

Multiprotocol Switched Services (MSS) Server



# User's Feature Removal and Replacement Guide



Multiprotocol Switched Services (MSS) Server



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**Note**

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

**First Edition (July 1998)**

This edition applies to the IBM 8210 Nways Multiprotocol Switched Services (MSS) Server Model 002 (8210-002).

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## About This Manual

This manual describes how the you can remove and replace certain items of the IBM 8210 Nways Multiprotocol Switched Services (MSS) Server Model 002 (8210-002). These include the following items that can be accessed from outside the 8210-002:

- PCMCIA flash drive
- PCMCIA modem

The manual also discusses several common procedures that you must perform in sequence before you remove and replace the following items that can only be accessed from inside the 8210-002:

- ATM and FDDI adapters
- Memory SIMMs

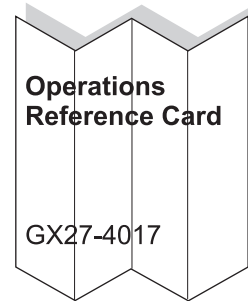
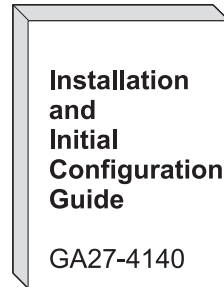
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## Who Should Read This Manual

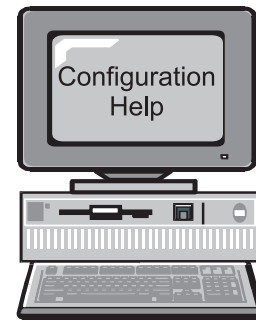
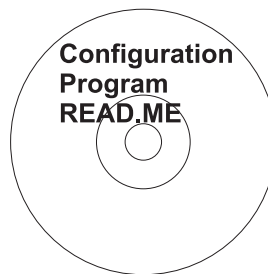
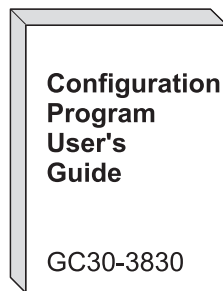
This manual is for the use of the person performing those removal and replacement procedures that do not require the intervention of a trained service person. The person using this manual should be familiar with basic safety procedures.

## 8210-002 Library

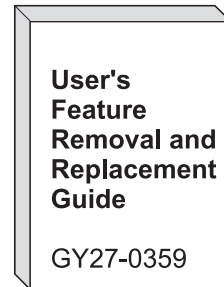
### Planning and Installation



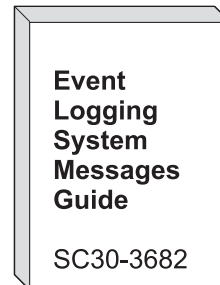
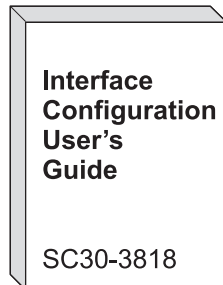
### Configuration



### Diagnostics/Maintenance



### Operations and Network Administration



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## 8210-002 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 Multiprotocol Switched Services (MSS) Softcopy Library CD-ROM (LK2T-0378). This CD-ROM is shipped with initial orders for the 8210-002.

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

- *Multiprotocol Switched Services (MSS) Server Installation and Initial Configuration Guide*, GA27-4140
- *IBM 8210 Nways Multiprotocol Switched Services (MSS) Server Operations Reference Card*, GX27-4017
- *8210 Nways Multiprotocol Switched Services (MSS) Server Customer Service Manual*, 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 Multiprotocol Switched Services (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.

- *Multiprotocol Switched Services (MSS) Server Introduction and Planning Guide*, GC30-3820
- *Multiprotocol Switched Services (MSS) Server Service and Maintenance Manual*, GY27-0354
- *IBM Multiprotocol Switched Services (MSS) Server Interface Configuration and Software User's Guide*, SC30-3818
- *IBM Multiprotocol Switched Services (MSS) Configuring Protocols and Interfaces*, SC30-3819
- *Configuration Program User's Guide for Nways Multiprotocol Access, Routing and Switched Services*, GC30-3830
- *Event Logging System Messages Guide*, SC30-3682

## Accessing the 8210-002 Softcopy Library

**Important:** Whether you choose to read the softcopy 8210-002 manuals 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 manuals.

The *Multiprotocol Switched Services (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 alternative methods of managing your softcopy books, see the *Online Reference Online Library* that is on the CD-ROM.

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## Visit Our Web Sites

You can obtain the latest information on and support for the 8210-002 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 8210-002 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 8210-002, refer to the IBM Network Environment Support page at:

<http://www.networking.ibm.com/nes/neshome>

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## Chapter 1. Problem Determination

This chapter briefly describes the 8210-002, ways of providing hardware and operational code service with the provided tools, and methods of diagnosing hardware problems.

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### 8210-002 Hardware

The 8210-002 is connected to the ATM network over 155-Mbps optical fiber cable equipped with industry-standard SC connectors.

All the connectors and light-emitting diodes (LEDs) for the product are placed on the front, with the exception of the 8210-002's power cord, which is located on the back.

The 8210-002 has a 10BASE-T Ethernet service port.

The 8210-002 also has one standard serial service port: an EIA 232 male 9-pin D-shell connector.

The serial service port can be attached locally through a null modem cable or remotely through a modem attachment.

In the U.S. and Canada and in most countries, the 8210-002 is shipped with a Personal Computer Memory Card International Association (PCMCIA) modem.<sup>1</sup> This modem is provided so that you can access the 8210-002 remotely to perform product configuration and maintenance.

---

### Troubleshooting

Generally, errors that occur *before* the operational code is loaded are hardware-related. LEDs on the front of the 8210-002 are indicators of the status of hardware components within the 8210-002.

Go to "8210-002 LED Indicators" for LED status and indicators for the 8210 8210-002. See Chapter 2, "Removal and Replacement Procedures" for information on removal and replacement procedures for field-replaceable units (FRUs).

---

### 8210-002 LED Indicators

This section describes the LED indicators for the 8210-002.

Figure 1-1 on page 1-2 shows the locations of the LEDs, and Table 1-1 on page 1-2 indicates the meanings of the LEDs.

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<sup>1</sup> If you are not sure whether this feature is available in your country, see your IBM marketing representative.

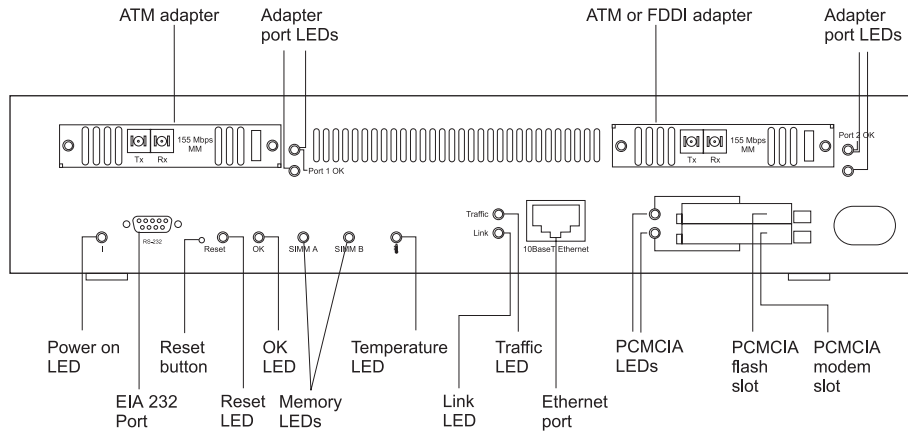


Figure 1-1. Front Panel of the 8210-002

Table 1-1 (Page 1 of 2). Meanings of the 8210-002 LEDs

LED	Color	State	Explanation
<b>I (Power On)</b>	Green	ON	There is ac power to the 8210-002 and the power supply is OK.
		OFF	No ac power is present, or there is a power supply failure.
<b>Reset</b>	Yellow	ON	Reset is in progress. The LED remains ON until the reset is complete.
		OFF	Reset is complete.
<b>OK</b>	Green	ON	Hardware logic components are OK.
		OFF	8210-002 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.
<b>SIMM A or B</b>	Yellow	ON	Memory module (SIMM A or B) fault.
		OFF	Memory module (SIMM A or B) is OK.
<b>Temperature symbol</b>	Yellow	ON	The 8210-002 has an over-temperature condition.
		OFF	The 8210-002 operating temperature is within the normal range.
<b>Traffic</b>	Green	ON (Flickering)	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.
<b>Link</b>	Green	ON	The Ethernet port is connected correctly.
		OFF	There is a fault in the Ethernet connection. Check the Ethernet cable.
<b>PCMCIA slots 1 or 2</b>	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.

Table 1-1 (Page 2 of 2). Meanings of the 8210-002 LEDs

LED	Color	State	Explanation
Adapter Ports 1 or 2	Green (Port OK)	ON	An adapter is in the port, configured, enabled, and operational.  <b>Note:</b> If you have installed a FDDI adapter in Port 2 (right slot), see “FDDI Adapter LED Indicators” on page 1-5.
		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 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.

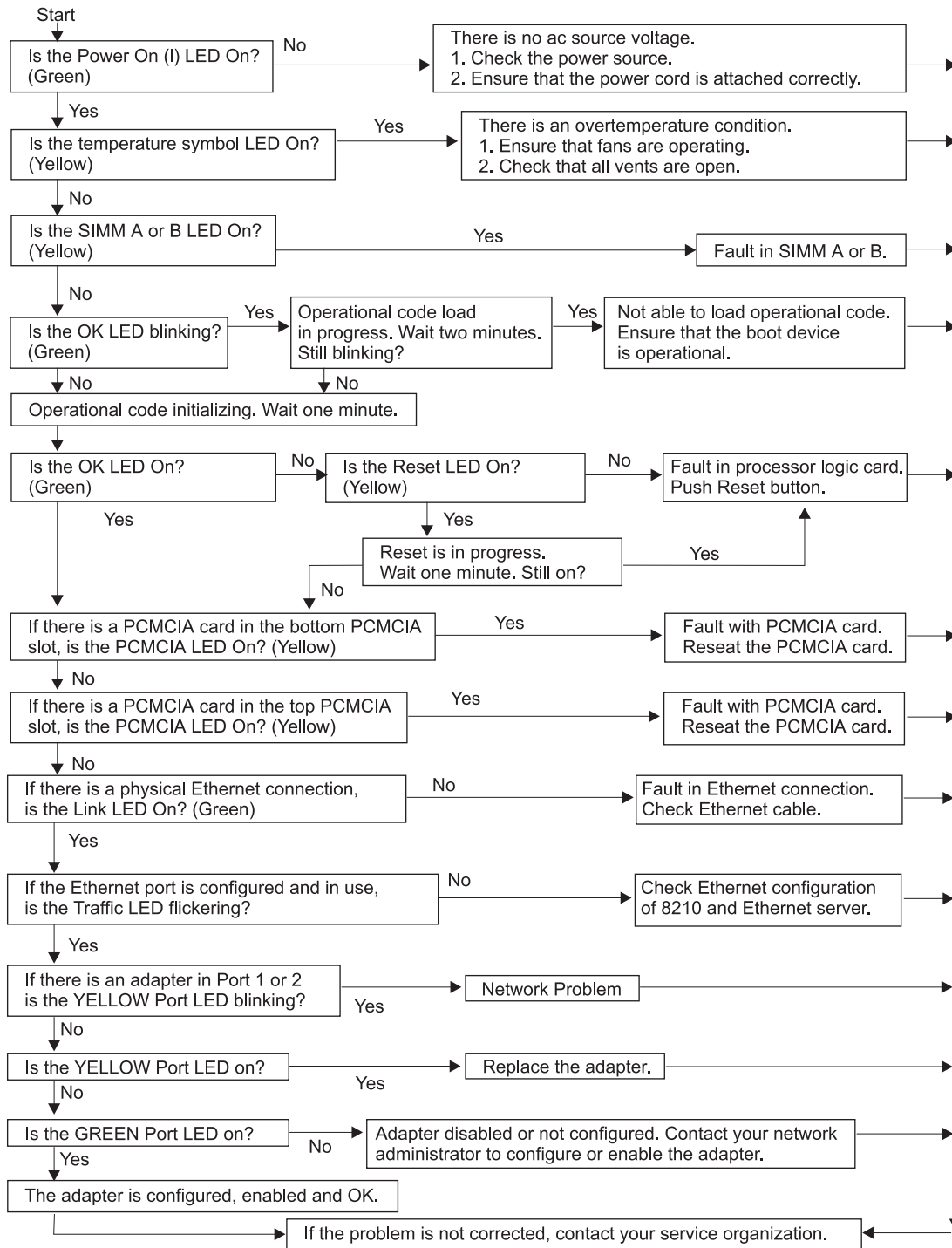


Figure 1-2. Problem Solving for the 8210-002



## FDDI Adapter LED 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.

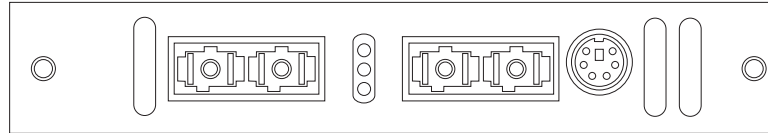


Figure 1-3. Front Panel of the FDDI Adapter

Table 1-2. Meanings of the FDDI Adapter LEDs

LED	Color	State	Explanation
FDDI Adapter	Green	ON	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• The port is not connected to the next FDDI port.</li> <li>• The port has a bad cable connection to the next FDDI port.</li> <li>• The next FDDI port in the network is faulty.</li> </ul> <p>When only one green LED is ON, the yellow LED is always OFF.</p>
		OFF	<p>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.</p>
	Yellow	ON	<p>No data path is available. Neither port is connected to another valid FDDI port. This could be caused by one of the following conditions:</p> <ul style="list-style-type: none"> <li>• No cable is connected to the FDDI port.</li> <li>• You are using incorrect cables.</li> <li>• You have placed the cables in the wrong order to complete the correct data path needed for FDDI.</li> <li>• The connecting FDDI port in the network is faulty.</li> <li>• Code is loaded, but the adapter interface is not enabled.</li> <li>• 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.</li> </ul>

## 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 2-11 and “Replacing the Adapter in Port 2” on page 2-12.

---

## Chapter 2. Removal and Replacement Procedures

This chapter provides the following information on removal and replacement procedures for field-replaceable units (FRUs) for the 8210-002:

- 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 8210-002.
  - A list of the equipment that you will need for the 8210-002.
  - A description of the required safety precautions for the 8210-002.
- Descriptions of the common removal and replacement procedures for the 8210-002 (see “Common Removal and Replacement Procedures” on page 2-2).
- Descriptions of the individual FRU removal and replacement procedures for the 8210-002 (see “FRU Removal and Replacement Procedures” on page 2-6).

---

### Before You Start

Several common procedures need to be performed in sequence to gain access to the FRUs in the 8210-002. 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 8210-002:

- Flat-blade screwdriver
- 4-mm nut driver (optional)
- Screw starter (optional)
- ATM adapter wrap plug, PN 16G5609 (separately orderable)

### Safety Precautions

#### 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 Appendix B, “Safety Information” 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 Appendix B, “Safety Information” for translations.)**

---

## Common Removal and Replacement Procedures

This section describes the procedures you need to perform to gain access to FRUs in the 8210-002.

### 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 need to replace any of the following FRUs:

- ATM Adapter in Port 1
- ATM or FDDI Adapter in Port 2
- Memory SIMMs

Disconnect the power cord from the ac power outlet and then from the 8210-002.

#### Where to Go Next

If you are replacing the power cord, continue with “Reconnecting the Power Cord.” Otherwise, go to “Removing the 8210-002 from the Rack” 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 Appendix B, “Safety Information” for translations.)**

Connect the power cord to the 8210-002 and then to the ac power outlet.

## Removing the 8210-002 from the Rack

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

**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 Appendix B, “Safety Information” for translations.)**

- 1** Disconnect the power cord from the ac outlet and then from the 8210-002.
- 2** Label the cable attached to the ATM adapter connectors.
- 3** Disconnect the Ethernet and EIA 232 cables.
- 4** Remove the PCMCIA devices (the flash drive and modem).
- 5** Remove all loose items from the top of the 8210-002.
- 6** Remove the four screws that hold the 8210-002 in the rack.
- 7** Remove the 8210-002 from the rack by pulling it toward you.
- 8** Place the 8210-002 on a flat surface.

**Where to Go Next**

You need to remove the top cover if you need to remove and replace any of the following FRUs:

- ATM Adapter in Port 1
- ATM or FDDI Adapter in Port 2
- Memory SIMMs

Go to “Removing the Top Cover” on page 2-4 for instructions about removing the top cover.

## Replacing the 8210-002

**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 Appendix B, “Safety Information” for translations.)**

- 1** Insert one of the screws into the 8210-002 bracket.
- 2** Lift the 8210-002 into position, lining up the screw and the 8210-002 with the rack.
- 3** Partially tighten the screw.
- 4** Insert and partially tighten the screw in the other bracket.

- 5** Insert the other screw in each bracket and tighten all screws.
- 6** Install the PCMCIA modem into the bottom slot (when facing the front of the 8210-002). Install and connect the modem cable.
- 7** Install the PCMCIA flash drive.
- 8** Connect the Ethernet and EIA 232 cables.
- 9** Connect the power cord to the 8210-002 and then to the ac outlet.

## Removing the Top Cover

### 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 Appendix B, "Safety Information" for translations.)**

**Attention:** Disconnecting the power cord will disrupt users connected to this 8210-002. Consult the network administrator before disconnecting the power cord.

- 1** Disconnect the power cord from the ac outlet and then from the 8210-002.
- 2** Remove the 8210-002 from the rack.
- 3** Place the 8210-002 on a flat surface.
- 4** Remove the three screws on each side of the 8210-002 and remove the brackets that hold the 8210-002 in the rack. Save the screws to use when you reinstall the top cover.
- 5** Lift the rear edge of the top cover and pull it to the rear of the 8210-002 to disengage the tabs on the top cover that engage the front of the 8210-002.
- 6** Lift up the rear of the top cover and pull it up and away from the front of the 8210-002.

### Where to Go Next

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

When you have removed and replaced the FRU, go to "Reinstalling the Top Cover."

## Reinstalling the Top Cover

- 1** Align the top cover tabs with the slots in the inside of the front of the 8210-002 and slide the top cover forward until the tabs engage the slots.
- 2** Secure the brackets on each side of the 8210-002 with the six screws you removed during removal of the cover.

**3** Place the 8210-002 in the rack.

**4** Connect the ac power cord to the 8210-002 and then to the power source.

---

## FRU Removal and Replacement Procedures

This section outlines the removal and replacement procedures for each of the FRUs in the 8210-002.

**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.

<b>FRU</b>	<b>Procedure</b>
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.
ATM Adapter in Port 1	Go to "Removing the Adapter from Port 1 (Left Slot)" on page 2-9.
ATM or FDDI Adapter in Port 2	Go to "Removing the Adapter from Port 2 (Right Slot)" on page 2-11.
Memory SIMMs	Go to "Removing the Memory SIMMs" on page 2-13.

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



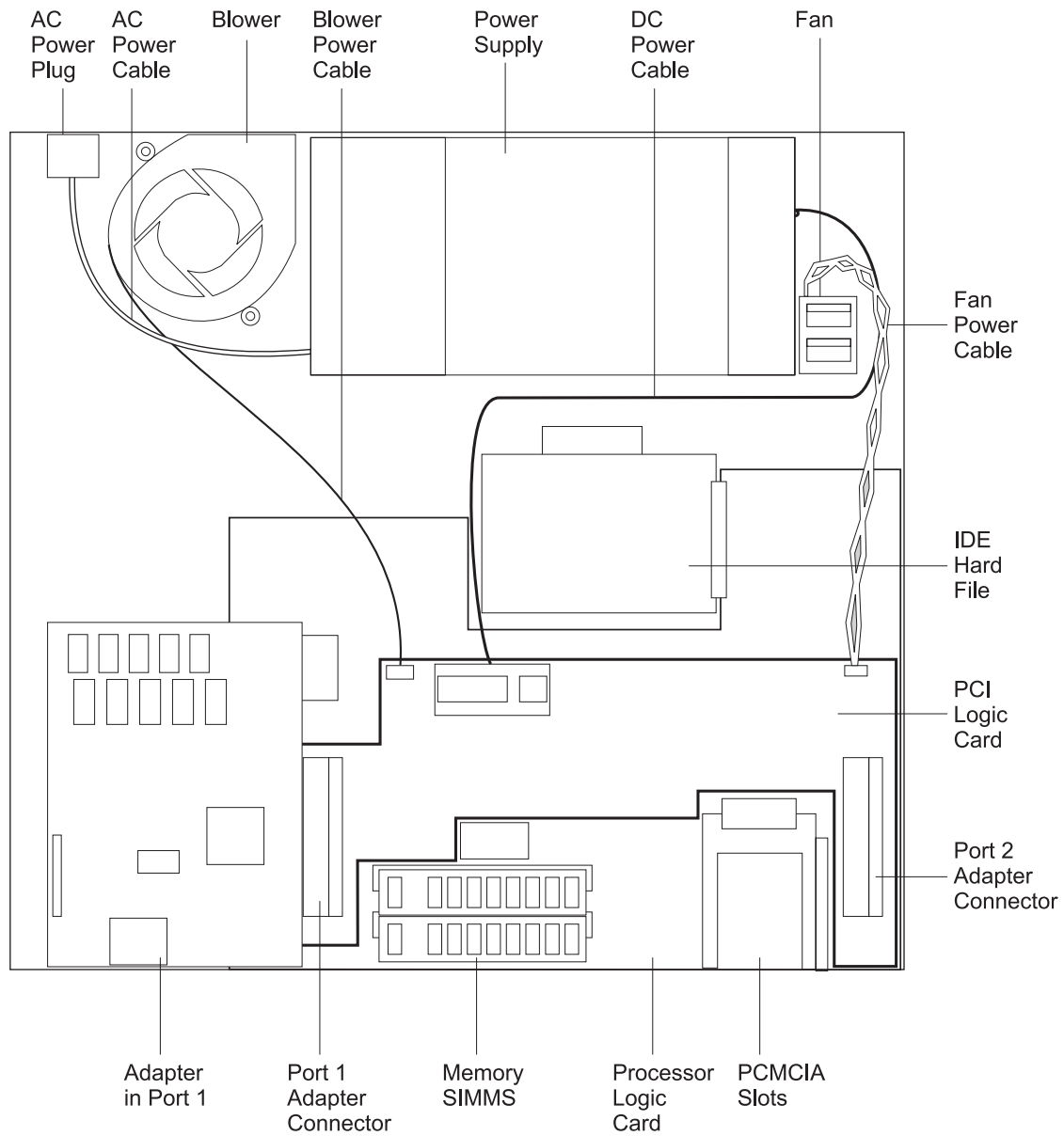


Figure 2-1. View of the 8210-002 with Top Cover Removed

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## Removing and Replacing the PCMCIA Flash Drive

**Attention:** The PCMCIA flash drive must be located in the top slot of the 8210-002.

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 8210-002.

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 of the device).
- 2** Obtain the replacement device and insert it in the slot. Ensure that the device is completely seated (yellow LED goes off).
- 3** See “8210-002 LED Indicators” on page 1-1 and verify that the replacement device is operational by the correct state of the LEDs.

---

## 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 8210-002).

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 8210-002.

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 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 “8210-002 LED Indicators” on page 1-1 and verify the replacement device is operational by the correct status of the LEDs.

---

## Removing the Adapter from Port 1 (Left Slot)

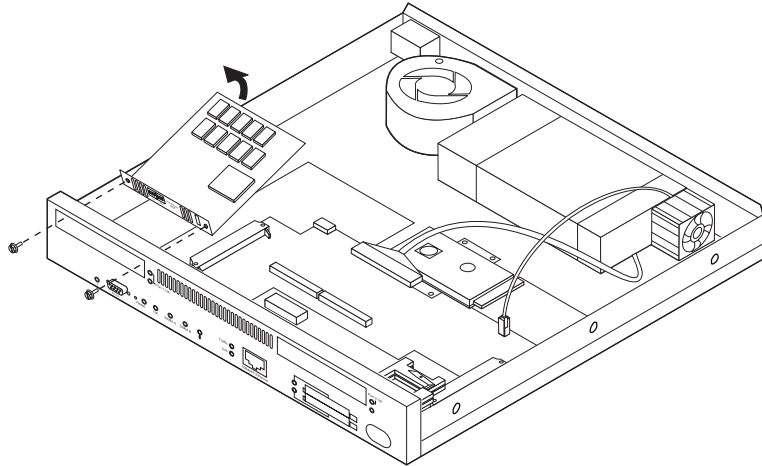


Figure 2-2. Adapter in Port 1

**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 (front cover side) 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 8210-002.
  - 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 8210-002 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 8210-002.

### 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 2-10.

---

## Replacing the Adapter in Port 1

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

**1** Obtain the new adapter for Port 1.

**2** Remove the 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 8210-002.
- 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.

**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** Reinstall the two flat-head screws on the faceplate.

**6** 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 2-4 and return here to continue.

**7** Reinstall the 8210-002 into the rack with its cable bracket if it was rack-mounted, or place it in its position if it was table-mounted. Go to "Replacing the 8210-002" on page 2-3 and return here to continue.

**8** Reattach the adapter cable and modem cable.

**9** Reattach the Ethernet cable and EIA 232 cable.

**10** Connect the ac power cord to the 8210-002 and then to the power source.

---

## Removing the Adapter from Port 2 (Right Slot)

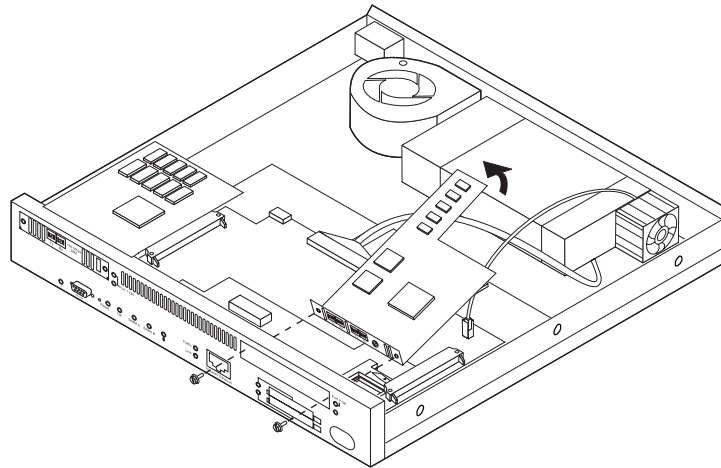


Figure 2-3. Adapter in Port 2

**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 (front cover side) 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 8210-002.
  - 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 8210-002 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 8210-002.
- 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 2-12.

---

## 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** Obtain the new adapter for Port 2.

**2** Remove the 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 8210-002.
- 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.

**3** 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.

**4** 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.

**5** 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.

**6** If you are installing a FDDI adapter, reinstall the screw on the standoff.

**7** Reinstall the two flat-head screws on the faceplate.

**8** 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 2-4 and return here to continue.

**9** Reinstall the 8210-002 into the rack with its cable bracket if it was rack-mounted, or place it in its position if it was table-mounted. Go to "Replacing the 8210-002" on page 2-3 and return here to continue.

**10** Reattach the adapter and modem cables.

**11** Reattach the Ethernet cable and EIA 232 cable.

**12** Connect the ac power cord to the 8210-002 and then to the power source.

---

## Removing the Memory SIMMs

The 8210-002 comes with two SIMMs. SIMM sockets are located directly below the ATM adapters (see Figure 2-4). SIMM sockets are accessible only after the two ATM adapters are removed.

This procedure can be used for removing faulty SIMM modules or to install memory upgrades to your 8210-002.

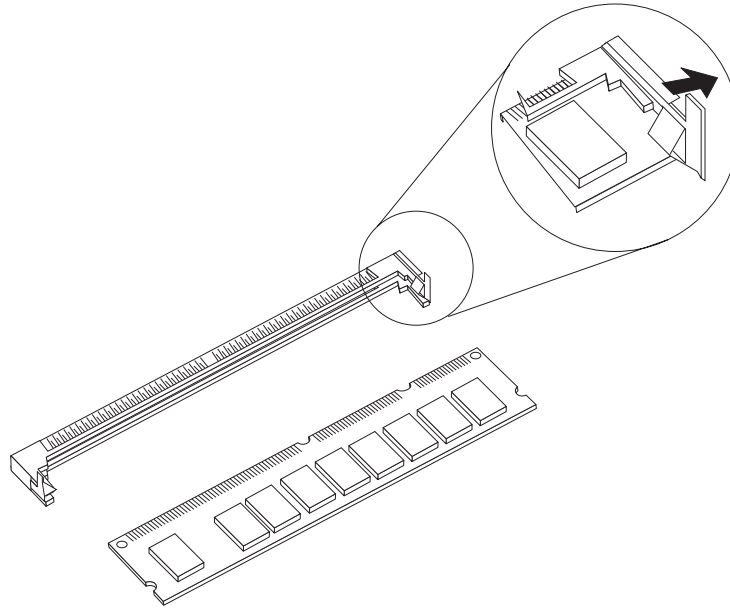


Figure 2-4. Memory (SIMM) Modules

- 1** When the top cover is removed, the SIMM sockets are exposed. SIMM-B is positioned closest to the front of the 8210-002, 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 8210-002.

**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 memory SIMM until you are ready to insert it into the 8210-002.
- Use correct grounding techniques when inspecting and installing the memory 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 memory SIMM.

- 2** When the SIMM card ends are free of the latches, lift the SIMM module up, out of its connector socket, and out of the 8210-002.

### Where to Go Next

If your only task was to remove and replace the memory SIMM, you are ready to go to “Replacing the Memory SIMMs” on page 2-14.

---

## Replacing the Memory SIMMs

- 1** Obtain the new memory SIMM.
- 2** Remove the memory 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 memory SIMM until you are ready to insert it into the 8210-002.
  - Use correct grounding techniques when inspecting and installing the memory 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 memory SIMM.

Always handle the memory SIMM by the ends (preferably grasp it between the middle finger and thumb; do not touch the components). If the memory SIMM appears to be damaged, return it to the antistatic bag and contact the supplier.
- 3** Grasping the memory 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 memory SIMM, move it forward until it is correctly aligned and snaps in place in the spring clips.
- 4** If your only task was to remove and replace or initially install a memory SIMM, you are ready to reinstall the top cover and side brackets. Go to “Reinstalling the Top Cover” on page 2-4 and return here to continue.
- 5** Reinstall the 8210-002 into the rack with its cable bracket if it was rack-mounted, or place it in its position if it was table-mounted. Go to “Replacing the 8210-002” on page 2-3.
- 6** Connect the ac power cord to the 8210-002 and then to the power source.



## 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 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. xxx=temperature over maximum conditions in degrees Celsius in hexadecimal
30001000	IDE	IDE	Error occurred while running the IDE diagnostics.
30002000	IDE	IDE	Error occurred while preparing the hard drive.


<b>Error Code</b>	<b>Physical Location</b>	<b>Software Subsystem</b>	<b>Explanation</b>
5abcdefg	Processor Logic Card	PCMCIA	Error occurred during the PCMCIA test. abcdefg = detailed information
50001100	Processor Logic Card	Firmware	The level of System Management Services does not match the level of system firmware.
710sdddd	155-Mbps MMF adapter	ATM diagnostics	Error occurred with ATM adapter in slot "s". dddd=detailed status
720sdddd	155-Mbps SMF adapter	ATM diagnostics	Error occurred with ATM adapter in slot "s". dddd=detailed status
740dddd	8260 Nways Multiprotocol Switching Hub ATM Interface	ATM diagnostics	Error with the 8260 Nways Multiprotocol Switching Hub ATM interface.
750sdddd	FDDI adapter	FDDI diagnostics	Error occurred with FDDI adapter in slot "s". 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 Nways Multiprotocol Switching Hub Interface	Echo Response Test with 8260 Nways Multiprotocol Switching Hub failed.
801000xy	Processor Logic Card	Mailbox memory	Error testing mailbox memory x = indicates page 2 error y = indicates page 1 error
81xyzzzz	Processor Logic Card	Memory	Error occurred while testing main flash array memory pages. x, y, zzzz = detailed information


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## Appendix B. 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 elektrische 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 što počnete sa instalacijom produkta, pročitatje naputak o pravilima o sigurnom rukovanju u Upozorenje: Pravila o sigurnom rukovanju - Prvo pročitaj ovo, SD21-0030. Ovaj priručnik opisuje sigurnosne postupke za priključivanje 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 apparatuur.


 **VAARA:** Ennen kuin aloitat tämän tuotteen asennuksen, lue julkaisussa *Varoitus: Turvaohjeet—Lue tämä ensin*, SD21-0030, olevat turvaohjeet. Tässä kirjassessa 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:** Mielőtt 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 установить этот продукт, прочтите Инструкцию по технике безопасности в документе "Внимание: Инструкция по технике безопасности -- Прочсть в первую очередь", SD21-0030. В этой брошюре описаны безопасные способы каблирования и подключения электрического оборудования.



Nebezpečnosť: Pred inštaláciou výrobku si prečítajte bezpečnostné predpisy v Výstraha: Bezpečnostné predpisy - Prečítaj ako prvé, SD21-0030. V tejto brožúrke sú opísané bezpečnostné postupy pre pripojenie elektrických zariadení.



Pozor: Preden začnete z inštalacijo 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。

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## 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 također vršiti bilo koje elektroinstalaterske radove, mijenjati konfiguraciju ili obavljati tehničko servisiranje ovog proizvoda za vrijeme oluje.

### **NEBEZPEČÍ!**

Za bouřky s výrobkem nijak nemanipulujte: nepřipojíte 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 anschließen oder lösen. Ferner keine Installations-, Wartungs oder Rekonfigurationsarbeiten durchführen.

## KINΔYNOΣ

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。

## 위험

감전 쇼크의 위험을 피하기 위하여 천둥번개가 치는 동안에는 전원을 연결하거나 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 trovoadá.

## ОСТОРОЖНО

Во избежание поражения электрическим током во время грозы запрещается присоединять и отсоединять кабели, устанавливать, 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 nikakršnih 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. 為避免雷擊的危險，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 stikkkontakten før du fjerner den fra hovedenheten.

**Niebezpieczeństwo!**

Aby uniknąć porażenia prądem elektrycznym, przed odłączeniem przewodu zasilającego modułu głównego, należy wyłączyć zasilanie i wyciągnąć przewód zasilający z gniazdka.

**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 električnega toka, izključite sistem in iztaknite napajalni kabel iz vtičnice, šele nato izločite 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. 為避免電擊的可能性，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.

**KINΔYNOΣ**

Για να αποφύγετε τον κίνδυνο ηλεκτροπληξίας:

- Το καλώδιο παροχής ρεύματος πρέπει να είναι συνδεδεμένο σε μια σωστά καλωδιωμένη και γειωμένη πρίζα.
- Οποιοσδήποτε 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 csatlakozózsínórt 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。

## 위험

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：

為避免雷擊的危險：

- 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

**OPASNO**

Unutar ovog uređjaja prilikom njegovog uključivanja u mrežu nastaje opasan napon. Svaki put kad radite s ovim uređjajem s otvorenim poklopcem morate biti sigurni da mrežna žica nije spojena s priključnicom.

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 csatlakozózsínort.

### **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**

Опасни напони постојат внатре во оваа машина кога е таа вклучена на напон.

Секогаш кога ја сервисирате оваа машина без поклопецот, не заборавете да го откачите кабелот за електрично 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:**

Visoka napetost pri vključeni napravi!  
Pri servisiranju odprite naprave, se prepričajte, da je naprava izključena iz omrežja.

**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.

**WARNING — 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.

اقبالي جآء! حممعب(ق! ل ت"نؤ!ذ"ج(يحمجل! حممعب)ق! لخط عياع! حممعب آف عفي آالم! حممعب(ق!  
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(تممعبمف)



**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.



**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で行います。従って、装置を設置する場合はこのコネクタへのアクセスに障害のないようにしてください。



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



**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.



**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.



危険：本機器の主電源プラグは機器背面。安裝本機器時，請預留空間以方便連接或切斷電源。



**Tehlike:** Bu birimin elektrik bağlantısı, makinenin arkasındaki aygıt girişinden kesilir. Bu nedenle makine, arkasındaki aygıt girişine kolayca ulaşılacak biçimde kurulmalıdır.

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## Caution Notices

**Caution:**

The base unit weighs 6.7kg (14.8 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 pridržavati sistemsku jedinicu dok skidate vijke da bi spriječili mogući pad na pod ili na druge uređaje smjestene u ormaru ispod nje. Sistemska jedinica je teška otprilike 6.7 kg (14.5 funti)



Při odstraňování šroubů podpírejte základní jednotku tak, aby nepadla 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 egység 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 aproximadamente 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

**WARNING:**

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：

當您要移動螺絲時，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.



**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 szakszerűtlenül kicserélt telep robbanást okozhat.  
Csak azonos, vagy a gyártó által ajánlott másik típusra cserélje!  
Az elhasznált telepeket az erre kijelölt hulladékgyűjtőkben 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明どおりにして



## 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 výbuchu 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.**



**Precaución:** 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。

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## **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

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## **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

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## **Lithium Battery Statement**

The 8210-002 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.

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## Appendix C. Notices

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, are the user's responsibility.

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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 connections 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 conforme à la norme NMB-003 du Canada.

## European Union (EU) Mark of Conformity 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 Richtlinie 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.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

## 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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IBM	OS/2
Library Reader	PS/2

Microsoft, Windows, and the Windows 95 logo are trademarks or registered trademarks of Microsoft Corporation.

Other company, product, and service names may be trademarks or service marks of other companies.



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# Product Warranty

International Business Machines Corporation

Armonk, New York, 10504

## Statement of Limited Warranty

*The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you originally purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. If you have any questions, contact IBM or your reseller.*

**Machine:** 8210 MSS Server

**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.

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# Glossary

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## 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.** (1) Transmission of the same data to all destinations. (T) (2) Simultaneous transmission of the same data to more than one destination. (3) 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.** (1) The manner in which the hardware and software of an information processing system are organized and interconnected. (T) (2) The devices and programs that make up a system, subsystem, or network. (3) The task of defining the hardware and software characteristics of a system or subsystem. (4) 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.** (1) In data communication, an association established between functional units for conveying information. (I) (A) (2) The path between two protocol

functions, usually located in different machines, that provides reliable data delivery service.

**connectivity.** (1) The capability of a system or device to be attached to other systems or devices without modification. (T) (2) 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.** (1) A table of identifiers and references to the corresponding items of data. (I) (A) (2) 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.** (1) 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) (2) 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.** (1) 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. (2) 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.** (1) A name assigned or declared for a file. (2) The name used by a program to identify a file.

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

## H

**hard disk.** (1) 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*. (2) 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.** (1) Pertaining to a selection, choice, or condition that has 16 possible different values or states. (I) (2) Pertaining to a fixed-radix numeration system, with radix of 16. (I) (3) 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.** (1) 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) (2) Hardware, software, or both, that links systems, programs, or devices.

**interference.** (1) The prevention of clear reception of broadcast signals. (2) The distorted portion of a received signal. (3) 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.** (1) 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) (2) 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 manage-

ment 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.** (1) One or more microinstructions. (2) A code, representing the instructions of an instruction set, that is implemented in a part of storage that is not program-addressable. (3) 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.** (1) Transmission of the same data to a selected group of destinations. (T) (2) 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.** (1) A variable that is given a constant value for a specified application and that may denote the application. (I) (A) (2) 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. (3) Data passed between programs or procedures.

**physical connection.** (1) A connection that establishes an electrical circuit. (2) 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. (3) 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).** (1) The rate of radio signal oscillation, expressed in hertz. (2) Any frequency in the range within which radio waves can be transmitted, from about 10 kHz to about 300 000 MHz.

**receptacle.** (1) Electrically, a fitting equipped to receive a plug and used to complete a data connection or electrical path. (2) In FDDI, an optoelectronic circuit that converts an optical signal to an electrical logic signal.

**reconfiguration.** (1) 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. Reconfig-

uration is effected automatically or manually and can be used to maintain system integrity. (T) (2) 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).

(1) An IP network management protocol that is used to monitor routers and attached networks. (2) 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).** (1) An X.25 circuit that is dynamically established when needed. The X.25 equivalent of a switched line. (2) 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.** (1) A functional unit at which a user works. A workstation often has some processing capability. (T) (2) 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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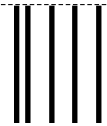
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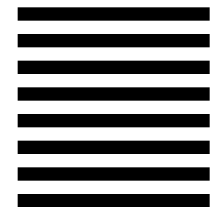
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