** The Retrieve Option is available only in the version of the Configuration Program that runs in the AIX environment.	IP connection of operational MSS Server over functioning network.

Appendix E. Safety Information

 **Danger:** Before you begin to install this product, read the safety information in *Caution: Safety Information—Read This First*, SD21-0030. This booklet describes safe procedures for cabling and plugging in electrical equipment.

 **Gevaar:** Voordat u begint met de installatie van dit produkt, moet u eerst de veiligheidsinstructies lezen in de brochure *PAS OP! Veiligheidsinstructies—Lees dit eerst,* SD21-0030. Hierin wordt beschreven hoe u electrische apparatuur op een veilige manier moet bekabelen en aansluiten.

 **Danger:** Avant de procéder à l'installation de ce produit, lisez d'abord les consignes de sécurité dans la brochure *ATTENTION: Consignes de sécurité—A lire au préalable,* SD21-0030. Cette brochure décrit les procédures pour câbler et connecter les appareils électriques en toute sécurité.

 **Perigo:** Antes de começar a instalar este produto, leia as informações de segurança contidas em *Cuidado: Informações Sobre Segurança—Leia Isto Primeiro,* SD21-0030. Esse folheto descreve procedimentos de segurança para a instalação de cabos e conexões em equipamentos elétricos.

危險：安裝本產品之前， 請先閱讀 "Caution: Safety Information--Read This First" SD21-0030 手冊中所提供的安全注意事項。 這本手冊將會說明使用電器設備的纜線及電源的安全程序。

Opasnost: Prije nego sto počnete sa instalacijom produkta, pročitajte naputak o pravilima o sigurnom rukovanju u Upozorenje: Pravila o sigurnom rukovanju - Prvo pročitaj ovo, SD21-0030. Ovaj privitak opisuje sigurnosne postupke za priključrivanje kabela i priključivanje na električno napajanje.

Upozornění: než zahájíte instalaci tohoto produktu, přečtěte si nejprve bezpečnostní informace v pokynech „Bezpečnostní informace“ č. 21-0030. Tato brožurka popisuje bezpečnostní opatření pro kabeláž a zapojení elektrického zařízení.

Fare! Før du installerer dette produkt, skal du læse sikkerhedsforskrifterne i *NB: Sikkerhedsforskrifter—Læs dette først* SD21-0030. Vejledningen beskriver den fremgangsmåde, du skal bruge ved tilslutning af kabler og udstyr.

Gevaar Voordat u begint met het installeren van dit produkt, dient u eerst de veiligheidsrichtlijnen te lezen die zijn vermeld in de publikatie *Caution: Safety Information - Read This First*, SD21-0030. In dit boekje vindt u veilige procedures voor het aansluiten van elektrische appratuur.

VAARA: Ennen kuin aloitat tämän tuotteen asennuksen, lue julkaisussa *Varoitus: Turvaohjeet—Lue tämä ensin*, SD21-0030, olevat turvaohjeet. Tässä kirjasessa on ohjeet siitä, miten sähkölaitteet kaapeloidaan ja kytketään turvallisesti.

Danger : Avant d'installer le présent produit, consultez le livret *Attention : Informations pour la sécurité — Lisez-moi d'abord*, SD21-0030, qui décrit les procédures à respecter pour effectuer les opérations de câblage et brancher les équipements électriques en toute sécurité.

Vorsicht: Bevor mit der Installation des Produktes begonnen wird, die Sicherheitshinweise in *Achtung: Sicherheitsinformationen—Bitte zuerst lesen,* IBM Form SD21-0030. Diese Veröffentlichung beschreibt die Sicherheitsvorkehrungen für das Verkabeln und Anschließen elektrischer Geräte.

Κίνδυνος: Πριν ξεκινήσετε την εγκατάσταση αυτού του προϊόντος, διαβάστε τις πληροφορίες ασφάλειας στο φυλλάδιο *Caution: Safety Information-Read this first,* SD21-0030. Στο φυλλάδιο αυτό περιγράφονται οι ασφαλείς διαδικασίες για την καλωδίωση των ηλεκτρικών συσκευών και τη σύνδεσή τους στην πρίζα.

Vigyázat: Mielôtt megkezdi a berendezés üzembe helyezését, olvassa el a *Caution: Safety Information— Read This First,* SD21-0030 könyvecskében leírt biztonsági információkat. Ez a könyv leírja, milyen biztonsági intézkedéseket kell megtenni az elektromos berendezés huzalozásakor illetve csatlakoztatásakor.

Pericolo: prima di iniziare l'installazione di questo prodotto, leggere le informazioni relative alla sicurezza riportate nell'opuscolo *Attenzione: Informazioni di sicurezza — Prime informazioni da leggere* in cui sono descritte le procedure per il cablaggio ed il collegamento di apparecchiature elettriche.

危険： 導入作業を開始する前に、安全に関する
小冊子SD21-0030 の「最初にお読みください」
(Read This First)の項をお読みください。
この小冊子は、電気機器の安全な配線と接続の
手順について説明しています。

위험: 이 제품을 설치하기 전에 반드시
"주의: 안전 정보-시작하기 전에"
(SD21-0030) 에 있는 안전 정보를
읽으십시오.

ОПАСНОСТ
Пред да почнете да го инсталирате овој продукт, прочитајте
ја информацијата за безбедност:
"Предупредување: Информација за безбедност: Прочитајте го
прво ова", SD21-0030.
Оваа брошура опишува безбедносни процедури за каблирање
и вклучување на електрична опрема.

 **Fare:** Før du begynner å installere dette produktet, må du lese sikkerhetsinformasjonen i *Advarsel: Sikkerhetsinformasjon — Les dette først*, SD21-0030 som beskriver sikkerhetsrutinene for kabling og tilkobling av elektrisk utstyr.

Uwaga:
Przed rozpoczęciem instalacji produktu należy zapoznać się z instrukcją:
"Caution: Safety Information - Read This First", SD21-0030.
Zawiera ona warunki bezpieczeństwa przy podłączaniu do sieci elektrycznej
i eksploatacji.

 **Perigo:** Antes de iniciar a instalação deste produto, leia as informações de segurança *Cuidado: Informações de Segurança — Leia Primeiro*, SD21-0030. Este documento descreve como efectuar, de um modo seguro, as ligações eléctricas dos equipamentos.

ОСТОРОЖНО: Прежде чем инсталлировать этот продукт, прочтите Инструкцию по технике безопасности в документе "Внимание: Инструкция по технике безопасности -- Прочесть в первую очередь", SD21-0030. В этой брошюре описаны безопасные способы каблирования и подключения электрического оборудования.

Nebezpečenstvo: Pred inštaláciou výrobku si prečítajte bezpečnosté predpisy v
Výstraha: Bezpeč osté predpisy - Prečítaj ako prvé, SD21 0030. V tejto brožúrke sú opísané bezpečnosté postupy pre pripojenie elektrických zariadení.

Pozor: Preden zaènete z instalacijo tega produkta preberite poglavje: 'Opozorilo: Informacije o varnem rokovanju-preberi pred uporabo," SD21-0030. To poglavje opisuje pravilne postopke za kabliranje,

Peligro: Antes de empezar a instalar este producto, lea la información de seguridad en *Atención: Información de Seguridad — Lea Esto Primero,* SD21-0030. Este documento describe los procedimientos de seguridad para cablear y enchufar equipos eléctricos.

Varning — livsfara: Innan du börjar installera den här produkten bör du läsa säkerhetsinformationen i dokumentet *Varning: Säkerhetsföreskrifter— Läs detta först,* SD21-0030. Där beskrivs hur du på ett säkert sätt ansluter elektrisk utrustning.

危險：

開始安裝此產品之前，請先閱讀安全資訊。

注意：

請先閱讀 - 安全資訊 SD21-0030

此冊子說明插接電器設備之電纜線的安全程序。

Danger Notices

DANGER:

1 To avoid a shock hazard, do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.

GEVAAR !

1 Om het gevaar voor elektrische schokken te vermijden, mag u geen kabels aansluiten of loskoppelen en dit product niet installeren, onderhouden of opnieuw instellen tijdens een onweer.

PERIGO:

1 Para evitar perigo de choque, não conecte ou desconecte quaisquer cabos ou faça instalação, manutenção ou reconfiguração deste produto durante uma tempestade magnética.

危險
雷雨期間，請勿安裝、維修、重新架構本產品，
或連接及拔下任何電纜，以免遭到電擊。

OPASNO
Da se izbjegne električni udar nemojte priključivati, odnosno isključivati bilo koje kablove, a takodjer vršiti bilo koje elektroinstalaterske radove, mijenjati konfiguraciju ili obavljati tehničko servisiranje ovog proizvoda za vrijeme oluje.

NEBEZPEČÍ!
Za bouřky s výrobkem nijak nemanipulujte: nepřipojujte ani neodpojujte žádné kabely a neprovádějte žádnou instalaci, údržbu ani úpravy. Nebezpečí úrazu elektrickým proudem!

Fare!

1 Undgå elektrisk stød:

Produktet må hverken installeres, vedligeholdes eller omkonfigureres i tordenvejr. Det samme gælder for tilslutning eller afmontering af kabler.

VAARA:

1 Älä kytke tai irrota kaapeleita äläkä asenna tai huolla tätä laitetta tai muuta sen kokoonpanoa ukonilman aikana. Muutoin voit saada sähköiskun.

DANGER:

Pour éviter tout risque de choc électrique, ne manipulez aucun câble et n'effectuez aucune opération d'installation, d'entretien ou de reconfiguration de ce produit au cours d'un orage.

VORSICHT:

1 Aus Sicherheitsgründen bei Gewitter an diesem Gerät keine Kabel angeschließen oder lösen. Ferner keine Installations-, Wartungs oder Rekonfigurationsarbeiten durchführen.

ΚΙΝΔΥΝΟΣ

Λόγω του κινδύνου ηλεκτροπληξίας, αποφύγετε τη σύνδεση ή αποσύνδεση καλωδίων καθώς και την εγκατάσταση, συντήρηση ή αλλαγή διάρθρωσης αυτού του προϊόντος κατά τη διάρκεια καταιγίδας.

VESZÉLY!
Az áramütés elkerülése végett elektromos vihar közben ne dugja be és ne húzza ki e termék semmilyen kábelét, illetve ne végezzen azon szerelési, karbantartási vagy újrakonfigurálási munkát.

PERICOLO:

1 Per evitare scosse elettriche, non collegare o scollegare cavi o effettuare installazioni, riconfigurazioni o manutenzione di questo prodotto durante un temporale.

危険

感電の危険をさけるため、雷雨の間は、ケーブルの抜き差し、
あるいはこの製品の設置、保守、再構成をしないでください。

위 험

감전 쇼크의 위험을 피하기 위하여 천둥번개가 치는 동안에는 전원을 연결
하거나 또는 끊지 마시고 또한 본 제품의 설치, 수리 및 시스템 재구성을
하지 마시오.

ОПАСНОСТ
За да се одбегне струен удар, да не се поврзуваат или одвојуваат било кои кабли или да се извршува инсталација, одржување или реконфигурација на овој продукт при молњи и невреме.

FARE:

1 For å unngå elektrisk støt må ikke kabler kobles til eller fra. Du må heller ikke foreta installering, vedlikehold eller rekonfigurering av dette produktet under tordenvær.

NIEBEZPIECZEŃSTWO
W celu uniknięcia porażenia prądem nie wolno podłączać lub rozłączać żadnych kabli, ani przeprowadzać instalacji, konserwacji lub rekonfiguracji urządzenia znajdującego się pod napięciem.

PERIGO:
1 Para evitar possíveis choques eléctricos, não ligue nem desligue cabos, nem instale, repare ou reconfigure a máquina, durante uma trovoada.

ОСТОРОЖНО
Во избежание поражения электрическим током во время грозы запрещается присоединять и отсоединять кабели, инсталлировать, обслуживать или реконфигурировать данное изделие.

NEBEZPEČENSTVO!

Pri búrke s výrobkom nijako nemanipulujte: nepripájajte ani neodpájajte žiadne káble a nevykonávajte žiadnu inštaláciu, údržbu ani úpravy. Nebezpečenstvo úrazu elektrickým prúdom!

NEVARNOST
Da se izognete udaru električnega toka, ne priključevati oziroma izključevati nikakršnjih kablov ali izvajati instalacijo, vzdrževanje, ali rekonfiguracijo te naprave med nevihto.

PELIGRO:

1 Para evitar la posibilidad de descargas, no conecte o desconecte ningún cable, ni realice ninguna instalación, mantenimiento o reconfiguración de este producto durante una tormenta eléctrica.

VARNING — LIVSFARA

1 Vid åskväder ska du aldrig ansluta eller koppla ur kablar eller arbeta med installation, underhåll eller omkonfigurering av utrustningen.

危險：
1.爲避免雷擊的危險，請不要在暴風雨雷擊時連接或拆除電纜，
或從事安裝、

DANGER:

2 To avoid the possibility of electrical shock, switch power off and unplug the power cord from the outlet before detaching the power cord from the base unit.

GEVAAR:

2 Schakel de IBM 8210 uit en trek het netsnoer uit het stopcontact vooraleer u het netsnoer van de basiseenheid verwijdert, dit om elektrische schokken te vermijden.

PERIGO:

2 Para evitar a possibilidade de choque elétrico, desligue a força e retire o cabo de força da tomada antes de desligá-lo da unidade básica.

危險！

如要避免可能的電擊，請自基本單元拉掉電源線之前，
先關閉電源並自插座拉掉電源線。

Upozorenje !

Zbog izbjegavanja mogućeg električnog šoka treba isključiti napajanje i odspojiti kabel od utičnice prije odvajanja kabela od glavnog uređaja.

NEBEZPEČÍ

Aby se předešlo úrazu elektrickým proudem, vypněte napájení a vytáhněte napájecí šňůru napřed ze zásuvky a teprve potom ze základní jednotky

Pas på!
2 Undgå risiko for elektrisk stød!
Sluk for strømmen, og træk netledningen ud af stikket, før du fjerner netledningen fra basisenheden.

VAARA:
2 Välttääksesi sähköiskun vaaran katkaise virta ja irrota verkkojohto pistorasiasta, ennen kuin irrotat verkkojohtoa perusyksiköstä.

DANGER
2 Pour éviter tout risque de choc électrique, mettez la machine hors tension et débranchez le cordon d'alimentation du socle de prise de courant avant de le débrancher de l'unité de base.

VORSICHT:
2 Aus Sicherheitsgründen das Gerät ausschalten und den Netzstecker ziehen, bevor das Netzkabel von der Grundeinheit gelöst wird.

Κίνδυνος

Για να αποφύγετε την πιθανότητα ηλεκτροπληξίας, σβήστε τη συσκευή και αποσυνδέστε το καλώδιο παροχής ρεύματος από την πρίζα πριν αποσυνδέσετε το καλώδιο παροχής ρεύματος από τη συσκευή.

VIGYÁZAT, ÉLETVESZÉLY!
Az áramütés elkerülésére, kapcsolja ki a feszültséget és húzza ki a hálózati csatlakozókábelt a fali aljzatból, mielőtt azt az alap egységből kihúzná!

PERICOLO:
2 Per evitare la possibilità di scosse elettriche, spegnere la macchina e scollegare il cavo di alimentazione dalla presa prima di staccarlo dall'unità base.

危険
感電の危険をさけるため、電源スイッチを切り、コンセントから
電源コードを抜いたあとでベース・ユニットの電源コードを
抜くようにしてください。

위험

번개치는 동안 신호 케이블을 연결 또는 단절시키지 마시오.
또한 장비도 사용하지 마시오.

ОПАСНОСТ
За да се одбегне можноста од електричен удар, да се исклучи електричното напојување и да се извади кабелот за напојување од електричниот приклучок пред да се одвои истиот од базичната машина.

FARE:
2 For å unngå faren for elektrisk støt, må du slå av strømmen og koble nettkabelen fra stikkontakten før du fjerner den fra hovedenheten.

Nlebezpleczeństwol
Aby unlknąć porażenla prądem elektrycznym,
przed odłączenlem przewodu zasllającego modułu
głównego, należy wyłączyć zasllanle l wyclągnąć przewód
zasllający z gnlazdka.

PERIGO:

2 Para evitar a possibilidade de choques eléctricos, desligue o interruptor da corrente eléctrica e retire o cabo de corrente eléctrica da tomada antes de desligar o cabo de corrente eléctrica da unidade base.

ОСТОРОЖНО

Во избежание возможного поражения электрическим током выключите питание и выньте кабель из розетки прежде, чем отсоединять силовой кабель от основного узла.

NEBEZPEČENSTVO:

Aby ste sa vyhli možnému elektrickému šoku, vypnite zariadenie a odpojte prípojný kábel z elektrického rozvodu predtým ako odpojíte tento kábel zo základnej jednotky.

NEVARNOST

Da se izognete nevarnosti udara elektrièenega toka, izkljuèite sistem in iztaknite napajalni kabel iz vtiènice, šele nato izloèite napajalni kabel iz osnovne enote.

PELIGRO:

2 Para evitar la posibilidad de descargas, coloque el interruptor de encendido en la posición de apagado y desenchufe el cable de alimentación del tomacorriente antes de desconectar dicho cable de la unidad base.

VARNING — livsfara:

2 För att undvika elolycksfall ska du slå av strömmen och lossa nätkabeln från eluttaget innan du lossar den från basenheten.

危險：

2.爲避免電擊的可能性，在從機拆除電源線之，前請先將電源關閉並從

DANGER:

4 To avoid shock hazard:

- The power cord must be connected to a properly wired and earthed receptacle.
- Any equipment to which this product will be attached must also be connected to properly wired receptacles.

GEVAAR !

4 Om elektrische schokken te vermijden:

- moet het netsnoer aangesloten zijn op een correct bedraad en geaard stopcontact.
- moeten alle machines waarmee dit product zal worden verbonden ook op correct bedrade stopcontacten zijn aangesloten.

PERIGO

4 Para evitar perigo de choque:

- O cabo de força deve estar conectado a tomadas com fios e aterramento adequados.
- Qualquer equipamento ao qual este produto seja ligado também deverá estar conectado a tomadas com fiação adequada.

危險！

如要避免電擊，則

- 電源線必須連接至確實鎖緊且接地的插座上。
- 本產品所要附加的任何設備，也必須連接至確實鎖緊的插座上。

OPASNO

Da se izbjegne električni udar:

- Mrežna žica mora se spojiti sa priključnicom koja je propisno priključena i zazemljena.
- Svaka oprema kojoj je neophodno priključiti ovaj proizvod mora se spojiti sa propisno uključenom priključnicom.

NEBEZPEČÍ!

Přívodní kabel smí být připojen pouze ke správně zapojené a uzemněné zásuvce.

- Také každé zařízení, ke kterému je tento výrobek připojen, smí být připojeno pouze ke správně zapojené zásuvce.
- V opačném případě hrozí nebezpečí úrazu elektrickým proudem.

FARE!

4 Undgå elektrisk stød:

- Netledningen skal tilsluttes en korrekt installeret stikkontakt med forbindelse til jord.
- Sørg for korrekt installation af stikkontakterne, både til produktet og til det udstyr, det tilsluttes.

VAARA:

4 Voit saada sähköiskun, jos et noudata seuraavia ohjeita:

- Tämän laitteen verkkojohdon saa kytkeä vain toimintakunnossa olevaan maadoitettuun pistorasiaan.
- Tähän laitteeseen liitettävät laitteet on kytkettävä toimintakunnossa olevaan maadoitettuun pistorasiaan.

DANGER

4 Pour éviter tout risque de choc électrique:

- Le cordon d'alimentation doit être branché sur une prise d'alimentation correctement câblée et mise à la terre.
- D'autre part, tout le matériel connecté à ce produit doit également être branché sur des prises d'alimentation correctement câblées et mises à la terre.

VORSICHT

4 Aus Sicherheitsgründen

- Gerät nur an eine Schutzkontaktsteckdose mit ordnungsgemäß geerdetem Schutzkontakt anschließen.
- Alle angeschlossenen Geräte ebenfalls an Schutzkontaktsteckdosen mit ordnungsgemäß geerdetem Schutzkontakt anschließen.

ΚΙΝΔΥΝΟΣ

Για να αποφύγετε τον κίνδυνο ηλεκτροπληξίας:

- Το καλώδιο παροχής ρεύματος πρέπει να είναι συνδεδεμένο σε μια σωστά καλωδιωμένη και γειωμένη πρίζα.
- Οποιεσδήποτε άλλες συσκευές με τις οποίες πρόκειται να συνδεθεί αυτή η συσκευή πρέπει επίσης να είναι συνδεδεμένες σε σωστά καλωδιωμένες πρίζες.

VESZÉLY!

Az áramütés elkerülése végett:

- A hálózati csatlakozózsinórt megfelelően bekötött és földelt dugaszolóaljzatba kell csatlakoztatni.
- Minden olyan berendezést megfelelően bekötött dugaszolóaljzatba kell csatlakoztatni, amelyhez a terméket kapcsolja.

PERICOLO:

4 Per evitare scosse elettriche:

- Il cavo di alimentazione deve essere collegato a una presa munita di terra di sicurezza e propriamente cablata.
- Tutte le unità esterne di questo prodotto, devono essere collegate a prese munite di terra di sicurezza e propriamente cablate.

危険

感電防止のため

- 電源ケーブルは、正しく配線された接地（アース）極付きコンセントに接続してください。
- この製品が接続される機器もすべて正しく配線されたコンセントに接続してください。

위 험

감전 쇼크의 위험을 피하기 위하여:

- 전원은 반드시 적정 규격의 전선을 사용하시고 접지선이 연결된 접속기와 연결 하십시오.
- 본 제품과 연결되는 모든 기기는 반드시 적정 규격의 전선으로 접지선이 연결된 접속기와 연결되어 있어야 합니다.

ОПАСНОСТ

За да се одбегне струен удар:

Кабелот за електрично напојување мора да е приклучен во прописно поврзана и заземјена електрична приклучница.

Било која опрема, на која овој продукт ќе биде приврзан, мора исто така да биде поврзана на прописно поврзани електрични приклучници.

FARE:

4 For å unngå elektrisk støt:

- Nettkabelen må være plugget i en korrekt koblet og jordet stikkontakt.
- Alt utstyr som er koblet til dette produktet må være plugget i en korrekt koblet stikkontakt.

UWAGA

Aby uniknąć porażenia prądem elektrycznym:

- o Wtyczka musi być podłączona do prawidłowo zainstalowanego i uziemionego gniazdka.
- o Wszystkie inne urządzenia, z którym to urządzenie jest połączone, muszą być podłączone do prawidłowo zainstalowanych gniazdek.

PERIGO:

4 Para evitar choques eléctricos:

- O cabo de alimentação tem de estar ligado a uma tomada de corrente correctamente instalada e com ligação à terra.
- Todo o equipamento ligado a esta máquina também deve estar ligado a tomadas correctamente instaladas.

ОСТОРОЖНО

Во избежание поражения электрическим током:

- o Кабель питания должен быть присоединён к электрической розетке, каблированной и заземлённой надлежащим образом.
- o Всё оборудование, к которому будет подключено данное изделие, также должно быть присоединено к электрическим розеткам, каблированным надлежащим образом.

NEBEZPEČENSTVO!

Prívodný kábel môže byť pripojený iba k správne zapojenej a uzemnenej zásuvke.

- Rovnak každé zariadenie, ku ktorému je tento výrobok pripojený, môže byť pripojené iba k správne zapojenej zásuvke.
- V opačnom prípade hrozí nebezpečenstvo úrazu elektrickým prúdom.

NEVARNOST
Da se izognete udaru električnega toka:
- o Napajalni kabel mora biti priključen v pravilno instalirano in ozemljeno vtičnico.
- o Katerakoli druga oprema, na katero se veže ta sistem, mora biti ravno tako pravilno priključena v ustrezno vtičnico.

PELIGRO:

4 Para evitar peligro de descargas:

- El cable de alimentación debe estar conectado a una toma de corriente adecuadamente cableada y con toma de tierra.
- Cualquier equipo al que se conecte este producto debe estar también conectado a tomas de corriente adecuadamente cableadas.

VARNING — LIVSFARA

4 För att undvika elolycksfall:

- Nätkabeln måste anslutas till ett rätt kopplat jordat eluttag.
- Även annan utrustning som ska anslutas till den här produkten måste anslutas till jordat uttag.

危險：

爲避免雷擊的危險：
・電源線必須連接至一個佈線妥當且接地的插座。
・任何連接

DANGER:
5 Hazardous voltages exist inside this machine when it is powered on. Anytime you service this unit with the cover off, be sure to unplug the power cord.

GEVAAR:
5 Er bevindt zich gevaarlijke spanning binnenin deze machine, wanneer ze is ingeschakeld. Telkens als u onderhoud uitvoert op deze eenheid, met de behuizing verwijderd, moet u het netsnoer loskoppelen.

DANGER:
5 Une tension dangereuse existe dans cette machine lorsqu'elle est branchée. Déconnectez toujours le cordon d'alimentation avant de retirer le couvercle, lorsque vous effectuez des procédures de maintenance.

PERIGO:
5 Existem voltagens perigosas no interior desta máquina quando ela está ligada. Toda vez que você for fazer a manutenção desta unidade com a tampa aberta, certifique-se de desconectar o cabo de força.

5

危險：

本機器電源開啓時有高壓電。
如需打開機蓋維修機器，請務
必先把電源線的插頭拔掉。

5

OPASNOST: Kada je uređaj uključen, prisutan je pogibeljan napon.
Uvijek, kada vršite radove na jedinici bez pokrova, obavezno odvojite
energetski kabel od priključnice.

5

NEBEZPEČÍ!
Když je zařízení připojeno k síti, je uvnitř nebezpečné napětí. Před každým zásahem do odkrytého zařízení je třeba se přesvědčit, že je přívodní kabel od sítě odpojen.

FARE!
5 Der er høj spænding i denne maskine, når den er tændt. Træk derfor altid netledningen ud, når enheden skal efterses.

VAARA: 5 Virran ollessa kytkettynä koneen sisällä on vaarallisia jännitteitä. Muista aina irrottaa verkkojohto, jos huollat konetta sen suojakannen ollessa irrotettuna.

DANGER:
5 Tension dangereuse à l'intérieur de la machine lorsque celle-ci est sous tension. Avant toute intervention à l'intérieur, débranchez le cordon d'alimentation.

VORSICHT:
5 Bei eingeschaltetem Gerät liegen im Innern gefährliche Spannungen an. Sicherstellen, daß bei Arbeiten an der geöffneten Maschine der Netzstecker gezogen ist.

5

Κίνδυνος:

Όταν η συσκευή είναι αναμμένη, υπάρχουν στο εσωτερικό της σημεία επικίνδυνα υψηλής τάσης. Αν χρειάζεται να αφαιρέσετε το κάλυμμα της συσκευής για συντήρηση, αποσυνδέστε το καλώδιο παροχής ρεύματος.

5

VESZÉLY!
Bekapcsolt állapotban a gépen belül veszélyes feszültségek lépnek fel. Amikor a készüléket eltávolított fedél mellett javítja, feltétlenül húzza ki a hálózati csatlakozózsinórt.

PERICOLO:
5 Quando la macchina è alimentata, vi sono tensioni pericolose all'interno. Ogni volta che si effettuano interventi di manutenzione, se il coperchio non è inserito, scollegare il cavo di alimentazione.

5

危険:

電源投入中は、内部に危険な電圧がかかっています。カバーを開けて
保守作業をする場合は、必ず電源コードを抜いてから行ってください。

5

위험:

기계를 켤때 위험한 전압이 흐를 수 있으니 조심하십시오.

5

Опасност: Кога оваа машина е вклучена, во нејзината внатрешност постои хазарден напон. Секогаш кога треба да ја сервисирате оваа единица со отстранет поколопец, бидете сигурни дека е исклучен кабелот за напојување.

FARE:
5 Det er farlig spenning inni maskinen når den er slått på. Hver gang du utfører service på maskinen mens dekselet er tatt av, må du huske på å trekke ut nettkabelen.

5

Uwaga wysokie napięcie!

Przed zdjęciem obudowy, należy wyłączyć przewód zasilający z gniazdka.

PERIGO:
5 Este equipamento, quando ligado, apresenta tensões perigosas no seu interior. Sempre que proceda a assistência nesta unidade com a cobertura retirada, certifique-se que o cabo de alimentação da unidade se encontra desligado.

5

Осторожно:

При включенном питании в устройстве имеется напряжение, опасное для жизни. При обслуживании устройства со снятой крышкой отсоедините кабель питания.

5

NEBEZPEČENSTVO!

Keď je zariadenie pripojené na sieť, je vo vnútri nebezpečné napätie. Pred každým zásahom do odkrytého zariadenia je potrebné sa presvedčiť, že prívodný kábel je odpojený od siete.

5

Nevarnost: V tem stroju obstajajo nevarne napetosti, kadar je vključen. Vsakič, ko delate s to enoto brez nameščenega pokrova, ne pozabite iztakniti napajalne vrvice.

PELIGRO:

5 Aun cuando está apagada, hay voltajes peligrosos en esta máquina. Siempre que dé servicio a esta máquina sin la cubierta, asegúrese de desenchufar el cable de alimentación.

VARNING — LIVSFARA:

5 Farliga spänningar i maskinen när den är påslagen. Se till att nätkabeln är urkopplad innan du öppnar enheten.

5

危險：

當此機器的電源打開時，機器內部的電壓有危險性。因此每次您要打開機器

Danger: The main power disconnect for this unit is the appliance inlet located on the back of the machine. Therefore, the machine should be installed in such a way that the appliance inlet can be accessed.

خطر:

يتم فصل الطاقة عن هذه الماكينة بواسطة مدخل الطاقة الموجود في الخلف. لذلك، يجب وضع هذه الماكينة بطريقة تمكنك من الوصول الي مدخل الطاقة.

Gevaar: De stroom van deze eenheid kan alleen worden uitgeschakeld via de aansluiting op de achterkant van de machine. U dient de machine daarom zodanig op te stellen dat de aansluiting op de achterkant goed toegankelijk is.

Perigo:

O desligamento da energia principal desta unidade é efetuado através do dispositivo de entrada, localizado na parte posterior da máquina. Portanto, a máquina deve ser instalada de tal modo que o dispositivo de entrada possa ser acessado.

Opasnost:

Kod ovog uređaja je glavna mrežna slopka ugrađena na stražnjem dijelu. Shodno tome, uređaj treba montirati tako da je pristup do stražnjeg dijela uvijek moguć!

Nebezpečí: Pro odpojení napájení slouží síťový přívod v zadní části zařízení, které musí být proto instalováno tak, aby byl přívod přístupný. Síťová zászuvka musí být umístěna v blízkosti zařízení a musí být dobře přístupná.

Fare! Netledningen, der sluttes til bag på maskinen, fungerer som hovedafbryder. Maskinen skal derfor installeres sådan, at der er fri adgang til netledningen.

Vaara:

Tämän yksikön päävirta katkaistaan irrottamalla koneen takaosassa sijaitseva verkkojohto. Tämän vuoksi kone tulee asentaa siten, että verkkojohdon luo on esteetön pääsy.

DANGER. Le dispositif permettant de couper l'alimentation principale de cette unité se situe à l'arrière de la machine. Ce dispositif doit donc être accessible.

Vorsicht: Der Hauptschalter zur Unterbrechung der Stromversorgung für diese Einheit ist der Schalter, der sich auf der Rückseite der Maschine befindet. Die Maschine sollte daher so aufgestellt werden, daß dieser Schalter jederzeit zugänglich ist.

Κίνδυνος: Η αποσύνδεση της παροχής ρεύματος στη συσκευή γίνεται από την υποδοχή που βρίσκεται στο πίσω μέρος της μηχανής. Επομένως, η μηχανή πρέπει να εγκατασταθεί με τρόπο που να επιτρέπει την πρόσβαση στην υποδοχή αυτή.

Figyelem! A berendezés főkapcsolójának nyílása a hátoldalon található. A telepítést úgy kell elvégezni, hogy a főkapcsoló a későbbiekben is hozzáférhető legyen.

Pericolo: Per scollegare questa unità, occorre staccare la spina posta sul retro della macchina; pertanto la macchina deve essere installata in modo tale che tale spina sia accessibile.

危険：

この装置の非常時の電源の切断は機械の背面にある電源入力コネクターで行います。従って、装置を設置する場合はこのコネクターへのアクセスに障害のないようにしてください。

위험:

본체의 주 전원 차단을 위한 장치 삽입구가 뒷면에 있으므로 장치 삽입구를 쉽게 접근할 수 있도록 설치하여야 합니다.

Опасност:

Главното одвојување на електричното напојување за оваа единица е преку приклучокот од апаратот лоциран на задната страна од машината. Затоа, машината треба да биде инсталирана на таков начин за да може приклучокот од апаратот да биде пристапен.

Fare: Denne enheten frakobles hovednettet via apparatinntaket på baksiden av maskinen. Derfor må maskinen installeres slik at apparatinntaket er lett tilgjengelig.

Niebezpieczeństwo:

Główny wyłącznik sieciowy tej jednostki umieszczony jest we wnęce z tyłu urządzenia. Urządzenie powinno być ustawione w ten sposób, aby wyłącznik był łatwo dostępny.

Perigo: Para desligar a alimentação principal desta unidade é necessário desconectar o cabo da tomada eléctrica localizada na parte posterior da máquina. Por consequência, a máquina deve ser instalada de modo a permitir o fácil acesso a essa tomada.

ОПАСНО: Разъем для отключения питания данного блока расположен на задней стенке. Поэтому устанавливайте машину так, чтобы разъем питания был доступен.

危险：

切断本单元主要电源的设备入口位于机器后面。因此，机器的安装应便于接触设备入口。

Nebezpečenstvo

Hlavný prívod pre elektrinu sa nachádza na zadnej strane stroja. Z tohto dôvodu by mal byť stroj umiestnený tak, aby mohol byť tento prívod ľahko dostupný.

Nevarnost:

Kot glavni odklop napetosti za to enoto rabi vtičnica na zadnji strani stroja. Zato je treba stroj namestiti tako, da bo zagotovljen dostop do vtičnice.

Peligro: El interruptor principal de desconexión de esta unidad es la entrada de conexión del aparato situado en la parte trasera de la máquina. Por lo tanto, la máquina debe instalarse de modo que la entrada de conexión del aparato sea accesible.

FARA: Brytning av huvudströmmen till den här enheten görs vid elanslutningen på baksidan av maskinen. Placera därför maskinen så att elanslutningen är lättåtkomlig.

危險：本機器的主電源插頭在機器背面。安裝本機器時，請預留空間以方便連接或切斷電源。

Caution Notices

Caution:
The base unit weighs 6.7kg (l4.8 lbs). When you loosen the screws, support the unit firmly to ensure that it does not fall to the ground or onto other equipment in the rack.

LET OP!

Tijdens het verwijderen van de schroeven moet u de basiseenheid ondersteunen, om te voorkomen dat deze op de grond of op de andere apparatuur in het rek valt. De eenheid weegt ongeveer 6,7 kg.

Cuidado: Você deve segurar a unidade de base enquanto estiver removendo os parafusos para evitar que caiam no chão ou em outro equipamento abaixo dela no rack. A unidade pesa aproximadamente 6.7 kg (14.5 lb).

警告：

您在拆除螺钉时，必须支持基本部件，以避免它跌在地上，或在它之下其他停放在机架上的设备。这部件大约重 6.7公斤（14.5磅）。

OPREZ: Potrebno je pridrzavati sistemsku jedinicu dok skidate vijke da bi sprijecili moguci pad na pod ili na druge uredaje smjestene u ormaru ispod nje. Sistemska jedinica je teska otprilike 6.7 kg (14.5 funti)

Při odstraňování šroubů podpírejte základní jednotku tak,
aby nespadla na zem nebo na jiné zařízení pod stojanem.
Tato jednotka váží asi 6.7 kg (14.5 lb).

Pas på!

Undgå at tabe basisenheden på gulvet eller ned i udstyr monteret under den i racket: Understøt basisenheden, mens du fjerner skruerne. Enheden vejer ca. 6,7 kg.

Varoitus:
Tue keskusyksikköä, kun irrotat ruuveja. Muutoin se voi pudota lattialle tai telineen muiden laitteiden päälle. Keskusyksikkö painaa noin 6,7 kiloa.

Attention :
L'unité de base pèse 6,7 kg. Lorsque vous en desserrez les vis, maintenez-la fermement pour éviter qu'elle ne tombe à terre ou sur un autre équipement de l'armoire.

ACHTUNG
Die Basiseinheit beim Lösen der Schrauben unbedingt festhalten. Die Basiseinheit wiegt etwa 6,7 kg.

Προσοχή:

Η βάση της συσκευής ζυγίζει 6,7Kg. Όταν ξεβιδώνετε τις βίδες, κρατάτε καλά τη συσκευή ώστε να μην πέσει στο έδαφος ή πάνω σε άλλες συσκευές.

FIGYELMEZTETÉS!

Fogja meg jól az alap egységet a csavarok kicsavarásakor, hogy elkerülje annak a padlóra vagy a keretben alatta lévő más berendezésre esését! Az egyég tömege kb. 6,7 kg (14.5 lb).
(Lásd a "Biztonsági figyelmeztetések" A Függelékében a 3-as FIGYELMEZTETÉS fordítását!)

Attenzione
Occorre sostenere l'unità di base durante la rimozione delle viti per evitare che tale unità cada sul pavimento o su un'altra apparecchiatura posta sotto il rack. L'unità pesa approssimativamente 6,7 kg.

注意:
ねじを取り外している間は、装置が床の上に落下したり、あるいはラック内の他の機器の上に落下したりしないように、必ず装置をささえておく必要があります。装置の最大重量は 6.7 kg です。

주의 :

나사들이 바닥이나 랙 안의 다른 장비에 떨어지지 않도록
장치에서 나사들이 제거되는 동안에 장치를 지지해야 합니다.
장치의 무게는 약 6.7kg (14.5lb) 입니다.

Предупредување
Базичната единица тежи 6.7 кг. Кога ќе ги олабавите шрафовите, потпирајте ја единицата цврсто за да обезбедите дека таа нема да падне на земја или на друга опрема во сталажата.

Advarsel:
Du må støtte opp hovedenheten mens du tar ut skruene så den ikke faller i gulvet eller ned på annet utstyr som er lenger ned i kabinettet. Enheten veier ca. 6,7 kg.

UWAGA:

Podczas wykręcania śrub jednostkę podstawową należy podtrzymywać, aby nie upadła na podłogę lub inne urządzenia położone pod nią w stelażu. Jednostka ma masę oko

A "Informacje o bezpieczeń

Cuidado:
Deve segurar a unidade de base enquanto remove os parafusos, de modo a evitar que a unidade caia no ch-o ou sobre outro equipamento que se encontre instalado abaixo dela, no bastidor. A unidade pesa aproximandamente 6,7 Kg.

Внимание:

Основной узел весит 6,7 кг. При откручивании винтов крепко поддерживайте узел, чтобы предотвратить его падение на землю или другое оборудование в стойке.

Výstraha:

Je potrebné podoprieť základnú systémovú jednotku počas odstraňovania skrutiek, aby sa predišlo pádu častí zariadenia na zem alebo na skriňu. Hmotnosť základnej systémovej jednotky je približne 6,7 kg (14,5lb).

Opozorilo:
Pred odstranitvijo vijakov je treba osnovno enoto podpreti, da ne pade na tla ali na drug del opreme v ogrodju. Enota tehta okoli 6.7 kg.

Precaución:
Debe sostener la unidad base mientras está quitando los tornillos para evitar que caiga al suelo o sobre otro de los equipos del bastidor. La unidad pesa 6,7 Kg. (14,5 lb). Consulte el apartado PRECAUCIÓN del Apéndice A "Información de Seguridad" para transformaciones

VARNING:
När du tar bort skruvarna måste du hålla i basenheten så att den inte faller ner på golvet eller på annan utrustning i racket. Enheten väger nästan 7 kg.

注意 :
當您要移動螺絲 寺, 必需要撐著此
基本裝置以避免它掉落在地板上或
架子下的其它設備。此基本裝置重
約 6.7 公斤 (145 磅) 。

Caution: Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

WAARSCHUWING: Explosiegevaar als de batterij door een verkeerde batterij wordt vervangen.

Vervang alleen door hetzelfde of gelijkwaardige type dat door de fabrikant is aanbevolen. Volg voor het wegdoen van gebruikte batterijen de instructies van de fabrikant.

CUIDADO: Perigo de explosão, se a bateria for substituída incorretamente.

Substitua apenas por uma bateria igual ou equivalente, recomendada pelo fabricante. Descarte as baterias usadas de acordo com as instruções do fabricante.

注意
更換電池不當時，會有爆炸的危險。

請更換相同的電池或製造
商所建議的型號相當。
請依製造商的指示
回收廢棄的電池。

UPOZORENJE

Ako se kod zamjene baterija nepravilno uloži, postoji opasnost od eksplozije.

Zamijenite samo s istim tipom ili istovrsnim dijelom kojeg preporuča proizvođač. Uklonite istrošene akumulatore prema uputama proizvođača.

POZOR

Nebezpečí výbuchu při nesprávné výměně baterie.

Zaměňte pouze stejným nebo ekvivalentním dílem, doporučeným výrobcem. Použité baterie zlikvidujte v souladu s instrukcemi výrobce.

Pas på! Batteriet kan eksplodere, hvis det ikke udskiftes korrekt.

Udskift batteriet med et batteri af samme eller tilsvarende type, som forhandleren anbefaler. Brugte batterier skal kasseres i overensstemmelse med gældende miljøbestemmelser.

WAARSCHUWING: Explosiegevaar als de batterij door een verkeerde batterij wordt vervangen.

Vervang alleen door hetzelfde of gelijkwaardige type dat door de fabrikant is aanbevolen. Volg voor het wegdoen van gebruikte batterijen de instructies van de fabrikant.

Varoitus: Paristo voi räjähtää, jos se asennetaan väärin.

Pariston saa vaihtaa vain samanlaiseen tai vastaavaan valmistajan suosittelemaan paristoon. Hävitä paristo ongelmajätteistä säädettyjen lakien ja viranomaisten määräysten mukaisesti.

Attention: Pour éviter tout risque d'explosion, remplacez la pile selon les instructions du fabricant qui en définit les équivalences.

Conformez-vous à la réglementation en vigueur pour le recyclage ou la mise au rebut des piles usagées.

ACHTUNG: Die Batterie kann bei unsachgemäßem Austauschen explodieren.

Nur die vom Hersteller empfohlene oder eine gleichwertige Batterie verwenden. Nach Gebrauch als Sondermüll entsorgen.

ΠΡΟΣΟΧΗ

Κίνδυνος έκρηξης αν η μπαταρία δεν αντικατασταθεί σωστά.

Αντικαταστήστε τη μόνο με μπαταρία ίδιου ή ισοδύναμου
τύπου προτεινόμενη από τον κατασκευαστή.
Πετάξτε τις χρησιμοποιημένες μπαταρίες σύμφωνα
με τις οδηγίες του κατασκευαστή.

FIGYELEM!

A szakszerûtlenül kicserélt telep robbanást okozhat.
Csak azonos, vagy a gyártó által ajánlott másik
típusra cserélje!
Az elhasznált telepeket az erre kijelölt hulladék-
gyûjtõkben helyezze el..

ATTENZIONE: Pericolo di esplosione se la batteria non è sostituita correttamente. Sostituirla solo con batterie dello stesso tipo o di tipo equivalente. Le batterie usate vanno smaltite in accordo alla normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali).

危険

『バッテリーの取扱いが正しくないと爆発の危険があります』

交換は製造者の勧める同一品または同等品
だけを使ってください。
使用済みバッテリーの廃棄は製造者の説 月
どうりにして

주의

배터리를 올바르게 교체하지 않으면 폭발의 위험이 있습니다.

반드시 제조업체가 지정한,
같거나 비슷한 종류로 교체하십시오.
사용하신 배터리는 제조업체의
지시에 따라 폐기 처리하십시오.

ПРЕДУПРЕДУВАЊЕ

Опасност од експлозија ако батеријата е
погрешно заменета.

Заменете ја само со ист или еквивалентен тип
препорачан од производителот.
Ослободете се од употребените батерии според
инструкциите на производителот.

ADVARSEL: Batteriet kan eksplodere hvis det ikke settes inn riktig.

Batteriet må bare erstattes med samme type batteri eller med et tilsvarende batteri som anbefales av fabrikanten. Ikke kast det brukte batteriet som vanlig avfall. Lever det til forhandleren, på en miljøstasjon eller ved et mottak for spesialavfall.

UWAGA

Nieprawidłowe włożenie baterii grozi eksplozją.

Należy wymienić tylko na baterię tego samego lub zamiennego
typu zalecanego przez producenta.
Zużyte baterie należy usuwać zgodnie
z instrukcjami producenta.

CUIDADO: Perigo de explosão se a bateria for incorrectamente substituída.

Substitua a bateria por outra igual ou de um tipo equivalente recomendado pelo fabricante. Destrua as baterias usadas de acordo com as instruções do fabricante.

ОСТОРОЖНО

При неправильной замене батареи
возможен взрыв.

Заменяйте батарею на такую
же или на батарею эквивалентного
типа, рекомендованного изготовителем.
При утилизации использованных батарей
следуйте инструкциям изготовителя.

VÝSTRAHA

Nebezpečie výbudchu pri nesprávnej výmene batérie.

Nahrádzajte iba za ten istý alebo equivalentný typ
podľa doporučenia výrobcu.
Použité batérie skladujte podľa
pokyno výrob

OPOZORILO

Nevarnost eksploozije, če se baterija nepravilno zamenja.

Za zamenjavo uporabite enak ali enakovreden tip
baterije, kot ga priporoča proizvajalec.
Uporabljene baterije odstranite po navodilih proizvajalca.

Precausión: Peligro de explosión si se sustituye incorrectamente la batería.

Sustituya solamente por el mismo tipo o tipo equivalente recomendado por el fabricante. Deseche las baterías usadas siguiendo las instrucciones del fabricante.

Varning: Explosionsrisk vid batteribyte.

Byt endast till samma typ av batteri eller till likvärdigt batteri som rekommenderas av tillverkaren. Följ tillverkarens instruktioner vid kassering av uttjänta batterier.

注意

如果不正确地更换电池，它将会有爆炸的危险。

仅可用制造商推荐的同一种或相同类型的电池进行更换。
按制造商的指示来销毁使用过的电池。

Class 1 LED Statement

Class 1 LED Product
LED Klasse 1
LED Klass 1
Luokan 1 Ledlaite
Appareil À LED de Classe 1

To IEC 825-1:1993

Class 1 Laser Statement

Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

To IEC 825-1:1993

Lithium Battery Statement

The MSS Server processor card contains a clock module that has an embedded lithium battery that is not replaceable. Please dispose of this module in accordance with local ordinances.

Appendix F. Notices

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United Kingdom Homologation Compliance Statement

STATEMENT OF COMPLIANCE

The United Kingdom Telecommunications Act 1984. This equipment is approved under General Approval Number

NS/G/1234/J/100003

for indirect connexions to the public telecommunications systems in the United Kingdom.

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Electronic Emission Notices

Federal Communications Commission (FCC) Statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operations of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors (IBM part number 55H8694 or its equivalent for the data/fax/voice modem, or IBM part number 72H4447 or equivalent for the data/fax modem) must be used in order to meet the FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operations.

Industry Canada Class A Emission Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité aux normes d'Industrie Canada

Cet appareil numérique de la classe A est conform à la norme NMB-003 du Canada.

EMC Directive 89/336/EEC Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

Properly shielded and grounded cables and connectors (IBM part number 72H4447 or its equivalent for the data/fax modem) must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. IBM cannot accept responsibility for any interference caused by using other than recommended cables and connectors.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richlinie 89/336)

Dieses Gerät ist berechtigt in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse A.

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden:“Warnung: dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.”

EN 50082-1 Hinweis:“Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem Fall ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu vergrößern.”

Anmerkung:Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

Japanese Voluntary Control Council for Interference (VCCI) Statement

This product is a Class A Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

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Korean Communications Statement

Please note that this device has been certified for business purpose with regard to electromagnetic interference. If you find this is not suitable for your use, you may exchange it for one of residential use.

CISPR22 Compliance Statement

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR22 / European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment. **Warning:** This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Taiwanese Class A Warning Statement

警告使用者:
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

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Product Warranty

International Business Machines Corporation Armonk, New York, 10504

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Machine: 8210 Nways Multiprotocol Switched Services (MSS) Server Model 003, MSS 3.0 Server Module, or A-MSS Server Module

Warranty Period*: 1 Year

Contact your place of purchase for warranty service information.

Production Status

Each Machine is manufactured from new parts, or new and used parts. In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's warranty terms apply.

The IBM Warranty for Machines

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if authorized by IBM, will provide warranty service under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

For IBM or your reseller to provide warranty service for a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many of these transactions involve the removal of parts and their return to IBM. You represent that all removed parts are genuine and unaltered. A part that replaces a removed part will assume the warranty service status of the replaced part.

If a Machine does not function as warranted during the warranty period, IBM or your reseller will repair it or replace it with one that is at least functionally equivalent, without charge. The replacement may not be new, but will be in good working order. If IBM or your reseller is unable to repair or replace the Machine, you may return it to your place of purchase and your money will be refunded.

If you transfer a Machine to another user, warranty service is available to that user for the remainder of the warranty period. You should give your proof of purchase and this Statement to that user. However, for Machines which have a life-time warranty, this warranty is not transferable.

Warranty Service

To obtain warranty service for the Machine, you should contact your reseller or call IBM. In the United States, call IBM at **1-800-IBM-SERV (426-7378)**. In Canada, call IBM at **1-800-465-6666**. You may be required to present proof of purchase.

IBM or your reseller will provide certain types of repair and exchange service, either at your location or at IBM's or your reseller's service center, to restore a Machine to good working order.

When a type of service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service. You also agree to ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange.

You agree to:

1. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
2. where applicable, before service is provided —
   a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provide,
   b. secure all programs, data, and funds contained in a Machine, and
   c. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Extent of Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

The warranties may be voided by misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, removal or alteration of Machine or parts identification labels, or failure caused by a product for which IBM is not responsible.

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Glossary

This glossary includes terms and definitions from the *IBM Dictionary of Computing* (New York; McGraw-Hill, Inc., 1994).

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- The symbol (T) identifies definitions from draft international standards, committee drafts, and working papers being developed by ISO/IEC JTC1/SC1.

A

access method. The technique that is used to locate data stored on a physical medium. (A)

application. A collection of software components used to perform specific types of user-oriented work on a computer.

architecture. A logical structure that encompasses operating principles including services, functions, and protocols.

attachment. A port or a pair of ports, optionally including an associated optical bypass, that are managed as a functional unit. A dual attachment includes two ports: a port A, and a port B. A single attachment includes a Port S.

available memory. In a personal computer, the number of bytes of memory that can be used after memory requirements for the operating system, device drivers, and other application programs have been satisfied.

B

broadcast. Transmission of the same data to all destinations. (T) Simultaneous transmission of the same data to more than one destination. A packet delivery system where a copy of a given packet is given to all hosts attached to the network. Broadcast can be implemented in hardware (Ethernet, for example) or software. Contrast with *multicast.*

C

client. A functional unit that receives shared services from a server. (T).

community. An administrative relationship between Simple Network Management Protocol (SNMP) entities.

community name. An opaque string of octets identifying a community.

configuration. The manner in which the hardware and software of an information processing system are organized and interconnected. (T) The devices and programs that make up a system, subsystem, or network. The task of defining the hardware and software characteristics of a system or subsystem. See also *system configuration*.

configuration file. A file that specifies the characteristics of a system device or network related to a specific product.

configuration management. The monitoring and control of information required to identify physical and logical network resources, their states, and their interdependencies. Services include customization, network resource inventory, and assistance to other network management disciplines.

configuration parameters. Variables in a configuration definition, the values of which characterize the relationship of a product, such as a bridge, to other products in the same network.

connection. In data communication, an association established between functional units for conveying information. (I) (A) The path between two protocol functions, usually located in different machines, that provides reliable data delivery service.

connectivity. The capability of a system or device to be attached to other systems or devices without modification. (T) The capability to attach a variety of functional units without modifying them.

connector. A means of establishing electrical flow.

controller. A unit that controls input/output operations for one or more devices.

D

destination. Any point or location, such as a node, station, or particular terminal, to which information is to be sent.

diagnostics. The process of investigating the cause or the nature of a condition or problem in a product or system.

directory. A table of identifiers and references to the corresponding items of data. (I) (A) A database in an APPN node that lists names of resources (in particular, logical units) and records the CP name of the node where each resource is located.

dual ring (FDDI dual ring). A pair of counter-rotating logical rings.

E

electromagnetic interference. A disturbance in the transmission of data on a network resulting from the magnetism created by a current of electricity.

electrostatic discharge (ESD). An undesirable discharge of static electricity that can damage equipment and degrade electrical circuitry.

emulation. The use of a data processing system to imitate another data processing system, so that the imitating system accepts the same data, executes the same programs, and achieves the same results as the imitated system. Emulation is usually achieved by means of hardware or firmware. (T) The use of programming techniques and special machine features to permit a computing system to execute programs written for another system.

error log. A data set or file in a product or system where error information is stored for later access.

Ethernet network. A baseband LAN with a bus topology in which messages are broadcast on a coaxial cable using a carrier sense multiple access/collision detection (CSMA/CD) transmission method.

F

faceplate. A wall-mounted or surface-mounted plate for connecting data and voice connectors to a cabling system.

FDDI network. A collection of FDDI nodes interconnected to form a trunk ring, or a tree, or a trunk ring with multiple trees. This topology is sometimes called a dual ring of trees. A collection of FDDI nodes interconnected to form a trunk, or a tree, or a trunk ring with multiple trees. This topology is sometimes called a dual ring of trees.

Federal Communications Commission (FCC). A board of commissioners appointed by the President under the Communications Act of 1934, having the power to regulate all interstate and foreign communications by wire and radio originating in the United States.

fiber optic cable. See *optical cable*.

fiber optics. The branch of optical technology concerned with the transmission of radiant power through fibers made of transparent materials such as glass, fused silica, and plastic. (E)

Note: Telecommunication applications of fiber optics use optical fibers. Either a single discrete fiber or a nonspatially aligned fiber bundle can be used for each information channel. Such fibers are often called optical fibers to differentiate them from fibers used in noncommunication applications.

file name. A name assigned or declared for a file. The name used by a program to identify a file.

frequency. The rate of signal oscillation, expressed in hertz.

H

hard disk. A rigid magnetic disk such as the internal disks used in the system units of personal computers and in external hard disk drives. Synonymous with *fixed disk.* A rigid disk used in a hard disk drive.

Note: The term hard disk is also used loosely in the industry for boards and cartridges containing microchips or bubble memory that simulate the operations of a hard disk drive.

help information. Information displayed to assist a user.

help window. A window that contains help information.

hexadecimal. Pertaining to a selection, choice, or condition that has 16 possible different values or states. (I) Pertaining to a fixed-radix numeration system, with radix of 16. (I) Pertaining to a system of numbers to the base 16; hexadecimal digits range from 0 through 9 and A through F, where A represents 10 and F represents 15.

I

interactive. Pertaining to a program or system that alternately accepts input and then responds. An interactive system is conversational, that is, a continuous dialog exists between user and system.

interface. A shared boundary between two functional units, defined by functional characteristics, signal characteristics, or other characteristics, as appropriate. The concept includes the specification of the connection of two devices having different functions. (T) Hardware, software, or both, that links systems, programs, or devices.

interference. The prevention of clear reception of broadcast signals. The distorted portion of a received signal. In optics, the interaction of two or more beams of coherent or partially coherent light.

Internet Protocol (IP). A protocol that routes data through a network or interconnected networks. IP acts as an interface between the higher logical layers and the physical network. However, this protocol does not provide error recovery, flow control, or guarantee the reliability of the physical network. IP is a connectionless protocol.

interrupt. A suspension of a process, such as execution of a computer program caused by an external event, and performed in such a way that the process can be resumed. (A) To stop a process in such a way that it can be resumed.

IP address. A 32-bit address assigned to devices or hosts in an IP internet that maps to a physical address. The IP address is composed of a network and host portion.

M

management information base (MIB). A collection of objects that can be accessed by means of a network management protocol.

management station. The system responsible for managing all, or a portion of, a network. The management station talks to network management agents that reside in the managed node by means of a network management protocol such as Simple Network Management Protocol (SNMP).

microcode. One or more microinstructions. A code, representing the instructions of an instruction set, that is implemented in a part of storage that is not program-addressable. To design, write, and also test one or more microinstructions.

Note: The term microcode represents microinstructions used in a product as an alternative to hard-wired circuitry to implement functions of a processor or other system component. The term microprogram means a dynamic arrangement of one or more groups of microinstruction for execution to perform a certain function.

multicast. Transmission of the same data to a selected group of destinations. (T) A special form of broadcast where copies of the packet are delivered to only a subset of all possible destinations. Contrast with *broadcast*.

N

network administrator. A person who manages the use and maintenance of a network.

network management. The process of planning, organizing, and controlling a communications-oriented system.

network status. The condition of the network.

NHRP. Next-Hop Routing Protocol.

O

operating system (OS). Software that controls the execution of programs and that may provide services such as resource allocation, scheduling, input/output control, and data management. Although operating systems are predominantly software, partial hardware implementations are possible. (T)

optical cable. A fiber, multiple fibers, or a fiber bundle in a structure built to meet optical, mechanical, and environmental specifications. (E)

optical fiber. Any filament made of dielectric materials that guides light, regardless of its ability to send signals. (E) See also *fiber optics*.

optical fiber cable. Synonym for *optical cable*.

optical transmitter. Hardware that converts an electrical logic signal to an optical signal.

optical wrap. Signal transmission, used primarily for testing, that routes the signal from the optical output of a device directly to the optical input.

P

parallel port. A port that transmits the bits of a byte in parallel along the lines of the bus, 1 byte at a time, to an I/O device. On a personal computer, it is used to connect a device that uses a parallel interface, such as a dot matrix printer, to the computer. Contrast with *serial port*.

parameter. A variable that is given a constant value for a specified application and that may denote the application. (I) (A) An item in a menu or for which the user specifies a value or for which the system provides a value when the menu is interpreted. Data passed between programs or procedures.

physical connection. A connection that establishes an electrical circuit. The full-duplex physical layer association between adjacent PHY entities (in concentrators and stations) in an FDDI ring; for example, a pair of physical links. An element of the service interface presented by an entity.

problem determination. The process of determining the source of a problem; for example, a program component, a machine failure, telecommunication facilities, user or contractor-installed programs or equipment, an environment failure such as a power loss, or user error.

procedure. A set of instructions that gives a service representative a step-by-step procedure for tracing a symptom to the cause of failure.

processor. In a computer, a functional unit that interprets and executes instructions. A processor consists of at least an instruction control unit and an arithmetic and logic unit. (T)

R

radio frequency (RF). The rate of radio signal oscillation, expressed in hertz. Any frequency in the range within which radio waves can be transmitted, from about 10 kHz to about 300 000 MHz.

receptacle. Electrically, a fitting equipped to receive a plug and used to complete a data connection or electrical path. In FDDI, an optoelectronic circuit that converts an optical signal to an electrical logic signal.

reconfiguration. A change made to a given configuration of a computer system; for example, isolating and bypassing a defective functional unit, connecting two functional units by an alternative path. Reconfiguration is effected automatically or manually and can be used to maintain system integrity. (T) The process of placing a processor unit, main storage, and channels offline for maintenance, and adding or removing components.

routing protocol. A technique for each router to find another router and to keep up to date about the best way to get to every network. Examples of routing protocols are: Routing Information Protocol (RIP), Hello, and Open Shortest Path First (OSPF).

S

serial port. On personal computers, a port used to attach devices such as display devices, letter-quality printers, modems, plotters, and pointing devices such as light pens and mice; it transmits data 1 bit at a time. Contrast with *parallel port*.

service clearance. The minimum space required to allow working room for the person installing or servicing a unit.

service representative. An individual who performs maintenance services for products or systems.

Simple Network Management Protocol (SNMP). An IP network management protocol that is used to monitor routers and attached networks. A TCP/IP-based protocol for exchanging network management information and outlining the structure for communications among network devices. SNMP is an application layer protocol. Information on devices managed is defined and stored in the application's Management Information Base (MIB).

SNA. Systems Network Architecture.

SNMP. Simple Network Management Protocol.

SSCP-dependent LU. An LU that requires assistance from a system services control point (SSCP) in order to initiate an LU-LU session. It requires an SSCP-LU session.

subnet mask. A bit template that identifies to the TCP/IP protocol code the bits of the host address that are to be used for routing for specific subnets.

subsystem. A secondary or subordinate system, or programming support, usually capable of operating independently of, or asynchronously with, a controlling system. (T)

switched virtual circuit (SVC). An X.25 circuit that is dynamically established when needed. The X.25 equivalent of a switched line. A virtual circuit that is requested by a virtual call. It is released when the virtual circuit is cleared. Contrast with permanent virtual circuit (PVC).

system configuration. A process that specifies the devices and programs that form a particular data processing system.

Systems Network Architecture (SNA). The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through, and controlling the configuration and operation of, networks.

Note: The layered structure of SNA allows the ultimate origins and destinations of information, that is, the end users, to be independent of and unaffected by the specific SNA network services and facilities used for information exchange.

T

terminal emulation. The capability of a microcomputer or personal computer to operate as if it were a particular type of terminal linked to a processing unit and to access data.

threshold. A level, point, or value above which something is true or will take place and below which it is not true or will not take place.

U

unattended mode. A mode in which no operator is present or in which no operator station is included at system generation.

V

vital product data (VPD). Product identification information that describes the hardware and software components in the product. VPD is used to assist in asset and inventory control, performing problem determination, identifying service levels, and ensuring proper hardware and software compatibility levels.

W

workstation. A functional unit at which a user works. A workstation often has some processing capability. (T) Personal desktop computer consisting of a monitor, keyboard, and central processing unit. Workstations can have voice/data application program software enabled by CallPath for Workstations.

wrap plug. In a fiber optic channel link environment, a type of duplex connector used to wrap the optical output signal of a device directly to the input of the same device.

wrap test. A test that checks attachment or control unit circuitry without checking the mechanism itself by returning the output of the mechanism as input; for example, when unrecoverable communication adapter or machine errors occur, a wrap test can transmit a specific character pattern to or through the modem in a loop and then compare the character pattern received with the pattern transmitted. See also *optical wrap*.

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Service and Maintenance Manual

Publication No. GY27-0354-04

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