IBM TotalStorage™ IP Storage 200i Storage Unit

Installation and User's Guide

IBM

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> **Note**
>
> Before using this information and the product it supports, be sure to read the general information in "Appendix B. Notices" on page 35, product warranty information in "Appendix E. Product warranties and notices" on page 81, and the safety information in "Safety and environmental notices" on page 36.

Contents

About this book

This book provides instructions for installing and replacing components in your IBM TotalStorage IP Storage 200i Model EXP (storage unit). It also provides information on troubleshooting your storage unit. To set up your storage unit, refer to "Chapter 2. Installing the storage unit" on page 9, for detailed information.

Who should read this book

This book is intended for installers and administrators of the IBM IP Storage Model EXP.

Safety precautions

Be sure to read all caution and danger statements in this publication before performing any of the instructions.

Leia todas as instruções de cuidado e perigo antes de executar qualquer operação.

注意和危险声明(简体中文)

重要事项：

本书中的所有注意和危险声明之前都有编号。该编号用于英语的注意或危险声明与 *Safety Information* 一书中可以找到的翻译版本的注意或危险声明进行交叉引用。

例如，如果一个注意声明以编号 1 开始，那么对该注意声明的翻译出现在 *Safety Information* 一书中的声明 1 中。

在按说明执行任何操作前，请务必阅读所有注意和危险声明。

注意及危險聲明 （中文）

重要資訊：

本書中所有「注意」及「危險」的聲明均以數字開始。此一數字是用來作為交互參考之用，英文「注意」或「危險」聲明可在「安全資訊」(Safety Information) 一書中找到相同內容的「注意」或「危險」聲明的譯文。

例如，有一「危險」聲明以數字 1 開始，則該「危險」聲明的譯文將出現在「安全資訊」(Safety Information) 一書的「聲明」1 中。

執行任何指示之前，請詳讀所有「注意」及「危險」的聲明。

Prenez connaissance de toutes les consignes de type Attention et Danger avant de procéder aux opérations décrites par les instructions.

Lesen Sie alle Sicherheitshinweise, bevor Sie eine Anweisung ausführen.

v

Accertarsi di leggere tutti gli avvisi di attenzione e di pericolo prima di effettuare qualsiasi operazione.

주의 및 위험 경고문(한글)

중요:

이 책에 나오는 모든 주의 및 위험 경고문은 번호로 시작됩니다.
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예를 들어 주의 경고문이 번호 1로 시작되면 *Safety Information*
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지시를 따라 수행하기 전에 먼저 모든 주의 및 위험 경고문을 읽
도록 하십시오.

Lea atentamente todas las declaraciones de precaución y peligro ante de llevar a cabo cualquier operación.

Frequently used terms

The following list of terms, used within this document, have these specific meanings:

Term	Definition in this document
Drive bay	A receptacle into which you insert a hard disk drive in an appliance. The bays could be physically located in a separate rack from the appliance.
Engine	The processor that responds to requests for data from clients. This is where the operating software for the IBM IP Storage appliance resides.
Storage unit	Hardware that contains one or more drive bays, power supplies, and a network interface.
Notes	These notices provide important tips, guidance, or advice.
Attention	These notices indicate possible damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage could occur.
Caution	These notices indicate situations that can be potentially hazardous to you. A caution notice is placed just before descriptions of potentially hazardous procedure steps or situations.
Danger	These notices indicate situations that can be potentially lethal or extremely hazardous to you. A danger notice is placed just before descriptions of potentially lethal or extremely hazardous procedure steps or situations.

Publications

Hardcopy publications shipped with the IBM IP Storage

The following publications are shipped in hardcopy. They are also provided in softcopy on the Publications and Code CD that came with your appliance and at www.ibm.com/storage/support/nas.

- *IBM TotalStorage IP Storage 200i Installation Guide*, GA27-4273

  This publication provides detailed procedures for setting up and cabling components of the IBM IP Storage and for performing initial configuration.

- *Release Notes*

  This document provides any changes that were not available at the time this publication was produced.

- *IBM TotalStorage IP Storage 200i Quick Start Instructions*

  This document provides a brief list of procedures for setting up, cabling, and configuring the IBM IP Storage.

Softcopy publications

The following publications support the IBM IP Storage appliance. They are available in softcopy on the Publications and Code CD that came with your appliance and at www.ibm.com/storage/support/nas.

- *IBM TotalStorage IP Storage 200i Administrator's Guide, GA27-4274*

  This publication describes instructions for configuring, maintaining, recovering, and troubleshooting the appliance.

- *IBM TotalStorage IP Storage 200i Service Guide, GY27-0403*

  This publication describes instructions for troubleshooting, recovering, and servicing the IBM IP Storage appliance.

- *IBM TotalStorage IP Storage 200i Storage Unit Installation Guide, GA27-4265*

  This publication provides instructions for installing, replacing, and troubleshooting components in the Model EXP (storage unit).

- *IBM TotalStorage 5Ux24D Tower-to-Rack Kit Installation Guide, GA27-4267*

  This publication describes how to convert the Model 100 into a rack-mountable unit.

- *IBM TotalStorage Gigabit Ethernet Copper Adapter Quick Installation Guide, GA27-4266*

  This publication describes how to quickly install the Gigabit Ethernet Copper Adapter.

- *Netfinity Gigabit Ethernet SX Adapter User's Guide*

  This publication describes how to quickly install the Gigabit Ethernet SX Adapter.

Accessibility

The softcopy version of this guide and the other related publications are all accessibility-enabled for the IBM Home Page Reader.

Web site

You can obtain complete FAQs, parts information, technical hints and tips, technical publications, and downloadable files from:

www.ibm.com/storage/support/nas

Chapter 1. Introduction

The IBM TotalStorage IP Storage 200i Model EXP (storage unit) is a compact unit that provides high-capacity, small computer system interface (SCSI) disk storage. It supports up to 14 Ultra160 SCSI drives on a single or dual logical bus. It delivers fast, high-volume data transfer, retrieval, and storage functions across multiple drives, to multiple hosts. The storage unit is designed for continuous, reliable service; the modular, redundant disk drives, power supplies with built-in fans, and environmental services monitor (ESM) boards use hot-swap technology for easy replacement without turning off the storage unit.

The storage unit supports IBM Ultra160 SCSI for the host and drive interfaces and it is designed for easy installation and integration into a variety of system environments.

After you review the introductory information provided in this chapter, refer to "Chapter 2. Installing the storage unit" on page 9 to begin the installation process.

Features at a glance

The following table summarizes the features of the storage unit. For a list of the operating specifications, such as weight, height, and heat output, see "Operating specifications" on page 9.

General	User interface / Disk drive storage	ESM boards

General
• Modular components:
  – High-capacity disk drives
  – Environmental services monitor (ESM) boards
  – Power supplies with built-in fans
• Technology:
  – Supports disk array technology
  – Supports clustering
  – SCSI (Ultra160) host interface
  – Redundant data storage, power and cooling system, and ESM boards
  – Hot-swap technology for drives, power supplies with built-in fans, and ESM boards
	• User interface:
	  – Built-in power, activity, and fault indicators
	  – Identification labeling on customer replaceable units (CRUs), rear indicator lights, switches, and connectors
	  – Easy-to-replace drives, power supplies, ESM boards, and fans
	
	Disk drive storage
	• Current capabilities:
	  – Maximum drives per storage unit: 14
		ESM boards
		• Technology and interfaces:
		  – SCSI: Ultra160
		  – SCSI bus interface: Two 68-pin, Very High Density Connector Interface (VHDCI) connectors for SCSI bus cables
		
		Note: Connect only SCSI bus 1 (right side) connector to the 5194-22S. SCSI bus 2 (left side) is not used.

Storage unit drive bays

The following sections describe the hot-swap CRUs, the switch card bay, and the bridge card bay on the storage unit.

With the hot-swap features of the storage unit, you can remove and replace hard disk drives, power supplies/fans, and ESM boards without turning off the storage unit. Therefore, you can maintain the availability of your system while a hot-swap device is removed, installed, or replaced. See "Chapter 3. Installing and replacing devices" on page 21 for more information.

Hot-swap drive bays

The following illustration shows the location of the hot-swap drive bays accessible from the front of your storage unit. The storage unit supports up to 14 IBM Ultra160 SCSI or Ultra2 SCSI hard disk drives. These drives come pre-installed in a drive tray. The drive and tray assembly is called a *drive CRU* (customer replaceable unit). You can install the drive CRUs in the 14 drive bays on the front of the storage unit.

In the following figure, seven of the 14 bays contain drive CRUs, and seven bays contain filler panels. To maintain proper cooling within your storage unit, always keep a filler panel in each drive bay that does not contain a drive CRU. For information on installing and replacing drive CRUs, refer to "Chapter 3. Installing and replacing devices" on page 21.

Hot-swap drive bays   Filler panel

Bridge card bay
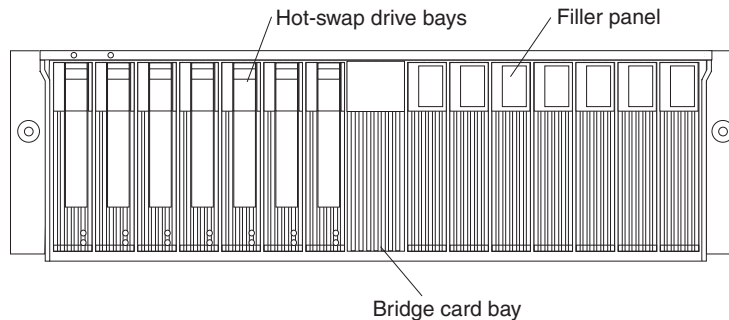
Attention: Never hot-swap a drive CRU when its green activity light emitting diode (LED) is flashing. Hot-swap a drive CRU only when its amber fault LED is lit (not flashing) or when the drive is inactive with the green activity LED off (not flashing).

Bridge card bay

The bridge card is accessible from the front of the unit. You can replace the bridge card CRU, but you must turn off the storage unit before doing so. Refer to "Replacing a bridge card" on page 25 for step-by-step instructions.

Attention: Never remove the bridge card while the storage unit is turned on. Refer to "Switching the storage unit on and off" on page 17.

ESM and power supply bays

The following illustration shows the location of the environmental services monitor (ESM) bays (for the hot-swap ESM boards) and the power supply bays where the hot-swap power supplies are located.

Hot-swap ESM bays

Hot-swap power supply/fan bays
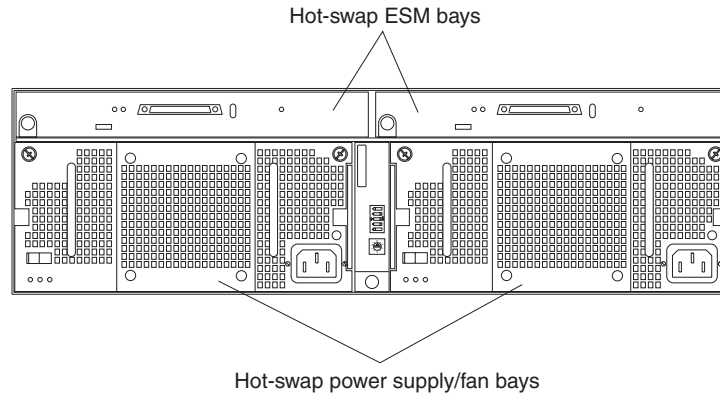
Hot-swap ESM bays

The ESM boards provide a SCSI interface to the drives and monitor the overall status of the storage unit. Refer to "Replacing an ESM board" on page 27 for more information.

Hot-swap power supply/fan bays

Your storage unit comes with two 500 Watt hot-swap and redundant power supplies with built-in fans. The power supplies are redundant in that a single power supply can provide adequate power and cooling for the entire storage unit. A single power supply can support up to 14 hard disk drives; however, both power supplies must be installed, even if one power supply is not operational. Refer to "Working with hot-swap power supply/fan units" on page 28, for step-by-step instructions.

Switch card bay

Your storage unit comes with a switch card that contains five external option switches and four internal option switches. The switch card is located on the back of the storage unit between the two power supplies. The switch card contains switches that control how power is supplied to the storage unit and what storage unit services are enabled. The internal option switches are preset to the default position (Off). To access the four internal option switches, you must turn off the storage unit; then remove the switch card. Refer to "Replacing the switch card" on page 26, for step-by-step instructions.

Attention: Never remove the switch card or change the switch card settings while the storage unit and host server is turned on. Refer to "Switching the storage unit on and off" on page 17.

In addition to the internal and external option switches, the switch card also has a 10-position unit ID switch for setting the storage unit ID using values 0 through 9. System-management software, such as IBM Netfinity Manager™, uses the ID when it provides data and alerts for the storage unit.

For more information on option switch settings, see "Setting the interface options and ID settings" on page 11.

The following illustration shows the location of the switch card on the storage unit.

Switch card

External option switches

Unit ID switch
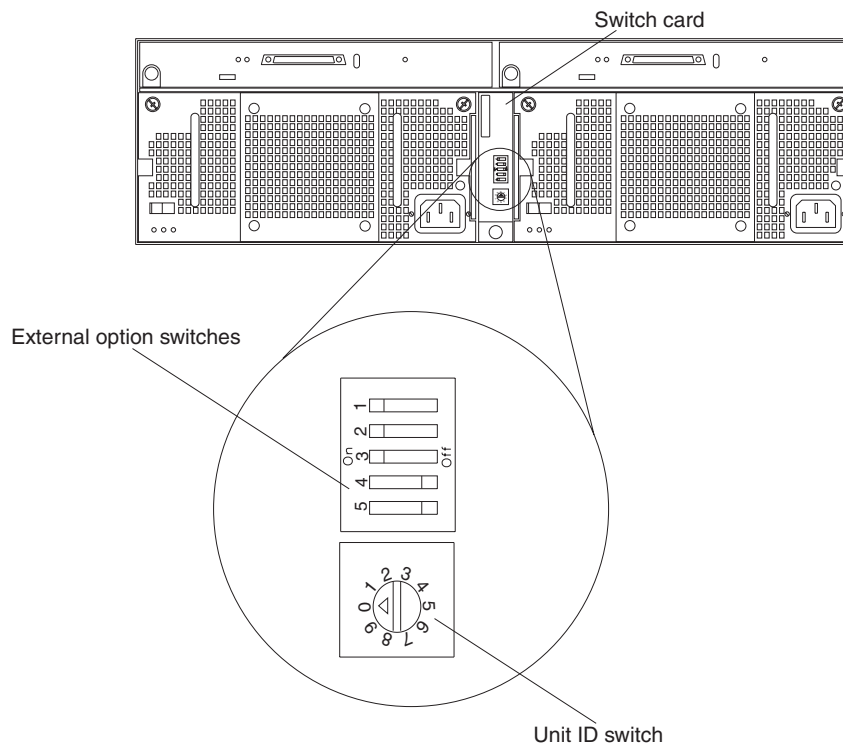
Front controls, indicators, and devices

The primary controls on the front of the storage unit are shown in the following illustration.

Power-on LED (green)
General-system-error LED (amber)
Bridge card bay
Filler panel
Drive CRU
Activity LED (green)
Fault LED (amber)
Tray handle
Latch
Drive bays
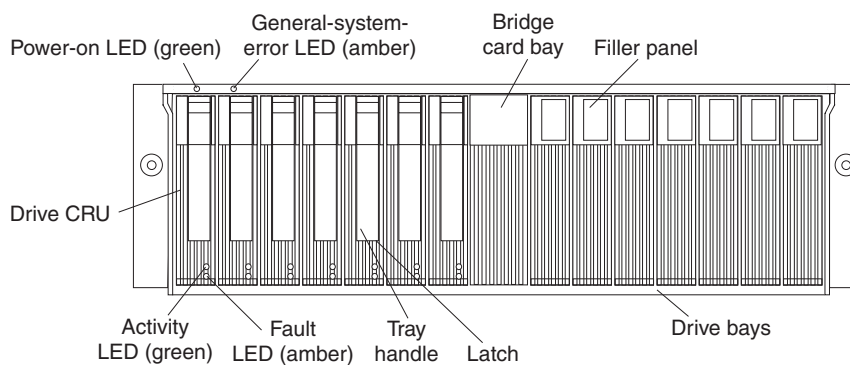
Power-on LED (green)
> This green light indicates that the unit has good dc power.

General-system-error LED (amber)
> When lit, this amber LED indicates that the unit has a fault, such as in a power supply, ESM board, or hard disk drive.

Bridge card bay
> This is the location of the bridge card CRU.

Filler panel
> Storage units shipped without a full set of drives (14) contain filler panels in the unused drive bays. Before installing new drives, you must remove the

filler panels and save them for later use. Each of the 14 bays must always contain either a filler panel or a drive CRU.

Drive bays
There are 14 drive bays that contain either a drive CRU or a filler panel.

Latch This multipurpose blue latch releases or locks the drive CRU in place.

Tray handle
You can use this multipurpose handle to insert or remove a drive CRU.

Fault LED (amber)
Each drive CRU has a fault LED. When lit, this amber LED indicates a drive failure. When flashing, this amber LED indicates that a drive Identify or Rebuild is in progress.

Activity LED (green)
Each drive CRU has an activity LED. When flashing, this green LED indicates drive activity.

Drive CRU
You can install up to 14 hot-swap drive CRUs in the storage unit. Each drive CRU consists of a slim hard disk drive and tray.

Rear controls, indicators, and connectors

Two hot-swap power supplies with built-in fans and two environmental services monitor (ESM) boards are accessible from the back of the storage unit. These components contain several user indicators and connectors.

Power-supply controls, indicators, and connectors

The following is a list of the controls, indicators, and connectors at back of the storage unit. A description of each item is included:
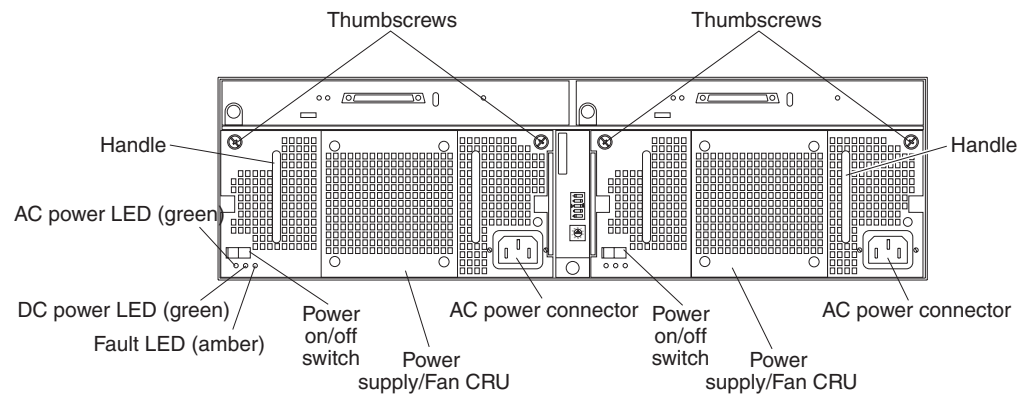
Thumbscrews
Loosen the thumbscrews to remove or install a power supply.

AC power connector
The power cord for the power supply connects here.

Power-supply/Fan CRU
The two hot-swap power supplies with built-in fans are located on the back of the storage unit.

Attention: The storage unit comes with two power-supply/fan units installed. When one power supply fails, the power-supply unit must be replaced to re-establish redundancy. When replacing the failed unit with the new power supply unit, ensure that this operation is performed in less than 10 minutes to prevent any overheating.

The fan that is visible from the rear of the power supply is an auxiliary fan that is normally off. This fan turns on only when the main fan within the power supply fails.

Power on/off switch
Use this switch to turn the power supply on and off.

Fault LED (amber)
When completely lit, this amber fault LED indicates a power supply failure or that a redundant power supply is not on. This LED also flashes when the built-in fan fails.

DC power LED (green)
This green LED is lit when the storage unit is turned on and is supplying both 5 V and 12 V dc power.

AC power LED (green)
This green LED is lit when the storage unit is receiving ac power.

Handles
The two handles are used for installing and removing the power supply.

ESM board user controls

Two environmental services monitor (ESM) boards are accessible from the back of the storage unit. These components contain several user controls, indicators, and connectors.
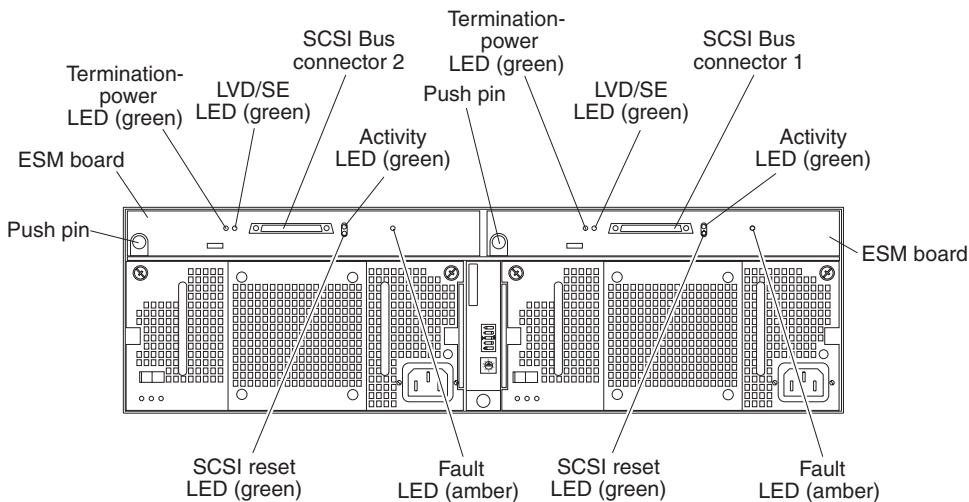
ESM board
The environmental services monitor (ESM) boards contain the SCSI controls, LEDs, and connectors.

Fault LED (amber)
When lit, this amber LED indicates an ESM board failure.

SCSI reset LED
When lit, this green LED indicates a SCSI bus reset.

Push pins
> Each ESM board has an orange push pin at the lower left of the board. Use the orange push pin and lever to remove and insert the ESM board.

Termination-power LED (green)
> When lit, this green LED indicates that termination power is present. When a termination-power LED is lit, it indicates that the other end of the cable is connected to a powered-on controller. Each external bus has a separate termination-power LED.

LVD/SE LED (green)
> When lit, this green LED indicates that the external host bus is in low voltage differential (LVD) mode. When this LED is off, this indicates that the external host bus is in single-ended (SE) mode. Each external bus has a separate LVD/SE LED. Only LVD host bus controllers are supported.

SCSI bus connector
> The 68-pin Very High Density Connector Interface (VHDCI) connectors are for attaching your SCSI cables to SCSI bus 1 and SCSI bus 2.

Activity LED (green)
> When lit, this green LED indicates there is activity on the external SCSI bus. Each external bus has a separate activity LED.

System-management software support

The storage unit provides software alert functions through the system monitor functions provided in the IBM appliance management utility and IBM ServeRAID™ manager software.

The following alerts are supported:
- Disk drive disabled
- Power supply failure
- Cooling failure
- Storage unit too hot
- Vital Product Data for subcomponents

Note: You must have the correct level of system-management software on your server to enable this functionality.

You must use ServeRAID Version 4.20 or later for your ServeRAID controller to report status and alerts properly. To download the latest ServeRAID software, visit the IBM web site at:

www.ibm.com/storage/support/nas

For up-to-date information about the IBM Netfinity Manager and Netfinity Director software support available for your storage unit, visit the IBM Web site at:

www.ibm.com/storage/support/nas

For Netfinity Manager users, download Netfinity Manager Version 5.20.6 SP1 or later.

For Netfinity Director users, download Netfinity Director, UM Server extensions Version 2.12 SP1.

Chapter 2. Installing the storage unit

You can install the storage unit in an Electronic Industries Association (EIA) 310 standard rack.

You will need a flat-blade screwdriver and a Phillips-head screwdriver to install your storage unit. Each type of enclosure comes with general installation instructions for installing optional devices.

Operating specifications

The following table summarizes the operating specifications of the storage unit.

Electrical input	Environment	Acoustical noise emissions values

• Sine-wave input (50 to 60 Hz) is required
• Input voltage:
  – Low range:
    - Minimum: 90 V ac
    - Maximum: 127 V ac
  – High range:
    - Minimum: 198 V ac
    - Maximum: 257 V ac
  – Input kilovolt-amperes (kVA) approximately:
    - Minimum configuration: 0.06 kVA
    - Maximum configuration: 0.45 kVA
	• Air temperature:
	  – Storage unit on: 10° to 35° C (50° to 95° F) Altitude: 0 to 914 m (3000 ft)
	  – Storage unit on: 10° to 32° C (50° to 90° F) Altitude: 914 m (3000 ft.) to 2133 m (700 ft)
	• Humidity: 8% to 80%
	
	Size (with front panel and without mounting rails)
	• Depth: 53.8 cm (21.2 in)
	• Height: 12.8 cm (5 in)
	• Width: 44.7 cm (17.6 in)
	
	Weight
	• Standard storage unit as shipped: 22.5 kg (49.5 lb)
	• Typical storage unit fully loaded: 36.1 kg (79.4 lb)
		For open bay (no drives installed) and maximum system configurations (14 hard disk drives installed).
		• Sound power (idling):
		  – 5.6 bels (open bay)
		  – 5.7 bels (typical)
		• Sound power (operating):
		  – 5.6 bels (open bay)
		  – 6.5 bels (typical)
		• Sound pressure (idling):
		  – 44 dBA (open bay)
		  – 47 dBA (typical)
		• Sound pressure (operating):
		  – 44 dBA (open bay)
		  – 54 dBA (typical)
		
		These levels are measured in controlled acoustical environments according to ISO 7779 and are reported in accordance with ISO 9296. The declared sound power levels indicate an upper limit, below which a large portion of machines operate. Sound pressure levels in your location might exceed the average 1-meter values stated because of room reflections and other nearby noise.

Inventory checklist

After you fully unpack your storage unit, verify that you have the following items:

- **Hardware:**
  - – 4125 IP Storage Model EXP
  - – Two or four power cords, depending on your country
  - – One 2 m (6.56 ft) SCSI cable
  - – One sheet of storage unit ID (0-9) labels
  - – One sheet of four SCSI ID labels
  - – One rack-mounting hardware kit
    - - Two rails (right and left assembly)
    - - Two M5 screws
    - - Ten M6 screws
    - - Ten M6 cage nuts
    - - Ten M6 clip nuts
- **Publications**
  - – *IBM TotalStorage IP Storage 200i Storage Unit Installation and User's Guide* (this book)
  - – *IBM Safety* book
  - – Template for installing the storage unit in a rack

If an item is missing or damaged, contact your IBM reseller or your IBM marketing representative.

If you have not already done so, take a moment to review the information in this chapter and record your storage unit serial number in the table in "Identification numbers" on page 33. Then, return to this chapter to begin the installation process.

Getting started

Before you begin, review the following assumptions:

- • If you are installing the storage unit in a rack, you have already installed the other components in the rack and moved the rack to its permanent operating location.
- • You have already installed and configured the host controllers and appropriate host adapters.
- • There are 68-pin VHDCI SCSI cables attached to the host controllers, ready for final connection to the storage unit.
- • The installation site meets all area, environmental, power, and site requirements for the storage unit. Refer to the storage unit requirements listed under "Operating specifications" on page 9.

Preparing the storage unit

This section explains how to remove the CRUs and set the option switches to prepare the storage unit for installation.

Removing CRUs

Attention: Static electricity, though harmless to you, can seriously damage storage unit components or options. See "Handling electrostatic discharge-sensitive devices" on page 39 for details.

Attention: If you have data stored on the drives, label the drives before you remove them. Then, when you replace the drives, install each one in the same drive bay from which you removed it. Failure to do so could result in a loss of data.

See "Chapter 3. Installing and replacing devices" on page 21, for information on removing the CRUs.

It is easier to lift the storage unit and install it in a rack if you remove all CRUs (disk drives, power supplies, and ESMs) first. A fully loaded storage unit with 14 hard disk drives and two power supplies installed weighs 36.1 kg (79.5 lb). The standard unit with two power supplies weighs 22.5 kg (49.5 lb). If you remove all the CRUs, you can reduce the overall weight.

Statement 4

| ≥18 kg (37 lb) | ≥32 kg (70.5 lb) | ≥55 kg (121.2 lb) |
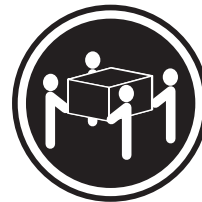
CAUTION:
Use safe practices when lifting.

Setting the interface options and ID settings

When you install a drive CRU in the storage unit, the drive tray plugs into a printed circuit board called the *midplane*. The midplane sets the SCSI bus number and ID automatically.

The switch card located on the back of the storage unit has five external option switches, four internal option switches, and a unit ID switch. It is easier to set these switches before you install the storage unit in a rack or tower enclosure.

Attention:　Always set the option switches while the storage unit and host server are turned off. Failure to do so will result in loss of data. See "Switching the storage unit on and off" on page 17.
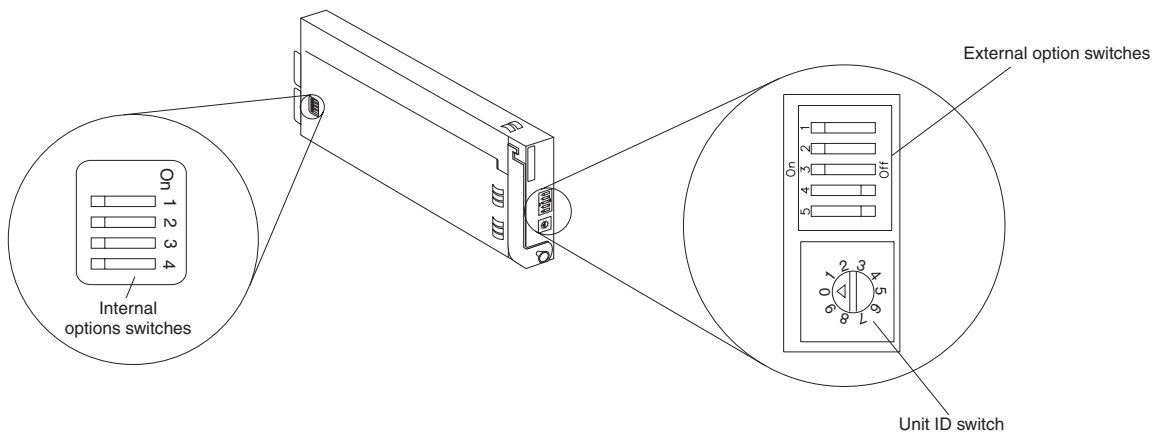
External option switches

The five option switches on the exterior of the switch card are: Option switch 1 controls the power supply to the storage unit. Option switches 2 through 5 are reserved; leave these switches in the default positions.

Option switch 1 — Power-control switch

When this option switch is set to Off, the storage unit turns on and off automatically when you turn the host machine on and off. This occurs only if termination power is present (the termination-power LED is on) at the external SCSI connector.

When this option switch is set to On (the default), you must turn the storage unit on and off separately.

Option switches 2 through 5 — Reserved

These option switches are reserved; leave these option switches set to the default positions. Set switches 2 through 5 (On, On, Off, Off) respectively.

Internal option switches

All internal option switches must be set in the Off (default) position.

Unit ID switch

The unit ID switch has 10 settings. You can use these settings (0 through 9) to set an ID for the storage unit. System-management software uses this storage unit ID when it provides data and alerts for the storage unit.

Installing the storage unit in a rack

The storage unit requires 3U (5.25 in) of Electronic Industries Association (EIA) rack-mounting space.

Attention: Static electricity, though harmless to you, can seriously damage storage unit components or options. See "Handling electrostatic discharge-sensitive devices" on page 39 for details.

Important: Review the documentation that comes with your rack enclosure for safety and cabling considerations. When installing your storage unit in a rack, take the following precautions:

- Read "Removing CRUs" on page 11 about making the storage unit easier to handle.
- Install the storage unit in a maximum 35 degree C environment.
- To ensure proper air flow, do not block the air vents; usually 15 cm (6 inches) of air space is sufficient.

  Note: Because of the limited space in some racks, it might be easier to connect and route cables before you install the mounting brackets and hardware devices.

- To ensure stability, take precautions to prevent uneven loading of the rack. Loading of the rack should begin at the bottom.
- Turn off the power to your rack.
- When multiple components are installed in a rack, take precautions to prevent overloading of the power outlets.
- The storage unit should always be connected to a properly grounded outlet.
- Refer to the rack documentation for instructions on removing the rack enclosure doors and side panels.

Use the rack-mounting template and installation instructions that come with the storage unit to locate the rack-mounting holes and to install the unit in a rack cabinet. If you do not have the template and instructions, you can use the following steps to install your storage unit:

1. Use the following illustration of the front and rear rack mounting flanges to determine the appropriate rack-mounting holes for installing cage nuts or clip nuts to secure the storage unit rails. From left to right, the illustration shows the front and rear flanges respectively.

Front   Rear
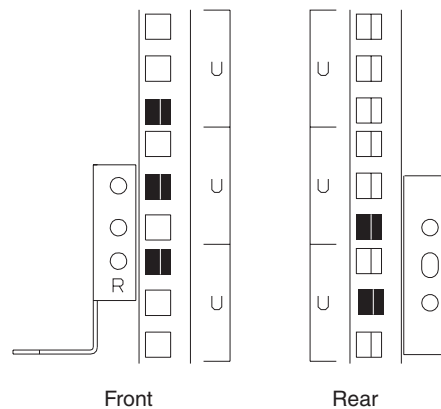
Note: Use clip nuts if your rack has holes. If your rack has square holes, you can use the rack-insertion tool or a flat-blade screwdriver to install cage nuts.

Cage nut

Clip nut
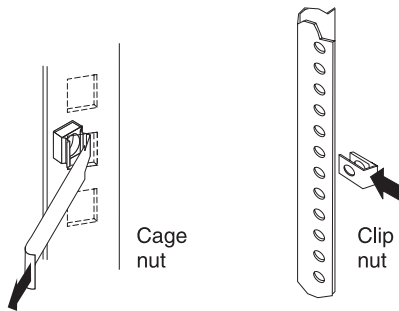
2. On the rail marked *R*, loosen the four screws **2** .
3. Hold the rail against the outside of the right rack-mounting flange, and loosely insert the two front M6 screws **1** .
4. Extend the rail outside of the rear rack-mounting flange; then, install and tighten two rear M6 screws **3** .
5. Tighten the two front screws **1** ; then, tighten the four screws **2** .

   Repeat step 2 through step 5 to install the rail marked *L* on the left side of the rack.
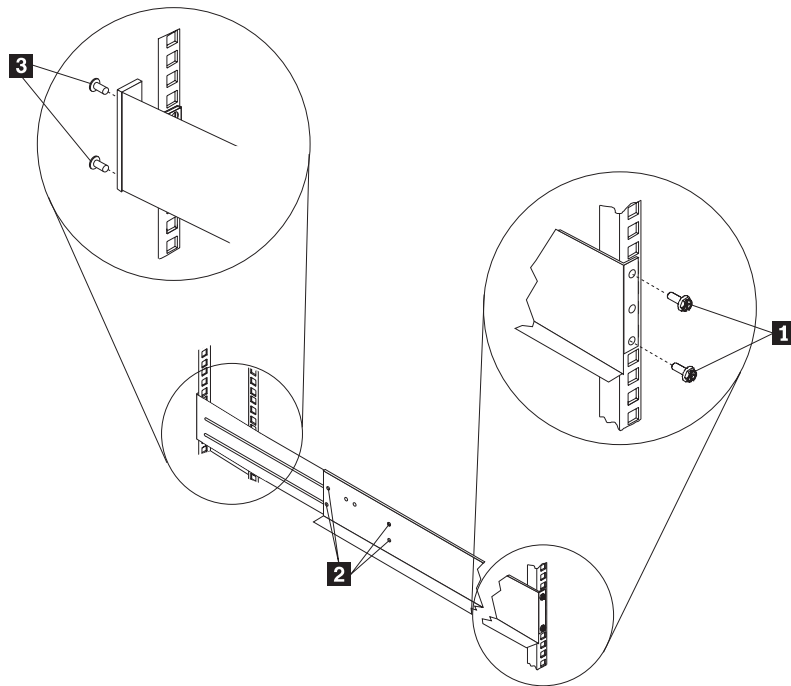
6. Loosely insert one M5 screw **1** into each rail.
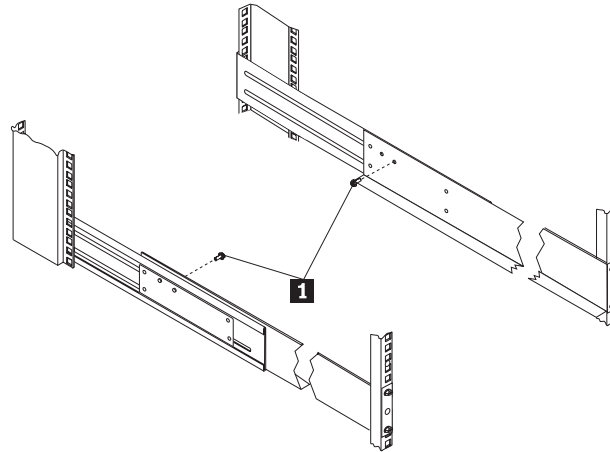
Statement 4

≥18 kg (37 lb)　　　　　≥32 kg (70.5 lb)　　　　　≥55 kg (121.2 lb)
CAUTION:
Use safe practices when lifting.
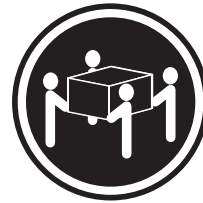
7. Slide the storage unit into the rack, and insert the M6 screws **1** . Do not overtighten the M6 **1** screws.
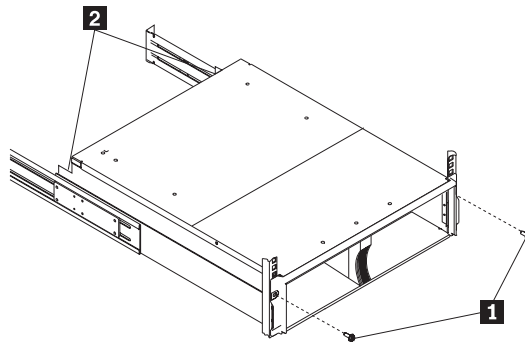
8. Tighten the rear screws **2** .
9. Verify that option switches 1 and 2 (inside the switch card) are set to Off. See "Setting the interface options and ID settings" on page 11 for more information.
10. Install hard disk drives and power supplies in the storage unit according to "Chapter 3. Installing and replacing devices" on page 21; then, return here to complete the installation.
11. Continue with "Completing the installation" on page 16.

Completing the installation

After you install the hard disk drives and power supplies, follow the instructions in this section to complete the installation. Instructions for installing the identification labels and cabling the storage unit are included.

Installing identification labels

Your storage unit comes with one sheet of 10 labels (0-9) and one sheet of 4 labels (SCSI ID) labels.

Complete the following steps to install the SCSI identification labels:

To install the label:

1. Locate the SCSI ID label for your configuration. Use the single-bus label as illustrated below.
   a. Orient the label so that the printed numbers are legible from left-to-right.
   b. Peel the backing away from the adhesive side of the label.
   c. Carefully butt the edge of the SCSI ID label up against the edge of the serial number label so that the 14 printed ID numbers are located beneath each of the drive bays.
   d. Apply the label to the front of the unit, as shown in the following illustration.

   Single-bus configuration

Expansion unit ID label   SCSI ID label   Serial number label
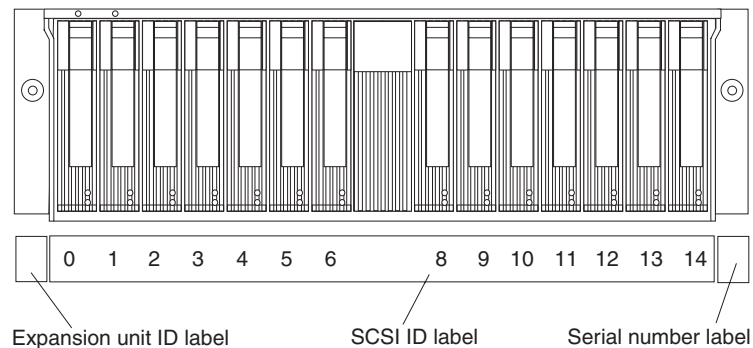
2. Install the storage unit ID label.
3. Verify the setting of the storage unit number switch (0-9).
4. Apply the storage unit ID label that matches the setting for the unit ID switch in the blank label area directly to the left of the SCSI ID label.
5. Continue with "Cabling the storage unit" on page 17.

Cabling the storage unit

This section provides the SCSI and power cabling information. After you attach your SCSI and power cables, use the instructions provided in "Switching the storage unit on and off", for the initial startup of the storage unit.

SCSI cabling information

The storage unit comes with two ESM boards. There are two 68-pin SCSI Very High Density Connector Interface (VHDCI) connectors. From left to right as seen from the back, these connectors are for SCSI bus 2 and SCSI bus 1. See "Rear controls, indicators, and connectors" on page 5, for the location of these connectors.

Note: Connect only the SCSI bus 1 (right side) connector to the 5194-22S. SCSI bus 2 (left side) is not used.

SCSI cable restriction

The SCSI controller inside your server must have a dedicated SCSI channel for the storage unit. If an external channel is being used for the storage unit, its corresponding internal channel must not be used for other devices.

Power cabling

The storage unit uses two or four power cords, depending on your country. You can connect the power cords to a primary power unit inside the rack, such as a properly grounded ac distribution unit or uninterruptible power supply (UPS), or to an external source, such as a properly grounded electrical outlet.

Attach the power supply power cords as follows:

1. Connect the power cord to the power supply.
2. Plug the power supply cord into a properly grounded electrical outlet.
3. Go to "Switching the storage unit on and off" below for information about the initial startup of the storage unit.

Switching the storage unit on and off

This section contains instructions for switching the storage unit on and off under normal and emergency circumstances.

If you are switching on the storage unit after an emergency shutdown or power outage, refer to "Switching on the storage unit after an emergency" on page 19.

Switching on the storage unit

Use this procedure to switch on the power for the initial startup of the storage unit.

1. Verify that:
   a. All cables are properly attached.
   b. Both power cords are plugged into the back of the storage unit and into properly grounded electrical outlets.
   c. All hard disk drives are locked securely in place.
   d. All switches are set correctly: the internal option switches 1 through 4, external option switches 1 through 5, and the unit ID switch on the storage unit. See "Setting the interface options and ID settings" on page 11, for more information.
2. Check the system documentation for all the hardware devices you intend to switch on and determine the proper power-on sequence.

Note: Be sure to switch on the storage unit before or at the same time as you switch on the server.

3. Switch on each device, based on this power-on sequence.

4. Switch on both power supplies on the back of the unit.

   The storage unit might take a few seconds to switch on. During this time, you might see the fault (amber) and the power (green) LEDs on the storage unit turn on and off intermittently. When the power-on sequence is complete, only the power (green) LEDs on the front and back should remain on. If one or more fault (amber) LEDs remain lit, refer to "Troubleshooting" on page 31.

   Attention: If you have data stored on the drives, label the drives before you remove them. Then, when you replace the drives, install each one in the same drive bay from which you removed it. Failure to do so will result in a loss of data.

Switching off the storage unit

Attention: Except in an emergency situation, never turn off the power if any fault LEDs are lit on the storage unit. Correct the fault before you attempt to turn off the power, using the proper troubleshooting or servicing procedure. This will ensure that the storage unit will turn on correctly later. Refer to "Troubleshooting" on page 31.

Statement 5

CAUTION:
The power control button on the device and the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.

The storage unit is designed to run continuously, 24 hours a day. Turn off the power only when at least one of the following is true:

• Instructions in a hardware or software procedure require you to turn off the power.

• A service technician tells you to turn off the power.

• A power outage or emergency situation occurs, see "Switching off the storage unit in an emergency" on page 19.

Use the following procedure to turn off the storage unit:

1. Power down the server attached to the storage unit.

2. Make sure that all amber fault LEDs are off. If any fault LEDs are lit (drives, power supplies, or ESM boards), correct the problem before you turn off the power. For guidance, refer to "Troubleshooting" on page 31.

3. Turn off both power supplies.

Switching off the storage unit in an emergency

Attention: Emergency situations might include fire, flood, extreme weather conditions, or other hazardous circumstances. If a power outage or emergency situation occurs, always turn off all power switches on all computing equipment. This will help safeguard your equipment from potential damage due to electrical surges when power is restored. If the storage unit loses power unexpectedly, it might be due to a hardware failure in the power system or midplane. Refer to "Troubleshooting" on page 31.

Use the following procedure to turn off the storage unit during an emergency situation:

1. Power down the server attached to the storage unit.
2. If you have time, stop all activity and check the LEDs (front and back). Make note of any fault LEDs that are lit so that you can correct the problem when you switch on the power again.
3. Turn off all power supplies; then, unplug the power cables from the storage unit.

Switching on the storage unit after an emergency

Use the following procedure to restart the storage unit if you turned off the power supplies during an emergency shutdown, or if a power failure or a power outage occurred:

1. After the emergency situation is over or power is restored, check the storage unit for damage. If there is no visible damage, continue with Step 2; otherwise, have your unit serviced.
2. After you have checked for damage, plug in the expansion-unit power cables and switch on the power.
3. Check the system documentation for the hardware devices you intend to switch on, and determine the proper power-on sequence.

   Note: Be sure to switch on the storage unit before or at the same time you switch on the system unit.
4. Switch on each device, based on the power-on sequence.
5. Switch on both power supplies on the back of the storage unit.
6. Only the power (green) LEDs on the front and back should be on. If one or more of the fault (amber) LEDs are on, refer to "Troubleshooting" on page 31, for instructions.
7. Use your installed software application as appropriate to check the status of the storage unit.

Chapter 3. Installing and replacing devices

This chapter provides instructions for installing or replacing customer replaceable units (CRUs), such as hot-swap drives, ESM boards, the bridge card, the switch card, and power supplies.

Attention: If you have data stored on the drives, label the drives before you remove them. Then, when you replace the drives, install each one in the same drive bay from which you removed it. Failure to do so could result in a loss of data.

Attention: Static electricity, though harmless to you, can seriously damage storage unit components or options. See Handling electrostatic discharge-sensitive devices for details.

Attention:

It is easier to lift the storage unit if you remove all CRUs (disk drives, power supplies, and ESMs) first. A fully loaded storage unit with 14 hard disk drives and two power supplies installed weighs 36.1 kg (79.5 lb). The standard unit with two power supplies weighs 22.5 kg (49.5 lb). If you remove all the CRUs, you can reduce the overall weight.

Statement 4
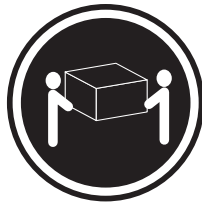
≥18 kg (37 lb)   ≥32 kg (70.5 lb)   ≥55 kg (121.2 lb)
CAUTION:
Use safe practices when lifting.

Working with hot-swap drives

Before you begin
- Read the safety and handling guidelines provided in "Safety and environmental notices" on page 36.
- Ensure that your current system configuration is working properly.
- Back up all important data before you make changes to storage devices, such as hard disk drives.

This section explains how you can increase the storage unit capacity by adding more drives or replacing existing drives with larger capacity drives.

Before you install or remove drive CRUs, review the following information:

Hot-swap hardware
You can replace a failed hard disk drive without switching off the storage unit. Therefore, you can continue to operate your system while a hard disk drive is removed or installed. These drives are known as *hot-swap* drives.

Drive CRUs
Your storage unit supports IBM Ultra160 and IBM Ultra2 SCSI hard disk drives. These IBM drives come pre-installed in a drive tray, ready for installation. (Do not detach the drive from the tray.) This drive and tray assembly is called a *drive customer replaceable unit (CRU)*. You can install the drive CRUs directly into the 14 drive bays on the front of the storage unit. Be sure to record the location information for each drive *before* you remove it. Ensure that you keep track of the drives and their corresponding bays. Also, record the location information in "Installed-device records" on page 33.

Attention: If you re-install a drive in the wrong bay, you could lose data.

Drive LEDs
Each drive bezel has two LEDs, which indicate the status for that particular drive. The drive LED states and descriptions are as follows:

LED	LED State	Description
Activity LED	Green/flashing	Flashes during read/write or inquiry operations to the drive.
Fault LED	Amber/flashing	Flashes to indicate a drive rebuild is under way, or that a drive has been identified by software.
Fault LED	Amber On	On to indicate a drive failure.

Filler panels
Filler panels are used when storage units are shipped without a full set of drives (14).

Hard disk drives
You can install only slim hot-swap drive CRUs in the storage unit.

Installing hot-swap drives

Use the following procedure to install drives in the storage unit. You can install additional drives while the storage unit is switched on.

Note: If you are replacing a drive, see "Replacing hot-swap drives" on page 24.

1. Read the instructions that come with the drive CRU.
2. Check for fault LEDs. If any amber LEDs are lit, refer to "Troubleshooting" on page 31.
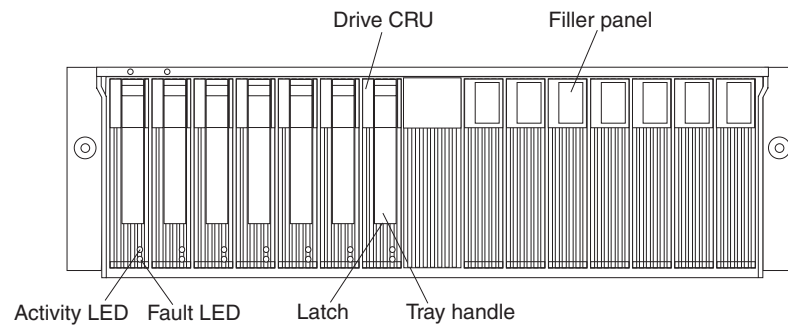
3. Determine the bay into which you want to install the drive.
4. Remove the filler panel.
   a. Insert a finger into the square hole at the top of the filler panel to grip and pull the panel out of the drive bay.
   b. Save the filler panel for later use.
5. Install the drive CRU:

   Note: The hard disk drive comes with a tray already attached. Do not attempt to detach the drive **4** from the tray **3** .
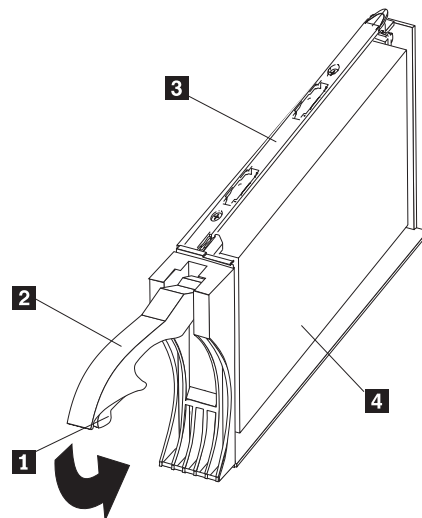
   a. Release the blue latch **1** on the drive CRU by pressing on the inside of the bottom of the tray handle **2** .
   b. Pull the handle **2** on the tray out into the open position.

    c. Slide the drive CRU into the empty bay until the tray handle **2** touches the expansion-unit bezel.

    d. Push the tray handle **2** down into the closed (latched) position.

6. Check the drive LEDs.

    a. When a drive is ready for use, the green activity LED and the amber fault LED are off.

    b. If the amber fault LED is on, remove the drive from the unit and wait 10 seconds; then, reinstall the drive.

ServeRAID information In some cases, the ServeRAID controller will automatically reset the drive to the Hot Spare or Rebuild state. If the drive state change does not occur automatically (amber LED stays lit), refer to your ServeRAID documentation for information about manually changing the state of the drive from the current state to another state, such as Hot Spare or Ready. The amber LED should switch off within 10 seconds after the drive-state change.

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7. Configure the drive using the appropriate software.

Replacing hot-swap drives

Drive problems include any malfunctions that delay, interrupt, or prevent successful I/O activity between the hosts and the hard disk drives in the storage unit. This includes transmission problems between the host controllers, the ESM boards, and the drives. This section explains how to replace a failed drive.

Attention: Failure to replace the drives in their correct bays might result in loss of data. If you are replacing a drive that is part of a RAID level 1 or RAID level 5 logical drive, ensure that you install the replacement drive in the correct bay.

Check the hardware and software documentation provided with your system to see if there are restrictions regarding hard disk drive configurations. Some system SCSI configurations might not allow mixing different drive capacities or types within an array.

To replace a hot-swap drive:

1. Determine the location of the drive that you want to remove.

    Attention: Never hot swap a drive CRU when its green activity LED is flashing. Hot swap a drive CRU only when its amber fault LED is lit (not flashing) or when the drive is inactive (activity LED is off).

2. Remove the drive CRU.

    a. Press on the inside of the bottom of the tray handle **2** to release the blue latch **1** .

    b. Pull the handle **2** on the tray **3** out into the open position.

    c. Lift the drive tray partially out of the bay.

    d. To avoid possible damage to the drive **4** , wait at least 20 seconds before fully removing the drive CRU from the storage unit, to allow for the drive to spin down.

    e. Verify that there is proper identification (such as a label) on the drive CRU, and then slide it completely out of the storage unit.

3. Install the new drive CRU.
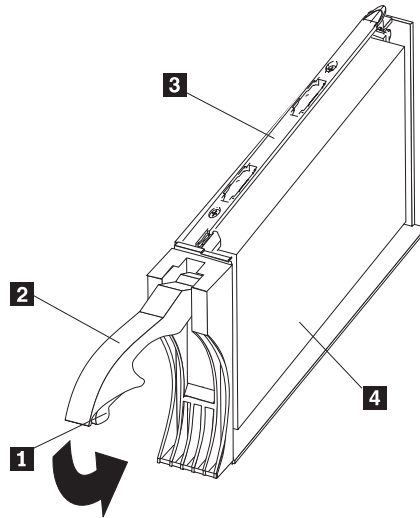
a. Gently push the drive CRU into the empty bay until the tray handle **2** touches the storage unit tray.

b. Push the tray handle **2** down into the closed (latched) position.

4. Check the drive LEDs.

a. When a drive is ready for use, the green activity LED and the amber fault LED are off.

b. If the amber fault LED is on, remove the drive from the unit and wait 10 seconds; then, reinstall the drive.

> **ServeRAID information** In some cases, the ServeRAID controller will automatically reset the drive to the Hot Spare or Rebuild state. If the drive state change does not occur automatically (amber LED stays lit), refer to your ServeRAID documentation for information about manually changing the state of the drive from the current state to another state, such as Hot Spare or Ready. The amber LED should switch off within 10 seconds after the drive-state change.

Working with cards and boards

> **Before you begin**
> - Read the safety and handling guidelines provided in "Safety and environmental notices" on page 36.
> - Ensure that your current system configuration is working properly.
> - Back up all important data before you make changes to storage devices, such as hard disk drives.

The expansion-unit bridge card, switch card, and ESM boards are customer replaceable units (CRUs). This section contains step-by-step instructions for removing and replacing each device.

Replacing a bridge card

To replace the bridge card CRU in the storage unit, follow the instructions for removing the bridge card and installing a bridge card.

Removing a bridge card

Attention: Before removing the storage unit bridge card, you must switch off the storage unit. Refer to "Switching the storage unit on and off" on page 17, for detailed instructions.

Complete the following steps to remove the storage unit bridge card:

1. Switch off the storage unit. Refer to "Switching the storage unit on and off" on page 17.
2. Remove the drive CRUs or filler panels from the left and right of the bridge card bay. Refer to "Replacing hot-swap drives" on page 24.
3. Squeeze the bridge-card cover **1** clips, and pull the bridge card cover **1** off.
4. Lift the tray handle **2** , and pull the tray **3** that contains the bridge card out of the bridge card bay.
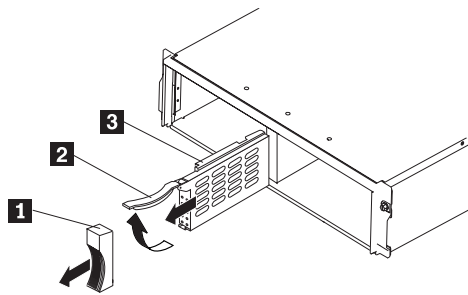
Installing a bridge card

Attention: Make sure the storage unit is switched off before installing a bridge card. Refer to "Switching the storage unit on and off" on page 17.

Complete the following steps to install the storage unit bridge card:

1. Make sure the storage unit is switched off.
2. Hold the bridge card tray **3** so the tray handle **2** is at the top of the bridge card tray and pointing outward.
3. Slide the tray **3** that contains the bridge card into the bridge card bay.
4. Push the tray handle **2** down, locking the bridge-card tray into place.
5. Replace the bridge card cover **1** by squeezing each of the four tabs, locking the cover into place.
6. Switch on the storage unit. Refer to "Switching the storage unit on and off" on page 17.

Replacing the switch card

To replace the switch card CRU in the storage unit, follow the instructions for removing the switch card and installing the switch card.

Removing the switch card

Attention: Before removing the switch card, be sure to switch off the storage unit. Refer to "Switching the storage unit on and off" on page 17. Make note of the switch card settings so you can set the new card to the same settings. Failure to do so will result in loss of data.

There is one switch card located between the two power supply/fan units at the back of the unit. Complete the following steps to remove the switch card:

1. Switch off the storage unit.
2. Locate the blue push pin **1** at the bottom of the switch card tray.
3. Pull out the blue push pin **1** .
4. Pull up on the switch-card tray handle **2** .
5. Slide the tray that contains the switch card out of the switch card bay.
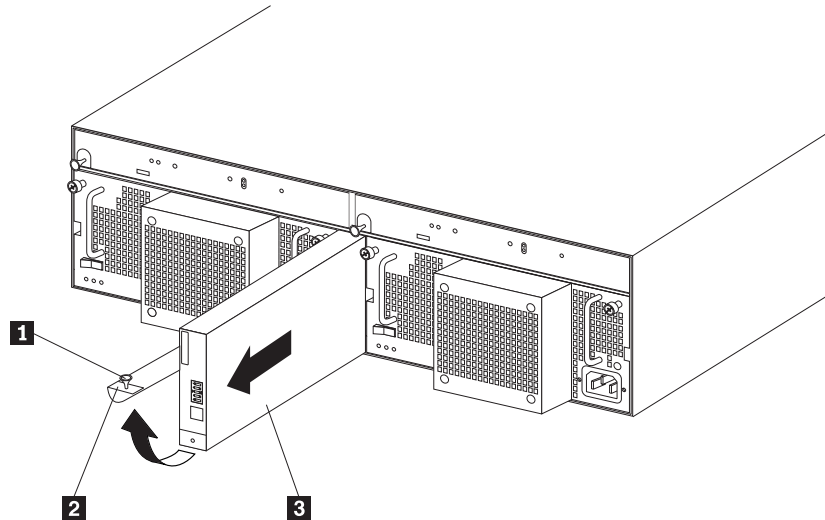
Installing a switch card

Attention: Before installing a new switch card, make sure that the switch card settings are the same as the settings on the switch card being replaced, and that the storage unit is switched off. Refer to "Switching the storage unit on and off" on page 17. Failure to do so will result in loss of data.

There is one switch card located between the two power supply/fan assemblies at the back of the unit. Complete the following steps to install the switch card:

1. Make sure the storage unit is switched off.
2. Hold the switch card so the blue push pin **1** is at the bottom of the card and the tray handle **2** is to the left of the card.
3. Hold the tray handle **2** up and slide the card **3** into the bay until it stops.
4. Push the tray handle **2** all the way down; then, push in the push pin **1** .

Replacing an ESM board

To replace an ESM board CRU in the storage unit, follow the instructions for removing an ESM board and installing an ESM board.

Removing an ESM board

There are two hot-swap ESM boards at the back of the unit. You can remove the ESM board and SCSI cable without switching off power to the storage unit. Complete the following steps to remove an storage unit ESM board:

1. Power down the server attached to the ESM Board.
2. Disconnect the SCSI cable **1** from the ESM Board.
3. Locate the orange push pin **4** to the left of each ESM board.
4. Pull the orange push pin **4** out.

5. Holding the pin, pull the tray handle **3** out and to the right.
6. Slide the ESM board **2** out of the storage unit.
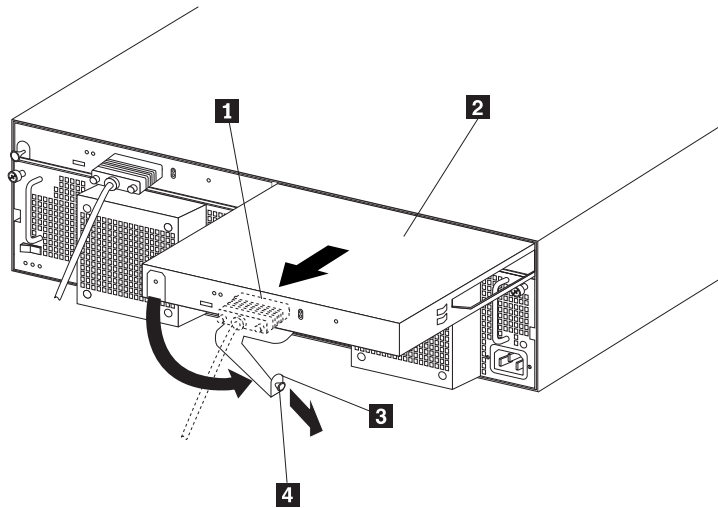
Installing an ESM board
There are two hot-swap ESM boards at the back of the unit. You can install the ESM board and SCSI cable without switching off power to the storage unit. Complete the following steps to install a storage unit ESM board:

1. Hold the board so the tray handle **3** is attached to the bottom of the tray, and the tray handle **3** is fully extended.
2. Slide the ESM board **2** into the bay, and move the handle **3** to the closed position (left) until it clicks.
3. Push in the orange push pin **4** .
4. Connect the SCSI cable **1** to the ESM board.
5. Power on the server attached to the ESM board.

Working with hot-swap power supply/fan units

Before you begin

- Read the safety and handling guidelines provided in "Safety and environmental notices" on page 36.

The power supplies are customer replaceable units (CRUs) and do not require preventive maintenance.

- The power supplies must always be installed in the proper place to maintain proper storage unit cooling.
- Use only the supported power supplies for your specific storage unit.

Removing a hot-swap power supply/fan unit

Complete the following steps to remove a hot-swap power supply:

1. Switch off the power supply.
2. Unplug the power supply cord from the electrical outlet.
3. Disconnect the power cord from the power supply.
4. Loosen the power supply thumbscrews **1** .
5. Grasp the handles **2** on each side of the power supply, and pull the unit out of the storage unit.
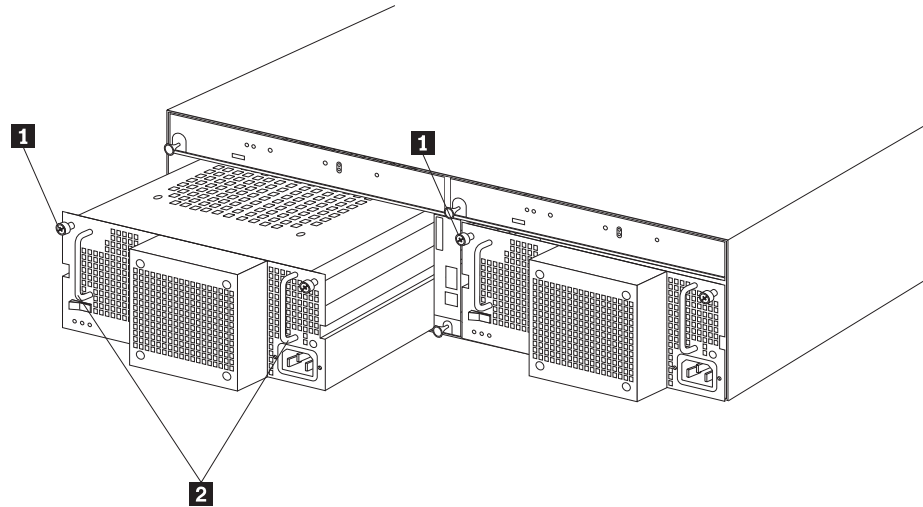
Installing a hot-swap power supply/fan unit

Complete the following steps to install a hot-swap power supply:

1. Ensure that the power supply you are installing is switched off.
2. Grasp the handles **2** and slide the power supply into the storage unit.
3. Tighten the power supply thumbscrews **1** .
4. Connect the power cord to the power supply.
5. Plug the supply power cord into a properly grounded electrical outlet.

   If you just installed a second (redundant) supply, the fault (amber) LED will light because its power switch is switched off.

6. Switch on the power supply.

   If you just installed a second (redundant) supply, after you switch on the power, the fault (amber) LED will switch off and the ac and dc power (green) LEDs will switch on.

Chapter 4. Solving problems

This chapter contains information to help you solve some of the simpler problems you might have with your storage unit. It contains the problem symptoms and error messages along with suggested actions to take to resolve the problem.

This chapter also provides instructions on how to obtain service and technical assistance for your storage unit and other IBM products that you might plan to use.

Note: To acquaint yourself with product warranty information, see "Appendix E. Product warranties and notices" on page 81.

Troubleshooting

You can use these charts to find solutions to problems that have definite symptoms.

Problem indicator	Component	Possible cause	Possible solutions
Amber LED on	Drive CRU	Drive failure	Replace the failed drive. See "Replacing hot-swap drives" on page 24.
	ESM board	Board failure	Replace failed board. See "Replacing an ESM board" on page 27.
	Front panel	General machine fault	Indicates that a Fault LED somewhere on the storage unit has been turned on. Check for amber LEDs and CRUs, Refer to "Rear controls, indicators, and connectors" on page 5
Amber LED on and green LED off	Power-supply CRUs	Power is turned off	Turn on all power supplies. See "Rear controls, indicators, and connectors" on page 5.
Amber and green LEDs on	Power-supply CRUs	Power supply failure	Replace the failed power supply CRU. See "Replacing an ESM board" on page 27.
All green LEDs off	All CRUs	The storage unit is turned off	Check that all storage unit power cables are plugged in and the power is on. If applicable, check that the main circuit breakers for the rack are turned on. If the external switch 1 is set to Off, the SCSI controller must be cabled to the storage unit and turned on. See "External option switches" on page 12.
		AC power failure	Check the main circuit breaker and ac outlet.
		Power supply failed	Replace the power supply CRU. See "Removing a hot-swap power supply/fan unit" on page 29.
		Midplane failure	Have the storage unit serviced.
Amber LED flashing	Drive CRUs	Drive rebuild or identity is in process	No corrective action is needed.
	Power supply CRU	Fan failure	Replace the power supply CRU.
Amber LED on and green dc power LED off	Power supply CRU	Power supply failure	If the power switch is on, replace the power supply CRU. See "Removing a hot-swap power supply/fan unit" on page 29.

Problem indicator	Component	Possible cause	Possible solutions
Amber LED on and green ac power LED off	Power supply CRU	No ac power to power supply. Check the ac power cord (cable) or breaker	If ac power is good at the source, replace the power cord CRU. If the power supply has failed, replace the power supply CRU. See"Removing a hot-swap power supply/fan unit" on page 29.
Green LED on	Drive CRU ID=6	Cluster configuration	If not currently cluster configured, power cycle the storage unit to re-enable ID=6.
One or more green LEDs off	One or two drive CRUs	No activity to the drives	No action is required.
	All drive CRUs or those on one bus	No activity to the drives	No action is required.
		Damaged or loose SCSI cables	Check SCSI-bus cables and connections.
		ESM board failure	Use RAID management software to check the SCSI-bus status. Replace the ESM board. See"Replacing an ESM board" on page 27.
		Midplane failure	Have the storage unit serviced.
	Front panel	Power supply	Make sure the cables are plugged in and power supplies are turned on.
		Hardware failure	If any other LEDs are turned on, have the storage unit serviced.
Intermittent or sporadic power loss to the storage unit	Some or all CRUs	Defective ac power source or partially plugged power cable	Check the ac power source. Resecure all installed power cables and power supplies. If applicable, check the power components (power units, UPS, and so on). Replace defective power cables.
		Power supply failure	Check for a fault LED on the power supply and replace the failed CRU. See"Installing a hot-swap power supply/fan unit" on page 29.
		Midplane failure	Have the storage unit serviced.
Unable to access drives on one or both SCSI buses	Drives and SCSI bus	Incorrect SCSI ID settings	Make sure SCSI cables are undamaged and properly connected. Check the drive SCSI ID settings. Ensure that option switches 1 and 3 (inside the switch card) are set to the appropriate positions. **Attention:** Change switch positions only when your host server and storage unit is turned off.
		ESM board failure	Have the storage unit serviced.
	Bridge card	Bridge card failure	All high address or all low address hard-disk drive failed; check the bridge card CRU and replace if necessary. See "Replacing a bridge card" on page 25.
Random errors	Subsystem	Midplane failure	Have the storage unit serviced.

Note: If you cannot find the problem in the troubleshooting chart, test the entire system. See your server documentation for more detailed information on testing and diagnostic tools.

If you already have run the server test program, or if running the test does not reveal the problem, have the system serviced.

Appendix A. Records

Whenever you add options to your IBM TotalStorage IP Storage 200i Model EXP (storage unit), be sure to update the information in this appendix. Accurate, up-to-date records make it easier to add other options and provide needed data whenever you contact technical support.

Identification numbers

Record and retain the following information.

Product name:	4125 IP Storage Model EXP
Machine:	4125
Model number:	_____
Serial number:	_____

The serial number is located on the front bottom right corner of the bezel and on the inside bottom surface on the rear of the machine.

Installed-device records

Use the following table to keep a record of the options installed in or attached to your storage unit. This information can be helpful when you install additional options or if you ever need to report a hardware problem. Copy these tables before recording information in them, in case you need extra space to write new values later, when you update your system configuration.

Drive location	Drive part and model numbers	Drive serial number	SCSI bus (1,2)	SCSI ID (0-6 or 8-14)
Bay 1				
Bay 2				
Bay 3				
Bay 4				
Bay 5				
Bay 6				
Bay 7				
Bay 8				
Bay 9				
Bay 10				
Bay 11				
Bay 12				
Bay 13				
Bay 14				

Appendix B. Notices

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Safety and environmental notices

The following sections describe the safety and environmental items you must consider for an IBM Network Attached Storage Appliance.

Safety notices

General safety
Follow these rules to ensure general safety:

- Observe good housekeeping in the area of the machines during and after maintenance.
- When lifting any heavy object:
  1. Ensure you can stand safely without slipping.
  2. Distribute the weight of the object equally between your feet.
  3. Use a slow lifting force. Never move suddenly or twist when you attempt to lift.
  4. Lift by standing or by pushing up with your leg muscles; this action removes the strain from the muscles in your back. *Do not attempt to lift any objects that weigh more than 16 kg (35 lb.) or objects that you think are too heavy for you.*
- Do not perform any action that causes hazards to the customer, or that makes the equipment unsafe.
- Before you start the machine, ensure that other service representatives and the customer's personnel are not in a hazardous position.
- Place removed covers and other parts in a safe place, away from all personnel, while you are servicing the machine.
- Keep your tool case away from walk areas so that other people will not trip over it.
- Do not wear loose clothing that can be trapped in the moving parts of a machine. Ensure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten it with a nonconductive clip, approximately 8 centimeters (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing.

  Remember: Metal objects are good electrical conductors.
- Wear safety glasses when you are: hammering, drilling soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that might be hazardous to your eyes.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the machine to the customer.

Electrical safety

Caution:
Electrical current from power, telephone, and communication cables can be hazardous. To avoid personal injury or equipment damage, disconnect the attached power cords, telecommunication systems, networks, and modems before you open the appliance covers, unless instructed otherwise in the installation and configuration procedures.

Observe the following rules when working on electrical equipment.

Important: Use only approved tools and test equipment. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.

Many customers have, near their equipment, rubber floor mats that contain small conductive fibers to decrease electrostatic discharges. Do not use this type of mat to protect yourself from electrical shock.

- Find the room emergency power-off (EPO) switch, disconnecting switch, or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near equipment that has hazardous voltages.
- Disconnect all power before:
  - Performing a mechanical inspection
  - Working near power supplies
  - Removing or installing main units
- Before you start to work on the machine, unplug the power cord. If you cannot unplug it, ask the customer to power-off the wall box that supplies power to the machine and to lock the wall box in the off position.
- If you need to work on a machine that has exposed electrical circuits, observe the following precautions:
  - Ensure that another person, familiar with the power-off controls, is near you.
    Remember: Another person must be there to switch off the power, if necessary.
  - Use only one hand when working with powered-on electrical equipment; keep the other hand in your pocket or behind your back.
    Remember: There must be a complete circuit to cause electrical shock. By observing the above rule, you may prevent a current from passing through your body.
  - When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
  - Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

Observe the special safety precautions when you work with very high voltages; these instructions are in the safety sections of maintenance information. Use extreme care when measuring high voltages.

- Regularly inspect and maintain your electrical hand tools for safe operational condition.
- Do not use worn or broken tools and testers.
- *Never assume* that power has been disconnected from a circuit. First, *check* that it has been powered-off.
- Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, nongrounded power extension cables, power surges, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive; such touching can cause personal injury and machine damage.
- Do not service the following parts with the power on when they are removed from their normal operating places in a machine:
  - Power supply units
  - Pumps
  - Blowers and fans
  - Motor generators
  - Similar units

  This practice ensures correct grounding of the units.
- If an electrical accident occurs:
  - Use caution; do not become a victim yourself.
  - Switch off power.
  - Send another person to get medical aid.

Safety inspection guide

The intent of this inspection guide is to assist you in identifying potentially unsafe conditions on these products. Each machine, as it was designed and built, had required safety items installed to protect users and service personnel from injury. This guide addresses only those items. However, good judgment should be used to identify potential safety hazards due to attachment of non-IBM features or options not covered by this inspection guide.

If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

Consider these conditions and the safety hazards they present:
- Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock).
- Explosive hazards, such as a damaged CRT face or bulging capacitor
- Mechanical hazards, such as loose or missing hardware

The guide consists of a series of steps presented in a checklist. Begin the checks with the power off, and the power cord disconnected.

Checklist:
1. Check exterior covers for damage (loose, broken, or sharp edges).
2. Power-off the computer. Disconnect the power cord.
3. Check the power cord for:
   a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and frame ground.

b. The power cord should be the appropriate type as specified in the parts listings.

c. Insulation must not be frayed or worn.

4. Remove the cover.

5. Check for any obvious non-IBM alterations. Use good judgment as to the safety of any non-IBM alterations.

6. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.

7. Check for worn, frayed, or pinched cables.

8. Check that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Handling electrostatic discharge-sensitive devices

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

Notes:

1. Use product-specific ESD procedures when they exceed the requirements noted here.

2. Make sure that the ESD protective devices you use have been certified (ISO 9000) as fully effective.

When handling ESD-sensitive parts:

- Keep the parts in protective packages until they are inserted into the product.
- Avoid contact with other people.
- Wear a grounded wrist strap against your skin to eliminate static on your body.
- Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

  Note: The use of a grounding system is desirable but not required to protect against ESD damage.

  – Attach the ESD ground clip to any frame ground, ground braid, or green-wire ground.

  – Use an ESD common ground or reference point when working on a double-insulated or battery-operated system. You can use coax or connector-outside shells on these systems.

  – Use the round ground-prong of the AC plug on AC-operated computers.

Grounding requirements

Electrical grounding of the computer is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.

Translated safety notices

The safety notices in this section are provided in the following languages:

- English

- Brazilian Portuguese
- Chinese
- French
- German
- Italian
- Korean
- Spanish

Important: All safety notices in the *Appliance Library* begin with a number. This number is used to cross-reference an English caution or danger notice with translated versions of the caution or danger notice in this section.

Be sure to read all safety notices before performing any of the instructions.

Statement 1

DANGER

Electrical current from power, telephone and communication cables is hazardous.

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.**
- **Connect all power cords to a properly wired and grounded electrical outlet.**
- **Connect to properly wired outlets any equipment that will be attached to this product.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following table when installing, moving, or opening covers on this product or attached devices.**

To Connect	To Disconnect
1. Turn everything OFF.	1. Turn everything OFF.
2. First, attach all cables to devices.	2. First, remove power cords from outlet.
3. Attach signal cables to connectors.	3. Remove signal cables from connectors.
4. Attach power cords to outlet.	4. Remove all cables from devices.
5. Turn device ON.	

Statement 2

CAUTION:
When replacing the lithium battery, use only IBM Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:
- Throw or immerse into water
- Heat to more than 100°C (212°F)
- Repair or disassemble

Dispose of the battery as required by local ordinances or regulations.

Statement 3

CAUTION:
When laser products (such as CD-ROMs, DVD-ROM drives, fiber optic devices, or transmitters) are installed, note the following:

- **Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.**
- **Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

DANGER

> **Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following.**
>
> **Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.**
>
> **Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following:**
>
> **Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.**

Statement 4

≥18 kg (37 lbs)   ≥32 kg (70.5 lbs)   ≥55 kg (121.2 lbs)

CAUTION:
Use safe practices when lifting.

• Statement 5

CAUTION:
The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.
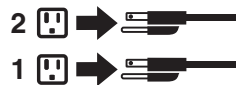
Statement 10

CAUTION:
Do not place any object weighing more than 82 kg (180 lb.) on top of rack-mounted devices.

Importante:

Todas as instruções de cuidado e perigo da *appliance Library* começam com um número. Este número é utilizado para fazer referência cruzada de uma instrução de cuidado ou perigo no idioma inglês com as versões traduzidas das instruções de cuidado ou perigo encontradas nesta seção.

Por exemplo, se uma instrução de cuidado é iniciada com o número 1, as traduções para aquela instrução de cuidado aparecem nesta seção sob a instrução 1.

Certifique-se de ler todas as instruções de cuidado e perigo antes de executar qualquer operação.

Instrução 1

PERIGO

A corrente elétrica proveniente de cabos de alimentação, de telefone e de comunicações é perigosa.

Para evitar risco de choque:
- Não conecte ou desconecte cabos e não realize instalação, manutenção ou reconfiguração deste produto durante uma tempestade com raios.
- Conecte todos os cabos de alimentação a tomadas elétricas corretamente instaladas e aterradas.
- Conecte todos os equipamentos ao qual esse produto será conectado a tomadas corretamente instaladas.
- Sempre que possível, utilize apenas uma das mãos para conectar ou desconectar cabos de sinal.
- Nunca ligue qualquer equipamento quando existir evidência de danos por fogo, água ou na estrutura.
- Desconecte cabos de alimentação, sistemas de telecomunicação, redes e modems antes de abrir as tampas dos dispositivos, a menos que especificado de maneira diferente nos procedimentos de instalação e configuração.
- Conecte e desconecte cabos conforme descrito na seguinte tabela, ao instalar ou movimentar este produto ou os dispositivos conectados, ou ao abrir suas tampas.

Para Conectar:	Para Desconectar:
1. DESLIGUE Tudo.	1. DESLIGUE Tudo.
2. Primeiramente, conecte todos os cabos aos dispositivos.	2. Primeiramente, remova os cabos de alimentação das tomadas.
3. Conecte os cabos de sinal aos conectores.	3. Remova os cabos de sinal dos conectores.
4. Conecte os cabos de alimentação às tomadas.	4. Remova todos os cabos dos dispositivos.
5. LIGUE os dispositivos.	

Instrução 2

CUIDADO:

Ao substituir a bateria de lítio, utilize apenas uma bateria IBM, Número de Peça 33F8354 ou uma bateria de tipo equivalente, recomendada pelo fabricante. Se o seu sistema possui um móídulo com uma bateria de lítio, substitua-o apenas pelo mesmo tipo de mídulo, do mesmo fabricante. A bateria contém lítio e pode explodir se não for utilizada, manuseada e descartada de maneira correta.

Não:
• Jogue ou coloque na água
• Aqueça a mais de 100°C (212°F)
• Conserte nem desmonte

Para descartar a bateria, entre em contato com a área de atendimento a clientes IBM, pelo telefone (011) 889-8986, para obter informações sobre como enviar a bateria pelo correio para a IBM.

Instrução 3

PRECAUCIÓN:

Quando produtos a laser (unidades de CD-ROM, unidades de DVD, dispositivos de fibra ítica, transmissores, etc.) estiverem instalados, observe o seguinte:
• Não remova as tampas. A remoção das tampas de um produto a laser pode resultar em exposição prejudicial à radiação de laser. Nenhuma peça localizada no interior do dispositivo pode ser consertada.
• A utilização de controles ou ajustes ou a execução de procedimentos diferentes dos especificados aqui pode resultar em exposição prejudicial à radiação.

PERIGO

Alguns produtos a laser contêm um diodo laser da Classe 3A ou Classe 3B embutido. Observe o seguinte:

Radiação de laser quando aberto. Não olhe diretamente para o raio a olho nu ou com instrumentos íticos, e evite exposição direta ao raio.

Instrução 4

| ≥18 kg (37 lbs) | ≥32 kg (70,5 lbs) | ≥55 kg (121,2 lbs) |

CUIDADO:

Ao levantar a máquina, faça-o com segurança.

Instrução 5

CUIDADO:

Os botões Liga/Desliga localizados no dispositivo e na fonte de alimentação não desligam a corrente elétrica fornecida ao dispositivo. O dispositivo também pode ter mais de um cabo de alimentação. Para remover toda a corrente elétrica do dispositivo, assegure que todos os cabos de alimentação estejam desconectados da fonte de energia elétrica.

2

1

CUIDADO:

Instrução 10

CUIDADO:

Não coloque nenhum objeto com peso superior a 82 kg (180 lbs.) sobre dispositivos montados em rack.

重要：

Netfinity Server Library 中的所有提醒和危险条款
前都有一个数字标识。该数字是用来交叉引用一个英
文的提醒和危险条款及本部分中的与之对应的已翻译
成其它文字的提醒和危险条款。

例如，如果一个提醒条款前的数字为 1，则本部分中相
应的译文也带有标号 1。

在执行任何指示的操作之前，请确保您已经阅读了全部
提醒和危险条款。

声明 1

⚠ ⚡

危险

电源、电话和通信电缆中带有危险电流。

为避免电击:

雷电期间不要拆接电缆或安装、维修及重新配置本产品。

将所有电源线连接至正确布线并已安全接地的电源插座上。

将应与本产品连接的所有设备连接至正确布线的插座上。

尽量只使用单手拆接信号电缆。

有水、火及结构损坏迹象时,请勿打开任何设备。

除非在安装配置过程中有明确指示,否则,打开设备机盖前应先断开与电源线、远程通信系统、网络和调制解调器的所有连接。

安装、移动或打开本产品及其附带设备的机盖时,应按下表所述连接和断开电缆。

连接时:	断开连接时:
1. 关闭所有设备。	1. 关闭所有设备。
2. 首先将所有电缆连接至设备。	2. 首先从插座中拔出电源线。
3. 将信号电缆连接至接口。	3. 从接口上拔下信号电缆。
4. 将电源线连接至插座。	

声明 2

⚠

警告:

更换锂电池时,只能使用 IBM 产品号 33F8354 或者是厂商推荐的等同
类型的电池。

如果系统模块中含有锂电池,则只能使用同一厂商制造的同一类型的模
块进行更换。电池中含有锂,如果使用、拿放或处理不当,可能会发生
爆炸。

请勿对电池进行下列操作:
扔入或浸入水电　　 。
加热超过 100 （212 F）
进行修理或分解
请按本地法规要求处理电池。

声明 3

⚠

警告:

安装激光产品（如 CD-ROM、DVD 驱动器、光纤设备或送话器）时,应注
意以下事项:

不要拆除外盖。拆除激光产品的外盖可能会导致激光辐射的危险,本设备中
没有用户可维修的部件。

非此处指定的其它控制、调整或与性能有关的操作都有可能导致激光辐射的
危险。

⚠

危险

> 某些激光产品中包含内嵌的 3A 级或 3B 级激光二极管。请注意以下事项。
>
> 打开时会产生激光辐射。不要直视光束,不要使用光学仪器直接观看光束,
> 避免直接暴露于光束之下。

声明 4

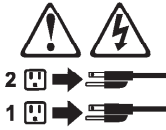≥18 kg (37 磅)　　≥32 kg (70.5 磅)　　≥ 55 kg (121.2 磅)

警告：
抬起时请采用安全操作方法。

声明 5

警告：

使用设备上的电源控制按钮和电源上的开关都不能断开本设备上的电流。
另外，本设备可能带有多条电源线。如要断开设备上的所有电流，请确
保所有电源线均已与电源断开连接。

声明 6

警告：

如果在电源线连接设备的一端安装了固定松紧夹，则必须将电源线的另一端连接至
使用方便的电源。

声明 7

警告：

如果设备带有外门，则在移动或抬起设备前应将其拆除或固定
以避免造成人员伤害。外门支撑不了设备的重量。

声明 8

警告：
不要拆除电源外盖或贴有下列标签的任何部件。

贴有此标签的组件内部存在高电压、高电流的危险。这些组件中
没有用户可维修的部件。如果怀疑其中的部件存在问题，应与服
务技术人员联系。

声明 9

警告：

为避免人员伤害，拆除设备上的风扇前应拨下热插拨风扇电缆。

声明 10

警告：

机柜安装的设备上面不能放置重于 82kg（180 磅）的物品。

> 82 kg (180 磅)

声明 11

警告：

下面的标签表明附近有锋利的边、角或接头。

声明 12

警告：
下面的标签表明附近有高热表面。

重要資訊：

Server Library 中所有「注意」及「危險」的聲明均以數字開
始。此一數字是用來作為交互參考之用，英文「注意」或「危險」聲
明可在本節中找到相同內容的「注意」或「危險」聲明的譯文。

例如，有一「危險」聲明以數字 1 開始，則該「危險」聲明的譯文將
出現在本節的「聲明」1 中。

執行任何指示之前，請詳讀所有「注意」及「危險」的聲明。

聲明 1

危險

電源、電話及通信電纜上所產生的電流均有危險性。

欲避免電擊危險：

－在雷雨期間，請勿連接或切斷本產品上的任何電纜線，或安裝、維修及重新架
　構本產品。
－請將電源線接至接線及接地正確的電源插座。
－請將本產品隨附的設備連接至接線正確的插座。
－儘可能使用單手來連接或切斷信號電纜線。
－當設備有火燒或泡水的痕跡，或有結構性損害時，請勿開啟該設備的電源。
－在安裝及架構之時，若非非常熟悉，在開啟裝置蓋子之前，請切斷電源線、電
　信系統、網路及數據機。
－在安裝、移動本產品或附加裝置，或開啟其蓋子時，請依照下表中「連接」及
　「切斷」電纜線的步驟執行。

連接：	切斷：
1. 關閉所有開關。	1. 關閉所有開關。
2. 先將所有電纜線接上裝置。	2. 先自電源插座拔掉電源線。
3. 將信號電纜接上接頭。	3. 拔掉接頭上的所有信號電纜。
4. 再將電源線接上電源插座。	4. 再拔掉裝置上的所有電纜線。
5. 開啟裝置的電源。	

聲明 2

⚠

注意：
更換鋰電池時，只可使用 IBM 零件編號 33F8354 的電池，或製造商建議之相
當類型的電池。若系統中具有包含鋰電池的模組，在更換此模組時，請使用相同
廠商製造的相同模組類型。如未正確使用、處理或丟棄含有鋰的電池時，可能會
引發爆炸。

請勿將電池：
– 丟入或浸入水中
– 加熱超過 100 ℃ (212 ℉)
– 修理或拆開

請遵照當地法令規章處理廢棄電池。

聲明 3

⚠

注意：
安裝雷射產品 (如 CD-ROM、DVD 光碟機、光纖裝置或發射器) 時，請注意下列
事項：
– 請勿移開蓋子。移開雷射產品的蓋子，您可能會暴露於危險的雷射輻射之下。
  裝置中沒有需要維修的組件。
– 不依此處所指示的控制、調整或處理步驟，您可能會暴露於危險的輻射之下。

⚠

危險

有些雷射產品含有內嵌式 Class 3A 或 Class 3B 雷射二極體。請注意
下列事項：

開啟時會產生雷射輻射。請勿凝視光束，不要使用光學儀器直接觀
察，且應避免直接暴露在光束下。

聲明 4

⚠

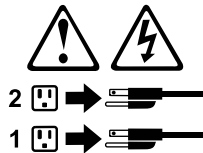≥ 18 公斤 (37 磅) ≥ 32 公斤 (70.5 磅)   ≥ 55 公斤 (121.2 磅)

注意：
抬起裝置時，請注意安全措施。

聲明 5

注意：
裝置上的電源控制按鈕及電源供應器上的電源開關均無法關閉裝置上的電流。
本裝置可能有一條以上的電源線。如要移除裝置上的所有電流，請確認所有電源線已與電源分離。

2 **1**

聲明 10

注意：
請勿將任何重量超過 82 公斤 (180 磅) 的物品置於已安裝機架的裝置上方。

> 82 公斤 (180 磅)

Important:

Toutes les consignes Attention et Danger indiquées dans la bibliothèque *appliance* sont précédées d'un numéro. Ce dernier permet de mettre en correspondance la consigne en anglais avec ses versions traduites dans la présente section.

Par exemple, si une consigne de type Attention est précédée du chiffre 1, ses traductions sont également précédées du chiffre 1 dans la présente section.

Prenez connaissance de toutes les consignes de type Attention et Danger avant de procéder aux opérations décrites par les instructions.

Notice n° 1

DANGER

Le courant électrique passant dans les câbles de communication, ou les cordons téléphoniques et d'alimentation peut être dangereux.

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.**
- **Branchez tous les cordons d'alimentation sur un socle de prise de courant correctement câblé et mis à la terre.**
- **Branchez sur des socles de prise de courant correctement câblés tout équipement connecté à ce produit.**
- **Lorsque cela est possible, n'utilisez qu'une seule main pour connecter ou déconnecter les câbles d'interface.**
- **Ne mettez jamais un équipement sous tension en cas d'incendie ou d'inondation, ou en présence de dommages matériels.**
- **Avant de retirer les carters de l'unité, mettez celle-ci hors tension et déconnectez ses cordons d'alimentation, ainsi que les câbles qui la relient aux réseaux, aux systèmes de télécommunication et aux modems (sauf instruction contraire mentionnée dans les procédures d'installation et de configuration).**
- **Lorsque vous installez ou que vous déplacez le présent produit ou des périphériques qui lui sont raccordés, reportez-vous aux instructions ci-dessous pour connecter et déconnecter les différents cordons.**

Connexion	Déconnexion
1. Mettez les unités hors tension.	1. Mettez les unités hors tension.
2. Commencez par brancher tous les cordons sur les unités.	2. Débranchez les cordons d'alimentation des prises.
3. Branchez les câbles d'interface sur des connecteurs.	3. Débranchez les câbles d'interface des connecteurs.
4. Branchez les cordons d'alimentation sur des prises.	4. Débranchez tous les câbles des unités.
5. Mettez les unités sous tension.	

Notice n° 2

ATTENTION:

Remplacez la pile au lithium usagée par une pile de référence identique exclusivement - voir la référence IBM - ou par une pile équivalente recommandée par le fabricant. Si votre système est doté d'un module contenant une pile au lithium, vous devez le remplacer uniquement par un module identique, produit par le même fabricant. La pile contient du lithium et présente donc un risque d'explosion en cas de mauvaise manipulation ou utilisation.

- **Ne la jetez pas à l'eau.**
- **Ne l'exposez pas à une température supérieure à 100 °C.**
- **Ne cherchez pas à la réparer ou à la démonter.**

Pour la mise au rebut, reportez-vous à la réglementation en vigueur.

Notice n° 3

ATTENTION:

Si des produits laser sont installés (tels que des unités de CD-ROM ou de DVD, des périphériques contenant des fibres optiques ou des émetteurs-récepteurs), prenez connaissance des informations suivantes:

- **N'ouvrez pas ces produits pour éviter une exposition directe au rayon laser. Vous ne pouvez effectuer aucune opération de maintenance à l'intérieur.**
- **Pour éviter tout risque d'exposition au rayon laser, respectez les consignes de réglage et d'utilisation des commandes, ainsi que les procédures décrites dans le présent document.**

DANGER

Certains produits laser contiennent une diode laser de classe 3A ou 3B. Prenez connaissance des informations suivantes:

Rayonnement laser lorsque le carter est ouvert. Évitez de regarder fixement le faisceau ou de l'observer à l'aide d'instruments optiques. Évitez une exposition directe au rayon.

Notice n° 4

≥18 kg   ≥32 kg   ≥55 kg

ATTENTION:

Faites-vous aider pour soulever ce produit.

Notice n° 5

ATTENTION:

Le bouton de mise sous tension/hors tension de l'unité et l'interrupteur d'alimentation du bloc d'alimentation ne coupent pas l'arrivée de courant électrique à l'intérieur de la machine. Il se peut que votre unité dispose de plusieurs cordons d'alimentation. Pour isoler totalement l'unité du réseau électrique, débranchez tous les cordons d'alimentation des socles de prise de courant.

2 🔲➡️🔌

1 🔲➡️🔌
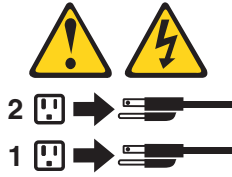
Notice n° 10

ATTENTION:

Ne posez pas d'objet dont le poids dépasse 82 kg sur les unités montées en armoire.

Wichtig:

Alle Sicherheitshinweise in dieser *server-Bibliothek* beginnen mit einer Nummer. Diese Nummer verweist auf einen englischen Sicherheitshinweis mit den übersetzten Versionen dieses Hinweises in diesem Abschnitt.

Wenn z. B. ein Sicherheitshinweis mit der Nummer 1 beginnt, so erscheint die übersetzung für diesen Sicherheitshinweis in diesem Abschnitt unter dem Hinweis 1.

Lesen Sie alle Sicherheitshinweise, bevor Sie eine Anweisung ausführen.

Hinweis 1

VORSICHT

Elektrische Spannungen von Netz-, Telefon- und Datenübertragungsleitungen sind gefährlich.

Aus Sicherheitsgründen:
* Bei Gewitter an diesem Gerät keine Kabel anschließen oder lösen. Ferner keine Installations-, Wartungs- oder Rekonfigurationsarbeiten durchführen.

- Gerät nur an eine Schutzkontaktsteckdose mit ordnungsgemäß geerdetem Schutzkontakt anschließen.
- Alle angeschlossenen Geräte ebenfalls an Schutzkontaktsteckdosen mit ordnungsgemäß geerdetem Schutzkontakt anschließen.
- Signalkabel möglichst einhändig anschließen oder lösen.
- Keine Geräte einschalten, wenn die Gefahr einer Beschädigung durch Feuer, Wasser oder andere Einflüsse besteht.
- Die Verbindung zu den angeschlossenen Netzkabeln, Telekommunikationssystemen, Netzwerken und Modems ist vor dem öffnen des Gehäuses zu unterbrechen. Es sei denn, dies ist in den zugehÖrigen Installations- und Konfigurationsprozeduren anders angegeben.
- Nur nach den nachfolgend aufgeführten Anweisungen arbeiten, die für Installation, Transport oder öffnen von Gehäusen von Personal Computern oder angeschlossenen Einheiten gelten.

Kabel anschlieβen:	Kabel lösen:
1. Alle Geräte ausschalten und Netzstecker ziehen.	1. Alle Geräte ausschalten.
2. Zuerst alle Kabel an Einheiten anschließen.	2. Zuerst Netzstecker von Steckdose lösen.
3. Signalkabel an Anschlußbuchsen anschließen.	3. Signalkabel von Anschlußbuchsen lösen.
4. Netzstecker an Steckdose anschließen.	4. Alle Kabel von Einheiten lösen.
5. Gerät einschalten.	

Hinweis 2

ACHTUNG:

Eine verbrauchte Batterie nur durch eine Batterie mit der IBM Teilenummer 33F8354 oder durch eine vom Hersteller empfohlene Batterie ersetzen. Wenn Ihr System ein Modul mit einer Lithium-Batterie enthält, ersetzen Sie es immer mit dem selben Modultyp vom selben Hersteller. Die Batterie enthält Lithium und kann bei unsachgemäßer Verwendung, Handhabung oder Entsorgung explodieren.

Die Batterie nicht:
- mit Wasser in Berührung bringen.
- über 100° C erhitzen.
- reparieren oder zerlegen.

Die örtlichen Bestimmungen für die Entsorgung von Sondermüll beachten.

Hinweis 3

ACHTUNG:

Wenn ein Laserprodukt (z. B. CD-ROM-Laufwerke, DVD-Laufwerke, Einheiten mit Glasfaserkabeln oder Transmitter) installiert ist, beachten Sie Folgendes:

- Das Entfernen der Abdeckungen des CD-ROM-Laufwerks kann zu gefährlicher Laserstrahlung führen. Es befinden sich keine Teile innerhalb des CD-ROM-Laufwerks, die vom Benutzer gewartet werden müssen. Die Verkleidung des CD-ROM-Laufwerks nicht öffnen.
- Steuer- und Einstellelemente sowie Verfahren nur entsprechend den Anweisungen im vorliegenden Handbuch einsetzen. Andernfalls kann gefährliche Laserstrahlung auftreten.

VORSICHT

Manche CD-ROM-Laufwerke enthalten eine eingebaute Laserdiode der Klasse 3A oder 3B. Die nachfolgend aufgeführten Punkte beachten.

Laserstrahlung bei geöffneter Tür. Niemals direkt in den Laserstrahl sehen, nicht direkt mit optischen Instrumenten betrachten und den Strahlungsbereich meiden.

Hinweis 4

| ≥18 kg | ≥32 kg | ≥55 kg |

ACHTUNG:

Beim Anheben der Maschine die vorgeschriebenen Sicherheitsbestimmungen beachten.

Hinweis 5

ACHTUNG:

Mit dem Betriebsspannungsschalter an der Vorderseite des Gerätes und dem Betriebsspannungsschalter am Netzteil wird die Stromversorgung für das Gerät nicht unterbrochen. Das Gerät könnte auch mehr als ein Netzkabel aufweisen. Um die gesamte Stromversorgung des Gerätes auszuschalten, muß sichergestellt werden, daß alle Netzkabel aus den Netzsteckdosen herausgezogen wurden.
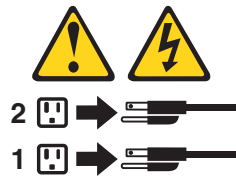
Hinweis 10

ACHTUNG:

Keine Gegenstände, die mehr als 82 kg wiegen, auf Rack-Einheiten ablegen.

Importante:

Tutti gli avvisi di attenzione e di pericolo riportati nella pubblicazione *appliance Library* iniziano con un numero. Questo numero viene utilizzato per confrontare avvisi di attenzione o di pericolo in inglese con le versioni tradotte riportate in questa sezione.

Ad esempio, se un avviso di attenzione inizia con il numero 1, la relativa versione tradotta è presente in questa sezione con la stessa numerazione.

Prima di eseguire una qualsiasi istruzione, accertarsi di leggere tutti gli avvisi di attenzione e di pericolo.

Avviso 1

PERICOLO

La corrente elettrica circolante nei cavi di alimentazione, del telefono e di segnale è pericolosa.

Per evitare il pericolo di scosse elettriche:
- Non collegare o scollegare i cavi, non effettuare l'installazione, la manutenzione o la riconfigurazione di questo prodotto durante i temporali.
- Collegare tutti i cavi di alimentazione ad una presa elettrica correttamente cablata e munita di terra di sicurezza.
- Collegare qualsiasi apparecchiatura collegata a questo prodotto ad una presa elettrica correttamente cablata e munita di terra di sicurezza.
- Quando possibile, collegare o scollegare i cavi di segnale con una sola mano.
- Non accendere qualsiasi apparecchiatura in presenza di fuoco, acqua o se sono presenti danni all'apparecchiatura stessa.
- Scollegare i cavi di alimentazione, i sistemi di telecomunicazioni, le reti e i modem prima di aprire i coperchi delle unità, se non diversamente indicato nelle procedure di installazione e configurazione.
- Collegare e scollegare i cavi come descritto nella seguente tabella quando si effettuano l'installazione, la rimozione o l'apertura dei coperchi di questo prodotto o delle unità collegate.

Per collegare:	Per scollegare:
1. SPEGNERE tutti i dispositivi.	1. SPEGNERE tutti i dispositivi.
2. Collegare prima tutti i cavi alle unità.	2. Rimuovere prima i cavi di alimentazione dalle prese elettriche.
3. Collegare i cavi di segnale ai connettori.	3. Rimuovere i cavi di segnale dai connettori.
4. Collegare i cavi di alimentazione alle prese elettriche.	4. Rimuovere tutti i cavi dalle unità.
5. ACCENDERE le unità.	

Avviso 2

ATTENZIONE:

Quando si sostituisce la batteria al litio, utilizzare solo una batteria IBM con numero parte 33F8354 o batterie dello stesso tipo o di tipo equivalente consigliate dal produttore. Se il sistema di cui si dispone è provvisto di un modulo contenente una batteria al litio, sostituire tale batteria solo con un tipo di modulo uguale a quello fornito dal produttore. La batteria contiene litio e può esplodere se utilizzata, maneggiata o smaltita impropriamente.

Evitare di:
- Gettarla o immergerla in acqua
- Riscaldarla ad una temperatura superiore ai 100°C
- Cercare di ripararla o smontarla

Smaltire secondo la normativa in vigore (D.Lgs 22 del 5/2/9) e successive disposizioni nazionali e locali.

Avviso 3

ATTENZIONE:

Quando si installano prodotti laser come, ad esempio, le unità DVD, CD-ROM, a fibre ottiche o trasmettitori, prestare attenzione a quanto segue:

- Non rimuovere i coperchi. L'apertura dei coperchi di prodotti laser può determinare l'esposizione a radiazioni laser pericolose. All'interno delle unità non vi sono parti su cui effettuare l'assistenza tecnica.
- L'utilizzo di controlli, regolazioni o l'esecuzione di procedure non descritti nel presente manuale possono provocare l'esposizione a radiazioni pericolose.

PERICOLO

Alcuni prodotti laser contengono all'interno un diodo laser di Classe 3A o Classe 3B. Prestare attenzione a quanto segue:

Aprendo l'unità vengono emesse radiazioni laser. Non fissare il fascio, non guardarlo direttamente con strumenti ottici ed evitare l'esposizione diretta al fascio.

Avviso 4

| ≥18 kg | ≥32 kg | ≥55 kg |

ATTENZIONE:

Durante il sollevamento della macchina seguire delle norme di sicurezza.

Avviso 5

ATTENZIONE:

Il pulsante del controllo dell'alimentazione situato sull'unità e l'interruttore di alimentazione posto sull'alimentatore non disattiva la corrente elettrica fornita all'unità. L'unità potrebbe disporre di più di un cavo di alimentazione. Per disattivare la corrente elettrica dall'unità, accertarsi che tutti i cavi di alimentazione siano scollegati dalla sorgente di alimentazione.
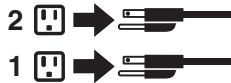
Avviso 10

ATTENZIONE:

Non poggiare oggetti che pesano più di 82 kg sulla parte superiore delle unità montate in rack.

중요:

본 *Netfinity Server Library*에 있는 모든 주의 및 위험 경고문은 번호로 시작합니다. 이 번호는 영문 주의 혹은 위험 경고문과 이 절에 나오는 번역된 버전의 주의 혹은 위험 경고문을 상호 참조하는 데 사용됩니다.

예를 들어, 주의 경고문이 번호 1로 시작하면, 번역된 해당 주의 경고문을 본 절의 경고문 1에서 찾아볼 수 있습니다.

모든 지시사항을 수행하기 전에 반드시 모든 주의 및 위험 경고문을 읽으십시오.

경고문 1

위험

전원, 전화 및 통신 케이블로부터 흘러 나오는 전류는
위험합니다.

전기 충격을 피하려면:

- 뇌우를 동반할 때는 케이블의 연결이나 철수, 이 제품의
  설치, 유지보수 또는 재구성을 하지 마십시오.

- 모든 전원 코드를 적절히 배선 및 접지해야 합니다.

- 이 제품에 연결될 모든 장비를 적절하게 배선된 콘센트에
  연결하십시오.

- 가능한한 신호 케이블을 한 손으로 연결하거나
  끊으십시오.

- 화재, 수해 또는 구조상의 손상이 있을 경우 장비를 켜지
  마십시오.

- 설치 및 구성 프로시저에 다른 설명이 없는 한, 장치 덮개를
  열기 전에 연결된 전원 코드, 원거리 통신 시스템, 네트워크
  및 모뎀을 끊어 주십시오.

- 제품 또는 접속된 장치를 설치, 이동 및 덮개를 열 때
  다음 설명에 따라 케이블을 연결하거나 끊도록 하십시오.

연결하려면:	연결을 끊으려면:
1. 모든 스위치를 끕니다.	1. 모든 스위치를 끕니다.
2. 먼저 모든 케이블을 장치에 연결합니다.	2. 먼저 콘센트에서 전원 코드를 뽑습니다.
3. 신호 케이블을 커넥터에 연결합니다.	3. 신호 케이블을 커넥터에서 제거합니다.
4. 콘센트에 전원 코드를 연결합니다.	4. 장치에서 모든 케이블을 제거합니다.
5. 장치 스위치를 켭니다.	

경고문 2

주의:

리튬 배터리를 교체할 때는 IBM 부품 번호 33F8354 또는 제조업체에서
권장하는 동등한 유형의 배터리를 사용하십시오. 시스템에 리튬 배터리를
갖고 있는 모듈이 있으면 동일한 제조업체에서 생산된 동일한 모듈
유형으로 교체하십시오. 배터리에 리튬이 있을 경우 제대로 사용, 처리
또는 처분하지 않으면 폭발할 수 있습니다.

다음을 주의하십시오.

- 던지거나 물에 담그지 않도록 하십시오.
- 100℃(212℉) 이상으로 가열하지 마십시오.
- 수리하거나 분해하지 마십시오.

지역 법령이나 규정의 요구에 따라 배터리를 처분하십시오.

경고문 3

주의:
레이저 제품(CD-ROMs, DVD 드라이브, 광 장치 또는 트랜스미터 등과
같은)이 설치되어 있을 경우 다음을 유의하십시오.

- 덮개를 제거하지 마십시오. 레이저 제품의 덮개를 제거했을 경우
위험한 레이저 광선에 노출될 수 있습니다. 이 장치 안에는 서비스를
받을 수 있는 부품이 없습니다.

- 여기에서 지정하지 않은 방식의 제어, 조절 또는 실행으로 인해 위험한
레이저 광선에 노출될 수 있습니다.

위험

일부 레이저 제품에는 클래서 3A 또는 클래스 3B 레이저
다이오드가 들어 있습니다. 다음을 주의하십시오.

열면 레이저 광선에 노출됩니다. 광선을 주시하거나 광학 기계를
직접 쳐다보지 않도록 하고 광선에 노출되지 않도록 하십시오.

경고문 4

≥18 kg (37 lbs)   ≥ 32 kg (70.5 lbs)   ≥ 55 kg (121.2 lbs)

주의:
기계를 들 때는 안전하게 들어 올리십시오.

경고문 5

주의:
장치의 전원 제어 버튼 및 전원 공급기의 전원 스위치는 장치에
공급되는 전류를 차단하지 않습니다. 장치에 둘 이상의 전원 코드가
연결되어 있을 수도 있습니다. 장치에서 모든 전류를 차단하려면
모든 전원 코드가 전원으로부터 차단되어 있는 지 확인하십시오.

경고문 10

주의:
서랍형 모델의 장치 상단에 82 kg(180 lbs.)이 넘는 물체를 올려
놓지 마십시오.

> 82 kg (180 lbs)

Importante:

Todas las declaraciones de precauciín de esta *Biblioteca del servidor* empiezan con un número. Dicho número se emplea para establecer una referencia cruzada de una declaraciín de precauciín o peligro en inglés con las versiones traducidas que de dichas declaraciones pueden encontrarse en esta secciín.

Por ejemplo, si una declaraciín de peligro empieza con el número 1, las traducciones de esta declaraciín de precauciín aparecen en esta secciín bajo Declaraciín 1.

Lea atentamente todas las declaraciones de precauciín y peligro antes de llevar a cabo cualquier operaciín.

Declaración 1

PELIGRO

La corriente eléctrica de los cables telefínicos, de alimentaciín y de comunicaciones es perjudicial.

Para evitar una descarga eléctrica:
- No conecte ni desconecte ningún cable ni realice las operaciones de instalaciín, mantenimiento o reconfiguraciín de este producto durante una tormenta.
- Conecte cada cable de alimentaciín a una toma de alimentaciín eléctrica con conexiín a tierra y cableado correctos.
- Conecte a tomas de alimentaciín con un cableado correcto cualquier equipo que vaya a estar conectado a este producto.
- Si es posible, utilice una sola mano cuando conecte o desconecte los cables de sent.al.
- No encienda nunca un equipo cuando haya riesgos de incendio, de inundaciín o de daños estructurales.
- Desconecte los cables de alimentaciín, sistemas de telecomunicaciones, redes y mídems conectados antes de abrir las cubiertas del dispositivo a menos que se indique lo contrario en los procedimientos de instalaciín y configuraciín.

- Conecte y desconecte los cables tal como se describe en la tabla siguiente cuando desee realizar una operaciín de instalaciín, de traslado o de apertura de las cubiertas para este producto o para los dispositivos conectados.

Para la conexin	Para la desconexiín
1. APÁGUELO todo.	1. APÁGUELO todo.
2. En primer lugar, conecte los cables a los dispositivos.	2. En primer lugar, retire cada cable de alimentaciín de la toma de alimentaciín.
3. Conecte los cables de señal a los conectores.	3. Retire los cables de señal de los conectores.
4. Conecte cada cable de alimentaciín a la toma de alimentaciín.	4. Retire los cables de los dispositivos.
5. ENCIENDA el dispositivo.	

Declaración 2

PRECAUCIÓN:

Cuando desee sustituir la batería de litio, utilice únicamente el número de pieza 33F8354 de IBM o cualquier tipo de batería equivalente que recomiende el fabricante. Si el sistema tiene un mídulo que contiene una batería de litio, sustitúyalo únicamente por el mismo tipo de mídulo, que ha de estar creado por el mismo fabricante. La batería contiene litio y puede explotar si el usuario no la utiliza ni la maneja de forma adecuada o si no se desprende de la misma como corresponde.

No realice las acciones siguientes:
- Arrojarla al agua o sumergirla
- Calentarla a una temperatura que supere los 100°C (212°F)
- Repararla o desmontarla

Despréndase de la batería siguiendo los requisitos que exija el reglamento o la legislaciín local.

Declaración 3

PRECAUCIÓN:

Cuando instale productos láser (como, por ejemplo, CD-ROM, unidades DVD, dispositivos de fibra íptica o transmisores), tenga en cuenta las advertencias siguientes:

- No retire las cubiertas. Si retira las cubiertas del producto láser, puede quedar expuesto a radiaciín láser perjudicial. Dentro del dispositivo no existe ninguna pieza que requiera mantenimiento.
- El uso de controles o ajustes o la realizaciín de procedimientos que no sean los que se han especificado aquí pueden dar como resultado una exposiciín perjudicial a las radiaciones.

PELIGRO

Algunos productos láser contienen un diodo de láser incorporado de Clase 3A o de Clase 3B. Tenga en cuenta la advertencia siguiente.

Cuando se abre, hay radiaciín láser. No mire fijamente el rayo ni lleve a cabo ningún examen directamente con instrumentos ípticos; evite la exposiciín directa al rayo.

Declaración 4

| ≥18 kg (37 libras) | ≥32 kg (70,5 libras) | ≥55 kg (121,2 libras) |

PRECAUCIÓN:

Tome medidas de seguridad al levantar el producto.

Declaración 5

PRECAUCIÓN:

El botín de control de alimentaciín del dispositivo y el interruptor de alimentaciín de la fuente de alimentaciín no apagan la corriente eléctrica suministrada al dispositivo. Es posible también que el dispositivo tenga más de un cable de alimentaciín. Para eliminar la corriente eléctrica del dispositivo, asegúrese de desconectar todos los cables de alimentaciín de la fuente de alimentaciín.

2 🔌➡️🔌

1 🔌➡️🔌
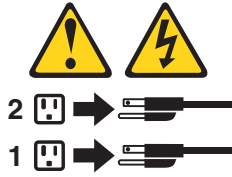
Declaración 10

PRECAUCIÓN:

No coloque ningún objeto que pese más de 82 kg (180 libras) encima de los dispositivos montados en bastidor.

Environmental notices

Electronic emission notices

Federal Communications Commission (FCC) Statement: *Federal Communications Commission (FCC) Class A 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. Operation 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 must be used in order to meet FCC emission limits. Properly shielded and grounded cables and connectors must be used in order to meet 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 operation.

Industry Canada Class A emission compliance statement: This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled *Digital Apparatus*, ICES-003 of Industry Canada.

Avis de Conformité aux normes d'Industrie Canada: Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouiller : *Appareils Numériques*, NMB-003 édictée par Industrie Canada.

Australia and New Zealand Class A statement: **Attention:** 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.

United Kingdom telecommunications safety requirement: **Notice to Customers**

This apparatus is approved under approval number NS/G/1234/J/100003 for indirect connection to public telecommunication systems in the United Kingdom.

European Union (EU) conformity statement: This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to 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.

Properly shielded and grounded cables and connectors must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorized dealers. IBM cannot accept responsibility for any interference caused by using other than recommended cables and connectors.

EMC directive 89/336/EEC statements: 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.

FCCA (Text für alle in Deutschland vertriebenen EN 55022 Klasse A Geräte.): **Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richlinie 89/336)**

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

Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist Scott Enke, Director, Worldwide Manufacturing Operations, PO Box 12195, 3039 Cornwallis, Research Triangle Park, NC U.S.A. 27709–2195.

> 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.

Taiwan electrical emission 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。

Japanese Voluntary Control Council for Interference (VCCI) statement:

　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。

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    IBM logo
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    Netfinity Manager
    ServeRAID
    TotalStorage

Lotus and Domino are trademarks of Lotus Development Corporation in the United States, other countries, or both.

Tivoli and NetView are trademarks of Tivoli Systems Inc. in the United States, other countries, or both.

Intel, MMX, LANDesk, Pentium, Pentium II Xeon, and Pentium III Xeon are trademarks or registered trademarks of Intel Corporation in the United States, other countries, or both.

Microsoft, Windows, and Windows NT are trademarks or registered trademarks of Microsoft Corporation.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

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

Appendix C. Getting help, service, and information

If you need help, service, technical assistance, or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you.

IBM maintains pages on the World Wide Web where you can get information about IBM products and services and find the latest technical information.

Table 1 lists some of these pages.

Table 1. IBM Web sites for help, services, and information

www.ibm.com	Main IBM home page
www.ibm.com/storage	IBM Storage home page
www.ibm.com/storage/support/nas	IBM NAS Support home page

Services available and telephone numbers listed are subject to change without notice.

Service support

With the original purchase of an IBM hardware product, you have access to extensive support coverage. During the IBM hardware product warranty period, you may call the IBM Support Center (1-800-426-7378 in the U.S.) for hardware product assistance covered under the terms of the IBM hardware warranty. See "Getting help by telephone" on page 76 for Support Center telephone numbers in other countries.

The following services are available during the warranty period:

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- IBM hardware repair - If the problem is determined to be caused by IBM hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. IBM or your reseller, if authorized by IBM, will make Engineering Changes (ECs) available that apply to your hardware.

Be sure to retain your proof of purchase to obtain warranty service.

Please have the following information ready when you call:
- Machine Type and Model
- Serial numbers of your IBM hardware products
- Description of the problem
- Exact wording of any error messages
- Hardware and software configuration information

If possible, be at your computer when you call.

A compatible monitor, keyboard, and mouse may be required for some service activities.

The following items are not covered:
- Replacement or use of non-IBM parts or nonwarranted IBM parts

    Note: All warranted parts contain a 7-character identification in the format IBM FRU XXXXXXX.
- Identification of software problem sources
- Configuration of BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of application programs

Refer to your IBM hardware warranty for a full explanation of IBM's warranty terms.

Before you call for service

Many computer problems can be solved without outside assistance, by using the online help or by looking in the online or printed documentation that comes with your IBM IP Storage. Also, be sure to read the information in any README files that come with your software.

Your IBM IP Storage comes with documentation that contains troubleshooting procedures and explanations of error messages. The documentation that comes with your appliance also contains information about the diagnostic tests you can perform.

If you receive a POST error code or beep code when you turn on your Network Attached Server appliance, refer to the POST error-message charts in your hardware documentation. If you do not receive a POST error code or beep code, but suspect a hardware problem, refer to the troubleshooting information in your hardware documentation or run the diagnostic tests.

If you suspect a software problem, consult the documentation (including any README files) for the operating system or application program.

Getting customer support and service

Purchasing an IBM Network Attached Storage appliance entitles you to standard help and support during the warranty period. If you need additional support and services, a wide variety of extended services are available for purchase that address almost any need.

Getting help online: www.ibm.com/storage/support/nas

Here you can visit a support page that is specific to your hardware, complete with FAQs, parts information, technical hints and tips, technical publications, and downloadable files, if applicable.

Getting help by telephone

During the warranty period, you can get help and information by telephone through the IBM Support Center. Expert technical-support representatives are available to assist you with questions you might have on the following:
- Setting up your Network Attached Storage appliance
- Arranging for service

- Arranging for overnight shipment of customer-replaceable parts

In addition, if you purchased a Network Attached Storage appliance, you are eligible for IBM up and running support for 90 days after installation. This service provides assistance for:
- Setting up your IBM IP Storage
- Limited configuration assistance

Please have the following information ready when you call:
- Machine Type and Model
- Serial numbers of your appliance and other components, or your proof of purchase
- Description of the problem
- Exact wording of any error messages
- Hardware and software configuration information for your system

If possible, be at your computer when you call.

In the U.S. and Canada, these services are available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9:00 a.m. to 6:00 p.m.[1]

Table 2 provides the telephone numbers.

Table 2. Telephone numbers for warranted help and information

Country		Number
Austria	Österreich	1-546 585 075
Belgium - Dutch	Belgie	02-717-2504
Belgium - French	Belgique	02-717-2503
Canada	Canada	1-800-565-3344
Denmark	Danmark	03-525-6905
Finland	Suomi	9-22-931805
France	France	01-69-32-40-03
Germany	Deutschland	069-6654-9003
Ireland	Ireland	01-815-9207
Italy	Italia	02-4827-5003
Luxembourg	Luxembourg	298-977-5060
Netherlands	Nederland	020-504-0531
Norway	Norge	2-305-3203
Portugal	Portugal	01-791-5147
Spain	España	091-662-4270
Sweden	Sverige	08-632-0063
Switzerland - German	Schweiz	01-212-1810
Switzerland - French	Suisse	022-310-0418
Switzerland - Italian	Svizzera	091-971-0523
United Kingdom	United Kingdom	01475-555555

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1. Response time will vary depending on the number and complexity of incoming calls.

Table 2. Telephone numbers for warranted help and information (continued)

U.S.A. and Puerto Rico	U.S.A. and Puerto Rico	1-800-426-7378

In all other countries, contact your IBM reseller or IBM marketing representative.

Appendix D. Purchasing additional services

During and after the warranty period, you can purchase additional services, such as support for IBM and non-IBM hardware, operating systems, and application programs; network setup and configuration; upgraded or extended hardware repair services; and custom installations. Service availability and name might vary by country.

Warranty and repair services

You can upgrade your standard hardware warranty service or extend the service beyond the warranty period.

Warranty upgrades in the U.S. include:
- On-site service to premium on-site service

  If your warranty provides for on-site service, you can upgrade to premium on-site service (4-hour average on-site response, 24 hours a day, 7 days a week).

You also can extend your warranty. Warranty and Repair Services offers a variety of post-warranty maintenance options. Availability of the services varies by product.

For more information about warranty upgrades and extensions:
- In the U.S., call 1-800-426-4343.
- In Canada, call 1-800-465-7999.
- In all other countries, contact your IBM reseller or IBM marketing representative.

Appendix E. Product warranties and notices

This chapter contains warranty and emission notices. It also contains trademarks and general-information notices.

Warranty Statements

The warranty statements consist of two parts: Part 1 and Part 2. Part 1 varies by country. Part 2 is the same for all countries. Be sure to read both the Part 1 that applies to your country and Part 2.

- **United States, Puerto Rico, and Canada (Z125-4753-05 11/97)**

  ("Part 1 - General Terms")

- **Worldwide except Canada, Puerto Rico, Turkey, and United States (Z125-5697-01 11/97)**

  ("Part 1 - General Terms" on page 84)

- **Worldwide Country-Unique Terms**

  ("Part 2 - Worldwide Country-Unique Terms" on page 86)

IBM Statement of Limited Warranty for United States, Puerto Rico, and Canada (Part 1 - General Terms)

This Statement of Limited Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. *The terms of Part 2 may replace or modify those of Part 1.*The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you 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. The term ″Machine″ does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

Machine- *IP Storage 200i*

Warranty Period - *One Year*

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 sales receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if approved by IBM to provide warranty service, will provide repair and exchange service for the Machine, without charge, under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at

least functionally equivalent, you may return it to your place of purchase and your money will be refunded. The replacement may not be new, but will be in good working order.

Extent of Warranty
The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

Items Not Covered by Warranty
IBM does not warrant uninterrupted or error-free operation of a Machine.

Unless specified otherwise, IBM provides non-IBM machines **WITHOUT WARRANTIES OF ANY KIND.**

Any technical or other support provided for a Machine under warranty, such as assistance via telephone with ″how-to″ questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service
To obtain warranty service for the Machine, contact your reseller or IBM. In the United States, call IBM at 1-800-426-7378. In Canada, call IBM at 1-800-565-3344. You may be required to present proof of purchase.

IBM or your reseller provides certain types of repair and exchange service, either at your location or at a service center, to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. IBM may repair the failing Machine or exchange it at its discretion.

When warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item.

Any feature, conversion, or upgrade IBM or your reseller services must be installed on a Machine which is 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many features, conversions, or upgrades involve the

removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service.

You also agree to

1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;

2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and

3. where applicable, before service is provided

    a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provides,

    b. secure all programs, data, and funds contained in a Machine,

    c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations, and

    d. inform IBM or your reseller of changes in a Machine's location.

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

Neither IBM nor your reseller is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Production Status
Each IBM 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 appropriate warranty terms apply.

Limitation of Liability
Circumstances may arise where, because of a default on IBM's part or other liability, you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), IBM is liable for no more than

1. damages for bodily injury (including death) and damage to real property and tangible personal property; and

2. the amount of any other actual direct damages, up to the greater of U.S. $100,000 (or equivalent in local currency) or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

    This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES

(INCLUDING LOST PROFITS OR SAVINGS), EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

IBM Statement of Warranty Worldwide except Canada, Puerto Rico, Turkey, United States (Part 1 – General Terms)

This Statement of Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. *The terms of Part 2 may replace or modify those of Part 1*. The warranties provided by IBM in this Statement of Warranty apply only to Machines you 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. The term ″Machine″ does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

Machine-*IP Storage 200i*

Warranty Period - *One Year*

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 sales receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if approved by IBM to provide warranty service, will provide repair and exchange service for the Machine, without charge, under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded. The replacement may not be new, but will be in good working order.

Extent of Warranty
The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO

JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

Items Not Covered by Warranty
IBM does not warrant uninterrupted or error-free operation of a Machine.

Unless specified otherwise, IBM provides non-IBM machines **WITHOUT WARRANTIES OF ANY KIND.**

Any technical or other support provided for a Machine under warranty, such as assistance via telephone with ″how-to″ questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service
To obtain warranty service for the Machine, contact your reseller or IBM. You may be required to present proof of purchase.

IBM or your reseller provides certain types of repair and exchange service, either at your location or at a service center, to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. IBM may repair the failing Machine or exchange it at its discretion.

When warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item.

Any feature, conversion, or upgrade IBM or your reseller services must be installed on a Machine which is 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service.

You also agree to
1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;
2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided
   a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provides,
   b. secure all programs, data, and funds contained in a Machine,
   c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations, and

d. inform IBM or your reseller of changes in a Machine's location.

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

Neither IBM nor your reseller is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Production Status

Each IBM 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 appropriate warranty terms apply.

Limitation of Liability

Circumstances may arise where, because of a default on IBM's part or other liability, you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), IBM is liable for no more than

1. damages for bodily injury (including death) and damage to real property and tangible personal property; and

2. the amount of any other actual direct damages, up to the greater of U.S. $100,000 (or equivalent in local currency) or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

   This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Part 2 - Worldwide Country-Unique Terms

ASIA PACIFIC

AUSTRALIA: The IBM Warranty for Machines: The following paragraph is added to this Section:
The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other legislation and are only limited to the extent permitted by the applicable legislation.

Extent of Warranty: The following replaces the first and second sentences of this Section:
The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment,

operation in other than the Specified Operating Environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible.

Limitation of Liability: The following is added to this Section:
Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974, IBM's liability is limited to the repair or replacement of the goods or the supply of equivalent goods. Where that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

PEOPLE'S REPUBLIC OF CHINA: Governing Law: The following is added to this Statement:
The laws of the State of New York govern this Statement.

INDIA: Limitation of Liability: The following replaces items 1 and 2 of this Section:
1. liability for bodily injury (including death) or damage to real property and tangible personal property will be limited to that caused by IBM's negligence;
2. as to any other actual damage arising in any situation involving nonperformance by IBM pursuant to, or in any way related to the subject of this Statement of Warranty, IBM's liability will be limited to the charge paid by you for the individual Machine that is the subject of the claim.

NEW ZEALAND: The IBM Warranty for Machines: The following paragraph is added to this Section:
The warranties specified in this Section are in addition to any rights you may have under the Consumer Guarantees Act 1993 or other legislation which cannot be excluded or limited. The Consumer Guarantees Act 1993 will not apply in respect of any goods which IBM provides, if you require the goods for the purposes of a business as defined in that Act.

Limitation of Liability: The following is added to this Section:
Where Machines are not acquired for the purposes of a business as defined in the Consumer Guarantees Act 1993, the limitations in this Section are subject to the limitations in that Act.

EUROPE, MIDDLE EAST, AFRICA (EMEA)

The following terms apply to all EMEA countries.

The terms of this Statement of Warranty apply to Machines purchased from an IBM reseller. If you purchased this Machine from IBM, the terms and conditions of the applicable IBM agreement prevail over this warranty statement.

Warranty Service

If you purchased an IBM Machine in Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland or United Kingdom, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

If you purchased an IBM Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kirghizia, Federal Republic of Yugoslavia, Former Yugoslav Republic of

Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, or Ukraine, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

The applicable laws, Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided. However, the laws of Austria govern this Statement if the warranty service is provided in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Federal Republic of Yugoslavia, Georgia, Hungary, Kazakhstan, Kirghizia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, and Ukraine.

The following terms apply to the country specified:

EGYPT: Limitation of Liability: The following replaces item 2 in this Section:
2. as to any other actual direct damages, IBM's liability will be limited to the total amount you paid for the Machine that is the subject of the claim.

Applicability of suppliers and resellers (unchanged).

FRANCE: Limitation of Liability: The following replaces the second sentence of the first paragraph of this Section:
In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: (items 1 and 2 unchanged).

GERMANY: The IBM Warranty for Machines: The following replaces the first sentence of the first paragraph of this Section:
The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

The following paragraphs are added to this Section:
The minimum warranty period for Machines is six months.

In case IBM or your reseller are unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

Extent of Warranty: The second paragraph does not apply.

Warranty Service: The following is added to this Section:
During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

Production Status: The following paragraph replaces this Section:
Each Machine is newly manufactured. It may incorporate in addition to new parts, re-used parts as well.

Limitation of Liability: The following is added to this Section:
The limitations and exclusions specified in the Statement of Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

In item 2, replace ″U.S. $100,000″ with ″1.000.000 DEM.″

The following sentence is added to the end of the first paragraph of item 2:
IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

IRELAND: Extent of Warranty: The following is added to this Section:
Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

Limitation of Liability: The following replaces items one and two of the first paragraph of this Section:
1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; and 2. the amount of any other actual direct damages, up to the greater of Irish Pounds 75,000 or 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

Applicability of suppliers and resellers (unchanged).

The following paragraph is added at the end of this Section:
IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

ITALY: Limitation of Liability: The following replaces the second sentence in the first paragraph:
In each such instance unless otherwise provided by mandatory law, IBM is liable for no more than: (item 1 unchanged) 2)as to any other actual damage arising in all situations involving non-performance by IBM pursuant to, or in any way related to the subject matter of this Statement of Warranty, IBM's liability, will be limited to the total amount you paid for the Machine that is the subject of the claim.

Applicability of suppliers and resellers (unchanged).

The following replaces the second paragraph of this Section:
Unless otherwise provided by mandatory law, IBM and your reseller are not liable for any of the following: (items 1 and 2 unchanged) 3) indirect damages, even if IBM or your reseller is informed of their possibility.

SOUTH AFRICA, NAMIBIA, BOTSWANA, LESOTHO AND SWAZILAND:
Limitation of Liability: The following is added to this Section:
IBM's entire liability to you for actual damages arising in all situations involving nonperformance by IBM in respect of the subject matter of this Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.

TURKIYE: Production Status: The following replaces this Section:
IBM fulfills customer orders for IBM Machines as newly manufactured in accordance with IBM's production standards.

UNITED KINGDOM: Limitation of Liability: The following replaces items 1 and 2 of the first paragraph of this Section:
1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; 2. the amount of any other actual direct damages or loss, up to the greater of Pounds Sterling 150,000 or 125 percent of the charges (if

recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

The following item is added to this paragraph:
3. breach of IBM's obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

Applicability of suppliers and resellers (unchanged).

The following is added to the end of this Section:
IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default will be limited to damages.

NORTH AMERICA

CANADA: Warranty Service: The following is added to this section:
To obtain warranty service from IBM, call **1-800-565-3344**.

UNITED STATES OF AMERICA: Warranty Service: The following is added to this section:
To obtain warranty service from IBM, call **1-800-772-2227**.

Power cords

For your safety, IBM provides a power cord with a grounded attachment plug to use with this IBM product. To avoid electrical shock, always use the power cord and plug with a properly grounded outlet.

IBM power cords used in the United States and Canada are listed by Underwriter's Laboratories (UL) and certified by the Canadian Standards Association (CSA).

For units intended to be operated at 115 volts: Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a parallel blade, grounding-type attachment plug rated 15 amperes, 125 volts.

For units intended to be operated at 230 volts (U.S. use): Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a tandem blade, grounding-type attachment plug rated 15 amperes, 250 volts.

For units intended to be operated at 230 volts (outside the U.S.): Use a cord set with a grounding-type attachment plug. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.

IBM power cords for a specific country or region are usually available only in that country or region.

IBM power cord part number	Used in these countries and regions
13F9940	Argentina, Australia, China (PRC), New Zealand, Papua New Guinea, Paraguay, Uruguay, Western Samoa

IBM power cord part number	Used in these countries and regions
13F9979	Afghanistan, Algeria, Andorra, Angola, Austria, Belgium, Benin, Bulgaria, Burkina Faso, Burundi, Cameroon, Central African Rep., Chad, Czech Republic, Egypt, Finland, France, French Guiana, Germany, Greece, Guinea, Hungary, Iceland, Indonesia, Iran, Ivory Coast, Jordan, Lebanon, Luxembourg, Macau, Malagasy, Mali, Martinique, Mauritania, Mauritius, Monaco, Morocco, Mozambique, Netherlands, New Caledonia, Niger, Norway, Poland, Portugal, Romania, Senegal, Slovakia, Spain, Sudan, Sweden, Syria, Togo, Tunisia, Turkey, former USSR, Vietnam, former Yugoslavia, Zaire, Zimbabwe
13F9997	Denmark
14F0015	Bangladesh, Burma, Pakistan, South Africa, Sri Lanka
14F0033	Antigua, Bahrain, Brunei, Channel Islands, Cyprus, Dubai, Fiji, Ghana, Hong Kong, India, Iraq, Ireland, Kenya, Kuwait, Malawi, Malaysia, Malta, Nepal, Nigeria, Polynesia, Qatar, Sierra Leone, Singapore, Tanzania, Uganda, United Kingdom, Yemen, Zambia
14F0051	Liechtenstein, Switzerland
14F0069	Chile, Ethiopia, Italy, Libya, Somalia
14F0087	Israel
1838574	Thailand
62X1045	Bahamas, Barbados, Bermuda, Bolivia, Brazil, Canada, Cayman Islands, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Korea (South), Liberia, Mexico, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Saudi Arabia, Suriname, Taiwan, Trinidad (West Indies), United States of America, Venezuela

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IBM TotalStorage™ IP Storage 200i Storage Unit
Installation and User's Guide

Publication No. GA27-4265-00

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	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	☐	☐	☐	☐	☐

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Please tell us how we can improve this book:

Thank you for your responses. May we contact you?   ☐ Yes   ☐ No

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