

IBM



# Hardware Maintenance Manual

Types 2292, 6343, 6349, 6350, 6790,  
6791, 6792, 6793, 6794, 6795, 6823, 6825





IBM



**Hardware Maintenance Manual**  
**Types 2292, 6343, 6349, 6350, 6790,**  
**6791, 6792, 6793, 6794, 6795, 6823, 6825**

**Note:**

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 219.

**First Edition (September 2001)**

The following paragraph does not apply to the United Kingdom or any country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT ANY WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE LIMITED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimers or express or implied warranties in certain transactions; therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements or changes in the products or the programs described in this publication at any time.

Requests for technical information about IBM products should be made to your IBM Authorized Dealer or your IBM Marketing Representative.

© Copyright International Business Machines Corporation 2001. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

---

# Contents

About this manual . . . . .	v
Important Safety Information . . . . .	v
<b>Chapter 1. General Checkout . . . . .</b>	<b>1</b>
<b>Chapter 2. General information . . . . .</b>	<b>3</b>
Identifying your computer . . . . .	3
Small desktop model computer . . . . .	4
Desktop model computer . . . . .	4
Microtower model computer . . . . .	4
Features . . . . .	5
Specifications . . . . .	7
Physical specifications — small desktop model . . . . .	8
Physical specifications — desktop model . . . . .	9
Physical specifications — microtower model . . . . .	10
Available options . . . . .	11
<b>Chapter 3. Diagnostics . . . . .</b>	<b>13</b>
Setup Utility program . . . . .	14
Product Recovery Program menu . . . . .	15
Diagnostics . . . . .	16
Diagnostics program download . . . . .	16
Navigating through the diagnostics programs . . . . .	16
Running diagnostics tests . . . . .	16
Test selection . . . . .	17
Test results . . . . .	17
Hard file Smart test . . . . .	17
Quick and Full erase - hard drive . . . . .	18
Asset EEPROM backup . . . . .	19
Viewing the test log . . . . .	19
<b>Chapter 4. Installing Options . . . . .</b>	<b>21</b>
Installing external options . . . . .	21
Locating the connectors on the front of your computer . . . . .	21
Locating the connectors on the rear of your computer . . . . .	23
Obtaining device drivers . . . . .	26
Installing internal options — small desktop model . . . . .	26
Installing internal options — desktop model . . . . .	37
Installing internal options — microtower model . . . . .	48
<b>Chapter 5. FRU Removals . . . . .</b>	<b>61</b>
Replacing a microprocessor . . . . .	61
Small desktop removals . . . . .	61
Power supply . . . . .	62
Speaker . . . . .	62
System board . . . . .	63
Air baffle . . . . .	63
Desktop removals . . . . .	63
Fan/Speaker . . . . .	64
Power Supply . . . . .	64
System board . . . . .	65
Microtower removals . . . . .	65
Fan . . . . .	66
Front bezel . . . . .	66
Hard disk drive . . . . .	67
Power supply . . . . .	67
Speaker . . . . .	68
System board . . . . .	68

<b>Chapter 6. Symptom-to-FRU Index</b> .....	<b>69</b>
Hard disk drive boot error .....	69
Power Supply Errors .....	69
Diagnostic error codes .....	71
Beep symptoms .....	88
No-beep symptoms .....	90
POST error codes .....	91
Miscellaneous error messages .....	105
Undetermined problems .....	107
<b>Chapter 7. Parts listing</b> .....	<b>109</b>
Small Desktop Model .....	109
Desktop Model .....	126
Microtower Model .....	146
<b>Chapter 8. Additional Service Information</b> .....	<b>175</b>
Security features .....	175
Passwords .....	175
Vital product data .....	176
Management Information Format (MIF) .....	176
Alert on LAN .....	177
BIOS levels .....	177
Flash (BIOS/VPD) update procedure .....	178
Flash recovery boot block jumper .....	178
Power management .....	179
Automatic configuration and power interface (ACPI) BIOS .....	179
Advanced Power Management .....	179
Automatic Hardware Power Management features .....	179
Setting Automatic Hardware Power Management features .....	180
Automatic Power-On features .....	180
Network settings .....	182
Flash over LAN (update POST/BIOS over network) .....	182
Wake on LAN .....	183
<b>Chapter 9. Related service information</b> .....	<b>185</b>
Safety information .....	185
General safety .....	185
Electrical safety .....	186
Safety inspection guide .....	187
Handling electrostatic discharge-sensitive devices .....	188
Grounding requirements .....	189
Safety notices (multi-lingual translations) .....	189
Send us your comments! .....	218
Problem determination tips .....	219
Notices .....	219
Trademarks .....	220

---

## About this manual

This manual contains service and reference information for the IBM® computer Types 2292, 6343, 6349, 6350, 6790, 6791, 6792, 6793, 6794, 6795, 6823, 6825.

This manual is divided into product service sections and a related service section, as follows:

- The product service sections include procedures for isolating problems to a FRU, a Symptom-to-FRU Index, additional service information and an illustrated parts catalog.
- The related service section includes safety notices and safety information, and problem determination tips.

**Note:**

This manual is intended for trained servicers who are familiar with IBM Personal Computer products. Use this manual along with advanced diagnostic tests to troubleshoot problems effectively.

Before servicing an IBM product, be sure to review the "Safety information" on page 185.

## Important Safety Information

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

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.

### 주의 및 위험 경고문(한글)

**중요:**

이 책에 나오는 모든 주의 및 위험 경고문은 번호로 시작됩니다. 이 번호는 *Safety Information* 책에 나오는 영문판 주의 및 위험 경고문과 한글판 주의 및 위험 경고문을 상호 참조하는데 사용됩니다.

예를 들어 주의 경고문이 번호 1로 시작되면 *Safety Information* 책에서 이 주의 경고문은 경고문 1번 아래에 나옵니다.

지시를 따라 수행하기 전에 먼저 모든 주의 및 위험 경고문을 읽도록 하십시오.

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

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

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

---

## 注意和危險声明 (简体中文)

### 重要事项:

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

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險声明。

---

## 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。



---

## Chapter 1. General Checkout

This general checkout procedure is for Types 2292, 6343, 6349, 6350, 6790, 6791, 6792, 6793, 6794, 6795, 6823, and 6825 computers.

**Attention:**

The drives in the computer you are servicing might have been rearranged or the drive startup sequence changed. Be extremely careful during write operations such as copying, saving or formatting. Data or programs can be overwritten if you select an incorrect drive.

Diagnostic error messages appear when a test program finds a problem with a hardware option. For the test programs to properly determine if a test *Passed*, *Failed* or *Aborted*, the test programs check the error-return code at test completion. See "Diagnostics" on page 16.

General error messages appear if a problem or conflict is found by an application program, the operating system, or both. For an explanation of these messages, refer to the information supplied with that software package.

**Notes:**

- Types 2292, 6343, 6349, 6350, 6790, 6791, 6792, 6793, 6794, 6795, 6823, and 6825 computers default to come up quiet (no beep and no memory count and checkpoint code display) when no errors are detected by POST.
- To enable beep and memory count and checkpoint code display when a successful POST occurs, do the following:
  1. Select **Start Options** in the Configuration/Setup Utility program (see "Setup Utility program" on page 14).
  2. Set **Power-On Self-Test** to **Enhanced**.
- Before replacing any FRUs, ensure that the latest level of BIOS is installed on the system. A down-level BIOS might cause false errors and unnecessary replacement of the system board. For more information on how to determine and obtain the latest level BIOS, see "BIOS levels" on page 177.
- If multiple error codes are displayed, diagnose the first error code displayed.
- If the computer hangs with a POST error, go to "Symptom-to-FRU Index" on page 69.
- If the computer hangs and no error is displayed, go to "Undetermined problems" on page 107.
- If an installed device is not recognized by the diagnostics program, that device might be defective.

**001**

1. Power-off the computer and all external devices.
2. Check all cables and power cords.
3. Make sure the system board is seated properly.
4. Set all display controls to the middle position.
5. Power-on all external devices.

6. Power-on the computer.
7. Check for the following response:
  - Readable instructions or the Main Menu.

#### DID YOU RECEIVE THE CORRECT RESPONSE?

If NO, continue to **002** .

If YES, proceed to **003** .

#### **002**

If the Power Management feature is enabled, do the following:

1. Start the Configuration/Setup Utility program (see "Setup Utility program" on page 14)
2. Select **Power Management** from the Configuration/Setup Utility program menu.
3. Select **APM**.
4. Be sure **APM BIOS Mode** is set to **Disabled**. If it is not, press Left Arrow (←) or Right Arrow (→) to change the setting.
5. Select **Automatic Hardware Power Management**.
6. Set **Automatic Hardware Power Management** to **Disabled**.
7. If the problem persists, continue to **003** .

#### **003**

Run the Diagnostic programs. If necessary, refer to "Diagnostics" on page 16.

- If you receive an error, replace the part that the diagnostic program calls out or go to "Symptom-to-FRU Index" on page 69.
- If the test stops and you cannot continue, replace the last device tested.

---

## Chapter 2. General information

This IBM® computer incorporates many of the latest advances in computer technology and can be upgraded as your needs change.

Adding hardware options to your computer is an easy way to increase its capabilities. Instructions for installing external and internal options are included in this publication. When adding an option, use these instructions along with the instructions that come with the option.

This chapter provides a brief introduction to the options and features that are available for your computer.

Go to Access IBM for general information about the use, operation, and maintenance of your computer. Access IBM also contains information to help you solve problems and get repair service or other technical assistance.

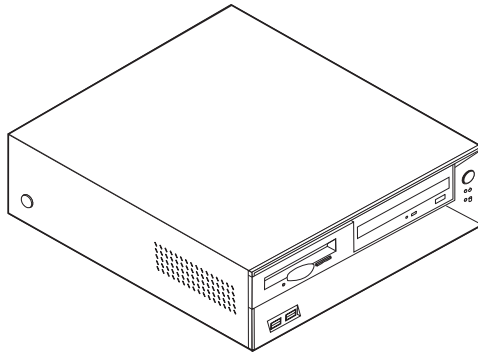
---

### Identifying your computer

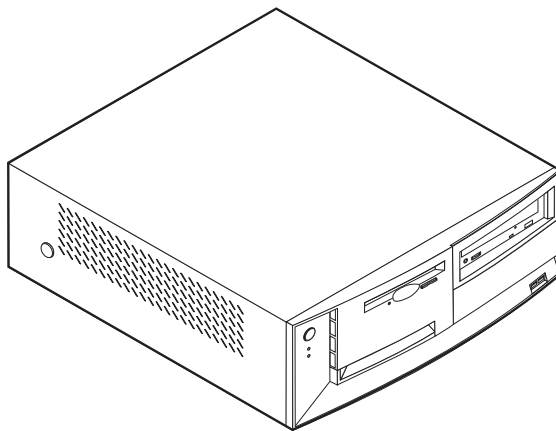
To properly install options, you will need to know the machine type/model of your computer. You can find this number on the small label on the front of your computer. An example of the machine type/model number is 6790xxx.

The information in this publication supports several computer types and models. The following illustrations will help you identify your computer.

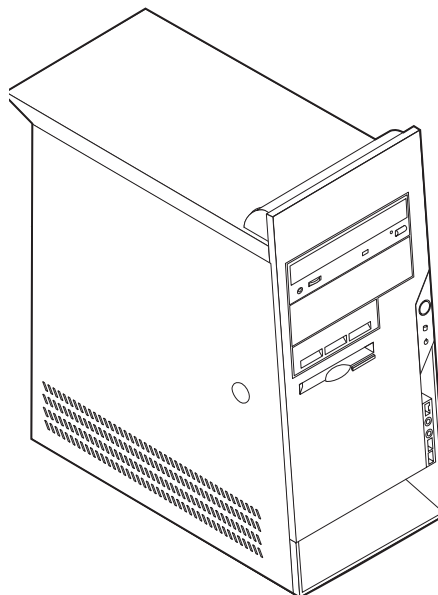
## Small desktop model computer



## Desktop model computer



## Microtower model computer



---

## Features

This section provides an overview of the computer features, preinstalled software, and specifications.

### Microprocessor

Intel® Pentium™ 4 with 256 KB of internal L2 cache memory and Intel NetBurst™ micro-architecture

### Memory

- Support for three dual in-line memory modules (DIMMs) (some models)
- 512 KB flash memory for system programs

### Internal drives

- 3.5-inch, 1.44 MB diskette drive
- Internal hard disk drive
- EIDE CD-ROM, CD/RW, DVD-ROM, DVD RAM or DVD-ROM/CD/RW combo drives.

### Video subsystem

AGP video adapter slot on the system board

### Audio subsystem

16-bit integrated Sound Blaster Pro compatible audio subsystem

### Connectivity

- 10/100 Mbps integrated Intel ethernet controller that supports the Wake on LAN® feature
- 56k V.90 data/fax PCI modem (some models)

### System management features (varies by model type)

- Remote Program Load (RPL) and Dynamic Host Configuration Protocol (DHCP)
- Wake on LAN
- Wake on Ring (in the IBM Setup Utility program, this feature is called Serial Port Ring Detect for an external modem and Modem Ring Detect for an internal modem)
- Remote Administration
- Automatic power-on startup
- System Management (SM) BIOS and SM software
- Ability to store POST hardware test results

### Input/output features

- 25-pin, Extended Capabilities Port (ECP)/Extended Parallel Port (EPP)
- Two 9-pin serial connectors
- Four 4-pin, USB connectors
- PS/2® mouse connector
- PS/2 keyboard connector
- RJ-45 Ethernet connector
- Monitor connector
- Three audio connectors (line in, line out, and microphone)

- IEEE 1394 connector (some models)
- Front connectors for microphone and headphones (some models)

### **Expansion**

- Drive bays
  - Small desktop model: Three
  - Desktop model: Four
  - Microtower model: Five
- 32-bit peripheral component interconnect (PCI) adapter slots
  - Small desktop model: Three (supports low profile adapters only)
  - Desktop model: Three
  - Microtower model: Three
- One accelerated graphics port (AGP) expansion slot (small desktop supports low profile adapters only)

### **Power**

- 160 W or 185 W power supply with manual voltage selection switch
- Automatic 50/60 Hz input frequency switching
- Advanced Power Management support
- Advanced Configuration and Power Interface (ACPI) support

### **Security features** (varies by model type)

- User and administrator passwords
- Support for the addition of a Rope Clip and lockable cable (varies by mechanical chassis)
- Startup sequence control
- Startup without diskette drive, keyboard, or mouse
- Unattended start mode
- Diskette and hard disk I/O control
- Serial and parallel port I/O control
- Security profile by device

### **IBM preinstalled software**

Your computer might come with preinstalled software. If it does, an operating system, device drivers to support built-in features, and other support programs are included.

### **Operating systems (supported)**

- Microsoft® Windows XP
- Microsoft Windows 2000
- Microsoft Windows NT® Workstation Version 4.0
- Microsoft Windows 98 Second Edition
- OS/2®

### **Operating systems (tested for compatibility)<sup>1</sup>**

- Linux

---

1. The operating systems listed here are being tested for compatibility at the time this publication goes to press. Additional operating systems might be identified by IBM as compatible with your computer following the publication of this booklet. Corrections and additions to this list are subject to change. To determine if an operating system has been tested for compatibility, check the Web site of the operating system vendor.

- PC DOS

---

## **Specifications**

This section lists the physical specifications for your computer.

## Physical specifications — small desktop model

<p><b>Dimensions</b></p> <p>Height: 104 mm (4.1 in.)</p> <p>Width: 360 mm (14.2 in.)</p> <p>Depth: 412 mm (16.2 in.)</p> <p><b>Weight</b></p> <p>Minimum configuration as shipped: 8.1 kg (18 lb)</p> <p>Maximum configuration: 10.9 kg (24 lb)</p> <p><b>Environment</b></p> <p>Air temperature:</p> <p>System on: 10° to 35° C (50° to 95° F)</p> <p>System off: 10° to 43° C (50° to 110° F)</p> <p>Maximum altitude: 2134 m (7000 ft)</p> <p><b>Note:</b> The maximum altitude, 2134 m (7000 ft), is the maximum altitude at which the specified air temperatures apply. At higher altitudes, the maximum air temperatures are lower than those specified.</p> <p>Humidity:</p> <p>System on: 8% to 80%</p> <p>System off: 8% to 80%</p> <p><b>Electrical input</b></p> <p>Input voltage:</p> <p>Low range:</p> <p>Minimum: 90 V ac</p> <p>Maximum: 137 V ac</p> <p>Input frequency range: 57–63 Hz</p> <p>Voltage switch setting: 115 V ac</p> <p>High range:</p> <p>Minimum: 180 V ac</p> <p>Maximum: 265 V ac</p> <p>Input frequency range: 47–53 Hz</p> <p>Voltage switch setting: 230 V ac</p> <p>Input kilovolt-amperes (kVA) (approximate):</p> <p>Minimum configuration as shipped: 0.08 kVA</p> <p>Maximum configuration: 0.30 kVA</p> <p><b>Note:</b> Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use.</p>	<p><b>Heat output</b> (approximate) in British thermal units (Btu) per hour:</p> <p>Minimum configuration: 257 Btu/hr (75 watts)</p> <p>Maximum configuration: 686 Btu/hr (200 watts)</p> <p><b>Airflow</b></p> <p>Approximately 0.45 cubic meters every three minutes (16 cubic feet every three minutes) maximum</p> <p><b>Acoustical noise-emission values</b></p> <p>Average sound-pressure levels:</p> <p>At operator position:</p> <p>Idle: 38 dBA</p> <p>Operating: 43 dBA</p> <p>At bystander position - 1 meter (3.3 ft):</p> <p>Idle: 33 dBA</p> <p>Operating: 37 dBA</p> <p>Declared (upper limit) sound-power levels:</p> <p>Idle: 3.75 bels</p> <p>Operating: 4.99 bels</p> <p><b>Note:</b> These levels were measured in controlled acoustical environments according to the procedures specified by the American National Standards Institute (ANSI) S12.10 and ISO 7779 and are reported in accordance with ISO 9296. Actual sound-pressure levels in a given location might exceed the average values stated because of room reflections and other nearby noise sources. The declared sound-power levels indicate an upper limit, below which a large number of computers will operate.</p> <p><b>Note:</b> The computer is classified as a Class A or Class B digital device. See the <i>Quick Reference</i> for further information about this classification.</p>
---	---



## Physical specifications — desktop model

<p><b>Dimensions</b></p> <p>Height: 140 mm (5.5 in.)</p> <p>Width: 425 mm (16.7 in.)</p> <p>Depth: 425 mm (16.7 in.)</p> <p><b>Weight</b></p> <p>Minimum configuration as shipped: 10.0 kg (22 lb)</p> <p>Maximum configuration: 11.4 kg (25.0 lb)</p> <p><b>Environment</b></p> <p>Air temperature:</p> <p>System on: 10° to 35° C (50° to 95° F)</p> <p>System off: 10° to 43° C (50° to 110° F)</p> <p>Maximum altitude: 2134 m (7000 ft)</p> <p><b>Note:</b> The maximum altitude, 2134 m (7000 ft), is the maximum altitude at which the specified air temperatures apply. At higher altitudes, the maximum air temperatures are lower than those specified.</p> <p>Humidity:</p> <p>System on: 8% to 80%</p> <p>System off: 8% to 80%</p> <p><b>Electrical input</b></p> <p>Input voltage:</p> <p>Low range:</p> <p>Minimum: 90 V ac</p> <p>Maximum: 137 V ac</p> <p>Input frequency range: 57–63 Hz</p> <p>Voltage switch setting: 115 V ac</p> <p>High range:</p> <p>Minimum: 180 V ac</p> <p>Maximum: 265 V ac</p> <p>Input frequency range: 47–53 Hz</p> <p>Voltage switch setting: 230 V ac</p> <p>Input kilovolt-amperes (kVA) (approximate):</p> <p>Minimum configuration as shipped: 0.08 kVA</p> <p>Maximum configuration: 0.3 kVA</p> <p><b>Note:</b> Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use.</p>	<p><b>Heat output</b> (approximate) in British thermal units (Btu) per hour:</p> <p>Minimum configuration: 257 Btu/hr (75 watts)</p> <p>Maximum configuration: 789 Btu/hr (230 watts)</p> <p><b>Airflow</b></p> <p>Approximately 0.68 cubic meters every three minutes (24 cubic feet every three minutes) maximum</p> <p><b>Acoustical noise-emission values</b></p> <p>Average sound-pressure levels:</p> <p>At operator position:</p> <p>Idle: 38 dBA</p> <p>Operating: 43 dBA</p> <p>At bystander position - 1 meter (3.3 ft):</p> <p>Idle: 33 dBA</p> <p>Operating: 37 dBA</p> <p>Declared (upper limit) sound-power levels:</p> <p>Idle: 4.8 bels</p> <p>Operating: 5.1 bels</p> <p><b>Note:</b> These levels were measured in controlled acoustical environments according to the procedures specified by the American National Standards Institute (ANSI) S12.10 and ISO 7779 and are reported in accordance with ISO 9296. Actual sound-pressure levels in a given location might exceed the average values stated because of room reflections and other nearby noise sources. The declared sound-power levels indicate an upper limit, below which a large number of computers will operate.</p> <p><b>Note:</b> The computer is classified as a Class A or Class B digital device. See the <i>Quick Reference</i> for further information about this classification.</p>
---	---

## Physical specifications — microtower model

<p><b>Dimensions</b></p> <p>Height: 444.5 mm (17.5 in.)</p> <p>Width: 165.1 mm (6.5 in.)</p> <p>Depth: 497.8 mm (19.6 in.)</p> <p><b>Weight</b></p> <p>Minimum configuration as shipped: 9.1 kg (20 lb)</p> <p>Maximum configuration: 10.2 kg (22.5 lb)</p> <p><b>Environment</b></p> <p>Air temperature:</p> <p>System on: 10° to 35° C (50° to 95° F)</p> <p>System off: 10° to 43° C (50° to 110° F)</p> <p>Maximum altitude: 2134 m (7000 ft)</p> <p><b>Note:</b> The maximum altitude, 2134 m (7000 ft), is the maximum altitude at which the specified air temperatures apply. At higher altitudes, the maximum air temperatures are lower than those specified.</p> <p>Humidity:</p> <p>System on: 8% to 80%</p> <p>System off: 8% to 80%</p> <p><b>Electrical input</b></p> <p>Input voltage:</p> <p>Low range:</p> <p>Minimum: 90 V ac</p> <p>Maximum: 137 V ac</p> <p>Input frequency range: 57–63 Hz</p> <p>Voltage switch setting: 115 V ac</p> <p>High range:</p> <p>Minimum: 180 V ac</p> <p>Maximum: 265 V ac</p> <p>Input frequency range: 47–53 Hz</p> <p>Voltage switch setting: 230 V ac</p> <p>Input kilovolt-amperes (kVA) (approximate):</p> <p>Minimum configuration as shipped: 0.08 kVA</p> <p>Maximum configuration: 0.3 kVA</p> <p><b>Note:</b> Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use.</p>	<p><b>Heat output</b> (approximate) in British thermal units (Btu) per hour:</p> <p>Minimum configuration: 257 Btu/hr (75 watts)</p> <p>Maximum configuration: 789 Btu/hr (230 watts)</p> <p><b>Airflow</b></p> <p>Approximately 0.79 cubic meters every three minutes (18 cubic feet every three minutes) maximum</p> <p><b>Acoustical noise-emission values</b></p> <p>Average sound-pressure levels:</p> <p>At operator position:</p> <p>Idle: 38 dBA</p> <p>Operating: 43 dBA</p> <p>At bystander position - 1 meter (3.3 ft):</p> <p>Idle: 33 dBA</p> <p>Operating: 37 dBA</p> <p>Declared (upper limit) sound-power levels:</p> <p>Idle: 4.8 bels</p> <p>Operating: 5.1 bels</p> <p><b>Note:</b> These levels were measured in controlled acoustical environments according to the procedures specified by the American National Standards Institute (ANSI) S12.10 and ISO 7779 and are reported in accordance with ISO 9296. Actual sound-pressure levels in a given location might exceed the average values stated because of room reflections and other nearby noise sources. The declared sound-power levels indicate an upper limit, below which a large number of computers will operate.</p> <p><b>Note:</b> The computer is classified as a Class A or Class B digital device. See the <i>Quick Reference</i> for further information about this classification.</p>
--	---

---

## Available options

The following are some available options:

- External options
  - Parallel port devices, such as printers and external drives
  - Serial port devices, such as external modems and digital cameras
  - Audio devices, such as external speakers for the sound system
  - USB devices, such as printers, joysticks, and scanners
  - Security device, such as a Rope Clip
  - Monitors
  - IEEE 1394 devices (requires an IEEE 1394 adapter)
  - SCSI devices (requires a SCSI adapter)
- Internal options
  - System memory, called dual in-line memory modules (DIMMs)
  - Adapters
    - Peripheral component interconnect (PCI) adapters
    - Accelerated graphics port (AGP) adapters
    - Small desktop models support low profile adapters only
  - Internal drives, such as:
    - CD drive or DVD drive
    - CD drive and DVD drive
    - Hard disk
    - Diskette drives and other removable media drives

For the latest information about available options, see the following World Wide Web pages:

- <http://www.ibm.com/pc/us/options/>
- <http://www.ibm.com/pc/support/>

You can also obtain information by calling the following telephone numbers:

- Within the United States, call 1-800-IBM-2YOU (1-800-426-2968), your IBM reseller, or IBM marketing representative.
- Within Canada, call 1-800-565-3344 or 1-800-IBM-4YOU.
- Outside the United States and Canada, contact your IBM reseller or IBM marketing representative.



---

## Chapter 3. Diagnostics

The following tools are available to help identify and resolve hardware-related problems.

- Setup Utility program
- Power-On Self-Test (POST)
  - POST Beep Codes
  - Error Code Format
- Diagnostics program
- Recovery utility
  - Full recovery
  - Partial recovery
- Repair utility

---

## Setup Utility program

**Attention:**

A customized setup configuration (other than default settings) might exist on the computer you are servicing. Running the Setup Utility program might alter those settings. Note the current configuration settings and verify that the settings are in place when service is complete.

The Setup Utility (configuration) program is stored in the permanent memory of the computer. This program includes settings for the following:

- System Summary
- Product Data
- Devices and I/O Ports
- Start Options
- Date and Time
- System Security
- Advanced Setup
- Power Management

To run the Setup Utility program, use the following procedure.

1. Power-off the computer and wait for a few seconds until all in-use lights go off.
2. Power-on the computer.
3. When the Setup Utility prompt appears on the screen during start-up, press **F1**. The Setup Utility menu will appear.
4. Follow the instructions on the screen.
5. When finished, select **System Summary** to verify that any configuration changes have been accepted.

---

## Product Recovery Program menu

Type 2292, 6343, 6349, 6350, 6790, 6791, 6792, 6793, 6794, 6795, 6823, and 6825 machines have recovery and diagnostics programs on a separate hard drive partition. The Enhanced Diagnostics diskette is not shipped with the machine. To download the Diagnostics program, see “Diagnostics program download” on page 16.

At startup, the machine displays the following prompt:

**To start the Product Recovery Program, press F11**

**CAUTION:**

**Make sure all data is backed up to avoid loss when the Product Recovery program is used.**

After depressing F11, you are given the following options.

- **IBM Backup and Restore**

This utility will restore your most recent backup of your operating system, applications, and data.

**Note:** This item should only appear if the IBM Backup and Restore program has been installed
- **Full recovery**

This utility reformats the hard drive and restores all original files.
- **System utilities**
  1. **Repair (Windows NT 4.0 and 2000 Only)**

This runs the Windows NT 4.0 emergency repair utility.
  2. **Run Diagnostics**

Runs the IBM Enhanced Diagnostic Program.
  3. **Create a Diagnostics Diskette**

Creates a bootable diagnostic diskette.
  4. **System Information**

Displays information about your computer configuration and allows the user to gather system information that would be needed during a Help Center call.
  5. **Create Recovery/Repair Diskette (Disk to Disk Solution Only)**

Creates a startable diskette to restore access to the IBM Product Recovery program on the hard disk.
  6. **Recovery CD**

In the event of a Hard Disk Drive failure, a Recovery CD can be used to restore the Hard Disk Drive to the original factory preset. Be sure to use the Recovery CD FRU list to obtain the proper recovery CD for the computer model you are servicing.

---

## Diagnostics

The Diagnostics program uses a full range of diagnostic utilities to determine the operating condition of the computer's hardware components.

For a complete list of error codes and messages, see "Symptom-to-FRU Index" on page 69.

### Diagnostics program download

To download the Diagnostics program, do the following:

- Go to <http://www.ibm.com/>.
- Select **Support**.
- Select **Desktop computing** from the "Search by Category" pull-down menu.
- Select **NetVista** from the "Product Family" list.
- Search for the machine type in the "Quick Path" box on the left.
- Select **Diagnostics** from the "Downloadable files by Category" pull-down menu or go directly to the link **PC Enhanced Diagnostics diskette** from the "Downloadable files by date" list. This link will take you to the self-starting utility download and instructions.

### Navigating through the diagnostics programs

Use the cursor movement keys to navigate within the menus.

- The **Enter** key is used to select a menu item.
- The **Esc** key is used to back up to the previous menu.
- For online help select **F1**.

### Running diagnostics tests

There are four ways to run the diagnostic tests.

1. Using the cursor movement keys, highlight **Run Normal Test** or **Run Quick Test** from the Diagnostics menu and then press **Enter**.

This will automatically run a pre-defined group of tests from each test category. Run **Normal Test** runs a more extensive set of tests than does **Run Quick Test** and takes longer to execute.

2. Press **F5** to automatically run all selected tests in all categories. See "Test Selection".
3. From within a test category, press **Ctrl-Enter** to automatically run only the selected tests in that category. See "Test Selection".
4. Using the cursor movement keys, highlight a single test within a test category, then press **Enter**. This will run only that test.

Press **Esc** at any time to stop the testing process.

Test results, (N/A, PASSED, FAILED, ABORTED), are displayed in the field beside the test description and in the test log. See "Viewing the test log" on page 19.



## Test selection

To select one or more tests, use the following procedure.

1. Open the corresponding test category.
2. Using the cursor movement keys, highlight the desired test.
3. Press the space bar.

A selected test is marked by >>. Pressing the space bar again de-selects a test and removes the chevron.

4. Repeat steps 2 and 3 above to select all desired tests.

## Test results

Diagnostics test results will produce the following error code format:

Function Code	Failure Type	DeviceID	Date	ChkDigits	Text
---------------	--------------	----------	------	-----------	------

- **Function Code:**  
Represents the feature or function within the PC.
- **Failure Type:**  
Represents the type of error encountered.
- **DeviceID:**  
Contains the component's unit-ID which corresponds to either a fixed disk drive, removable media drive, serial or parallel port, processor, specific RIMM, or a device on the PCI bus.
- **Date:**  
Contains the date on which the diagnostic test was run. The date is retrieved from CMOS and displayed using the YYYYMMDD format.
- **ChkDigits:**  
Contains a 2-digit check-digit value to ensure the following:
  - Diagnostics were run on the specified date.
  - Diagnostics were run on the specified IBM computer.
  - The diagnostic error code is recorded correctly.
- **Text:**  
Description of the error.

**Note:** See “Diagnostic error codes” on page 71 for error code listings.

## Hard file Smart test

Use the Hard File Smart Test when the system management tool has detected a hard file SMART alert.

The Smart test does the following:

- Interrogates IDE devices for support of the SMART instruction set.
- Issues a ENABLE SMART command to make sure SMART functionality is active.
- Checks the SMART RETURN STATUS command to determine if any thresholds have been exceeded.

If thresholds have been exceeded, an error message is shown, and the test fails. If no SMART is supported by the drive, the test returns with "N/A".

## **Quick and Full erase - hard drive**

The Diagnostics program offers two hard drive format utilities:

- Quick Erase Hard Drive
- Full Erase Hard Drive

The Quick Erase Hard Drive provides a DOS utility that performs the following steps.

- Destroys the Master Boot Record (MBR) on the hard drive.
- Destroys all copies of the FAT Table on all partitions (both the master and backup).
- Destroys the partition table.
- Provides messages that warn the user that this is a non-recoverable process.

The Full Erase Hard Drive provides a DOS utility that performs the following steps.

- Performs all the steps in Quick Erase.
- Provides a DOS utility that writes random data to all sectors of the hard drive.
- Provide an estimate of time to completion along with a visual representation of completion status.
- Provides messages that warn the user about non-recoverable process.

<b>Important:</b> Make sure that all data is backed up before using the Quick or Full Erase functions.
--

To select the Quick Erase or Full Erase Hard Drive utility, use the following procedure.

1. Select the **UTILITY** option on the toolbar and press **Enter**.
2. Select either the **QUICK ERASE** or **FULL ERASE HARD DISK** option and follow the instructions.

## Asset EEPROM backup

When replacing a system board, this utility allows the backup of all Asset information from the EEPROM to diskette. This utility also restores data to the EEPROM from diskette after replacement of the system board.

To run this utility, use the following procedure.

- Select **Utility**
- Select **Asset EEPROM Backup**
- Follow instructions on screen.

## Viewing the test log

Errors reported by the diagnostic test will be displayed by the program as a failed test.

To view details of a failure or to view a list of test results, use the following procedure from any test category screen.

- Press **F3** to activate the log file.
- Press **F3** again to save the file to diskette or **F2** to print the file.



---

## Chapter 4. Installing Options

---

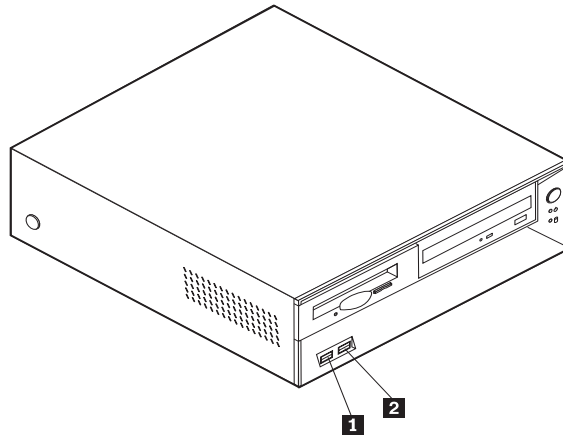
### Installing external options

This chapter shows the various external connectors on your computer to which you can attach external options, such as external speakers, a printer, or a scanner. For some external options, you must install additional software in addition to making the physical connection. When adding an external option, use the information in this chapter to identify the required connector, and then use the instructions that come with the option to help you make the connection and install any software or device drivers that are required for the option.

**Important:** Before you install or remove any option, read “Safety information” on page 185. These precautions and guidelines will help you work safely.

### Locating the connectors on the front of your computer

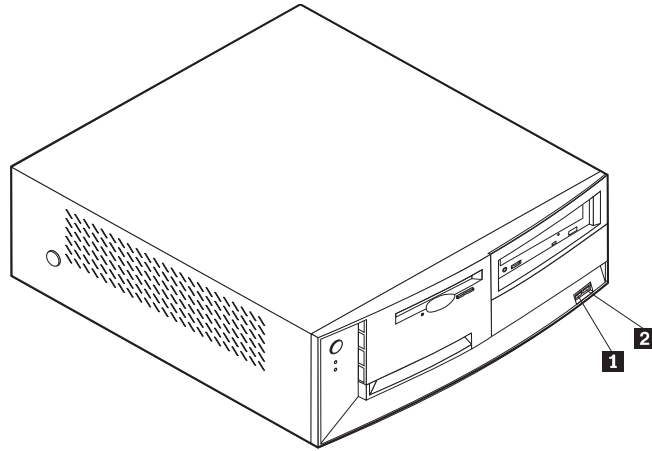
The following illustration shows the location of the connectors on the front of the small desktop computer.



**1** USB connector

**2** USB connector

The following illustration shows the location of the connectors on the front of the desktop computer.

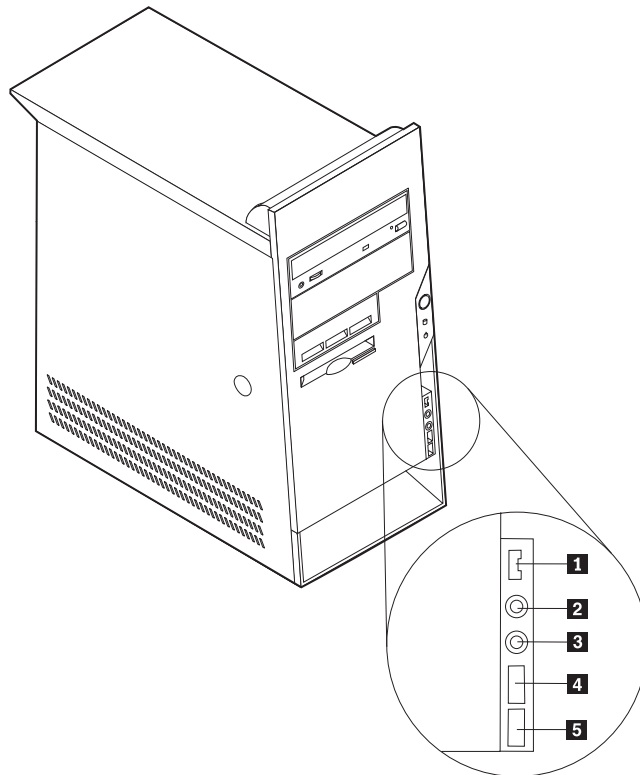


**1** USB connector

**2** USB connector

The following illustration shows the location of the connectors on the front of the microtower computer.

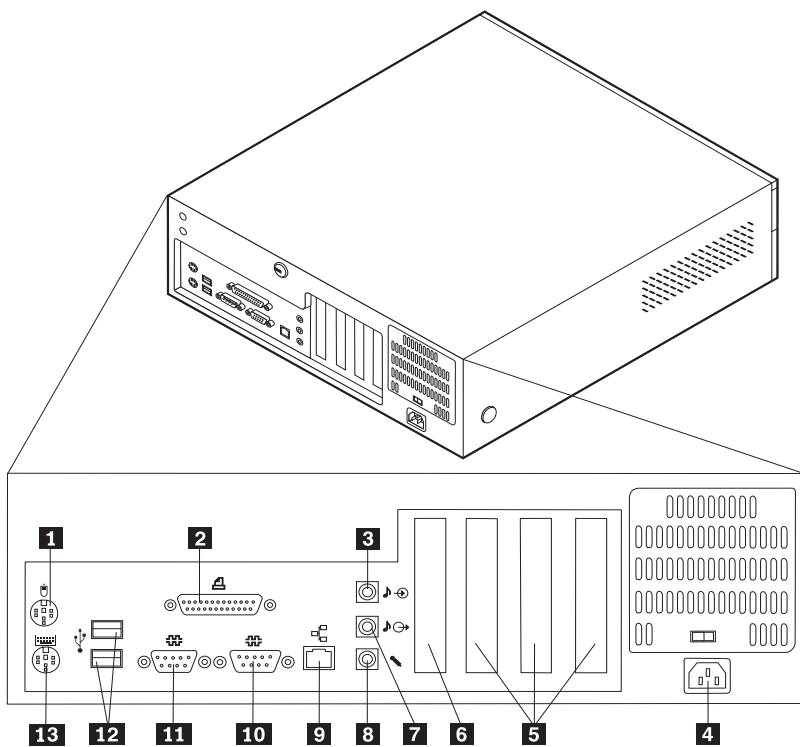
**Note:** Not all computer models will have the following connectors.



- 1** IEEE 1394 connector
- 2** Microphone connector
- 3** Headphone connector
- 4** USB connector
- 5** USB connector

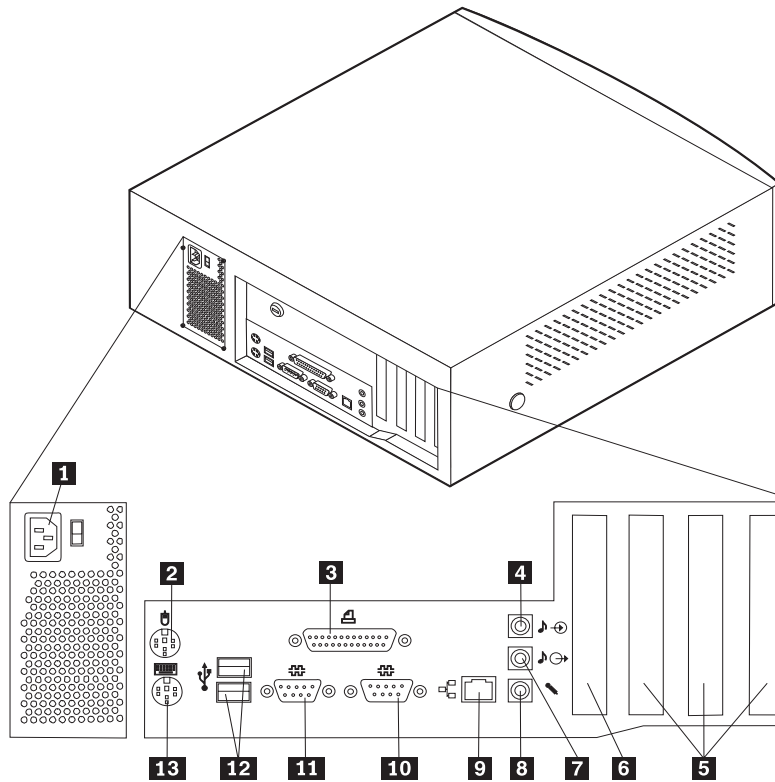
## Locating the connectors on the rear of your computer

The following illustration shows the location of the connectors on the rear of the small desktop model computer. See page 25 for connector descriptions.



- 1** Mouse connector
- 2** Parallel connector
- 3** Audio line in connector
- 4** Power connector
- 5** PCI slots
- 6** AGP slot
- 7** Audio line out connector
- 8** Microphone connector
- 9** Ethernet connector
- 10** Serial connector
- 11** Serial connector
- 12** USB connectors
- 13** Keyboard connector

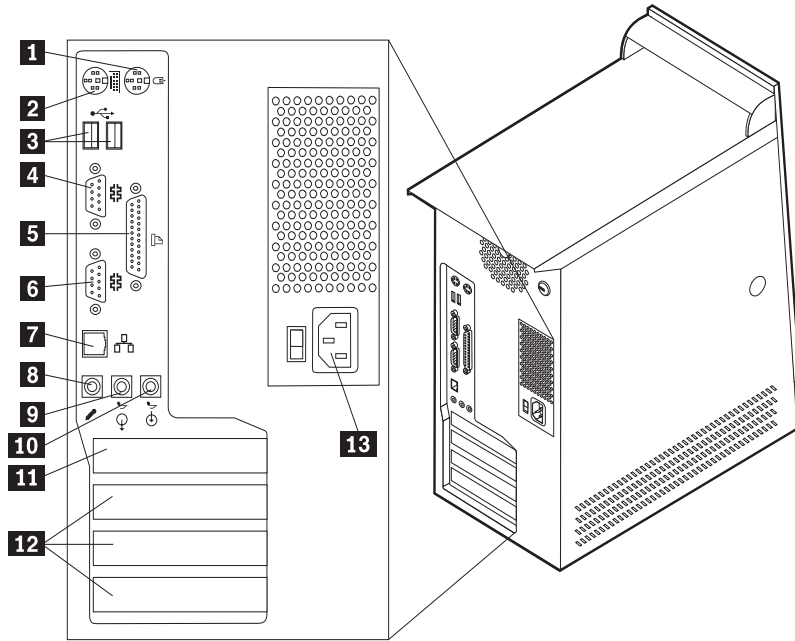
The following illustration shows the location of the connectors on the rear of the desktop model computer. See page 25 for connector descriptions.



- |                                   |                               |
|-----------------------------------|-------------------------------|
| <b>1</b> Power connector          | <b>8</b> Microphone connector |
| <b>2</b> Mouse connector          | <b>9</b> Ethernet connector   |
| <b>3</b> Parallel connector       | <b>10</b> Serial connector    |
| <b>4</b> Audio line in connector  | <b>11</b> Serial connector    |
| <b>5</b> PCI slots                | <b>12</b> USB connectors      |
| <b>6</b> AGP slot                 | <b>13</b> Keyboard connector  |
| <b>7</b> Audio line out connector |                               |



The following illustration shows the location of the connectors on the back of the microtower model computer. See page 25 for connector descriptions.



- |                             |                                   |
|-----------------------------|-----------------------------------|
| <b>1</b> Mouse connector    | <b>8</b> Microphone connector     |
| <b>2</b> Keyboard connector | <b>9</b> Audio line out connector |
| <b>3</b> USB connectors     | <b>10</b> Audio line in connector |
| <b>4</b> Serial connector   | <b>11</b> AGP slot                |
| <b>5</b> Parallel connector | <b>12</b> PCI slots               |
| <b>6</b> Serial connector   | <b>13</b> Power connector         |
| <b>7</b> Ethernet connector |                                   |

Connector	Description
Mouse connector	Used to attach a mouse, trackball, or other pointing device that uses a standard mouse connector.
Keyboard connector	Used to attach a keyboard that uses a standard keyboard connector.

USB connectors	Used to attach a device that requires a Universal Serial Bus (USB) connection, such as a USB scanner or USB printer. If you have more than four USB devices, you can purchase a USB hub, which you can use to connect additional USB devices.
Serial connectors	Used to attach an external modem, serial printer, or other devices that use a 9-pin serial connector.
Parallel connector	Used to attach a parallel printer, parallel scanner, or other devices that use a 25-pin parallel connector.
Ethernet connector	Used to attach an Ethernet cable for a Local Area Network (LAN). <b>Note:</b> To operate the computer within FCC Class B limits, use a category 5 Ethernet cable.
Microphone connector	Used to attach a microphone to your computer when you want to record voice or other sounds on the hard disk if you use speech-recognition software.
Audio line out connector	Used to send audio signals from the computer to external devices, such as powered stereo speakers (speakers with built-in amplifiers), headphones, multimedia keyboards, or the audio line in connector on a stereo system or other external recording device.
Audio line in connector	Used to receive audio signals from an external audio device, such as a stereo system. When you attach an external audio device, a cable is connected between the audio line out connector of the device and the audio line in connector of the computer.

## Obtaining device drivers

You can obtain device drivers for operating systems that are not preinstalled at <http://www.ibm.com/pc/support/> on the World Wide Web. Installation instructions are provided in README files with the device driver files.

## Installing internal options — small desktop model

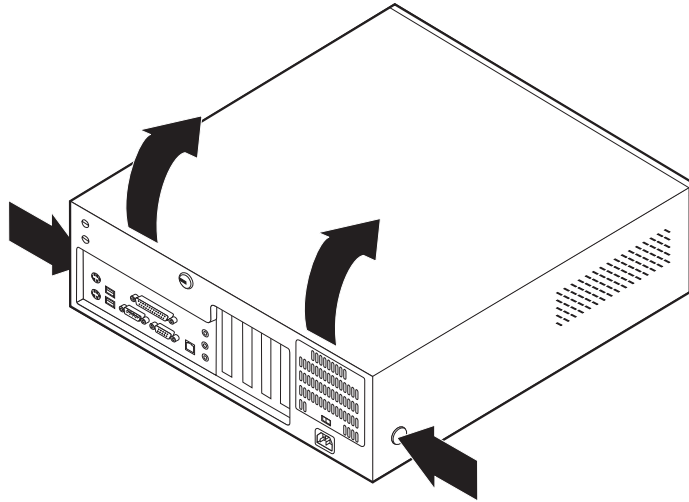
You can expand the capabilities of your computer by adding memory, drives, or adapters. When installing an option, use these instructions along with the instructions that come with the option.

### Removing the cover

**Important:** Before you install or remove any option, read “Safety information” on page 101. These precautions and guidelines will help you work safely.

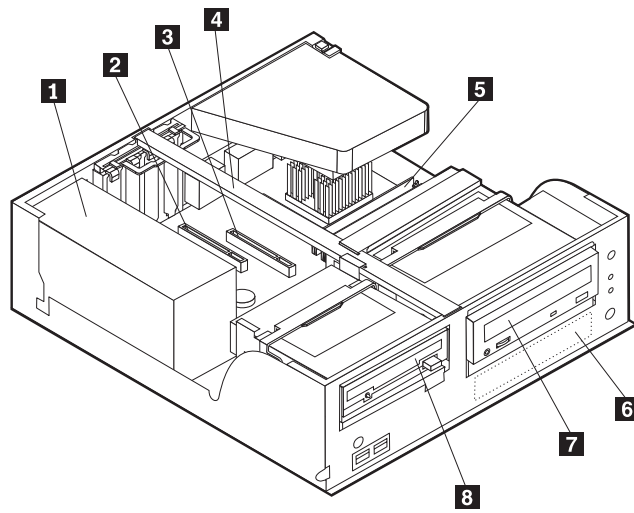
To remove the cover:

1. Shut down your operating system, remove any media (diskettes, CDs, or tapes) from the drives, and turn off all attached devices and the computer.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer.
4. Press the buttons on the sides of the computer and pivot the rear end of the cover up toward the front of the computer.



## Locating components

The following illustration will help you locate the various components in your computer.

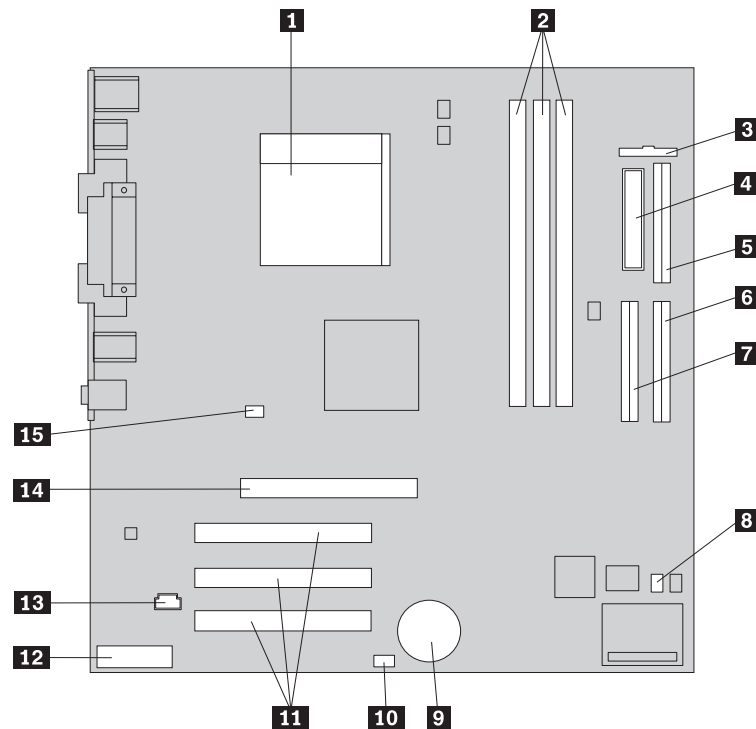


- |   |                                |
|---|--------------------------------|
| <b>1</b> Power supply                         | <b>5</b> DIMM                  |
| <b>2</b> PCI slot                             | <b>6</b> Hard disk drive       |
| <b>3</b> Accelerated graphics port (AGP) slot | <b>7</b> CD drive or DVD drive |
| <b>4</b> Support bar                          | <b>8</b> Diskette drive        |

## Identifying parts on the system board

The system board, also called the *planar* or *motherboard*, is the main circuit board in your computer. It provides basic computer functions and supports a variety of devices that are IBM-installed or that you can install later.

See the following illustration for the location of parts on the system board.



- |  |                                       |
|--|---------------------------------------|
| <b>1</b> Microprocessor                          | <b>8</b> Clear CMOS/Recovery jumper   |
| <b>2</b> DIMM connectors (1, 2, 3 left to right) | <b>9</b> Battery                      |
| <b>3</b> Front panel connector                   | <b>10</b> SCSI LED connector          |
| <b>4</b> Power connector                         | <b>11</b> PCI slots                   |
| <b>5</b> Diskette drive connector                | <b>12</b> Front panel audio connector |
| <b>6</b> Primary IDE connector                   | <b>13</b> CD-ROM audio connector      |
| <b>7</b> Secondary IDE connector                 | <b>14</b> AGP slot                    |
| <b>15</b> 12V power                              |                                       |

## Installing memory

Your computer has three connectors for installing dual in-line memory modules (DIMMs) that provide up to a maximum of 1 GB of system memory.

**Note:** Your computer will only support DIMM 1 and DIMM 2 (from left to right). DIMM 3 will not be used due to mechanical restrictions.

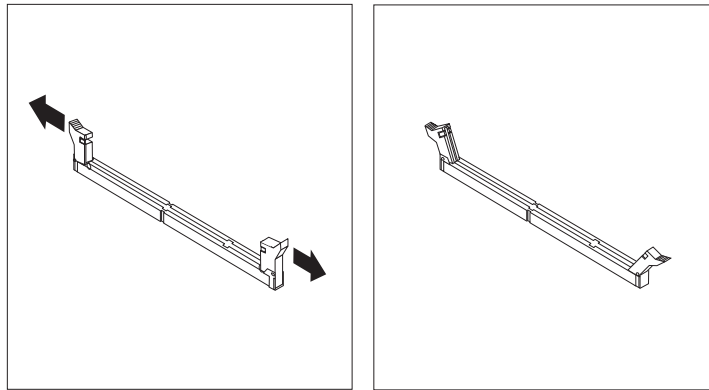
**Installing DIMMs:** When installing DIMMs, the following rules apply:

- Fill each system memory connector sequentially, starting at DIMM 1
- Use 3.3 V, synchronous, 168-pin, unbuffered, 133 MHz, nonparity, synchronous dynamic random access memory (SDRAM)
- Use 64 MB, 128 MB, 256 MB, or 512 MB DIMMs in any combination

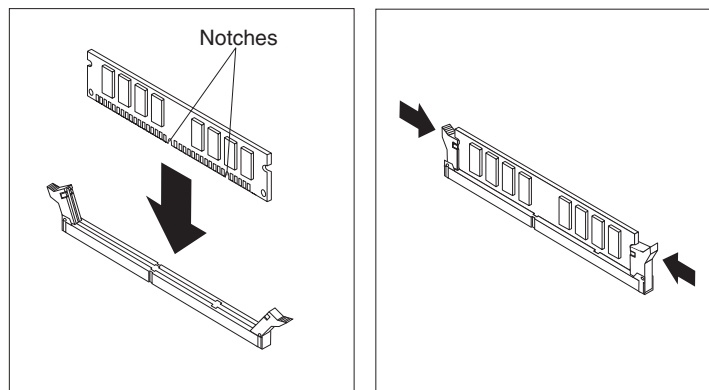
- DIMM heights of 38.1 mm (1.5 inches)

To install a DIMM:

1. Remove the cover. See “Removing the cover” on page 26.
2. To locate the DIMM connectors. See “Identifying parts on the system board” on page 28.
3. Open the retaining clips.



4. Make sure the notches in the DIMM align with the tabs on the connector. Push or insert the DIMM straight down into the connector until the retaining clips close.



**What to do next:**

- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 36.

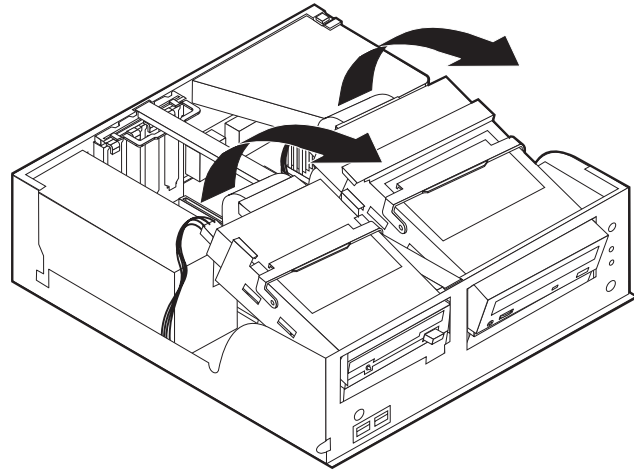
## Installing adapters

This section provides information and instructions for installing and removing adapters. Your computer has three expansion slots for PCI adapters and one slot used for an AGP adapter. Adapters must be low profile. Your computer supports adapters up to 168 mm (6.6 inches) long.

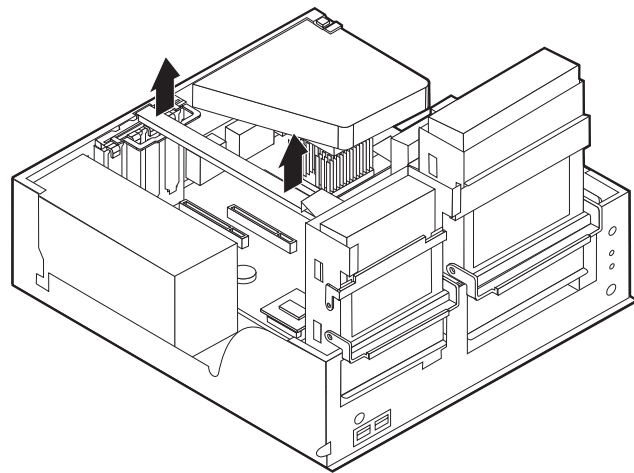
To install an adapter:

1. Remove the cover. See “Removing the cover” on page 26.

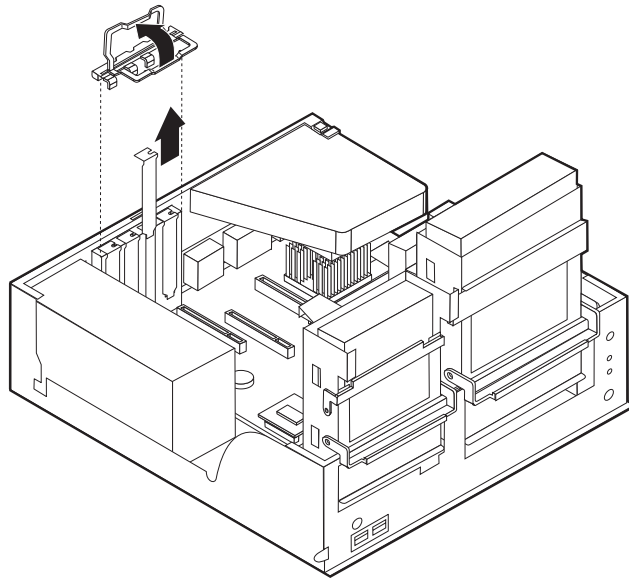
2. Pivot one of the drive bay latch handles toward the front of the computer and then pivot the drive bay cage upward, as shown, until it is latched in the up position. Repeat this procedure for the remaining drive bay.



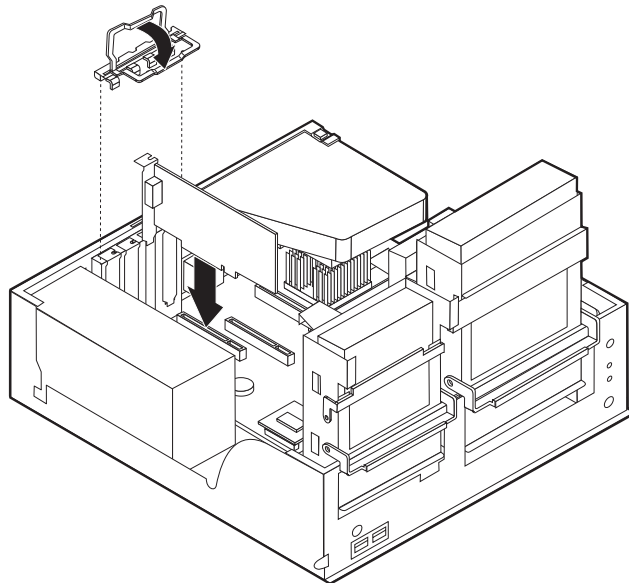
3. Remove the support bar by pulling it outward from the computer.



4. Remove the adapter slot cover latch and the slot cover for the appropriate expansion slot.



5. Remove the adapter from its static-protective package.
6. Install the adapter into the appropriate slot on the system board.
7. Install the adapter slot cover latch.



8. Replace the support bar and reattach the two drive bays.

**What to do next:**

- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 36.

## Installing internal drives

This section provides information and instructions for installing and removing internal drives.



Internal drives are devices that your computer uses to read and store data. You can add or replace drives to your computer to increase storage capacity and to enable your computer to read other types of media such as CD-ROM.

Internal drives are installed in *bays*. Within this book, the bays are referred to as bay 1, bay 2, and so on.

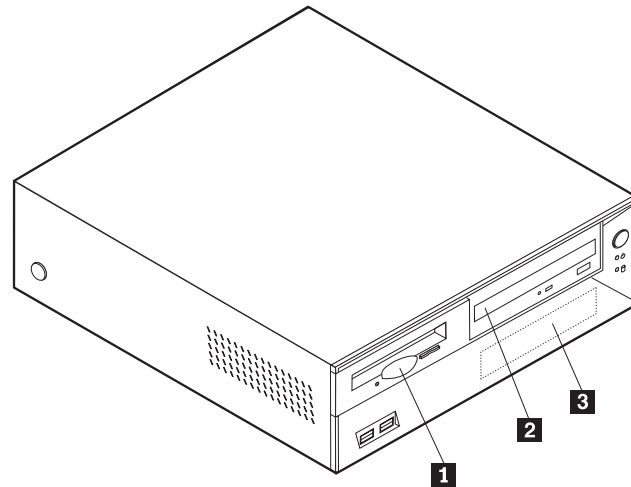
When you install an internal drive, it is important to note what type and size of drive that you can install in each bay. Also, it is important to correctly connect the internal drive cables to the installed drive.

**Drive specifications:** Your computer might come with the following IBM-installed drives:

- A 3.5-inch diskette drive in bay 1
- A CD drive or DVD drive in bay 2
- A 3.5-inch hard disk drive in bay 3

Bays that do not have drives installed have a static shield and bay panel installed.

The following illustration shows the locations of the drive bays.



The following table describes some of the drives that you can install in each bay and their height requirements.

<b>1</b> Bay 1 - Max Height: 25.8 mm (1.0 in.)	3.5-inch diskette drive (preinstalled in some models)
<b>2</b> Bay 2 - Max Height: 41.3 mm (1.6 in.)	CD-ROM drive (standard in some models)
<b>3</b> Bay 3 - Max Height: 25.8 mm (1.0 in.)	3.5-inch hard disk drive (preinstalled)

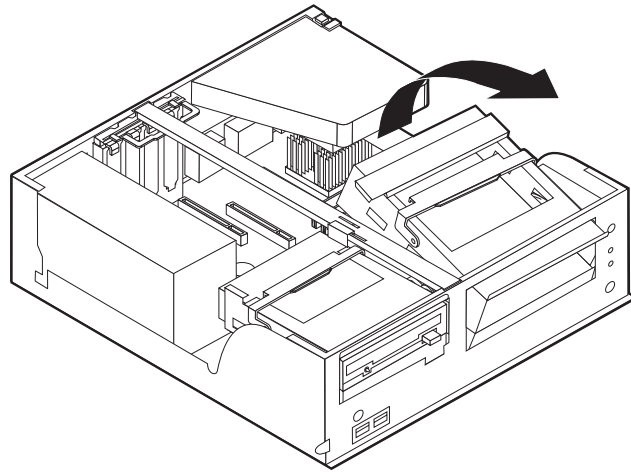
**Notes:**

1. Drives that are greater than 41.3 mm (1.6 in.) high cannot be installed.
2. Install removable media (tape or CD) drives in the accessible bay: bay 2.

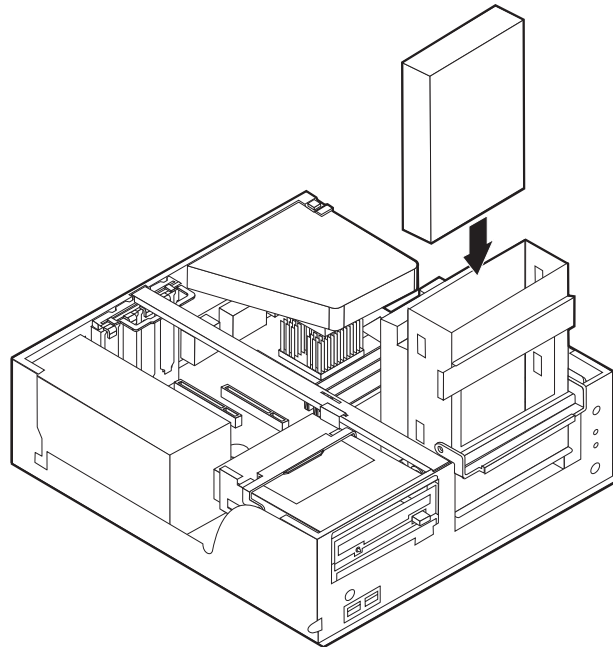
**Installing a drive:** To install a CD drive or DVD drive in bay 2, follow these steps.

1. Remove the cover (see “Removing the cover” on page 26).

2. If the drive you are installing is a removable-media drive, remove the bay panel from the front bezel.
3. Remove the metal shield from the drive bay by inserting a flat-blade screwdriver into one of the slots and gently prying it loose.
4. Make sure the drive is set correctly as the master device. Refer to the documentation that comes with your CD drive or DVD drive for master/slave jumper information.
5. Pivot the drive bay latch handle toward the front of the computer and pivot the drive bay cage upward, as shown, until it is latched in the up position.



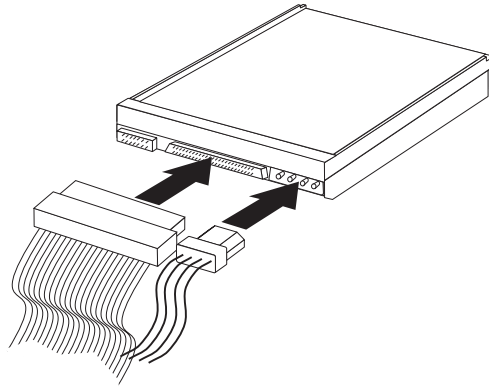
6. Install the drive into the bay. Align the screw holes and insert the two screws.



7. Each integrated drive electronics (IDE) drive requires two cables; a four-wire power cable that connects to the power supply, and a signal cable that connects to the system board.

To connect a CD drive or DVD drive to your computer, follow these steps.

- a. Locate the signal cable that came with your computer or with the new drive.
- b. Locate the secondary IDE connector on the system board. See “Identifying parts on the system board” on page 28.
- c. Connect one end of the signal cable to the secondary IDE connector on the system board and the other to the CD drive or DVD drive.
- d. Your computer has extra power connectors for connecting additional drives. Connect the power cable to the drive.



8. Pivot the drive bay cage back into place.

**What to do next:**

- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 36.

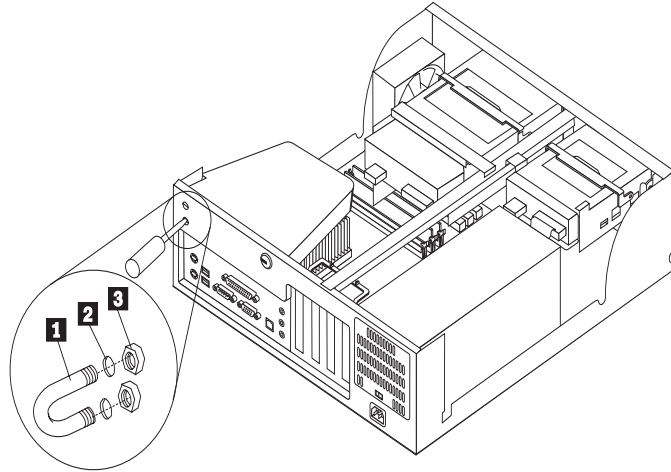
### Installing a Rope Clip

To help prevent hardware theft, you can add a 3/16 inch or 5 mm Rope Clip and cable to your computer. After you add the security cable, make sure that it does not interfere with other cables that are connected to the computer.

To install a Rope Clip:

1. Remove the cover (see “Removing the cover” on page 26).
2. Use a tool, such as a screwdriver, to remove the two metal knockouts.
3. Insert the Rope Clip through the rear panel; then attach and tighten the nuts with an appropriately sized or adjustable wrench.
4. Replace the computer cover. For more information, see “Replacing the cover and connecting the cables” on page 36.

5. Thread the cable through the Rope Clip and around an object that is not a part of or permanently secured to the building structure or foundation, and from which it cannot be removed; then fasten the cable ends together with a lock.



- 1 Rope Clip
- 2 Bolt holes
- 3 Nuts

**What to do next:**

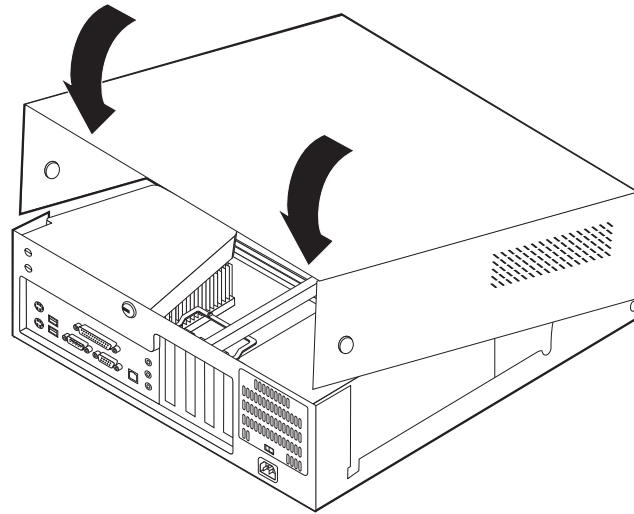
To work with another option, go to the appropriate section.

### Replacing the cover and connecting the cables

After working with options, you need to install any removed parts, replace the cover, and reconnect cables, including power cords and telephone lines. Also, depending on the option that is installed, you might need to confirm the updated information in the IBM Setup Utility program.

To replace the cover and connect cables to your computer:

1. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside your computer.
2. Clear any cables that might impede the replacement of the cover.
3. Position the cover over the chassis and pivot it down over the computer until it snaps into place.



4. Reconnect the external cables and cords to the computer. See “Installing external options” on page 21.
5. To update the configuration, see “Configuring the computer” on page 21.

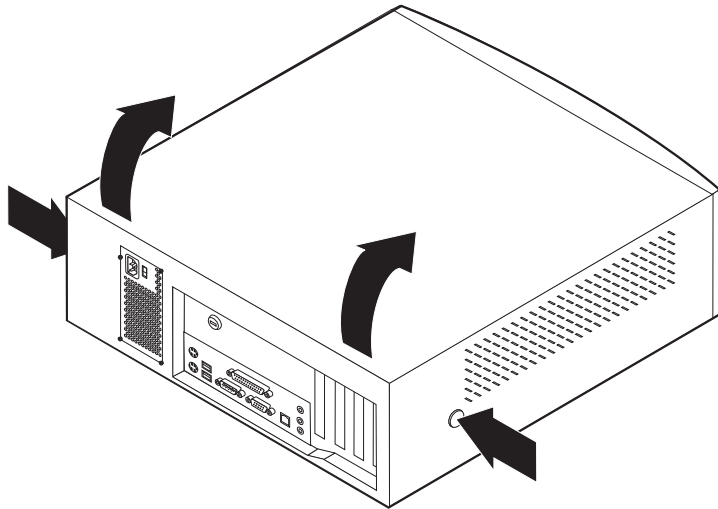
## Installing internal options — desktop model

You can expand the capabilities of your computer by adding memory, drives, or adapters. When installing an option, use these instructions along with the instructions that come with the option.

### Removing the cover

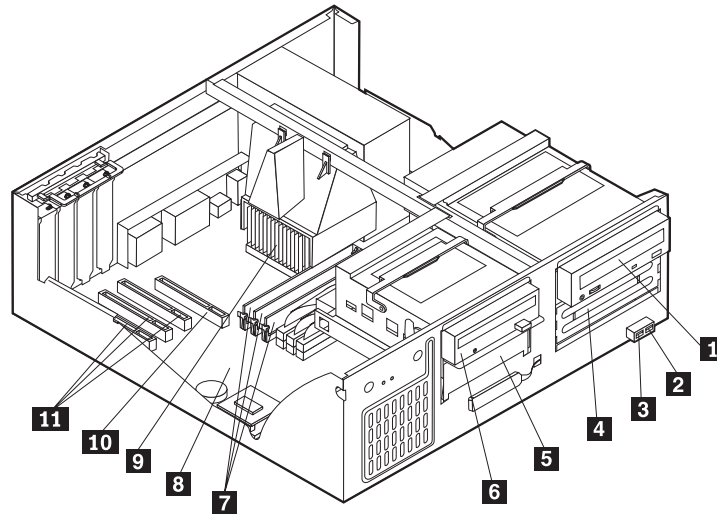
To remove the cover:

1. Shut down your operating system, remove any media (diskettes, CDs, or tapes) from the drives, and turn off all attached devices and the computer.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer.
4. Press the buttons on the sides of the computer and pivot the rear end of the cover up toward the front of the computer.



## Locating components

The following illustration will help you locate the various components in your computer.

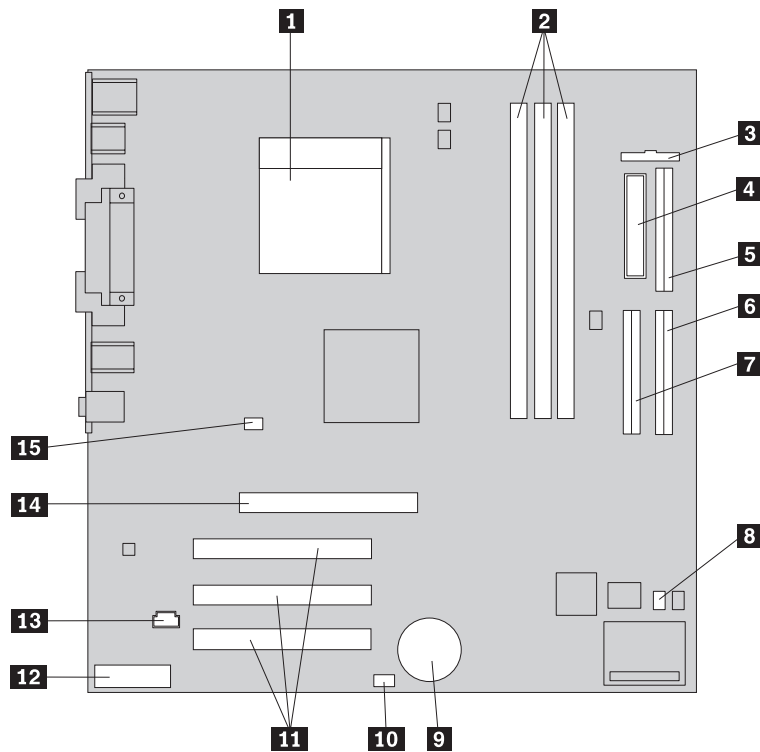


- |                              |  |
|------------------------------|--|
| <b>1</b> CD-ROM drive        | <b>7</b> DIMM                                  |
| <b>2</b> Front USB connector | <b>8</b> System board                          |
| <b>3</b> Front USB connector | <b>9</b> Microprocessor and heat sink          |
| <b>4</b> Optional drive bay  | <b>10</b> Accelerated graphics port (AGP) slot |
| <b>5</b> Hard disk drive     | <b>11</b> PCI slot                             |
| <b>6</b> Diskette drive      |  |

## Identifying parts on the system board

The system board, also called the *planar* or *motherboard*, is the main circuit board in your computer. It provides basic computer functions and supports a variety of devices that are IBM-installed or that you can install later.

See the following illustration for the location of parts on the system board.



- |  |                                       |
|--|---------------------------------------|
| <b>1</b> Microprocessor                          | <b>8</b> Clear CMOS/Recovery jumper   |
| <b>2</b> DIMM connectors (1, 2, 3 left to right) | <b>9</b> Battery                      |
| <b>3</b> Front panel connector                   | <b>10</b> SCSI LED connector          |
| <b>4</b> Power connector                         | <b>11</b> PCI slots                   |
| <b>5</b> Diskette drive connector                | <b>12</b> Front panel audio connector |
| <b>6</b> Primary IDE connector                   | <b>13</b> CD-ROM audio connector      |
| <b>7</b> Secondary IDE connector                 | <b>14</b> AGP slot                    |
| <b>15</b> 12V power                              |                                       |

## Installing memory

Your computer has three connectors for installing dual in-line memory modules (DIMMs) that provide up to a maximum of 1.5 GB of system memory.

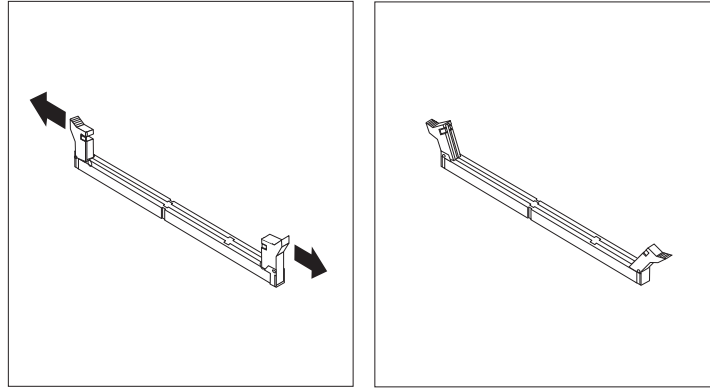
**Installing DIMMs:** When installing DIMMs, the following rules apply:

- Fill each system memory connector sequentially, starting at DIMM 1
- Use 3.3 V, synchronous, 168-pin, unbuffered, 133 MHz nonparity synchronous dynamic random access memory (SDRAM)
- Use 64 MB, 128 MB, 256 MB, or 512 MB DIMMs in any combination
- DIMM heights of 38.1 mm (1.5 inches)

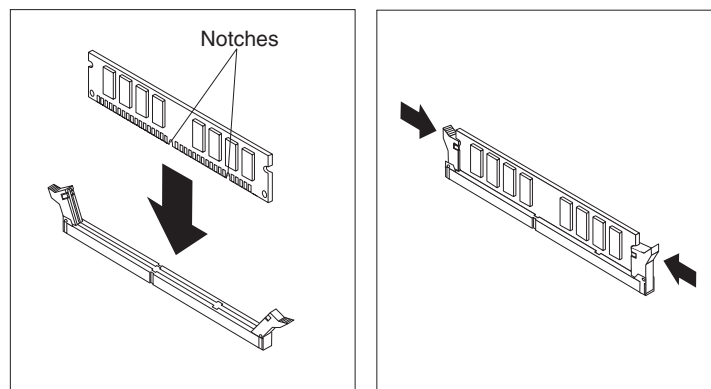
To install a DIMM:



1. Remove the cover. See “Removing the cover” on page 37.
2. You might have to remove an adapter to gain access to the DIMM slots. See “Installing adapters”.
3. To locate the DIMM connectors. See “Identifying parts on the system board” on page 39.
4. Open the retaining clips.



5. Make sure the notches in the DIMM align with the tabs on the connector. Push or insert the DIMM straight down into the connector until the retaining clips close.



**What to do next:**

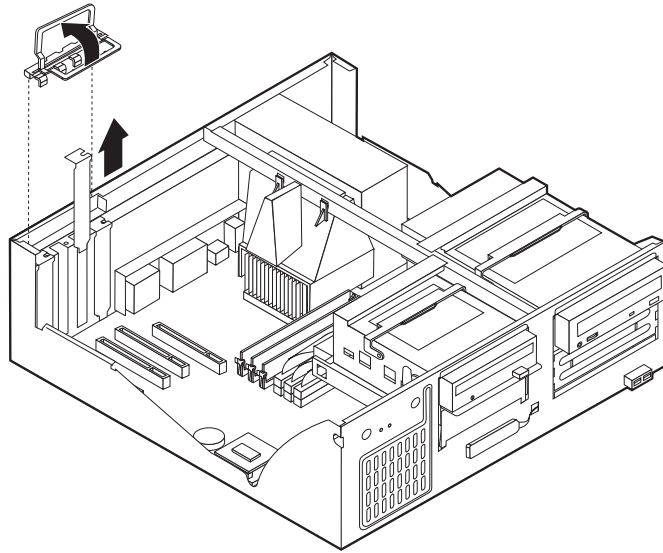
- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 47.

## Installing adapters

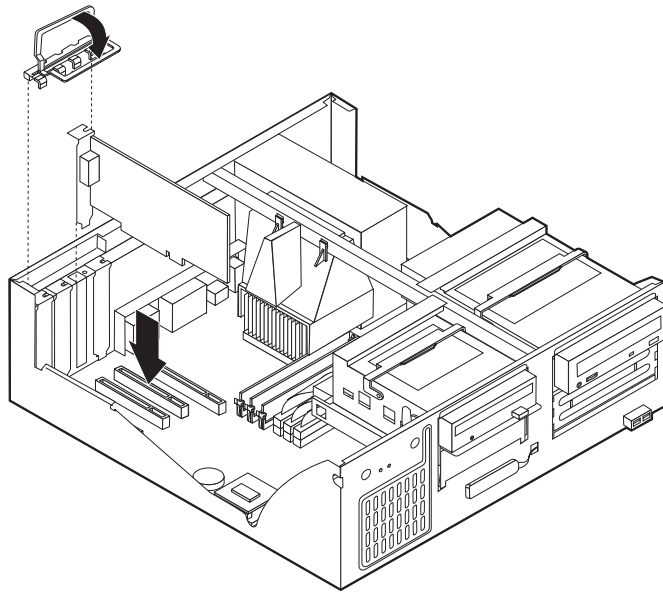
This section provides information and instructions for installing and removing adapters. Your computer has three expansion slots for PCI adapters and one slot used for an AGP adapter. You can install an adapter up to 340 mm (13.4 inches) long.

To install an adapter:

1. Remove the cover. See “Removing the cover” on page 37.
2. Remove the adapter slot cover latch and the slot cover for the appropriate expansion slot.



3. Remove the adapter from its static-protective package.
4. Install the adapter into the appropriate slot on the system board.
5. Install the adapter slot cover latch.



**What to do next:**

- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 47.

## Installing internal drives

This section provides information and instructions for installing and removing internal drives.

Internal drives are devices that your computer uses to read and store data. You can add drives to your computer to increase storage capacity and to enable your computer to read other types of media. Some of the different drives that are available for your computer are:

- Hard disk drives
- Tape drives
- CD drives or DVD drives
- Removable media drives

Internal drives are installed in *bays*. Within this book, the bays are referred to as bay 1, bay 2, and so on.

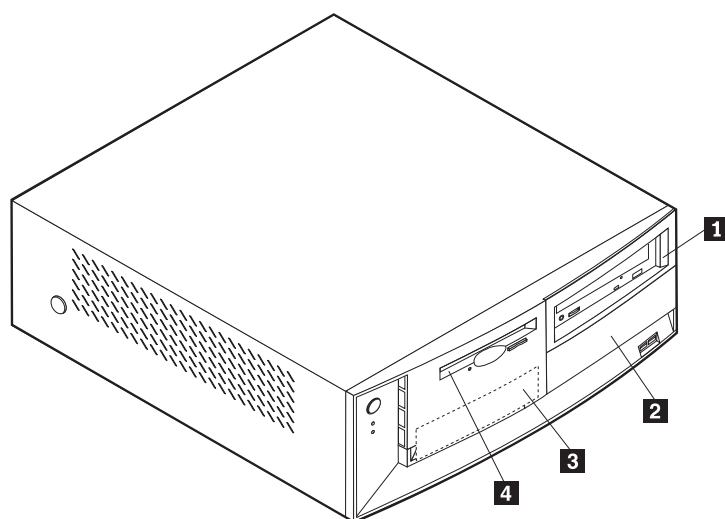
When you install an internal drive, it is important to note what type and size of drive that you can install in each bay. Also, it is important to correctly connect the internal drive cables to the installed drive.

**Drive specifications :** Your computer comes with the following IBM-installed drives:

- A CD-ROM drive in bay 1 (some models)
- A 3.5-inch hard disk drive in bay 3
- A 3.5-inch diskette drive in bay 4

Models that do not have drives installed in bays 1 and 2 have a static shield and bay panel installed.

The following illustration shows the locations of the drive bays.



The following table describes some of the drives that you can install in each bay and their height requirements.

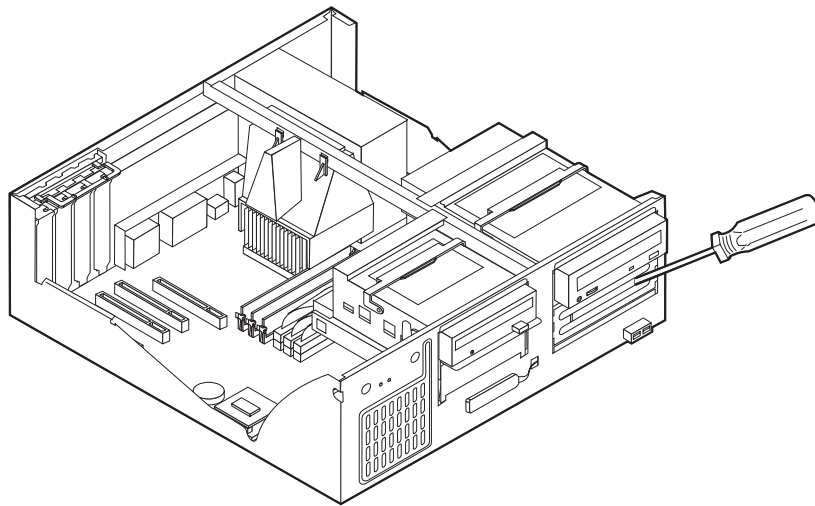
<b>1</b> Bay 1 - Max Height: 41.3 mm (1.6 in.)	CD-ROM drive (standard in some models) 5.25-inch hard disk drive
<b>2</b> Bay 2 - Max Height: 41.3 mm (1.6 in.)	5.25-inch hard disk drive 3.5-inch hard disk drive (requires a mounting bracket) CD-ROM drive DVD-ROM drive
<b>3</b> Bay 3 - Max Height: 25.8 mm (1.0 in.)	3.5-inch hard disk drive (preinstalled)
<b>4</b> Bay 4 - Max Height: 25.8 mm (1.0 in.)	3.5-inch diskette drive (preinstalled)

**Notes:**

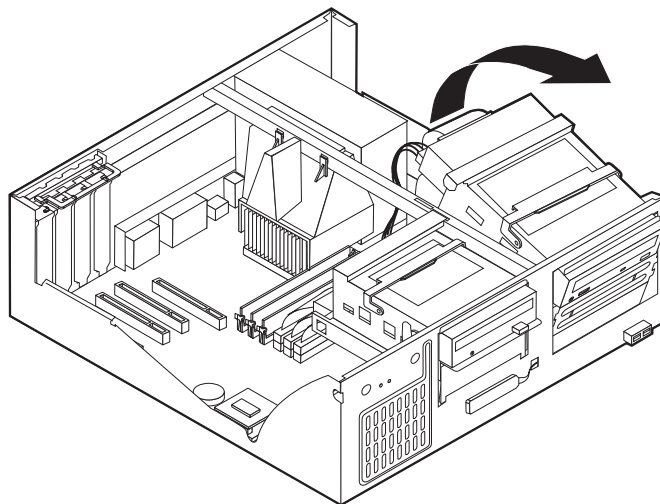
1. Drives that are greater than 41.3 mm (1.6 in.) high cannot be installed.
2. Install removable media (tape or CD) drives in the accessible bay: bay 1 or 2.

**Installing a drive:** To install an internal drive, follow these steps.

1. Remove the cover. See “Removing the cover” on page 37.
2. If your computer has a CD drive or DVD drive, you might need to remove the signal and power cables from the drive.
3. If the drive you are installing is a removable-media drive, remove the bay panel from the front bezel.
4. Remove the metal shield from the drive by inserting a flat-blade screwdriver into one of the slots and gently prying it loose.



5. Pivot the drive bay latch handle toward the front of the computer and pivot the drive bay cage upward, as shown, until it is latched in the upright position.

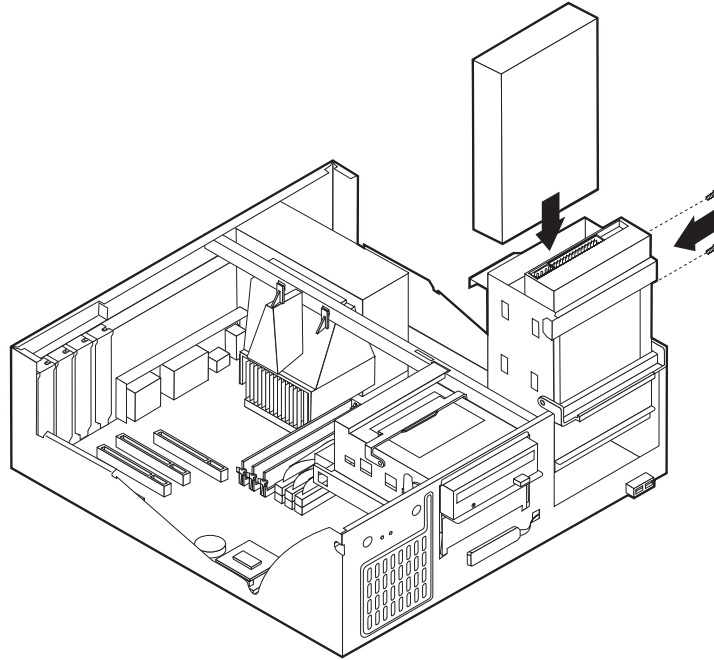


6. Make sure the drive that you are installing is set correctly as either a master or a slave device.

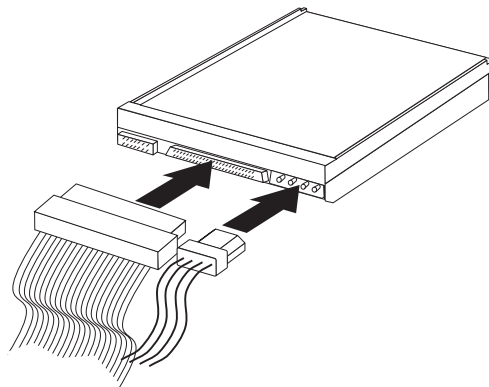
- If it is a hard disk drive, set as a slave device.
- If it is the first CD drive or DVD drive, set as a master device.
- If it is an additional CD drive or DVD drive, set as a slave device.

Refer to the documentation that comes with your drive for master/slave jumper information.

7. Install the drive into the bay. Align the screw holes and insert the two screws.



8. Pivot the drive bay cage back into place.
9. Each integrated drive electronics (IDE) drive requires two cables; a four-wire power cable that connects to the power supply and a signal cable that connects to the system board.



The steps to connect an IDE drive are different depending on the type of drive you are connecting. Locate the procedure below for your drive connection.

- To connect the first IDE CD drive or DVD drive:**
1. Locate the three-connector signal cable that came with your computer or with the new drive.
  2. Locate the secondary IDE connector on the system board. See "Identifying parts on the system board" on page 39.

3. Connect one end of the signal cable to the drive and the other to the secondary IDE connector on the system board. To reduce electronic noise, use the connectors at the end of the cable only.
4. Your computer has extra power connectors for additional drives. Connect a power connector to the drive.
5. If you have a CD-ROM audio cable, connect it to the drive and to the system board. See "Identifying parts on the system board" on page 39.

**To connect an additional IDE CD drive or DVD drive:** 1. Locate the secondary IDE connector on the system board and the three-connector signal cable. See "Identifying parts on the system board" on page 39.

2. Connect the extra connector in the signal cable to the new CD drive or DVD drive.
3. Your computer has extra power connectors for additional drives. Connect a power connector to the drive.

**To connect an additional IDE hard disk drive:** 1. Locate the primary IDE connector on the system board. One end of the three-connector cable connects to the hard disk drive and the other connects to the system board. See "Identifying parts on the system board" on page 39.

2. Connect the extra connector in the signal cable to the new hard disk drive.
3. Your computer has extra power connectors for additional drives. Connect a power connector to the drive.

#### What to do next

- To work with another option, go to the appropriate section.
- To complete the installation, go to "Replacing the cover and connecting the cables" on page 47.

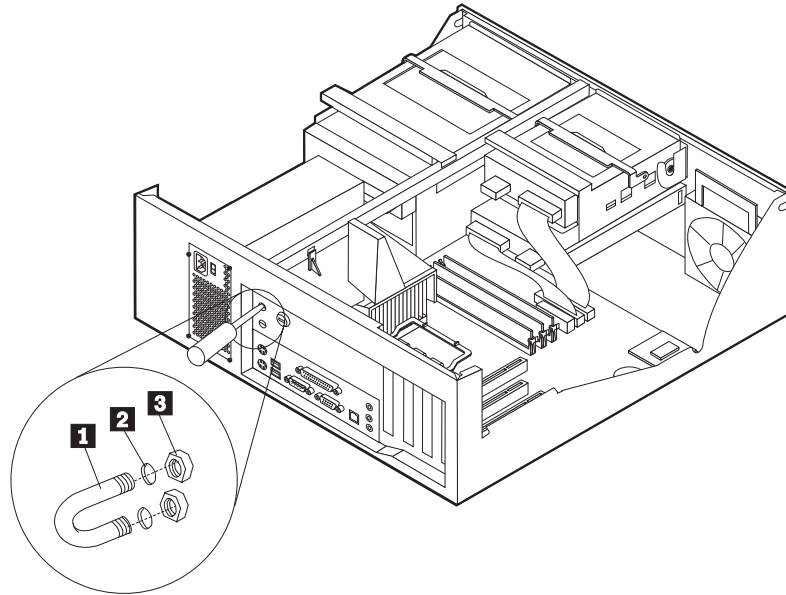
## Installing a Rope Clip

To help prevent hardware theft, you can add a 3/16 inch or 5 mm Rope Clip and cable to your computer. After you add the security cable, make sure that it does not interfere with other cables that are connected to the computer.

To install a Rope Clip:

1. Remove the cover. See "Removing the cover" on page 37.
2. Use a tool, such as a screwdriver, to remove the two metal knockouts.
3. Insert the Rope Clip through the rear panel; then attach and tighten the nuts with an appropriately sized or adjustable wrench.
4. Replace the computer cover. For more information, see "Replacing the cover and connecting the cables" on page 47.

5. Thread the cable through the Rope Clip and around an object that is not a part of or permanently secured to the building structure or foundation, and from which it cannot be removed; then fasten the cable ends together with a lock.



- 1** Rope Clip
- 2** Bolt holes
- 3** Nuts

**What to do next:**

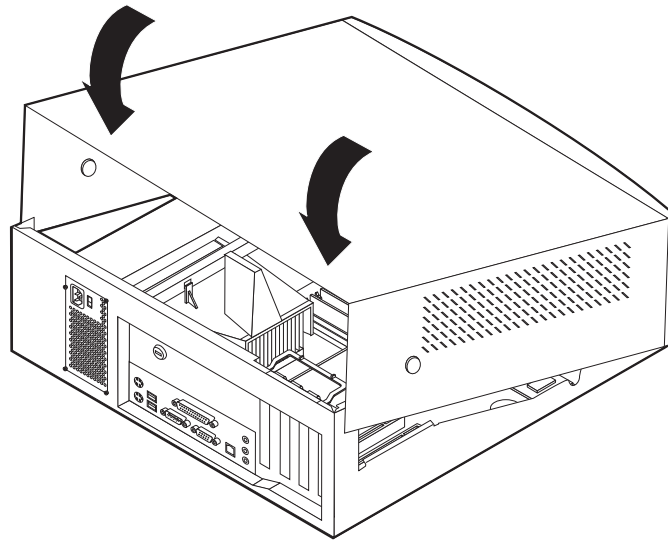
To work with another option, go to the appropriate section.

## Replacing the cover and connecting the cables

After working with options, you need to install any removed parts, replace the cover, and reconnect any cables, including power cords and telephone lines. Also, depending on the option that is installed, you might need to confirm the updated information in the IBM Setup Utility program.

To replace the cover and connect cables to your computer:

1. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside your computer.
2. Clear any cables that might impede the replacement of the cover.
3. Position the cover over the chassis and pivot it down over the computer until it snaps into place.



4. Reconnect the external cables and cords to the computer. See Chapter 2, “Installing external options,” on page 11.
5. To update the configuration, see “Configuring the computer” on page 21.

## Installing internal options — microtower model

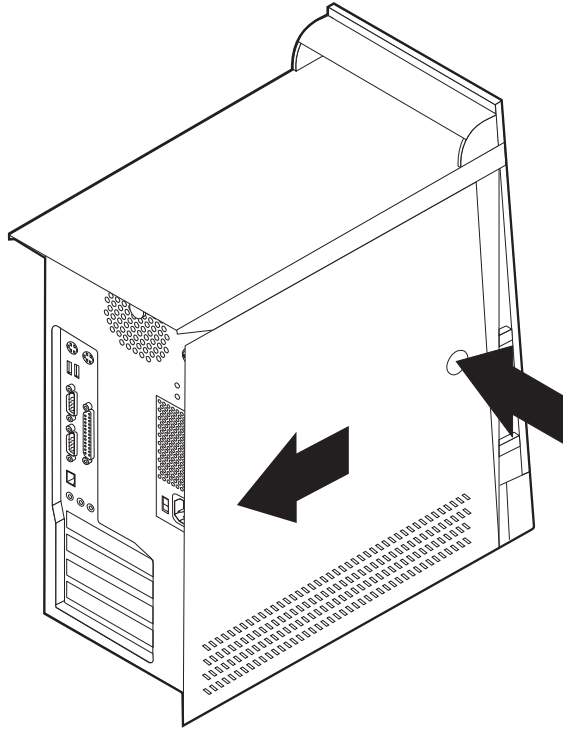
You can expand the capabilities of your computer by adding memory, drives, or adapters. When installing an option, use these instructions along with the instructions that come with the option.

### Removing the cover

To remove the cover:

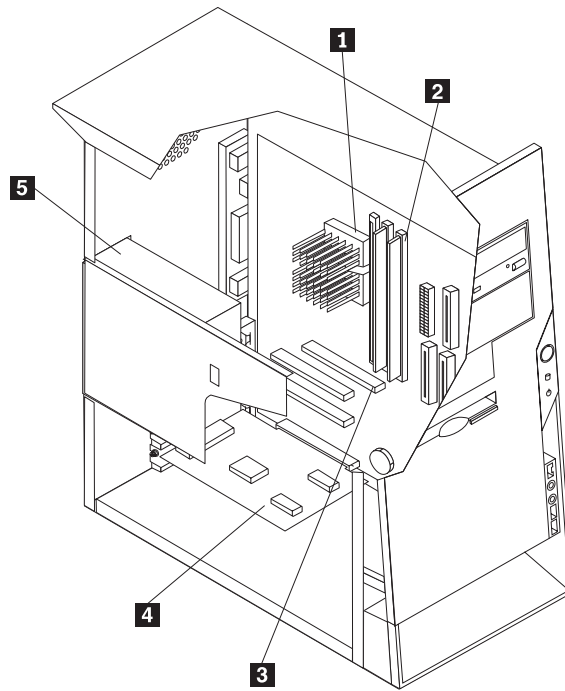
1. Shut down your operating system, remove any media (diskettes, CDs, or tapes) from the drives, and turn off all attached devices and the computer.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer.
4. Press the cover release button on the left side cover and remove the cover.





## Locating components

The following illustration will help you locate the various components in your computer.



**1** Microprocessor and heat sink

**2** DIMM

**3** Accelerated graphics port (AGP) slot

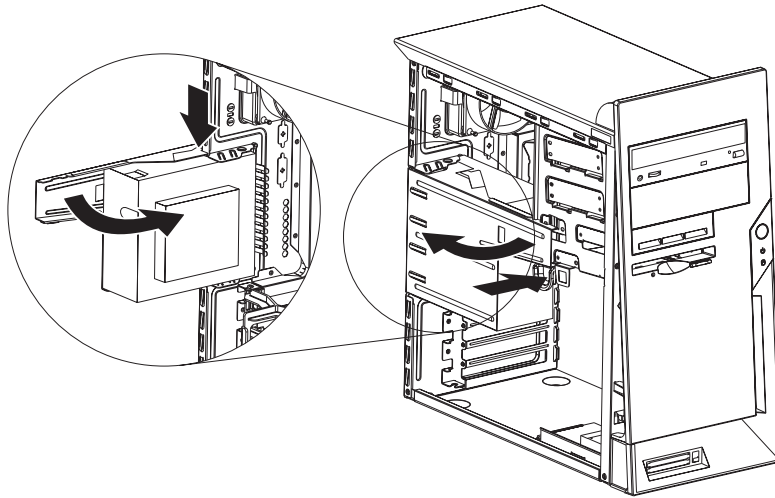
**4** PCI adapter

**5** Power supply

## Moving the power supply

To perform some operations inside the computer, you might need to move the power supply to access parts of the system board that are difficult to see or hard to reach. Use the following procedure to provide easier access to the system board.

1. Locate the power supply. See "Locating components".
2. Push the plastic tab to release the power supply.
3. Move the power supply outward from the computer.

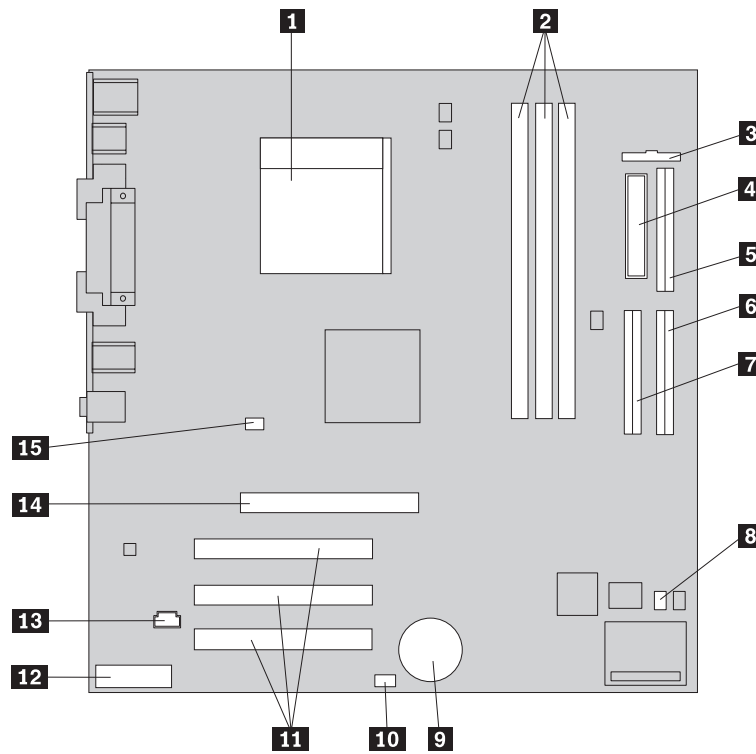


4. The power supply will lock in the open position with a metal tab.
5. To replace the power supply, push in the metal tab and reverse these steps.

### Identifying parts on the system board

The system board, also called the *planar* or *motherboard*, is the main circuit board in your computer. It provides basic computer functions and supports a variety of devices that are IBM-installed or that you can install later.

See the following illustration for the location of parts on the system board.



**1** Microprocessor

**8** Clear CMOS/Recovery jumper

- |  |                                       |
|--|---------------------------------------|
| <b>2</b> DIMM connectors (1, 2, 3 left to right) | <b>9</b> Battery                      |
| <b>3</b> Front panel connector                   | <b>10</b> SCSI LED connector          |
| <b>4</b> Power connector                         | <b>11</b> PCI slots                   |
| <b>5</b> Diskette drive connector                | <b>12</b> Front panel audio connector |
| <b>6</b> Primary IDE connector                   | <b>13</b> CD-ROM audio connector      |
| <b>7</b> Secondary IDE connector                 | <b>14</b> AGP slot                    |
| <b>15</b> 12V power                              |                                       |

## Installing memory

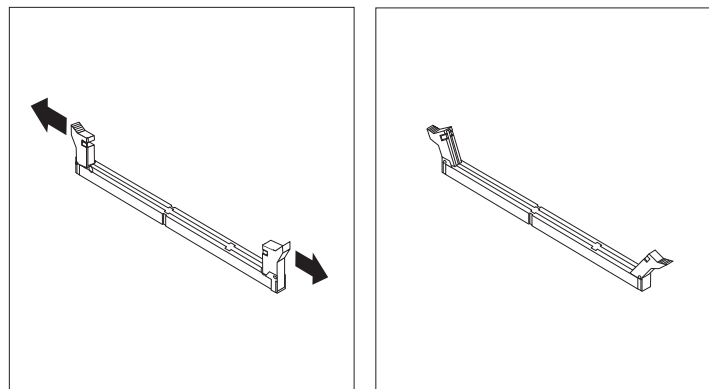
Your computer has three connectors for installing dual in-line memory modules (DIMMs) that provide up to a maximum of 1.5 GB of system memory.

**Installing DIMMs:** When installing DIMMs, the following rules apply:

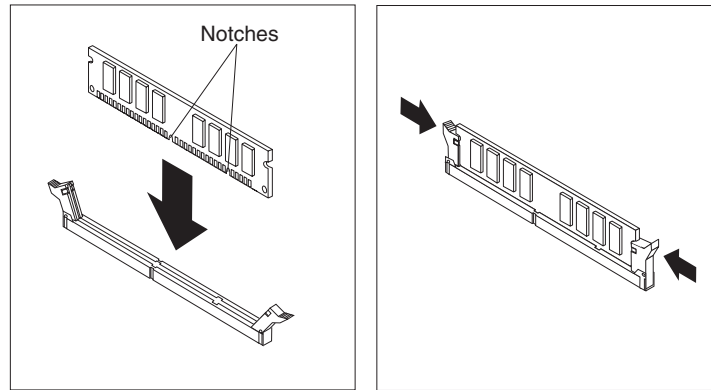
- Fill each system memory connector sequentially, starting at DIMM 1
- Use 3.3 V, synchronous, 168-pin, unbuffered, 133 MHz nonparity synchronous dynamic random access memory (SDRAM)
- Use 64 MB, 128 MB, 256 MB, or 512 MB DIMMs in any combination
- DIMM heights of 38.1 mm (1.5 inches)

To install a DIMM:

1. Remove the cover. See “Removing the cover” on page 48.
2. You might have to remove an adapter to gain access to the DIMM slots. See “Installing adapters” on page 53.
3. To locate the DIMM connectors. See “Identifying parts on the system board” on page 51.
4. Open the retaining clips.



5. Make sure the notches in the DIMM align with the tabs on the connector. Push or insert the DIMM straight down into the connector until the retaining clips close.



**What to do next:**

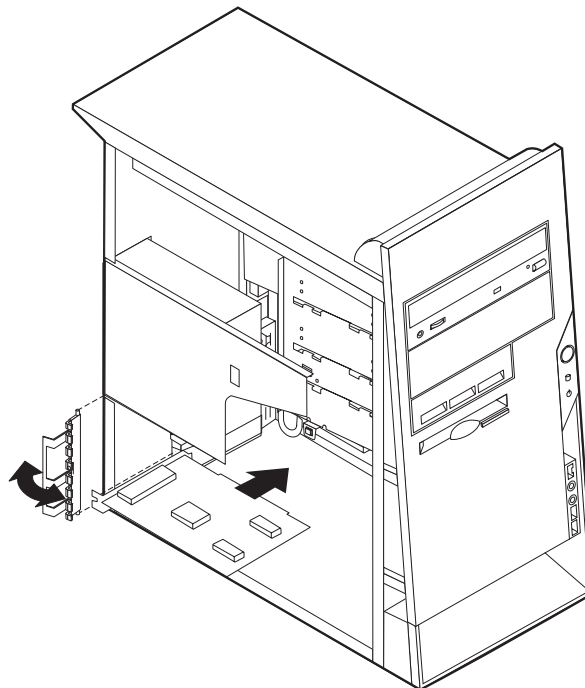
- Replace any adapters that were removed.
- Replace the power supply.
- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 59.

## Installing adapters

This section provides information and instructions for installing and removing adapters. Your computer has three expansion slots for PCI adapters and one slot used for an AGP adapter. You can install an adapter up to 228 mm (9 inches) long.

To install an adapter:

1. Remove the cover. See “Removing the cover” on page 48.
2. Remove the adapter slot cover for the appropriate expansion slot.



3. Remove the adapter from its static-protective package.
4. Install the adapter into the appropriate slot on the system board.
5. Install the adapter slot cover latch.

**What to do next**

- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 59.

## Installing internal drives

This section provides information and instructions for installing and removing internal drives.

Internal drives are devices that your computer uses to read and store data. You can add drives to your computer to increase storage capacity and to enable your computer to read other types of media. Some of the different drives that are available for your computer are:

- Hard disk drives
- CD drives or DVD drives
- Removable media drives

Internal drives are installed in *bays*. Within this book, the bays are referred to as bay 1, bay 2, and so on.

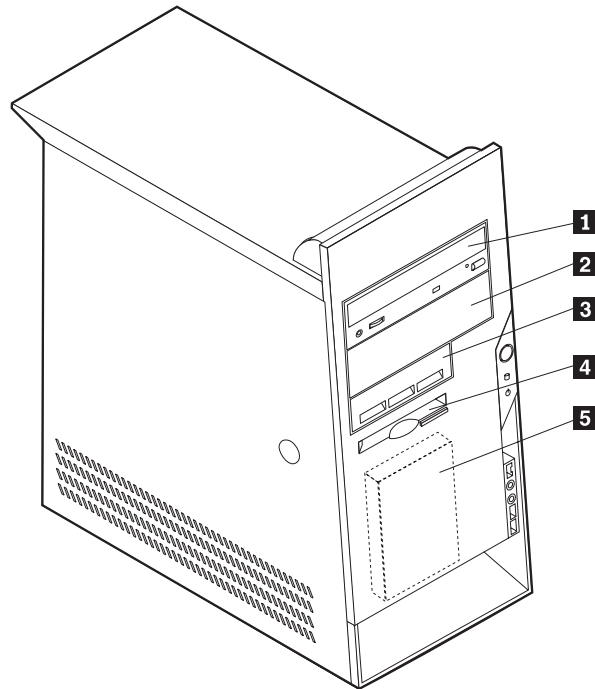
When you install an internal drive, it is important to note what type and size of drive that you can install in each bay. Also, it is important to correctly connect the internal drive cables to the installed drive.

**Drive specifications :** Your computer comes with the following IBM-installed drives:

- A CD drive or DVD drive in bay 1 (some models)
- A 3.5-inch diskette disk drive in bay 3
- A 3.5-inch hard drive in bay 4

Models that do not have drives installed in bays 1 and 2 have a static shield and bay panel installed.

The following illustration shows the locations of the drive bays.



The following table describes some of the drives you can install in each bay and their height requirements.

<b>1</b>	Bay 1 - Maximum Height: 41.3 mm (1.6 in.)	CD-ROM drive (standard in some models) 5.25-inch hard disk drive
<b>2</b>	Bay 2 - Maximum Height: 41.3 mm (1.6 in.)	5.25-inch hard disk drive 3.5-inch hard disk drive (requires a mounting bracket) CD-ROM drive DVD-ROM drive
<b>3</b>	Bay 3 - Maximum Height: 25.8 mm (1.0 in.)	3.5-inch diskette drive
<b>4</b>	Bay 4 - Maximum Height: 25.8 mm (1.0 in.)	3.5-inch diskette drive (preinstalled)
<b>5</b>	Bay 5 - Maximum Height: 25.8 mm (1.0 in.)	Hard disk drive (preinstalled)

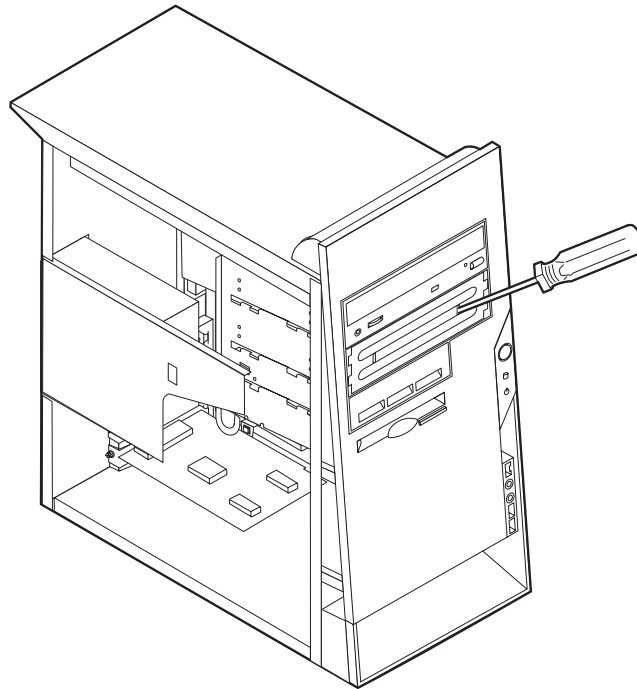
**Notes:**

1. Drives that are greater than 41.3 mm (1.6 in.) high cannot be installed.
2. Install removable media (tape or CD) drives in the accessible bays: bay 1 or 2.

**Installing a drive :** To install an internal drive, follow these steps.

1. Remove the cover. See “Removing the cover” on page 48.
2. If your computer has a CD drive or DVD drive, you might need to remove the signal and power cables from the drive.
3. Remove the bay panel from the drive bay by inserting a flat-blade screwdriver at the end and gently prying it loose.

4. Remove the metal shield from the drive bay by inserting a flat-blade screwdriver into one of the slots and gently prying it loose.

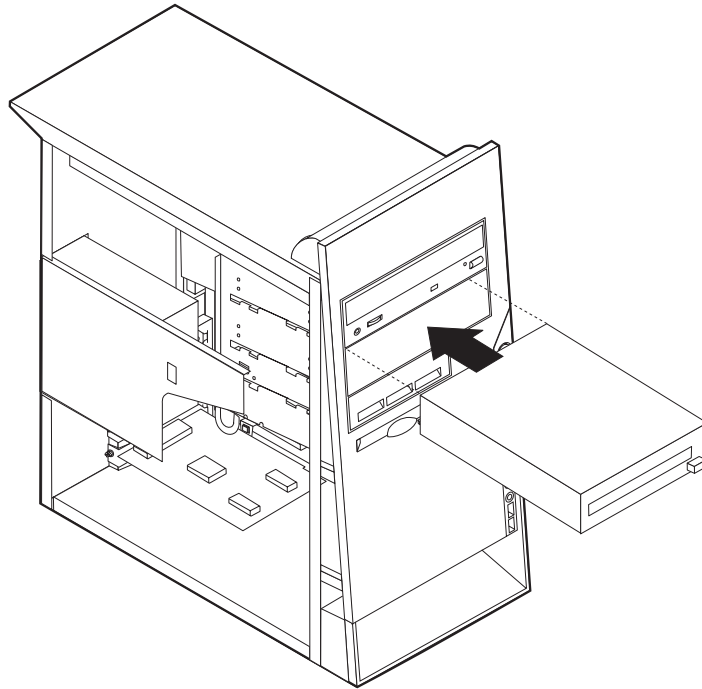


5. Make sure the drive that you are installing is set correctly as either a master or a slave device.
  - If it is the first CD drive or DVD drive, set as a master device.
  - If it is an additional CD drive or DVD drive, set as a slave device.
  - If it is a hard disk drive, set as a slave device.

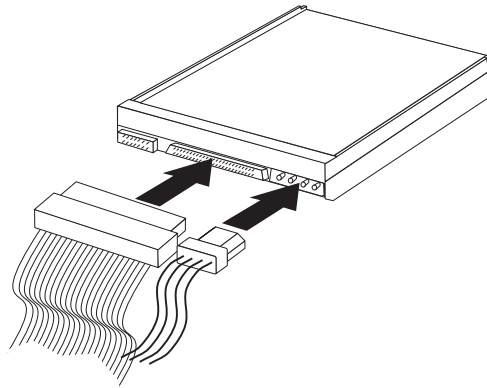
Refer to the documentation that comes with your drive for master/slave jumper information.

6. Install the drive into the bay. Align the screw holes, and insert the screws that secure the drive to the bay.





7. Each integrated drive electronics (IDE) drive requires two cables; a four-wire power cable that connects to the power supply and a signal cable that connects to the system board. For a CD-ROM drive, you might also have an audio cable.



The steps to connect an IDE drive are different depending on the type of drive you are connecting. Locate the procedure below for your drive connection.

### **To connect the first IDE CD drive or DVD drive**

1. Locate the three-connector signal cable that came with your computer or with the new drive.
2. Locate the secondary IDE connector on the system board. See "Identifying parts on the system board" on page 51.
3. Connect one end of the signal cable to the drive and the other to the secondary IDE connector on the system board. To reduce electronic noise, use the connectors at the end of the cable only.
4. Your computer has extra power connectors for additional drives. Connect a power connector to the drive.

5. If you have a CD-ROM audio cable, connect it to the drive and to the system board. See “Identifying parts on the system board” on page 51.

### **To connect an additional IDE CD drive or DVD drive**

1. Locate the secondary IDE connector on the system board and the three-connector signal cable. See “Identifying parts on the system board” on page 51.
2. Connect the extra connector in the signal cable to the new CD drive or DVD drive.
3. Your computer has extra power connectors for additional drives. Connect a power connector to the drive.

### **To connect an additional IDE hard disk drive**

1. Locate the primary IDE connector on the system board. One end of the three-connector cable connects to the hard disk drive and the other connects to the system board. See “Identifying parts on the system board” on page 51.
2. Connect the extra connector in the signal cable to the new hard disk drive.
3. Your computer has extra power connectors for additional drives. Connect a power connector to the drive.

#### **What to do next**

- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables” on page 59.

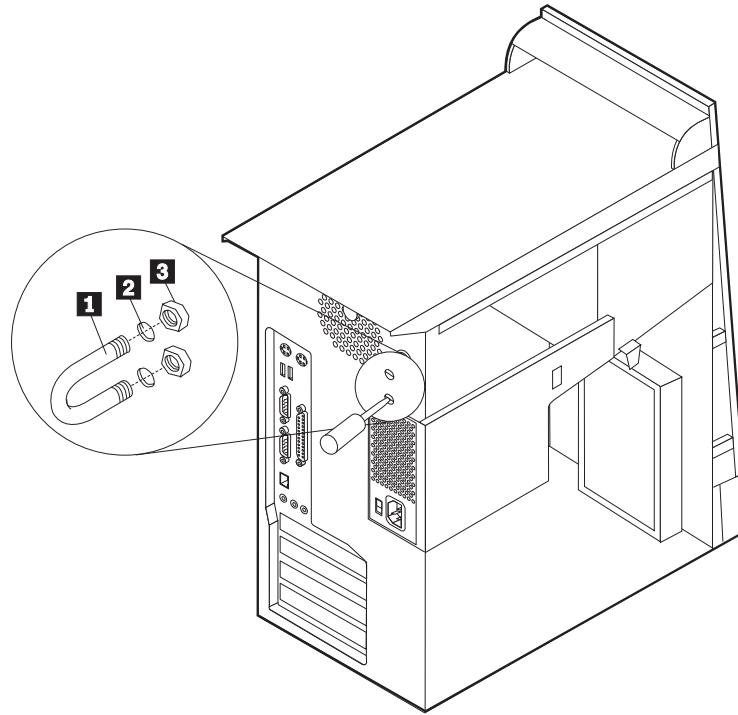
### **Installing a Rope Clip**

To help prevent hardware theft, you can add a 3/16 inch or 5 mm Rope Clip and cable to your computer. After you add the security cable, make sure that it does not interfere with other cables that are connected to the computer.

To install a Rope Clip:

1. Remove cover (see “Removing the cover” on page 48).
2. Use a tool, such as a screwdriver, to remove the two metal knockouts.
3. Insert the Rope Clip through the rear panel; then attach and tighten the nuts with an appropriately sized or adjustable wrench.
4. Replace the computer cover. For more information, see “Replacing the cover and connecting the cables” on page 59.

5. Thread the cable through the Rope Clip and around an object that is not a part of or permanently secured to the building structure or foundation, and from which it cannot be removed; then fasten the cable ends together with a lock.



- 1** Rope Clip
- 2** Bolt holes
- 3** Nuts

**What to do next:**

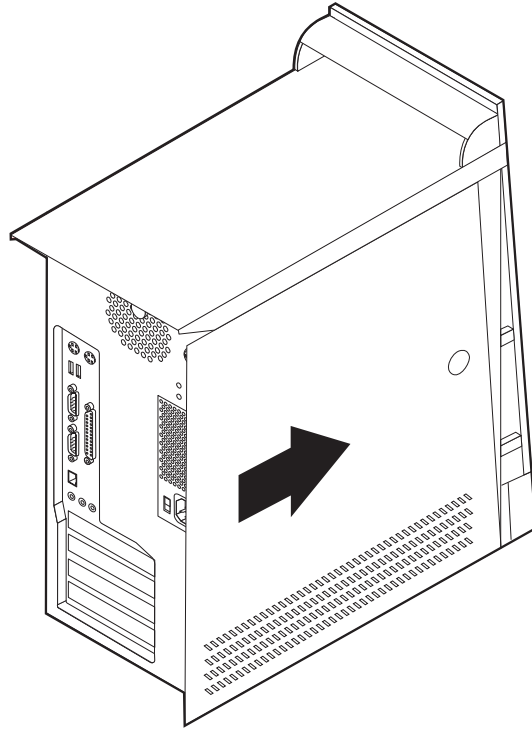
To work with another option, go to the appropriate section.

## Replacing the cover and connecting the cables

After working with options, you need to install any removed parts, replace the cover, and reconnect any cables, including power cords and telephone lines. Also, depending on the option that is installed, you might need to confirm the updated information in the IBM Setup Utility program.

To replace the cover and connect cables to your computer:

1. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside your computer.
2. Clear any cables that might impede the replacement of the cover.
3. Position the cover on the chassis so that the rail guides on the bottom of the cover engage the rails and push the cover closed until it latches.



4. Reconnect the external cables and cords to the computer. See Chapter 2, “Installing external options,” on page 11.
5. To update the configuration, see “Configuring the computer” on page 21.

**Important:**

When the power cord is first plugged in, the computer might appear to power on for a few seconds, then power off. This is a normal sequence to enable the computer to initialize.

---

## Chapter 5. FRU Removals

These removals are to be done by trained service technicians only.

**Important:** Before you install or remove any option, read “Safety information” on page 185. These precautions and guidelines will help you work safely.

---

### Replacing a microprocessor

To replace a microprocessor on any of the machine types, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See “Removing the cover” on page 26 for the small desktop, “Removing the cover” on page 37 for the desktop, and “Removing the cover” on page 48 for the microtower.
2. Remove the system boards. See “System board” on page 68 for small desktops, “System board” on page 65 for desktops, and “System board” on page 63 for microtowers.
3. Loosen the two captured screws that hold the fansink in place, and pivot them off of the fansink notches.
4. To remove the fansink from the processor, twist the fansink to break the seal formed by the thermal grease and remove.

**Note:** If the thermal grease seal cannot be broken, you may want to start up the system to heat the processor and loosen the thermal grease.

5. Pull out and lift up the processor socket lever arm upward to its maximum vertical position to release the processor.
6. Lift the processor out of the system board.

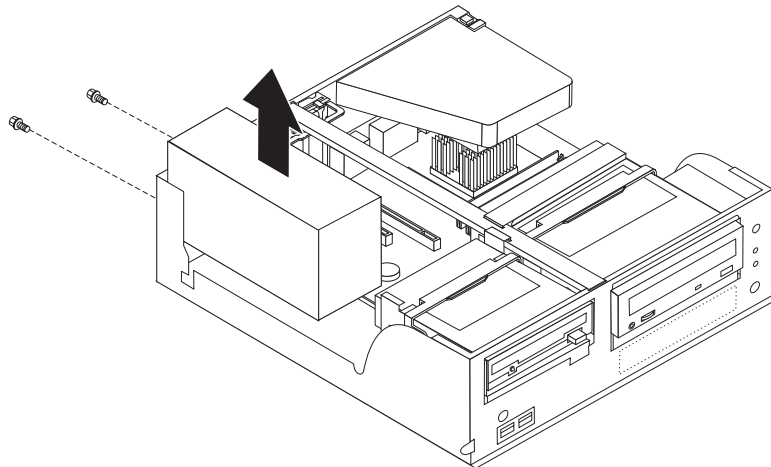
**Note:** When you install the new processor, make sure to reinstall the fansink to insure proper cooling.

---

### Small desktop removals

Before performing any removals, unplug all power cords and disconnect all adapters.

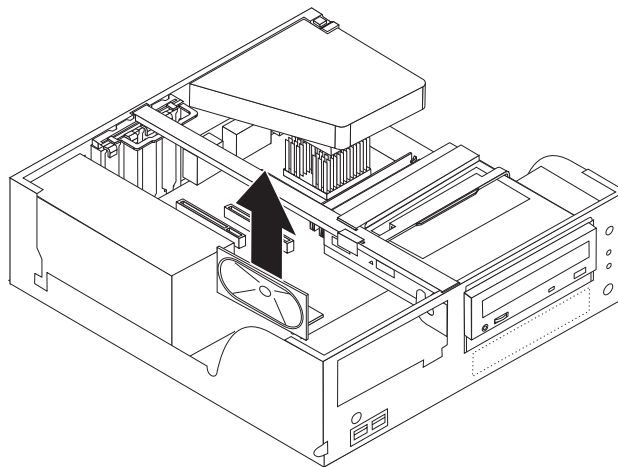
## Power supply



To remove the power supply, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See "Removing the cover" on page 26.
2. Disconnect all wires that the power supply is attached to.
3. Remove the two screws that hold the power supply in place.
4. Lift the power supply out.

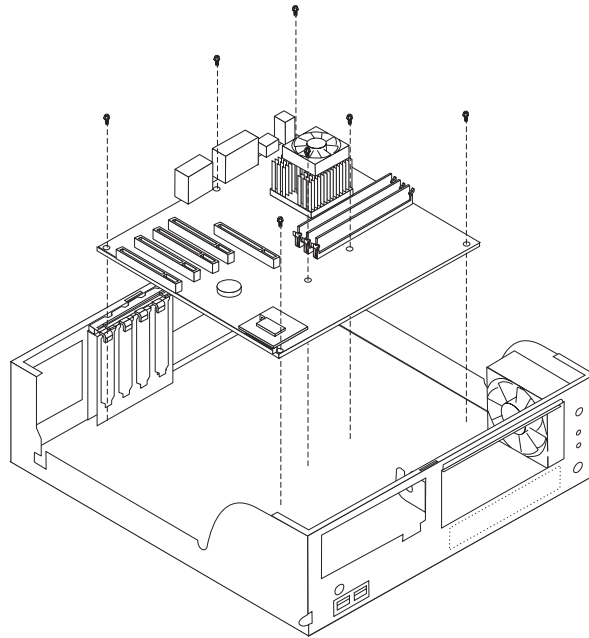
## Speaker



To remove the speaker do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See "Removing the cover" on page 26.
2. Disconnect the speaker wire.
3. Slide the speaker up and out of the bracket.

## System board



To remove the system board, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See “Removing the cover” on page 26
2. Remove the air baffle. See
3. Disconnect all wires connected to the system board.
4. Rotate the drive chassis over the system board and lock it in the upright position.
5. Remove the support arm by pulling it out.
6. Remove the seven screws that attach the system board to the chassis.
7. Lift out the system board.

## Air baffle

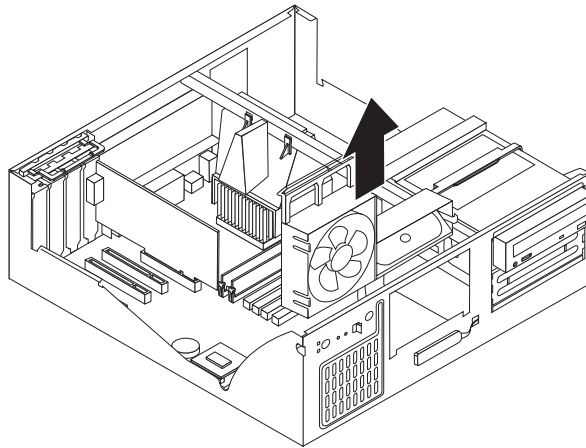
To remove the air baffle, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See “Removing the cover” on page 26.
2. With both hands, squeeze the air baffle to release the tabs from the chassis.
3. Lift out the air baffle.

---

## Desktop removals

## Fan/Speaker



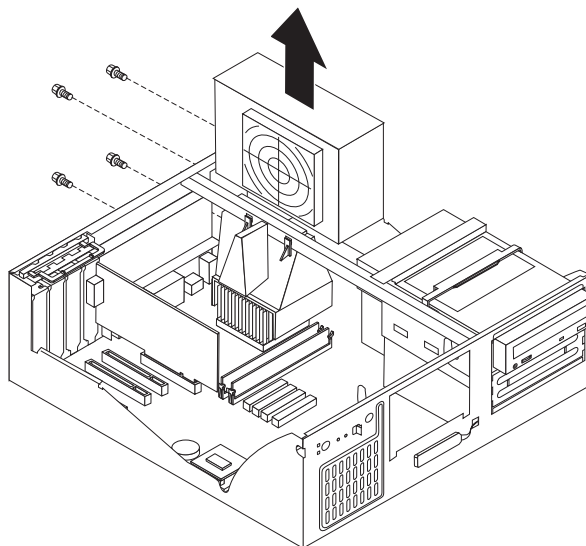
To remove the fan, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See "Removing the cover" on page 37.
2. Disconnect fan wires and speaker wire.
3. Push in on the tabs on the front of the chassis to release the fan/speaker bracket.
4. Pull out fan from chassis.

To remove the speaker, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See "Removing the cover" on page 37.
2. Disconnect the speaker wire.
3. Remove the fan/speaker bracket as shown above.
4. Slide the speaker out of the bracket.

## Power Supply

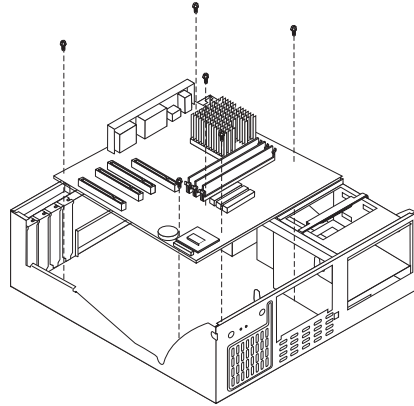




To remove the power supply, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See “Removing the cover” on page 37.
2. Disconnect all power supply wires.
3. Remove the four screws holding the power supply in place on the back of the chassis.
4. Lift out the power supply.

## System board



To remove the system board, do the following:

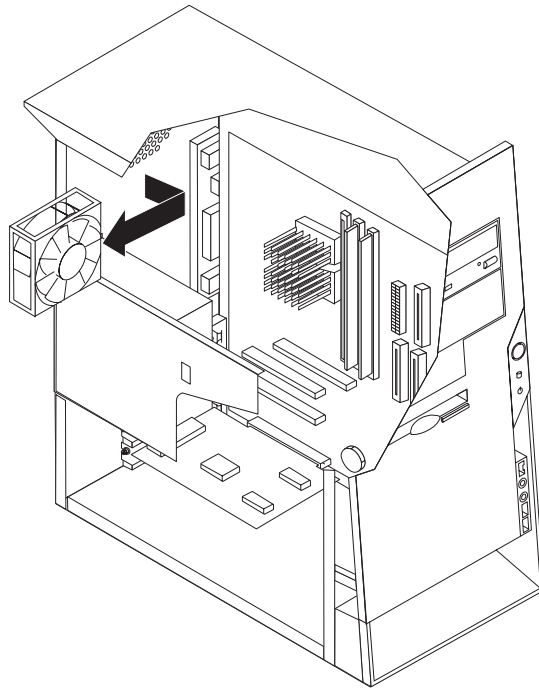
1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See “Removing the cover” on page 37.
2. Rotate the drive chassis above the system board upward and lock in the upright position.
3. Remove the support arm by pulling it out.
4. Disconnect all wires connected to the system board.
5. Remove the 6 screws that attach the system board to the chassis.
6. Lift out the system board.

---

## Microtower removals

For microtower removals, it may be easier to lay the system on it's side.

## Fan



To remove the fan, do the following:

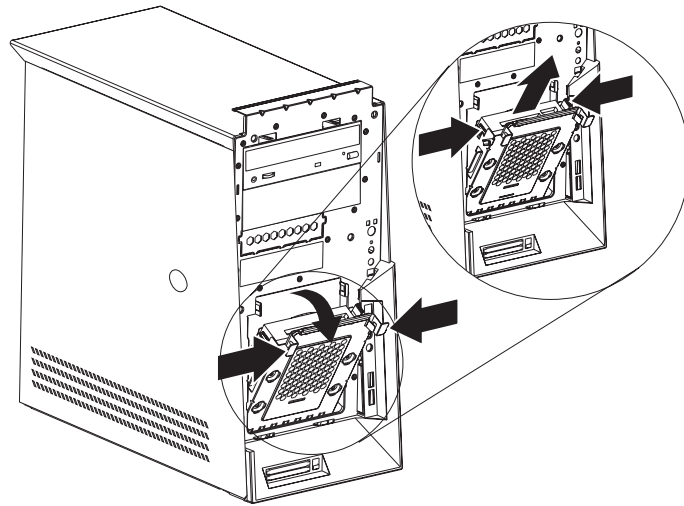
1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See “Removing the cover” on page 48.
2. See “Moving the power supply” on page 50
3. Push in on the tabs holding the fan to the back of the chassis.
4. Lift the fan out of the chassis.

## Front bezel

To remove the front bezel, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords.
2. Push in on the bezel release arm (the blue arm sticking out of the back of the chassis) to detach the bezel from the chassis.
3. Pull the bezel off the front of the computer.

## Hard disk drive

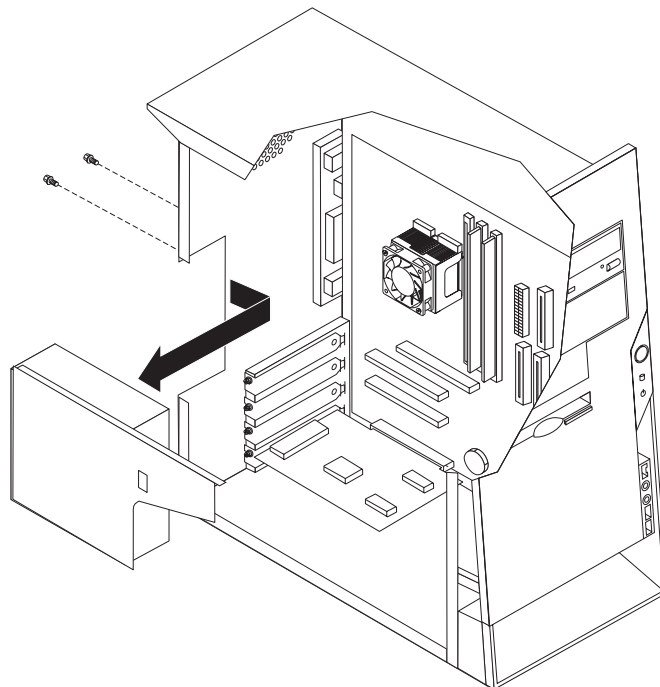


To remove the hard disk drive, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See “Removing the cover” on page 48.
2. Disconnect all hard disk drive wires.
3. Push in on the two tabs to rotate the hard disk drive out.
4. Push in on the rail guides and slide the hard disk drive out.

**Note:** When replacing the hard disk drive, make sure you obtain the proper Recovery CD to install after you install the new hard drive.

## Power supply



To remove the power supply, do the following:

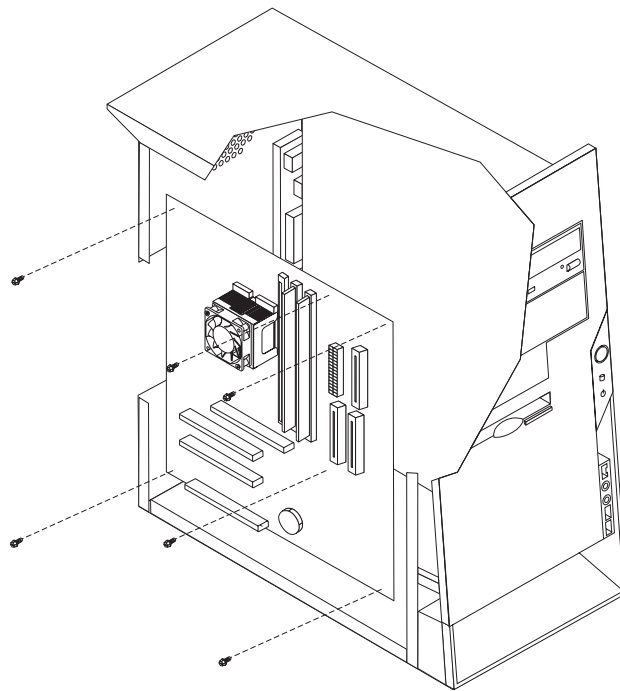
1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See "Removing the cover" on page 48.
2. Disconnect all power supply wires.
3. Remove the two screws holding the power supply to the back of the chassis.
4. Lift out the power supply.

## Speaker

To remove the speaker, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See "Removing the cover" on page 48.
2. Rotate the power supply out. See "Moving the power supply" on page 50
3. Disconnect the speaker wire.
4. Slide the speaker out of the bracket.

## System board



To remove the system board, do the following:

1. Turn off the server and peripheral devices and disconnect all external cables and power cords; then, remove the cover. See "Removing the cover" on page 48.
2. See "Moving the power supply" on page 50
3. Disconnect all wires connected to the system board.
4. Remove the six screws that attach the system board to the chassis.
5. Lift out the system board.

---

## Chapter 6. Symptom-to-FRU Index

The Symptom-to-FRU index lists error symptoms and possible causes. The most likely cause is listed first. Always begin with "General Checkout" on page 1. This index can also be used to help you decide which FRUs to have available when servicing a computer. If you are unable to correct the problem using this index, go to "Undetermined problems" on page 107.

**Notes:**

- If you have both an error message and an incorrect audio response, diagnose the error message first.
- If you cannot run the diagnostic tests or you get a diagnostic error code when running a test, but did receive a POST error message, diagnose the POST error message first.
- If you did not receive any error message, look for a description of your error symptoms in the first part of this index.
- Check the hard disk drive jumper settings before you replace a hard disk drive.

---

### Hard disk drive boot error

A hard disk drive boot error (error codes 1962 and I999030X) can have the following causes.

Error	FRU/Action
The start-up drive is not in the boot sequence in configuration.	Check the configuration and ensure the start-up drive is in the boot sequence.
No operating system installed on the boot drive.	Install an operating system on the boot drive.
The boot sector on the start-up drive is corrupted.	The drive must be formatted, do the following: <ol style="list-style-type: none"><li>1. Attempt to access and recover (back-up) the failing hard disk drive.</li><li>2. Using the operating systems programs, format the hard disk drive.</li></ol>
The drive is defective.	Replace the hard disk drive.

---

### Power Supply Errors

If the power-on indicator is not on, the power supply fan is not running, or the computer will not power-off, use the following procedures.

Check/Verify	FRU/Action
Check the following for proper installation. <ul style="list-style-type: none"> <li>• Power Cord</li> <li>• On/Off Switch connector</li> <li>• On/Off Switch Power Supply connector</li> <li>• System Board Power Supply connectors</li> <li>• Microprocessor(s) connection</li> </ul>	Reset
Check the power-on switch for continuity.	Power Cord
Check the power-on switch for continuity.	Power-on Switch

## Diagnostic error codes

Refer to the following diagnostic error codes when using the diagnostic tests. See "Diagnostics" on page 13 for the specific type for information about the Diagnostic programs.

In the following index, X can represent any number.

Diagnostic Error Code	FRU/Action
<b>000-000-XXX</b> BIOS Test Passed	1. <b>No action</b>
<b>000-002-XXX</b> BIOS Timeout	1. <b>Flash the system</b> 2. System board
<b>000-024-XXX</b> BIOS Addressing test failure	1. <b>Flash the system</b> 2. System board
<b>000-025-XXX</b> BIOS Checksum Value error	1. <b>Flash the system</b> 2. Boot block 3. System board
<b>000-026-XXX</b> FLASH data error	1. <b>Flash the system</b> 2. Boot block 3. System board
<b>000-027-XXX</b> BIOS Configuration/Setup error	1. <b>Run Setup</b> 2. Flash the system 3. Boot block 4. System board
<b>000-034-XXX</b> BIOS Buffer Allocation failure	1. <b>Reboot the system</b> 2. Flash the system 3. Run memory test 4. System board
<b>000-035-XXX</b> BIOS Reset Condition detected	1. <b>Flash the system</b> 2. System board
<b>000-036-XXX</b> BIOS Register error	1. <b>Flash the system</b> 2. Boot block 3. System board
<b>000-038-XXX</b> BIOS Extension failure	1. <b>Flash the system</b> 2. Adapter card 3. System board
<b>000-039-XXX</b> BIOS DMI data error	1. <b>Flash the system</b> 2. System board
<b>000-195-XXX</b> BIOS Test aborted by user	1. <b>Information</b> 2. Re-start the test, if necessary
<b>000-196-XXX</b> BIOS test halt, error threshold exceeded	1. <b>Press F3 to review the log file</b> 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
000-197-XXX BIOS test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
000-198-XXX BIOS test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
000-199-XXX BIOS test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
000-250-XXX BIOS APM failure	<ol style="list-style-type: none"> <li>1. <b>Flash the system</b></li> <li>2. System board</li> </ol>
000-270-XXX BIOS ACPI failure	<ol style="list-style-type: none"> <li>1. <b>Flash the system</b></li> <li>2. System board</li> </ol>
001-000-XXX System Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
001-00X-XXX System Error	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
001-01X-XXX System Error	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
001-024-XXX System Addressing test failure	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
001-025-XXX System Checksum Value error	<ol style="list-style-type: none"> <li>1. <b>Flash the system</b></li> <li>2. System board</li> </ol>
001-026-XXX System FLASH data error	<ol style="list-style-type: none"> <li>1. <b>Flash the system</b></li> <li>2. System board</li> </ol>
001-027-XXX System Configuration/Setup error	<ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. Flash the system</li> <li>3. System board</li> </ol>
001-032-XXX System Device Controller failure	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
001-034-XXX System Device Buffer Allocation failure	<ol style="list-style-type: none"> <li>1. <b>Reboot the system</b></li> <li>2. Flash the system</li> <li>3. Run memory test</li> <li>4. System board</li> </ol>
001-035-XXX System Device Reset condition detected	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
001-036-XXX System Register error	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
001-038-XXX System Extension failure	<ol style="list-style-type: none"> <li>1. <b>Adapter card</b></li> <li>2. System board</li> </ol>
001-039-XXX System DMI data structure error	<ol style="list-style-type: none"> <li>1. <b>Flash the system</b></li> <li>2. System board</li> </ol>



Diagnostic Error Code	FRU/Action
<b>001-040-XXX</b> System IRQ failure	1. <b>Power-off/on system and re-test</b> 2. System board
<b>001-041-XXX</b> System DMA failure	1. <b>Power-off/on system and re-test</b> 2. System board
<b>001-195-XXX</b> System Test aborted by user	1. <b>Information</b> 2. Re-start the test, if necessary
<b>001-196-XXX</b> System test halt, error threshold exceeded	1. <b>Press F3 to review the log file</b> 2. Re-start the test to reset the log file
<b>001-197-XXX</b> System test warning	1. <b>Make sure the component that is called out is connected and/or enabled</b> 2. Re-run test 3. Component that is called out in warning statement 4. Component under test
<b>001-198-XXX</b> System test aborted	1. <b>If a component is called out, make sure it is connected and/or enabled</b> 2. Flash the system and re-test 3. Go to the "Undetermined problems" section
<b>001-199-XXX</b> System test failed, cause unknown	1. <b>Go to the "Undetermined problems" section</b> 2. Flash the system and re-test 3. Replace component under function test
<b>001-250-XXX</b> System ECC error	1. <b>System board</b>
<b>001-254-XXX</b> <b>001-255-XXX</b> <b>001-256-XXX</b> <b>001-257-XXX</b> System DMA error	1. <b>System board</b>
<b>001-260-XXX</b> <b>001-264-XXX</b> System IRQ error	1. <b>System board</b>
<b>001-268-XXX</b> System IRQ1 failure	1. <b>Device on IRQ1</b> 2. System board
<b>001-269-XXX</b> System IRQ2 failure	1. <b>Device on IRQ2</b> 2. System board
<b>001-270-XXX</b> System IRQ3 failure	1. <b>Device on IRQ3</b> 2. System board
<b>001-271-XXX</b> System IRQ4 failure	1. <b>Device on IRQ4</b> 2. System board
<b>001-272-XXX</b> System IRQ5 failure	1. <b>Device on IRQ5</b> 2. System board
<b>001-273-XXX</b> System IRQ6 (diskette drive) failure	1. <b>Diskette Cable</b> 2. Diskette drive 3. System board
<b>001-274-XXX</b> System IRQ7 failure	1. <b>Device on IRQ7</b> 2. System board

<b>Diagnostic Error Code</b>	<b>FRU/Action</b>
<b>001-275-XXX</b> System IRQ8 failure	1. <b>Device on IRQ8</b> 2. System board
<b>001-276-XXX</b> System IRQ9 failure	1. <b>Device on IRQ9</b> 2. System board
<b>001-277-XXX</b> System IRQ10 failure	1. <b>Device on IRQ10</b> 2. System board
<b>001-278-XXX</b> System IRQ11 failure	1. <b>Device on IRQ11</b> 2. System board
<b>001-279-XXX</b> System IRQ12 failure	1. <b>Device on IRQ12</b> 2. System board
<b>001-280-XXX</b> System IRQ13 failure	1. <b>Device on IRQ13</b> 2. System board
<b>001-281-XXX</b> System IRQ14 (hard disk drive) failure	1. <b>Hard disk drive cable</b> 2. Hard disk drive 3. System board
<b>001-282-XXX</b> System IRQ15 failure	1. <b>Device on IRQ15</b> 2. System board
<b>001-286-XXX</b> <b>001-287-XXX</b> <b>001-288-XXX</b> System Timer failure	1. <b>System board</b>
<b>001-292-XXX</b> System CMOS RAM error	1. <b>Run Setup and re-test</b> 2. System board
<b>001-293-XXX</b> System CMOS Battery	1. <b>Battery</b> 2. System board
<b>001-298-XXX</b> System RTC date/time update failure	1. <b>Flash the system</b> 2. System board
<b>001-299-XXX</b> System RTC periodic interrupt failure	1. <b>System board</b>
<b>001-300-XXX</b> System RTC Alarm failure	1. <b>System board</b>
<b>001-301-XXX</b> System RTC Century byte error	1. <b>Flash the system</b> 2. System board
<b>005-000-XXX</b> Video Test Passed	1. <b>No action</b>
<b>005-00X-XXX</b> Video error	1. <b>Video card, if installed</b> 2. System board
<b>005-010-XXX</b> <b>005-011-XXX</b> <b>005-012-XXX</b> <b>005-013-XXX</b> Video Signal failure	1. <b>Video card, if installed</b> 2. System board
<b>005-016-XXX</b> Video Simple Pattern test failure	1. <b>Video Ram</b> 2. Video card, if installed 3. System board
<b>005-024-XXX</b> Video Addressing test failure	1. <b>Video card, if installed</b> 2. System board

Diagnostic Error Code	FRU/Action
<b>005-025-XXX</b> Video Checksum Value error	1. <b>Video card, if installed</b> 2. System board
<b>005-027-XXX</b> Video Configuration/Setup error	1. <b>Run Setup</b> 2. Video drivers update 3. Video card, if installed 4. System board
<b>005-031-XXX</b> Video Device Cable failure	1. <b>Video cable</b> 2. Monitor 3. Video card, if installed 4. System board
<b>005-032-XXX</b> Video Device Controller failure	1. <b>Video card, if installed</b> 2. System board
<b>005-036-XXX</b> Video Register error	1. <b>Video card, if installed</b> 2. System board
<b>005-038-XXX</b> System BIOS extension failure	1. <b>Video card, if installed</b> 2. System board
<b>005-040-XXX</b> Video IRQ failure	1. <b>Video card, if installed</b> 2. System board
<b>005-195-XXX</b> Video Test aborted by user	1. <b>Information</b> 2. Re-start the test, if necessary
<b>005-196-XXX</b> Video test halt, error threshold exceeded	1. <b>Press F3 to review the log file</b> 2. Re-start the test to reset the log file
<b>005-197-XXX</b> Video test warning	1. <b>Make sure the component that is called out is connected and/or enabled</b> 2. Re-run test 3. Component that is called out in warning statement 4. Component under test
<b>005-198-XXX</b> Video test aborted	1. <b>If a component is called out, make sure it is connected and/or enabled</b> 2. Flash the system and re-test 3. Go to the "Undetermined problems" section
<b>005-199-XXX</b> Video test failed, cause unknown	1. <b>Go to the "Undetermined problems" section</b> 2. Flash the system and re-test 3. Replace component under function test
<b>005-2XX-XXX</b> <b>005-3XX-XXX</b> Video subsystem error	1. <b>Video card, if installed</b> 2. System board
<b>006-000-XXX</b> Diskette interface Test Passed	1. <b>No action</b>
<b>006-0XX-XXX</b> Diskette interface error	1. <b>Diskette drive Cable</b> 2. Diskette drive 3. System board

Diagnostic Error Code	FRU/Action
<b>006-195-XXX</b> Diskette interface Test aborted by user	1. <b>Information</b> 2. Re-start the test, if necessary
<b>006-196-XXX</b> Diskette interface test halt, error threshold exceeded	1. <b>Press F3 to review the log file</b> 2. Re-start the test to reset the log file
<b>006-197-XXX</b> Diskette interface test warning	1. <b>If a component is called out, make sure it is connected and/or enabled</b> 2. Re-run test 3. Component that is called out in warning statement 4. Component under test
<b>006-198-XXX</b> Diskette interface test aborted	1. <b>If a component is called out, make sure it is connected and/or enabled</b> 2. Flash the system and re-test 3. Go to the "Undetermined problems" section
<b>006-199-XXX</b> Diskette interface test failed, cause unknown	1. <b>Go to the "Undetermined problems" section</b> 2. Flash the system and re-test 3. Replace component under function test
<b>006-25X-XXX</b> Diskette interface Error	1. <b>Diskette drive cable</b> 2. Diskette drive 3. System board
<b>011-000-XXX</b> Serial port Interface Test Passed	1. <b>No action</b>
<b>011-001-XXX</b> Serial port Presence	1. <b>Remove external serial device, if present</b> 2. Run setup, enable port 3. System board
<b>011-002-XXX</b> <b>011-003-XXX</b> Serial port Timeout/Parity error	1. <b>System board</b>
<b>011-013-XXX</b> <b>011-014-XXX</b> Serial port Control Signal/Loopback test failure	1. <b>System board</b>
<b>011-015-XXX</b> Serial port External Loopback failure	1. <b>Wrap plug</b> 2. System board
<b>011-027-XXX</b> Serial port Configuration/Setup error	1. <b>Run Setup, enable port</b> 2. Flash the system 3. System board
<b>011-03X-XXX</b> <b>011-04X-XXX</b> Serial port failure	1. <b>System board</b>
<b>011-195-XXX</b> Serial port Test aborted by user	1. <b>Information</b> 2. Re-start the test, if necessary
<b>011-196-XXX</b> Serial port test halt, error threshold exceeded	1. <b>Press F3 to review the log file</b> 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
011-197-XXX Serial port test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
011-198-XXX Serial port test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
011-199-XXX Serial port test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
011-2XX-XXX Serial port signal failure	<ol style="list-style-type: none"> <li>1. <b>External serial device</b></li> <li>2. System board</li> </ol>
014-000-XXX Parallel port Interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
014-001-XXX Parallel port Presence	<ol style="list-style-type: none"> <li>1. <b>Remove external parallel device, if present</b></li> <li>2. Run setup, enable port</li> <li>3. System board</li> </ol>
014-002-XXX 014-003-XXX Parallel port Timeout/Parity error	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
014-013-XXX 014-014-XXX Parallel port Control Signal/Loopback test failure	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
014-015-XXX Parallel port External Loopback failure	<ol style="list-style-type: none"> <li>1. <b>Wrap plug</b></li> <li>2. System board</li> </ol>
014-027-XXX Parallel port Configuration/Setup error	<ol style="list-style-type: none"> <li>1. <b>Run Setup, enable port</b></li> <li>2. Flash the system</li> <li>3. System board</li> </ol>
014-03X-XXX 014-04X-XXX Parallel port failure	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
014-195-XXX Parallel port Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
014-196-XXX Parallel port test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
014-197-XXX Parallel port test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>

Diagnostic Error Code	FRU/Action
014-198-XXX Parallel port test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
014-199-XXX Parallel port test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
014-2XX-XXX 014-3XX-XXX Parallel port failure	<ol style="list-style-type: none"> <li>1. <b>External parallel device</b></li> <li>2. System board</li> </ol>
015-000-XXX USB port Interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
015-001-XXX USB port Presence	<ol style="list-style-type: none"> <li>1. <b>Remove USB device(s) and re-test</b></li> <li>2. System board</li> </ol>
015-002-XXX USB port Timeout	<ol style="list-style-type: none"> <li>1. <b>Remove USB device(s) and re-test</b></li> <li>2. System board</li> </ol>
015-015-XXX USB port External Loopback failure	<ol style="list-style-type: none"> <li>1. <b>Remove USB device(s) and re-test</b></li> <li>2. System board</li> </ol>
015-027-XXX USB port Configuration/Setup error	<ol style="list-style-type: none"> <li>1. <b>Flash the system</b></li> <li>2. System board</li> </ol>
015-032-XXX USB port Device Controller failure	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
015-034-XXX USB port buffer allocation failure	<ol style="list-style-type: none"> <li>1. <b>Reboot the system</b></li> <li>2. Flash the system</li> <li>3. Run memory test</li> <li>4. System board</li> </ol>
015-035-XXX USB port Reset condition detected	<ol style="list-style-type: none"> <li>1. <b>Remove USB device(s) and re-test</b></li> <li>2. System board</li> </ol>
015-036-XXX USB port Register error	<ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>
015-040-XXX USB port IRQ failure	<ol style="list-style-type: none"> <li>1. <b>Run setup and check for conflicts</b></li> <li>2. Flash the system</li> <li>3. System board</li> </ol>
015-195-XXX USB port Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
015-196-XXX USB port test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
015-197-XXX USB port test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>

Diagnostic Error Code	FRU/Action
015-198-XXX USB port test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
015-199-XXX USB port test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
018-000-XXX PCI Card Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
018-0XX-XXX PCI Card Failure	<ol style="list-style-type: none"> <li>1. <b>Riser card, if installed</b></li> <li>2. System board</li> </ol>
018-195-XXX PCI Card Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>PCI card</b></li> <li>2. Information</li> <li>3. Re-start the test, if necessary</li> </ol>
018-196-XXX PCI Card test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
018-197-XXX PCI Card test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
018-198-XXX PCI Card test aborted	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
018-199-XXX PCI Card test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
018-250-XXX PCI Card Services error	<ol style="list-style-type: none"> <li>1. <b>PCI card</b></li> <li>2. Riser card, if installed</li> <li>3. System board</li> </ol>
020-000-XXX PCI Interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
020-0XX-XXX PCI Interface error	<ol style="list-style-type: none"> <li>1. <b>PCI card</b></li> <li>2. Riser card, if installed</li> <li>3. System board</li> </ol>
020-195-XXX PCI Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
020-196-XXX PCI test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>

Diagnostic Error Code	FRU/Action
020-197-XXX PCI test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
020-198-XXX PCI test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
020-199-XXX PCI test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
020-262-XXX PCI system error	<ol style="list-style-type: none"> <li>1. <b>PCI card</b></li> <li>2. Riser card, if installed</li> <li>3. System board</li> </ol>
025-000-XXX IDE interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
025-00X-XXX 025-01X-XXX IDE interface failure	<ol style="list-style-type: none"> <li>1. <b>IDE signal cable</b></li> <li>2. Check power supply</li> <li>3. IDE device</li> <li>4. System board</li> </ol>
025-027-XXX IDE interface Configuration/Setup error	<ol style="list-style-type: none"> <li>1. <b>IDE signal cable</b></li> <li>2. Flash the system</li> <li>3. IDE device</li> <li>4. System board</li> </ol>
025-02X-XXX 025-03X-XXX 025-04X-XXX IDE Interface failure	<ol style="list-style-type: none"> <li>1. <b>IDE signal cable</b></li> <li>2. Check power supply</li> <li>3. IDE device</li> <li>4. System board</li> </ol>
025-195-XXX IDE interface Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
025-196-XXX IDE interface test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
025-197-XXX IDE interface test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>



Diagnostic Error Code	FRU/Action
025-198-XXX IDE interface test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
025-199-XXX IDE interface test failed, cause unknown	<ol style="list-style-type: none"> <li>1. Go to the "Undetermined problems" section</li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
030-000-XXX SCSI interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
030-00X-XXX 030-01X-XXX SCSI interface failure	<ol style="list-style-type: none"> <li>1. <b>SCSI signal cable</b></li> <li>2. Check power supply</li> <li>3. SCSI device</li> <li>4. SCSI adapter card, if installed</li> <li>5. System board</li> </ol>
030-027-XXX SCSI interface Configuration/Setup error	<ol style="list-style-type: none"> <li>1. <b>SCSI signal cable</b></li> <li>2. Flash the system</li> <li>3. SCSI device</li> <li>4. SCSI adapter card, if installed</li> <li>5. System board</li> </ol>
030-03X-XXX 030-04X-XXX SCSI interface error	<ol style="list-style-type: none"> <li>1. <b>SCSI signal cable</b></li> <li>2. Check power supply</li> <li>3. SCSI device</li> <li>4. SCSI adapter card, if installed</li> <li>5. installed System board</li> </ol>
030-195-XXX SCSI interface Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
030-196-XXX SCSI interface test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
030-197-XXX SCSI interface test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
030-198-XXX SCSI interface test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>

Diagnostic Error Code	FRU/Action
<b>030-199-XXX</b> SCSI interface test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
<b>035-000-XXX</b> RAID interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
<b>035-0XX-XXX</b> RAID interface Failure	<ol style="list-style-type: none"> <li>1. <b>RAID signal cable</b></li> <li>2. RAID device</li> <li>3. RAID adapter card, if installed</li> <li>4. System board</li> </ol>
<b>035-195-XXX</b> RAID interface Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
<b>035-196-XXX</b> RAID interface test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
<b>035-197-XXX</b> RAID interface test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
<b>035-198-XXX</b> RAID interface test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
<b>035-199-XXX</b> RAID interface test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
<b>071-000-XXX</b> Audio port Interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
<b>071-00X-XXX</b> <b>071-01X-XXX</b> <b>071-02X-XXX</b> Audio port error	<ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. Flash the system</li> <li>3. System board</li> </ol>
<b>071-03X-XXX</b> Audio port failure	<ol style="list-style-type: none"> <li>1. <b>Speakers</b></li> <li>2. Microphone</li> <li>3. Audio card, if installed</li> <li>4. System board</li> </ol>
<b>071-04X-XXX</b> Audio port failure	<ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. Audio card, if installed</li> <li>3. System board</li> </ol>
<b>071-195-XXX</b> Audio port Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
<b>071-196-XXX</b> Audio port test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>

Diagnostic Error Code	FRU/Action
<b>071-197-XXX</b> Audio port test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
<b>071-198-XXX</b> Audio port test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
<b>071-199-XXX</b> Audio port test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
<b>071-25X-XXX</b> Audio port failure	<ol style="list-style-type: none"> <li>1. <b>Speakers</b></li> <li>2. Audio card, if installed</li> <li>3. System board</li> </ol>
<b>080-000-XXX</b> Game Port interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
<b>080-XXX-XXX</b> Game Port interface Error	<ol style="list-style-type: none"> <li>1. <b>Remove the game port device and re-test the system</b></li> </ol>
<b>080-195-XXX</b> Game Port interface Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
<b>080-196-XXX</b> Game Port interface test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
<b>080-197-XXX</b> Game Port interface test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
<b>080-198-XXX</b> Game Port interface test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
<b>080-199-XXX</b> Game Port interface test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
<b>086-000-XXX</b> Mouse Port interface Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
<b>086-001-XXX</b> Mouse Port interface Presence	<ol style="list-style-type: none"> <li>1. <b>Mouse</b></li> <li>2. System board</li> </ol>
<b>086-032-XXX</b> Mouse Port interface Device controller failure	<ol style="list-style-type: none"> <li>1. <b>Mouse</b></li> <li>2. System board</li> </ol>

<b>Diagnostic Error Code</b>	<b>FRU/Action</b>
<b>086-035-XXX</b> Mouse Port interface Reset	1. <b>Mouse</b> 2. System board
<b>086-040-XXX</b> Mouse Port interface IRQ failure	1. <b>Run Setup</b> 2. Mouse 3. System board
<b>086-195-XXX</b> Mouse Port interface Test aborted by user	1. <b>Information</b> 2. Re-start the test, if necessary
<b>086-196-XXX</b> Mouse Port interface test halt, error threshold exceeded	1. <b>Press F3 to review the log file</b> 2. Re-start the test to reset the log file
<b>086-197-XXX</b> Mouse Port interface test warning	1. Make sure the component that is called out is connected and/or enabled 2. Re-run test 3. Component that is called out in warning statement 4. Component under test
<b>086-198-XXX</b> Mouse Port interface test aborted	1. If a component is called out, make sure it is connected and/or enabled 2. Flash the system and re-test 3. Go to the "Undetermined problems" section
<b>086-199-XXX</b> Mouse Port interface test failed, cause unknown	1. <b>Go to the "Undetermined problems" section</b> 2. Flash the system and re-test 3. Replace component under function test
<b>089-000-XXX</b> Microprocessor Test Passed	1. <b>No action</b>
<b>089-XXX-XXX</b> Microprocessor failure	1. <b>Microprocessor(s)</b> 2. System board
<b>089-195-XXX</b> Microprocessor Test aborted by user	1. <b>Information</b> 2. Re-start the test, if necessary
<b>089-196-XXX</b> Microprocessor test halt, error threshold exceeded	1. <b>Press F3 to review the log file</b> 2. Re-start the test to reset the log file
<b>089-197-XXX</b> Microprocessor test warning	1. <b>Make sure the component that is called out is connected and/or enabled</b> 2. Re-run test 3. Component that is called out in warning statement 4. Component under test
<b>089-198-XXX</b> Microprocessor test aborted	1. <b>Flash the system and re-test</b> 2. Go to the "Undetermined problems" section

Diagnostic Error Code	FRU/Action
<b>089-199-XXX</b> Microprocessor test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Go to the "Undetermined problems" section</li> <li>3. Flash the system and re-test</li> <li>4. Replace component under function test</li> </ol>
<b>170-000-XXX</b> Voltage Sensor(s) Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
<b>170-0XX-XXX</b> Voltage Sensor(s) failure	<ol style="list-style-type: none"> <li>1. <b>Flash system</b></li> <li>2. System board</li> </ol>
<b>170-195-XXX</b> Voltage Sensor(s) Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
<b>170-196-XXX</b> Voltage Sensor(s) test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>
<b>170-197-XXX</b> Voltage Sensor(s) test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
<b>170-198-XXX</b> Voltage Sensor(s) test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to the "Undetermined problems" section</li> </ol>
<b>170-199-XXX</b> Voltage Sensor(s) test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
<b>170-250-XXX</b> <b>170-251-XXX</b> Voltage Sensor(s) Voltage limit error	<ol style="list-style-type: none"> <li>1. <b>Power supply</b></li> <li>2. System board</li> </ol>
<b>170-254-XXX</b> Voltage Sensor(s) Voltage Regulator Module error	<ol style="list-style-type: none"> <li>1. <b>Voltage Regulator Module (VRM)</b></li> <li>2. Microprocessor</li> <li>3. System board</li> </ol>
<b>175-000-XXX</b> Thermal Sensor(s) Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
<b>175-0XX-XXX</b> Thermal Sensor(s) failure	<ol style="list-style-type: none"> <li>1. <b>Flash system</b></li> <li>2. System board</li> </ol>
<b>175-195-XXX</b> Thermal Sensor(s) Test aborted by user	<ol style="list-style-type: none"> <li>1. <b>Information</b></li> <li>2. Re-start the test, if necessary</li> </ol>
<b>175-196-XXX</b> Thermal Sensor(s) test halt, error threshold exceeded	<ol style="list-style-type: none"> <li>1. <b>Press F3 to review the log file</b></li> <li>2. Re-start the test to reset the log file</li> </ol>

Diagnostic Error Code	FRU/Action
175-197-XXX Thermal Sensor(s) test warning	<ol style="list-style-type: none"> <li>1. <b>Make sure the component that is called out is connected and/or enabled</b></li> <li>2. Re-run test</li> <li>3. Component that is called out in warning statement</li> <li>4. Component under test</li> </ol>
175-198-XXX Thermal Sensor(s) test aborted	<ol style="list-style-type: none"> <li>1. <b>If a component is called out, make sure it is connected and/or enabled</b></li> <li>2. Flash the system and re-test</li> <li>3. Go to "Undetermined problems" section</li> </ol>
175-199-XXX Thermal Sensor(s) test failed, cause unknown	<ol style="list-style-type: none"> <li>1. <b>Go to the "Undetermined problems" section</b></li> <li>2. Flash the system and re-test</li> <li>3. Replace component under function test</li> </ol>
175-250-XXX 175-251-XXX Thermal Sensor(s) limit error	<ol style="list-style-type: none"> <li>1. <b>Check fans</b></li> <li>2. Check Power supply</li> <li>3. Microprocessor</li> <li>4. System board</li> </ol>
185-000-XXX Asset Security Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
185-XXX-XXX Asset Security failure	<ol style="list-style-type: none"> <li>1. <b>Flash system</b></li> <li>2. System board</li> </ol>
185-278-XXX Asset Security Chassis Intrusion	<ol style="list-style-type: none"> <li>1. <b>Assure Asset Security Enabled</b></li> <li>2. C2 Cover Switch</li> <li>3. System board</li> </ol>
201-000-XXX System Memory Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
201-XXX-XXX System Memory error	<ol style="list-style-type: none"> <li>1. <b>Replace the memory module called out by the test</b></li> <li>2. System board</li> </ol>
202-000-XXX System Cache Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
202-XXX-XXX System Cache error	<ol style="list-style-type: none"> <li>1. <b>Cache, if removable</b></li> <li>2. System board</li> <li>3. Microprocessor</li> </ol>
206-000-XXX Diskette Drive Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
206-XXX-XXX Diskette Drive error	<ol style="list-style-type: none"> <li>1. <b>Diskette Drive Cable</b></li> <li>2. Check power supply voltages</li> <li>3. Diskette drive</li> <li>4. System board</li> </ol>
215-000-XXX CD-ROM Drive Test Passed	<ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>
215-XXX-XXX CD-ROM Drive error	<ol style="list-style-type: none"> <li>1. <b>CD-ROM Drive Cable</b></li> <li>2. Check power supply voltages</li> <li>3. CD-ROM drive</li> <li>4. System board</li> </ol>

<b>Diagnostic Error Code</b>	<b>FRU/Action</b>
<b>217-000-XXX</b> Hard Disk Drive Test Passed	1. <b>No action</b>
<b>217-25X-XXX</b> <b>217-26X-XXX</b> Hard Disk Drive (IDE) error	1. <b>Hard Disk Drive Cable</b> 2. Check power supply voltages 3. Hard Disk drive (IDE) 4. System board
<b>217-28X-XXX</b> <b>217-29X-XXX</b> Hard Disk Drive (SCSI) error	1. <b>Hard Disk Drive Cable</b> 2. Check power supply voltages 3. Hard Disk drive (SCSI) 4. SCSI adapter card 5. System board
<b>220-000-XXX</b> Hi-Capacity Cartridge Drive Test Passed	1. <b>No action</b>
<b>220-XXX-XXX</b> Hi-Capacity Cartridge Drive error	1. <b>Remove the Hi-Capacity Cartridge Drive and re-test the system</b>
<b>301-XXX-XXX</b> Keyboard error	1. <b>Keyboard</b> 2. Check and test mouse 3. System board
<b>301-000-XXX</b> Keyboard Test Passed	1. <b>No action</b>
<b>302-000-XXX</b> Mouse Test Passed	1. <b>No action</b>
<b>302-XXX-XXX</b> Mouse error	1. <b>Mouse</b> 2. Check and test Keyboard 3. System board
<b>303-000-XXX</b> Joystick Test Passed	1. <b>No action</b>
<b>303-XXX-XXX</b> Joystick error	1. <b>Remove the Joystick and re-test the system</b>
<b>305-000-XXX</b> Monitor DDC Test Passed	1. <b>No action</b>
<b>305-250-XXX</b> Monitor DDC self test failure	1. <b>Run Setup to enable DDC</b> 2. Cable 3. Monitor 4. Video card 5. System board
<b>415-000-XXX</b> Modem Test Passed	1. <b>No action</b>
<b>415-XXX-XXX</b> Modem error	1. <b>Remove the Modem and re-test the system</b>

## Beep symptoms

Beep symptoms are short tones or a series of short tones separated by pauses (intervals without sound). See the following examples.

Beeps	Description
1-2-X	<ul style="list-style-type: none"> <li>• One beep</li> <li>• A pause (or break)</li> <li>• Two beeps</li> <li>• A pause (or break)</li> <li>• Any number of breaks</li> </ul>
4	Four continuous beeps

Use the following table to diagnose beep symptoms.

Beep Symptom	FRU/Action
1-1-3 CMOS read-write error	<ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. System Board</li> </ol>
1-2-2-3 ROM BIOS check error	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
1-2-1 Programmable Interval Timer failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
1-2-2 DMA Initialization failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
1-2-3 DMA page register write/read failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
1-2-4 RAM refresh verification failed	<ol style="list-style-type: none"> <li>1. <b>DIMM</b></li> <li>2. System Board</li> </ol>
1-3-3-1 1st 64K RAM test failed	<ol style="list-style-type: none"> <li>1. <b>DIMM</b></li> <li>2. System Board</li> </ol>
1-3-2 1st 64K RAM parity test failed	<ol style="list-style-type: none"> <li>1. <b>DIMM</b></li> <li>2. Processor</li> <li>3. System Board</li> </ol>
2-2-3-1 Interrupt vector loading test failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
2-1-1 Secondary DMA register failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
2-1-2 Primary DMA register failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
2-1-3 Primary interrupt mask register failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
2-1-4 Secondary interrupt mask register failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
2-2-1 Interrupt vector loading failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
1-3-1-3 Keyboard controller failed	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Keyboard</li> </ol>
2-2-3 CMOS power failure and checksum checks failed	<ol style="list-style-type: none"> <li>1. <b>Battery</b></li> <li>2. System Board</li> </ol>



<b>Beep Symptom</b>	<b>FRU/Action</b>
<b>2-2-4</b> CMOS configuration info validation failed	1. <b>Battery</b> 2. System Board
<b>2-3-1</b> Screen initialization failed	1. <b>Jumper on J28</b> 2. System Board
<b>2-3-2</b> Screen memory failed	1. <b>System Board</b>
<b>2-3-3</b> Screen retrace failed	1. <b>System Board</b>
<b>1-2</b> Search for video ROM failed	1. <b>System Board</b>
All other beep code sequences	1. <b>System Board</b>
Continuous beep	1. <b>System Board</b>
Repeating short beeps	1. <b>Keyboard stuck key</b> 2. Keyboard Cable 3. System Board

---

## No-beep symptoms

Symptom/Error	FRU/Action
No beep during POST but computer works correctly.	1. <b>System Board</b>
No beep during POST.	1. <b>See "Undetermined problems" on page 107.</b> 2. System Board 3. Memory Module 4. Any Adapter or Device 5. Riser Card 6. Power Cord 7. Power Supply

## POST error codes

Each time you power-on the system, it performs a series of tests that check the operation of the system and some options. This series of tests is called the *Power-On Self-Test*, or *POST*. POST does the following operations.

- Checks some basic system-board operations
- Checks the memory operation
- Starts the video operation
- Verifies that the diskette drive is working
- Verifies that the hard disk drive is working

If the POST finishes without detecting any problems, a single beep sounds and the first screen of the operating system or application program appears.

**Note:**

Type 6847 computers default to come up quiet (no beep and no memory count and checkpoint code display) when no errors are detected by POST.

To enable beep and memory count and checkpoint code display when a successful POST occurs, do the following:

1. Select **Start Options** in the Configuration/Setup Utility program (see "Setup Utility program" on page 14).
2. Set **Power-On Self-Test** to **Enhanced**.

If the POST detects a problem, an error message appears on the screen. A single problem can cause several error messages to appear. When you correct the cause of the first error message, the other error messages probably will not appear on the screen the next time you turn on the system.

In the following index, X can represent any number.

POST Error Code	FRU/Action
<b>000</b> SCSI Adapter not enabled	1. <b>Verify adapter device and Bus Master fields are enabled in PCI configuration program. See documentation shipped with computer.</b>
<b>02X</b>	1. <b>SCSI Adapter</b>
<b>08X</b> Check SCSI terminator installation.	1. <b>SCSI Cable</b> 2. <b>SCSI Terminator</b> 3. <b>SCSI Device</b> 4. <b>SCSI Adapter</b>
<b>101</b> System board interrupt failure	1. <b>System Board</b>
<b>102</b> System board timer error	1. <b>System Board</b>
<b>106</b>	1. <b>System Board</b>
<b>110</b> System board memory parity error	1. <b>Memory Module</b> 2. <b>System Board</b>

POST Error Code	FRU/Action
<b>111</b> I/O channel parity error	<ol style="list-style-type: none"> <li>1. <b>Reseat adapters</b></li> <li>2. Any adapter</li> <li>3. Riser card</li> <li>4. System Board</li> </ol>
<b>114</b> Adapter ROM error	<ol style="list-style-type: none"> <li>1. <b>Adapter Memory</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
<b>129</b> Internal cache test error	<ol style="list-style-type: none"> <li>1. <b>Processor</b></li> <li>2. L2 Cache Memory</li> <li>3. System Board</li> </ol>
<b>135</b> Fan failure	<ol style="list-style-type: none"> <li>1. <b>Fan</b></li> <li>2. System board</li> </ol>
<b>151</b> System board failure	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
<b>161</b> Bad CMOS battery	<ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. CMOS Backup Battery (see "Safety information" on page 185)</li> <li>3. System Board</li> </ol>
<b>162</b> Configuration mismatch	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify Configuration</b></li> <li>2. Had a device been added, removed, changed location? If not, suspect that device.</li> <li>3. Power-on external devices first, then power-on computer</li> <li>4. CMOS Backup Battery (see "Safety information" on page 185) System Board</li> <li>5. System Board</li> </ol>
<b>163</b> Date and Time Incorrect	<ol style="list-style-type: none"> <li>1. <b>Time and Date Set</b></li> <li>2. CMOS Backup Battery (see "Safety information" on page 185)</li> <li>3. System Board</li> </ol>
<b>164</b> Memory Size Error	<ol style="list-style-type: none"> <li>1. <b>Run Setup. Check System Summary menu for memory size change. (See "Setup Utility program" on page 14.)</b></li> <li>2. Run the Extended Memory Diagnostic tests</li> </ol>
<b>166</b> Boot Block Check Sum Error	<ol style="list-style-type: none"> <li>1. <b>Run Flash Recovery using Boot Block. See "Flash recovery boot block jumper" on page 178.</b></li> <li>2. System Board</li> </ol>
<b>167</b> No Processor BIOS Update Found	<ol style="list-style-type: none"> <li>1. <b>Run Setup. Check Stepping level for the BIOS level needed, then perform the flash update.</b></li> <li>2. Processor</li> </ol>
<b>168</b> Alert on LAN error	<ol style="list-style-type: none"> <li>1. <b>Run Setup. Check to see that Ethernet and Alert on LAN are enabled.</b></li> <li>2. System Board</li> </ol>

<b>POST Error Code</b>	<b>FRU/Action</b>
<b>17X, 18X</b>	1. <b>C2 Security</b>
<b>175</b> Primary Copy of Secure Data is damaged	1. <b>Run Configuration. See "Setup Utility program" on page 14.</b> 2. System Board
<b>176</b> The System has been tampered with	1. <b>Covers were removed from the computer</b>
<b>177</b> Corrupted Administrator Password	1. <b>System Board</b>
<b>178</b>	1. <b>System Board</b>
<b>179</b> Boot Integrity Services Segment Error	1. <b>System Board</b>
<b>183</b>	1. <b>Enter the administrator password</b>
<b>184</b> Asset Control Antenna not detected	<b>Make sure Asset Care and Asset ID are enabled in Configuration/Setup</b> 2. RFID Antenna 3. System Board
<b>185</b> Corrupted boot sequence	1. <b>Set configuration and reinstall the boot sequence</b>
<b>186</b> Security Hardware Control Logic Error	1. <b>System Board</b>
<b>187</b>	1. <b>Clear Administration password</b> 2. System Board
<b>189</b>	1. <b>More than three password attempts were made to access the computer</b>
<b>190</b> System Security: Invalid Remote Change Requested	1. <b>System Board</b>
<b>191</b> System Security: IBM Embedded Security Hardware Reset	1. <b>System Board</b>
<b>193</b> System Security: IBM Embedded Security Hardware Removed	1. <b>System Board</b>
<b>194</b> System Security: Asset ID Antenna has been Removed	1. <b>System Board</b>
<b>195</b> System Security: Asset ID Antenna has been Installed	1. <b>System Board</b>
<b>196</b> System Tampered Cleared	1. <b>System Board</b>
<b>1XX</b> Not listed above	1. <b>System Board</b>
<b>201, 20X</b> Memory data error	1. <b>Run Enhanced Diagnostics Memory Test</b> 2. Memory Module 3. System Board
<b>225</b>	1. <b>Unsupported Memory</b>
<b>229</b> External cache test error	1. <b>L2 Cache Memory</b> 2. System Board

<b>POST Error Code</b>	<b>FRU/Action</b>
<b>262</b> POST detected a base memory or extended memory type error	<ol style="list-style-type: none"> <li>1. <b>Run Setup. Check System Summary menu for memory. (See "Setup Utility program" on page 14.)</b></li> <li>2. Run the Extended Memory Diagnostic tests.</li> </ol>
<b>301</b> Keyboard Error	<ol style="list-style-type: none"> <li>1. <b>Keyboard</b></li> <li>2. Keyboard Cable</li> <li>3. System Board</li> </ol>
<b>303</b> With an 8603 error	<ol style="list-style-type: none"> <li>1. <b>Mouse</b></li> <li>2. Keyboard</li> <li>3. Keyboard Cable</li> <li>4. System Board</li> </ol>
<b>303</b> With no 8603 error	<ol style="list-style-type: none"> <li>1. <b>Keyboard</b></li> <li>2. Keyboard Cable</li> <li>3. System Board</li> </ol>
<b>3XX</b> Not listed above	<ol style="list-style-type: none"> <li>1. <b>Keyboard</b></li> <li>2. Keyboard Cable</li> <li>3. System Board</li> </ol>
<b>5XX</b>	<ol style="list-style-type: none"> <li>1. <b>Video Adapter (if installed)</b></li> <li>2. System Board</li> </ol>
<b>601</b>	<ol style="list-style-type: none"> <li>1. <b>Diskette Drive A</b></li> <li>2. Diskette Drive Cable</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
<b>602</b>	<ol style="list-style-type: none"> <li>1. <b>Bad Diskette?</b></li> <li>2. Verify Diskette and retry</li> </ol>
<b>604</b> And able to run diagnostics	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify diskette configuration settings</b></li> <li>2. Diskette Drive A/B</li> <li>3. Diskette Drive Cable</li> <li>4. System Board</li> <li>5. Riser card</li> </ol>
<b>605</b> POST cannot unlock the diskette drive	<ol style="list-style-type: none"> <li>1. <b>Diskette Drive</b></li> <li>2. Diskette Drive Cable</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
<b>662</b> Configuration Change has occurred	<ol style="list-style-type: none"> <li>1. <b>Diskette drive configuration error or wrong diskette drive type; run Setup Configuration</b></li> </ol>
<b>6XX</b> Not listed above	<ol style="list-style-type: none"> <li>1. <b>Diskette Drive</b></li> <li>2. System Board</li> <li>3. Riser card</li> <li>4. External Drive Adapter</li> <li>5. Diskette Drive Cable</li> <li>6. Power Supply</li> </ol>

<b>POST Error Code</b>	<b>FRU/Action</b>
<b>762</b> Math coprocessor configuration error	<ol style="list-style-type: none"> <li><b>Run Setup</b></li> <li>Processor</li> <li>System Board</li> </ol>
<b>7XX</b> Not listed above	<ol style="list-style-type: none"> <li><b>Processor</b></li> <li>System Board</li> </ol>
<b>962</b> Parallel port configuration error	<ol style="list-style-type: none"> <li><b>Run Configuration</b></li> <li>Parallel Adapter (if installed)</li> <li>System Board</li> </ol>
<b>9XX</b>	<ol style="list-style-type: none"> <li><b>Printer</b></li> <li>System Board</li> </ol>
<b>1047</b>	<ol style="list-style-type: none"> <li><b>16-Bit AT™ Fast SCSI Adapter</b></li> </ol>
<b>107X</b> Check SCSI terminator installation	<ol style="list-style-type: none"> <li><b>Check SCSI terminator installation</b></li> <li>SCSI Cable</li> <li>SCSI Terminator</li> <li>SCSI Device</li> <li>SCSI Adapter</li> </ol>
<b>1101</b> Serial connector error, possible system board failure	<ol style="list-style-type: none"> <li><b>Run Enhanced Diagnostics</b></li> </ol>
<b>1101, 1102, 1106, 1108, 1109</b>	<ol style="list-style-type: none"> <li><b>System Board</b></li> <li>Any Serial Device</li> </ol>
<b>1107</b>	<ol style="list-style-type: none"> <li><b>Communications Cable</b></li> <li>System Board</li> </ol>
<b>1102</b> Card selected feedback error	<ol style="list-style-type: none"> <li><b>Run Enhanced Diagnostics</b></li> </ol>
<b>1103</b> Port fails register check	<ol style="list-style-type: none"> <li><b>Run Enhanced Diagnostics</b></li> <li>System Board</li> </ol>
<b>1106</b> Serial option cannot be turned off	<ol style="list-style-type: none"> <li><b>Run Enhanced Diagnostics</b></li> <li>System Board</li> </ol>
<b>1107</b>	<ol style="list-style-type: none"> <li><b>Serial Device Cable</b></li> <li>System Board</li> </ol>
<b>1110</b> Register test failed	<ol style="list-style-type: none"> <li><b>Run Enhanced Diagnostics</b></li> <li>System Board</li> </ol>
<b>1116</b> Interrupt error	<ol style="list-style-type: none"> <li><b>Run Enhanced Diagnostics</b></li> </ol>
<b>1117</b> Failed baud rate test	<ol style="list-style-type: none"> <li><b>Run Enhanced Diagnostics</b></li> </ol>
<b>1162</b> Serial port configuration error	<ol style="list-style-type: none"> <li><b>Run Configuration</b></li> <li>Serial Adapter (if installed)</li> <li>System Board</li> </ol>
<b>11XX</b> Not listed above	<ol style="list-style-type: none"> <li><b>System Board</b></li> </ol>
<b>1201</b>	<ol style="list-style-type: none"> <li><b>System Board</b></li> <li>Any Serial Device</li> </ol>

POST Error Code	FRU/Action
1202, 1206, 1208, 1209, 12XX	<ol style="list-style-type: none"> <li>1. <b>Dual Async Adapter/A</b></li> <li>2. System Board</li> <li>3. Any Serial Device</li> </ol>
1207	<ol style="list-style-type: none"> <li>1. <b>Communications Cable</b></li> <li>2. Dual Async Adapter/A</li> </ol>
13XX	<ol style="list-style-type: none"> <li>1. <b>Game Adapter</b></li> </ol>
1402 Printer not ready	Information only
1403 No paper error, or interrupt failure	Information only
1404 System board timeout failure	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
1405 Parallel adapter error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
1406 Presence test error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
14XX Not listed above. Check printer before replacing system board	<ol style="list-style-type: none"> <li>1. <b>Printer</b></li> <li>2. System Board</li> </ol>
15XX	<ol style="list-style-type: none"> <li>1. <b>SDLC Adapter</b></li> </ol>
1692 Boot sequence error	<ol style="list-style-type: none"> <li>1. <b>Run FDISK to ensure at least one active partition is set active</b></li> </ol>
16XX	<ol style="list-style-type: none"> <li>1. <b>36/38 Workstation Adapter</b></li> </ol>
1762 Hard disk drive configuration error	<ol style="list-style-type: none"> <li>1. <b>Run Configuration. (See "Setup Utility program" on page 14.)</b></li> </ol>
1780 (Disk Drive 0) 1781 (Disk Drive 1) 1782 (Disk Drive 2) 1783 (Disk Drive 3)	<ol style="list-style-type: none"> <li>1. <b>Hard Disk Drive</b></li> <li>2. System Board</li> <li>3. Riser card</li> <li>4. Hard Disk Cable</li> <li>5. Power Supply</li> </ol>
1800 PCI/PnP Error! No Hardware Interrupt Available	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify PCI/ISA configuration settings.</b></li> <li>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.</li> <li>3. Remove any suspect ISA adapters.</li> <li>4. Rerun diagnostics.</li> <li>5. PCI Adapter</li> </ol>
1801 PCI/PnP Error! No Space Available to Shadow ROM	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify PCI/ISA configuration settings.</b></li> <li>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.</li> <li>3. Remove any suspect ISA adapters.</li> <li>4. Rerun diagnostics.</li> <li>5. PCI Adapter</li> </ol>



POST Error Code	FRU/Action
<b>1802</b> PCI/PnP Error! Not Enough I/O Space Available	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify PCI/ISA configuration settings.</b></li> <li>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.</li> <li>3. Remove any suspect ISA adapters.</li> <li>4. Rerun diagnostics.</li> <li>5. PCI Adapter</li> </ol>
<b>1803</b> PCI/PnP Error! Not Enough Memory Space Available	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify PCI/ISA configuration settings.</b></li> <li>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.</li> <li>3. Remove any suspect ISA adapters.</li> <li>4. Rerun diagnostics.</li> <li>5. PCI Adapter</li> </ol>
<b>1804</b> PCI/PnP Error! Not Enough Real Memory Space Available	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify PCI/ISA configuration settings.</b></li> <li>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.</li> <li>3. Remove any suspect ISA adapters.</li> <li>4. Rerun diagnostics.</li> <li>5. PCI Adapter</li> </ol>
<b>1805</b> PCI/PnP Error! Adapter ROM Checksum Error	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify PCI/ISA configuration settings.</b></li> <li>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.</li> <li>3. Remove any suspect ISA adapters.</li> <li>4. Rerun diagnostics.</li> <li>5. PCI Adapter</li> </ol>
<b>180X, 188X</b> PCI configuration or resource error	<ol style="list-style-type: none"> <li>1. <b>Run Setup and verify PCI/ISA configuration settings.</b></li> <li>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.</li> <li>3. Remove any suspect ISA adapters.</li> <li>4. Rerun diagnostics.</li> <li>5. PCI Adapter</li> </ol>
<b>1962</b> No operating system found	<ol style="list-style-type: none"> <li>1. <b>Press F1 to repeat boot sequence.</b></li> </ol>
<b>209X</b>	<ol style="list-style-type: none"> <li>1. <b>Diskette Drive</b></li> <li>2. Diskette Cable</li> </ol>
<b>20XX</b> Not listed above	<ol style="list-style-type: none"> <li>1. <b>BSC Adapter</b></li> </ol>

POST Error Code	FRU/Action
21XX	<ol style="list-style-type: none"> <li>1. <b>SCSI Device</b></li> <li>2. 16-bit AT Fast SCSIU adapter</li> <li>3. Alternate BSC adapter</li> </ol>
2401, 2402 If screen colors change	<ol style="list-style-type: none"> <li>1. <b>Display</b></li> </ol>
2401, 2402 If screen colors are OK	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Display</li> </ol>
2409	<ol style="list-style-type: none"> <li>1. <b>Display</b></li> </ol>
2410	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Display</li> </ol>
2462 Video memory configuration error	<ol style="list-style-type: none"> <li>1. <b>Check cable connections</b></li> <li>2. Run Setup and verify video configuration settings</li> <li>3. Video Memory Modules</li> <li>4. Video Adapter (if installed)</li> <li>5. System Board</li> </ol>
4611, 4630	<ol style="list-style-type: none"> <li>1. <b>Multiport/2 Interface Board</b></li> <li>2. Multiport/2 Adapter</li> </ol>
4612, 4613, 4640, 4641	<ol style="list-style-type: none"> <li>1. <b>Memory Module Package</b></li> <li>2. Multiport/2 Adapter</li> </ol>
4650	<ol style="list-style-type: none"> <li>1. <b>Multiport/2 Interface Cable</b></li> </ol>
46XX Not listed above	<ol style="list-style-type: none"> <li>1. <b>Multiport/2 Adapter</b></li> <li>2. Multiport/2 Interface Board</li> <li>3. Memory Module</li> </ol>
5600	<ol style="list-style-type: none"> <li>1. <b>Financial System Controller Adapter</b></li> </ol>
5962 An IDE device (other than hard drive) configuration error	<ol style="list-style-type: none"> <li>1. <b>Run Configuration</b></li> <li>2. CD-ROM Drive</li> <li>3. CD-ROM Adapter</li> <li>4. Zip or other ATAPI device</li> <li>5. System Board</li> <li>6. Riser card</li> </ol>
62XX	<ol style="list-style-type: none"> <li>1. <b>1st Store Loop Adapter</b></li> <li>2. Adapter Cable</li> </ol>
63XX	<ol style="list-style-type: none"> <li>1. <b>2nd Store Loop Adapter</b></li> <li>2. Adapter Cable</li> </ol>
64XX	<ol style="list-style-type: none"> <li>1. <b>Network Adapter</b></li> </ol>
71XX	<ol style="list-style-type: none"> <li>1. <b>Voice Adapter</b></li> </ol>
74XX	<ol style="list-style-type: none"> <li>1. <b>Video Adapter (if installed)</b></li> </ol>
76XX	<ol style="list-style-type: none"> <li>1. <b>Page Printer Adapter</b></li> </ol>
78XX	<ol style="list-style-type: none"> <li>1. <b>High Speed Adapter</b></li> </ol>
79XX	<ol style="list-style-type: none"> <li>1. <b>3117 Adapter</b></li> </ol>
80XX	<ol style="list-style-type: none"> <li>1. <b>PCMCIA Adapter</b></li> </ol>
84XX	<ol style="list-style-type: none"> <li>1. <b>Speech Adapter</b></li> <li>2. Speech Control Assembly.</li> </ol>

POST Error Code	FRU/Action
8601, 8602	<ol style="list-style-type: none"> <li>1. <b>Pointing Device (Mouse)</b></li> <li>2. System Board</li> </ol>
8603, 8604 Pointing Device Error	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Pointing Device (Mouse)</li> </ol>
86XX Not listed above	<ol style="list-style-type: none"> <li>1. <b>Mouse</b></li> <li>2. System Board</li> </ol>
89XX	<ol style="list-style-type: none"> <li>1. <b>PC Music Adapter</b></li> <li>2. MIDI Adapter Unit</li> </ol>
91XX	<ol style="list-style-type: none"> <li>1. <b>Optical Drive</b></li> <li>2. Adapter</li> </ol>
96XX	<ol style="list-style-type: none"> <li>1. <b>SCSI Adapter</b></li> <li>2. Any SCSI Device</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
10101, 10102, 10104, 10105, 10106, 10107, 10108, 10109, 10111, 10112, 10113, 10114, 10115, 10116	<ol style="list-style-type: none"> <li>1. <b>Have customer verify correct operating system device drivers are installed and operational.</b></li> <li>2. Modem</li> </ol>
10103, 10110, 101171	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Data/Fax Modem</li> <li>3. Riser card</li> </ol>
10117 Not listed above	<ol style="list-style-type: none"> <li>1. <b>Check system speaker</b></li> <li>2. Check PSTN cable</li> <li>3. External DAA (if installed)</li> <li>4. Modem</li> </ol>
10118	<ol style="list-style-type: none"> <li>1. <b>Run Diagnostics and verify the correct operation of the modem slot</b></li> <li>2. Modem</li> </ol>
10119	<ol style="list-style-type: none"> <li>1. <b>Diagnostics detected a non-IBM modem</b></li> <li>2. Modem</li> </ol>
10120	<ol style="list-style-type: none"> <li>1. <b>Check PSTN Cable</b></li> <li>2. External DAA (if installed)</li> <li>3. Modem</li> </ol>
10132, 10133, 10134, 10135, 10136, 10137, 10138, 10139, 10140, 10141, 10142, 10143, 10144, 10145, 10146, 10147, 10148, 10149, 10150, 10151, 10152	<ol style="list-style-type: none"> <li>1. <b>Modem</b></li> </ol>
10153	<ol style="list-style-type: none"> <li>1. <b>Data/Fax Modem</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>

<b>POST Error Code</b>	<b>FRU/Action</b>
<b>101XX</b> Not listed above	<ol style="list-style-type: none"> <li>1. <b>Modem Adapter/A</b></li> <li>2. Data/Fax Modem</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
<b>10450, 10451, 10490, 10491, 10492, 10499</b> Read/write error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> <li>2. Hard Disk Drive</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
<b>10452</b> Seek test error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10453</b> Wrong drive type?	Information only
<b>10454</b> Sector buffer test error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10455, 10456</b> Controller error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10459</b> Drive diagnostic command error	Information only
<b>10461</b> Drive format error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10462</b> Controller seek error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10464</b> Hard Drive read error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10467</b> Drive non-fatal seek error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10468</b> Drive fatal seek error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10469</b> Drive soft error count exceeded	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10470, 10471, 10472</b> Controller wrap error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10473</b> Corrupt data. Low level format might be required	Information only
<b>10480</b>	<ol style="list-style-type: none"> <li>1. <b>Hard Disk Drive (ESDI)</b></li> <li>2. Drive Cable</li> <li>3. System Board</li> </ol>
<b>10481</b> ESDI drive D seek error	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>10482</b> Drive select acknowledgement bad	<ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>
<b>106X1</b>	<ol style="list-style-type: none"> <li>1. <b>Check Configuration</b></li> <li>2. Ethernet Adapter</li> </ol>
<b>10635</b>	<ol style="list-style-type: none"> <li>1. <b>Power-off computer, wait ten seconds then power-on the computer</b></li> <li>2. Ethernet Adapter</li> </ol>
<b>10651, 10660</b>	<ol style="list-style-type: none"> <li>1. <b>Check Cables</b></li> <li>2. Ethernet Adapter</li> </ol>
<b>106XX</b> Not listed above	<ol style="list-style-type: none"> <li>1. <b>Ethernet Adapter</b></li> </ol>

<b>POST Error Code</b>	<b>FRU/Action</b>
<b>107XX</b>	<ol style="list-style-type: none"> <li>1. <b>5.25-inch External Diskette Drive</b></li> <li>2. 5.25-inch Diskette Drive Adapter/A</li> </ol>
<b>109XX</b> Check the adapter cables	<ol style="list-style-type: none"> <li>1. <b>ActionMedia Adapter/A</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
<b>112XX</b> This adapter does not have cache	<ol style="list-style-type: none"> <li>1. <b>SCSI Adapter</b></li> <li>2. Any SCSI Device</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
<b>119XX</b>	<ol style="list-style-type: none"> <li>1. <b>3119 Adapter</b></li> </ol>
<b>121XX</b>	<ol style="list-style-type: none"> <li>1. <b>Modem Adapter</b></li> <li>2. Any Serial Device</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
<b>136XX</b>	<ol style="list-style-type: none"> <li>1. <b>ISDN Primary Rate Adapter</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
<b>137XX</b>	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>
<b>141XX</b>	<ol style="list-style-type: none"> <li>1. <b>Realtime Interface Coprocessor Portmaster Adapter/A</b></li> </ol>
<b>143XX</b>	<ol style="list-style-type: none"> <li>1. <b>Japanese Display Adapter</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
<b>14710, 14711</b>	<ol style="list-style-type: none"> <li>1. <b>System Board Video Adapter</b></li> <li>2. Adapter Video Memory</li> </ol>
<b>148XX</b>	<ol style="list-style-type: none"> <li>1. <b>Video Adapter</b></li> </ol>
<b>14901, 14902, 1491X, 14922</b>	<ol style="list-style-type: none"> <li>1. <b>Video Adapter (if installed)</b></li> <li>2. System Board</li> <li>3. Riser card</li> <li>4. Display (any type)</li> </ol>
<b>14932</b>	<ol style="list-style-type: none"> <li>1. <b>External Display</b></li> <li>2. Video Adapter</li> </ol>
<b>161XX</b>	<b>FaxConcentrator Adapter</b>
<b>164XX</b>	<ol style="list-style-type: none"> <li>1. <b>120 MB Internal Tape Drive</b></li> <li>2. Diskette Cable</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
<b>16500</b>	<ol style="list-style-type: none"> <li>1. <b>6157 Tape Attachment</b></li> <li>2. Adapter</li> </ol>

POST Error Code	FRU/Action
16520, 16540	<ol style="list-style-type: none"> <li>1. <b>6157 Streaming Tape Drive</b></li> <li>2. 6157 Tape Attachment Adapter</li> </ol>
166XX, 167XX	<ol style="list-style-type: none"> <li>1. <b>Token Ring Adapter</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
18001 to 18029	<ol style="list-style-type: none"> <li>1. <b>Wizard Adapter</b></li> <li>2. Wizard Adapter Memory</li> </ol>
18031 to 18039	<ol style="list-style-type: none"> <li>1. <b>Wizard Adapter Cable</b></li> </ol>
185XXXX	<ol style="list-style-type: none"> <li>1. <b>DBCS Japanese Display Adapter/A</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
20001 to 20003	<ol style="list-style-type: none"> <li>1. <b>Image Adapter/A</b> <b>Image-I Adapter/A</b></li> <li>2. Memory Module DRAM, VRAM</li> </ol>
20004	<ol style="list-style-type: none"> <li>1. <b>Memory Module DRAM, VRAM</b></li> <li>2. Image Adapter/A Image-I Adapter/A</li> </ol>
20005 to 20010	<ol style="list-style-type: none"> <li>1. <b>Image Adapter/A</b> <b>Image-I Adapter/A</b></li> <li>2. Memory Module DRAM, VRAM</li> </ol>
200XX Not listed above	<ol style="list-style-type: none"> <li>1. <b>Image Adapter/A</b></li> <li>2. Image-I Adapter/A</li> <li>3. Memory Module DRAM, VRAM</li> <li>4. System Board</li> <li>5. Riser card</li> </ol>
20101 to 20103	<ol style="list-style-type: none"> <li>1. <b>Printer/Scanner Option</b></li> <li>2. Image Adapter/A</li> <li>3. Memory Module DRAM, VRAM</li> </ol>
20104	<ol style="list-style-type: none"> <li>1. <b>Memory Module DRAM, VRAM</b></li> <li>2. Printer/Scanner Option</li> <li>3. Image Adapter/A</li> </ol>
20105 to 20110	<ol style="list-style-type: none"> <li>1. <b>Printer/Scanner Option</b></li> <li>2. Image Adapter/A</li> <li>3. Memory Module DRAM, VRAM</li> </ol>
Image Adapter/A Memory Test failure indicated by graphic of adapter	<ol style="list-style-type: none"> <li>1. <b>Replace memory module (shown in graphic)</b></li> </ol>
206XX	<ol style="list-style-type: none"> <li>1. <b>SCSI-2 Adapter</b></li> <li>2. Any SCSI Device</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>
208XX Verify there are no duplicate SCSI ID settings on the same bus.	<ol style="list-style-type: none"> <li>1. <b>Any SCSI Device</b></li> </ol>

<b>POST Error Code</b>	<b>FRU/Action</b>
<b>210XXX</b> Internal bus, size unknown <b>210XXX1</b> External bus, size unknown	<ol style="list-style-type: none"> <li>1. <b>SCSI Hard Disk Drive</b></li> <li>2. SCSI Adapter or System Board</li> <li>3. SCSI Cable</li> <li>4. SCSI ID Switch (on some models)</li> </ol>
Tape Drive amber LED remains on	<ol style="list-style-type: none"> <li>1. <b>Tape Drive</b></li> <li>2. SCSI Cable (internal)</li> <li>3. SCSI Adapter or System Board</li> </ol>
Tape Drive green "in use" LED fails to come on	<ol style="list-style-type: none"> <li>1. <b>Tape Drive</b></li> <li>2. SCSI Adapter or System Board</li> <li>3. SCSI Cable (internal)</li> <li>4. SCSI Cable (external)</li> </ol>
Tape automatically ejected from drive	<ol style="list-style-type: none"> <li>1. <b>Tape Cassette Drive</b></li> </ol>
SCSI ID on rotary switch does not match SCSI ID set in configuration. Verify drive switches inside cover are set to zero	<ol style="list-style-type: none"> <li>1. <b>Rotary Switch Circuit Board</b></li> <li>2. Circuit Board Cable</li> <li>3. Tape Drive</li> </ol>
Tape sticks or breaks in drive. Verify that the tapes used meet ANSI standard X3B5	<ol style="list-style-type: none"> <li>1. <b>Tape Cassette</b></li> </ol>
<b>212XX</b>	<ol style="list-style-type: none"> <li>1. <b>SCSI Printer</b></li> <li>2. Printer Cable</li> </ol>
<b>213XX</b>	<ol style="list-style-type: none"> <li>1. <b>SCSI Processor</b></li> </ol>
<b>214XX</b>	<ol style="list-style-type: none"> <li>1. <b>WORM Drive</b></li> </ol>
<b>215XXXC, 215XXXD, 215XXXE, 215XXXU</b> If an external device, and power-on LED is off, check external voltages	<ol style="list-style-type: none"> <li>1. <b>CD-ROM Drive I</b></li> <li>2. CD-ROM Drive II Enhanced CD-ROM Drive II Any CD-ROM Drive</li> <li>3. SCSI Cable</li> <li>4. SCSI Adapter or System Board</li> </ol>
<b>216XX</b>	<ol style="list-style-type: none"> <li>1. <b>Scanner</b></li> </ol>
<b>217XX</b> If an external device, and power-on LED is off, check external voltages	<ol style="list-style-type: none"> <li>1. <b>Rewritable Optical Drive</b></li> <li>2. SCSI Adapter or System Board</li> <li>3. SCSI Cable</li> </ol>
<b>218XX</b> Check for multi CD tray or jukebox	<ol style="list-style-type: none"> <li>1. <b>Changer</b></li> </ol>
<b>219XX</b>	<ol style="list-style-type: none"> <li>1. <b>SCSI Communications Device</b></li> </ol>
<b>24201Y0, 24210Y0</b> Be sure wrap plug is attached	<ol style="list-style-type: none"> <li>1. <b>ISDN/2 Adapter</b></li> <li>2. ISDN/2 Wrap Plug</li> <li>3. ISDN/2 Communications Cable</li> </ol>
<b>273XX</b>	<ol style="list-style-type: none"> <li>1. <b>1 Mbps Micro Channel</b></li> <li>2. Infrared LAN Adapter</li> </ol>
<b>27501, 27503, 27506, 27507</b>	<ol style="list-style-type: none"> <li>1. <b>ServerGuard Adapter</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
<b>27502, 27504, 27510, 27511, 27533, 27534, 27536, 27537</b>	<ol style="list-style-type: none"> <li>1. <b>ServerGuard Adapter</b></li> </ol>

POST Error Code	FRU/Action
27509	1. <b>Remove redundant adapters, run Auto Configuration program, then retest.</b>
27512	1. <b>WMSELF.DGS diagnostics file is missing</b> 2. WMSELF.DGS diagnostics file is incorrect
27535	1. <b>3V Lithium Backup Battery</b> 2. ServerGuard Adapter
27554	1. <b>Internal Temperature out of range</b> 2. ServerGuard Adapter
27555, 27556	1. <b>ServerGuard Adapter</b> 2. Power Supply
27557	1. <b>7.2V NiCad Main Battery Pack</b> 2. ServerGuard Adapter
27558, 27559, 27560, 27561	1. <b>PCMCIA Type II Modem</b> 2. ServerGuard Adapter
27562	1. <b>External Power Control not connected</b> 2. External Power Control 3. ServerGuard Adapter
27563, 27564	1. <b>External Power Control</b> 2. ServerGuard Adapter
275XX	1. <b>Update Diagnostic Software</b>
27801 to 27879	1. <b>Personal Dictation System</b> 2. Adapter 3. System Board
27880 to 27889	1. <b>External FRU (Speaker, Microphone)</b>
999030X Hard disk reset failure	1. <b>Possible hard disk drive problem; see "Hard disk drive boot error" on page 69.</b>



## Miscellaneous error messages

Message/Symptom	FRU/Action
CMOS Backup Battery inaccurate	<ol style="list-style-type: none"> <li>1. <b>CMOS Backup Battery</b> (see “Safety information” on page 185)</li> <li>2. System Board</li> </ol>
Changing colors	<ol style="list-style-type: none"> <li>1. <b>Display</b></li> </ol>
Computer will <i>not</i> power-off. See “Power Supply Errors” on page 69.	<ol style="list-style-type: none"> <li>1. <b>Power Switch</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
Computer will <i>not</i> RPL from server	<ol style="list-style-type: none"> <li>1. <b>Ensure that network is in startup sequence as first device or first device after diskette</b></li> <li>2. Ensure that network adapter is enabled for RPL</li> <li>3. Network adapter (Advise network administrator of new MAC address)</li> </ol>
Computer will <i>not</i> Wake On LAN (if applicable)	<ol style="list-style-type: none"> <li>1. <b>Check power supply and signal cable connections to network adapter</b></li> <li>2. Ensure that the operating system settings are set to enable Wake on LAN</li> <li>3. Ensure Wake On LAN feature is enabled in Setup/Configuration (see “Setup Utility program” on page 14)</li> <li>4. Ensure network administrator is using correct MAC address</li> <li>5. Ensure no interrupt or I/O address conflicts</li> <li>6. Network adapter (advise network administrator of new MAC address)</li> </ol>
Dead computer. See “Power Supply Errors” on page 69.	<ol style="list-style-type: none"> <li>1. <b>Power Supply</b></li> <li>2. System Board</li> <li>3. Riser card</li> </ol>
Diskette drive in-use light remains on or does not light when drive is active.	<ol style="list-style-type: none"> <li>1. <b>Diskette Drive</b></li> <li>2. System Board</li> <li>3. Diskette Drive Cable</li> <li>4. Riser card</li> </ol>
Flashing cursor with an otherwise blank display.	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Primary Hard Disk Drive</li> <li>3. Hard Disk Drive Cable</li> <li>4. Riser card</li> </ol>
Incorrect memory size during POST	<ol style="list-style-type: none"> <li>1. <b>Run the Memory tests</b></li> <li>2. Memory Module</li> <li>3. System Board</li> </ol>

Message/Symptom	FRU/Action
"Insert a Diskette" icon appears with a known-good diagnostics diskette in the first 3.5-inch diskette drive.	<ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Diskette Drive Cable</li> <li>3. Riser card</li> <li>4. Network Adapter</li> </ol>
Intensity or color varies from left to right of characters and color bars	<ol style="list-style-type: none"> <li>1. <b>Display</b></li> <li>2. System Board</li> </ol>
No power or fan not running	1. <b>See "Power Supply Errors" on page 69.</b>
Non-system disk or disk error-type message with a known-good diagnostic diskette.	<ol style="list-style-type: none"> <li>1. <b>Diskette Drive</b></li> <li>2. System Board</li> <li>3. Diskette Drive Cable</li> <li>4. Riser card</li> </ol>
Other display symptoms not listed above (including blank or illegible display)	<ol style="list-style-type: none"> <li>1. <b>Display</b></li> <li>2. System Board</li> </ol>
Power-on indicator or hard disk drive in-use light not on, but computer works correctly	<ol style="list-style-type: none"> <li>1. <b>Power Supply</b></li> <li>2. System Board</li> <li>3. LED Cables</li> </ol>
Printer problems	1. <b>Printer</b>
Program loads from the hard disk with a known-good diagnostics diskette in the first 3.5-inch diskette drive	<ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. Diskette Drive</li> <li>3. Diskette Drive Cable</li> <li>4. System Board</li> <li>5. Riser card</li> <li>6. Power Supply</li> </ol>
RPL computer cannot access programs from its own hard disk.	<ol style="list-style-type: none"> <li>1. <b>If network administrator is using LCCM Hybrid RPL, check startup sequence:</b> <ol style="list-style-type: none"> <li>a. <b>First device - network</b></li> <li>b. <b>Second device - hard disk</b></li> </ol> </li> <li>2. Hard disk drive</li> </ol>
RPL computer does not RPL from server	<ol style="list-style-type: none"> <li>1. <b>Check startup sequence</b></li> <li>2. Check the network adapter LED status</li> </ol>
Serial or parallel port device failure (system board port)	<ol style="list-style-type: none"> <li>1. <b>External Device Self-Test OK?</b></li> <li>2. External Device</li> <li>3. Cable</li> <li>4. System Board</li> </ol>
Serial or parallel port device failure (adapter port)	<ol style="list-style-type: none"> <li>1. <b>External Device Self-Test OK?</b></li> <li>2. External Device</li> <li>3. Cable</li> <li>4. Alternate Adapter</li> <li>5. System Board</li> </ol>
Some or all keys on the keyboard do not work	<ol style="list-style-type: none"> <li>1. <b>Keyboard</b></li> <li>2. Keyboard Cable</li> <li>3. System Board</li> </ol>

---

## Undetermined problems

Check the power supply voltages (see “Power Supply Errors” on page 69). If the voltages are correct, return here and continue with the following steps.

1. Power-off the computer.
2. Remove or disconnect the following components (if installed) one at a time.
  - a. Non-IBM devices
  - b. External devices (modem, printer, or mouse)
  - c. Any adapters
  - d. Riser card
  - e. Memory modules
  - f. Extended video memory
  - g. External Cache
  - h. External Cache RAM
  - i. Hard disk drive
  - j. Diskette drive
3. Power-on the computer to re-test the system.
4. Repeat steps 1 through 3 until you find the failing device or adapter.

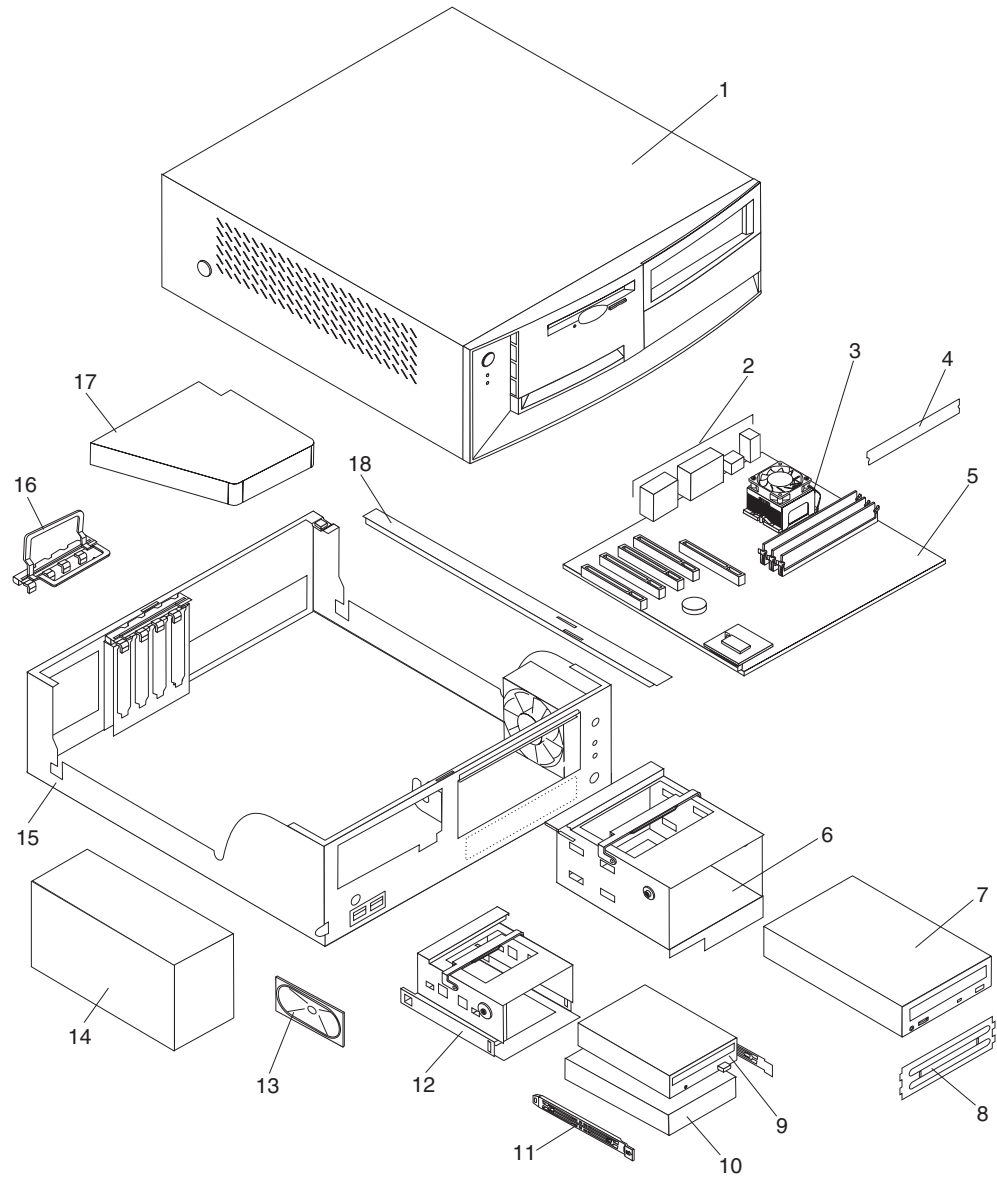
If all devices and adapters have been removed, and the problem continues, replace the system board (see “System board” on page 63 for small desktops, “System board” on page 65 for desktops, or “System board” on page 68 for microtowers).



# Chapter 7. Parts listing

## Small Desktop Model

Types 6343, 6790, 6791



Machine Type 6343		
1	Top Cover Assembly (Stealth Black) (All models)	24P9865
2	I/O Cam Bracket (All models)	24P9869
3	Processor - Intel P4 1.5Ghz (Models 91S, 91P, 13U, 93S, 93P, CTO)	25P5040

Machine Type 6343		
3	Processor - Intel P4 1.6GHz (Models 21U, 21F, 95S, 95P, 25U, 25F, 97S, 97P, CTO, 25G)	25P5114
3	Processor - Intel P4 1.8GHz (Models 31G, CTO)	25P5115
3	Processor - Intel P4 2.0GHz (Model CTO)	25P6177
3	Fan Sink (1.3-1.8 GHz) (All models)	32P4002
3	Fan Sink (1.9-2.2GHz) (Model CTO)	32P4004
4	64MB Memory (Models 91S, 91P, CTO)	10K0056
4	128MB Memory (Models 13U, 93S, 93P, 21U, 21F, 95S, 95P, 25U, 25F, 97S, 97P, 31G, CTO, 25G)	10K0058
4	256MB Memory (Model CTO)	10K0060
5	System Board W/O POV2 Card (All models)	25P5090
6	5.25-in. DASD Bracket (All models)	24P9875
7	CD-ROM Drive 48X (Black) (Models 13U, 21U, 21F, 25U, 25F, 31G, CTO, 25G)	24P3605
7	DVD-ROM 16X/48X (Black) (Model CTO)	24P3623
7	CD/RW 12X/8X/32X (Black) (Model CTO)	06P5161
7	DVD-ROM/CD/RW Combo (Black) (Model CTO)	06P5289
7	DVD RAM 9.4GB 2X/6X/24X (Black) (Model CTO)	19K1539
8	5.25-in. EMC Shield (All models)	19K5548
9	3.5-in. 1.44 M 2-mode Floppy Disk Drive (All models)	75H9550
10	20GB Hard Drive, Value EIDE ATA-100 (Model CTO)	19K1560
10	40GB Hard Drive, Value EIDE ATA-100 (Model CTO)	19K1562
10	60GB Hard Drive, Value EIDE ATA-100 (Model CTO)	24P6006
10	80GB Hard Drive, Value EIDE ATA-100 (Models CTO)	06P5237
10	20GB Hard Drive 7200rpm EIDE ATA-100 (Models 91S, 91P, 13U, 93S, 93P, 21U, 21F, 95S, 95P, CTO)	19K1565
10	40GB Hard Drive 7200rpm EIDE ATA-100 (Models 25U, 25F, 97S, 97P, 31G, CTO, 25G)	19K1568
10	60GB Hard Drive 7200rpm EIDE ATA-100 (Model CTO)	19K1570
10	80GB Hard Drive 7200rpm EIDE ATA-100 (Model CTO)	24P3665
11	DASD Rail Soft Mount Assembly (blue) (All models)	19K5331
11	DASD Rail Soft Mount Assembly (yellow) (All models)	23P1327
12	3.5-in. Floppy Disk Drive Bracket (All models)	24P9874
13	Speaker Assembly (Model CTO)	00N5151
14	Power Supply 160W PFC (Models 91S, 13U, 93S, 21U, 21F, 95S, 25U, 25F, 97S, 31G, CTO)	24P6829
14	Power Supply 160W Wide Ranging (Models 91P, 93P, 95P, 97P)	24P6831
15	Basic Chassis Assembly (All models)	24P9866
16	Link Bracket (All models)	25P5032
17	Air Duct (All models)	25P5030

<b>Machine Type 6343</b>		
	Retention Module Kit (All models)	24P4811
	Dual USB Cable (All models)	22P1188
	Planar Locating Label (All models)	24P9864
	Bezel Kit (Stealth Black) (All models)	24P9868
	Primary IDE Cable (All models)	24P9870
	Floppy Disk Drive Cable (All models)	24P9871
	Secondary IDE Cable (All models)	24P9872
	Pivot Lock, 3.5-in. Floppy Disk Drive (All models)	24P9876
	Pivot Lock, 5.25-in. DASD (All models)	24P9877
	Misc. Hardware Kit (All models)	24P9878
	CD-ROM Audio Cable (All models)	75H9219
	Power/LED Cable Assembly (All models)	37L5092
	Bottom Foot (All models)	03K9655
	Mouse, 2-button PS/2 (Black) (All models)	10L6149
	Mouse, USB - ScrollPoint III (Black) (Model CTO)	24P0485
	16MB nVidia Vanta 4XAGP (All models)	25P4058
	nVidia GeForce2 MX-VGA only (Model CTO)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Model CTO)	22P1069
	64MB nVidia GeForce2 GTS Pro (Model CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Model CTO)	19K2965
	1394 Firewire PCI-LP (Model CTO)	22P6849
	PCMCIA/IEEE - 1394 Combo PCI-LP (Model CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (Model CTO)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Model CTO)	10K2587

<b>Recovery CDs Win 98 - Machine Type 6343</b>		
	US Win 98 Recovery CD (Models 21U, CTO)	32P4495
	LA Win 98 Recovery CD (Models 91S, 95S)	32P4500
	CF Win 98 Recovery CD (Model 21F)	32P4502
	BR Win 98 Recovery CD (Models 91P, 95P)	32P4503

<b>Recovery CDs Win 2000 - Machine Type 6343</b>		
	US Win2000 Recovery CD (Models 13U, 25U, CTO)	32P4522
	UK Win2000 Recovery CD (Models 25G, 31G)	32P4524
	FR Win2000 Recovery CD (Models 25G, 31G)	32P4525
	GR Win2000 Recovery CD (Models 25G, 31G)	32P4526

	<b>Recovery CDs Win 2000 - Machine Type 6343</b>	
	LA Win2000 Recovery CD (Models 93S, 97S)	32P4527
	IT Win2000 Recovery CD (Models 25G, 31G)	32P4528
	CF Win2000 Recovery CD (Models 25F)	32P4529
	BR Win2000 Recovery CD (Models 93P, 97P)	32P4530
	SP Win2000 Recovery CD (Models 25G, 31G)	32P4531
	DK Win2000 Recovery CD (Models 25G, 31G)	32P4532
	NL Win2000 Recovery CD (Models 25G, 31G)	32P4533
	AE Win2000 Recovery CD (Models 25G, 31G)	32P4534
	SW Win2000 Recovery CD (Models 25G, 31G)	32P4535
	HB Win2000 Recovery CD (Models 25G, 31G)	32P4536
	FI Win2000 Recovery CD (Models 25G, 31G)	32P4537
	NO Win2000 Recovery CD (Models 25G, 31G)	32P4538
	PL Win2000 Recovery CD (Models 25G, 31G)	32P4539
	PO Win2000 Recovery CD (Models 25G, 31G)	32P4540
	RU Win2000 Recovery CD (Models 25G, 31G)	32P4541
	HU Win2000 Recovery CD (Models 25G, 31G)	32P4542
	CZ Win2000 Recovery CD (Models 25G, 31G)	32P4543
	TR Win2000 Recovery CD (Models 25G, 31G)	32P4544
	GK Win2000 Recovery CD (Models 25G, 31G)	32P4546

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6343</b>	
	US English (Models 13U, 21U, 25U, CTO)	32P5000
	Arabic (Model 25G, 31G)	32P5001
	Belgian/French (Model 25G, 31G)	32P5002
	Belgian/UK (Model 25G, 31G)	32P5003
	Bulgarian (Model 25G, 31G)	32P5004
	Czech (Model 25G, 31G)	32P5006
	Danish (Model 25G, 31G)	32P5007
	Dutch (Model 25G, 31G)	32P5008
	French (Model 25G, 31G)	32P5009
	French Canadian 058 (Models 21F, 25F)	32P5010
	French Canadian 445 (Models 21F, 25F)	32P5011
	German (Model 25G, 31G)	32P5012
	Greek (Model 25G, 31G)	32P5013
	Hebrew (Model 25G, 31G)	32P5014
	Hungarian (Model 25G, 31G)	32P5015
	Iceland (Model 25G, 31G)	32P5016



	<b>Keyboards (Standard PS/2 Black) - Machine Type 6343</b>	
	Italian (Model 25G, 31G)	32P5017
	LA Spanish (Models 91S, 93S, 95S, 97S)	32P5020
	Norwegian (Model 25G, 31G)	32P5021
	Polish (Model 25G, 31G)	32P5022
	Portugese (Model 25G, 31G)	32P5023
	Romanian (Model 25G, 31G)	32P5024
	Russian (Model 25G, 31G)	32P5025
	Russian/Cy (Model 25G, 31G)	32P5026
	Serbian/Cyrillic (Model 25G, 31G)	32P5027
	Slovak (Model 25G, 31G)	32P5028
	Spanish (Model 25G, 31G)	32P5029
	Swedish/Finn (Model 25G, 31G)	32P5030
	Swiss F/G (Model 25G, 31G)	32P5031
	Turkish EURO Phase I (Model 25G, 31G)	32P5033
	Turkish EURO Phase II (Model 25G, 31G)	32P5034
	UK English (Model 25G, 31G)	32P5035
	US International (Model 25G, 31G)	32P5036
	Yugoslav/Latin (Model 25G, 31G)	32P5037
	Brazil/Portugese (Models 91P, 93P, 95P, 97P)	32P5038

	<b>Power Cords - Machine Type 6343</b>	
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

Machine Type 6790		
1	Top Cover Assembly (Pearl White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J, 14A, 14T, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD, 33A, 33T, 33C, 33M, 33V, 33D)	24P9863
1	Top Cover Assembly (Stealth Black) (Models 11U, 11F, 11S, 11P, 11G, 13U, 13F, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 24U, 24F, 31U, 31F, 31S, 31P, 31G, CAU, CBU, CCU, 23U, 23G, 32U, CTO)	24P9865
2	I/O Cam Bracket (All models)	24P9869
3	Processor - Intel P4 1.6GHz (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 13U, 13F, CAU, CTO, 14A, 14T, 14C, 15M, 15V, 15D, 16C, 16M, 16V, 16D)	25P5114
3	Processor - Intel P4 1.8GHz (Models 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 23U, 23G, 24U, 24F, CBU, CTO, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD)	25P5115
3	Processor - Intel P4 2.0GHz (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 32U, CCU, CTO, 33A, 33T, 33C, 33M, 33V, 33D)	25P6177
3	Fan Sink (1.3-1.8 GHz) (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 13U, 13F, CAU, 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 23U, 23G, 24U, 24F, CBU, CTO, 14A, 14T, 14C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD)	32P4002
3	Fan Sink (1.9-2.2GHz) (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 32U, CCU, CTO, 33A, 33T, 33C, 33M, 33V, 33D)	32P4004
4	64MB Memory (Model CTO)	10K0056
4	128MB Memory (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 13U, 13F, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 24U, 24F, CAU, CBU, CCU, CTO, , 14A, 14T, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD, 33A, 33T, 33C, 33M, 33V, 33D)	10K0058
4	256MB Memory (Models 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 23U, 23G, 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 32U, CTO)	10K0060
5	System Board W/O POV2 Card (All models except 23U, 23G, 32U)	25P5090
5	System Board W/ POV2 Card (23U, 23G, 32U, CTO)	25P5091
6	5.25-in. DASD Bracket (All models)	24P9875
7	CD-ROM Drive 48X (Black) (Models 11U, 11F, 11S, 11P, 11G, 13U, 13F, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 24U, 24F, 31U, 31F, 31S, 31P, 31G, CAU, CBU, CCU, 23U, 23G, 32U, CTO)	24P3605

	<b>Machine Type 6790</b>	
7	CD-ROM 48X (White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J, 14A, 14T, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD, 33A, 33T, 33C, 33M, 33V, 33D)	24P3603
7	DVD-ROM 16X/48X (Black) (Models CAU, CBU, CCU, CTO)	24P3623
7	CD/RW 12X/8X/32X (Black) (Models CAU, CBU, CCU, CTO)	06P5161
7	DVD-ROM/CD/RW Combo (Black) (Models CAU, CBU, CCU, CTO)	06P5289
7	DVD RAM 9.4GB 2X/6X/24X (Black) (Models CAU, CBU, CCU, CTO)	19K1539
8	5.25-in. EMC Shield (All models)	19K5548
9	3.5-in. 1.44 M 2-mode Floppy Disk Drive (Models 11U, 11F, 11S, 11P, 11G, 11M, 11V, 11D, 13U, 13F, 21U, 21F, 21S, 21P, 21G, 21M, 21V, 21D, 22U, 22F, 22S, 22P, 22G, 22M, 22V, 22D, 24U, 24F, 31U, 31F, 31S, 31P, 31G, 31M, 31V, 31D, CAU, CBU, CCU, 23U, 23G, 32U, CTO, 15M, 15V, 15D, 16M, 16V, 16D, 2BM, 2BV, 2BD, 2CM, 2CV, 2CD, 33M, 33V, 33D)	75H9550
9	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Models 11A, 11T, 11C, 21A, 21T, 21C, 31A, 31T, 31C, CTO, 11J, 21J, 22J, 31J, 14A, 14T, 15C, 16C, 2AA, 2AT, 2BC, 2CC, 33A, 33T, 33C)	19K1543
10	40GB Hard Drive, Value EIDE ATA-100 (All Models)	19K1562
10	60GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P6006
10	80GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	06P5237
10	20GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1565
10	40GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO, 14A, 14T, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD, 33A, 33T, 33C, 33M, 33V, 33D)	19K1568
10	60GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1570
10	80GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P3665
11	DASD Rail Soft Mount Assembly (blue) (All models)	19K5331
11	DASD Rail Soft Mount Assembly (yellow) (All models)	23P1327
12	3.5-in. Floppy Disk Drive Bracket (All models)	24P9874
13	Speaker Assembly (All models)	00N5151
14	Power Supply 160W PFC (All models except 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C, 15C, 16C, 2BC, 2CC, 33C)	24P6829
14	Power Supply 160W Wide Ranging (Models 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C, CTO, 15C, 16C, 2BC, 2CC, 33C)	24P6831
15	Basic Chassis Assembly (All models)	24P9866
16	Link Bracket (All models)	25P5032

	Machine Type 6790	
17	Air Duct (All models)	25P5030
	Retention Module Kit (All models)	24P4811
	Dual USB Cable (All models)	22P1188
	Planar Locating Label (All models)	24P9864
	RFID Antenna (Models 23U, 23G, 32U)	03K9654
	C2 Cable (Models 23U, 23G, 32U)	09K9827
	Bezel Kit (Pearl White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J, 14A, 14T, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD, 33A, 33T, 33C, 33M, 33V, 33D)	24P9867
	Bezel Kit (Stealth Black) (Models 11U, 11F, 11S, 11P, 11G, 13U, 13F, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 24U, 24F, 31U, 31F, 31S, 31P, 31G, CAU, CBU, CCU, 23U, 23G, 32U, CTO)	24P9868
	Primary IDE Cable (All models)	24P9870
	Floppy Disk Drive Cable (All models)	24P9871
	Secondary IDE Cable (All models)	24P9872
	Pivot Lock, 3.5-in. Floppy Disk Drive (All models)	24P9876
	Pivot Lock, 5.25-in. DASD (All models)	24P9877
	Misc. Hardware Kit (All models)	24P9878
	CD-ROM Audio Cable (All models)	75H9219
	Power/LED Cable Assembly (All models)	37L5092
	Key Lock (Models 23U, 23G, 32U)	25P5031
	Stand (Stealth Black) (Models 11U, 11F, 11S, 11P, 11G, 13U, 13F, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 24U, 24F, 31U, 31F, 31S, 31P, 31G, CAU, CBU, CCU, 23U, 23G, 32U, CTO)	25P5033
	Stand (Pearl White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J, 14A, 14T, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD, 33A, 33T, 33C, 33M, 33V, 33D)	25P5034
	Bottom Foot (All models)	03K9655
	Bottom Foot (Pearl White) (All models)	25P4664
	Mouse, 2-button PS/2 (Black) (Models 11U, 11F, 11S, 11P, 11G, 13U, 13F, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 24U, 24F, 31U, 31F, 31S, 31P, 31G, CAU, CBU, CCU, 23U, 23G, 32U, CTO)	10L6149
	Mouse, 2-button PS/2 (White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J, 14A, 14T, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2AA, 2AT, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD, 33A, 33T, 33C, 33M, 33V, 33D)	10L6145
	16MB nVidia Vanta 4XAGP (All models except 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD)	25P4058

	<b>Machine Type 6790</b>	
	nVidia GeForce2 MX-VGA only (Models CTO, 15C, 15M, 15V, 15D, 16C, 16M, 16V, 16D, 2BC, 2BM, 2BV, 2BD, 2CC, 2CM, 2CV, 2CD)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Model CTO)	22P1069
	64MB nVidia GeForce2 GTS Pro (Model CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Model CTO)	19K2965
	56k V.90 data/fax PCI Modem (WT) (Model CTO)	19K2963
	1394 Firewire PCI-LP (Model CTO)	22P6849
	PCMCIA/IEEE - 1394 Combo PCI-LP (Model CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (Model CTO)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Model CTO)	10K2587
	Power brick - Europe (non UK) (Model CTO)	10K2591
	Power brick - Hong Kong (2-prong version) (Model CTO)	10K2597
	Power brick - Hong Kong (3-prong version) (Model CTO)	25P5703
	Power brick - UK (Northern Ireland, Wales, GB, Scotland, England) (Model CTO)	25P5703
	Power brick - Japan (Model CTO)	10K2593
	Power brick - Australia, New Zealand (Model CTO)	25P5705
	Power brick - Brazil (Model CTO)	10K2789

	<b>Recovery CDs Win 98 - Machine Type 6790</b>	
	AP Win 98 Recovery CD (Models 14A, 16D, 2AA, 2CD, 33A, 33D)	32P4496
	TH Win 98 Recovery CD (Models 14T, 2AT, 33T)	32P4520

	<b>Recovery CDs Win 2000 - Machine Type 6790</b>	
	US Win2000 Recovery CD (Models 11U, 21U, 22U, 31U, 23U, 32U)	32P4522
	AP Win2000 Recovery CD (Models 11A, 11D, 21A, 21D, 22A, 22D, 31A, 31D, 15D, 2BD)	32P4523
	UK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4524
	FR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4525
	GR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4526
	LA Win2000 Recovery CD (Models 11S, 21S, 22S, 31S)	32P4527
	IT Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4528
	CF Win2000 Recovery CD (Models 11F, 21F, 22F, 31F)	32P4529
	BR Win2000 Recovery CD (Models 11P, 21P, 22P, 31P)	32P4530
	SP Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4531

	<b>Recovery CDs Win 2000 - Machine Type 6790</b>	
	DK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4532
	NL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4533
	AE Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4534
	SW Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4535
	HB Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4536
	FI Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4537
	NO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4538
	PL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4539
	PO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4540
	RU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4541
	HU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4542
	CZ Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4543
	TR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4544
	TH Win2000 Recovery CD (Models 11T, 21T, 22T, 31T)	32P4545
	GK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 23G)	32P4546

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6790</b>	
	US English	32P5000
	Arabic	32P5001
	Belgian/French	32P5002
	Belgian/UK	32P5003
	Bulgarian	32P5004
	Chinese/US	32P5005
	Czech	32P5006
	Danish	32P5007
	Dutch	32P5008
	French	32P5009
	French Canadian 058	32P5010
	French Canadian 445	32P5011
	German	32P5012
	Greek	32P5013
	Hebrew	32P5014
	Hungarian	32P5015
	Iceland	32P5016
	Italian	32P5017

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6790</b>	
	Japanese	32P5018
	Korean	32P5019
	LA Spanish	32P5020
	Norwegian	32P5021
	Polish	32P5022
	Portugese	32P5023
	Romanian	32P5024
	Russian	32P5025
	Russian/Cy	32P5026
	Serbian/Cyrillic	32P5027
	Slovak	32P5028
	Spanish	32P5029
	Swedish/Finn	32P5030
	Swiss F/G	32P5031
	Thailand	32P5032
	Turkish EURO Phase I	32P5033
	Turkish EURO Phase II	32P5034
	UK English	32P5035
	US International	32P5036
	Yugoslav/Latin	32P5037
	Brazil/Portugese	32P5038

	<b>Keyboards (Standard PS/2 White) - Machine Type 6790</b>	
	US English	32P5040
	Arabic	32P5041
	Belgian/French	32P5042
	Belgian/UK	32P5043
	Bulgarian	32P5044
	Chinese/US	32P5045
	Czech	32P5046
	Danish	32P5047
	Dutch	32P5048
	French	32P5049
	French Canadian 058	32P5050
	French Canadian 445	32P5051
	German	32P5052
	Greek	32P5053

	<b>Keyboards (Standard PS/2 White) - Machine Type 6790</b>	
	Hebrew	32P5054
	Hungarian	32P5055
	Iceland	32P5056
	Italian	32P5057
	Japanese	32P5058
	Korean	32P5059
	LA Spanish	32P5060
	Norwegian	32P5061
	Polish	32P5062
	Portugese	32P5063
	Romanian	32P5064
	Russian	32P5065
	Russian/Cy	32P5066
	Serbian/Cyrillic	32P5067
	Slovak	32P5068
	Spanish	32P5069
	Swedish/Finn	32P5070
	Swiss F/G	32P5071
	Thailand	32P5072
	Turkish EURO Phase I	32P5073
	Turkish EURO Phase II	32P5074
	UK English	32P5075
	US International	32P5076
	Yugoslav/Latin	32P5077
	Brazil/Portugese	32P5078

	<b>Power Cords - Machine Type 6790</b>	
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086



Power Cords - Machine Type 6790		
	Line Cord	14F0014
	Line Cord	14F0050

Machine Type 6791		
1	Top Cover Assembly (Pearl White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J)	24P9863
1	Top Cover Assembly (Stealth Black) (Models 11U, 11F, 11S, 11P, 11G, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 31U, 31F, 31S, 31P, 31G)	24P9865
2	I/O Cam Bracket (All models)	24P9869
3	Processor - Intel P4 1.6GHz (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J)	25P5114
3	Processor - Intel P4 1.8GHz (Models 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J)	25P5115
3	Processor - Intel P4 2.0GHz (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	25P6177
3	Fan Sink (1.3-1.8 GHz) (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J)	32P4002
3	Fan Sink (1.9-2.2GHz) (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	32P4004
4	128MB Memory (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J)	10K0058
4	256MB Memory (Models 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	10K0060
5	System Board W/O POV2 Card (All models)	25P5090
6	5.25-in. DASD Bracket (All models)	24P9875
7	CD-ROM Drive 48X (Black) (Models 11U, 11F, 11S, 11P, 11G, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 31U, 31F, 31S, 31P, 31G)	24P3605
7	CD-ROM Drive 48X (White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J)	24P3603
8	5.25-in. EMC Shield (All models)	19K5548
9	3.5-in. 1.44 M 2-mode Floppy Disk Drive (Models 11U, 11F, 11S, 11P, 11G, 11M, 11V, 11D, 21U, 21F, 21S, 21P, 21G, 21M, 21V, 21D, 22U, 22F, 22S, 22P, 22G, 22M, 22V, 22D, 31U, 31F, 31S, 31P, 31G, 31M, 31V, 31D)	75H9550
9	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Models 11A, 11T, 11C, 21A, 21T, 21C, 31A, 31T, 31C, 11J, 21J, 22J, 31J)	19K1543
10	40GB Hard Drive, Value EIDE ATA-100 (All Models)	19K1562

<b>Machine Type 6791</b>		
11	DASD Rail Soft Mount Assembly (blue) (All models)	19K5331
11	DASD Rail Soft Mount Assembly (yellow) (All models)	23P1327
12	3.5-in. Floppy Disk Drive Bracket (All models)	24P9874
13	Speaker Assembly (All models)	00N5151
14	Power Supply 160W PFC (All models except 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C)	24P6829
14	Power Supply 160W Wide Ranging (Models 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C)	24P6831
15	Basic Chassis Assembly (All models)	24P9866
16	Link Bracket (All models)	25P5032
17	Air Duct (All models)	25P5030
	Retention Module Kit (All models)	24P4811
	Dual USB Cable (All models)	22P1188
	Planar Locating Label (All models)	24P9864
	Bezel Kit (Pearl White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J)	24P9867
	Bezel Kit (Stealth Black) (Models 11U, 11F, 11S, 11P, 11G, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 31U, 31F, 31S, 31P, 31G)	24P9868
	Primary IDE Cable (All models)	24P9870
	Floppy Disk Drive Cable (All models)	24P9871
	Secondary IDE Cable (All models)	24P9872
	Pivot Lock, 3.5-in. Floppy Disk Drive (All models)	24P9876
	Pivot Lock, 5.25-in. DASD (All models)	24P9877
	Misc. Hardware Kit (All models)	24P9878
	CD-ROM Audio Cable (All models)	75H9219
	Power/LED Cable Assembly (All models)	37L5092
	Bottom Foot (All models)	03K9655
	Bottom Foot (Pearl White) (All models)	25P4664
	Mouse, 2-button PS/2 (Black) (Models 11U, 11F, 11S, 11P, 11G, 21U, 21F, 21S, 21P, 21G, 22U, 22F, 22S, 22P, 22G, 31U, 31F, 31S, 31P, 31G)	10L6149
	Mouse, 2-button PS/2 (White) (Models 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31A, 31T, 31C, 31M, 31D, 31J)	10L6145
	16MB nVidia Vanta 4XAGP (All models)	25P4058

<b>Recovery CDs Win 2000 - Machine Type 6791</b>		
	US Win2000 Recovery CD (Models 11U, 21U, 22U, 31U)	32P4522

	<b>Recovery CDs Win 2000 - Machine Type 6791</b>	
	AP Win2000 Recovery CD (Models 11A, 11D, 21A, 21D, 22A, 22D, 31A, 31D)	32P4523
	UK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4524
	FR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4525
	GR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4526
	LA Win2000 Recovery CD (Models 11S, 21S, 22S, 31S)	32P4527
	IT Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4528
	CF Win2000 Recovery CD (Models 11F, 21F, 22F, 31F)	32P4529
	BR Win2000 Recovery CD (Models 11P, 21P, 22P, 31P)	32P4530
	SP Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4531
	DK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4532
	NL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4533
	AE Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4534
	SW Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4535
	HB Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4536
	FI Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4537
	NO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4538
	PL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4539
	PO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4540
	RU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4541
	HU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4542
	CZ Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4543
	TR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4544
	TH Win2000 Recovery CD (Models 11T, 21T, 22T, 31T)	32P4545
	GK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4546

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6791</b>	
	US English	32P5000
	Arabic	32P5001
	Belgian/French	32P5002
	Belgian/UK	32P5003
	Bulgarian	32P5004
	Chinese/US	32P5005
	Czech	32P5006
	Danish	32P5007
	Dutch	32P5008

<b>Keyboards (Standard PS/2 Black) - Machine Type 6791</b>		
	French	32P5009
	French Canadian 058	32P5010
	French Canadian 445	32P5011
	German	32P5012
	Greek	32P5013
	Hebrew	32P5014
	Hungarian	32P5015
	Iceland	32P5016
	Italian	32P5017
	Japanese	32P5018
	Korean	32P5019
	LA Spanish	32P5020
	Norwegian	32P5021
	Polish	32P5022
	Portugese	32P5023
	Romanian	32P5024
	Russian	32P5025
	Russian/Cy	32P5026
	Serbian/Cyrillic	32P5027
	Slovak	32P5028
	Spanish	32P5029
	Swedish/Finn	32P5030
	Swiss F/G	32P5031
	Thailand	32P5032
	Turkish EURO Phase I	32P5033
	Turkish EURO Phase II	32P5034
	UK English	32P5035
	US International	32P5036
	Yugoslav/Latin	32P5037
	Brazil/Portugese	32P5038

<b>Keyboards (Standard PS/2 White) - Machine Type 6791</b>		
	US English	32P5040
	Arabic	32P5041
	Belgian/French	32P5042
	Belgian/UK	32P5043
	Bulgarian	32P5044

<b>Keyboards (Standard PS/2 White) - Machine Type 6791</b>		
	Chinese/US	32P5045
	Czech	32P5046
	Danish	32P5047
	Dutch	32P5048
	French	32P5049
	French Canadian 058	32P5050
	French Canadian 445	32P5051
	German	32P5052
	Greek	32P5053
	Hebrew	32P5054
	Hungarian	32P5055
	Iceland	32P5056
	Italian	32P5057
	Japanese	32P5058
	Korean	32P5059
	LA Spanish	32P5060
	Norwegian	32P5061
	Polish	32P5062
	Portugese	32P5063
	Romanian	32P5064
	Russian	32P5065
	Russian/Cy	32P5066
	Serbian/Cyrillic	32P5067
	Slovak	32P5068
	Spanish	32P5069
	Swedish/Finn	32P5070
	Swiss F/G	32P5071
	Thailand	32P5072
	Turkish EURO Phase I	32P5073
	Turkish EURO Phase II	32P5074
	UK English	32P5075
	US International	32P5076
	Yugoslav/Latin	32P5077
	Brazil/Portugese	32P5078

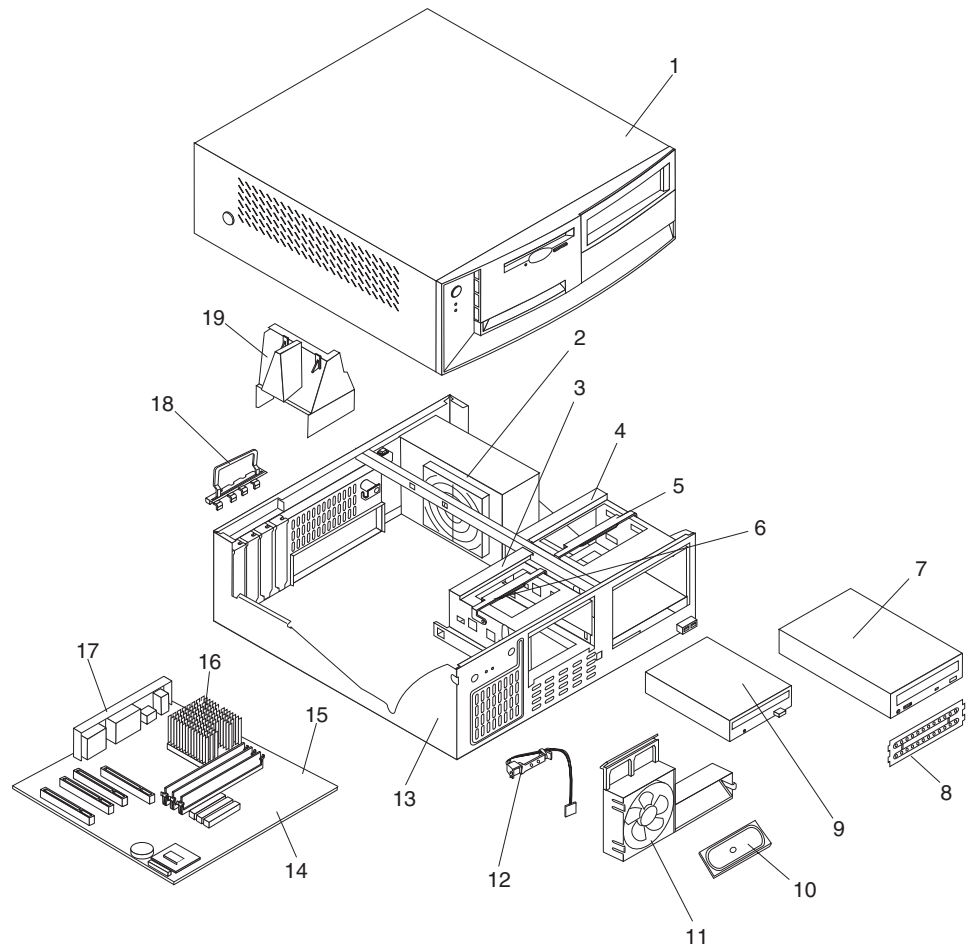
<b>Power Cords - Type 6791</b>		
	Line Cord	6952301

Power Cords - Type 6791		
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

---

## Desktop Model

Types 6349, 6792, 6793



<b>Machine Type 6349</b>		
1	Top Cover Assembly (Pearl White) (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	06P2732
1	Top Cover Assembly (Stealth Black) (Models 91S, 91P, 11U, 92S, 92P, 17U, 93S, 93P, 21U, 21F, 23U, 23F, 94S, 94P, 95S, 95P, 31U, 31F, 33U, 33F, 96S, 96P, CTO)	19K7644
2	Power Supply 185W PFC (All models except 91P, 92P, 93P, 94P, 95P, 96P)	24P6883
2	Power Supply 185W Wide Ranging (China) (Models 91P, 92P, 93P, 94P, 95P, 96P)	24P6885
3	3.5-in. DASD Bracket (All models)	25P4987
3	3.5-in. DASD Bracket (All models)	06P2734
4	5.25-in. DASD Bracket (All models)	09N5746
5	Handle - 5.25-in. DASD Bracket Locking	09N5747
6	Handle - 3.5-in. DASD Bracket Locking	09N5748
7	CD-ROM Drive 48X (Black) (Models 11U, 17U, 21U, 21F, 23U, 23F, 31U, 31F, 33U, 33F, CTO)	24P3605
7	CD-ROM 48X (White) (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	24P3603

	<b>Machine Type 6349</b>	
7	DVD-ROM 16X/48X (Black) (Model CTO)	24P3623
7	CD/RW 12X/8X/32X (Black) (Models CTO)	06P5161
7	DVD-ROM/CD/RW Combo (Black) (Model CTO)	06P5289
7	DVD RAM 9.4GB 2X/6X/24X (Black) (Models CTO)	19K1539
8	5.25-in. EMC Shield (All models)	19K5296
9	3.5-in. 1.44 M 2-mode Floppy Disk Drive (All models)	75H9550
10	Speaker Assembly - Soldered terminals (Model CTO)	00N5151
10	Speaker Assembly - Spade terminals (Model CTO)	01K4909
11	92mm Fan w /Grommets (All models)	33L2594
12	Control Panel (power switch) (All models)	37L5092
13	Chassis Assembly (All models)	25P4682
14	System Board W/O POV2 Card (All models)	25P5090
15	Processor - Intel P4 1.5GHz (Model 91S, 91P, 11U, 92S, 92P, 16G, 17U, 18G, CTO, 71G, 72G)	25P5040
15	Processor - Intel P4 1.6GHz (Models 93S, 93P, 21U, 21F, 22G, 23U, 23F, 24G, 94S, 94P, CTO, 73G, 74G)	25P5114
15	Processor - Intel P4 1.8GHz (Models 95S, 95P, 31U, 31F, 32G, 33U, 33F, 34G, 96S, 96P, CTO, 75G, 76G)	25P5115
15	Processor - Intel P4 2.0GHz (Model CTO)	25P6177
15	Fan Sink (1.3 - 1.8 GHz) (All models)	32P4002
15	Fan Sink (1.9 - 2.2GHz) (Model CTO)	32P4004
16	64MB Memory (Model CTO)	10K0056
16	128MB Memory (Models 92S, 92P, 16G, 17U, 18G, 93S, 93P, 21U, 21F, 22G, 23U, 23F, 24G, 94S, 94P, 95S, 95P, 31U, 31F, 32G, 33U, 33F, 34G, 96S, 96P, CTO, 71G, 72G, 73G, 74G, 75G, 76G)	10K0058
16	256MB Memory (Models 91S, 91P, 11U, CTO)	10K0060
17	I/O Cam Bracket (All models)	09N5757
19	Air Baffle (All models)	06P2733
19	Fan Duct (All models)	32P4707
	Retention Module Kit (All models)	24P4811
	Bezel Kit (Pearl White) (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	09N5732
	Bezel Kit (Stealth Black) (Models 91S, 91P, 11U, 92S, 92P, 17U, 93S, 93P, 21U, 21F, 23U, 23F, 94S, 94P, 95S, 95P, 31U, 31F, 33U, 33F, 96S, 96P, CTO)	19K7645
	Planar Locating Label (All models)	25P4683
	CDT Blue Nameplate (All models)	09N5733
	DASD Rail Kit, Soft Mount Assembly w/Clip (All models)	19K5331
	DASD Rail Kit, Soft Mount Assembly (All models)	23P1328
	Foot (4) (All models)	03K9655
	Primary IDE Cable (All models)	37L4525



<b>Machine Type 6349</b>		
	Secondary IDE Cable (All models)	37L5098
	Secondary IDE Cable (All models)	09N5929
	Floppy Disk Drive Cable (All models)	33L2596
	CD-ROM Audio Cable (All models)	75H9219
	Fan/Speaker Bracket (All models)	09N5763
	Miscellaneous Hardware Kit (All models)	09N5764
	Planar Shield (All models)	25P4688
	Serial Cable	24P9065
	Fan Bracket Assembly - 60mm Fan	22P3635
	20GB Hard Drive, Value EIDE ATA-100 (Model CTO)	19K1560
	40GB Hard Drive, Value EIDE ATA-100 (Model CTO)	19K1562
	60GB Hard Drive, Value EIDE ATA-100 (Model CTO)	24P6006
	80GB Hard Drive, Value EIDE ATA-100 (Model CTO)	06P5237
	20GB Hard Drive 7200rpm EIDE ATA-100 (Models 91S, 91P, 11U, 92S, 92P, 16G, 17U, 18G, 93S, 93P, 21U, 21F, 22G, 23U, 23F, 24G, 95S, 95P, 31U, 31F, 32G, 33U, 33F, 34G, CTO, 71G, 72G, 73G, 74G, 75G, 76G)	19K1565
	40GB Hard Drive 7200rpm EIDE ATA-100 (Models 94S, 94P, 96S, 96P, CTO)	19K1568
	60GB Hard Drive 7200rpm EIDE ATA-100 (Model CTO)	19K1570
	80GB Hard Drive 7200rpm EIDE ATA-100 (Model CTO)	24P3665
	Mouse, 2-button PS/2 (Black) (Models 91S, 91P, 11U, 92S, 92P, 17U, 93S, 93P, 21U, 21F, 23U, 23F, 94S, 94P, 95S, 95P, 31U, 31F, 33U, 33F, 96S, 96P, CTO)	10L6149
	Mouse, 2-button PS/2 (White) (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	10L6145
	Mouse, USB ScrollPoint III (Model CTO)	24P0485
	16MB nVidia Vanta 4XAGP (All models)	25P4058
	nVidia GeForce2 MX-VGA only (Models CTO)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Model CTO)	22P1069
	64MB nVidia GeForce2 GTS Pro (Model CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Model CTO)	19K2965
	1394 Firewire PCI-LP (Model CTO)	22P6849
	PCMCIA/IEEE - 1394 Combo PCI-LP (Model CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (Model CTO)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Model CTO)	10K2587

<b>Recovery CDs Win 98 - Machine Type 6349</b>		
	AP Win 98 Recovery CD (Models 11U, 21U, 31U, CTO)	32P4496

	<b>Recovery CDs Win 98 - Machine Type 6349</b>	
	UK Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4497
	FR Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4498
	GR Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4499
	LA Win 98 Recovery CD (Models 91S, 93S, 95S)	32P4500
	IT Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4501
	CF Win 98 Recovery CD (Models 21F, 31F)	32P4502
	BR Win 98 Recovery CD (Models 91P, 93P, 95P)	32P4503
	SP Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4504
	SW Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4508
	DK Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4505
	NL Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4506
	AE Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4507
	SV Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4519
	HB Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4509
	FI Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4510
	NO Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4511
	PL Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4512
	PO Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4513
	RU Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4514
	HU Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4515
	SL Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4516
	CZ Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4517
	TR Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4518
	SK Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4519
	GK Win 98 Recovery CD (Models 16G, 22G, 32G, 71G, 73G, 75G)	32P4521

<b>Recovery CDs Win 2000 - Machine Type 6349</b>		
	US Win2000 Recovery CD (Models 17U, 23U, 33U, CT0)	32P4522
	UK Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4524
	FR Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4525
	GR Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4526
	LA Win2000 Recovery CD (Models 92S, 94S, 96S)	32P4527
	IT Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4528
	CF Win2000 Recovery CD (Models 23F, 33F)	32P4529
	BR Win2000 Recovery CD (Models 92P, 94P, 96P)	32P4530
	SP Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4531
	DK Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4532
	NL Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4533
	AE Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4534
	SW Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4535
	HB Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4536
	FI Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4537
	NO Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4538
	PL Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4539
	PO Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4540
	RU Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4541
	HU Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4542
	CZ Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4543
	TR Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4544
	GK Win2000 Recovery CD (Models 18G, 24G, 34G, 72G, 74G, 76G)	32P4546

<b>Keyboards (Standard PS/2 Black) - Machine Type 6349</b>		
	US English (Models 11U, 17U, 21U, 23U, 31U, 33U, CTO)	32P5000
	French Canadian 058 (Models 21F, 23F, 31F, 33F)	32P5010
	French Canadian 445 (Models 21F, 23F, 31F, 33F)	32P5011
	LA Spanish (Models 91S, 92S, 93S, 94S, 95S, 96S)	32P5020
	Brazil/Portugese (Models 91P, 92P, 93P, 94P, 95P, 96P)	32P5038

<b>Keyboards (Standard PS/2 White) - Machine Type 6349</b>		
	Arabic (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5041
	Belgian/French (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5042
	Belgian/UK (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5043
	Bulgarian (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5044
	Czech (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5046
	Danish (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5047
	Dutch (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5048
	French (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5049
	German (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5052
	Greek (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5053
	Hebrew (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5054
	Hungarian (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5055
	Iceland (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5056
	Italian (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5057
	Norwegian (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5061
	Polish (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5062
	Portugese (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5063
	Romanian (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5064

	<b>Keyboards (Standard PS/2 White) - Machine Type 6349</b>	
	Russian (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5065
	Russian/Cy (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5066
	Serbian/Cyrillic (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5067
	Slovak (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5068
	Spanish (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5069
	Swedish/Finn (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5070
	Swiss F/G (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5071
	Turkish EURO Phase I (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5073
	Turkish EURO Phase II (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5074
	UK English (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5075
	US International (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5076
	Yugoslav/Latin (Models 16G, 18G, 22G, 24G, 32G, 34G, 71G, 72G, 73G, 74G, 75G, 76G)	32P5077

	<b>Power Cords - Type 6349</b>	
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

<b>Machine Type 6792</b>		
1	Top Cover Assembly (Pearl White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 15G, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 26G, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 33G)	06P2732
1	Top Cover Assembly (Stealth Black) (Models 11U, 11F, 11S, 11P, 15U, 15F, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 23U, 23F, 25U, 25F, 31U, 31F, 31S, 31P, 32U, 32F, CAU, CBU, CCU, 24U, 33U, CTO)	19K7644
2	Power Supply 185W PFC (All models except 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C)	24P6883
2	Power Supply 185W Wide Ranging (China) (Models 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C, CTO)	24P6885
3	3.5-in. DASD Bracket (All models)	25P4987
3	3.5-in. DASD Bracket (All models)	06P2734
4	5.25-in. DASD Bracket (All models)	09N5746
5	Handle - 5.25-in. DASD Bracket Locking	09N5747
6	Handle - 3.5-in. DASD Bracket Locking	09N5748
7	CD-ROM Drive 48X (Black) (Models 11U, 11F, 11S, 11P, 15U, 15F, 15G, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 25U, 25F, 31U, 31F, 31S, 31P, CAU, CBU, CCU, CTO, 24U, 33U)	24P3605
7	CD-ROM 48X (White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 15G, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 26G, 31G, 31A, 31T, 31C, 31M, 31D, 31J, 33G)	24P3603
7	DVD-ROM 16X/48X (Black) (Models 23U, 23F, 32U, 32F, CAU, CBU, CCU, CTO)	24P3623
7	CD/RW 12X/8X/32X (Black) (Models CAU, CBU, CCU, CTO)	06P5161
7	DVD-ROM/CD/RW Combo (Black) (Models CAU, CBU, CCU, CTO)	06P5289
7	DVD RAM 9.4GB 2X/6X/24X (Black) (Models CAU, CBU, CCU, CTO)	19K1539
8	5.25-in. EMC Shield	19K5296
9	3.5-in. 1.44 M 2-mode Floppy Disk Drive (Models 11U, 11F, 11S, 11P, 11G, 11M, 11V, 11D, 15U, 15F, 15G, 21U, 21F, 21S, 21P, 21G, 21M, 21V, 21D, 22U, 22F, 22S, 22P, 22G, 22M, 22V, 22D, 23U, 23F, 25U, 25F, 26G, 24U, CBU, 33U, 33G, CTO)	75H9550
9	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Models 11A, 11T, 11C, 21A, 21T, 21C, CTO, 11J, 21J, 22J)	19K1543
10	Speaker Assembly - Soldered terminals (All models)	00N5151
10	Speaker Assembly - Spade terminals (All models)	01K4909
11	92mm Fan w/Grommets (All models)	33L2594
12	Control Panel (power switch) (All models)	37L5092
13	Chassis Assembly (All models)	25P4682
14	System Board W/O POV2 Card (All models except 24U, 33U, 33G)	25P5090

	<b>Machine Type 6792</b>	
14	System Board W/ POV2 Card (24U, 33U, 33G, CTO)	25P5091
15	Processor - Intel P4 1.5GHz (Model CTO)	25P5040
15	Processor - Intel P4 1.6GHz (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 15U, 15F, CAU, CTO)	25P5114
15	Processor - Intel P4 1.8GHz (Models 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 23U, 23F, 25U, 25F, 26G, 24U, CBU, CTO)	25P5115
15	Processor - Intel P4 2.0GHz (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 32U, 32F, 33U, 33G, CCU, CTO)	25P6177
15	Fan Sink (1.3 - 1.8 GHz) (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 15U, 15F, 15G, CAU, 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 23U, 23F, 25U, 25F, 26G, 24U, CBU, CTO)	32P4002
15	Fan Sink (1.9 - 2.2GHz) (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 32U, 32F, 33U, 33G, CCU, CTO)	32P4004
16	64MB Memory (Model CTO)	10K0056
16	128MB Memory (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 15U, 15F, 15G, 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 25U, 25F, 26G, CAU, CBU, CCU, CTO)	10K0058
16	256MB Memory (Models 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 23U, 23F, 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 32U, 32F, 24U, 33U, 33G, CTO)	10K0060
17	I/O Cam Bracket (All models)	09N5757
19	Air Baffle (All models)	06P2733
19	Fan Duct (All models)	32P4707
	Retention Module Kit (All models)	24P4811
	Bezel Kit (Pearl White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 15G, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 26G, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 33G)	09N5732
	Bezel Kit (Stealth Black) (Models 11U, 11F, 11S, 11P, 15U, 15F, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 23U, 23F, 25U, 25F, 31U, 31F, 31S, 31P, 32U, 32F, CAU, CBU, CCU, 24U, 33U, CTO)	19K7645
	Planar Locating Label (All models)	25P4683
	CDT Blue Nameplate (All models)	09N5733
	DASD Rail Kit, Soft Mount Assembly w/Clip (All models)	19K5331
	DASD Rail Kit, Soft Mount Assembly (All models)	23P1328
	RFID Antenna (Models 24U, 33U, 33G)	03K9654
	Key Lock Assembly (Models 24U, 33U, 33G)	09K9829
	Foot (4) (All models)	03K9655
	C2 Cable (Models 24U, 33U, 33G)	09K9827
	Primary IDE Cable (All models)	37L4525

	<b>Machine Type 6792</b>	
	Secondary IDE Cable (All models)	37L5098
	Secondary IDE Cable (All models)	09N5929
	Floppy Disk Drive Cable (All models)	33L2596
	CD-ROM Audio Cable (All models)	75H9219
	Fan/Speaker Bracket (All models)	09N5763
	Miscellaneous Hardware Kit (All models)	09N5764
	Planar Shield (All models)	25P4688
	Serial Cable	24P9065
	Fan Bracket Assembly - 60mm Fan	22P3635
	20GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1560
	40GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1562
	60GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P6006
	80GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	06P5237
	20GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1565
	40GB Hard Drive 7200rpm EIDE ATA-100 (All models)	19K1568
	60GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1570
	80GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P3665
	Mouse, 2-button PS/2 (Black) (Models 11U, 11F, 11S, 11P, 15U, 15F, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 23U, 23F, 25U, 25F, 31U, 31F, 31S, 31P, 32U, 32F, CAU, CBU, CCU, 24U, 33U, CTO)	10L6149
	Mouse, 2-button PS/2 (White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 15G, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 26G, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J, 33G)	10L6145
	16MB nVidia Vanta 4XAGP (All models)	25P4058
	nVidia GeForce2 MX-VGA only (Models 23U, 23F, 32U, 32F, CTO)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Model CTO)	22P1069
	64MB nVidia GeForce2 GTS Pro (Model CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Model CTO)	19K2965
	56k V.90 data/fax PCI Modem (WT) (Model CTO)	19K2963
	1394 Firewire PCI-LP (Model CTO)	22P6849
	PCMCIA/IEEE - 1394 Combo PCI-LP (Model CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (Model CTO)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Model CTO)	10K2587
	Power brick - Europe (non UK) (Model CTO)	10K2591



	<b>Machine Type 6792</b>	
	Power brick - Hong Kong (2-prong version) (Model CTO)	10K2597
	Power brick - Hong Kong (3-prong version) (Model CTO)	25P5703
	Power brick - UK (Northern Ireland, Wales, GB, Scotland, England) (Model CTO)	25P5703
	Power brick - Japan (Model CTO)	10K2593
	Power brick - Australia, New Zealand (Model CTO)	25P5705
	Power brick - Brazil (Model CTO)	10K2789

	<b>Recovery CDs Win 98 - Machine Type 6792</b>	
	AP Win 98 Recovery CD (Model 28G)	32P4496
	UK Win 98 Recovery CD (Model 28G)	32P4497
	FR Win 98 Recovery CD (Model 28G)	32P4498
	GR Win 98 Recovery CD (Model 28G)	32P4427
	IT Win 98 Recovery CD (Model 28G)	32P4501
	SP Win 98 Recovery CD (Model 28G)	32P4502
	SW Win 98 Recovery CD (Model 28G)	32P4508
	DK Win 98 Recovery CD (Model 28G)	32P4505
	NL Win 98 Recovery CD (Model 28G)	32P4506
	AE Win 98 Recovery CD (Model 28G)	32P4507
	SV Win 98 Recovery CD (Model 28G)	32P4519
	HB Win 98 Recovery CD (Model 28G)	32P4509
	FI Win 98 Recovery CD (Model 28G)	32P4510
	NO Win 98 Recovery CD (Model 28G)	32P4511
	PL Win 98 Recovery CD (Model 28G)	32P4512
	PO Win 98 Recovery CD (Model 28G)	32P4513
	RU Win 98 Recovery CD (Model 28G)	32P4514
	HU Win 98 Recovery CD (Model 28G)	32P4515
	SL Win 98 Recovery CD (Model 28G)	32P4516
	CZ Win 98 Recovery CD (Model 28G)	32P4517
	TR Win 98 Recovery CD (Model 28G)	32P4518
	SK Win 98 Recovery CD (Model 28G)	32P4519
	GK Win 98 Recovery CD (Model 28G)	32P4521

	<b>Recovery CDs Win 2000 - Machine Type 6792</b>	
	US Win2000 Recovery CD (Models 11U, 21U, 22U, 23U, 25U, 31U, 32U, 24U, 33U, CAU, CBU, CCU, CTO)	32P4522

	<b>Recovery CDs Win 2000 - Machine Type 6792</b>	
	AP Win2000 Recovery CD (Models 11A, 11D, 21A, 21D, 22A, 22D, 31A, 31D)	32P4523
	UK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4524
	FR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4525
	GR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4526
	LA Win2000 Recovery CD (Models 11S, 21S, 22S, 31S)	32P4527
	IT Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4528
	CF Win2000 Recovery CD (Models 11F, 21F, 22F, 23F, 25F, 31F, 33F)	32P4529
	BR Win2000 Recovery CD (Models 11P, 21P, 22P, 31P)	32P4530
	SP Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4531
	DK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4532
	NL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4533
	AE Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4534
	SW Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4535
	HB Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4536
	FI Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4537
	NO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4538
	PL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4539
	PO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4540
	RU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4541
	HU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4542
	CZ Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4543
	TR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4544
	TH Win2000 Recovery CD (Models 11T, 21T, 22T, 31T)	32P4545
	GK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G, 33G)	32P4546

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6792</b>	
	US English	32P5000
	Arabic	32P5001
	Belgian/French	32P5002
	Belgian/UK	32P5003
	Bulgarian	32P5004
	Chinese/US	32P5005
	Czech	32P5006
	Danish	32P5007
	Dutch	32P5008
	French	32P5009

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6792</b>	
	French Canadian 058	32P5010
	French Canadian 445	32P5011
	German	32P5012
	Greek	32P5013
	Hebrew	32P5014
	Hungarian	32P5015
	Iceland	32P5016
	Italian	32P5017
	Japanese	32P5018
	Korean	32P5019
	LA Spanish	32P5020
	Norwegian	32P5021
	Polish	32P5022
	Portugese	32P5023
	Romanian	32P5024
	Russian	32P5025
	Russian/Cy	32P5026
	Serbian/Cyrillic	32P5027
	Slovak	32P5028
	Spanish	32P5029
	Swedish/Finn	32P5030
	Swiss F/G	32P5031
	Thailand	32P5032
	Turkish EURO Phase I	32P5033
	Turkish EURO Phase II	32P5034
	UK English	32P5035
	US International	32P5036
	Yugoslav/Latin	32P5037
	Brazil/Portugese	32P5038

	<b>Keyboards (Standard PS/2 White) - Machine Type 6792</b>	
	US English	32P5040
	Arabic	32P5041
	Belgian/French	32P5042
	Belgian/UK	32P5043
	Bulgarian	32P5044
	Chinese/US	32P5045

<b>Keyboards (Standard PS/2 White) - Machine Type 6792</b>		
	Czech	32P5046
	Danish	32P5047
	Dutch	32P5048
	French	32P5049
	French Canadian 058	32P5050
	French Canadian 445	32P5051
	German	32P5052
	Greek	32P5053
	Hebrew	32P5054
	Hungarian	32P5055
	Iceland	32P5056
	Italian	32P5057
	Japanese	32P5058
	Korean	32P5059
	LA Spanish	32P5060
	Norwegian	32P5061
	Polish	32P5062
	Portugese	32P5063
	Romanian	32P5064
	Russian	32P5065
	Russian/Cy	32P5066
	Serbian/Cyrillic	32P5067
	Slovak	32P5068
	Spanish	32P5069
	Swedish/Finn	32P5070
	Swiss F/G	32P5071
	Thailand	32P5072
	Turkish EURO Phase I	32P5073
	Turkish EURO Phase II	32P5074
	UK English	32P5075
	US International	32P5076
	Yugoslav/Latin	32P5077
	Brazil/Portugese	32P5078

<b>Power Cords - Type 6792</b>		
	Line Cord	6952301
	Line Cord	13F9939

<b>Power Cords - Type 6792</b>		
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

<b>Machine Type 6793</b>		
1	Top Cover Assembly (Pearl White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	06P2732
1	Top Cover Assembly (Stealth Black) (Models 11U, 11F, 11S, 11P, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 31U, 31F, 31S, 31P)	19K7644
2	Power Supply 185W PFC (All models except 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C)	24P6883
2	Power Supply 185W Wide Ranging (China) (Models 11P, 11C, 21P, 21C, 22P, 22C, 31P, 31C, CTO)	24P6885
3	3.5-in. DASD Bracket (All models)	25P4987
3	3.5-in. DASD Bracket (All models)	06P2734
4	5.25-in. DASD Bracket (All models)	09N5746
5	Handle - 5.25-in. DASD Bracket Locking	09N5747
6	Handle - 3.5-in. DASD Bracket Locking	09N5748
7	CD-ROM Drive 48X (Black) (Models 11U, 11F, 11S, 11P, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 31U, 31F, 31S, 31P)	24P3605
7	CD-ROM 48X (White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31G, 31A, 31T, 31C, 31M, 31D, 31J)	24P3603
8	5.25-in. EMC Shield	19K5296
9	3.5-in. 1.44 M 2-mode Floppy Disk Drive (Models 11U, 11F, 11S, 11P, 11G, 11M, 11V, 11D, 21U, 21F, 21S, 21P, 21G, 21M, 21V, 21D, 22U, 22F, 22S, 22P, 22G, 22M, 22V, 22D)	75H9550
9	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Models 11A, 11T, 11C, 21A, 21T, 21C, CTO, 11J, 21J, 22J)	19K1543
10	Speaker Assembly - Soldered terminals (All models)	00N5151
10	Speaker Assembly - Spade terminals (All models)	01K4909
11	92mm Fan w/Grommets (All models)	33L2594
12	Control Panel (power switch) (All models)	37L5092

Machine Type 6793		
13	Chassis Assembly (All models)	25P4682
14	System Board W/O POV2 Card (All models)	25P5090
15	Processor - Intel P4 1.6GHz (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J)	25P5114
15	Processor - Intel P4 1.8GHz (Models 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J)	25P5115
15	Processor - Intel P4 2.0GHz (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	25P6177
15	Fan Sink (1.3 - 1.8 GHz) (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J)	32P4002
15	Fan Sink (1.9 - 2.2GHz) (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	32P4004
16	128MB Memory (Models 11U, 11F, 11S, 11P, 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21U, 21F, 21S, 21P, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J)	10K0058
16	256MB Memory (Models 22U, 22F, 22S, 22P, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	10K0060
17	I/O Cam Bracket (All models)	09N5757
19	Air Baffle (All models)	06P2733
19	Fan Duct (All models)	32P4707
	Retention Module Kit (All models)	24P4811
	Bezel Kit (Pearl White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	09N5732
	Bezel Kit (Stealth Black) (Models 11U, 11F, 11S, 11P, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 31U, 31F, 31S, 31P)	19K7645
	Planar Locating Label (All models)	25P4683
	CDT Blue Nameplate (All models)	09N5733
	DASD Rail Kit, Soft Mount Assembly w/Clip (All models)	19K5331
	DASD Rail Kit, Soft Mount Assembly (All models)	23P1328
	Foot (4) (All models)	03K9655
	Primary IDE Cable (All models)	37L4525
	Secondary IDE Cable (All models)	37L5098
	Secondary IDE Cable (All models)	09N5929
	Floppy Disk Drive Cable (All models)	33L2596
	CD-ROM Audio Cable (All models)	75H9219
	Fan/Speaker Bracket (All models)	09N5763
	Miscellaneous Hardware Kit (All models)	09N5764
	Planar Shield (All models)	25P4688
	Serial Cable	24P9065

<b>Machine Type 6793</b>		
	Fan Bracket Assembly - 60mm Fan	22P3635
	40GB Hard Drive 7200rpm EIDE ATA-100 (All models)	19K1568
	Mouse, 2-button PS/2 (Black) (Models 11U, 11F, 11S, 11P, 21U, 21F, 21S, 21P, 22U, 22F, 22S, 22P, 31U, 31F, 31S, 31P)	10L6149
	Mouse, 2-button PS/2 (White) (Models 11G, 11A, 11T, 11C, 11M, 11V, 11D, 11J, 21G, 21A, 21T, 21C, 21M, 21V, 21D, 21J, 22G, 22A, 22T, 22C, 22M, 22V, 22D, 22J, 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	10L6145
	16MB nVidia Vanta 4XAGP (All models)	25P4058

<b>Recovery CDs Win 2000 - Machine Type 6793</b>		
	US Win2000 Recovery CD (Models 11U, 21U, 22U, 31U)	32P4522
	AP Win2000 Recovery CD (Models 11A, 11D, 21A, 21D, 22A, 22D, 31A, 31D)	32P4523
	UK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4524
	FR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4525
	GR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4526
	LA Win2000 Recovery CD (Models 11S, 21S, 22S, 31S)	32P4527
	IT Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4528
	CF Win2000 Recovery CD (Models 11F, 21F, 22F, 31F)	32P4529
	BR Win2000 Recovery CD (Models 11P, 21P, 22P, 31P)	32P4530
	SP Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4531
	DK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4532
	NL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4533
	AE Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4534
	SW Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4535
	HB Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4536
	FI Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4537
	NO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4538
	PL Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4539
	PO Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4540
	RU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4541
	HU Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4542
	CZ Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4543
	TR Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4544
	TH Win2000 Recovery CD (Models 11T, 21T, 22T, 31T)	32P4545
	GK Win2000 Recovery CD (Models 11G, 21G, 22G, 31G)	32P4546

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6793</b>	
	US English	32P5000
	Arabic	32P5001
	Belgian/French	32P5002
	Belgian/UK	32P5003
	Bulgarian	32P5004
	Chinese/US	32P5005
	Czech	32P5006
	Danish	32P5007
	Dutch	32P5008
	French	32P5009
	French Canadian 058	32P5010
	French Canadian 445	32P5011
	German	32P5012
	Greek	32P5013
	Hebrew	32P5014
	Hungarian	32P5015
	Iceland	32P5016
	Italian	32P5017
	Japanese	32P5018
	Korean	32P5019
	LA Spanish	32P5020
	Norwegian	32P5021
	Polish	32P5022
	Portugese	32P5023
	Romanian	32P5024
	Russian	32P5025
	Russian/Cy	32P5026
	Serbian/Cyrillic	32P5027
	Slovak	32P5028
	Spanish	32P5029
	Swedish/Finn	32P5030
	Swiss F/G	32P5031
	Thailand	32P5032
	Turkish EURO Phase I	32P5033
	Turkish EURO Phase II	32P5034
	UK English	32P5035
	US International	32P5036
	Yugoslav/Latin	32P5037



<b>Keyboards (Standard PS/2 Black) - Machine Type 6793</b>		
	Brazil/Portugese	32P5038

<b>Keyboards (Standard PS/2 White) - Machine Type 6793</b>		
	US English	32P5040
	Arabic	32P5041
	Belgian/French	32P5042
	Belgian/UK	32P5043
	Bulgarian	32P5044
	Chinese/US	32P5045
	Czech	32P5046
	Danish	32P5047
	Dutch	32P5048
	French	32P5049
	French Canadian 058	32P5050
	French Canadian 445	32P5051
	German	32P5052
	Greek	32P5053
	Hebrew	32P5054
	Hungarian	32P5055
	Iceland	32P5056
	Italian	32P5057
	Japanese	32P5058
	Korean	32P5059
	LA Spanish	32P5060
	Norwegian	32P5061
	Polish	32P5062
	Portugese	32P5063
	Romanian	32P5064
	Russian	32P5065
	Russian/Cy	32P5066
	Serbian/Cyrillic	32P5067
	Slovak	32P5068
	Spanish	32P5069
	Swedish/Finn	32P5070
	Swiss F/G	32P5071
	Thailand	32P5072
	Turkish EURO Phase I	32P5073

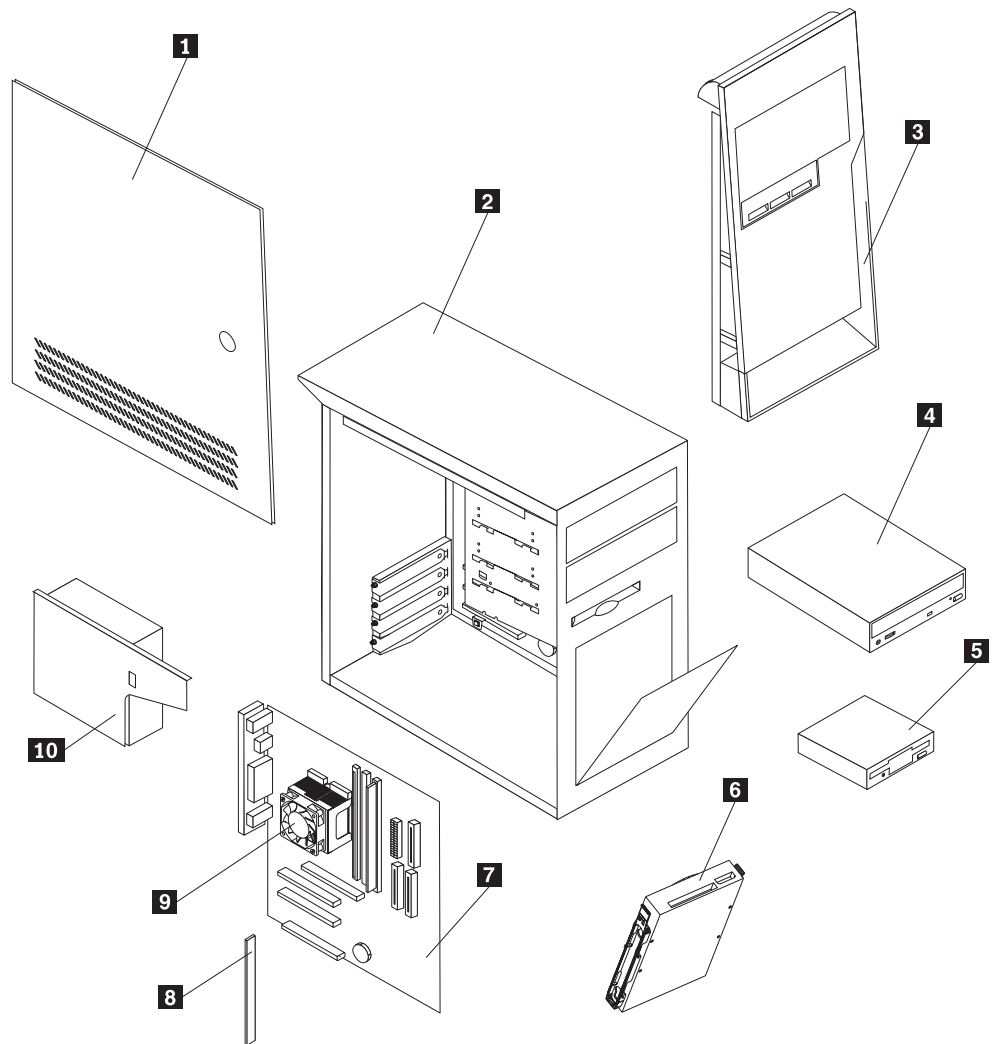
<b>Keyboards (Standard PS/2 White) - Machine Type 6793</b>		
	Turkish EURO Phase II	32P5074
	UK English	32P5075
	US International	32P5076
	Yugoslav/Latin	32P5077
	Brazil/Portugese	32P5078

<b>Power Cords - Type 6793</b>		
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

---

## **Microtower Model**

Types 2292, 6350, 6794, 6795, 6823, 6825



Machine Type 2292		
1	Side Cover Assembly (Raven Black) (All models)	25P0066
2	Chassis, staked (All models)	25P0064
3	Front Bezel Assembly (Raven Black) (All models)	25P0067
4	CD-ROM Drive 48X (Black) (Models 13U, 33U)	24P3605
4	DVD-ROM 16X/48X (Black) (Model 21U)	24P3623
5	3.5-in. 1.44 M 2-mode Floppy Disk Drive (All Models)	75H9550
6	20GB Hard Drive, Value EIDE ATA-100 (Models 13U, 33U)	19K1560
6	40GB Hard Drive 7200rpm EIDE ATA-100 (Model 21U)	19K1568
7	System Board W/O POV2 Card (All models)	25P5090
8	128MB Memory 133MHz (All models)	10K0058
9	Fan Sink (1.3 - 1.8 GHz) (Models 13U, 21U, 33U, CAU, CBU, CCU)	32P4002
9	Fan Sink (1.9 - 2.2GHz) (Model CDU)	32P4004
10	Power Supply 185W PFC (All models)	24P6883

<b>Machine Type 2292</b>		
	Processor - Intel P4 1.5GHz (Models 13U, CAU)	25P5040
	Processor - Intel P4 1.6GHz (Models 21U, CBU)	25P5114
	Processor - Intel P4 1.8GHz (Models 33U, CCU)	25P5115
	Processor - Intel P4 2.0GHz (Model CDU)	25P6177
	Retention Module Kit (All models)	24P4811
	"L" Cover (Raven Black) (All models)	25P0065
	Bezel Blanks Kit (All models)	25P0068
	Front Bezel Release Arm (All models)	25P0069
	I/O Cards Retainer (All models)	25P0070
	DASD Rail Kit, soft mount w/ clips (All models)	19K5331
	Floppy Disk Drive Cable (All models)	01K1513
	Audio Cable (All models)	75H9219
	Dual USB Cable (All models)	22P1188
	Primary IDE Cable (All models)	37L4525
	Secondary IDE Cable (All models)	37L5098
	5.25-in. EMC Shield (All models)	19K5548
	3.5-in. EMC Shield (All models)	25P0071
	Hard Disk Drive Bracket Assembly (All models)	25P0072
	Power Supply Bracket (All models)	25P0073
	Rubber Foot	03K9655
	Control Panel Assembly	25P0074
	Miscellaneous Hardware Kit	09N5764
	Planar EMC Shield Kit	25P0078
	Power Panel Kit	25P0079
	Trim Bezel Kit	25P0090
	Mouse, USB ScrollPoint III (Black) (Models 13U, 21U, 33U)	24P0485
	16MB nVidia Vanta 4XAGP (Models 13U, 33U)	25P4058
	nVidia GeForce2 MX-VGA only (Model 21U)	25P5848

<b>Recovery CDs Win XP Home - Machine Type 2292</b>		
	US Win XP Home Recovery CD (Models 11U, 21U, 31U)	TBD

<b>Keyboards (USB ) - Machine Type 2292</b>		
	US English	19K1910

<b>Power Cords - Type 2292</b>		
	Line Cord	6952301

<b>Machine Type 6350</b>		
1	Side Cover Assembly (Raven Black) (All models)	25P0066
2	Chassis, staked (All models)	25P0064
3	Front Bezel Assembly (Raven Black) (All models)	25P0067
4	CD-ROM Drive 48X (Black) (Models 11U, 13U, 21G, 23G, 31U, 31F, 31G, 33U, 33F, 33G, CTO)	24P3605
4	DVD-ROM 16X/48X (Black) (Model CTO)	24P3623
4	CD/RW 12X/8X/32X (Black) (Model CTO)	06P5161
4	DVD-ROM/CD/RW Combo (Black) (Model CTO)	06P5289
4	DVD RAM 9.4GB 2X/6X/24X (Black) (Model CTO)	19K1539
5	3.5-in. 1.44 M 2-mode Floppy Disk Drive (All models)	75H9550
6	20GB Hard Drive, Value EIDE ATA-100 (Model CTO)	19K1560
6	40GB Hard Drive, Value EIDE ATA-100 (Model CTO)	19K1562
6	60GB Hard Drive, Value EIDE ATA-100 (Model CTO)	24P6006
6	80GB Hard Drive, Value EIDE ATA-100 (Model CTO)	06P5237
6	20GB Hard Drive 7200rpm EIDE ATA-100 (Models 91S, 91P, 11U, 13U, 93S, 93P, 95S, 95P, 21G, 96S, 96P, 23G, 31U, 31F, 31G)	19K1565
6	40GB Hard Drive 7200rpm EIDE ATA-100 (Models 33U, 33F, 33G)	19K1568
6	60GB Hard Drive 7200rpm EIDE ATA-100 (Model CTO)	19K1570
6	80GB Hard Drive 7200rpm EIDE ATA-100 (Model CTO)	24P3665
7	System Board W/O POV2 Card (All models)	25P5090
8	64MB Memory 133MHz (Model 91S, 91P, 11U, CTO)	10K0056
8	128MB Memory 133MHz (Models 13U, 93S, 93P, 95S, 95P, 21G, 96S, 96P, 23G, 31U, 31F, 31G, 33U, 33F, 32G, CTO)	10K0058
8	256MB Memory 133MHz (Model CTO)	10K0060
9	Fan Sink (1.3 - 1.8 GHz) (All models)	32P4002
9	Fan Sink (1.9 - 2.2GHz) (Model CTO)	32P4004
10	Power Supply 185W PFC (All models except 91P, 93P, 95P, 96P)	24P6883
10	Power Supply 185W WR (China) (Models 91P, 93P, 95P, 96P)	24P6885
	Processor - Intel P4 1.5GHz (Models 91S, 91P, 11U, 13U, 93S, 93P, CTO)	25P5040
	Processor - Intel P4 1.6GHz (Models 95S, 95P, 21G, 96S, 96P, 23G, CTO)	25P5114
	Processor - Intel P4 1.8GHz (Models 31U, 31F, 31G, 33U, 33F, 33G, CTO)	25P5115

	Machine Type 6350	
	Processor - Intel P4 2.0GHz (Model CTO)	25P6177
	Retention Module Kit (All models)	24P4811
	"L" Cover (Raven Black) (All models)	25P0065
	Bezel Blanks Kit (All models)	25P0068
	Front Bezel Release Arm (All models)	25P0069
	I/O Cards Retainer (All models)	25P0070
	DASD Rail Kit, soft mount w/ clips (All models)	19K5331
	Floppy Disk Drive Cable (All models)	01K1513
	Audio Cable (All models)	75H9219
	Dual USB Cable (All models)	22P1188
	Primary IDE Cable (All models)	37L4525
	Secondary IDE Cable (All models)	37L5098
	5.25-in. EMC Shield (All models)	19K5548
	3.5-in. EMC Shield (All models)	25P0071
	Hard Disk Drive Bracket Assembly (All models)	25P0072
	Power Supply Bracket (All models)	25P0073
	Rubber Foot	03K9655
	Control Panel Assembly	25P0074
	Miscellaneous Hardware Kit	09N5764
	Planar EMC Shield Kit	25P0078
	Power Panel Kit	25P0079
	Trim Bezel Kit	25P0090
	PCMCIA Assembly (Model CTO)	25P0091
	Audio Cable (Model CTO)	25P4974
	1394 Cable (6-pin) (Model CTO)	25P0084
	PCMCIA ATA-66 Cable (Model CTO)	25P4976
	Audio Card Assembly (2 audio only) (Model CTO)	25P0954
	Audio Card Assembly (2 audio/Firewire) (Model CTO)	32P4704
	SPDIF Card Assembly (2 audio/Firewire/SPDIF) (Model CTO)	32P4704
	Audio/SPDIF Cable (Front panel)	25P0002
	Mouse, 2-button PS/2 (Black) (All models)	10L6149
	Mouse, USB ScrollPoint III (Black) (Model CTO)	24P0485
	16MB nVidia Vanta 4XAGP (All models)	25P4058
	nVidia GeForce2 MX-VGA only (Model CTO)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Model CTO)	22P1069
	64MB nVidia GeForce2 GTS Pro (Model CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Model CTO)	19K2965
	1394 Firewire PCI-LP (Model CTO)	22P6849

<b>Machine Type 6350</b>		
	PCMCIA/IEEE - 1394 Combo PCI-LP (Model CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (Model CTO)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Model CTO)	10K2587

<b>Recovery CDs Win 98 - Machine Type 6350</b>		
	US Win 98 Recovery CD (Models 11U, 31U, CTO)	32P4495
	UK Win 98 Recovery CD (Models 21G, 31G)	32P4497
	FR Win 98 Recovery CD (Models 21G, 31G)	32P4498
	GR Win 98 Recovery CD (Models 21G, 31G)	32P4427
	LA Win 98 Recovery CD (Models 91S, 95S)	32P4500
	IT Win 98 Recovery CD (Models 21G, 31G)	32P4501
	SW Win 98 Recovery CD (Models 21G, 31G)	32P4508
	CF Win 98 Recovery CD (Model 31F)	32P4502
	BR Win 98 Recovery CD (Models 91P, 95P)	32P4503
	SP Win 98 Recovery CD (Models 21G, 31G)	32P4504
	DK Win 98 Recovery CD (Models 21G, 31G)	32P4505
	NL Win 98 Recovery CD (Models 21G, 31G)	32P4506
	AE Win 98 Recovery CD (Models 21G, 31G)	32P4507
	SV Win 98 Recovery CD (Models 21G, 31G)	32P4519
	HB Win 98 Recovery CD (Models 21G, 31G)	32P4509
	FI Win 98 Recovery CD (Models 21G, 31G)	32P4510
	NO Win 98 Recovery CD (Models 21G, 31G)	32P4511
	PL Win 98 Recovery CD (Models 21G, 31G)	32P4512
	PO Win 98 Recovery CD (Models 21G, 31G)	32P4513
	RU Win 98 Recovery CD (Models 21G, 31G)	32P4514
	HU Win 98 Recovery CD (Models 21G, 31G)	32P4515
	SL Win 98 Recovery CD (Models 21G, 31G)	32P4516
	CZ Win 98 Recovery CD (Models 21G, 31G)	32P4517
	TR Win 98 Recovery CD (Models 21G, 31G)	32P4518
	SK Win 98 Recovery CD (Models 21G, 31G)	32P4519
	GK Win 98 Recovery CD (Models 21G, 31G)	32P4521

<b>Recovery CDs Win 2000 - Machine Type 6350</b>		
	US Win2000 Recovery CD (Models 13U, 33U, CTO)	32P4522
	UK Win2000 Recovery CD (Models 23G, 33G)	32P4524
	FR Win2000 Recovery CD (Models 23G, 33G)	32P4525

<b>Recovery CDs Win 2000 - Machine Type 6350</b>		
	LA Win2000 Recovery CD (Models 93S, 96S)	32P4527
	IT Win2000 Recovery CD (Models 23G, 33G)	32P4528
	CF Win2000 Recovery CD (Models 31F)	32P4529
	BR Win2000 Recovery CD (Models 93P, 96P)	32P4530
	SP Win2000 Recovery CD (Models 23G, 33G)	32P4531
	DK Win2000 Recovery CD (Models 23G, 33G)	32P4532
	NL Win2000 Recovery CD (Models 23G, 33G)	32P4533
	AE Win2000 Recovery CD (Models 23G, 33G)	32P4534
	SW Win2000 Recovery CD (Models 23G, 33G)	32P4535
	HB Win2000 Recovery CD (Models 23G, 33G)	32P4536
	FI Win2000 Recovery CD (Models 23G, 33G)	32P4537
	NO Win2000 Recovery CD (Models 23G, 33G)	32P4538
	PL Win2000 Recovery CD (Models 23G, 33G)	32P4539
	PO Win2000 Recovery CD (Models 23G, 33G)	32P4540
	RU Win2000 Recovery CD (Models 23G, 33G)	32P4541
	HU Win2000 Recovery CD (Models 23G, 33G)	32P4542
	CZ Win2000 Recovery CD (Models 23G, 33G)	32P4543
	TR Win2000 Recovery CD (Models 23G, 33G)	32P4544
	GK Win2000 Recovery CD (Models 23G, 33G)	32P4546

<b>Keyboards (Standard PS/2 Black) - Machine Type 6350</b>		
	US English (Models 11U, 13U, 31U, 33U, CTO)	32P5000
	Arabic (Models 21G, 23G, 31G, 33G)	32P5001
	Belgian/French (Models 21G, 23G, 31G, 33G)	32P5002
	Belgian/UK (Models 21G, 23G, 31G, 33G)	32P5003
	Bulgarian (Models 21G, 23G, 31G, 33G)	32P5004
	Czech (Models 21G, 23G, 31G, 33G)	32P5006
	Danish (Models 21G, 23G, 31G, 33G)	32P5007
	Dutch (Models 21G, 23G, 31G, 33G)	32P5008
	French (Models 21G, 23G, 31G, 33G)	32P5009
	French Canadian 058 (Models 31F, 33F)	32P5010
	French Canadian 445 (Models 31F, 33F)	32P5011
	German (Models 21G, 23G, 31G, 33G)	32P5012
	Greek (Models 21G, 23G, 31G, 33G)	32P5013
	Hebrew (Models 21G, 23G, 31G, 33G)	32P5014
	Hungarian (Models 21G, 23G, 31G, 33G)	32P5015
	Iceland (Models 21G, 23G, 31G, 33G)	32P5016



	<b>Keyboards (Standard PS/2 Black) - Machine Type 6350</b>	
	Italian (Models 21G, 23G, 31G, 33G)	32P5017
	LA Spanish (Models 91S, 93S, 95S, 96S)	32P5020
	Norwegian (Models 21G, 23G, 31G, 33G)	32P5021
	Polish (Models 21G, 23G, 31G, 33G)	32P5022
	Portugese (Models 21G, 23G, 31G, 33G)	32P5023
	Romanian (Models 21G, 23G, 31G, 33G)	32P5024
	Russian (Models 21G, 23G, 31G, 33G)	32P5025
	Russian/Cy (Models 21G, 23G, 31G, 33G)	32P5026
	Serbian/Cyrillic (Models 21G, 23G, 31G, 33G)	32P5027
	Slovak (Models 21G, 23G, 31G, 33G)	32P5028
	Spanish (Models 21G, 23G, 31G, 33G)	32P5029
	Swedish/Finn (Models 21G, 23G, 31G, 33G)	32P5030
	Swiss F/G (Models 21G, 23G, 31G, 33G)	32P5031
	Turkish EURO Phase I (Models 21G, 23G, 31G, 33G)	32P5033
	Turkish EURO Phase II (Models 21G, 23G, 31G, 33G)	32P5034
	UK English (Models 21G, 23G, 31G, 33G)	32P5035
	US International (Models 21G, 23G, 31G, 33G)	32P5036
	Yugoslav/Latin (Models 21G, 23G, 31G, 33G)	32P5037
	Brazil/Portugese (Models 91P, 93P, 95P, 96P)	32P5038

	<b>Power Cords - Type 6350</b>	
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

	<b>Machine Type 6794</b>	
1	Side Cover Assembly (Raven Black) (Models 11U, 21U, 21F, 21G, 22G, 23G, 31U, 31F, 31G, CAU, CBU, CCU, CTO)	25P0066

Machine Type 6794		
1	Side Cover Assembly (Pearl White) (Models 11A, 11T, 21A, 21T, 31A, 31T)	25P0001
2	Chassis, staked (All models)	25P0064
3	Front Bezel Assembly (Raven Black) (Models 11U, 21U, 21F, 21G, 22G, 23G, 31U, 31F, 31G, CAU, CBU, CCU, CTO)	25P0067
3	Front Bezel Assembly (Pearl White) (Models 11A, 11T, 21A, 21T, 31A, 31T)	25P0007
4	CD-ROM Drive 48X (Black) (Models 11U, 21U, 21F, 21G, 22G, 23G, 31U, 31F, 31G, CAU, CBU, CCU, CTO)	24P3605
4	CD-ROM 48X (White) (Models 11A, 11T, 21A, 21T, 31A, 31T)	24P3603
4	DVD-ROM 16X/48X (Black) (Models CAU, CBU, CCU, CTO)	24P3623
4	CD/RW 12X/8X/32X (Black) (Models CAU, CBU, CCU, CTO)	06P5161
4	DVD-ROM/CD/RW Combo (Black) (Models CAU, CBU, CCU, CTO)	06P5289
4	DVD RAM 9.4GB 2X/6X/24X (Black) (Models CAU, CBU, CCU, CTO)	19K1539
5	3.5-in. 1.44 M 2-mode Floppy Disk Drive (Models 11U, 21U, 21F, 21G, 22G, 23G, 31U, 31F, 31G, CAU, CBU, CCU, CTO)	75H9550
5	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Models 11A, 11T, 21A, 21T, 31A, 31T, CTO)	19K1543
6	20GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1560
6	40GB Hard Drive, Value EIDE ATA-100 (All models)	19K1562
6	60GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P6006
6	80GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	06P5237
6	20GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1565
6	40GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1568
6	60GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1570
6	80GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P3665
7	System Board W/O POV2 Card (All models)	25P5090
8	64MB Memory 133MHz (Model CTO)	10K0056
8	128MB Memory 133MHz (Models 11U, 11A, 11T, 21U, 21F, 21G, 21A, 21T, 22G, 23G, CAU, CBU, CCU, CTO)	10K0058
8	256MB Memory 133MHz (Models 31U, 31F, 31G, 31A, 31T, CTO)	10K0060
9	Fan Sink (1.3 - 1.8 GHz) (Models 11U, 11A, 11T, CAU, 21U, 21F, 21G, 21A, 21T, 22G, 23G, CBU, CTO)	32P4002
9	Fan Sink (1.9 - 2.2GHz) (Models 31U, 31F, 31G, 31A, 31T, CCU, CTO)	32P4004

	<b>Machine Type 6794</b>	
10	Power Supply 185W PFC (All models)	24P6883
	Processor - Intel P4 1.5GHz (Model CTO)	25P5040
	Processor - Intel P4 1.6GHz (Models 11U, 11A, 11T, CAU, CTO)	25P5114
	Processor - Intel P4 1.8GHz (Models 21U, 21F, 21G, 21A, 21T, 22G, 23G, CBU, CTO)	25P5115
	Processor - Intel P4 2.0GHz (Models 31U, 31F, 31G, 31A, 31T, CCU, CTO)	25P6177
	Retention Module Kit (All models)	24P4811
	"L" Cover (Raven Black) (Models 11U, 21U, 21F, 21G, 22G, 23G, 31U, 31F, 31G, CAU, CBU, CCU, CTO)	25P0065
	"L" Cover (Pearl White) (Models 11A, 11T, 21A, 21T, 31A, 31T)	25P0075
	Bezel Blanks Kit (All models)	25P0068
	Front Bezel Release Arm (All models)	25P0069
	I/O Cards Retainer (All models)	25P0070
	DASD Rail Kit, soft mount w/ clips (All models)	19K5331
	Floppy Disk Drive Cable (All models)	01K1513
	Audio Cable (All models)	75H9219
	Dual USB Cable (All models)	22P1188
	Primary IDE Cable (All models)	37L4525
	Secondary IDE Cable (All models)	37L5098
	Speaker Assembly (All models)	00N5151
	5.25-in. EMC Shield (All models)	19K5548
	3.5-in. EMC Shield (All models)	25P0071
	Hard Disk Drive Bracket Assembly (All models)	25P0072
	Power Supply Bracket (All models)	25P0073
	Rubber Foot	03K9655
	Control Panel Assembly	25P0074
	Miscellaneous Hardware Kit	09N5764
	Planar EMC Shield Kit	25P0078
	Power Panel Kit	25P0079
	Trim Bezel Kit	25P0090
	Mouse, 2-button PS/2 (Black) (Models 11U, 21U, 21F, 21G, 22G, 23G, 31U, 31F, 31G, CAU, CBU, CCU, CTO)	10L6149
	Mouse, 2-button PS/2 (White) (Models 11A, 11T, 21A, 21T, 31A, 31T, CTO)	10L6145
	16MB nVidia Vanta 4XAGP (All models)	25P4058
	nVidia GeForce2 MX-VGA only (Model CTO)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Model CTO)	22P1069
	64MB nVidia GeForce2 GTS Pro (Model CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Model CTO)	19K2965

<b>Machine Type 6794</b>		
	56k V.90 data/fax PCI Modem (WT) (Model CTO)	19K2963
	1394 Firewire PCI-LP (Model CTO)	22P6849
	PCMCIA/IEEE - 1394 Combo PCI-LP (Model CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (Model CTO)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Model CTO)	10K2587
	Power brick - Europe (non UK) (Model CTO)	10K2591
	Power brick - Hong Kong (2-prong version) (Model CTO)	10K2597
	Power brick - Hong Kong (3-prong version) (Model CTO)	25P5703
	Power brick - UK (Northern Ireland, Wales, GB, Scotland, England) (Model CTO)	25P5703
	Power brick - Japan (Model CTO)	10K2593
	Power brick - Australia, New Zealand (Model CTO)	25P5705
	Power brick - Brazil (Model CTO)	10K2789

<b>Recovery CDs Win 98 - Machine Type 6794</b>		
	AP Win 98 Recovery CD (Model 22G)	32P4496
	UK Win 98 Recovery CD (Model 22G)	32P4497
	FR Win 98 Recovery CD (Model 22G)	32P4498
	GR Win 98 Recovery CD (Model 22G)	32P4427
	IT Win 98 Recovery CD (Model 22G)	32P4501
	SW Win 98 Recovery CD (Model 22G)	32P4508
	SP Win 98 Recovery CD (Model 22G)	32P4504
	DK Win 98 Recovery CD (Model 22G)	32P4505
	NL Win 98 Recovery CD (Model 22G)	32P4506
	AE Win 98 Recovery CD (Model 22G)	32P4507
	SV Win 98 Recovery CD (Model 22G)	32P4519
	HB Win 98 Recovery CD (Model 22G)	32P4509
	FI Win 98 Recovery CD (Model 22G)	32P4510
	NO Win 98 Recovery CD (Model 22G)	32P4511
	PL Win 98 Recovery CD (Model 22G)	32P4512
	PO Win 98 Recovery CD (Model 22G)	32P4513
	RU Win 98 Recovery CD (Model 22G)	32P4514
	HU Win 98 Recovery CD (Model 22G)	32P4515
	SL Win 98 Recovery CD (Model 22G)	32P4516
	CZ Win 98 Recovery CD (Model 22G)	32P4517
	TR Win 98 Recovery CD (Model 22G)	32P4518
	SK Win 98 Recovery CD (Model 22G)	32P4519
	GK Win 98 Recovery CD (Model 22G)	32P4521

<b>Recovery CDs Win 2000 - Machine Type 6794</b>		
	US Win2000 Recovery CD (Models 11U, 21U, 31U)	32P4522
	AP Win2000 Recovery CD (Models 11A, 21A, 31A)	32P4523
	UK Win2000 Recovery CD (Models 21G, 31G)	32P4524
	FR Win2000 Recovery CD (Models 21G, 31G)	32P4525
	IT Win2000 Recovery CD (Models 21G, 31G)	32P4528
	CF Win2000 Recovery CD (Models 21F, 31F)	32P4529
	SP Win2000 Recovery CD (Models 21G, 31G)	32P4531
	DK Win2000 Recovery CD (Models 21G, 31G)	32P4532
	NL Win2000 Recovery CD (Models 21G, 31G)	32P4533
	AE Win2000 Recovery CD (Models 21G, 31G)	32P4534
	SW Win2000 Recovery CD (Models 21G, 31G)	32P4535
	HB Win2000 Recovery CD (Models 21G, 31G)	32P4536
	FI Win2000 Recovery CD (Models 21G, 31G)	32P4537
	NO Win2000 Recovery CD (Models 21G, 31G)	32P4538
	PL Win2000 Recovery CD (Models 21G, 31G)	32P4539
	PO Win2000 Recovery CD (Models 21G, 31G)	32P4540
	RU Win2000 Recovery CD (Models 21G, 31G)	32P4541
	HU Win2000 Recovery CD (Models 21G, 31G)	32P4542
	CZ Win2000 Recovery CD (Models 21G, 31G)	32P4543
	TR Win2000 Recovery CD (Models 21G, 31G)	32P4544
	TH Win2000 Recovery CD (Models 11T, 21T, 31T)	32P4545
	GK Win2000 Recovery CD (Models 21G, 31G)	32P4546

<b>Keyboards (Standard PS/2 Black) - Machine Type 6794</b>		
	US English	32P5000
	Arabic	32P5001
	Belgian/French	32P5002
	Belgian/UK	32P5003
	Bulgarian	32P5004
	Chinese/US	32P5005
	Czech	32P5006
	Danish	32P5007
	Dutch	32P5008
	French	32P5009
	French Canadian 058	32P5010
	French Canadian 445	32P5011

	<b>Keyboards (Standard PS/2 Black) - Machine Type 6794</b>	
	German	32P5012
	Greek	32P5013
	Hebrew	32P5014
	Hungarian	32P5015
	Iceland	32P5016
	Italian	32P5017
	Japanese	32P5018
	Korean	32P5019
	LA Spanish	32P5020
	Norwegian	32P5021
	Polish	32P5022
	Portugese	32P5023
	Romanian	32P5024
	Russian	32P5025
	Russian/Cy	32P5026
	Serbian/Cyrillic	32P5027
	Slovak	32P5028
	Spanish	32P5029
	Swedish/Finn	32P5030
	Swiss F/G	32P5031
	Thailand	32P5032
	Turkish EURO Phase I	32P5033
	Turkish EURO Phase II	32P5034
	UK English	32P5035
	US International	32P5036
	Yugoslav/Latin	32P5037
	Brazil/Portugese	32P5038

	<b>Keyboards (Standard PS/2 White) - Machine Type 6794</b>	
	US English	32P5040
	Arabic	32P5041
	Belgian/French	32P5042
	Belgian/UK	32P5043
	Bulgarian	32P5044
	Chinese/US	32P5045
	Czech	32P5046
	Danish	32P5047

	<b>Keyboards (Standard PS/2 White) - Machine Type 6794</b>	
	Dutch	32P5048
	French	32P5049
	French Canadian 058	32P5050
	French Canadian 445	32P5051
	German	32P5052
	Greek	32P5053
	Hebrew	32P5054
	Hungarian	32P5055
	Iceland	32P5056
	Italian	32P5057
	Japanese	32P5058
	Korean	32P5059
	LA Spanish	32P5060
	Norwegian	32P5061
	Polish	32P5062
	Portugese	32P5063
	Romanian	32P5064
	Russian	32P5065
	Russian/Cy	32P5066
	Serbian/Cyrillic	32P5067
	Slovak	32P5068
	Spanish	32P5069
	Swedish/Finn	32P5070
	Swiss F/G	32P5071
	Thailand	32P5072
	Turkish EURO Phase I	32P5073
	Turkish EURO Phase II	32P5074
	UK English	32P5075
	US International	32P5076
	Yugoslav/Latin	32P5077
	Brazil/Portugese	32P5078

	<b>Power Cords - Type 6794</b>	
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978

<b>Power Cords - Type 6794</b>		
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

<b>Machine Type 6795</b>		
1	Side Cover Assembly (Raven Black) (Models 31U, 31F, 31S, 31P)	25P0066
1	Side Cover Assembly (Pearl White) (Models 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	25P0001
2	Chassis, staked (All models)	25P0064
3	Front Bezel Assembly (Raven Black) (Models 31U, 31F, 31S, 31P)	25P0067
3	Front Bezel Assembly (Pearl White) (Models 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	25P0007
4	CD-ROM Drive 48X (Black) (Models 31U, 31F, 31S, 31P)	24P3605
4	CD-ROM 48X (White) (Models 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	24P3603
5	3.5-in. 1.44 M 2-mode Floppy Disk Drive (Models 31U, 31F, 31S, 31P, 31G, 31C, 31M, 31V, 31D)	75H9550
5	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Models 31A, 31T, 31J)	19K1543
6	40GB Hard Drive 7200rpm EIDE ATA-100 (All models)	19K1568
7	System Board W/O POV2 Card (All models)	25P5090
8	256MB Memory 133MHz (All models)	10K0060
9	Fan Sink (1.9 - 2.2GHz) (All models)	32P4004
10	Power Supply 185W PFC (Models 31U, 31F, 31S, 31P, 31G, 31A, 31T, 31M, 31V, 31D, 31J)	24P6883
10	Power Supply 185W PFC (China) (Models 31P, 31C)	24P6885
	Processor - Intel P4 2.0GHz (All models)	25P6177
	Retention Module Kit (All models)	24P4811
	"L" Cover (Raven Black) (Models 31U, 31F, 31S, 31P)	25P0065
	"L" Cover (Pearl White) (Models 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	25P0075
	Bezel Blanks Kit (All models)	25P0068
	Front Bezel Release Arm (All models)	25P0069



<b>Machine Type 6795</b>		
	I/O Cards Retainer (All models)	25P0070
	DASD Rail Kit, soft mount w/ clips (All models)	19K5331
	Floppy Disk Drive Cable (All models)	01K1513
	Audio Cable (All models)	75H9219
	Dual USB Cable (All models)	22P1188
	Primary IDE Cable (All models)	37L4525
	Secondary IDE Cable (All models)	37L5098
	Speaker Assembly (All models)	00N5151
	5.25-in. EMC Shield (All models)	19K5548
	3.5-in. EMC Shield (All models)	25P0071
	Hard Disk Drive Bracket Assembly (All models)	25P0072
	Power Supply Bracket (All models)	25P0073
	Rubber Foot	03K9655
	Control Panel Assembly	25P0074
	Miscellaneous Hardware Kit	09N5764
	Planar EMC Shield Kit	25P0078
	Power Panel Kit	25P0079
	Trim Bezel Kit	25P0090
	Mouse, 2-button PS/2 (Black) (Models 31U, 31F, 31S, 31P)	10L6149
	Mouse, 2-button PS/2 (White) (Models 31G, 31A, 31T, 31C, 31M, 31V, 31D, 31J)	10L6145
	16MB nVidia Vanta 4XAGP (All models)	25P4058

<b>Recovery CDs Win 2000 - Machine Type 6795</b>		
	US Win2000 Recovery CD (Model 31U)	32P4522
	AP Win2000 Recovery CD (Models 31A, 31D)	32P4523
	UK Win2000 Recovery CD (Models 31G)	32P4524
	FR Win2000 Recovery CD (Models 31G)	32P4525
	GR Win2000 Recovery CD (Models 31G)	32P4526
	LA Win2000 Recovery CD (Models 31S)	32P4527
	IT Win2000 Recovery CD (Models 31G)	32P4528
	CF Win2000 Recovery CD (Model 31F)	32P4529
	BR Win2000 Recovery CD (Models 31P)	32P4530
	SP Win2000 Recovery CD (Models 31G)	32P4531
	DK Win2000 Recovery CD (Models 31G)	32P4532
	NL Win2000 Recovery CD (Models 31G)	32P4533
	AE Win2000 Recovery CD (Models 31G)	32P4534
	SW Win2000 Recovery CD (Models 31G)	32P4535

<b>Recovery CDs Win 2000 - Machine Type 6795</b>		
	HB Win2000 Recovery CD (Models 31G)	32P4536
	FI Win2000 Recovery CD (Models 31G)	32P4537
	NO Win2000 Recovery CD (Models 31G)	32P4538
	PL Win2000 Recovery CD (Models 31G)	32P4539
	PO Win2000 Recovery CD (Models 31G)	32P4540
	RU Win2000 Recovery CD (Models 31G)	32P4541
	HU Win2000 Recovery CD (Models 31G)	32P4542
	CZ Win2000 Recovery CD (Models 31G)	32P4543
	TR Win2000 Recovery CD (Models 31G)	32P4544
	TH Win2000 Recovery CD (Model 31T)	32P4545
	GK Win2000 Recovery CD (Models 31G)	32P4546

<b>Keyboards (Standard PS/2 Black) - Machine Type 6795</b>		
	US English (Model 31U)	32P5000
	French Canadian 058 (Model 31F)	32P5010
	French Canadian 445 (Model 31F)	32P5011
	LA Spanish (Model 31S)	32P5020
	Brazil/Portugese (Model 31P)	32P5038

<b>Keyboards (Standard PS/2 White) - Machine Type 6795</b>		
	US English (Models 31A, 31D)	32P5040
	Arabic (Model 31G)	32P5041
	Belgian/French (Model 31G)	32P5042
	Belgian/UK (Model 31G)	32P5043
	Bulgarian (Model 31G)	32P5044
	Czech (Model 31G)	32P5046
	Danish (Model 31G)	32P5047
	Dutch (Model 31G)	32P5048
	French (Model 31G)	32P5049
	German (Model 31G)	32P5052
	Greek (Model 31G)	32P5053
	Hebrew (Model 31G)	32P5054
	Hungarian (Model 31G)	32P5055
	Iceland (Model 31G)	32P5056
	Italian (Model 31G)	32P5057
	Norwegian (Model 31G)	32P5061

<b>Keyboards (Standard PS/2 White) - Machine Type 6795</b>		
	Polish (Model 31G)	32P5062
	Portugese (Model 31G)	32P5063
	Romanian (Model 31G)	32P5064
	Russian (Model 31G)	32P5065
	Russian/Cy (Model 31G)	32P5066
	Serbian/Cyrillic (Model 31G)	32P5067
	Slovak (Model 31G)	32P5068
	Spanish (Model 31G)	32P5069
	Swedish/Finn (Model 31G)	32P5070
	Swiss F/G (Model 31G)	32P5071
	Thailand (Model 31T)	32P5072
	Turkish EURO Phase I (Model 31G)	32P5073
	Turkish EURO Phase II (Model 31G)	32P5074
	UK English (Model 31G)	32P5075
	Yugoslav/Latin (Model 31G)	32P5077

<b>Power Cords - Type 6795</b>		
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

<b>Machine Type 6823</b>		
1	Side Cover Assembly (Raven Black) (All models)	25P0066
2	Chassis, staked (All models)	25P0064
3	Front Bezel Assembly (Raven Black) (All models)	25P0067
4	CD-ROM Drive 48X (Black) (Models 91U, 91G, 18G, CAU, CBU, CCU, CTO, 91A, 19A, 19T, 2FA, 2FT)	24P3605

Machine Type 6823		
4	DVD-ROM 16X/48X (Black) (Models 94M, 94V, 13G, 16M, 16V, 29C, 2AM, 2AV, CAU, CBU, CCU, CTO)	24P3623
4	CD/RW 12X/8X/32X (Black) (Models 23U, 23F, 21U, 14A, 12U, 93A, 16M, 16V, 29C, 2AM, 2AV, CAU, CBU, CCU, CTO, 2EA, 2ET, 21A)	06P5161
4	DVD-ROM/CD/RW Combo (Black) (Models 92U, 92F, 11U, 15C, 17J, 22U, 24U, 24F, 25S, 25P, 27A, 28C, 2BJ, 2CJ, 2DG, CAU, CBU, CCU, CTO, 37M, 37V, 37D, 38A, 38T)	06P5289
4	DVD RAM 9.4GB 2X/6X/24X (Black) (Models CAU, CBU, CCU, CTO)	19K1539
5	3.5-in. 1.44 M 2-mode Floppy Disk Drive (Models 91U, 91G, 92U, 92F, 94M, 94V, 11U, 12U, 13G, 15C, 16M, 16V, 18G, 21U, 22U, 23U, 23F, 24U, 24F, 25S, 25P, 2AM, 2AV, 2DG, 31U, 32U, 32F, 36G, CAU, CBU, CCU, CTO, 37M, 37V, 37D)	75H9550
5	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Models 93A, 14A, 27A, 28C, 29C, 33A, 34C, 35J, 2BJ, 2CJ, 17J, CTO, 91A, 19A, 19T, 2EA, 2ET, 2FA, 2FT, 38A, 38T, 21A)	19K1543
6	20GB Hard Drive, Value EIDE ATA-100 (Models 91U, 91G, 93A, 18G, CAU, CBU, CCU, CTO, 91A, 19A, 19T, 2FA, 2FT)	19K1560
6	40GB Hard Drive, Value EIDE ATA-100 (Models 92U, 92F, 11U, 12U, 13G, 24U, 24F, CAU, CBU, CCU, CTO)	19K1562
6	60GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P6006
6	80GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	06P5237
6	20GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1565
6	40GB Hard Drive 7200rpm EIDE ATA-100 (Models 14A, 15C, 16M, 16V, 21U, 28C, 2AM, 2AV, 2DG, 36G, CAU, CBU, CCU, CTO, 94M, 94V, 2EA, 2ET, 21A)	19K1568
6	60GB Hard Drive 7200rpm EIDE ATA-100 (Models 17J, 23U, 23F, 27A, 29C, 2BJ, 34C, CAU, CBU, CCU, CTO)	19K1570
6	80GB Hard Drive 7200rpm EIDE ATA-100 (Models 22U, 25S, 25P, 2CJ, 31U, 32U, 32F, 35J, CAU, CBU, CCU, CTO, 37M, 37V, 37D, 38A, 38T, 33A)	24P3665
7	System Board W/O POV2 Card (All models)	25P5090
9	Fan Sink (1.3 - 1.8 GHz) (All models except 31U, 32U, 32F, 33A, 34C, 35J, 36G, CCU, 37M, 37V, 37D, 38A ,38T)	32P4002
9	Fan Sink (1.9 - 2.2GHz) (Models 31U, 32U, 32F, 33A, 34C, 35J, 36G, CCU, CTO, 37M, 37V, 37D, 38A ,38T)	32P4004
8	64MB Memory 133MHz (Model CTO)	10K0056
8	128MB Memory 133MHz (Models 91U, 91G, 92U, 92F, 93A, 94M, 94V, 11U, 12U, 13G, 14A, 16M, 16V, 17J, 18G, 21U, 22U, 23U, 23F, 28C, 2AM, 2AV, 2BJ. CAU, CBU, CCU, CTO, 91A, 19A, 19T, 2EA, 2ET, 21A)	10K0058
8	256MB Memory 133MHz (Models 22U, 24U, 24F, 25S, 25P, 27A, 29C, 2CJ, 2DG, 31U, 32U, 32F, 33A, 34C, 35J, 36G, CTO, 2FA, 2FT, 37M, 37V, 37D, 38A ,38T)	10K0060

<b>Machine Type 6823</b>		
10	Power Supply 185W PFC (All models except 15C, 25P, 28C, 29C)	24P6883
10	Power Supply 185W Wide Ranging (China) (Models 15C, 25P, 28C, 29C, CTO)	24P6885
	Processor - Intel P4 1.5GHz (Models 91U, 91G, 92U, 92F, 93A, 94M, 94V, CTO, 91A)	25P5040
	Processor - Intel P4 1.6GHz (Models 11U, 12U, 13G, 14A, 15C, 16M, 16V, 17J, 18G, CAU, CTO, 19A, 19T)	25P5114
	Processor - Intel P4 1.8GHz (Models 21U, 22U, 23U, 23F, 24U, 24F, 25S, 25P, 27A, 28C, 29C, 2AM, 2AV, 2BJ, 2CJ, 2DG, CBU, CTO, 2EA, 2ET, 2FA, 2FT, 21A)	25P5115
	Processor - Intel P4 2.0GHz (Models 31U, 32U, 32F, 33A, 34C, 35J, 36G, CCU, CTO, 37M, 37V, 37D, 38A, 38T)	25P6177
	Retention Module Kit (All models)	24P4811
	"L" Cover (Raven Black) (All models)	25P0065
	Bezel Blanks Kit (All models)	25P0068
	Front Bezel Release Arm (All models)	25P0069
	I/O Cards Retainer (All models)	25P0070
	DASD Rail Kit, soft mount w/ clips (All models)	19K5331
	Floppy Disk Drive Cable (All models)	01K1513
	Dual USB Cable (All models)	22P1188
	Primary IDE Cable (All models)	37L4525
	Secondary IDE Cable (All models)	37L5098
	Speaker Assembly (All models)	00N5151
	5.25-in. EMC Shield (All models)	19K5548
	3.5-in. EMC Shield (All models)	25P0071
	Hard Disk Drive Bracket Assembly (All models)	25P0072
	Power Supply Bracket (All models)	25P0073
	Rubber Foot (All models)	03K9655
	Control Panel Assembly (All models)	25P0074
	Miscellaneous Hardware Kit (All models)	09N5764
	Planar EMC Shield Kit (All models)	25P0078
	Power Panel Kit (All models)	25P0079
	Trim Bezel Kit (All models)	25P0090
	PCMCIA Assembly (Models 17J, 2BJ, 2CJ, 35J, CAU, CBU, CCU, CTO)	25P0091
	Audio Cable (All models)	25P4974
	1394 Cable (6-pin) (Models 12U, 17J, 21U, 22U, 27A, 2BJ, 2CJ, 31U, 33A, 35J, CAU, CBU, CCU, CTO, 38A, 38T, 2FA, 2FT, 2EA, 2ET, 14A, 14T, 7T)	25P0084
	PCMCIA ATA-66 Cable (Models 17J, 2BJ, 2CJ, 35J, CAU, CBU, CCU, CTO)	25P4976

Machine Type 6823		
	Audio Card Assembly (2 audio only) (Models 91U, 91G, 92U, 92F, 93A, 94M, 94V, 11U, 13G, 15C, 18G, 23U, 23F, 24U, 24F, 25S, 25P, 28C, 2DG, 32U, 32F, 36G, CAU, CBU, CCU, CTO, 16M, 16V, 19A, 19T, 29C, 2AM, 2AV, 34C, 37M, 37V, 37D)	25P0954
	Audio Card Assembly (2 audio/Firewire) (Models 12U, 21U, 22U, 27A, 29C, 31U, 33A, CAU, CBU, CCU, CTO, 14A, 14T, 2EA, 2ET, 27T, 2FA, 2FT, 38A, 38T)	32P4704
	SPDIF Card Assembly (2 audio/Firewire/SPDIF) (Models 17J, 2BJ, 2CJ, 35J, CAU, CBU, CCU, CTO)	32P4707
	Audio/SPDIF Cable (front panel) (Models 17J, 2BJ, 2CJ, 35J, CAU, CBU, CCU, CTO)	25P0002
	Mouse, 2-button PS/2 (Black) (Model CTO)	10L6149
	Mouse, 2-button PS/2 (White) (Model CTO)	10L6145
	Mouse, USB ScrollPoint-III (Black) (Models 91U, 91G, 92U, 92F, 94M, 94V, 11U, 12U, 13G, 15C, 16M, 16V, 17J, 18G, 21U, 22U, 23U, 23F, 24U, 24F, 25S, S5P, 28C, 29C, 2AM, 2AV, 2BJ, 2CJ, 2DG, 31U, 32U, 32F, 34C, 35J, 26G, CAU, CBU, CCU, CTO, 91A, 37M, 37V, 37D, 21A)	
	16MB nVidia Vanta 4XAGP (Models 91U, 91G, 92U, 92F, 93A, 18G, CAU, CBU, CCU, CTO, 91A, 19A, 19T)	25P4058
	nVidia GeForce2 MX-VGA only (Models 94M, 94V, 11U, 12U, 13G, 14A, 15C, 16M, 16V, 21U, 23U, 23F, 25S, 25P, 27A, 28C, 2AM, 2AV, 33A, CTO, 2EA, 2ET, 37M, 37V, 37D, 38A, 38T, 21A)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Models 17J, 22U, 24U, 24F, 28C, 2BJ, 2CJ, 2DG, CTO, 2FA, 2FT)	22P1069
	64MB nVidia GeForce2 GTS Pro (Models 36G, CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Models 91U, 91G, 92U, 92F, 94M, 94V, 11U, 12U, 15C, 16M, 16V, 17J, 21U, 22U, 23U, 23F, 24U, 24F, 25S, 25P, 28C, 29C, 2AM, 2AV, 2BJ, 2CJ, 31U, 32U, 32F, 34C, 35J, CAU, CBU, CCU, CTO, 19T, 2ET, 2FT, 37M, 37V, 37D, 38T)	19K2965
	56k V.90 data/fax PCI Modem (WT) (Models 33A, 14A, 93A, 27A, 91G, 18G, 13G, 2DG, 36G, CAU, CBU, CCU, CTO, 91A, 19A, 2EA, 2FA, 38A, 21A)	19K2963
	1394 Firewire PCI-LP (Models 12U, 21U, 22U, 27A, 31U, 33A, CAU, CBU, CCU, CTO, 14A, 14T, 2EA, 2ET, 27T, 2FA, 2FT, 38A, 38T)	22P6849
	PCMCIA/IEEE - 1394 Combo PCI-LP (Models 17J, 2BJ, 2CJ, 35J, CAU, CBU, CCU, CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (All Models)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Models 91U, 91G, 92U, 11U, 12U, 21U, 22U, 23U, 24U, 31U, 32U, CAU, CBU, CCU, CTO, 92F, 23F, 24F, 25S, 25P, 37V)	10K2587
	Power brick - Europe (non UK) (Models 91G, 13G, 18G, 2DG, 36G, CTO)	10K2591
	Power brick - Hong Kong (2-prong version) (Models 94M, 16M, 2AM, CTO, 37M, 37D)	10K2597
	Power brick - Hong Kong (3-prong version) (Models 94M, 16M, 2AM, CTO, 37M, 37D)	25P5703

<b>Machine Type 6823</b>		
	Power brick - UK (Northern Ireland, Wales, GB, Scotland, England) (Models 91G, 13G, 18G, 2DG, 36G, CTO)	25P5703
	Power brick - Japan (Models 17J, 2BJ, 2CJ, 35J, CTO)	10K2593
	Power brick - Australia, New Zealand (Models 33A, 14A, 93A, 27A, CTO, 91A, 19A, 19T, 2FA, 2FT, 38A, 38T, 21A)	25P5705
	Power brick - Brazil (Models 25P, CTO)	10K2789

<b>Keyboards (USB Black) - Machine Type 6823</b>		
	US English	19K1910
	Arabic	19K1911
	Belgian/French	19K1912
	Belgian/UK	19K1913
	Bulgarian	19K1914
	Chinese/US	19K1915
	Czech	19K1916
	Danish	19K1917
	Dutch	19K1918
	French	19K1919
	French Canadian 058	19K1920
	French Canadian 445	19K1921
	German	19K1922
	Greek	19K1923
	Hebrew	19K1924
	Hungarian	19K1925
	Iceland	19K1926
	Italian	19K1927
	Japanese	19K1928
	Korean	19K1929
	LA Spanish	19K1930
	Norwegian	19K1931
	Polish	19K1932
	Portugese	19K1933
	Romanian	19K1934
	Russian	19K1935
	Russian/Cy	19K1936
	Serbian/Cyrillic	19K1937
	Slovak	19K1938
	Spanish	19K1939

<b>Keyboards (USB Black) - Machine Type 6823</b>		
	Swedish/Finn	19K1940
	Swiss F/G	19K1941
	Thailand	19K1942
	Turkish EURO Phase I	19K1943
	Turkish EURO Phase II	19K1944
	UK English	19K1945
	US International	19K1946
	Yugoslav/Latin	19K1947
	Brazil/Portugese	19K1948
	Japanese *	19K1908

<b>Keyboard/Mouse Combo (Wireless Desktop Kit, Black) - Machine Type 6823</b>		
	US English (Models 14A, 27A, 33A, CTO, 19A, 2EA, 2FA, 38A)	22P5183
	Arabic (Model CTO)	22P7250
	Belgian/French (Model CTO)	22P7251
	Belgian/UK (Model CTO)	22P7252
	Brazil/Portugese (Model CTO)	22P7253
	Bulgarian (Model CTO)	22P7254
	Chinese/US (Model CTO)	22P7255
	Czech (Model CTO)	22P7256
	Danish (Model CTO)	22P7257
	Dutch (Model CTO)	22P7258
	French (Model CTO)	22P7259
	French Canadian 058 (Model CTO)	22P7260
	French Canadian 445 (Model CTO)	22P7261
	German (Model CTO)	22P7262
	Greek (Model CTO)	22P7263
	Hebrew (Model CTO)	22P7264
	Hungarian (Model CTO)	22P7265
	Iceland (Model CTO)	22P7266
	Italian (Model CTO)	22P7267
	Japanese (Model CTO)	22P7268
	LA Spanish (Model CTO)	22P7269
	Norwegian (Model CTO)	22P7270
	Polish (Model CTO)	22P7271
	Portugese (Model CTO)	22P7272
	Romanian (Model CTO)	22P7273



	<b>Keyboard/Mouse Combo (Wireless Desktop Kit, Black) - Machine Type 6823</b>	
	Russian (Model CTO)	22P7274
	Russian/Cy (Model CTO)	22P7275
	Serbian/Cyrillic (Model CTO)	22P7276
	Slovak (Model CTO)	22P7277
	Spanish (Model CTO)	22P7278
	Swedish/Finn (Model CTO)	22P7279
	Swiss F/G (Model CTO)	22P7280
	Thailand (Models CTO, 19T, 2ET, 2FT, 38T)	22P7281
	Turkish EURO Phase I (Model CTO)	22P7282
	Turkish EURO Phase II (Model CTO)	22P7283
	UK English (Model CTO)	22P7284
	US International (Model CTO)	22P7285
	Yugoslav/Latin (Model CTO)	22P7286
	Wireless Reciever (Model CTO)	22P7287

	<b>Power Cords - Type 6823</b>	
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050

	<b>Machine Type 6825</b>	
1	Side Cover Assembly (Raven Black) (All models)	25P0066
2	Chassis, staked (All models)	25P0064
3	Front Bezel Assembly (Raven Black) (All models)	25P0067
4	CD-ROM Drive 48X (Black) (Models CAU, CBU, CCU, CTO)	24P3605
4	DVD-ROM 16X/48X (Black) (Models CAU, CBU, CCU, CTO)	24P3623

	<b>Machine Type 6825</b>	
4	CD/RW 12X/8X/32X (Black) (Models 11U, 12U, 12F, 12G, 22U, 22F, 22G, CAU, CBU, CCU, CTO)	06P5161
4	DVD-ROM/CD/RW Combo (Black) (Models 21U, 31U, 31G, CAU, CBU, CCU, CTO)	06P5289
4	DVD RAM 9.4GB 2X/6X/24X (Black) (Models CAU, CBU, CCU, CTO)	19K1539
5	3.5-in. 1.44 M 2-mode Floppy Disk Drive (All models)	75H9550
5	3.5-in. 1.44 M 3-mode Floppy Disk Drive (Model CTO)	19K1543
6	20GB Hard Drive, Value EIDE ATA-100 (Models 12U, 12F, 12G, CAU, CBU, CCU, CTO)	19K1560
6	40GB Hard Drive, Value EIDE ATA-100 (Models 11U, 22U, 22F, 22G, CAU, CBU, CCU, CTO)	19K1562
6	60GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	24P6006
6	80GB Hard Drive, Value EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	06P5237
6	20GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1565
6	40GB Hard Drive 7200rpm EIDE ATA-100 (Models 21U, CAU, CBU, CCU, CTO)	19K1568
6	60GB Hard Drive 7200rpm EIDE ATA-100 (Models CAU, CBU, CCU, CTO)	19K1570
6	80GB Hard Drive 7200rpm EIDE ATA-100 (Models 31U, 31F, CAU, CBU, CCU, CTO)	24P3665
7	System Board W/O POV2 Card (All models)	25P5090
8	64MB Memory 133MHz (Model CTO)	10K0056
8	128MB Memory 133MHz (Models 11U, 12U, 12G, 21U, 22U, 22F, 22G, 31U, 31F, CAU, CBU, CCU, CTO)	10K0058
8	256MB Memory 133MHz (Model CTO)	10K0060
9	Fan Sink (1.3 - 1.8 GHz) (Models 11U, 12U, 12F, 12G, 21U, 22U, 22F, 22G, CBU, CTO)	32P4002
9	Fan Sink (1.9 - 2.2GHz) (Models 31U, 31F, CCU, CTO)	32P4004
10	Power Supply 185W PFC (All models)	24P6883
	Processor - Intel P4 1.5GHz (Model CTO)	25P5040
	Processor - Intel P4 1.6GHz (Models 11U, 12U, 12F, 12G, CAU, CTO)	25P5114
	Processor - Intel P4 1.8GHz (Models 21U, 22U, 22F, 22G, CBU, CTO)	25P5115
	Processor - Intel P4 2.0GHz (Models 31U, 31F, CCU, CTO)	25P6177
	Retention Module Kit (All models)	24P4811
	"L" Cover (Raven Black) (All models)	25P0065
	Bezel Blanks Kit (All models)	25P0068
	Front Bezel Release Arm (All models)	25P0069
	I/O Cards Retainer (All models)	25P0070

	<b>Machine Type 6825</b>	
	DASD Rail Kit, soft mount w/ clips (All models)	19K5331
	Floppy Disk Drive Cable (All models)	01K1513
	Audio Cable (All models)	75H9219
	Dual USB Cable (All models)	22P1188
	Primary IDE Cable (All models)	37L4525
	Secondary IDE Cable (All models)	37L5098
	Speaker Assembly (All models)	00N5151
	5.25-in. EMC Shield (All models)	19K5548
	3.5-in. EMC Shield (All models)	25P0071
	Hard Disk Drive Bracket Assembly (All models)	25P0072
	Power Supply Bracket (All models)	25P0073
	Rubber Foot	03K9655
	Control Panel Assembly	25P0074
	Miscellaneous Hardware Kit	09N5764
	Planar EMC Shield Kit	25P0078
	Power Panel Kit	25P0079
	Trim Bezel Kit	25P0090
	Mouse, 2-button PS/2 (Black) (All models)	10L6149
	Mouse, 2-button PS/2 (White) (Model CTO)	10L6145
	16MB nVidia Vanta 4XAGP (Models 11U, 12U, 12F, 12G, 21U, 22U, 22F, 22G, CAU, CBU, CCU, CTO)	25P4058
	nVidia GeForce2 MX-VGA only (Model 21U, 31U, 31F, CTO)	25P5848
	nVidia GeForce2 MX-VGA/TVout (Model CTO)	22P1069
	64MB nVidia GeForce2 GTS Pro (Model CTO)	22P1390
	56k V.90 data/fax PCI Modem (US) (Model CTO)	19K2965
	56k V.90 data/fax PCI Modem (WT) (Model CTO)	19K2963
	1394 Firewire PCI-LP (Model CTO)	22P6849
	PCMCIA/IEEE - 1394 Combo PCI-LP (Model CTO)	TBD
	Jazz Infinity, 2-piece Tier-1 (Black) (Model CTO)	25P4726
	Power brick - US, CE, CF, LA, Taiwan (Model CTO)	10K2587
	Power brick - Europe (non UK) (Model CTO)	10K2591
	Power brick - Hong Kong (2-prong version) (Model CTO)	10K2597
	Power brick - Hong Kong (3-prong version) (Model CTO)	25P5703
	Power brick - UK (Northern Ireland, Wales, GB, Scotland, England) (Model CTO)	25P5703
	Power brick - Japan (Model CTO)	10K2593
	Power brick - Australia, New Zealand (Model CTO)	25P5705
	Power brick - Brazil (Model CTO)	10K2789

<b>Recovery CDs Win 2000 - Machine Type 6825</b>		
	US Win2000 Recovery CD (Models 21U, 31U)	32P4522
	CF Win2000 Recovery CD (Model 31F)	32P4529

<b>Keyboards (Standard PS/2 Black) - Machine Type 6825</b>		
	US English	32P5000
	Arabic	32P5001
	Belgian/French	32P5002
	Belgian/UK	32P5003
	Bulgarian	32P5004
	Chinese/US	32P5005
	Czech	32P5006
	Danish	32P5007
	Dutch	32P5008
	French	32P5009
	French Canadian 058	32P5010
	French Canadian 445	32P5011
	German	32P5012
	Greek	32P5013
	Hebrew	32P5014
	Hungarian	32P5015
	Iceland	32P5016
	Italian	32P5017
	Japanese	32P5018
	Korean	32P5019
	LA Spanish	32P5020
	Norwegian	32P5021
	Polish	32P5022
	Portugese	32P5023
	Romanian	32P5024
	Russian	32P5025
	Russian/Cy	32P5026
	Serbian/Cyrillic	32P5027
	Slovak	32P5028
	Spanish	32P5029
	Swedish/Finn	32P5030
	Swiss F/G	32P5031
	Thailand	32P5032

<b>Keyboards (Standard PS/2 Black) - Machine Type 6825</b>		
	Turkish EURO Phase I	32P5033
	Turkish EURO Phase II	32P5034
	UK English	32P5035
	US International	32P5036
	Yugoslav/Latin	32P5037
	Brazil/Portugese	32P5038

<b>Power Cords - Type 6825</b>		
	Line Cord	6952301
	Line Cord	13F9939
	Line Cord	34G0222
	Line Cord	13F9978
	Line Cord	14F0032
	Line Cord	13F9996
	Line Cord	14F0068
	Line Cord	36L8878
	Line Cord	02K0545
	Line Cord	14F0086
	Line Cord	14F0014
	Line Cord	14F0050



---

## Chapter 8. Additional Service Information

---

### Security features

Security features in this section include the following:

- Passwords
- Vital Product Data
- Management Information Format (MIF)
- Alert on LAN

### Passwords

The following section provides information about computer hardware and software-related passwords.

- Power-on Password
- Administrator Password
- Operating System Password

Power-on and Administrator passwords are set in the Setup Utility program. See “Setup Utility program” on page 14 for information about running the Setup Utility.

#### Power-on password

A power-on password denies access to the computer by an unauthorized user when the computer is powered on. When a power-on password is active, the password prompt appears on the screen each time the computer is powered on. The computer starts after the proper password is entered.

#### Removing a power-on password

To service a computer with an active and unknown power-on password, power-off the computer and use the following procedure.

<b>Note:</b> On some models, this procedure will also remove the administrator password.
--

1. Unplug the power cord and remove the top cover.
2. Refer to “Identifying parts on the system board” on page 28 to find the recovery jumper.
3. Move the recovery jumper from **normal** to **clear**.
4. Power-on the computer. The system senses the change in the position and erases the password. *It is necessary to move the jumper back to the previous position.*
5. Remind the user to enter a new password when service is complete.

## Administrator password

The administrator password is used to restrict access to the Configuration/Setup Utility program. If the administrator password is activated, and you do not enter the administrator password, the configuration can be viewed but not changed.

### Note:

Types 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, 6438 have Enhanced Security Mode. If Enhanced Security mode is enabled and there is no password given, the computer will act as if Enhanced Security is disabled.

If Enhanced Security is Enabled and an administrator password is given, the administrator password must be entered to use the computer. If the administrator password is lost or forgotten, the system board in the computer must be replaced in order to regain access to the Configuration/Setup Utility program.

## Administrator password control

The Administrator password is set in the Setup Configuration. Refer to "Setup Utility program" on page 14.

## Operating system password

An operating system password is very similar to a power-on password and denies access to the computer by an unauthorized user when the password is activated. The computer is unusable until the password is entered and recognized by the computer.

## Vital product data

Each computer has a unique Vital Product Data (VPD) code stored in the nonvolatile memory on the system board. After you replace the system board, the VPD must be updated. To update the VPD, see "Flash (BIOS/VPD) update procedure" on page 178.

## Management Information Format (MIF)

Management Information Format (MIF) is a file used to maintain a list of the system unit serial number along with all serialized components (for example, system board, riser card, memory, and processor).

At the time of computer manufacture, the EPROM will be loaded with the serial numbers of the system and all major components. The customer will have access to the MIF file via the DMI MIF Browser that is installed with the preload and is also available on the SSCD that is provided with the system.

A company called Retain-a-Group is a central data warehouse offering serial number data management. Retain-a-Group acts as a focal point to law enforcement. The customer has the option to purchase serial number information and services from Retain-a-Group. It is the customer's responsibility to maintain the MIF file and to inform Retain-a-Group of any changes to the file.

Some customers may request their servicers to assist them in maintaining the MIF file when serialized components are replaced during hardware service. This assistance is between the customer and the servicer. The servicer can use the DMI MIF Browser to update the MIF information in the EPROM. It is anticipated that some servicers might charge for this service.



To update the EPROM using the DMI MIF Browser, use the following procedure.

1. Click **Start** from the desktop, then **Programs**.
2. Select **IBM SystemView Agent**
3. Select the **Serial Number Information** icon
4. Click the plus sign to expand.
5. Select the component you want to view or edit.
6. Double click on the component you want to change.
7. Enter new data in the *Value* field, then click **Apply**.

## Alert on LAN

Alert on LAN provides notification of changes in the computer, even when the computer power is turned off. Working with DMI and Wake on LAN<sup>®</sup> technologies, Alert on LAN helps to manage and monitor the hardware and software features of the computer. Alert on LAN generates notifications to the server of these occurrences:

- Computer disconnected from the network
- Computer unplugged from the power outlet
- All POST errors
- Operating system or POST hang condition

Alert on LAN events are configured to be Enabled or Disabled from the LAN server only, and not from the computer. See the LAN administrator for configuration status information.

---

## BIOS levels

An incorrect level of BIOS can cause false errors and unnecessary FRU replacement. Use the following information to determine the current level of BIOS installed in the computer, the latest BIOS available for the computer, and where to obtain the latest level of BIOS.

- Current Level BIOS information
  - Run the Configuration Utility to determine the level of BIOS installed.
- Sources for determining the latest level BIOS available
  1. IBM Home Page  
<http://www.ibm.com/pc/us/>
  2. PC PartnerInfo-Technical Database (CTSTIPS.NSF)
  3. HelpCenter<sup>®</sup>
  4. Levels 1 and 2 Support
  5. RETAIN<sup>®</sup>
- Sources for obtaining the latest level BIOS available
  1. IBM Home Page  
<http://www.ibm.com/pc/us/>
  2. PC PartnerInfo-Technical Database (CTSTIPS.NSF)
  3. HelpCenter
  4. Levels 1 and 2 Support

To update (flash) the BIOS, see “Flash (BIOS/VPD) update procedure”.

---

## Flash (BIOS/VPD) update procedure

**Attention:**

Refer to the information label located inside the system unit cover for any model-specific information.

1. Power-off the computer.
2. Insert the flash update diskette into drive A.
3. Power-on the computer.
4. When the Update Utility appears; select the country/keyboard, then press **Enter**.
5. If the computer serial number was previously recorded, the number is displayed with an option to update it. Press **Y** to update the serial number.
6. Type the 7-digit serial number of the computer you are servicing, then press **Enter**.
7. Follow the instructions on the screen to complete the flash (BIOS/VPD) update procedure.

---

## Flash recovery boot block jumper

**Attention:**

If an interruption occurs during a Flash/BIOS upgrade, the BIOS might be left in an unusable state. The Boot Block jumper enables you to restart the system and recover the BIOS.

To perform a Flash/BIOS recovery using the recovery jumper, use the following procedure.

1. Power-off the computer and remove the cover.
2. Move the system board recovery jumper to the **clear** position. Refer to “Identifying parts on the system board” on page 28 or the label inside the computer for more information.
3. Insert the upgrade diskette into the diskette drive.
4. Power-on the computer. The IBM Logo will appear.
5. When the Flash Update Utility appears, select the country/keyboard, then press **Enter**.
6. If the computer serial number was previously recorded, the number is displayed with an option to update it. Press **Y** to update the serial number.
7. Type the 7-digit serial number of the computer you are servicing, then press **Enter**.
8. Follow the instructions on the screen to complete the flash (BIOS/VPD) update procedure.
9. When you are instructed to reboot the computer, power-off the computer and move the recovery jumper to the **normal** position. Then replace the cover and power-on the computer.

---

## Power management

Power management reduces the power consumption of certain components of the computer such as the system power supply, processor, hard disk drives, and some monitors. Advanced Power Management and Rapid Resume™ Manager are features of some personal computers.

### Automatic configuration and power interface (ACPI) BIOS

Being an ACPI BIOS system, the operating system is allowed to control the power management features of the computer and the setting for Advanced Power Management (APM) BIOS mode are ignored. Not all operating systems support ACPI BIOS mode.

### Advanced Power Management

Energy-saving settings can be viewed and changed by using the Advanced Power Management menu in the Configuration/Setup Utility program.

**Attention:**

If a device, such as a monitor, does not have power-management capabilities, it can be damaged when exposed to a reduced-power state. Before making energy-saving selections for the monitor, check the documentation supplied with the monitor to see if it supports Display Power Management Signaling (DPMS).

### Automatic Hardware Power Management features

Automatic Hardware Power Management can reduce the power states of the computer, processor, and monitor (if the monitor supports DPMS) if they are inactive for a predetermined length of time.

There are three levels of specified time that the computer must be inactive before the power management options that are selected take effect. Select the amount of time that is offered within each level.

<b>Level 1</b>	Set time from 5 minutes to 4 hours.
<b>Level 2</b>	Set time from 10 minutes to 5 hours.
<b>Level 3</b>	Set time from 15 minutes to 6 hours.

At each level, you can define the amount of energy savings by specifying values for the following options.

- **System Power**
  - Select **On** for the computer to remain on.
  - Select **Off** for the computer to shut down.

- **Processor Speed**

Set the microprocessor to be **disabled**, or to run at **1, 10, 25, or 50** percent of its internal clock speed.

- **Display**  
Set display to be disabled or to be reduced at these power states:
  - **Standby:** Screen is blank, but can be restored immediately when any activity is detected.
  - **Suspend:** Monitor uses less power than in Standby mode. Screen image is restored after a few seconds when any activity is detected.
  - **Off:** Monitor power is off. Press Monitor power button to restore power. On some monitors, you might have to depress the power button twice.

## Setting Automatic Hardware Power Management features

1. Start the Configuration/Setup Utility program (see “Setup Utility program” on page 14).
2. Select **Advanced Power Management** from the Configuration/Setup Utility program menu.
3. Select the **APM BIOS Mode** and be sure it is set to **Enabled**. If it is not, press Left Arrow (←) or Right Arrow (→) to change the setting.
4. Select **Automatic Hardware Power Management**.
5. Set **Automatic Hardware Power Management** to **Enabled**.
6. Select values for the three categories of power management (system power, processor speed, and display), as necessary.
7. Set **Hard Disk** to **Enabled** or **Disabled**.  
**Note:** This does not apply to SCSI drives.
8. Press **Esc** twice to return to the Configuration/Setup Utility program menu.
9. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
10. To exit from the Configuration/Setup Utility program, press **Esc** and follow the instructions on the screen.

## Automatic Power-On features

The Automatic Power-On features within the Power Management menu allow you to enable and disable features that turn on the computer automatically.

- **Serial Port A Ring Detect:** With this feature set to **Enabled** and an external modem connected to serial port (COM1), the computer will turn on automatically when a ring is detected on the modem.
- **PCI Modem Ring Detect:** With this feature set to **Enabled**, the computer will turn on automatically when a ring is detected on the internal modem.
- **PCI Wake Up:** This feature allow PCI cards that support this capability to wake the system.
- **Wake Up on Alarm:** You can specify a date and time at which the computer will be turned on automatically. This can be either a single event or a daily event.
- **Wake on LAN:** If the computer has a properly configured token-ring or Ethernet LAN adapter card that is Wake on LAN-enabled and there is remote network management software, you can use the IBM-developed Wake on LAN feature. When you set Wake on LAN to **Enabled**, the computer will turn on when it

receives a specific signal from another computer on the local area network (LAN). For further information, see "Wake on LAN" on page 183.

---

## Network settings

This section applies only to computers that are linked to a network.

The Configuration/Setup Utility program includes settings that can be enabled and disabled to configure the network interface in the computer. These settings are the following:

- Flash over LAN (Update POST/BIOS over Network)
- Wake on LAN

### Flash over LAN (update POST/BIOS over network)

**Note:** For local Flash (BIOS/VPD) update, see “Flash (BIOS/VPD) update procedure” on page 178.

This setting is used to enable or disable the Flash over LAN feature. When the feature is enabled, the system programs, in the computer, can be updated remotely from a network server. If the administrator password is set in the computer, it does not have to be entered by the server.

To access the Flash over LAN setting, use the following procedure.

1. Start the Configuration/Setup Utility program. See “Setup Utility program” on page 14.
2. Select **System Security**.
3. Select **POST/BIOS Update** from the Configuration/Setup Utility program menu.
4. To enable Flash over LAN, select **Enabled**. To disable Flash over LAN, select **Disabled**.
5. Press **Esc** twice to return to the Configuration/Setup Utility program menu.
6. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
7. To exit from the Configuration/Setup Utility program, press **Esc** and follow the instructions on the screen.

## Wake on LAN

This setting is used to enable or disable the IBM-developed

Wake on LAN feature. This feature makes it possible for the computer to be turned on remotely by a network server. Remote network management software must be used in conjunction with this feature.

To access the Wake on LAN setting, use the following procedure.

1. Start the Configuration/Setup Utility program. See “Setup Utility program” on page 14.
2. Select **Advanced Power Management**.
3. Select **Automatic Power On** from the program menu.
4. Select **Wake on LAN** from the *Automatic Power On* menu.
5. To enable Wake on LAN, select **Enabled**. To disable Wake on LAN, select **Disabled**.
6. Press **Esc** until you return to the Configuration/Setup Utility program menu.
7. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
8. To exit from the Configuration/Setup Utility program, press **Esc** and follow the instructions on the screen.





---

## Chapter 9. Related service information

**Note:** The service procedures are designed to help you isolate problems. They are written with the assumption that you have model-specific training on all computers, or that are familiar with the computers, functions, terminology, and service information provided in this manual.

---

### Safety information

The following section contains the safety information that you need to be familiar with before servicing an IBM computer.

#### 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 server/workstation 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 generatorsand 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.

## Safety notices (multi-lingual translations)

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

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

**Important:** All caution and danger statements in this IBM documentation begin with a number. This number is used to cross reference an English caution or danger statement with translated versions of the caution or danger statement in this section.

For example, if a caution statement begins with a number 1, translations for that caution statement appear in this section under statement 1.

Be sure to read all caution and danger statements 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.**

- Statement 4



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

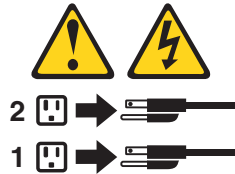
**CAUTION:**  
Use safe practices when lifting.

- 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 lbs.) on top of rack-mounted devices.



### Importante:

Todas as instruções de cuidado e perigo da IBM documentation 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 módulo com uma bateria de lítio, substitua-o apenas pelo mesmo tipo de módulo, 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 ótica, 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 óticos, e evite exposição direta ao raio.

## Instrução 4





≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

**CUIDADO:**

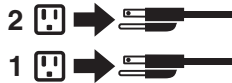
Ao levantar a máquina, faça-o com segurança.

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.



**CUIDADO:**

Instrução 10



**CUIDADO:**



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

**重要:**

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：  
扔入或浸入水中。  
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)

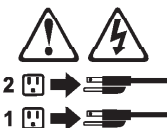
警告：  
抬起时请采用安全操作方法。

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拔风扇电缆。

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，請勿開啓該設備的電源。
- 在安裝及架構之時，若非非常熟悉，在開啓裝置蓋子之前，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，或開啓其蓋子時，請依照下表「連接」及「切斷」電纜線的步驟執行。

#### 連接：

1. 關閉所有開關。
2. 先將所有電纜線上裝置。
3. 將信號電纜上接頭。
4. 再將電源線接上電源插座。
5. 開啓裝置的電源。

#### 切斷：

1. 關閉所有開關。
2. 先自電源插座拔掉電源線。
3. 拔掉接頭上的所有信號電纜。
4. 再拔掉裝置上的所有電纜線。

### 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 °C (212 °F)
- 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：

開啓時會產生雷射輻射。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。

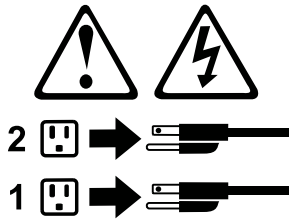
聲明 5



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。



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 IBM documentation 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.



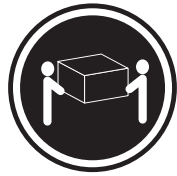
**DANGER**

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 (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

**ATTENTION:**

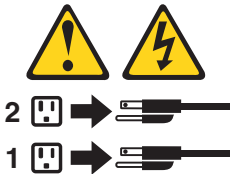
Faites-vous aider pour soulever ce produit.

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.



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 IBM documentation 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 anschließen:	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

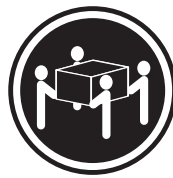




≥18 kg



≥32 kg



≥55 kg

**ACHTUNG:**

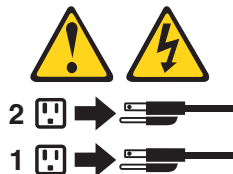
Beim Anheben der Maschine die vorgeschriebenen Sicherheitsbestimmungen beachten.

Hinweis 5



**ACHTUNG:**

Mit dem Betriebsspannungsschalter an der Vorderseite des Servers und dem Betriebsspannungsschalter am Netzteil wird die Stromversorgung für den Server nicht unterbrochen. Der Server könnte auch mehr als ein Netzkabel aufweisen. Um die gesamte Stromversorgung des Servers 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 IBM documentation 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:

Aperto 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:**

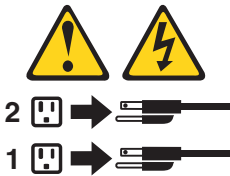
Durante il sollevamento della macchina seguire delle norme di sicurezza.

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 *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, 전하 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.
- 가능한 한 신호 케이블을 한 손으로 연결하거나 끊으십시오.
- 화재, 수해 또는 구조상의 손상이 있을 경우 장비를 켜지 마십시오.
- 설치 및 구성 프로시처에 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:

1. 모든 스위치를 끕니다.
2. 먼저 모든 케이블을 장치에 연결합니다.
3. 신호 케이블을 커넥터에 연결합니다.
4. 콘센트에 전원 코드를 연결합니다.
5. 장치 스위치를 켭니다.

#### 연결을 끊으려면:

1. 모든 스위치를 끕니다.
2. 먼저 콘센트에서 전원 코드를 뽑습니다.
3. 신호 케이블을 커넥터에서 제거합니다.
4. 장치에서 모든 케이블을 제거합니다.

### 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.

다음은 주의하십시오.

- 던지거나 물에 담그지 않도록 하십시오.
- 100°C(212°F) 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 클래스 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:

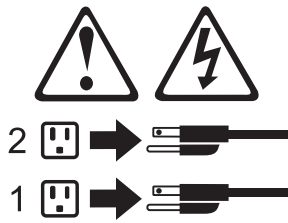
기계를 들 때는 안전하게 들어 올리십시오.

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 있는지 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 precaución de esta IBM documentation empiezan con un número. Dicho número se emplea para establecer una referencia cruzada de una declaración de precaución o peligro en inglés con las versiones traducidas que de dichas declaraciones pueden encontrarse en esta sección.

Por ejemplo, si una declaración de peligro empieza con el número 1, las traducciones de esta declaración de precaución aparecen en esta sección bajo Declaración 1.

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

Declaración 1



**PELIGRO**

La corriente eléctrica de los cables telefónicos, de alimentación y de comunicaciones es perjudicial.

Para evitar una descarga eléctrica:

- No conecte ni desconecte ningún cable ni realice las operaciones de instalación, mantenimiento o reconfiguración de este producto durante una tormenta.
- Conecte cada cable de alimentación a una toma de alimentación eléctrica con conexión a tierra y cableado correctos.
- Conecte a tomas de alimentación 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 señal.
- No encienda nunca un equipo cuando haya riesgos de incendio, de inundación o de daños estructurales.
- Desconecte los cables de alimentación, sistemas de telecomunicaciones, redes y módems conectados antes de abrir las cubiertas del dispositivo a menos que se indique lo contrario en los procedimientos de instalación y configuración.
- Conecte y desconecte los cables tal como se describe en la tabla siguiente cuando desee realizar una operación de instalación, de traslado o de apertura de las cubiertas para este producto o para los dispositivos conectados.

Para la conexión	Para la desconexión
1. APÁGUELO todo.	1. APÁGUELO todo.
2. En primer lugar, conecte los cables a los dispositivos.	2. En primer lugar, retire cada cable de alimentación de la toma de alimentación.
3. Conecte los cables de señal a los conectores.	3. Retire los cables de señal de los conectores.
4. Conecte cada cable de alimentación a la toma de alimentación.	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 módulo que contiene una batería de litio, sustitúyalo únicamente por el mismo tipo de módulo, 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 legislación local.

## Declaración 3



### **PRECAUCIÓN:**

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

- No retire las cubiertas. Si retira las cubiertas del producto láser, puede quedar expuesto a radiación láser perjudicial. Dentro del dispositivo no existe ninguna pieza que requiera mantenimiento.
- El uso de controles o ajustes o la realización de procedimientos que no sean los que se han especificado aquí pueden dar como resultado una exposición 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 radiación láser. No mire fijamente el rayo ni lleve a cabo ningún examen directamente con instrumentos ópticos; evite la exposición directa al rayo.

## Declaración 4





≥18 kg



≥32 kg



≥55 kg

**PRECAUCIÓN:**

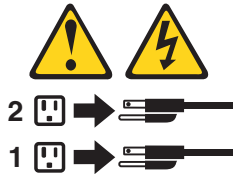
Tome medidas de seguridad al levantar el producto.

Declaración 5



**PRECAUCIÓN:**

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



Declaración 10



**PRECAUCIÓN:**



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

---

## Send us your comments!

We want to know your opinion about this manual (part number 24P2934). Your input will help us to improve our publications.

Please photocopy this survey, complete it, and then fax it to **IBM HMM Survey** at **919-543-8167 (USA)**.

Name: \_\_\_\_\_

Phone number: \_\_\_\_\_

1. Do you like this manual?

Yes     No

\_\_\_\_\_  
\_\_\_\_\_

2. What would you like to see added, changed, or deleted in this manual?

\_\_\_\_\_  
\_\_\_\_\_

3. What is your service experience level?

Less than five years

More than five years

4. Which computers do you service most?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Thank you for your response!**

---

## Problem determination tips

Due to the variety of hardware and software combinations that can be encountered, use the following information to assist you in problem determination. If possible, have this information available when requesting assistance from Service Support and Engineering functions.

- Machine type and model
- Processor or hard disk upgrades
- Failure symptom
  - Do diagnostics fail?
  - What, when, where, single, or multiple systems?
  - Is the failure repeatable?
  - Has this configuration ever worked?
  - If it has been working, what changes were made prior to it failing?
  - Is this the original reported failure?
- Reference/Diagnostics version
  - Type and version level
- Hardware configuration
  - Print (print screen) configuration currently in use
  - BIOS level
- Operating system software
  - Type and version level

**Note:** To eliminate confusion, identical systems are considered identical only if they:

1. Are the exact machine type and models
2. Have the same BIOS level
3. Have the same adapters/attachments in the same locations
4. Have the same address jumpers/terminators/cabling
5. Have the same software versions and levels
6. Have the same Reference/Diagnostics Diskette (version)
7. Have the same configuration options set in the system
8. Have the same setup for the operation system control files

Comparing the configuration and software set-up between "working and non-working" systems will often lead to problem resolution.

---

## Notices

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Subject to IBM's valid intellectual property or other legally protectable rights, any functionally equivalent product, program, or service may be used instead of the IBM product, program, or

service. The evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, are the responsibility of the user.

---

## Trademarks

The following terms are trademarks of the IBM Corporation in the United States, other countries, or both:

Alert on LAN	OS/2 Warp
EtherJet	ServeRAID
e-business logo	ServerGuide
HelpCenter	ServerProven
HelpWare	TechConnect
IBM	Tivoli
OS/2	Update Connector
NetView	Wake on LAN

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

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

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in the United States, other countries, or both.

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.





Part Number: 24P2934  
File Number:



24P2934

