

IBM



# Hardware Maintenance Manual

## Types 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, 6348





IBM



# Hardware Maintenance Manual

## Types 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, 6348

**Note:**

Before using this information and the product it supports, be sure to read the general information under "Notices" on page 235.

**First Edition (July 2001)**

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## About this manual

This manual contains service and reference information for the IBM® computer Types 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6436, 6347, 6348.

This manual is divided into product service sections (by machine chassis) 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 notices (multi-lingual translations)" on page 205 and "Safety information" on page 201.

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## 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.

**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.

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## 注意和危险声明 (简体中文)

### 重要事项:

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

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

在按说明执行任何操作前，请务必阅读所有注意和危险声明。

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## 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。

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## Chapter 1. General Checkout

This general checkout procedure is for Types 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, and 6348 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 12.

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 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, and 6348 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 10).
  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 193.
- 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 71.
- If the computer hangs and no error is displayed, go to "Undetermined problems" on page 109.
- 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 10)
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 12.

- If you receive an error, replace the part that the diagnostic program calls out or go to "Symptom-to-FRU Index" on page 71.
- If the test stops and you cannot continue, replace the last device tested.

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## Chapter 2. General Information

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### Features

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

#### Microprocessor

Intel® Pentium™ III with 256 KB of internal L2 cache memory and MMX™ technology or an Intel Celeron™ with 128 KB of internal L2 cache memory and MMX technology

#### Memory

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

#### Internal drives

- 3.5-inch, 1.44 MB diskette drive (some models)
- Internal hard disk drive
- EIDE CD drive or DVD drive (some models)

#### Video controller

Dynamic video memory technology

#### 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
- Modem (some models)

#### System management features

- Remote Program Load (RPL) and Dynamic Host Configuration Protocol (DHCP)
- Wake on LAN
- Wake on Ring (in the Configuration/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
- Ethernet connector
- Monitor connector
- Three audio connectors (line in, line out, and microphone)
- Front connectors on some small desktops (S/PDIF, microphone, and headphone)
- Front IEEE 1394 connector (some small desktop models)

### **Expansion**

- Drive bays
  - Small desktop model: Three
  - Desktop model: Four
  - Microtower model: Four
- 32-bit PCI expansion slots
  - Small desktop model: Three (expansion cards must be low profile)
  - Desktop model: Three
  - Microtower model: Three

### **Power**

- 95 W, 120 W, or 155 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**

- Power-on 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® Millennium Edition (Me)
- Microsoft Windows 2000 Professional
- Microsoft Windows 98 Second Edition

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

- Microsoft Windows 95

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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.

- Microsoft Windows NT® Workstation Version 4.0
- Microsoft Windows XP Personal

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## **Specifications**

This section lists the physical specifications for your computer.

## Physical specification — small desktop model

|   |  |
|---|--|
| <p><b>Dimensions</b></p> <p>Height: 88 mm (3.4 in.)</p> <p>Width: 305 mm (12.0 in.)</p> <p>Depth: 380 mm (14.9 in.)</p> <p><b>Weight</b></p> <p>Minimum configuration as shipped: 8.5 kg (18 lb)</p> <p>Maximum configuration: 8.6 kg (19 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: 205 Btu/hr (60 watts)</p> <p>Maximum configuration: 375 Btu/hr (120 watts)</p> <p><b>Airflow</b></p> <p>Approximately 0.25 cubic meters per minute (9 cubic feet per minute) 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 specification — 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: 14.0 kg (30 lb)</p> <p>Maximum configuration: 17.3 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: 240 Btu/hr (75 watts)</p> <p>Maximum configuration: 940 Btu/hr (160 watts)</p> <p><b>Airflow</b></p> <p>Approximately 0.34 cubic meters per minute (12 cubic feet per minute) 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: 192 mm (7.6 in.)</p> <p>Width: 385 mm (15.2 in.)</p> <p>Depth: 388 mm (15.3 in.)</p> <p><b>Weight</b></p> <p>Minimum configuration as shipped: 9.4 kg (20 lb)</p> <p>Maximum configuration: 11.3 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: 240 Btu/hr (75 watts)</p> <p>Maximum configuration: 705 Btu/hr (160 watts)</p> <p><b>Airflow</b></p> <p>Approximately 0.5 cubic meters per minute (18 cubic feet per minute) 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> |
|--|--|



---

## Chapter 3. Diagnostics

|                                     |    |  |    |
|-------------------------------------|----|--|----|
| Setup Utility program.....          | 10 | When to use the Low-Level Format program . . . | 17 |
| Product Recovery Program menu ..... | 11 | Preparing the hard disk drive for use .....    | 17 |
| Diagnostics.....                    | 12 |  |    |

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 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, 6348 machines have recovery and diagnostics programs on a separate hard drive partition. The Enhanced Diagnostics diskette is not shipped with the machine or the HMM. To download the Diagnostics program, see “Diagnostics program download” on page 12.

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.

---

## 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 71.

### 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 16.

## 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.

## Module test menu/hardware configuration report

Depending on the diagnostics version level you are using, the installed devices in the computer are verified in one of two ways.

1. At the start of the diagnostic tests, the Module Test Menu is displayed. Normally, all installed devices in the computer are highlighted on the menu.
2. At the start of the diagnostic tests, the main menu appears. From this menu, select **System Info**, then select **Hardware Configuration** from the next menu. Normally, all installed devices in the computer are highlighted on this report.

If an installed device is not recognized by the diagnostics program, then review the following:

- The diagnostic code for the device is not in the Diagnostics program. Run the diagnostics provided with that device.
- The missing device is defective or it requires an additional diskette or service manual.
- An unrecognizable device is installed.
- A defective device is causing another device not to be recognized.
- The SCSI controller failed (on the system board or SCSI adapter).
- Use the procedure in "Undetermined problems" on page 109 to find the problem.

If a device is missing from the list, replace it. If this does not correct the problem, use the procedure in "Undetermined problems" on page 109.

## Memory Diagnostic tests

The Memory Diagnostics provide the capability to identify a particular RIMM memory module which fails during testing. Use the System Board Layout section to reference the memory sockets, or select **F1** *twice* to load the Diagnostics online manual and select "SIMM/DIMM/RIMM Locator".

Follow the steps below to locate the Memory Diagnostic tests options.

1. Select the DIAGNOSTICS option on the toolbar and press **Enter**.
2. Highlight either the *Memory Test-Full* or *Memory Test-Quick* option and press **Enter**.

- **Memory Test-Full**

The full memory test will take about 80 seconds per MB of memory and will detect marginal, intermittent, and solid (stuck) memory failures.

- **Memory Test-Quick**

The quick memory test will take about 20 seconds per MB of memory and will detect solid (stuck) memory failures only.

**Notes:**

- Either level of memory testing can be performed on all memory or a single RIMM socket.
- RIMM memory requires that all memory slots be filled, either with a RIMM or a continuity module (C-RIMM).

## Alert-On LAN™ test

The Alert On LAN test does the following:

- Determines if Alert On LAN is supported on the system.
- Checks the revision ID register.
- Verifies the EEPROM checksum.
- Validates that a software alert can be sent.

## Asset ID™ test

The Asset ID test does the following:

- Determines if Asset ID is supported on the system.
- Verifies the EEPROM areas.
- Performs an antenna detection test.

## 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 74 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.

## Iomega Zip drive test

Use the Iomega Zip Drive Test to test the Zip drive and the drive interface. The test takes about 20 seconds to run.

The default tests the following:

- Controller
- Max Seek (50 times)
- Random Seek (300 sectors)

## 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.



---

## When to use the Low-Level Format program

**Notes:**

1. The low-level format is not available on all diagnostic diskettes.
2. Before formatting the hard disk drive, make a backup copy of the files on the drive to be formatted.

Use the Low-Level Format program in the following situations:

- When you are installing software that requires a low-level format.
- When you get recurring messages from the test programs directing you to run the Low-Level Format program on the hard disk.
- As a last resort before replacing a hard disk drive.

---

## Preparing the hard disk drive for use

When the Low-Level Format program is finished, restore to the hard disk all the files that you previously backed up.

1. Partition the remainder of the hard disk for the operating system. (The commands vary with the operating system. Refer to the operating system manual for instructions.)
2. Format the hard disk using the operating system. (The commands vary with the operating system. Refer to the operating system manual for instructions.)
3. Install the operating system.

You are now ready to restore the files.



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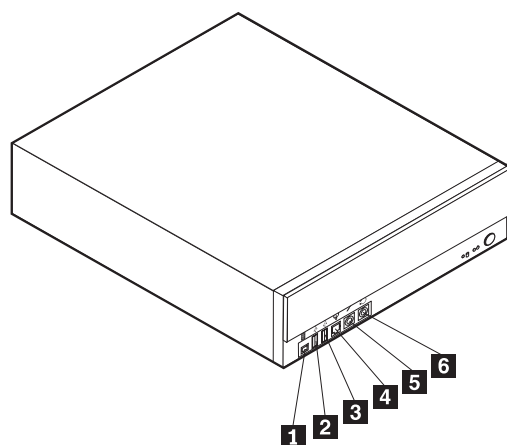
## Chapter 4. Installing Options

|  |    |  |    |
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| Locating components - desktop model . . . . .                                | 35 | Installing a drive. . . . .  | 53 |
| Identifying parts on the system board - desktop model . . . . .              | 35 | To connect the first IDE CD drive or DVD drive. . . . .                    | 55 |
| Installing memory - desktop model. . . . .                                   | 36 | To connect an additional IDE CD drive or DVD drive . . . . .               | 55 |
| Installing DIMMs . . . . .   | 36 | To connect an additional IDE hard disk drive . . . . .                     | 55 |
| Installing adapters - desktop model. . . . .                                 | 37 | Installing a Rope Clip - microtower model . . . . .                        | 55 |
| Installing internal drives - desktop model . . . . .                         | 39 | Replacing the cover and connecting the cables - microtower model . . . . . | 56 |
| Drive specifications. . . . .  | 39 |  |    |

---

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

The following illustrations show the location of the connectors on the front of the small desktop computers.



**1** IEEE 1394 connector (some models)

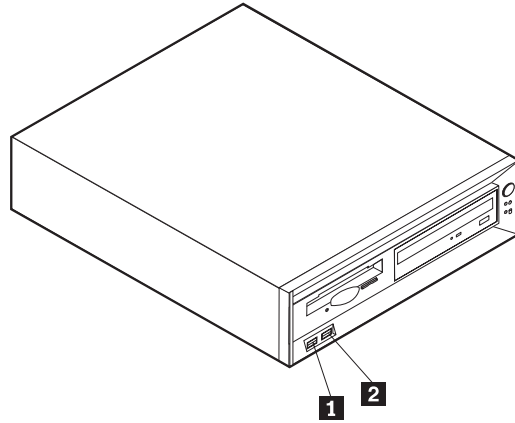
**4** S/PDIF connector

**2** Front USB connector

**3** Front USB connector

**5** Microphone connector

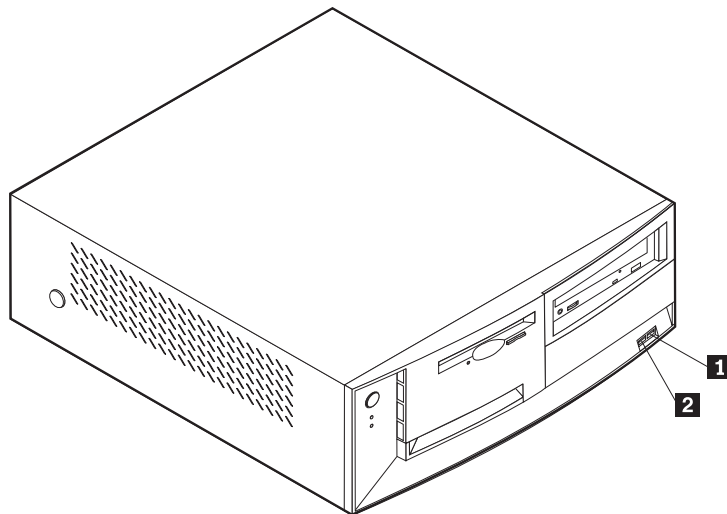
**6** Headphone connector



**1** Front USB connector

**2** Front USB connector

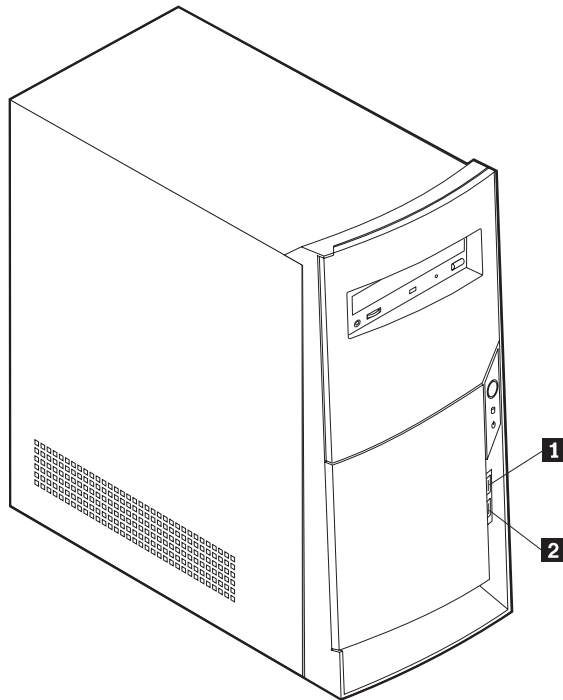
The following illustration shows the location of the connectors on the front of the desktop computer.



**1** Front USB connector

**2** Front USB connector

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



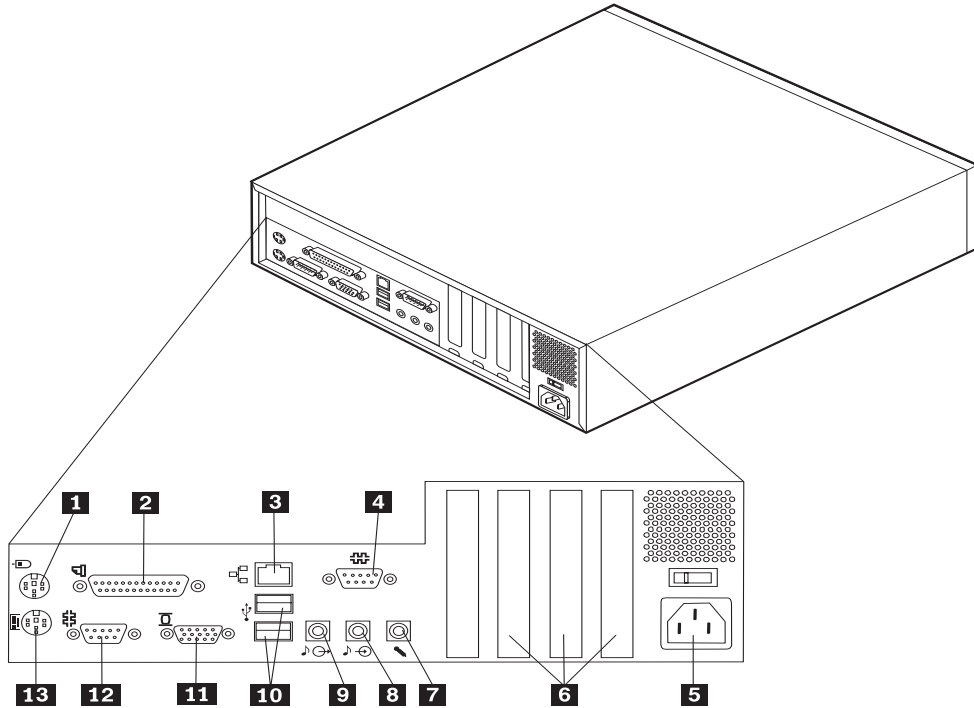
**1** Front USB connector

**2** Front USB connector

---

## Locating the connectors on the rear of your computer

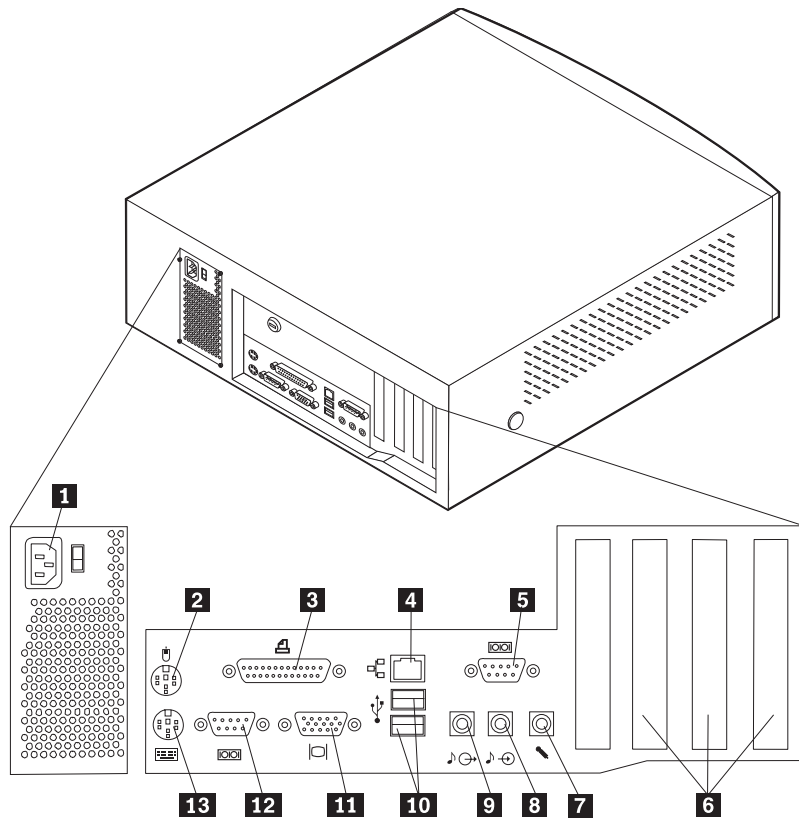
The following illustration shows the location of the connectors on the rear of the small desktop model computer.



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

**Note:** The connectors on the rear of the computer have color-coded icons to help you to determine where to connect the cables on your computer.

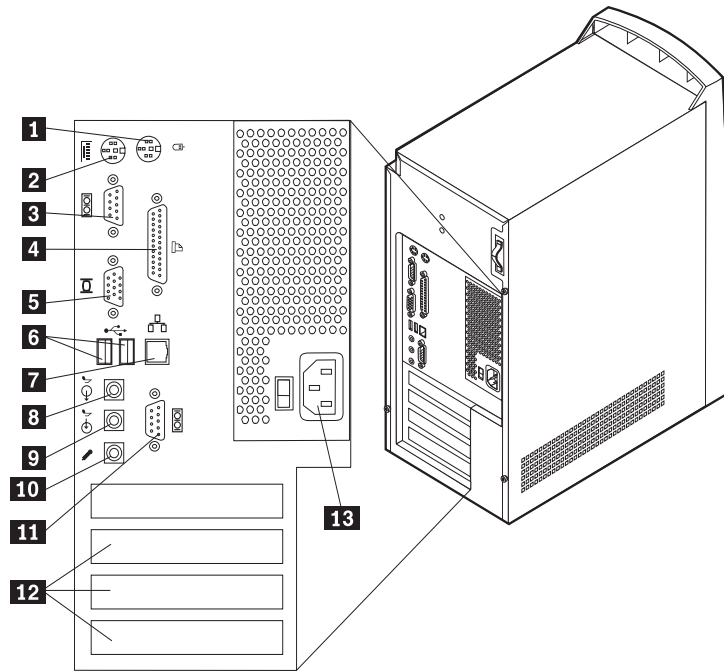
The following illustration shows the location of the connectors on the rear of the desktop model computer.



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

**Note:** The connectors on the rear of the computer have color-coded icons to help you to determine where to connect the cables on your computer.

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



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

**Note:** The connectors on the rear of the computer have color-coded icons to help you to determine where to connect the cables on your computer.

| Connector          | Description   |
|--------------------|---|
| Mouse connector    | Used to attach a mouse, trackball, or other pointing device that uses a PS/2 mouse connector. |
| Keyboard connector | Used to attach a keyboard that uses a PS/2 keyboard connector.                                |



|                          |   |
|--------------------------|---|
| Serial connectors        | Used to attach an external modem, serial printer, or other device that uses a 9-pin serial connector.   |
| Parallel connector       | Used to attach a parallel printer, parallel scanner, or any other device that requires a 25-pin parallel connection.  |
| 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.   |
| Ethernet connector       | Used to attach an Ethernet cable that uses an Ethernet connector.<br><b>Note:</b> To operate the computer within FCC Class A or Class B limits, use a category 5 Ethernet cable.  |
| 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 (greater than 18 ohms), 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.                              |
| Microphone connector     | Used to attach a microphone to your computer when you want to record voice or other sounds on the hard disk using speech-recognition software.  |

## Home PNA network adapter

Some models might have a Home Phonenumber Network Alliance network adapter with an integrated V.90 modem. In addition to its modem function, this adapter enables you to use the telephone wiring in your home for peer-to-peer networking. To use the Home PNA Network adapter, you must install the Intel AnyPoint™ software from the *Software Selections CD*. Each computer on the home PNA network must have a PNA network adapter and the associated software installed. For information about using the PNA network adapter or the AnyPoint software, refer to the AnyPoint documentation (provided with models that come with PNA network adapters only).

Connect each computer on a home PNA network directly to a telephone-line wall connector. If you have more computers than telephone-line wall connectors in a room, use a telephone splitter at the wall connector.

Actual network transfer speeds depend on many factors, such as home wiring configuration, and are often less than the maximum possible.

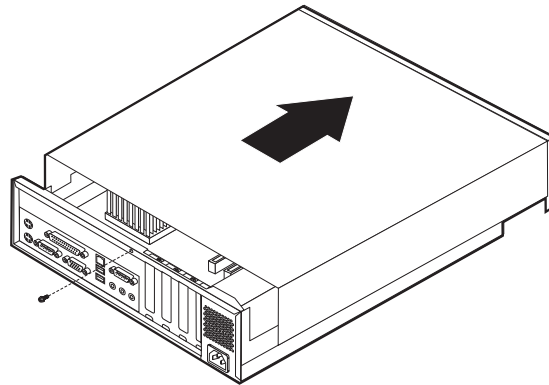
Some Internet service provider (ISP) accounts do not allow Internet sharing or they charge extra for it. Your ISP access agreement might require you to have more than one account. Check your ISP access agreement for more information.

---

## Removing the cover - small desktop model

To remove the cover:

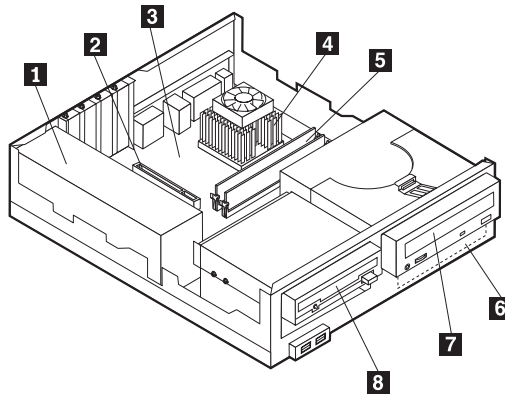
1. Shut down your operating system, remove any media (diskettes, CDs, or tapes) from the drives, and turn off all attached devices and the computer.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer.
4. Remove the screw that secures the top cover at the rear of the system unit.
5. Hold both sides of the system unit top cover and push it forward. Lift the top cover up to remove it completely.



---

## Locating components - small desktop model

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



**1** Power supply

**2** PCI slot

**3** System board

**4** Microprocessor and heat sink

**5** DIMM

**6** Hard disk drive

**7** CD drive or DVD drive

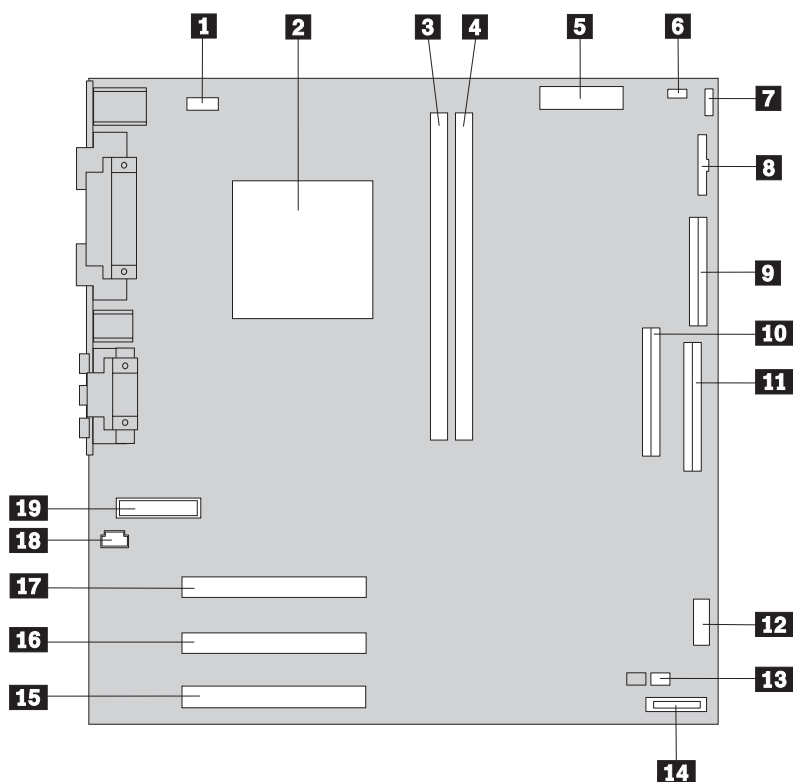
**8** Diskette drive

---

## Identifying parts on the system board - small desktop model

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> Fan connector            | <b>11</b> Primary IDE connector           |
| <b>2</b> Microprocessor           | <b>12</b> Front USB connector             |
| <b>3</b> DIMM 1                   | <b>13</b> Clear CMOS/BIOS recovery jumper |
| <b>4</b> DIMM 2                   | <b>14</b> Battery                         |
| <b>5</b> Power connector          | <b>15</b> PCI slot                        |
| <b>6</b> Power connector          | <b>16</b> PCI slot                        |
| <b>7</b> Hard disk LED connector  | <b>17</b> PCI slot                        |
| <b>8</b> Power LED connector      | <b>18</b> CD-ROM audio connector          |
| <b>9</b> Diskette connector       | <b>19</b> Front panel connector           |
| <b>10</b> Secondary IDE connector |   |

---

## Installing memory - small desktop model

Your computer has two connectors for installing dual in-line memory modules (DIMMs) that provide up to a maximum of 512 MB of system memory.

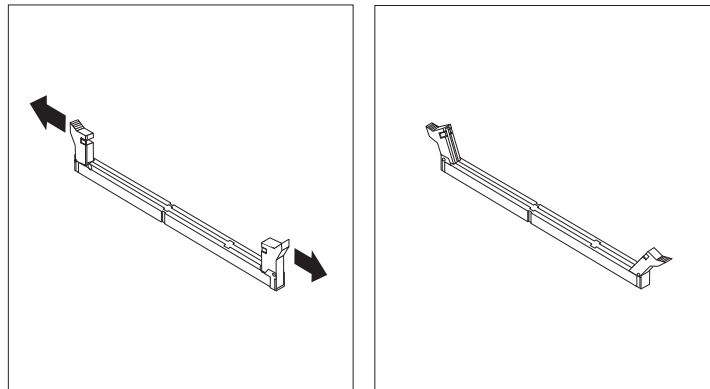
### Installing DIMMs

When installing DIMMs, the following rules apply:

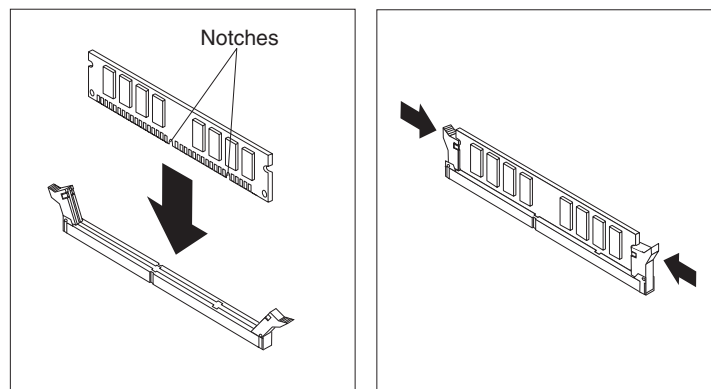
- Fill each system memory connector sequentially, starting at DIMM 1
- Use 3.3 V, synchronous, 168-pin, unbuffered, 133 MHz, nonparity, synchronous dynamic random access memory (SDRAM)
- Use 32 MB, 64 MB, 128 MB, or 256 MB DIMMs in any combination
- DIMM heights of 38.1 mm (1.5 inches)

To install a DIMM:

1. Remove the cover. See “Removing the cover - small desktop model” on page 26.
2. To locate the DIMM connectors. See “Identifying parts on the system board - small desktop model” on page 27.
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:**

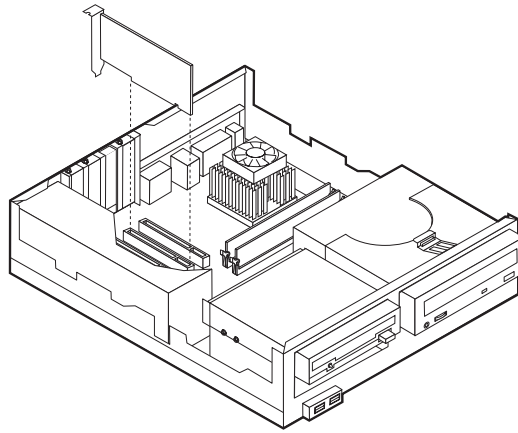
- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables - small desktop model” on page 33.

## Installing adapters - small desktop model

This section provides information and instructions for installing and removing adapters. Your computer has three expansion slots for low profile peripheral component interconnect (PCI) adapters.

To install an adapter:

1. Remove the cover. See “Removing the cover - small desktop model” on page 26.
2. Remove the slot screw and slot cover for the appropriate expansion slot.



3. Install the adapter and insert the retaining screw.

**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 - small desktop model” on page 33.

---

## Installing internal drives - small desktop model

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 in 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.

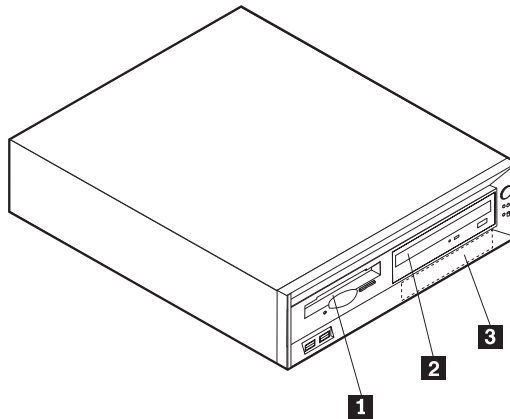
### Drive specifications

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: 25.4 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: 12.7 mm (0.5 in.) | 3.5-inch hard disk drive (preinstalled)               |

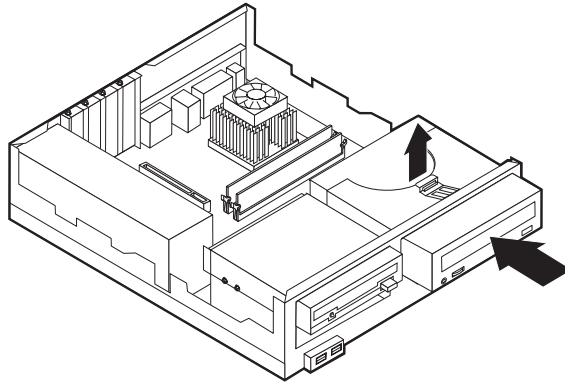
**Notes:**

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 1 or 2.

## Installing a drive

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

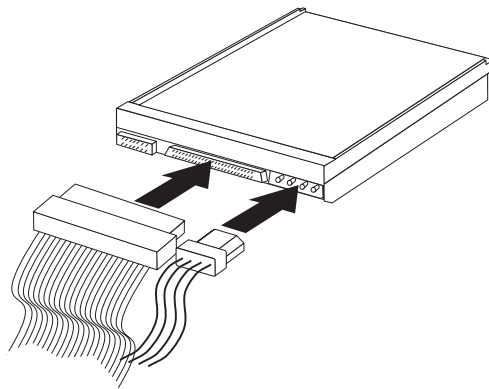
1. Remove the cover (see “Removing the cover - small desktop model” on page 26).
2. If you are installing a drive with removable media, insert a flat-blade screwdriver into one of the slots on the static shield in the drive bay into which you installed the drive and gently pry the static shield loose from the drive bay.
3. 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.
4. Lift the latch and remove the drive mounting tray.
5. Install the drive into the bay. Align the screw holes and insert the four screws.
6. Slide the drive cage halfway into the mounting tray.



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. You might also have an audio cable to connect.

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 and the CD-ROM audio connector on the system board. See "Identifying parts on the system board - small desktop model" on page 27.
- 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. If you have a CD-ROM drive audio cable, connect it to the drive and the system board.
9. Slide the drive cage in and engage the latch.
10. If the drive you installed is a removable-media drive, remove the bay panel from the front bezel.

**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 - small desktop model" on page 33.



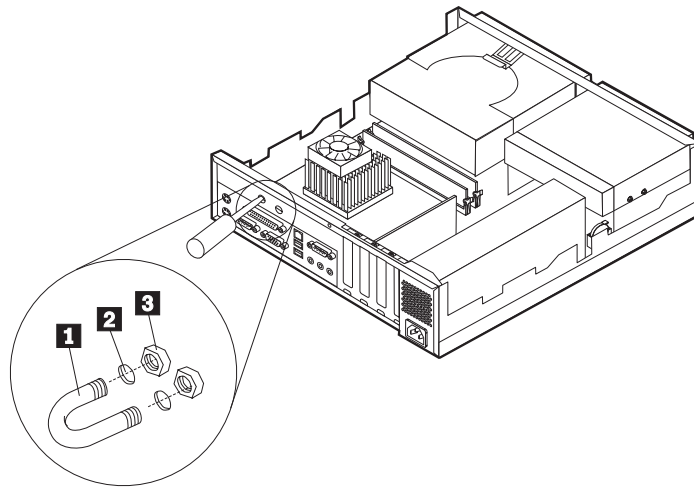
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## Installing a Rope Clip - small desktop model

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 - small desktop model” 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 - small desktop model”.
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.

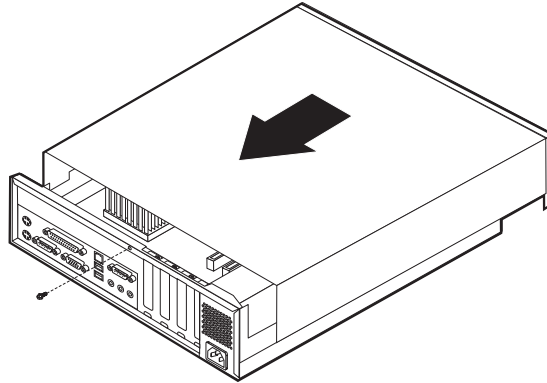
---

## Replacing the cover and connecting the cables - small desktop model

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 Configuration/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. Place the cover over the computer and slide it to the rear until it is fully closed. Secure the cover with the screw.



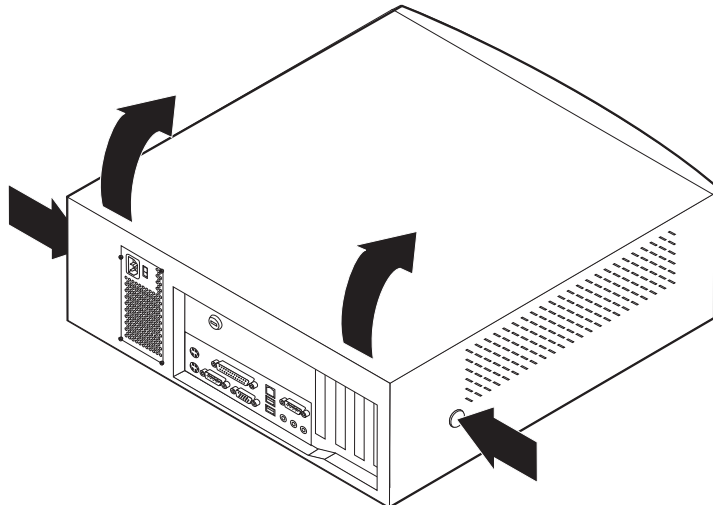
4. Reconnect the external cables and cords to the computer.
5. To update the configuration, see “Module test menu/hardware configuration report” on page 13.

---

## Removing the cover - desktop model

To remove the cover:

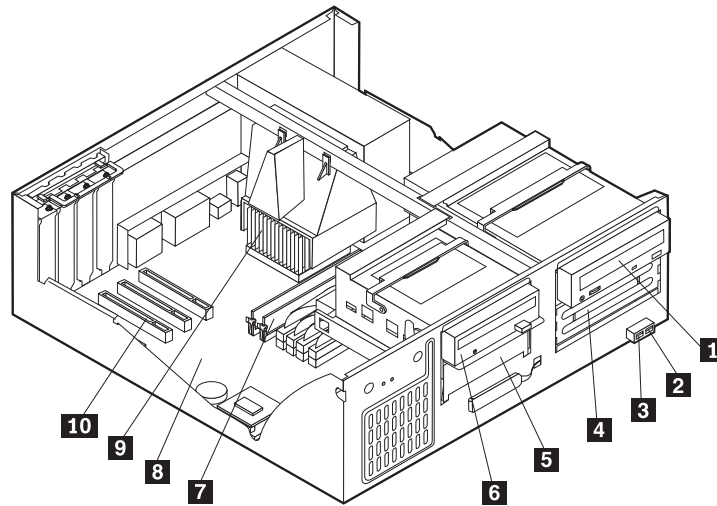
1. Shut down your operating system, remove any media (diskettes, CDs, or tapes) from the drives, and turn off all attached devices and the computer.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, 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 - desktop model

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



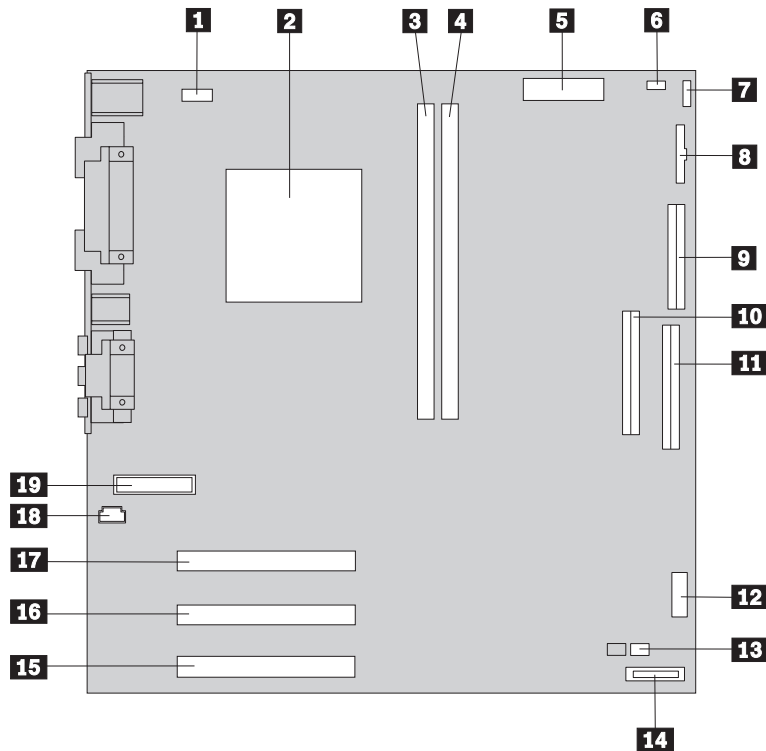
- |                              |                                       |
|------------------------------|---------------------------------------|
| <b>1</b> CD-ROM drive        | <b>6</b> Diskette drive               |
| <b>2</b> Front USB connector | <b>7</b> DIMM                         |
| <b>3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

---

## Identifying parts on the system board - desktop model

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> Fan connector            | <b>11</b> Primary IDE connector           |
| <b>2</b> Microprocessor           | <b>12</b> Front USB connector             |
| <b>3</b> DIMM 1                   | <b>13</b> Clear CMOS/BIOS recovery jumper |
| <b>4</b> DIMM 2                   | <b>14</b> Battery                         |
| <b>5</b> Power connector          | <b>15</b> PCI slot                        |
| <b>6</b> Power connector          | <b>16</b> PCI slot                        |
| <b>7</b> Hard disk LED connector  | <b>17</b> PCI slot                        |
| <b>8</b> Power LED connector      | <b>18</b> CD-ROM audio connector          |
| <b>9</b> Diskette connector       | <b>19</b> Front panel connector           |
| <b>10</b> Secondary IDE connector |   |

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## Installing memory - desktop model

Your computer has two connectors for installing dual in-line memory modules (DIMMs) that provide up to a maximum of 512 MB of system memory.

### Installing DIMMs

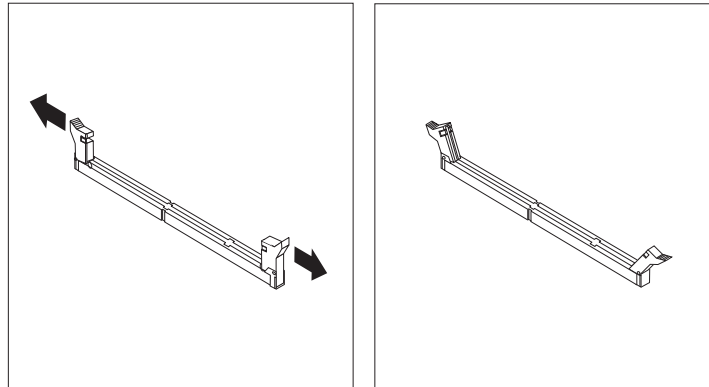
When installing DIMMs, the following rules apply:

- Fill each system memory connector sequentially, starting at DIMM 1

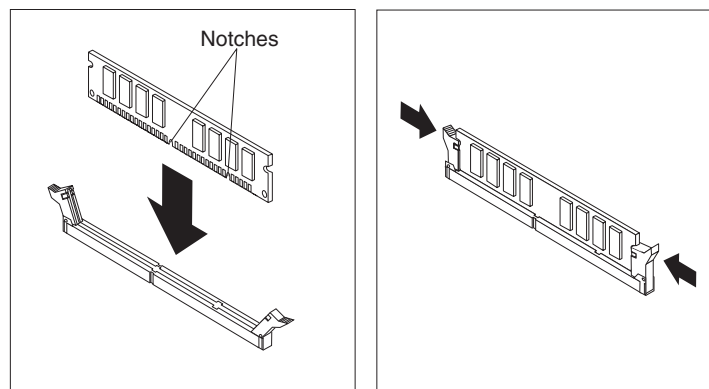
- Use 3.3 V, synchronous, 168-pin, unbuffered, 133 MHz nonparity synchronous dynamic random access memory (SDRAM)
- Use 32 MB, 64 MB, 128 MB, or 256 MB DIMMs in any combination
- DIMM heights of 38.1 mm (1.5 inches)

To install a DIMM:

1. Remove the cover. See “Removing the cover - desktop model” on page 34.
2. To locate the DIMM connectors. See “Identifying parts on the system board - desktop model” on page 35.
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:**

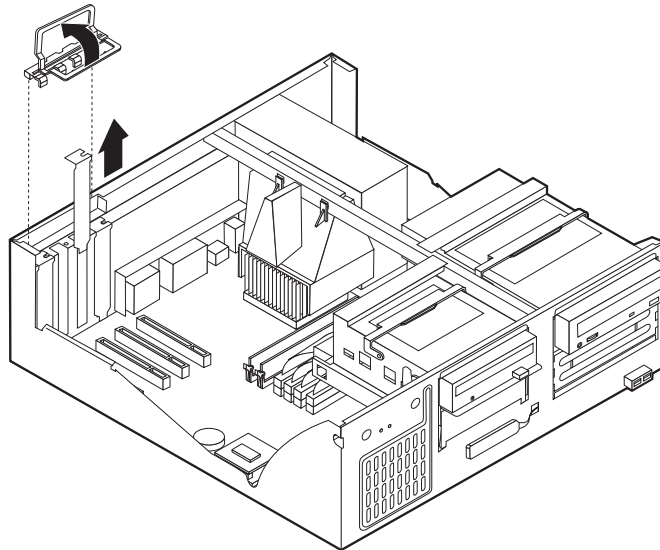
- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables - desktop model” on page 44.

## Installing adapters - desktop model

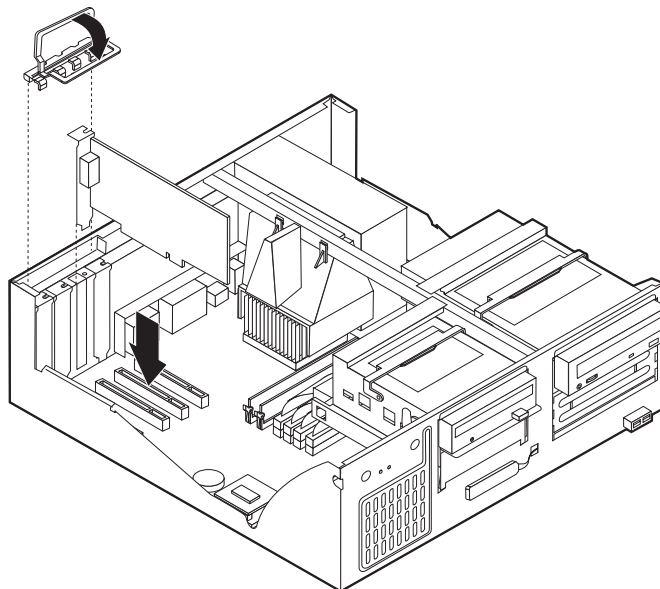
This section provides information and instructions for installing and removing adapters. Your computer has three expansion slots for peripheral component interconnect (PCI) adapters. You can install an adapter up to 330 mm (13 inches) long.

To install an adapter:

1. Remove the cover. See “Removing the cover - desktop model” on page 34.
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 - desktop model” on page 44.

---

## Installing internal drives - desktop model

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.

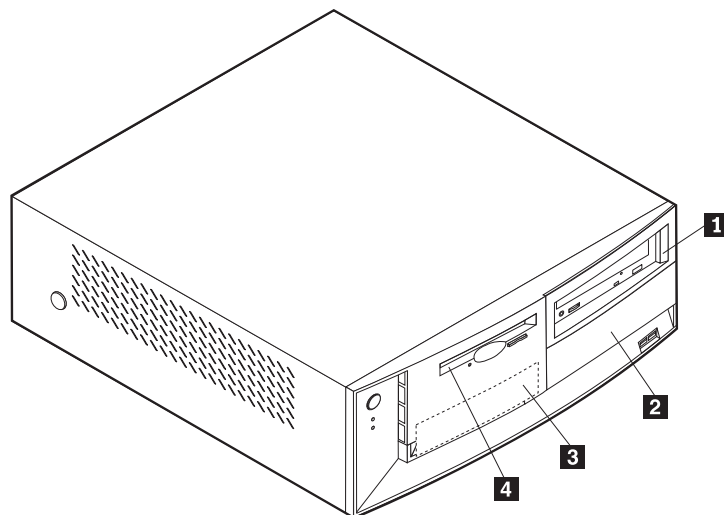
### Drive specifications

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)<br>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<br>3.5-inch hard disk drive (requires a mounting bracket)<br>CD-ROM drive<br>DVD-ROM drive |
| <b>3</b> | Bay 3 - Max Height: 25.4 mm (1.0 in.) | 3.5-inch hard disk drive (preinstalled)  |
| <b>4</b> | Bay 4 - Max Height: 25.4 mm (1.0 in.) | 3.5-inch diskette drive (preinstalled)   |

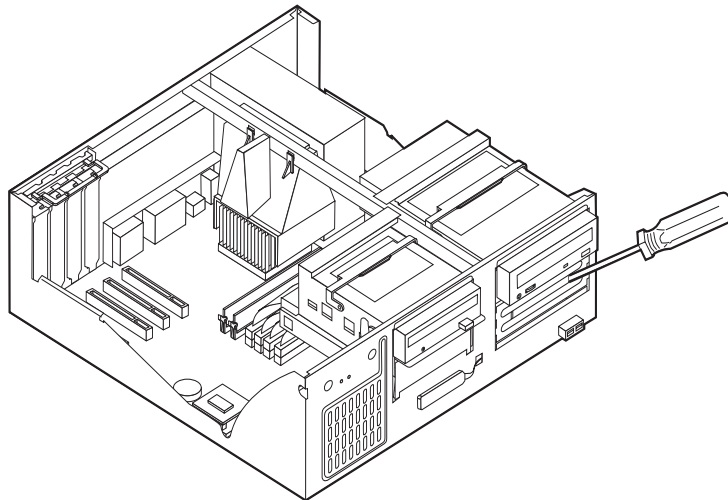
**Notes:**

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

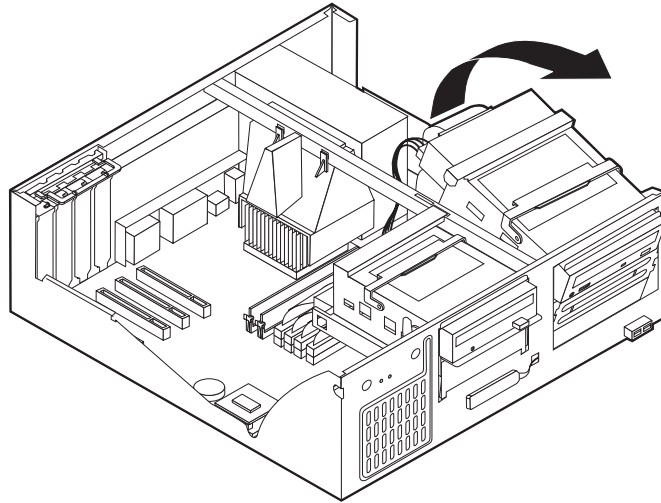
To install an internal drive, follow these steps.

1. Remove the cover. See "Removing the cover - desktop model" on page 34.
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 installed is a removable-media drive, remove the bay panel from the front bezel.
4. Remove the metal shield from the drive bay by inserting a flat-blade screwdriver into one of the slots and gently pry it loose.



5. Pivot the drive bay latch handle toward the front of the computer and pivot the drive bay cage toward the front of the computer until the drive cage latch catches to the chassis.

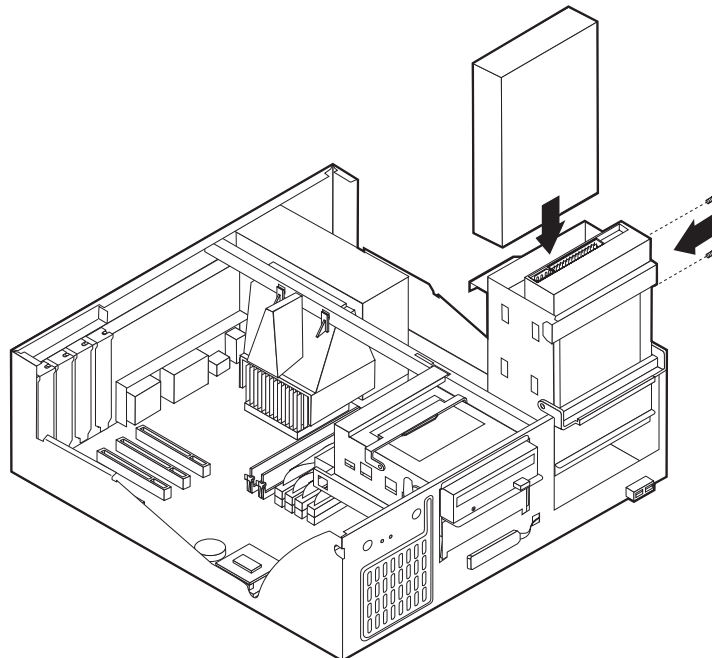




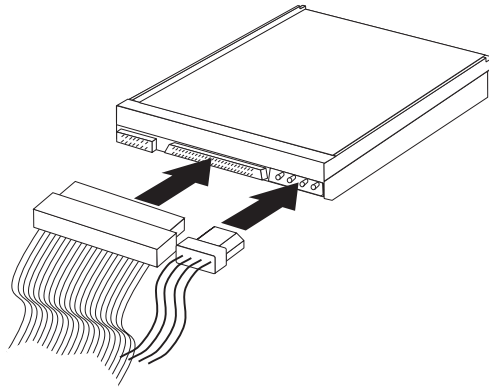
6. Make sure the drive that you are installing is set correctly as either a master or a slave device.
  - If it is the first CD drive or DVD drive, set as a master device.
  - If it is an additional CD drive or DVD drive, set as a slave device.
  - If it is a hard disk drive, set as a slave device.

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

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. You might also have an audio cable to connect.



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 and CD-ROM audio connector on the system board. See "Identifying parts on the system board - desktop model" on page 35.
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 drive audio cable, connect it to the drive and the system board.

### **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 - desktop model" on page 35.
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. You will have to obtain a three-connector, ATA-100 compatible signal cable to connect your new hard disk.
2. Remove the two-connector cable from the hard disk drive.
3. 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 - desktop model" on page 35.
4. Connect the extra connector in the signal cable to the new hard disk drive.
5. Your computer has extra power connectors for additional drives. Connect a power connector to the drive.

#### What to do next

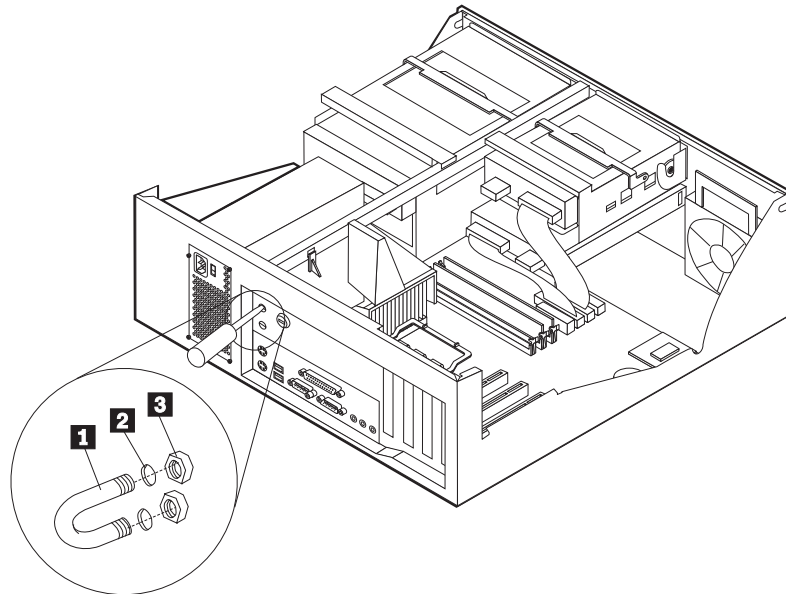
- To work with another option, go to the appropriate section.
- To complete the installation, go to “Replacing the cover and connecting the cables - desktop model” on page 44.

## Installing a Rope Clip - desktop model

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 - desktop model” on page 34.
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 - desktop model” on page 44.
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.

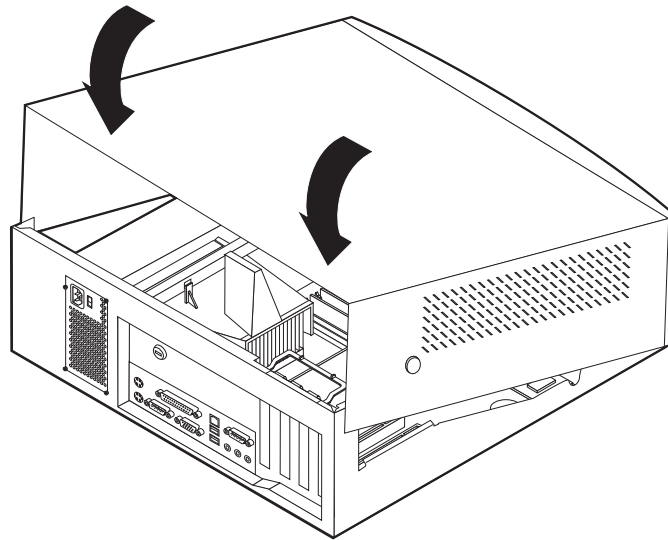
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## Replacing the cover and connecting the cables - desktop model

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 Configuration/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 the cover down over the computer until the cover snaps into place.



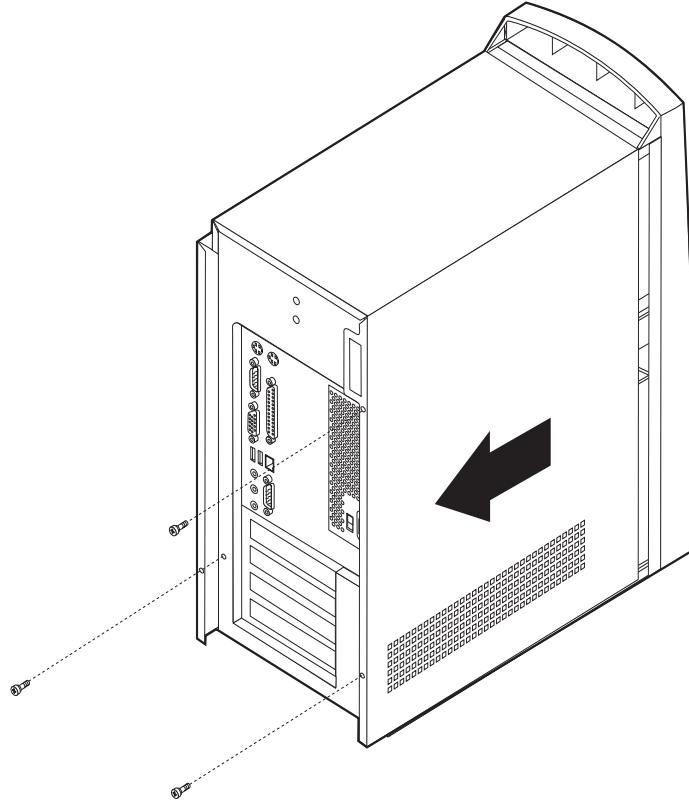
4. Reconnect the external cables and cords to the computer.
5. To update the configuration, see "Module test menu/hardware configuration report" on page 13.

---

## Removing the cover - microtower model

To remove the cover:

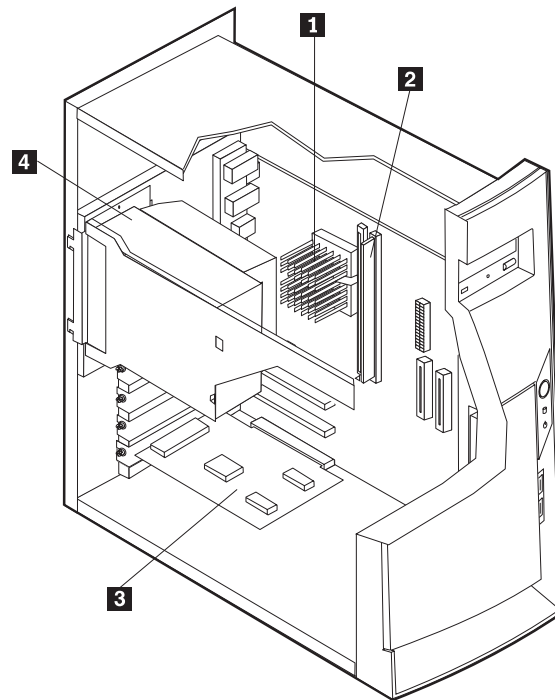
1. Shut down your operating system, remove any media (diskettes, CDs, or tapes) from the drives, and turn off all attached devices and the computer.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables,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



---

## Locating components - microtower model

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



**1** Microprocessor and heat sink

**2** DIMM

**3** PCI adapter

**4** Power supply

---

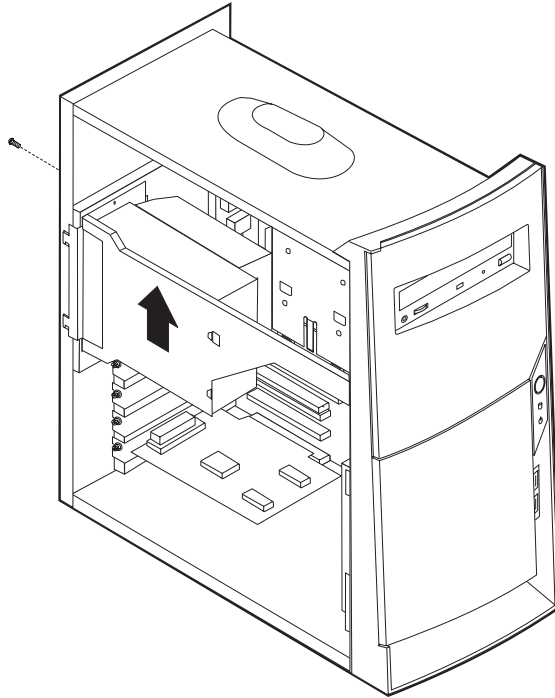
## Moving the power supply - microtower model

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.

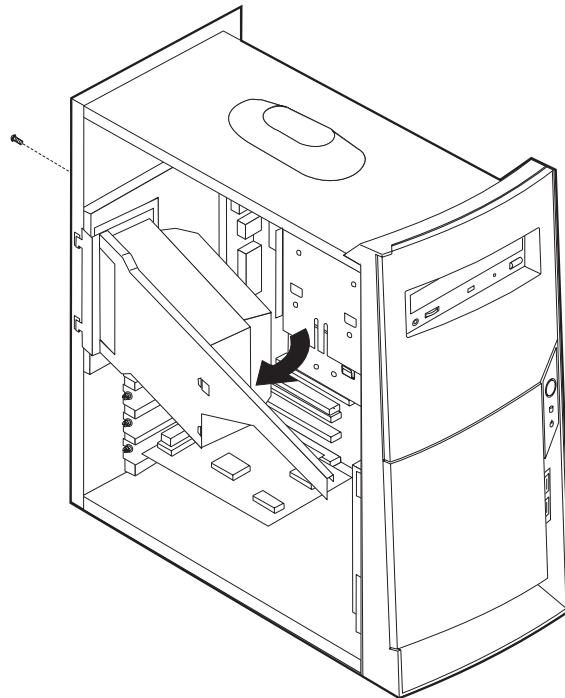
### **DANGER**

**Do not detach the power supply bracket from the power supply or remove any of the power supply screws.**

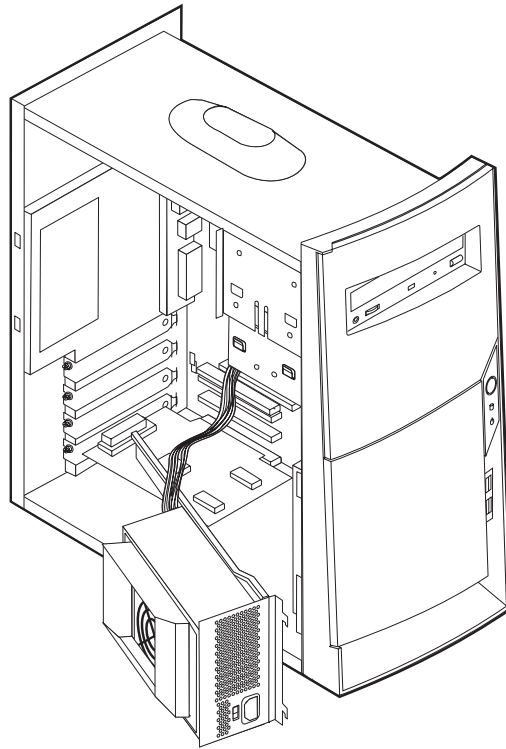
1. Remove the thumbscrew securing the power supply to the rear of the chassis.
2. Push the metal tab and slide the power supply unit upward.



3. Rotate the power supply outward as shown.



4. Remove the power supply and carefully lay it to the side.



5. To replace the power supply, reverse these steps.

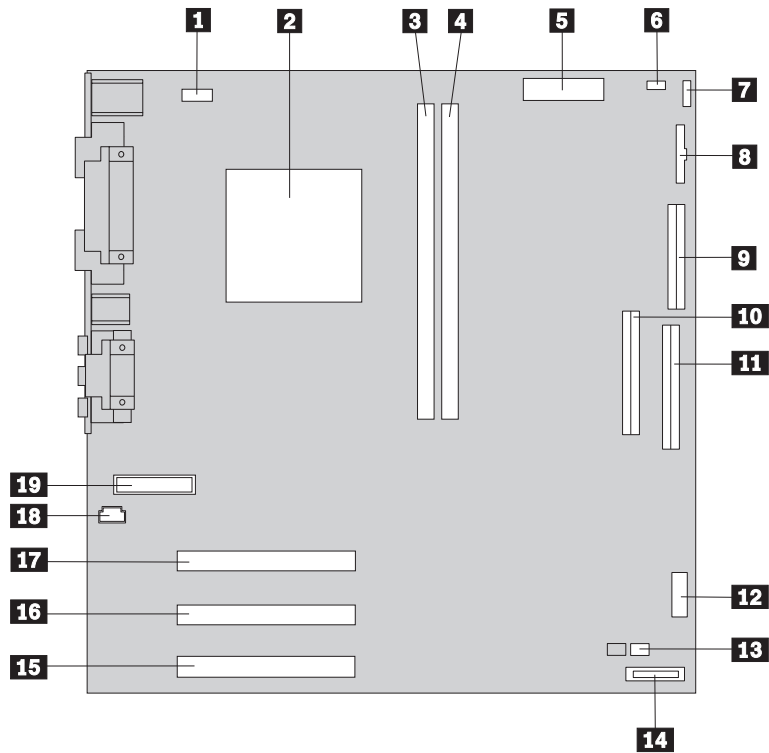
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## Identifying parts on the system board - microtower model

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> Fan connector            | <b>11</b> Primary IDE connector           |
| <b>2</b> Microprocessor           | <b>12</b> Front USB connector             |
| <b>3</b> DIMM 1                   | <b>13</b> Clear CMOS/BIOS recovery jumper |
| <b>4</b> DIMM 2                   | <b>14</b> Battery                         |
| <b>5</b> Power connector          | <b>15</b> PCI slot                        |
| <b>6</b> Power connector          | <b>16</b> PCI slot                        |
| <b>7</b> Hard disk LED connector  | <b>17</b> PCI slot                        |
| <b>8</b> Power LED connector      | <b>18</b> CD-ROM audio connector          |
| <b>9</b> Diskette connector       | <b>19</b> Front panel connector           |
| <b>10</b> Secondary IDE connector |   |

---

## Installing memory - microtower model

Your computer has two connectors for installing dual in-line memory modules (DIMMs) that provide up to a maximum of 512 MB of system memory.

### Installing DIMMs

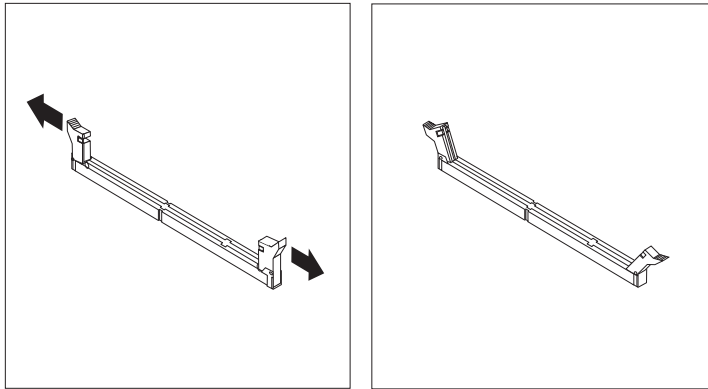
When installing DIMMs, the following rules apply:

- Fill each system memory connector sequentially, starting at DIMM 1

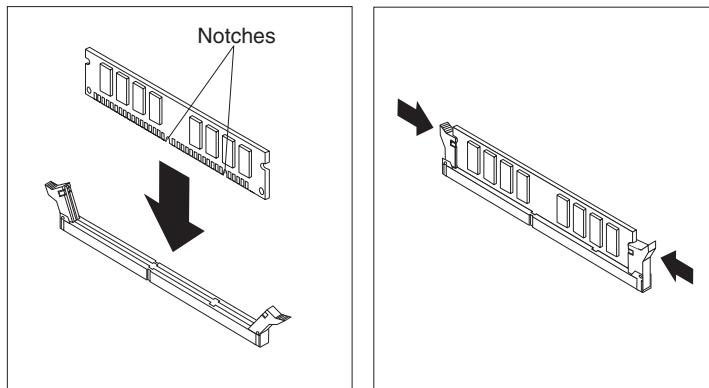
- Use 3.3 V, synchronous, 168-pin, unbuffered, 133 MHz nonparity synchronous dynamic random access memory (SDRAM)
- Use 32 MB, 64 MB, 128 MB, or 256 MB DIMMs in any combination
- DIMM heights of 38.1 mm (1.5 inches)

To install a DIMM:

1. Remove the cover. See “Removing the cover - microtower model” on page 44.
2. You might have to remove an adapter to gain access to the DIMM slots. See “Installing adapters - microtower model” on page 51.
3. To locate the DIMM connectors. See “Identifying parts on the system board - microtower model” on page 48.
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 - microtower model” on page 56.

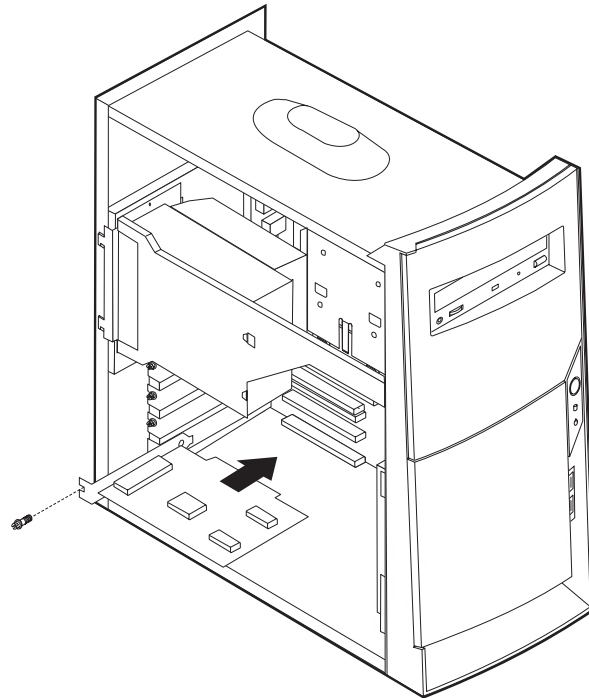
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## Installing adapters - microtower model

This section provides information and instructions for installing and removing adapters. Your computer has three expansion slots for peripheral component interconnect (PCI) adapters. You can install an adapter up to 330 mm (13 inches) long.

To install an adapter:

1. Remove the cover. See “Removing the cover - microtower model” on page 44.
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 screws that secure the adapter.

### 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 - microtower model” on page 56.

---

## Installing internal drives - microtower model

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.

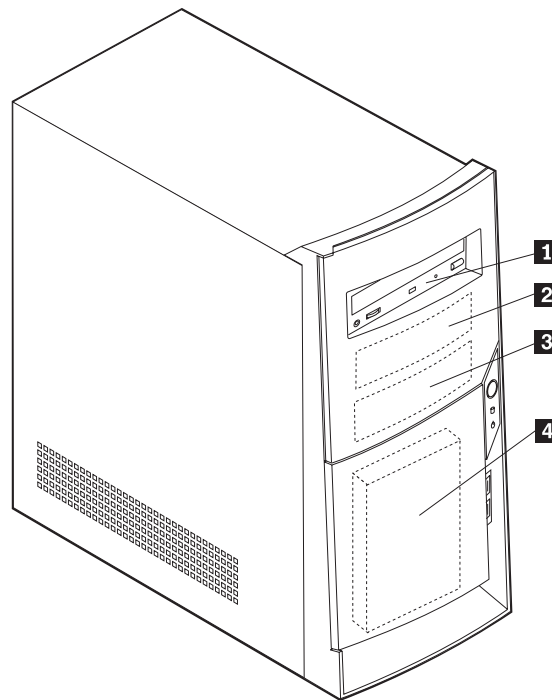
## Drive specifications

Your computer comes with the following IBM-installed drives:

- A CD 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)<br>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<br>3.5-inch hard disk drive (requires a mounting bracket)<br>CD-ROM drive<br>DVD-ROM drive |
| <b>3</b> | Bay 3 - Maximum Height: 25.4 mm (1.0 in.) | 3.5-inch diskette drive (preinstalled)   |
| <b>4</b> | Bay 4 - Maximum Height: 25.4 mm (1.0 in.) | Hard disk drive (preinstalled)   |

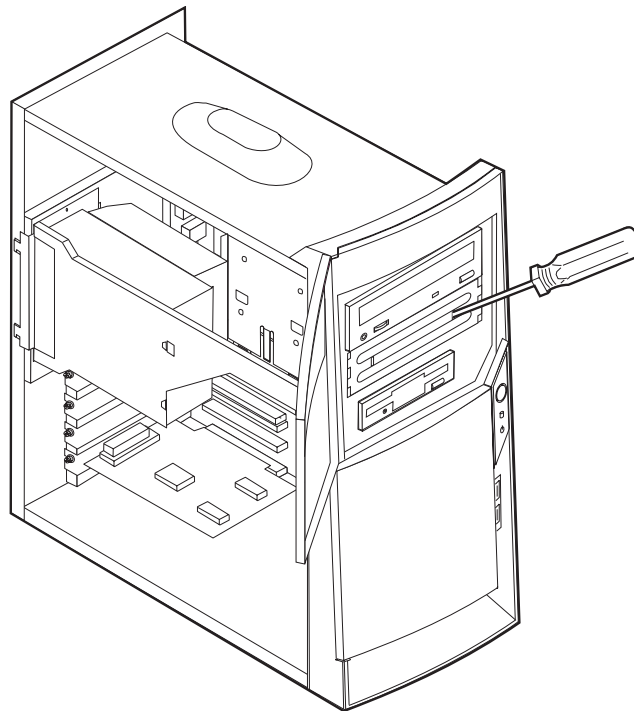
**Notes:**

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.

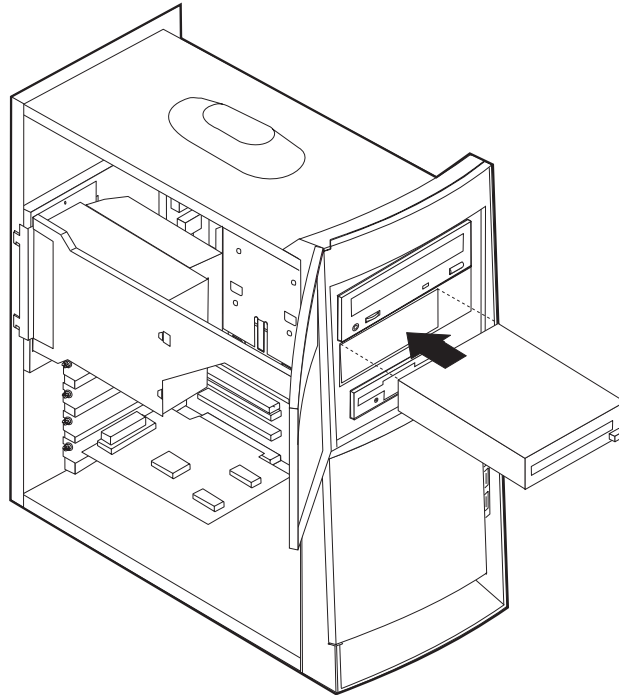
1. Remove the cover. See “Removing the cover - microtower model” on page 44.  
**Note:** If your computer has a CD drive or DVD drive, you might need to remove the signal and power cables from the drive.
2. Remove the bay panel from the drive bay by inserting a flat-blade screwdriver at the end and gently prying it loose.
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.



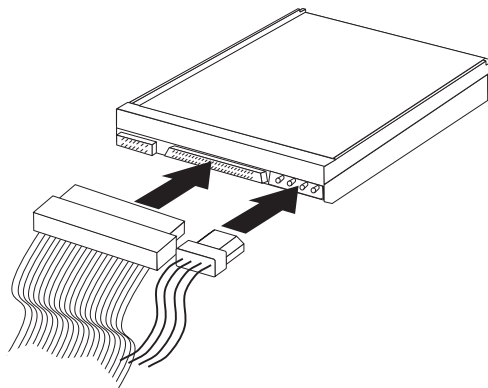
4. Make sure the drive that you are installing is set correctly as either a master or a slave device.
  - If it is the first CD drive or DVD drive, set as a master device.
  - If it is an additional CD drive or DVD drive, set as a slave device.
  - If it is a hard disk drive, set as a slave device.

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

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



6. 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. You might also have an audio cable to connect.



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 - microtower model” on page 48.
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 drive audio cable, connect it to the drive and the system board.

## 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 - microtower model” on page 48.
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. You will have to obtain a three-connector, ATA-100 compatible signal cable to connect your new hard disk.
2. Remove the two-connector cable from the hard disk drive.
3. 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 - microtower model” on page 48.
4. Connect the extra connector in the signal cable to the new hard disk drive.
5. 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 - microtower model” on page 56.

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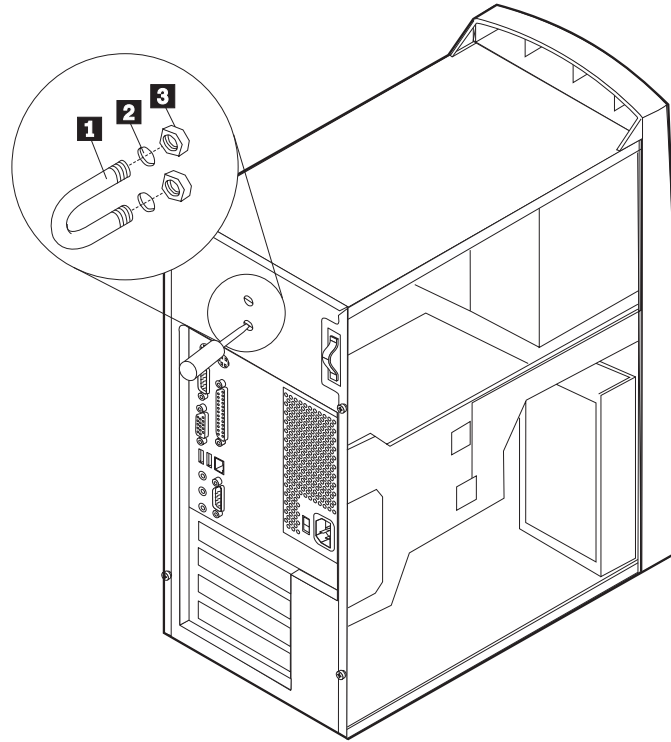
## Installing a Rope Clip - microtower model

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 - microtower model” on page 44).
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 - microtower model”.
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 - microtower model

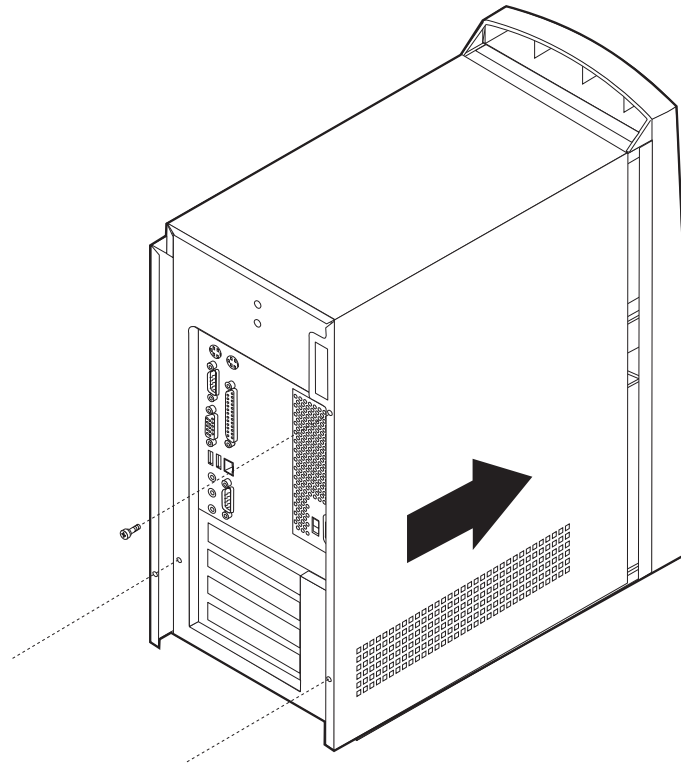
After working with options, you need to install any removed parts, replace the cover, and reconnect any cables, including power cords and telephone lines. Also, depending on the option that is installed, you might need to confirm the updated information in the Configuration/Setup Utility program.

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 so that the front edge is approximately one inch away from the front bezel.



4. Lower the cover down over the chassis so that the rail guides engage the rails.
5. Slide the cover forward. You might need to lift the front of the cover slightly to align it properly.
6. Insert the three thumbscrews into the holes in the cover and the chassis and tighten.
7. Reconnect the external cables and cords to the computer.
8. To update the configuration, see “Module test menu/hardware configuration report” on page 13.

**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.



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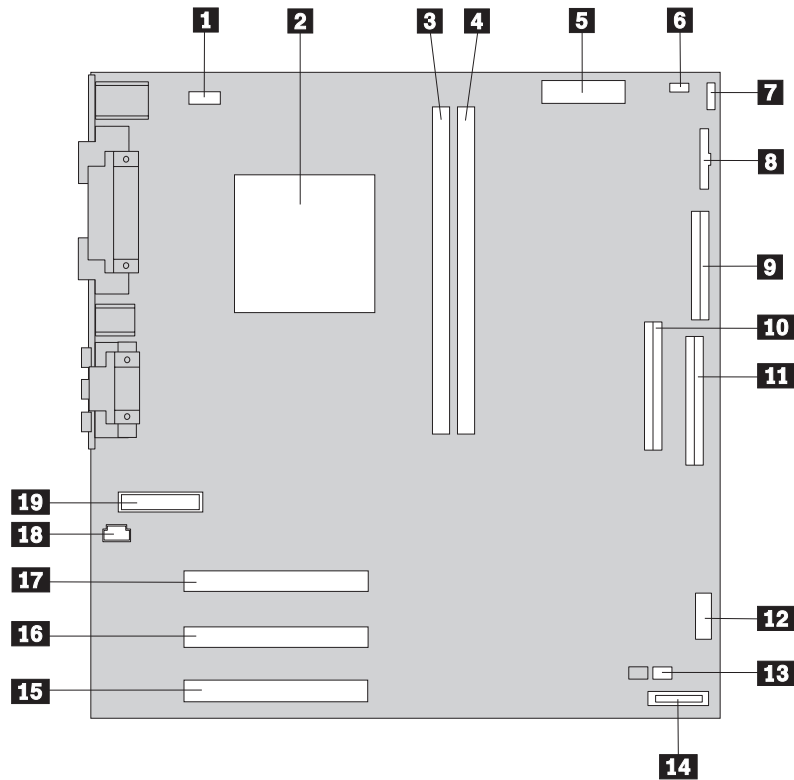
## Chapter 5. FRU Replacements

|   |    |  |    |
|---|----|--|----|
| Identifying parts on the system board . . . . .   | 59 | Replacing a processor - Desktop Model . . . . .  | 64 |
| Replacing a System Board - Small Desktop Model .  | 60 | Power supply removal - Desktop Model . . . . .   | 64 |
| Replacing a processor - Small Desktop Model . . . | 61 | Replacing a system board - Microtower Model . .  | 66 |
| Power supply removal - Small Desktop Model . .    | 62 | Replacing a processor - Microtower Model . . . . | 67 |
| Replacing a System Board - Desktop Model . . . .  | 62 | Power supply removal - Microtower Model . . . .  | 67 |

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### Identifying parts on the system board

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



- |                                   |   |
|-----------------------------------|---|
| <b>1</b> Fan connector            | <b>11</b> Primary IDE connector           |
| <b>2</b> Microprocessor           | <b>12</b> Front USB connector             |
| <b>3</b> DIMM 1                   | <b>13</b> Clear CMOS/BIOS recovery jumper |
| <b>4</b> DIMM 2                   | <b>14</b> Battery                         |
| <b>5</b> Power connector          | <b>15</b> PCI slot                        |
| <b>6</b> Power connector          | <b>16</b> PCI slot                        |
| <b>7</b> Hard disk LED connector  | <b>17</b> PCI slot                        |
| <b>8</b> Power LED connector      | <b>18</b> CD-ROM audio connector          |
| <b>9</b> Diskette connector       | <b>19</b> Front panel connector           |
| <b>10</b> Secondary IDE connector |   |

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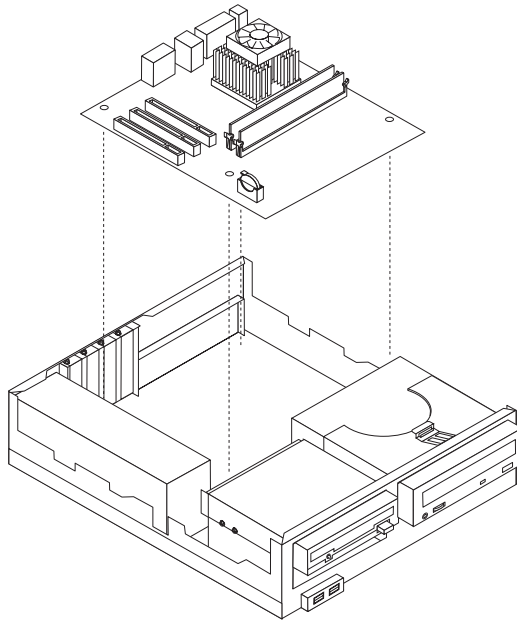
## Replacing a System Board - Small Desktop Model

**Important:** Before replacing a system board, back up Asset information by using the "Asset EEPROM backup" on page 16.

**Notes:**

1. The BIOS and Vital Product Data (VPD) for the computer you are servicing must be installed on the new system board (FRU) after it is installed in the computer. To do this, **you must run the Flash Update program using the Flash Update diskette**. See “BIOS levels” on page 193, “Vital product data” on page 192, and “Flash (BIOS/VPD) update procedure” on page 194.
2. Always ensure the latest level of BIOS is installed on the computer. A down level BIOS may cause false errors and unnecessary replacement of the system board.
3. The processor is a separate FRU from the system board and is not included with the system board FRU.
4. If the new system board does not correct the problem, reinstall the options on the old system board, reinstall the old system board, then replace the processor.

1. Remove the cover. See “Removing the cover - small desktop model” on page 26.
2. Remove the 4 screws that attach the system board to the chassis.



3. Remove the board from the chassis.
4. Remove the processor from the old system board and install it on the new system board.
5. Remove any of the following installed options on the old system board, and install them on the new system board.
  - Memory modules
6. Ensure that the new system board jumper settings match the old system board jumper settings.

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## Replacing a processor - Small Desktop Model

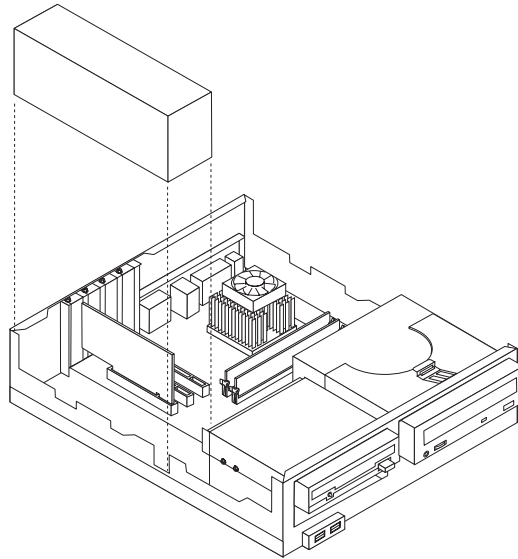
**Attention:** When you handle ESD-sensitive devices, take precautions to avoid damage from static electricity. For details on handling these devices, see “Handling electrostatic discharge-sensitive devices” on page 204.

1. Review the safety precautions listed in "Safety information" on page 201.
2. Turn off the system and peripheral devices and disconnect all external cables and power cords; then, remove the cover (see "Removing the cover - small desktop model" on page 26 for details).
3. Push down on the retainer clip, and at the same time, use a flat bladed screwdriver to carefully pry the metal loop from under the hook attaching the fansink to the processor.
4. Carefully remove the other metal loop from the hook attaching the fansink to the processor. Lift up and remove the fansink.  
**Note:** Once you remove the heat sink from the microprocessor, you must replace it with a new device.
5. Pull out and lift up the release lever and remove the microprocessor from the connector. Store the microprocessor in a static-protective bag for possible future use.

---

## Power supply removal - Small Desktop Model

1. Remove the cover. See "Removing the cover - small desktop model" on page 26.
2. Remove the four screws that hold the power supply to the back of the chassis.
3. The power supply is attached to the base of the chassis by a latch on the front. Slide the power supply forward to dislatch it from the chassis.
4. Lift out the power supply.



---

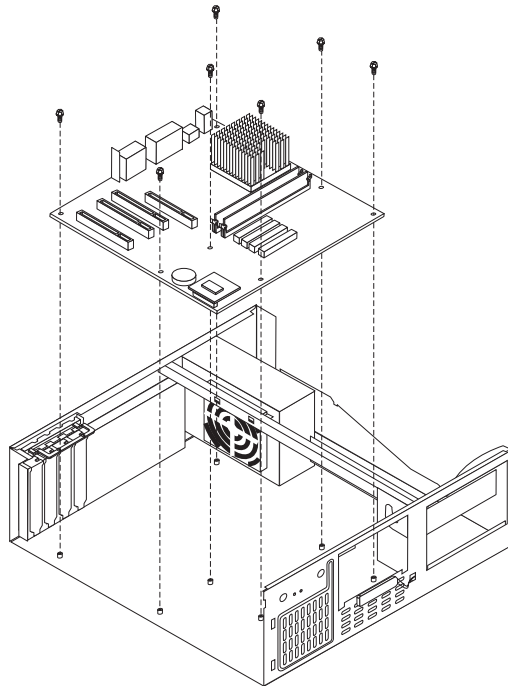
## Replacing a System Board - Desktop Model

**Important:** Before replacing a system board, back up Asset information by using the "Asset EEPROM backup" on page 16.

**Notes:**

1. The BIOS and Vital Product Data (VPD) for the computer you are servicing must be installed on the new system board (FRU) after it is installed in the computer. To do this, **you must run the Flash Update program using the Flash Update diskette**. See “BIOS levels” on page 193, “Vital product data” on page 192, and “Flash (BIOS/VPD) update procedure” on page 194.
2. Always ensure the latest level of BIOS is installed on the computer. A down level BIOS may cause false errors and unnecessary replacement of the system board.
3. The processor is a separate FRU from the system board and is not included with the system board FRU.
4. If the new system board does not correct the problem, reinstall the options on the old system board, reinstall the old system board, then replace the processor.

1. Remove the cover. See “Removing the cover - desktop model” on page 34.
2. Remove the 7 screws that attach the system board to the chassis.



3. Remove the board from the chassis.
4. Remove the processor from the old system board and install it on the new system board.
5. Remove any of the following installed options on the old system board, and install them on the new system board.
  - Memory modules
6. Ensure that the new system board jumper settings match the old system board jumper settings.

---

## Replacing a processor - Desktop Model

**Attention:** When you handle ESD-sensitive devices, take precautions to avoid damage from static electricity. For details on handling these devices, see “Handling electrostatic discharge-sensitive devices” on page 204.

1. Review the safety precautions listed in “Safety information” on page 201.
2. Turn off the system and peripheral devices and disconnect all external cables and power cords; then, remove the cover (see “Removing the cover - desktop model” on page 34 for details).
3. Push down on the retainer clip, and at the same time, use a flat bladed screwdriver to carefully pry the metal loop from under the hook attaching the fansink to the processor.
4. Carefully remove the other metal loop from the hook attaching the fansink to the processor. Lift up and remove the fansink.

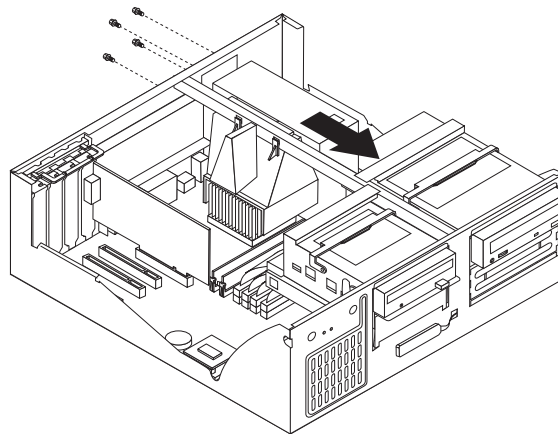
**Note:** Once you remove the heat sink from the microprocessor, you must replace it with a new device.

5. Pull out and lift up the release lever and remove the microprocessor from the connector. Store the microprocessor in a static-protective bag for possible future use.

---

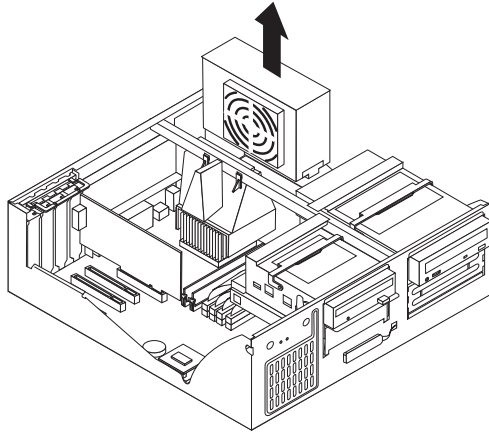
## Power supply removal - Desktop Model

1. Remove the cover. See “Removing the cover - desktop model” on page 34.
2. Remove the four screws that hold the power supply to the back of the chassis.



3. The power supply is attached to the base of the chassis by a latch on the front. Slide the power supply forward to dislatch it from the chassis.
4. Lift out the power supply.





## Replacing a system board - Microtower Model

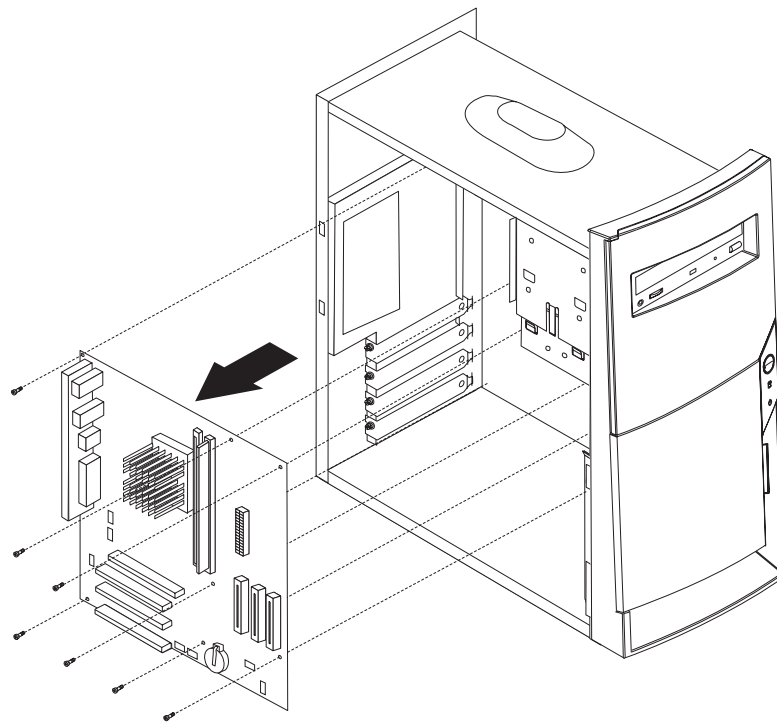
**Important:** Before replacing a system board, back up Asset information by using the "Asset EEPROM backup" on page 16.

### Notes:

1. The BIOS and Vital Product Data (VPD) for the computer you are servicing must be installed on the new system board (FRU) after it is installed in the computer. To do this, **you must run the Flash Update program using the Flash Update diskette.** See "BIOS levels" on page 193, "Vital product data" on page 192, and "Flash (BIOS/VPD) update procedure" on page 194.
2. Always ensure the latest level of BIOS is installed on the computer. A down level BIOS may cause false errors and unnecessary replacement of the system board.
3. The processor is a separate FRU from the system board and is not included with the system board FRU.
4. If the new system board does not correct the problem, reinstall the options on the old system board, reinstall the old system board, then replace the processor.

To replace the system board, do the following:

1. Remove the cover (see "Removing the cover - microtower model" on page 44).
2. Remove the 7 screws that attach the system board to the chassis.



3. Remove the board from the chassis.
4. Remove the processor from the old system board and install it on the new system board.

5. Remove any of the following installed options on the old system board, and install them on the new system board.
  - Memory modules
6. Ensure that the new system board jumper settings match the old system board jumper settings.

---

## Replacing a processor - Microtower Model

**Attention:** When you handle ESD-sensitive devices, take precautions to avoid damage from static electricity. For details on handling these devices, see “Handling electrostatic discharge-sensitive devices” on page 204.

1. Review the safety precautions listed in “Safety information” on page 201.
2. Turn off the system and peripheral devices and disconnect all external cables and power cords; then, remove the cover (see “Removing the cover - microtower model” on page 44 for details).
3. Push down on the retainer clip, and at the same time, use a flat bladed screwdriver to carefully pry the metal loop from under the hook attaching the fansink to the processor.
4. Carefully remove the other metal loop from the hook attaching the fansink to the processor. Lift up and remove the fansink.

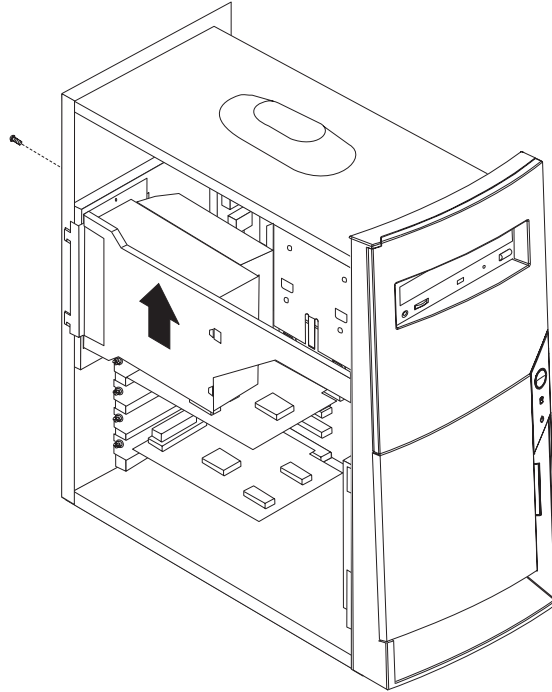
**Note:** Once you remove the heat sink from the microprocessor, you must replace it with a new device.
5. Pull out and lift up the release lever and remove the microprocessor from the connector. Store the microprocessor in a static-protective bag for possible future use.

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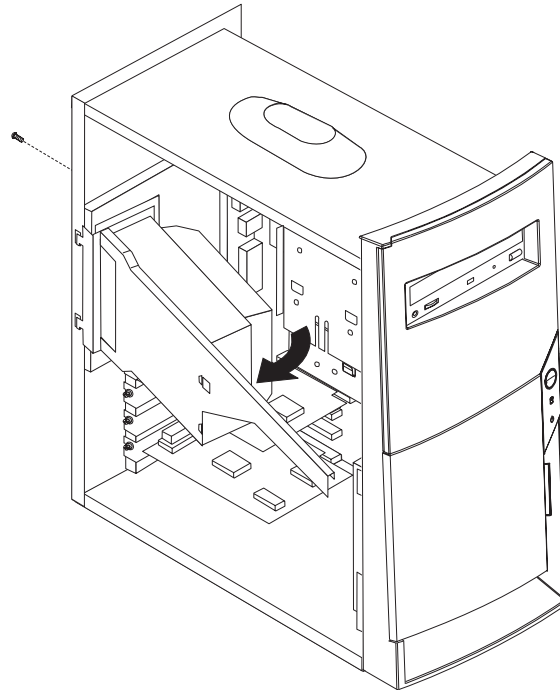
## Power supply removal - Microtower Model

1. Remove the cover (see “Removing the cover - microtower model” on page 44).
2. Remove the screw that secures the power supply to the rear of the chassis.
3. Push the metal tab that secures the power supply to the chassis to release the power supply.

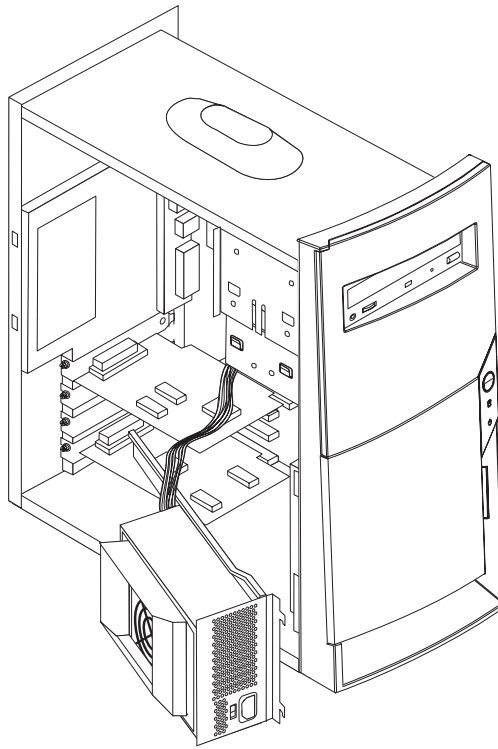
4. Slide the power supply unit up toward the top of the chassis.



5. Rotate the power supply outward as shown.



6. Pull the power supply forward and carefully rotate it toward the front of the chassis.





---

## Chapter 6. Symptom-to-FRU Index

|                                     |    |  |     |
|-------------------------------------|----|--|-----|
| SDRAM memory errors . . . . .       | 72 | No-beep symptoms . . . . .             | 93  |
| Hard disk drive boot error. . . . . | 72 | POST error codes . . . . .             | 94  |
| Power Supply Errors. . . . .        | 72 | Miscellaneous error messages . . . . . | 107 |
| Diagnostic error codes . . . . .    | 74 | Undetermined problems . . . . .        | 109 |
| Beep symptoms . . . . .             | 91 |  |     |

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 109.

**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.

**Important:**

Some errors are indicated with a series of beep codes (see "Beep symptoms" on page 91).

Type 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, 6348 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 10).
2. Set **Power-On Self-Test** to **Enhanced**.

The processor is a separate FRU from the system board; the processor is not included with the system board FRU.

---

## SDRAM memory errors

SDRAM error messages issued by the IBM PC Enhanced Diagnostics.

| Error  | FRU/Action  |
|--|---|
| <b>2xx</b><br><br>A memory error was detected in SDRAM socket Y.   | Replace the SDRAM in the socket identified by the last digit of the error code.<br><br>Re-run the test.<br><br>If the same error code occurs again, replace the system board. |
| <b>Corrupt BIOS</b><br><br>Information in BIOS is not as expected.<br><br>Not able to find expected DMI information from BIOS. | Reflash the BIOS.<br><br>Perform boot block recovery.<br><br>Replace the system board.  |
| <b>Test aborted by user</b>  | Restart test.   |

**Note:** Y is the SDRAM socket number. Use the System Board Layout section in the latest Hardware Maintenance Manual (HMM) to reference the memory sockets.

---

## Hard disk drive boot error

A hard disk drive boot error (error code 17XX) 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:<br><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><li>3. Go to "Preparing the hard disk drive for use" on page 17.</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> | Reseat          |
| 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 9 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><br>BIOS Test Passed                         | 1. <b>No action</b>   |
| <b>000-002-XXX</b><br>BIOS Timeout                             | 1. <b>Flash the system</b><br>2. System board   |
| <b>000-024-XXX</b><br>BIOS Addressing test failure             | 1. <b>Flash the system</b><br>2. System board   |
| <b>000-025-XXX</b><br>BIOS Checksum Value error                | 1. <b>Flash the system</b><br>2. Boot block<br>3. System board                              |
| <b>000-026-XXX</b><br>FLASH data error                         | 1. <b>Flash the system</b><br>2. Boot block<br>3. System board                              |
| <b>000-027-XXX</b><br>BIOS Configuration/Setup error           | 1. <b>Run Setup</b><br>2. Flash the system<br>3. Boot block<br>4. System board              |
| <b>000-034-XXX</b><br>BIOS Buffer Allocation failure           | 1. <b>Reboot the system</b><br>2. Flash the system<br>3. Run memory test<br>4. System board |
| <b>000-035-XXX</b><br>BIOS Reset Condition detected            | 1. <b>Flash the system</b><br>2. System board   |
| <b>000-036-XXX</b><br>BIOS Register error                      | 1. <b>Flash the system</b><br>2. Boot block<br>3. System board                              |
| <b>000-038-XXX</b><br>BIOS Extension failure                   | 1. <b>Flash the system</b><br>2. Adapter card<br>3. System board                            |
| <b>000-039-XXX</b><br>BIOS DMI data error                      | 1. <b>Flash the system</b><br>2. System board   |
| <b>000-195-XXX</b><br>BIOS Test aborted by user                | 1. <b>Information</b><br>2. Re-start the test, if necessary                                 |
| <b>000-196-XXX</b><br>BIOS test halt, error threshold exceeded | 1. <b>Press F3 to review the log file</b><br>2. Re-start the test to reset the log file     |

| Diagnostic Error Code                                  | FRU/Action  |
|--|---|
| 000-197-XXX<br>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<br>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<br>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<br>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<br>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<br>System Test Passed                      | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 001-00X-XXX<br>System Error                            | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 001-01X-XXX<br>System Error                            | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 001-024-XXX<br>System Addressing test failure          | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 001-025-XXX<br>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<br>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<br>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<br>System Device Controller failure        | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 001-034-XXX<br>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<br>System Device Reset condition detected  | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 001-036-XXX<br>System Register error                   | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 001-038-XXX<br>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<br>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><br>System IRQ failure   | 1. <b>Power-off/on system and re-test</b><br>2. System board  |
| <b>001-041-XXX</b><br>System DMA failure   | 1. <b>Power-off/on system and re-test</b><br>2. System board  |
| <b>001-195-XXX</b><br>System Test aborted by user  | 1. <b>Information</b><br>2. Re-start the test, if necessary   |
| <b>001-196-XXX</b><br>System test halt, error threshold exceeded   | 1. <b>Press F3 to review the log file</b><br>2. Re-start the test to reset the log file   |
| <b>001-197-XXX</b><br>System test warning  | 1. <b>Make sure the component that is called out is connected and/or enabled</b><br>2. Re-run test<br>3. Component that is called out in warning statement<br>4. Component under test |
| <b>001-198-XXX</b><br>System test aborted  | 1. <b>If a component is called out, make sure it is connected and/or enabled</b><br>2. Flash the system and re-test<br>3. Go to the "Undetermined problems" section                   |
| <b>001-199-XXX</b><br>System test failed, cause unknown  | 1. <b>Go to the "Undetermined problems" section</b><br>2. Flash the system and re-test<br>3. Replace component under function test  |
| <b>001-250-XXX</b><br>System ECC error   | 1. <b>System board</b>  |
| <b>001-254-XXX</b><br><b>001-255-XXX</b><br><b>001-256-XXX</b><br><b>001-257-XXX</b><br>System DMA error | 1. <b>System board</b>  |
| <b>001-260-XXX</b><br><b>001-264-XXX</b><br>System IRQ error   | 1. <b>System board</b>  |
| <b>001-268-XXX</b><br>System IRQ1 failure  | 1. <b>Device on IRQ1</b><br>2. System board   |
| <b>001-269-XXX</b><br>System IRQ2 failure  | 1. <b>Device on IRQ2</b><br>2. System board   |
| <b>001-270-XXX</b><br>System IRQ3 failure  | 1. <b>Device on IRQ3</b><br>2. System board   |
| <b>001-271-XXX</b><br>System IRQ4 failure  | 1. <b>Device on IRQ4</b><br>2. System board   |
| <b>001-272-XXX</b><br>System IRQ5 failure  | 1. <b>Device on IRQ5</b><br>2. System board   |
| <b>001-273-XXX</b><br>System IRQ6<br>(diskette drive) failure  | 1. <b>Diskette Cable</b><br>2. Diskette drive<br>3. System board  |
| <b>001-274-XXX</b><br>System IRQ7 failure  | 1. <b>Device on IRQ7</b><br>2. System board   |

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

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

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

| Diagnostic Error Code  | FRU/Action  |
|--|---|
| 011-197-XXX<br>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<br>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<br>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<br>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<br>Parallel port Interface Test Passed                               | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 014-001-XXX<br>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<br>014-003-XXX<br>Parallel port Timeout/Parity error                 | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 014-013-XXX<br>014-014-XXX<br>Parallel port Control Signal/Loopback test failure | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 014-015-XXX<br>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<br>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<br>014-04X-XXX<br>Parallel port failure                              | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 014-195-XXX<br>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<br>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<br>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<br>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<br>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<br>014-3XX-XXX<br>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<br>USB port Interface Test Passed               | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 015-001-XXX<br>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<br>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<br>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<br>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<br>USB port Device Controller failure           | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 015-034-XXX<br>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<br>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<br>USB port Register error                      | <ol style="list-style-type: none"> <li>1. <b>System board</b></li> </ol>  |
| 015-040-XXX<br>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<br>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<br>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<br>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<br>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<br>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<br>PCI Card Test Passed                         | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 018-0XX-XXX<br>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<br>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<br>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<br>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<br>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<br>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<br>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<br>PCI Interface Test Passed                    | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 020-0XX-XXX<br>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<br>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<br>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<br>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<br>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<br>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<br>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<br>IDE interface Test Passed                           | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 025-00X-XXX<br>025-01X-XXX<br>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<br>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<br>025-03X-XXX<br>025-04X-XXX<br>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<br>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<br>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<br>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<br>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<br>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<br>SCSI interface Test Passed                         | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 030-00X-XXX<br>030-01X-XXX<br>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<br>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<br>030-04X-XXX<br>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<br/>System board</li> </ol>                                   |
| 030-195-XXX<br>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<br>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<br>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<br>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><br>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><br>RAID interface Test Passed                                   | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| <b>035-0XX-XXX</b><br>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><br>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><br>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><br>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><br>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><br>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><br>Audio port Interface Test Passed                             | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| <b>071-00X-XXX</b><br><b>071-01X-XXX</b><br><b>071-02X-XXX</b><br>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><br>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><br>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><br>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><br>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  |
|--|---|
| 071-197-XXX<br>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> |
| 071-198-XXX<br>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>                         |
| 071-199-XXX<br>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>  |
| 071-25X-XXX<br>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>  |
| 080-000-XXX<br>Game Port interface Test Passed                         | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 080-XXX-XXX<br>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>  |
| 080-195-XXX<br>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>   |
| 080-196-XXX<br>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>   |
| 080-197-XXX<br>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> |
| 080-198-XXX<br>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>                         |
| 080-199-XXX<br>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>  |
| 086-000-XXX<br>Mouse Port interface Test Passed                        | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 086-001-XXX<br>Mouse Port interface Presence                           | <ol style="list-style-type: none"> <li>1. <b>Mouse</b></li> <li>2. System board</li> </ol>  |
| 086-032-XXX<br>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><br>Mouse Port interface Reset                               | 1. <b>Mouse</b><br>2. System board  |
| <b>086-040-XXX</b><br>Mouse Port interface IRQ failure                         | 1. <b>Run Setup</b><br>2. Mouse<br>3. System board  |
| <b>086-195-XXX</b><br>Mouse Port interface Test aborted by user                | 1. <b>Information</b><br>2. Re-start the test, if necessary   |
| <b>086-196-XXX</b><br>Mouse Port interface test halt, error threshold exceeded | 1. <b>Press F3 to review the log file</b><br>2. Re-start the test to reset the log file   |
| <b>086-197-XXX</b><br>Mouse Port interface test warning                        | 1. Make sure the component that is called out is connected and/or enabled<br>2. Re-run test<br>3. Component that is called out in warning statement<br>4. Component under test        |
| <b>086-198-XXX</b><br>Mouse Port interface test aborted                        | 1. If a component is called out, make sure it is connected and/or enabled<br>2. Flash the system and re-test<br>3. Go to the "Undetermined problems" section                          |
| <b>086-199-XXX</b><br>Mouse Port interface test failed, cause unknown          | 1. <b>Go to the "Undetermined problems" section</b><br>2. Flash the system and re-test<br>3. Replace component under function test  |
| <b>089-000-XXX</b><br>Microprocessor Test Passed                               | 1. <b>No action</b>   |
| <b>089-XXX-XXX</b><br>Microprocessor failure                                   | 1. <b>Microprocessor(s)</b><br>2. System board  |
| <b>089-195-XXX</b><br>Microprocessor Test aborted by user                      | 1. <b>Information</b><br>2. Re-start the test, if necessary   |
| <b>089-196-XXX</b><br>Microprocessor test halt, error threshold exceeded       | 1. <b>Press F3 to review the log file</b><br>2. Re-start the test to reset the log file   |
| <b>089-197-XXX</b><br>Microprocessor test warning                              | 1. <b>Make sure the component that is called out is connected and/or enabled</b><br>2. Re-run test<br>3. Component that is called out in warning statement<br>4. Component under test |
| <b>089-198-XXX</b><br>Microprocessor test aborted                              | 1. <b>Flash the system and re-test</b><br>2. Go to the "Undetermined problems" section  |

| Diagnostic Error Code   | FRU/Action  |
|---|---|
| <b>089-199-XXX</b><br>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><br>Voltage Sensor(s) Test Passed                               | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| <b>170-0XX-XXX</b><br>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><br>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><br>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><br>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><br>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><br>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><br><b>170-251-XXX</b><br>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><br>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><br>Thermal Sensor(s) Test Passed                               | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| <b>175-0XX-XXX</b><br>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><br>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><br>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<br>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<br>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<br>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<br>175-251-XXX<br>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<br>Asset Security Test Passed                   | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 185-XXX-XXX<br>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<br>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<br>System Memory Test Passed                    | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 201-XXX-XXX<br>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<br>System Cache Test Passed                     | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 202-XXX-XXX<br>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<br>Diskette Drive Test Passed                   | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 206-XXX-XXX<br>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<br>CD-ROM Drive Test Passed                     | <ol style="list-style-type: none"> <li>1. <b>No action</b></li> </ol>   |
| 215-XXX-XXX<br>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><br>Hard Disk Drive Test Passed                        | 1. <b>No action</b>   |
| <b>217-25X-XXX</b><br><b>217-26X-XXX</b><br>Hard Disk Drive (IDE) error  | 1. <b>Hard Disk Drive Cable</b><br>2. Check power supply voltages<br>3. Hard Disk drive (IDE)<br>4. System board                          |
| <b>217-28X-XXX</b><br><b>217-29X-XXX</b><br>Hard Disk Drive (SCSI) error | 1. <b>Hard Disk Drive Cable</b><br>2. Check power supply voltages<br>3. Hard Disk drive (SCSI)<br>4. SCSI adapter card<br>5. System board |
| <b>220-000-XXX</b><br>Hi-Capacity Cartridge Drive Test Passed            | 1. <b>No action</b>   |
| <b>220-XXX-XXX</b><br>Hi-Capacity Cartridge Drive error                  | 1. <b>Remove the Hi-Capacity Cartridge Drive and re-test the system</b>   |
| <b>301-XXX-XXX</b><br>Keyboard error                                     | 1. <b>Keyboard</b><br>2. Check and test mouse<br>3. System board  |
| <b>301-000-XXX</b><br>Keyboard Test Passed                               | 1. <b>No action</b>   |
| <b>302-000-XXX</b><br>Mouse Test Passed                                  | 1. <b>No action</b>   |
| <b>302-XXX-XXX</b><br>Mouse error  | 1. <b>Mouse</b><br>2. Check and test Keyboard<br>3. System board  |
| <b>303-000-XXX</b><br>Joystick Test Passed                               | 1. <b>No action</b>   |
| <b>303-XXX-XXX</b><br>Joystick error                                     | 1. <b>Remove the Joystick and re-test the system</b>  |
| <b>305-000-XXX</b><br>Monitor DDC Test Passed                            | 1. <b>No action</b>   |
| <b>305-250-XXX</b><br>Monitor DDC self test failure                      | 1. <b>Run Setup to enable DDC</b><br>2. Cable<br>3. Monitor<br>4. Video card<br>5. System board   |
| <b>415-000-XXX</b><br>Modem Test Passed                                  | 1. <b>No action</b>   |
| <b>415-XXX-XXX</b><br>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<br>CMOS read-write error                | <ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. System Board</li> </ol>                                |
| 1-1-4<br>ROM BIOS check error                 | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>  |
| 1-2-X<br>DMA error                            | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>  |
| 1-3-X   | <ol style="list-style-type: none"> <li>1. <b>Memory Module</b></li> <li>2. System Board</li> </ol>                            |
| 1-4-4   | <ol style="list-style-type: none"> <li>1. <b>Keyboard</b></li> <li>2. System Board</li> </ol>                                 |
| 1-4-X<br>Error detected in first 64 KB of RAM | <ol style="list-style-type: none"> <li>1. <b>Memory Module</b></li> <li>2. System Board</li> </ol>                            |
| 2-1-1, 2-1-2                                  | <ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. System Board</li> </ol>                                |
| 2-1-X<br>First 64 KB of RAM failed            | <ol style="list-style-type: none"> <li>1. <b>Memory Module</b></li> <li>2. System Board</li> </ol>                            |
| 2-2-2   | <ol style="list-style-type: none"> <li>1. <b>Video Adapter (if installed)</b></li> <li>2. System Board</li> </ol>             |
| 2-2-X<br>First 64 KB of RAM failed            | <ol style="list-style-type: none"> <li>1. <b>Memory Module</b></li> <li>2. System Board</li> </ol>                            |
| 2-3-X   | <ol style="list-style-type: none"> <li>1. <b>Memory Module</b></li> <li>2. System Board</li> </ol>                            |
| 2-4-X   | <ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. Memory Module</li> <li>3. System Board</li> </ol>      |
| 3-1-X<br>DMA register failed                  | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>  |
| 3-2-4<br>Keyboard controller failed           | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Keyboard</li> </ol>                                 |
| 3-3-4<br>Screen initialization failed         | <ol style="list-style-type: none"> <li>1. <b>Video Adapter (if installed)</b></li> <li>2. System Board<br/>Display</li> </ol> |

| <b>Beep Symptom</b>  | <b>FRU/Action</b>   |
|--|---|
| <b>3-4-1</b><br>Screen retrace test detected an error                                    | 1. <b>Video Adapter (if installed)</b><br>2. System Board<br>3. Display |
| <b>3-4-2</b><br>POST is searching for video ROM  | 1. <b>Video Adapter (if installed)</b><br>2. System Board               |
| <b>4</b>   | 1. <b>Video Adapter (if installed)</b><br>2. System Board               |
| All other beep code sequences  | 1. <b>System Board</b>  |
| One long and one short beep during POST.<br>Base 640 KB memory error or shadow RAM error | 1. <b>Memory Module</b><br>2. System Board                              |
| One long beep and two or three short beeps during POST.<br>(Video error)                 | 1. <b>Video Adapter (if installed)</b><br>2. System Board               |
| Three short beeps during POST  | 1. <b>System Board Memory</b><br>2. System Board                        |
| Continuous beep  | 1. <b>System Board</b>  |
| Repeating short beeps  | 1. <b>Keyboard stuck key?</b><br>2. Keyboard Cable<br>3. System Board   |

## No-beep symptoms

**Important:**

Type 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, and 6348 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 10).
2. Set **Power-On Self-Test** to **Enhanced**.

| Symptom/Error                                     | FRU/Action  |
|---|---|
| No beep during POST but computer works correctly. | 1. <b>System Board</b>  |
| No beep during POST.                              | 1. See "Undetermined problems" on page 109.<br>2. System Board<br>3. Memory Module<br>4. Any Adapter or Device<br>5. Riser Card<br>6. Power Cord<br>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 2254, 2256, 2257, 6336, 6337, 6339, 6341, 6342, 6346, 6347, and 6348 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 10).
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><br>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><br>Check SCSI terminator installation. | 1. <b>SCSI Cable</b><br>2. <b>SCSI Terminator</b><br>3. <b>SCSI Device</b><br>4. <b>SCSI Adapter</b>                                     |
| <b>101</b><br>System board interrupt failure      | 1. <b>System Board</b>   |
| <b>102</b><br>System board timer error            | 1. <b>System Board</b>   |
| <b>106</b>  | 1. <b>System Board</b>   |
| <b>110</b><br>System board memory parity error    | 1. <b>Memory Module</b><br>2. <b>System Board</b>  |

| <b>POST Error Code</b>   | <b>FRU/Action</b>   |
|--|---|
| <b>111</b><br>I/O channel parity error   | <ol style="list-style-type: none"> <li><b>Reseat adapters</b></li> <li>Any adapter</li> <li>Riser card</li> <li>System Board</li> </ol>   |
| <b>114</b><br>Adapter ROM error  | <ol style="list-style-type: none"> <li><b>Adapter Memory</b></li> <li>System Board</li> <li>Riser card</li> </ol>   |
| <b>129</b><br>Internal cache test error  | <ol style="list-style-type: none"> <li><b>Processor</b></li> <li>L2 Cache Memory</li> <li>System Board</li> </ol>   |
| <b>151</b><br>Real-time clock failure  | <ol style="list-style-type: none"> <li><b>System Board</b></li> </ol>   |
| <b>161</b><br>Bad CMOS battery   | <ol style="list-style-type: none"> <li><b>Run Setup</b></li> <li>CMOS Backup Battery (see "Safety information" on page 201)</li> <li>System Board</li> </ol>  |
| <b>162</b><br>Configuration mismatch   | <ol style="list-style-type: none"> <li><b>Run Setup and verify Configuration</b></li> <li>Had a device been added, removed, changed location? If not, suspect that device.</li> <li>Power-on external devices first, then power-on computer</li> <li>CMOS Backup Battery (see "Safety information" on page 201)<br/>System Board</li> <li>System Board</li> <li>Riser card</li> </ol> |
| <b>162</b><br>And unable to run diagnostics  | <ol style="list-style-type: none"> <li><b>Diskette Drive</b></li> <li>System Board</li> <li>Diskette Drive Cable</li> <li>Riser card</li> </ol>   |
| <b>163</b><br>Clock not updating or invalid time set   | <ol style="list-style-type: none"> <li><b>Time and Date Set?</b></li> <li>CMOS Backup Battery (see "Safety information" on page 201)</li> <li>System Board</li> </ol>   |
| <b>164</b><br>POST detected a base memory or extended memory size mismatch error or RIMM socket 3 is populated with a RIMM memory module | <ol style="list-style-type: none"> <li><b>Run Setup. Check System Summary menu for memory size change. (See "Setup Utility program" on page 10.)</b></li> <li>Run the Extended Memory Diagnostic tests</li> </ol>   |
| <b>166</b><br>Boot Block Check Sum Error   | <ol style="list-style-type: none"> <li><b>Run Flash Recovery using Boot Block. See "Flash recovery boot block jumper" on page 194.</b></li> <li>System Board</li> </ol>   |
| <b>167</b><br>Microprocessor installed that is not supported by the current POST/BIOS  | <ol style="list-style-type: none"> <li><b>Run Setup. Check Stepping level for the BIOS level needed, then perform the flash update.</b></li> <li>Processor</li> </ol>   |

| POST Error Code   | FRU/Action   |
|---|--|
| 168<br>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> <li>3. Riser card</li> </ol>                              |
| 17X, 18X  | 1. <b>C2 Security</b>  |
| 175   | <ol style="list-style-type: none"> <li>1. <b>Run Configuration. See "Setup Utility program" on page 10.</b></li> <li>2. System Board</li> </ol>  |
| 176   | 1. <b>Covers were removed from the computer</b>  |
| 177<br>Corrupted Administrator Password   | 1. <b>System Board</b>   |
| 178   | 1. <b>System Board</b>   |
| 183   | 1. <b>Enter the administrator password</b>   |
| 184<br>No RFID Antenna  | <p><b>Make sure Asset Care and Asset ID are enabled in Configuration/Setup</b></p> <ol style="list-style-type: none"> <li>2. RFID Antenna</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>         |
| 185<br>Corrupted boot sequence  | 1. <b>Set configuration and reinstall the boot sequence</b>  |
| 186   | 1. <b>System Board</b>   |
| 187   | <ol style="list-style-type: none"> <li>1. <b>Clear Administration password</b></li> <li>2. System Board</li> </ol>   |
| 189   | 1. <b>More than three password attempts were made to access the computer</b>   |
| 190<br>Chassis intrusion detector was cleared. This is information only, no action required. If this code does not clear: | 1. <b>System Board</b>   |
| 1XX<br>Not listed above   | 1. <b>System Board</b>   |
| 201, 20X<br>Memory data error   | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics Memory Test</b></li> <li>2. Memory Module</li> <li>3. System Board</li> </ol>  |
| 225   | 1. <b>Unsupported Memory</b>   |
| 229<br>External cache test error  | <ol style="list-style-type: none"> <li>1. <b>L2 Cache Memory</b></li> <li>2. System Board</li> </ol>   |
| 262<br>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 10.)</b></li> <li>2. Run the Extended Memory Diagnostic tests.</li> </ol> |
| 301   | <ol style="list-style-type: none"> <li>1. <b>Keyboard</b></li> <li>2. Keyboard Cable</li> <li>3. System Board</li> </ol>   |
| 303<br>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>POST Error Code</b>                              | <b>FRU/Action</b>  |
|---|--|
| <b>303</b><br>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><br>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><br>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><br>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>  | <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><br>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>762</b><br>Math coprocessor configuration error  | <ol style="list-style-type: none"> <li>1. <b>Run Setup</b></li> <li>2. Processor</li> <li>3. System Board</li> </ol>   |
| <b>7XX</b><br>Not listed above                      | <ol style="list-style-type: none"> <li>1. <b>Processor</b></li> <li>2. System Board</li> </ol>   |
| <b>962</b><br>Parallel port configuration error     | <ol style="list-style-type: none"> <li>1. <b>Run Configuration</b></li> <li>2. Parallel Adapter (if installed)</li> <li>3. System Board</li> </ol>   |
| <b>9XX</b>  | <ol style="list-style-type: none"> <li>1. <b>Printer</b></li> <li>2. System Board</li> </ol>   |
| <b>1047</b>   | <ol style="list-style-type: none"> <li>1. <b>16-Bit AT™ Fast SCSI Adapter</b></li> </ol>   |

| <b>POST Error Code</b>   | <b>FRU/Action</b>  |
|--|--|
| <b>107X</b><br>Check SCSI terminator installation                    | <ol style="list-style-type: none"> <li>1. <b>Check SCSI terminator installation</b></li> <li>2. SCSI Cable</li> <li>3. SCSI Terminator</li> <li>4. SCSI Device</li> <li>5. SCSI Adapter</li> </ol> |
| <b>1101</b><br>Serial connector error, possible system board failure | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>   |
| <b>1101, 1102, 1106, 1108, 1109</b>                                  | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Any Serial Device</li> </ol>   |
| <b>1107</b>  | <ol style="list-style-type: none"> <li>1. <b>Communications Cable</b></li> <li>2. System Board</li> </ol>  |
| <b>1102</b><br>Card selected feedback error                          | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>   |
| <b>1103</b><br>Port fails register check                             | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> <li>2. System Board</li> </ol>  |
| <b>1106</b><br>Serial option cannot be turned off                    | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> <li>2. System Board</li> </ol>  |
| <b>1107</b>  | <ol style="list-style-type: none"> <li>1. <b>Serial Device Cable</b></li> <li>2. System Board</li> </ol>   |
| <b>1110</b><br>Register test failed                                  | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> <li>2. System Board</li> </ol>  |
| <b>1116</b><br>Interrupt error                                       | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>   |
| <b>1117</b><br>Failed baud rate test                                 | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>   |
| <b>1162</b><br>Serial port configuration error                       | <ol style="list-style-type: none"> <li>1. <b>Run Configuration</b></li> <li>2. Serial Adapter (if installed)</li> <li>3. System Board</li> </ol>   |
| <b>11XX</b><br>Not listed above                                      | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>   |
| <b>1201</b>  | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> <li>2. Any Serial Device</li> </ol>   |
| <b>1202, 1206, 1208, 1209, 12XX</b>                                  | <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>  |
| <b>1207</b>  | <ol style="list-style-type: none"> <li>1. <b>Communications Cable</b></li> <li>2. Dual Async Adapter/A</li> </ol>  |
| <b>13XX</b>  | <ol style="list-style-type: none"> <li>1. <b>Game Adapter</b></li> </ol>   |
| <b>1402</b><br>Printer not ready                                     | Information only   |
| <b>1403</b><br>No paper error, or interrupt failure                  | Information only   |
| <b>1404</b><br>System board timeout failure                          | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>   |
| <b>1405</b><br>Parallel adapter error                                | <ol style="list-style-type: none"> <li>1. <b>Run Enhanced Diagnostics</b></li> </ol>   |

| POST Error Code  | FRU/Action   |
|--|--|
| <b>1406</b><br>Presence test error   | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>14XX</b><br>Not listed above. Check printer before replacing system board   | 1. <b>Printer</b><br>2. System Board   |
| <b>15XX</b>  | 1. <b>SDLC Adapter</b>   |
| <b>1692</b><br>Boot sequence error   | 1. <b>Run FDISK to ensure at least one active partition is set active</b>  |
| <b>16XX</b>  | 1. <b>36/38 Workstation Adapter</b>  |
| <b>1762</b><br>Hard disk drive configuration error   | 1. <b>Run Configuration. (See "Setup Utility program" on page 10.)</b>   |
| <b>1780</b> (Disk Drive 0)<br><b>1781</b> (Disk Drive 1)<br><b>1782</b> (Disk Drive 2)<br><b>1783</b> (Disk Drive 3) | 1. <b>Hard Disk Drive</b><br>2. System Board<br>3. Riser card<br>4. Hard Disk Cable<br>5. Power Supply   |
| <b>180X, 188X</b><br>PCI configuration or resource error   | 1. <b>Run Setup and verify PCI/ISA configuration settings.</b><br>2. If necessary, set ISA adapters to <i>Not available</i> to allow PCI adapters to properly configure.<br>3. Remove any suspect ISA adapters.<br>4. Rerun diagnostics.<br>5. PCI Adapter |
| <b>1962</b><br>Boot sequence error   | 1. <b>Possible hard disk drive problem; see "Hard disk drive boot error" on page 72.</b>   |
| <b>209X</b>  | 1. <b>Diskette Drive</b><br>2. Diskette Cable  |
| <b>20XX</b><br>Not listed above  | 1. <b>BSC Adapter</b>  |
| <b>21XX</b>  | 1. <b>SCSI Device</b><br>2. 16-bit AT Fast SCSIU adapter<br>3. Alternate BSC adapter   |
| <b>2401, 2402</b><br>If screen colors change   | 1. <b>Display</b>  |
| <b>2401, 2402</b><br>If screen colors are OK   | 1. <b>System Board</b><br>2. Display   |
| <b>2409</b>  | 1. <b>Display</b>  |
| <b>2410</b>  | 1. <b>System Board</b><br>2. Display   |
| <b>2462</b><br>Video memory configuration error  | 1. <b>Check cable connections</b><br>2. Run Setup and verify video configuration settings<br>3. Video Memory Modules<br>4. Video Adapter (if installed)<br>5. System Board   |
| <b>4611, 4630</b>  | 1. <b>Multiport/2 Interface Board</b><br>2. Multiport/2 Adapter  |

| POST Error Code  | FRU/Action  |
|--|---|
| 4612, 4613, 4640, 4641   | 1. <b>Memory Module Package</b><br>2. Multiport/2 Adapter   |
| 4650   | 1. <b>Multiport/2 Interface Cable</b>   |
| 46XX<br>Not listed above   | 1. <b>Multiport/2 Adapter</b><br>2. Multiport/2 Interface Board<br>3. Memory Module   |
| 5600   | 1. <b>Financial System Controller Adapter</b>   |
| 5962<br>An IDE device (other than hard drive) configuration error                                | 1. <b>Run Configuration</b><br>2. CD-ROM Drive<br>3. CD-ROM Adapter<br>4. Zip or other ATAPI device<br>5. System Board<br>6. Riser card |
| 62XX   | 1. <b>1st Store Loop Adapter</b><br>2. Adapter Cable  |
| 63XX   | 1. <b>2nd Store Loop Adapter</b><br>2. Adapter Cable  |
| 64XX   | 1. <b>Network Adapter</b>   |
| 71XX   | 1. <b>Voice Adapter</b>   |
| 74XX   | 1. <b>Video Adapter (if installed)</b>  |
| 76XX   | 1. <b>Page Printer Adapter</b>  |
| 78XX   | 1. <b>High Speed Adapter</b>  |
| 79XX   | 1. <b>3117 Adapter</b>  |
| 80XX   | 1. <b>PCMCIA Adapter</b>  |
| 84XX   | 1. <b>Speech Adapter</b><br>2. Speech Control Assembly.   |
| 8601, 8602   | 1. <b>Pointing Device (Mouse)</b><br>2. System Board  |
| 8603, 8604   | 1. <b>System Board</b><br>2. Pointing Device (Mouse)  |
| 86XX<br>Not listed above   | 1. <b>Mouse</b><br>2. System Board  |
| 89XX   | 1. <b>PC Music Adapter</b><br>2. MIDI Adapter Unit  |
| 91XX   | 1. <b>Optical Drive</b><br>2. Adapter   |
| 96XX   | 1. <b>SCSI Adapter</b><br>2. Any SCSI Device<br>3. System Board<br>4. Riser card  |
| 10101, 10102, 10104, 10105, 10106, 10107, 10108, 10109, 10111, 10112, 10113, 10114, 10115, 10116 | 1. <b>Have customer verify correct operating system device drivers are installed and operational.</b><br>2. Modem                       |

| POST Error Code   | FRU/Action   |
|---|--|
| 10103, 10110, 101171  | <ol style="list-style-type: none"> <li>1. System Board</li> <li>2. Data/Fax Modem</li> <li>3. Riser card</li> </ol>  |
| 10117<br>Not listed above   | <ol style="list-style-type: none"> <li>1. Check system speaker</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. Run Diagnostics and verify the correct operation of the modem slot</li> <li>2. Modem</li> </ol>                        |
| 10119   | <ol style="list-style-type: none"> <li>1. Diagnostics detected a non-IBM modem</li> <li>2. Modem</li> </ol>  |
| 10120   | <ol style="list-style-type: none"> <li>1. Check PSTN Cable</li> <li>2. External DAA (if installed)</li> <li>3. Modem</li> </ol>                                  |
| 10132, 10133, 10134,<br>10135, 10136, 10137,<br>10138, 10139, 10140,<br>10141, 10142, 10143,<br>10144, 10145, 10146,<br>10147, 10148, 10149,<br>10150, 10151, 10152 | <ol style="list-style-type: none"> <li>1. Modem</li> </ol>   |
| 10153   | <ol style="list-style-type: none"> <li>1. Data/Fax Modem</li> <li>2. System Board</li> <li>3. Riser card</li> </ol>  |
| 101XX<br>Not listed above   | <ol style="list-style-type: none"> <li>1. Modem Adapter/A</li> <li>2. Data/Fax Modem</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>                  |
| 10450, 10451, 10490,<br>10491, 10492, 10499<br>Read/write error   | <ol style="list-style-type: none"> <li>1. Run Enhanced Diagnostics</li> <li>2. Hard Disk Drive</li> <li>3. System Board</li> <li>4. Riser card</li> </ol>        |
| 10452<br>Seek test error  | <ol style="list-style-type: none"> <li>1. Run Enhanced Diagnostics</li> </ol>  |
| 10453<br>Wrong drive type?  | Information only   |
| 10454<br>Sector buffer test error   | <ol style="list-style-type: none"> <li>1. Run Enhanced Diagnostics</li> </ol>  |
| 10455, 10456<br>Controller error  | <ol style="list-style-type: none"> <li>1. Run Enhanced Diagnostics</li> </ol>  |
| 10459<br>Drive diagnostic command error   | Information only   |
| 10461<br>Drive format error   | <ol style="list-style-type: none"> <li>1. Run Enhanced Diagnostics</li> </ol>  |
| 10462<br>Controller seek error  | <ol style="list-style-type: none"> <li>1. Run Enhanced Diagnostics</li> </ol>  |

| POST Error Code  | FRU/Action   |
|--|--|
| <b>10464</b><br>Hard Drive read error                            | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>10467</b><br>Drive non-fatal seek error                       | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>10468</b><br>Drive fatal seek error                           | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>10469</b><br>Drive soft error count exceeded                  | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>10470, 10471, 10472</b><br>Controller wrap error              | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>10473</b><br>Corrupt data. Low level format might be required | Information only   |
| <b>10480</b>   | 1. <b>Hard Disk Drive (ESDI)</b><br>2. Drive Cable<br>3. System Board                            |
| <b>10481</b><br>ESDI drive D seek error                          | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>10482</b><br>Drive select acknowledgement bad                 | 1. <b>Run Enhanced Diagnostics</b>   |
| <b>106X1</b>   | 1. <b>Check Configuration</b><br>2. Ethernet Adapter   |
| <b>10635</b>   | 1. <b>Power-off computer, wait ten seconds then power-on the computer</b><br>2. Ethernet Adapter |
| <b>10651, 10660</b>  | 1. <b>Check Cables</b><br>2. Ethernet Adapter  |
| <b>106XX</b><br>Not listed above                                 | 1. <b>Ethernet Adapter</b>   |
| <b>107XX</b>   | 1. <b>5.25-inch External Diskette Drive</b><br>2. 5.25-inch Diskette Drive Adapter/A             |
| <b>109XX</b><br>Check the adapter cables                         | 1. <b>ActionMedia Adapter/A</b><br>2. System Board<br>3. Riser card                              |
| <b>112XX</b><br>This adapter does not have cache                 | 1. <b>SCSI Adapter</b><br>2. Any SCSI Device<br>3. System Board<br>4. Riser card                 |
| <b>119XX</b>   | 1. <b>3119 Adapter</b>   |
| <b>121XX</b>   | 1. <b>Modem Adapter</b><br>2. Any Serial Device<br>3. System Board<br>4. Riser card              |

| POST Error Code            | FRU/Action  |
|----------------------------|---|
| 136XX                      | <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>                                   |
| 137XX                      | <ol style="list-style-type: none"> <li>1. <b>System Board</b></li> </ol>  |
| 141XX                      | <ol style="list-style-type: none"> <li>1. <b>Realtime Interface Coprocessor Portmaster Adapter/A</b></li> </ol>   |
| 143XX                      | <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>                                    |
| 14710, 14711               | <ol style="list-style-type: none"> <li>1. <b>System Board Video Adapter</b></li> <li>2. Adapter Video Memory</li> </ol>   |
| 148XX                      | <ol style="list-style-type: none"> <li>1. <b>Video Adapter</b></li> </ol>   |
| 14901, 14902, 1491X, 14922 | <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> |
| 14932                      | <ol style="list-style-type: none"> <li>1. <b>External Display</b></li> <li>2. Video Adapter</li> </ol>  |
| 161XX                      | <b>FaxConcentrator Adapter</b>  |
| 164XX                      | <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>       |
| 16500                      | <ol style="list-style-type: none"> <li>1. <b>6157 Tape Attachment</b></li> <li>2. Adapter</li> </ol>  |
| 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><br/><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<br/>Image-I Adapter/A</li> </ol>                                  |

| POST Error Code  | FRU/Action   |
|--|--|
| 20005 to 20010   | <ol style="list-style-type: none"> <li>1. <b>Image Adapter/A</b><br/><b>Image-I Adapter/A</b></li> <li>2. Memory Module DRAM, VRAM</li> </ol>  |
| 200XX<br>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<br>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<br>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>  |
| 210XXXX<br>Internal bus, size unknown<br>210XXX1<br>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.<br>Verify that the tapes used meet ANSI standard X3B5                                    | <ol style="list-style-type: none"> <li>1. <b>Tape Cassette</b></li> </ol>  |



| POST Error Code  | FRU/Action   |
|--|--|
| 212XX  | 1. <b>SCSI Printer</b><br>2. Printer Cable   |
| 213XX  | 1. <b>SCSI Processor</b>   |
| 214XX  | 1. <b>WORM Drive</b>   |
| 215XXXC, 215XXXD, 215XXXE, 215XX XU<br>If an external device, and power-on LED is off, check external voltages | 1. <b>CD-ROM Drive I</b><br>2. CD-ROM Drive II<br>Enhanced CD-ROM Drive II<br>Any CD-ROM Drive<br>3. SCSI Cable<br>4. SCSI Adapter or System Board |
| 216XX  | 1. <b>Scanner</b>  |
| 217XX<br>If an external device, and power-on LED is off, check external voltages                               | 1. <b>Rewritable Optical Drive</b><br>2. SCSI Adapter or System Board<br>3. SCSI Cable   |
| 218XX<br>Check for multi CD tray or jukebox  | 1. <b>Changer</b>  |
| 219XX  | 1. <b>SCSI Communications Device</b>   |
| 24201Y0, 24210Y0<br>Be sure wrap plug is attached  | 1. <b>ISDN/2 Adapter</b><br>2. ISDN/2 Wrap Plug<br>3. ISDN/2 Communications Cable  |
| 273XX  | 1. <b>1 Mbps Micro Channel</b><br>2. Infrared LAN Adapter  |
| 27501, 27503, 27506, 27507   | 1. <b>ServerGuard Adapter</b><br>2. System Board<br>3. Riser card  |
| 27502, 27504, 27510, 27511, 27533, 27534, 27536, 27537   | 1. <b>ServerGuard Adapter</b>  |
| 27509  | 1. <b>Remove redundant adapters, run Auto Configuration program, then retest.</b>  |
| 27512  | 1. <b>WMSELF.DGS diagnostics file is missing</b><br>2. WMSELF.DGS diagnostics file is incorrect  |
| 27535  | 1. <b>3V Lithium Backup Battery</b><br>2. ServerGuard Adapter  |
| 27554  | 1. <b>Internal Temperature out of range</b><br>2. ServerGuard Adapter  |
| 27555, 27556   | 1. <b>ServerGuard Adapter</b><br>2. Power Supply   |
| 27557  | 1. <b>7.2V NiCad Main Battery Pack</b><br>2. ServerGuard Adapter   |
| 27558, 27559, 27560, 27561   | 1. <b>PCMCIA Type II Modem</b><br>2. ServerGuard Adapter   |
| 27562  | 1. <b>External Power Control not connected</b><br>2. External Power Control<br>3. ServerGuard Adapter  |
| 27563, 27564   | 1. <b>External Power Control</b><br>2. ServerGuard Adapter   |

| POST Error Code                    | FRU/Action   |
|------------------------------------|--|
| 275XX                              | 1. <b>Update Diagnostic Software</b>   |
| 27801 to 27879                     | 1. <b>Personal Dictation System</b><br>2. Adapter<br>3. System Board                     |
| 27880 to 27889                     | 1. <b>External FRU (Speaker, Microphone)</b>   |
| 999030X<br>Hard disk reset failure | 1. <b>Possible hard disk drive problem; see "Hard disk drive boot error" on page 72.</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 201)</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 72.      | <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 10)</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 72.                           | <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 72.</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>  |

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## Undetermined problems

Check the power supply voltages (see “Power Supply Errors” on page 72). 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 “Replacing a System Board - Small Desktop Model” on page 60, “Replacing a System Board - Desktop Model” on page 62, or “Replacing a system board - Microtower Model” on page 66).



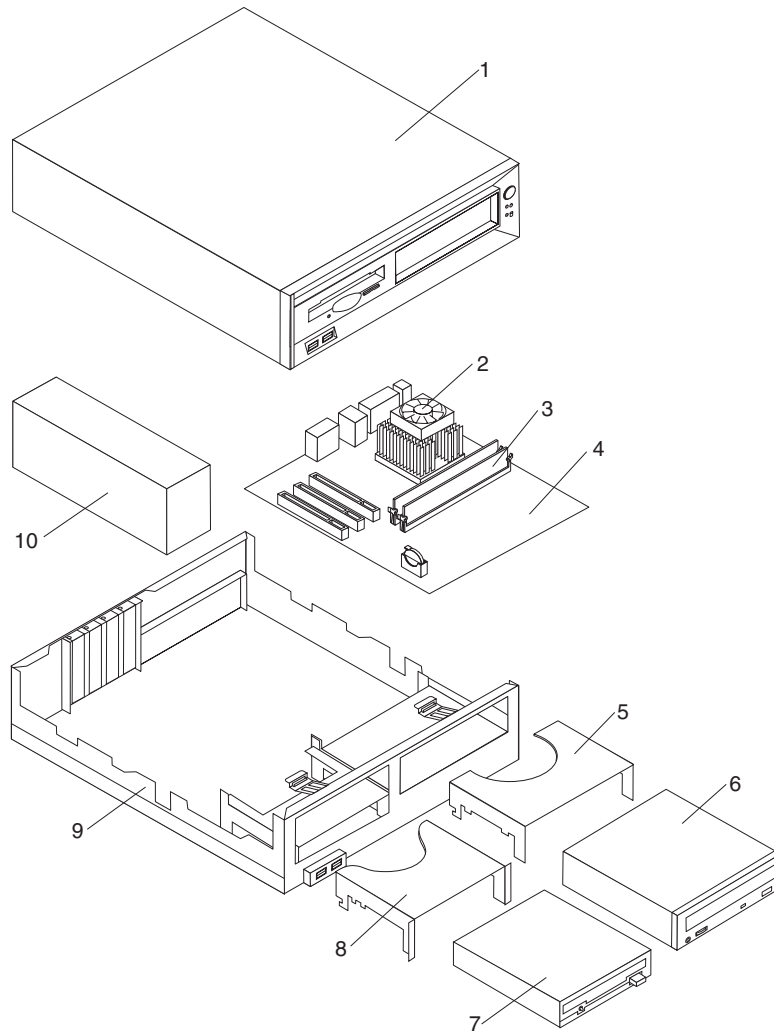
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## Chapter 7. Parts

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### Small Desktop Model

Types 2256, 6339, 6346



| Machine Type 2256 |   |         |
|-------------------|---|---------|
| 1                 | Top Cover Assembly, Black (all models)                      | 31P5610 |
| 2                 | Intel Celeron 100/800 128K (model 12Q)                      | 24P5784 |
| 2                 | Intel Celeron 100/850 128K (models 22Q, 22T, 23C, 23M, 23V) | 24P5944 |



|    | <b>Machine Type 2256</b>   |         |
|----|--|---------|
| 2  | Intel Celeron 900 MHz (model 54M)  | 32P4094 |
| 2  | Intel Celeron 950 MHz (models 51Q 52-QT 71Q 72J 73J 74J 75J)   | 48P5039 |
| 2  | Intel Celeron 1 GHz (models 53V 81V 82M)   | 48P5040 |
| 2  | Intel Celeron 1.1 GHz (models 91Q 92M 93V 94J)   | 33P0809 |
| 2  | Intel PIII 1GHz (model B3M)  | 25P0718 |
| 3  | 64MB SDRAM Memory (models 12Q 22Q 22T 51Q 52Q 52T 54M)   | 33L3072 |
| 3  | 128 MB SDRAM Memory (models B3M 23C 23M 23V 53V 71Q 72J 73J 74J 75J 81V 82M 91Q 92M 93V)               | 33L3074 |
| 3  | 256 MB SDRAM Memory (model 94J)  | 33L3076 |
| 4  | System Board W/O Mem/Proc (all models)   | 06P1369 |
| 5  | 5.25 DASD Bracket (all models)   | 31P5620 |
| 6  | CD-ROM 48x, Black (models 12Q 23C 23M 23V 51Q 53V 54M 71Q 81V 82M 91Q)                                 | 24P3605 |
| 6  | CD-ROM 48x Lite-On, Black (models 12Q 23C 23M 23V 51Q 53V 54M 71Q 81V 82M 91Q)                         | 19K1531 |
| 6  | CD-ROM 48x Samsung (models 12Q 23C 23M 23V 51Q 53V 54M 71Q 81V 82M 91Q)                                | 06P5281 |
| 6  | 12x CD-RW, LG, Black (models 22Q, 22T, B2T)  | 06P5161 |
| 6  | 16x CD-RW, LG, Black (models 72J 73J)  | 24P3627 |
| 6  | 16x CD-RW, LG, Black (models 72J 73J)  | 24P3631 |
| 6  | 16x40x DVD, Black (model B3M 92M 93V)  | 06P5285 |
| 6  | 4x32x8x DVD/CD-RW Combo, Samsung, Black (model 74J 75J 94J)  | 06P5289 |
| 7  | 3.5" 1.44MB Diskette Drive, Black Bezel (all models)   | 76H4091 |
| 8  | 3.5 FDD Bracket (all models)   | 31P5619 |
| 9  | Basic Chassis, Black (all models)  | 31P5611 |
| 10 | 120 W Power Supply, PFC version (all models)   | 25P4966 |
|    | INTEL Lake Clark 2.7 Ethernet adapter (models 71Q 72J 73J 74J 75J 81V 82M 91Q 92M 93V 94J)             | 22P4709 |
|    | PCMCIA /IEEE 1394 Combo Card (models 74J 75J 94J)  | 33P0855 |
|    | PCMCIA Bay Assembly (models 74J 75J 94J)   | 49P0010 |
|    | PCMCIA Cable (models 74J 75J 94J)  | 49P0009 |
|    | Fansink - Heatsink with Fan and Clip (models 12Q, 22Q, 22T, 23C, 23M, 23V)                             | 10K1689 |
|    | Fansink - Heatsink with Fan and Clip Assembly (model 51Q 52Q 52T 53V 54M)                              | 06P2458 |
|    | Fansink - Heatsink with Fan and Clip Assembly (models 71Q 72J 73J 74J 75J 81V 82M 91Q 92M 93V 94J B3M) | 32P4086 |
|    | 20 GB Hardfile EIDE 5400rpm (models 12Q 22Q 22T 23C 23M 23V 51Q 52Q 52T 53V 54M 71Q 81V 82M)           | 19K1560 |
|    | 40 GB ATA-100 HDD (model B3M 72J 73J 91Q 92M 93V)  | 19K1562 |

| <b>Machine Type 2256</b> |  |         |
|--------------------------|--|---------|
|                          | 60 GB ATA-100 HDD (models 74J 75J)   | 24P6006 |
|                          | 80 GB ATA-100 HDD (model 94J)  | 06P5237 |
|                          | Modem Domestic, LP Monopak 56K w/std bracket (all models)                                      | 19K2965 |
|                          | Lithium Battery (all models)   | 33F8354 |
|                          | Mouse - Scrollpoint III, USB, Black (all models)   | 24P0485 |
|                          | Speakers, External, Tier 4 Powered Speakers (all models)                                       | 25P4723 |
|                          | Speaker Brick - China (model 23C)  | 10K2597 |
|                          | Speaker Brick - GB/UK (model 12Q 51Q 52Q 22Q 23M B3M 54M 71Q 91Q 82M 92)                       | 25P5703 |
|                          | Speaker Brick - US/Canada/LA/Taiwan (models 23V 22T 52T 53V 81V 93V)                           | 10K2587 |
|                          | Speaker Brick - Japan (models 72J 73J 74J 75J 94J)   | 10K2593 |
|                          | Speaker Brick - Brazil   | 25P5706 |
|                          | Speaker Brick - ANZ  | 25P5705 |
|                          | Speaker Brick - EMEA/LA High Volt  | 25P5704 |
|                          | Bezel Kit, Black (all models)  | 31P5614 |
|                          | System Stand, Black (all models)   | 32P4065 |
|                          | I/O Slot Cover (all models)  | 31P5615 |
|                          | Cable - Primary IDE (all models)   | 31P5616 |
|                          | FDD Cable (all models)   | 31P5617 |
|                          | Cable - Secondary IDE (CD_ROM) (all models)  | 31P5618 |
|                          | CD-ROM Audio Cable (all models)  | 75H9219 |
|                          | Shields 5.25 and PCMCIA (all models)   | 31P5603 |
|                          | USB Cable Assembly (all models)  | 25P6152 |
|                          | HDD Mounting Bracket (all models)  | 31P5621 |
|                          | Misc Parts (all models)  | 32P4066 |
|                          | Planar EMC Shield (I/O Bracket Assembly) (all models)  | 32P4069 |
|                          | Power/LED Cable Assembly (all models)  | 32P4067 |
|                          | Daughter Card 2 USB/SPDIF/Audio (all models)   | 32P4068 |
|                          | 7' Phone Cord, HK (model 23M 54M 82M 92M)  | 09N5423 |
|                          | 7' Phone Cord (models 12Q 22Q 22T 23C 23V 51Q 52Q 52T 53V 71Q 72J 73J 74J 75J 81V 91Q 93V 94J) | 36L9016 |

| <b>Recovery CDs Win ME - Machine Type 2256</b> |                                     |         |
|--|-------------------------------------|---------|
|  | US English                          | 25P5813 |
|  | UK English                          | 25P5814 |
|  | AP English (models 12Q 22Q 51Q 52Q) | 25P5821 |
|  | French                              | 25P5822 |

| <b>Recovery CDs Win ME - Machine Type 2256</b> |                      |         |
|--|----------------------|---------|
|  | Canadian French      | 32P4491 |
|  | Spanish              | 32P4492 |
|  | LA Spanish           | 32P4493 |
|  | Portuguese           | 32P4494 |
|  | Brazil, Portuguese   | 25P5965 |
|  | German               | 25P5966 |
|  | Italian              | 25P5967 |
|  | Dutch                | 25P5968 |
|  | Danish               | 25P5969 |
|  | Finnish              | 25P5970 |
|  | Norwegian            | 25P6075 |
|  | Swedish              | 25P5971 |
|  | Arabic Enabled       | 25P5972 |
|  | Hebrew               | 25P5974 |
|  | Czech                | 25P5975 |
|  | Russian              | 25P5976 |
|  | Polish               | 25P5977 |
|  | Hungarian            | 25P5978 |
|  | Slovenian            | 25P5979 |
|  | Slovak               | 25P5980 |
|  | Greek                | 25P5981 |
|  | Turkish              | 25P5982 |
|  | Thai (model 22T 52T) | 25P5983 |

| <b>Recovery CDs Win 2K - Machine Type 2256</b> |   |         |
|--|---|---------|
|  | US English Win 2K (models 27U, B5U, B7U)                          | 25P6019 |
|  | UK English Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)      | 25P6020 |
|  | AP English Win 2K (models 1AA, 1BQ, 27A, 27D, 28Q, A2A, B7A, PCQ) | 25P6021 |
|  | French Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)          | 25P6022 |
|  | Canadian French Win 2K (models 27F, B5F, B7F)                     | 25P6023 |
|  | Spanish Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)         | 25P6024 |
|  | LA Spanish Win 2K (models 12S, 24S, 27S, B1S)                     | 25P6025 |
|  | Brazil, Portuguese Win 2K (models 12S, 24S, 27S, B1S)             | 25P6026 |
|  | German Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)          | 25P6027 |
|  | Italian Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)         | 25P6028 |
|  | Dutch Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)           | 25P6029 |

|  | <b>Recovery CDs Win 2K - Machine Type 2256</b>                     |         |
|--|--|---------|
|  | Danish Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)           | 25P6030 |
|  | Finnish Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)          | 25P6031 |
|  | Norwegian Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)        | 25P6032 |
|  | Swedish Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)          | 25P6033 |
|  | Arabic Enabled Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)   | 25P6034 |
|  | Arabic Localized Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G) | 25P6035 |
|  | Czech Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)            | 25P6036 |
|  | Russian Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)          | 25P6037 |
|  | Polish Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)           | 25P6038 |
|  | Hungarian Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)        | 25P6039 |
|  | Turkish Win 2K (models PCG, 19G, 26G, B5G, 32G, 42G, 51G)          | 25P6040 |
|  | Thai Win 2K (models 1BT, 28T, PCT)                                 | 25P6041 |

|  | <b>Recovery CDs Win SE - Machine Type 2256</b>                  |         |
|--|---|---------|
|  | US English (models 23U, B4U, 20U)                               | 25P6102 |
|  | UK English (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)       | 25P6103 |
|  | AP English (models 13D, 18A, 21D, 23A, 25Q, A1A, B3A, B8D, 13A) | 25P5715 |
|  | French (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)           | 25P6105 |
|  | Canadian French (models 23F, B4F)                               | 25P6106 |
|  | Spanish (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)          | 25P6107 |
|  | LA Spanish (models 14S, 25S, B2S)                               | 25P6108 |
|  | Portuguese (models 22G, B6G, PAG, PBG)                          | 25P6109 |
|  | Brazil, Portuguese (models 14P, 25P, B2P)                       | 25P6110 |
|  | German (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)           | 25P6111 |
|  | Italian (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)          | 25P6112 |
|  | Dutch (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)            | 25P6113 |
|  | Danish (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)           | 25P6114 |
|  | Finnish (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)          | 25P6115 |
|  | Norwegian (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)        | 25P6129 |
|  | Swedish (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)          | 25P6116 |
|  | Arabic Enabled (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)   | 25P6117 |
|  | Arabic Localized (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G) | 25P6118 |
|  | Hebrew (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)           | 25P6119 |

| <b>Recovery CDs Win SE - Machine Type 2256</b> |  |         |
|--|--|---------|
|  | Czech (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)     | 25P6120 |
|  | Russian (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)   | 25P6121 |
|  | Polish (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)    | 25P6122 |
|  | Hungarian (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G) | 25P6123 |
|  | Slovenian (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G) | 25P6124 |
|  | Slovak (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)    | 25P6125 |
|  | Greek (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)     | 25P6126 |
|  | Turkish (models 22G, B6G, PAG, PBG, 13G 31G, 41G, 52G)   | 25P6127 |
|  | Thai (models 25T, 13T)                                   | 25P6104 |

| <b>Recovery CDs Win XP Home - Machine Type 2256</b> |                          |         |
|---|--------------------------|---------|
|   | English (models 71Q 91Q) | 33P2085 |
|   | French                   | 33P2088 |
|   | German                   | 33P2091 |
|   | Italian                  | 33P2094 |
|   | Spanish                  | 33P2097 |
|   | Brazil/Portuguese        | 33P2100 |
|   | Swedish                  | 33P2103 |
|   | Danish                   | 33P2106 |
|   | Finnish                  | 33P2109 |
|   | Norwegian                | 33P2112 |
|   | Dutch                    | 33P2115 |
|   | Hebrew Enabled           | 33P2118 |
|   | Polish                   | 33P2121 |
|   | Russian                  | 33P2124 |
|   | Czech                    | 33P2127 |
|   | Arabic Enabled           | 33P2130 |
|   | Turkish                  | 33P2133 |
|   | Hungarian                | 33P2136 |
|   | Greek                    | 33P2139 |
|   | Portuguese               | 33P2142 |

| <b>Keyboards - Machine Type 2256</b> |   |         |
|--------------------------------------|---|---------|
|                                      | US English, Rapid Access IIIe Keyboard (black) (models 12Q 22Q 23C 51Q 52Q 71Q 91Q) | 19K1910 |
|                                      | Arabic, Rapid Access IIIe Keyboard (black)  | 19K1911 |
|                                      | Belgium/French, Rapid Access IIIe Keyboard (black)                                  | 19K1912 |

| <b>Keyboards - Machine Type 2256</b> |   |         |
|--------------------------------------|---|---------|
|                                      | Belgium/UK, Rapid Access IIIe Keyboard (black)  | 19K1913 |
|                                      | Brazil/Portuguese, Rapid Access IIIe Keyboard (black)                                       | 19K1948 |
|                                      | Bulgarian, Rapid Access IIIe Keyboard (black)   | 19K1914 |
|                                      | Chinese/US, Rapid Access IIIe Keyboard (black) (models 23M 23V B3M 54M 53V 81V 82M 92M 93V) | 19K1915 |
|                                      | Czech, Rapid Access IIIe Keyboard (black)   | 19K1916 |
|                                      | Danish, Rapid Access IIIe Keyboard (black)  | 19K1917 |
|                                      | Dutch, Rapid Access IIIe Keyboard (black)   | 19K1918 |
|                                      | French, Rapid Access IIIe Keyboard (black)  | 19K1919 |
|                                      | French Canadian, Rapid Access IIIe Keyboard (black)   | 19K1920 |
|                                      | French Canadian, Rapid Access IIIe Keyboard (black)   | 19K1921 |
|                                      | German, Rapid Access IIIe Keyboard (black)  | 19K1922 |
|                                      | Greek, Rapid Access IIIe Keyboard (black)   | 19K1923 |
|                                      | Hebrew, Rapid Access IIIe Keyboard (black)  | 19K1924 |
|                                      | Hungarian, Rapid Access IIIe Keyboard (black)   | 19K1925 |
|                                      | Iceland, Rapid Access IIIe Keyboard (black)   | 19K1926 |
|                                      | Italy, Rapid Access IIIe Keyboard (black)   | 19K1927 |
|                                      | Japanese, Rapid Access IIIe Keyboard (black)  | 19K1928 |
|                                      | LA Spanish, Rapid Access IIIe Keyboard (black)  | 19K1930 |
|                                      | Norwegian, Rapid Access IIIe Keyboard (black)   | 19K1931 |
|                                      | Polish, Rapid Access IIIe Keyboard (black)  | 19K1932 |
|                                      | Portuguese, Rapid Access IIIe Keyboard (black)  | 19K1933 |
|                                      | Romanian, Rapid Access IIIe Keyboard (black)  | 19K1934 |
|                                      | Russian, Rapid Access IIIe Keyboard (black)   | 19K1935 |
|                                      | Russian/Cy, Rapid Access IIIe Keyboard (black)  | 19K1936 |
|                                      | Serbian/Cyrillic, Rapid Access IIIe Keyboard (black)  | 19K1937 |
|                                      | Slovak, Rapid Access IIIe Keyboard (black)  | 19K1938 |
|                                      | Spanish, Rapid Access IIIe Keyboard (black)   | 19K1939 |
|                                      | Swedish/Finn, Rapid Access IIIe Keyboard (black)  | 19K1940 |
|                                      | Swiss F/G, Rapid Access IIIe Keyboard (black)   | 19K1941 |
|                                      | Thailand, Rapid Access IIIe Keyboard (black) (models 22T 52T)                               | 19K1942 |
|                                      | Turkish, Rapid Access IIIe Keyboard (black)   | 19K1943 |
|                                      | Turkish, Rapid Access IIIe Keyboard (black)   | 19K1944 |
|                                      | UK English, Rapid Access IIIe Keyboard (black)  | 19K1945 |
|                                      | US International, Rapid Access IIIe Keyboard (black)  | 19K1946 |
|                                      | Yugoslav/Latin, Rapid Access IIIe Keyboard (black)  | 19K1947 |
|                                      | Japanese, Rapid Access IIIe Keyboard (black)  | 19K1908 |

|  | <b>Power Cords - Machine Type 2256</b>                            |         |
|--|---|---------|
|  | Arabic  | 14F0033 |
|  | Australian  | 93F2365 |
|  | Belgian   | 1339520 |
|  | Bulgarian   | 1339520 |
|  | Canadian  | 93F2364 |
|  | Czechoslovakian   | 1339520 |
|  | Denmark   | 13F9997 |
|  | Finland   | 1339520 |
|  | France  | 1339520 |
|  | German  | 1339520 |
|  | Hungarian   | 1339520 |
|  | Israel  | 14F0087 |
|  | Italian   | 14F0069 |
|  | Latin American  | 6952301 |
|  | Netherlands   | 1339520 |
|  | New Zealand   | 93F2365 |
|  | Norwegian   | 1339520 |
|  | Polish  | 1339520 |
|  | Portuguese  | 1339520 |
|  | Serbian   | 1339520 |
|  | Slovakian   | 1339520 |
|  | South African   | 14F0015 |
|  | Spanish   | 1339520 |
|  | Swiss   | 1339520 |
|  | Swiss - French/German   | 14F0051 |
|  | US English (models 22T 23V 52T 53V 81V 93V)                       | 93F2364 |
|  | UK - Ireland (models 12Q 22Q 23M B3M 51Q 52Q 54M 71Q 82M 92M 91Q) | 14F0033 |
|  | Yugoslavian   | 1339520 |
|  | Chile   | 14F0069 |
|  | Argentina, Paraguay, & Uruguay                                    | 36L8880 |
|  | Japan (models 72J 73J 74J 75J 94J)                                | 24G0222 |
|  | China (model 23C)   | 02K0545 |

| Machine Type 6339 |  |         |
|-------------------|--|---------|
| 1                 | Top Cover Assembly, White (models PAJ PBJ 11A 14A 21A 24A 24T 24Q 24J 27J A1A A2A B3A B5A B6J B7J C1T C1Q 41A 41Q 41T 41J 44A 45J 46J 48J 41G 44G 53J 56-ATQJ 63J 64-ATQJ 66A PCJ)   | 31P5607 |
| 1                 | Top Cover Assembly, Black (models 112S 12P 13S 13P 21U 21F 22S 22P 23U 23F 24U 24F 24G 25S 25P B1S B1P B2S B2P B4U B4F B5U B5F B3U B3F 16U B7U B7F C2G 41U 41F 42S 42P 43S 43P 44U 44F 48U 48F B6U B6F B6J 51-SP 52-SP 54-UF 56-UFG 64-UFG 66-UF 67-SP 68-SP 55A 55F 55U 81U)                        | 31P5608 |
| 1                 | Top Cover Assembly (No FDD), Black (models 26U B8U B8G 26G 49G 57-UG 65G)  | 31P5609 |
| 2                 | Intel Celeron 100/800 128K (model 11A, 12S, 12P, 13S, 13P, 14A, 16U)   | 24P5784 |
| 2                 | Intel Celeron 100/850 128K (models PAJ, 21U, 21F, 21A, 22S, 22P, 23U, 23F, 24U, 24F, 24G, 24A, 24T, 24Q, 24J, 25S, 25P, 26U, 27J, 26G)   | 24P5944 |
| 2                 | Intel Celeron 900MHz (models 41U 41F 41G 41A 41T 41Q 41J 42S 42P 43S 43P 44U 44F 44A 45J 46J 49G 44G PAJ)  | 32P4094 |
| 2                 | Intel Celeron 950MHz (models 51S 51P 52S 52P 54U 54F 56U 56F 56G 57U 57G 53J 56A 56Q 56T 56J 55A 55F 55U)  | 48P5039 |
| 2                 | Intel Celeron 1GHz (models 64U 64F 64G 65G 66U 66F 67S 67P 68S 68P 63J 64A 64Q 64T 64J 66A PCJ 81U)  | 48P5040 |
| 2                 | Intel PIII 933 MHz (models A1A, A2A)   | 25P0719 |
| 2                 | Intel PIII 1GHz (model PBJ B1S B1P B2S B2P B3A B4U B4F B5U B5F B5A B6J B7J B8U B3U B3F B8G C1T C1Q B7U B7F C2G 48J 48U 48F B6U B6F B6J)  | 25P0718 |
| 3                 | 64MB SDRAM Memory (models 11A 12S 12P 13S 13P 21U 21F 21A 22S 22P 23U 23F 25S 25P A1A B1S B1P B2S B2P B3A B4U B4F B3U B3F C1T C1Q 42S 42P 43S 43P 45J 46J 48U 48F 48J 51S 51P 52S 52P 53J 54U 54F 63J 67S 67P 68S 68P)   | 33L3072 |
| 3                 | 128 MB SDRAM Memory (models PAJ PBJ 14A 24U 24F 24G 24A 24T 24Q 24J 26U 27J A2A B5U B5F B5A B6J B7J B8U B8G 16U 26G B7U B7F C2G 41U 41F 41G 41A 41T 41Q 41J 44U 44F 44A 49G B6U B6F 44G 56U 56F 56G 56A 56T 56Q 56J 57U 57G 64U 64F 64G 64A 64T 64Q 64J 65G 66U 66F 66A PAJ PBJ PCJ 55A 55F 55U 81U) | 33L3074 |
| 3                 | 256 MB SDRAM Memory  | 33L3076 |
| 4                 | System Board W/O Mem/Proc (all models)   | 48P5062 |
| 5                 | 5.25 DASD Bracket (all models)   | 31P5620 |
| 6                 | CD-ROM 48x, White (models PAJ PBJ 11A 14A 21A 24A 24T 24Q 24J 27J A1A A2A B3A B5A B6J B7J C1T C1Q 41G 44G 46J 53J 56-ATQJ 63J 64-ATQJ 66A PCJ)   | 24P3603 |
| 6                 | CD-ROM 48x Lite-On, White (models PAJ PBJ 11A 14A 21A 24A 24T 24Q 24J 27J A1A A2A B3A B5A B6J B7J C1T C1Q 41G 44G 46J 53J 56-ATQJ 63J 64-ATQJ 66A PCJ)   | 19K1529 |
| 6                 | CD-ROM 48x Samsung (models PAJ PBJ 11A 14A 21A 24A 24T 24Q 24J 27J A1A A2A B3A B5A B6J B7J C1T C1Q 41G 44G 46J 53J 56-ATQJ 63J 64-ATQJ 66A PCJ)  | 19K1533 |



| <b>Machine Type 6339</b> |  |         |
|--------------------------|--|---------|
| 6                        | CD-ROM 48x, Black (models 21U 21F 24U 24F 24G B5U B5F B8U B3U B3F B8G 26U 26G B7U B7F C2G 41U 41F 41A 41T 41Q 41J 44U 44F 44A 46J 49G 48U 48F 48J B6U B6F B6J 51S 51P 52S 52P 54U 54F 56-UFG 57U 57G 64-UFG 65G 66U 66F 67-SP 68-SP 55A 55F 55U 81U)   | 24P3605 |
| 6                        | CD-ROM 48x, Lite-On, Black (models 21U 21F 24U 24F 24G B5U B5F B8U B3U B3F B8G 26U 26G B7U B7F C2G 41U 41F 41A 41T 41Q 41J 44U 44F 44A 46J 49G 48U 48F 48J B6U B6F B6J 51S 51P 52S 52P 54U 54F 56-UFG 57U 57G 64-UFG 65G 66U 66F 67-SP 68-SP 55A 55F 55U 81U)  | 19K1531 |
| 6                        | CD-ROM 48x, Samsung (models 21U 21F 24U 24F 24G B5U B5F B8U B3U B3F B8G 26U 26G B7U B7F C2G 41U 41F 41A 41T 41Q 41J 44U 44F 44A 46J 49G 48U 48F 48J B6U B6F B6J 51S 51P 52S 52P 54U 54F 56-UFG 57U 57G 64-UFG 65G 66U 66F 67-SP 68-SP 55A 55F 55U 81U)   | 06P5281 |
| 6                        | 12x CD-RW, LG, Black   | 06P5161 |
| 6                        | 4x32x8x DVD/CD-RW Combo, Samsung, Black  | 06P5289 |
| 7                        | 3.5" 1.44MB Diskette Drive (models 11A 14A 21A 24A 24T 24Q A1A A2A B3A B5A 12S 12P 13S 13P 21U 21F 22S 22P 23U 23F 24U 24F 24G 25S 25P B1S B1P B2S B2P B4U B4F B5U B5F B3U B3F C1T C1Q 16U B7U B7F C2G 41U 41F 41A 41T 41Q 42S 42P 43S 43P 44U 44F 44A 48U 48F B6U B6F 41G 51S 51P 52S 52P 54U 54F 56U 56F 56G 64U 64F 64G 65G 66U 66F 67S 67P 68S 68P 44G 56-ATQ 64-ATQ 66A 55A 55F 55U 81U)              | 75H9550 |
| 7                        | 3.5" 1.44MB Diskette Drive, 3 Mode (models PAJ PBJ 24J 27J B6J B7J 41J 45J 46J 48J 53J 56J 63J 64J PCJ)  | 36L9130 |
| 8                        | 3.5 FDD Bracket (all models)   | 31P5619 |
| 9                        | Basic Chassis Assembly, White (models PAJ PBJ 11A 14A 21A 24A 24T 24Q 24J 27J A1A A2A B3A B5A B6J B7J C1T C1Q 41A 41Q 41T 41J 44A 45J 46J 48J 41G 44G 53J 56-ATQJ 63J 64-ATQJ 66A PCJ)   | 32P4063 |
| 9                        | Basic Chassis, Black (models 12S 12P 13S 13P 21U 21F 22S 22P 23U 23F 24U 24F 24G 25S 25P B1S B1P B2S B2P B4U B4F B5U B5F B3U B3F16U B7U B7F C2G 41U 41F 42S 42P 43S 43P 44U 44F 48U 48F B6U B6F B6J 51-SP 52-SP 54-UF 56-UFG 57-UG 64-UFG 65G 66-UF 67-SP 68-SP 55A 55F 55U 81U)   | 31P5611 |
| 10                       | 120 W Power Supply, PFC version (all models)   | 22P2442 |
|                          | INTEL Lake Clark 2.7 Ethernet adapter (model 81U)  | 22P4709 |
|                          | Fansink - Heatsink with Fan and Clip (models 11A, 12S, 12P, 13S, 13P, 14A, 21U, 21F, 21A, 22S, 22P, 23U, 23F, 24U, 24F, 24G, 24A, 24T, 24Q, 24J, 25S, 25P, 26U, 27J, 16U, 26G)   | 10K1689 |
|                          | Fansink - Heatsink with Fan and Clip Assembly (models A1A A2A PBJ B1S B1P B2S B2P B3A B4U B4F B5U B5F B5A B6J B7J B8U B3U B3F B8G C1T C1Q B7U B7F C2G 41U 41F 41G 41A 41T 41Q 41J 42S 42P 43S 43P 44U 44F 44A 45J 46J 49G 48U 48F 48J B6U B6F B6J 51S 51P 52S 52P 54U 54F 56U 56F 56G 57U 57G 64U 64F 64G 65G 66U 66F 67S 67P 68S 68P 44G 53J 56A 56Q 56T 56J 63J 64A 64Q 64T 64J 66A PAJ PCJ 55A 55F 55U) | 06P2458 |
|                          | Fansink - Heatsink with Fan and Clip Assembly (model 81U)  | 32P4086 |

|  | Machine Type 6339  |         |
|--|--|---------|
|  | 20 GB Hardfile EIDE 5400rpm (models PAJ PBJ 11A 14A 21U 21F 21A 24U 24F 24G 24A 24T 24Q 24J 26U 27J B6J B7J B8J B8G C1T C1Q 16U 26G B7U B7F C2G 41U 41F 41G 41A 41T 41Q 41J 44U 44F 44A 45J 46J 49G 48U 48F 48J B6U B6F 46G 48U 48F 53J 56U 56F 56G 56ATQJ 57UG 63J 63U 63F 64U 64F 64G 64-ATQJ 65G 66U 66F 66A PCJ 55A 55F 55U 81U) | 19K1560 |
|  | 40 GB ATA-100 HDD (models 12S 12P 13S 13P 22S 22P 23U 23F 25S 25P A1A A2A B1S B1P B2S B2P B3A B4U B4F B5U B5F B5A B3U B3F 42S 42P 43S 43P 51S 51P 52S 52P 54U 54F 67S 67P 68S 68P)   | 19K1562 |
|  | Lithium Battery (all models)   | 33F8354 |
|  | Mouse, 2-Button, White (models 11A 14A 21A 24A 24T 24Q 24J 27J A1A A2A B3A B5A B6J B7J C1T C1Q 41A 41T 41Q 41J 44A 45J 46J 48J 41G 44G 53J 56-ATQJ 63J 64-ATQJ 66A)  | 10L6145 |
|  | Mouse, 2-Button, Black (models 12S 12P 13S 13P 21U 21F 22S 22P 23U 23F 24U 24F 24G 25S 25P 26U B1S B1P B2S B2P B4U B4F B5U B5F B8U B3U B3F B8G 26U 26G B7U B7F C2G 41U 41F 42S 42P 43S 43P 44U 44F 49G 48U 48F B6U B6F B6J 51-SP 52-SP 54-UF 56-UFG 57-UG 64-UFG 65G 66-UF 67-SP 68-SP 55A 55F 55U 81U)                              | 10L6149 |
|  | Mouse - Scrollpoint III, USB, Black  | 24P0485 |
|  | IBM Wheel Mouse, PS2 (models PAJ PBJ PCJ)  | 24P0489 |
|  | Bezel Kit, White (models PAJ PBJ 11A 14A 21A 24A 24T 24Q 24J 27J A1A A2A B3A B5A B6J B7J C1T C1Q 41A 41Q 41T 41J 44A 45J 46J 48J 41G 44G 53J 56-ATQJ 63J 64-ATQJ 66A PCJ)  | 31P5613 |
|  | System Stand, White (models PAJ PBJ 46J 53J 56J 63J 64J PCJ)   | 32P4064 |
|  | Bezel Kit, Black (models 12S 12P 13S 13P 21U 21F 22S 22P 23U 23F 24U 24F 24G 25S 25P B1S B1P B2S B2P B4U B4F B5U B5F B3U B3F 16U B7U B7F C2G 41U 41F 42S 42P 43S 43P 44U 44F 48U 48F B6U B6F B6J 51-SP 52-SP 54-UF 56-UFG 57-UG 64-UFG 65G 66-UF 67-SP 68-SP 55A 55F 55U 81U)  | 31P5614 |
|  | System Stand, Black (models B8U B8G 26G 57-UG 65G)   | 32P4065 |
|  | I/O Slot Cover (all models)  | 31P5615 |
|  | Cable - Primary IDE (all models)   | 31P5616 |
|  | FDD Cable (all models)   | 31P5617 |
|  | Cable - Secondary IDE (CD_ROM) (all models)  | 31P5618 |
|  | CD-ROM Audio Cable (all models)  | 75H9219 |
|  | Shields 5.25 and PCMCIA (all models)   | 31P5603 |
|  | USB Cable Assembly (all models)  | 25P6152 |
|  | HDD Mounting Bracket (all models)  | 31P5621 |
|  | Misc Parts (all models)  | 32P4066 |
|  | Planar EMC Shield (I/O Bracket Assembly) (all models)  | 32P4069 |
|  | Power/LED Cable Assembly (all models)  | 32P4067 |

| <b>Recovery CDs Win 2K - Machine Type 6339</b> |  |         |
|--|--|---------|
|  | US English Win 2K (models 23U 24U 26U B4U B5U B8U 41U 44U 48U B6U 54U 56U 57U 64U) | 25P6019 |
|  | UK English Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                 | 25P6020 |
|  | AP English Win 2K (models 14A 24A 24Q A2A B5A 41A 41Q 44A 56A 56Q 64A 64Q)         | 25P6021 |
|  | French Win 2K (models 24G B8G 26G C2G 49G 41G 56G)                                 | 25P6022 |
|  | Canadian French Win 2K (models 23F 24F B4F B5F 41F 44F 48F B6F 56F 64F)            | 25P6023 |
|  | Spanish Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                    | 25P6024 |
|  | LA Spanish Win 2K (models 12S 22S B1S 42S 43S 51S 68S)                             | 25P6025 |
|  | Brazil, Portuguese Win 2K (models 12P 22P B1P 42P 43P 51P 68P)                     | 25P6026 |
|  | German Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                     | 25P6027 |
|  | Greek (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                             | 25P6072 |
|  | Hebrew (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                            | 25P6061 |
|  | Italian Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                    | 25P6028 |
|  | Dutch Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                      | 25P6029 |
|  | Danish Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                     | 25P6030 |
|  | Finnish Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                    | 25P6031 |
|  | Norwegian Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                  | 25P6032 |
|  | Swedish Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                    | 25P6033 |
|  | Arabic Localized Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)           | 25P6035 |
|  | Czech Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                      | 25P6036 |
|  | Russian Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                    | 25P6037 |
|  | Polish Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                     | 25P6038 |
|  | Hungarian Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                  | 25P6039 |
|  | Turkish Win 2K (models 24G B8G 26G C2G 49G 41G 56G 57G 64G 65G)                    | 25P6040 |
|  | Thai Win 2K (models 24T 41T 56T 64T)   | 25P6041 |
|  | Japan Win 2K (models 24J B5J 41J B6J 56J 64J)                                      | 46P4685 |

| <b>Recovery CDs Win SE - Machine Type 6339</b> |  |         |
|--|--|---------|
|  | US English (models 21U B3U 16U B7U 41U 44U 48U B6U 66U 55U)  | 25P6102 |
|  | UK English (model 44G)                                       | 25P6103 |
|  | AP English (models 11A 21A A1A B3A C1Q 41A 44A 66A 55A)      | 25P5715 |
|  | French (model 44G)   | 25P6105 |
|  | Canadian French (models 21F B3F B7F 41F 44F 48F B6F 66F 55F) | 25P6106 |
|  | Spanish (model 44G)  | 25P6107 |
|  | LA Spanish (models 13S 25S B2S 42S 43S 52S 67S)              | 25P6108 |
|  | Portuguese (model 44G)                                       | 25P6109 |
|  | Brazil, Portuguese (models 13P 25P B2P 42P 43P 52P 67P)      | 25P6110 |
|  | German (model 44G)   | 25P6111 |
|  | Italian (model 44G)  | 25P6112 |
|  | Dutch (model 44G)  | 25P6113 |
|  | Danish (model 44G)   | 25P6114 |
|  | Finnish (model 44G)  | 25P6115 |
|  | Japan (models 27J B7J 46J 48J 53J 63J PAJ PBJ FCJ)           | 46p4684 |
|  | Norwegian (model 44G)  | 25P6129 |
|  | Swedish (model 44G)  | 25P6116 |
|  | Arabic Enabled (model 44G)                                   | 25P6117 |
|  | Hebrew (model 44G)   | 25P6119 |
|  | Czech (model 44G)  | 25P6120 |
|  | Russian (model 44G)  | 25P6121 |
|  | Polish (model 44G)   | 25P6122 |
|  | Hungarian (model 44G)  | 25P6123 |
|  | Slovenian (model 44G)  | 25P6124 |
|  | Slovak (model 44G)   | 25P6125 |
|  | Greek (model 44G)  | 25P6126 |
|  | Turkish (model 44G)  | 25P6127 |
|  | Thai (model C1T 41T)   | 25P6104 |

| <b>Keyboards - Machine Type 6339</b> |                                    |         |
|--------------------------------------|------------------------------------|---------|
|                                      | US English, white (all models)     | 32P5040 |
|                                      | Arabic, white (all models)         | 32P5041 |
|                                      | Belgium/French, white (all models) | 32P5042 |
|                                      | Belgium/UK, white (all models)     | 32P5043 |

| <b>Keyboards - Machine Type 6339</b> |   |         |
|--------------------------------------|---|---------|
|                                      | Bulgarian, white (all models)                   | 32P5044 |
|                                      | Chinese/US Hong Kong/Taiwan, white (all models) | 32P5045 |
|                                      | Czech, white (all models)                       | 32P5046 |
|                                      | Danish, white (all models)                      | 32P5047 |
|                                      | Dutch, white (all models)                       | 32P5048 |
|                                      | French, white (all models)                      | 32P5049 |
|                                      | French Canadian, white (all models)             | 32P5050 |
|                                      | French Canadian, white (all models)             | 32P5051 |
|                                      | German, white (all models)                      | 32P5052 |
|                                      | Greek, white (all models)                       | 32P5053 |
|                                      | Hebrew, white (all models)                      | 32P5054 |
|                                      | Hungarian, white (all models)                   | 32P5055 |
|                                      | Iceland, white (all models)                     | 32P5056 |
|                                      | Italy, white (all models)                       | 32P5057 |
|                                      | Japanese, white (all models)                    | 32P5058 |
|                                      | LA Spanish, white (all models)                  | 32P5059 |
|                                      | Norwegian, white (all models)                   | 32P5060 |
|                                      | Polish, white (all models)                      | 32P5061 |
|                                      | Portuguese, white (all models)                  | 32P5062 |
|                                      | Romanian, white (all models)                    | 32P5063 |
|                                      | Russian, white (all models)                     | 32P5064 |
|                                      | Russian/Cy, white (all models)                  | 32P5065 |
|                                      | Serbian/Cyrillic, white (all models)            | 32P5066 |
|                                      | Slovak, white (all models)                      | 32P5067 |
|                                      | Spanish, white (all models)                     | 32P5068 |
|                                      | Swedish/Finn, white (all models)                | 32P5069 |
|                                      | Swiss F/G, white (all models)                   | 32P5070 |
|                                      | Thailand, white (all models)                    | 32P5071 |
|                                      | Turkish, white (all models)                     | 32P5072 |
|                                      | Turkish, white (all models)                     | 32P5073 |
|                                      | UK English, white (all models)                  | 32P5074 |
|                                      | US International, white (all models)            | 32P5075 |
|                                      | Yugoslav/Latin, white (all models)              | 32P5076 |
|                                      | Japanese, white (all models)                    | 32P5077 |
|                                      | Brazil/Portuguese, white (all models)           | 32P5078 |

| <b>Keyboards - Machine Type 6339</b>            |  |         |
|---|--|---------|
| US English, Black (all models)                  |  | 32P5000 |
| Arabic, Black (all models)                      |  | 32P5001 |
| Belgium/French, Black (all models)              |  | 32P5002 |
| Belgium/UK, Black (all models)                  |  | 32P5003 |
| Bulgarian, Black (all models)                   |  | 32P5004 |
| Chinese/US Hong Kong/Taiwan, Black (all models) |  | 32P5005 |
| Czech, Black (all models)                       |  | 32P5006 |
| Danish, Black (all models)                      |  | 32P5007 |
| Dutch, Black (all models)                       |  | 32P5008 |
| French, Black (all models)                      |  | 32P5009 |
| French Canadian, Black (all models)             |  | 32P5010 |
| French Canadian, Black (all models)             |  | 32P5011 |
| German, Black (all models)                      |  | 32P5012 |
| Greek, Black (all models)                       |  | 32P5013 |
| Hebrew, Black (all models)                      |  | 32P5014 |
| Hungarian, Black (all models)                   |  | 32P5015 |
| Iceland, Black (all models)                     |  | 32P5016 |
| Italy, Black (all models)                       |  | 32P5017 |
| Japanese, Black (all models)                    |  | 32P5018 |
| Korean, Black (all models)                      |  | 32P5019 |
| LA Spanish, Black (all models)                  |  | 32P5020 |
| Norwegian, Black (all models)                   |  | 32P5021 |
| Polish, Black (all models)                      |  | 32P5022 |
| Portuguese, Black (all models)                  |  | 32P5023 |
| Romanian, Black (all models)                    |  | 32P5024 |
| Russian, Black (all models)                     |  | 32P5025 |
| Russian/Cy, Black (all models)                  |  | 32P5026 |
| Serbian/Cyrillic, Black (all models)            |  | 32P5027 |
| Slovak, Black (all models)                      |  | 32P508  |
| Spanish, Black (all models)                     |  | 32P5029 |
| Swedish/Finn, Black (all models)                |  | 32P5030 |
| Swiss F/G, Black (all models)                   |  | 32P5031 |
| Thailand, Black (all models)                    |  | 32P5032 |
| Turkish, Black (all models)                     |  | 32P5033 |
| Turkish, Black (all models)                     |  | 32P5034 |
| UK English, Black (all models)                  |  | 32P5035 |
| US International, Black (all models)            |  | 32P5036 |
| Yugoslav/Latin, Black (all models)              |  | 32P5037 |

| <b>Keyboards - Machine Type 6339</b>  |         |
|---------------------------------------|---------|
| Brazil/Portuguese, Black (all models) | 32P5038 |

| <b>Power Cords - Type 6339</b>              |         |
|---|---------|
| Arabic (all models)                         | 14F0033 |
| Australian (all models)                     | 93F2365 |
| Belgian (all models)                        | 1339520 |
| Bulgarian (all models)                      | 1339520 |
| Canadian (all models)                       | 93F2364 |
| Czechoslovakian (all models)                | 1339520 |
| Denmark (all models)                        | 13F9997 |
| Finland (all models)                        | 1339520 |
| France (all models)                         | 1339520 |
| German (all models)                         | 1339520 |
| Hungarian (all models)                      | 1339520 |
| Israel (all models)                         | 14F0087 |
| Italian (all models)                        | 14F0069 |
| Latin American (all models)                 | 6952301 |
| Netherlands (all models)                    | 1339520 |
| New Zealand (all models)                    | 93F2365 |
| Norwegian (all models)                      | 1339520 |
| Polish (all models)                         | 1339520 |
| Portuguese (all models)                     | 1339520 |
| Serbian (all models)                        | 1339520 |
| Slovakian (all models)                      | 1339520 |
| South African (all models)                  | 14F0015 |
| Spanish (all models)                        | 1339520 |
| Swiss (all models)                          | 1339520 |
| Swiss - French/German (all models)          | 14F0051 |
| US English (all models)                     | 93F2364 |
| UK - Ireland (all models)                   | 14F0033 |
| Yugoslavian (all models)                    | 1339520 |
| Chile (all models)                          | 14F0069 |
| Argentina, Paraguay, & Uruguay (all models) | 36L8880 |
| Japan (all models)                          | 24G0222 |

| Machine Type 6346 |   |         |
|-------------------|---|---------|
| 1                 | Top Cover Assembly, Black (all models)  | 31P5610 |
| 2                 | Intel Celeron 100/800 128K (model 12Q)  | 24P5784 |
| 2                 | Intel Celeron 100/850 128K (models 22Q, 22T, 23C, 23M, 23V)                             | 24P5944 |
| 2                 | Intel PIII 1GHz (model B3M)   | 25P0718 |
| 3                 | 64MB SDRAM Memory (models 12Q, 22Q, 22T)  | 33L3072 |
| 3                 | 128 MB SDRAM Memory (models B3M, 23C, 23M, 23V)   | 33L3074 |
| 4                 | System Board W/O Mem/Proc (all models)  | 06P1369 |
| 5                 | 5.25 DASD Bracket (all models)  | 31P5620 |
| 6                 | CD-ROM 48x, Black (models 12Q, 23C, 23M, 23V)   | 24P3605 |
| 6                 | CD-ROM 48x Lite-On, Black (models 12Q, 23C, 23M, 23V)                                   | 19K1531 |
| 6                 | CD-ROM 48x Samsung (models 12Q, 23C, 23M, 23V)  | 06P5281 |
| 6                 | 12x CD-RW, LG, Black (models 22Q, 22T, B2T)   | 06P5161 |
| 6                 | 16x40x DVD, Black (model B3M)   | 06P5285 |
| 6                 | 4x32x8x DVD/CD-RW Combo, Samsung, Black (model TBD)                                     | 06P5289 |
| 7                 | 3.5" 1.44MB Diskette Drive, Black Bezel (models 12Q, 22Q, 22T, 23C, 23M, 23V, B3M)      | 76H4091 |
| 8                 | 3.5 FDD Bracket (all models)  | 31P5619 |
| 9                 | Basic Chassis, Black (all models)   | 31P5611 |
| 10                | 120 W Power Supply, PFC version (models 12Q, 22Q, 22T, 23C, 23M, 23V, B3M)              | 25P4966 |
|                   | Fansink - Heatsink with Fan and Clip (models 12Q, 22Q, 22T, 23C, 23M, 23V)              | 10K1689 |
|                   | Fansink - Heatsink with Fan and Clip Assembly (model B3M)                               | 06P2458 |
|                   | 20 GB Hardfile EIDE 5400rpm (models 12Q, 22Q, 22T, 23C, 23M, 23V)                       | 19K1560 |
|                   | 40 GB ATA-100 HDD (model B3M)   | 19K1562 |
|                   | Modem Domestic, LP Monopak 56K w/std bracket (models 12Q, 22Q, 22T, 23C, 23M, 23V, B3M) | 19K2965 |
|                   | Lithium Battery (all models)  | 33F8354 |
|                   | Mouse - Scrollpoint III, USB, Black (models 12Q, 22Q, 22T, 23C, 23M, 23V, B3M)          | 24P0485 |
|                   | Speakers, External, Tier 4 Powered Speakers (all models)                                | 25P4723 |
|                   | Speaker Brick - China (models 23C, B3M)   | 10K2597 |
|                   | Speaker Brick - GB/UK (model 12Q)   | 25P5703 |
|                   | Speaker Brick - Hong Kong/Singapore (models 23M, 22Q)                                   | 10K2597 |
|                   | Speaker Brick - US/Canada/LA/Taiwan (models 23V, 22T)                                   | 10K2587 |
|                   | Speaker Brick - Japan   | 10K2593 |
|                   | Speaker Brick - Brazil  | 25P5706 |
|                   | Speaker Brick - ANZ   | 25P5705 |
|                   | Speaker Brick - EMEA/LA High Volt   | 25P5704 |



| <b>Machine Type 6346</b> |   |         |
|--------------------------|---|---------|
|                          | Bezel Kit, Black (all models)                         | 31P5614 |
|                          | System Stand, Black (all models)                      | 32P4065 |
|                          | I/O Slot Cover (all models)                           | 31P5615 |
|                          | Cable - Primary IDE (all models)                      | 31P5616 |
|                          | FDD Cable (all models)                                | 31P5617 |
|                          | Cable - Secondary IDE (CD_ROM) (all models)           | 31P5618 |
|                          | CD-ROM Audio Cable (all models)                       | 75H9219 |
|                          | Shields 5.25 and PCMCIA (all models)                  | 31P5603 |
|                          | USB Cable Assembly (all models)                       | 25P6152 |
|                          | HDD Mounting Bracket (all models)                     | 31P5621 |
|                          | Misc Parts (all models)                               | 32P4066 |
|                          | Planar EMC Shield (I/O Bracket Assembly) (all models) | 32P4069 |
|                          | Power/LED Cable Assembly (all models)                 | 32P4067 |
|                          | Daughter Card 2 USB/SPDIF/Audio (all models)          | 32P4068 |
|                          | 7' Phone Cord, HK (model 23M)                         | 09N5423 |
|                          | 7' Phone Cord (models 12Q, 22Q, 22T, 23C, 23V)        | 36L9016 |

| <b>Recovery CDs Win 2K - Machine Type 6346</b> |                                       |         |
|--|---------------------------------------|---------|
|  | US English Win 2K (model 24U)         | 25P6019 |
|  | UK English Win 2K (model 24G)         | 25P6020 |
|  | AP English Win 2K (models 24A, 24Q)   | 25P6021 |
|  | French Win 2K (model 24G)             | 25P6022 |
|  | Canadian French Win 2K (model 24F)    | 25P6023 |
|  | Spanish Win 2K (model 24G )           | 25P6024 |
|  | LA Spanish Win 2K (model 24S)         | 25P6025 |
|  | Brazil, Portuguese Win 2K (model 24P) | 25P6026 |
|  | German Win 2K (model 24G)             | 25P6027 |
|  | Greek (model 24G)                     | 25P6072 |
|  | Hebrew (model 24G)                    | 25P6061 |
|  | Italian Win 2K (model 24G)            | 25P6028 |
|  | Dutch Win 2K (model 24G)              | 25P6029 |
|  | Danish Win 2K (model 24G)             | 25P6030 |
|  | Finnish Win 2K (model 24G)            | 25P6031 |
|  | Japan Win 2K (model 24J)              | 46P4685 |
|  | Norwegian Win 2K (model 24G)          | 25P6032 |
|  | Swedish Win 2K (model 24G)            | 25P6033 |
|  | Arabic Localized Win 2K (model 24G)   | 25P6035 |

| <b>Recovery CDs Win 2K - Machine Type 6346</b> |                              |         |
|--|------------------------------|---------|
|  | Czech Win 2K (model 24G)     | 25P6036 |
|  | Russian Win 2K (model 24G)   | 25P6037 |
|  | Polish Win 2K (model 24G)    | 25P6038 |
|  | Hungarian Win 2K (model 24G) | 25P6039 |
|  | Turkish Win 2K (model 24G)   | 25P6040 |
|  | Thai Win 2K (model 24T)      | 25P6041 |

| <b>Recovery CDs Win SE - Machine Type 6346</b> |                    |         |
|--|--------------------|---------|
|  | US English         | 25P6102 |
|  | UK English         | 25P6103 |
|  | AP English         | 25P5715 |
|  | French             | 25P6105 |
|  | Canadian French    | 25P6106 |
|  | Spanish            | 25P6107 |
|  | LA Spanish         | 25P6108 |
|  | Portuguese         | 25P6109 |
|  | Brazil, Portuguese | 25P6110 |
|  | German             | 25P6111 |
|  | Italian            | 25P6112 |
|  | Dutch              | 25P6113 |
|  | Danish             | 25P6114 |
|  | Finnish            | 25P6115 |
|  | Norwegian          | 25P6129 |
|  | Swedish            | 25P6116 |
|  | Arabic Enabled     | 25P6117 |
|  | Hebrew             | 25P6119 |
|  | Czech              | 25P6120 |
|  | Russian            | 25P6121 |
|  | Polish             | 25P6122 |
|  | Hungarian          | 25P6123 |
|  | Slovenian          | 25P6124 |
|  | Slovak             | 25P6125 |
|  | Greek              | 25P6126 |
|  | Turkish            | 25P6127 |
|  | Thai               | 25P6104 |

| <b>Keyboards - Machine Type 6346</b> |   |         |
|--------------------------------------|---|---------|
|                                      | US English, white (models 24A, 24Q)                       | 32P5040 |
|                                      | Arabic, white   | 32P5041 |
|                                      | Belgium/French, white                                     | 32P5042 |
|                                      | Belgium/UK, white   | 32P5043 |
|                                      | Bulgarian, white  | 32P5044 |
|                                      | Chinese/US Hong Kong/Taiwan, white (models 23M, 23V, B3M) | 32P5045 |
|                                      | Czech, white  | 32P5046 |
|                                      | Danish, white   | 32P5047 |
|                                      | Dutch, white  | 32P5048 |
|                                      | French, white   | 32P5049 |
|                                      | French Canadian, white                                    | 32P5050 |
|                                      | French Canadian, white                                    | 32P5051 |
|                                      | German, white   | 32P5052 |
|                                      | Greek, white  | 32P5053 |
|                                      | Hebrew, white   | 32P5054 |
|                                      | Hungarian, white  | 32P5055 |
|                                      | Iceland, white  | 32P5056 |
|                                      | Italy, white  | 32P5057 |
|                                      | Japanese, white (models 24E, 24J)                         | 32P5058 |
|                                      | LA Spanish, white   | 32P5059 |
|                                      | Norwegian, white  | 32P5060 |
|                                      | Polish, white   | 32P5061 |
|                                      | Portuguese, white   | 32P5062 |
|                                      | Romanian, white   | 32P5063 |
|                                      | Russian, white  | 32P5064 |
|                                      | Russian/Cy, white   | 32P5065 |
|                                      | Serbian/Cyrillic, white                                   | 32P5066 |
|                                      | Slovak, white   | 32P5067 |
|                                      | Spanish, white  | 32P5068 |
|                                      | Swedish/Finn, white                                       | 32P5069 |
|                                      | Swiss F/G, white  | 32P5070 |
|                                      | Thailand, white (models 24T)                              | 32P5071 |
|                                      | Turkish, white  | 32P5072 |
|                                      | Turkish, white  | 32P5073 |
|                                      | UK English, white   | 32P5074 |
|                                      | US International, white                                   | 32P5075 |
|                                      | Yugoslav/Latin, white                                     | 32P5076 |

| <b>Keyboards - Machine Type 6346</b> |                          |         |
|--------------------------------------|--------------------------|---------|
|                                      | Japanese, white          | 32P5077 |
|                                      | Brazil/Portuguese, white | 32P5078 |

| <b>Keyboards - Machine Type 6346</b> |  |         |
|--------------------------------------|--|---------|
|                                      | US English, Black (model 24U)                  | 32P5000 |
|                                      | Arabic, Black (model 24G)                      | 32P5001 |
|                                      | Belgium/French, Black (model 24G)              | 32P5002 |
|                                      | Belgium/UK, Black (model 24G)                  | 32P5003 |
|                                      | Bulgarian, Black (model 24G)                   | 32P5004 |
|                                      | Chinese/US Hong Kong/Taiwan, Black (model 24G) | 32P5005 |
|                                      | Czech, Black (model 24G)                       | 32P5006 |
|                                      | Danish, Black (model 24G)                      | 32P5007 |
|                                      | Dutch, Black (model 24G)                       | 32P5008 |
|                                      | French, Black (model 24G)                      | 32P5009 |
|                                      | French Canadian, Black                         | 32P5010 |
|                                      | French Canadian, Black (model 24F)             | 32P5011 |
|                                      | German, Black (model 24G)                      | 32P5012 |
|                                      | Greek, Black (model 24G)                       | 32P5013 |
|                                      | Hebrew, Black (model 24G)                      | 32P5014 |
|                                      | Hungarian, Black (model 24G)                   | 32P5015 |
|                                      | Iceland, Black (model 24G)                     | 32P5016 |
|                                      | Italy, Black (model 24G)                       | 32P5017 |
|                                      | Japanese, Black                                | 32P5018 |
|                                      | Korean, Black                                  | 32P5019 |
|                                      | LA Spanish, Black (models 24S, 24P)            | 32P5020 |
|                                      | Norwegian, Black (model 24G)                   | 32P5021 |
|                                      | Polish, Black (model 24G)                      | 32P5022 |
|                                      | Portuguese, Black (model 24G)                  | 32P5023 |
|                                      | Romanian, Black (model 24G)                    | 32P5024 |
|                                      | Russian, Black (model 24G)                     | 32P5025 |
|                                      | Russian/Cy, Black (model 24G)                  | 32P5026 |
|                                      | Serbian/Cyrillic, Black (model 24G)            | 32P5027 |
|                                      | Slovak, Black (model 24G)                      | 32P5028 |
|                                      | Spanish, Black (model 24G)                     | 32P5029 |
|                                      | Swedish/Finn, Black (model 24G)                | 32P5030 |
|                                      | Swiss F/G, Black (model 24G)                   | 32P5031 |
|                                      | Thailand, Black                                | 32P5032 |

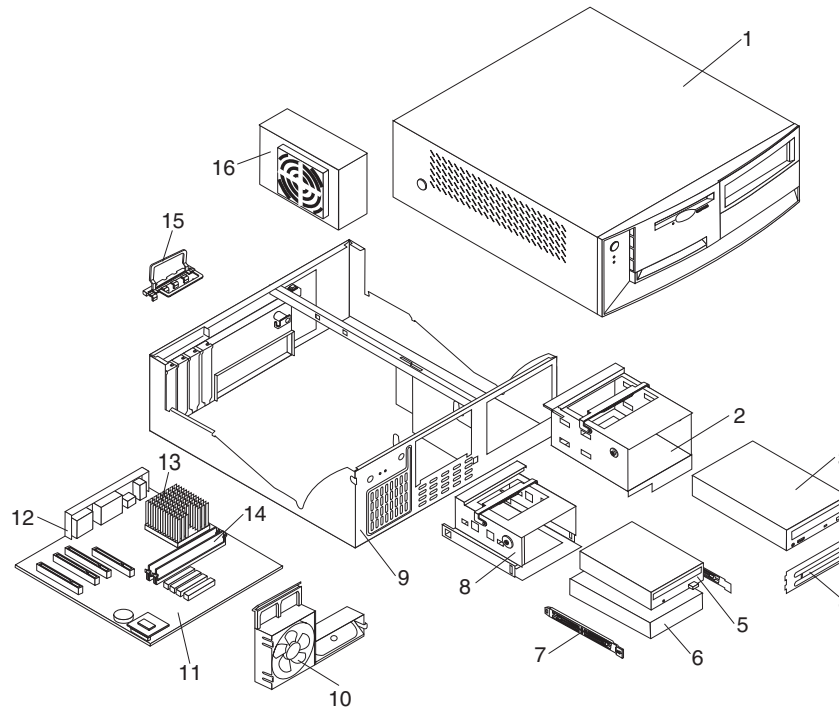
| <b>Keyboards - Machine Type 6346</b> |                                   |         |
|--------------------------------------|-----------------------------------|---------|
|                                      | Turkish, Black (model 24G)        | 32P5033 |
|                                      | Turkish, Black (model 24G)        | 32P5034 |
|                                      | UK English, Black (model 24G)     | 32P5035 |
|                                      | US International, Black           | 32P5036 |
|                                      | Yugoslav/Latin, Black (model 24G) | 32P5037 |
|                                      | Brazil/Portuguese, Black          | 32P5038 |

| <b>Power Cords - Type 6346</b> |                                    |         |
|--------------------------------|------------------------------------|---------|
|                                | Arabic (all models)                | 14F0033 |
|                                | Australian (all models)            | 93F2365 |
|                                | Belgian (all models)               | 1339520 |
|                                | Bulgarian (all models)             | 1339520 |
|                                | Canadian (all models)              | 93F2364 |
|                                | Czechoslovakian (all models)       | 1339520 |
|                                | Denmark (all models)               | 13F9997 |
|                                | Finland (all models)               | 1339520 |
|                                | France (all models)                | 1339520 |
|                                | German (all models)                | 1339520 |
|                                | Hungarian (all models)             | 1339520 |
|                                | Israel (all models)                | 14F0087 |
|                                | Italian (all models)               | 14F0069 |
|                                | Latin American (all models)        | 6952301 |
|                                | Netherlands (all models)           | 1339520 |
|                                | New Zealand (all models)           | 93F2365 |
|                                | Norwegian (all models)             | 1339520 |
|                                | Polish (all models)                | 1339520 |
|                                | Portuguese (all models)            | 1339520 |
|                                | Serbian (all models)               | 1339520 |
|                                | Slovakian (all models)             | 1339520 |
|                                | South African (all models)         | 14F0015 |
|                                | Spanish (all models)               | 1339520 |
|                                | Swiss (all models)                 | 1339520 |
|                                | Swiss - French/German (all models) | 14F0051 |
|                                | US English (all models)            | 93F2364 |
|                                | UK - Ireland (all models)          | 14F0033 |
|                                | Yugoslavian (all models)           | 1339520 |
|                                | Chile (all models)                 | 14F0069 |

| Power Cords - Type 6346 |   |         |
|-------------------------|---|---------|
|                         | Argentina, Paraguay, & Uruguay (all models) | 36L8880 |
|                         | Japan (all models)                          | 24G0222 |

## Desktop Model

Types 6347, 6341, 6336



| Machine Type 6347 |   |         |
|-------------------|---|---------|
| 1                 | Top Cover Assembly, Pearl White (all models)      | 06P2732 |
| 2                 | 5.25 DASD Bracket (all models)                    | 09N5746 |
| 3                 | CD-ROM 48x, White (all models)                    | 24P3603 |
| 3                 | CD-ROM 48x Lite-On, White (all models)            | 19K1529 |
| 3                 | CD-ROM 48x Samsung (all models)                   | 19K1533 |
| 4                 | EMC Shield for 5.25" Bay (all models)             | 19K5548 |
| 5                 | 3.5" 1.44MB Diskette Drive, No Bezel (all models) | 75H9550 |
| 6                 | 20 GB Hardfile EIDE 5400rpm (all models)          | 19K1560 |
| 6                 | 40 GB ATA-100 HDD                                 | 19K1562 |
| 7                 | DASD Soft Mount HDD Rail Assembly (all models)    | 19K5331 |
| 8                 | 3.5 DASD Bracket (all models)                     | 06P2734 |

| <b>Machine Type 6347</b> |  |         |
|--------------------------|--|---------|
| 9                        | Chassis Assembly (all models)  | 06P2731 |
| 10                       | Fan/Speaker Bracket (all models)   | 09N5763 |
| 11                       | System Board W/O Mem/Proc (all models)   | 06P1369 |
| 12                       | EMC Planar Shield (all models)   | 06P1365 |
| 13                       | Intel Celeron 100/850 128K (all models)  | 24P5944 |
| 13                       | Intel PIII 933 MHz Processor   | 25P0719 |
| 13                       | Intel PIII 1GHz  | 25P0718 |
| 14                       | 64MB SDRAM Memory  | 33L3072 |
| 14                       | 128 MB SDRAM Memory (all models)   | 33L3074 |
| 15                       | I/O Cam Bracket (all models)   | 09N5734 |
| 16                       | 155 W Power Supply - Japan & EMEA (model 27G)                                      | 00N7687 |
| 16                       | 155 W Power Supply - China   | 00N7689 |
| 16                       | 155 W Power Supply, uATX (models 27U, 27E, 27S, 27P, 27A, 27C, 27M, 27D, 27Q, 27T) | 00N7685 |
|                          | Fansink - Heatsink with Fan and Clip (all models)                                  | 06P2458 |
|                          | Lithium Battery (all models)   | 33F8354 |
|                          | 2 Button Mouse (all models)  | 10L6145 |
|                          | 3.5 DASD Bracket Handle (all models)   | 09N5748 |
|                          | 5.25 DASD Bracket Handle (all models)  | 09N5747 |
|                          | Blank Bezel 5.25" Bay Kit, White (all models)                                      | 09N5732 |
|                          | Nameplate, Blue (all models)   | 09N5733 |
|                          | Misc. Hardware Kit (all models)  | 09N5764 |
|                          | Foot (4) (all models)  | 03K9655 |
|                          | FDD Cable (all models)   | 31P5617 |
|                          | CD-ROM Audio Cable (all models)  | 75H9219 |
|                          | Dual Front USB Cable (all models)  | 25P6152 |
|                          | Cable Assembly ATA-66 (2 drop) (all models)  | 37L5098 |
|                          | Cable Assembly Ultra ATA HDD Cable (all models)                                    | 37L4525 |

| <b>Recovery CDs Win 2K - Machine Type 6347</b> |  |         |
|--|--|---------|
|  | US English Win 2K (model 27U)            | 25P6019 |
|  | UK English Win 2K (model 27G)            | 25P6020 |
|  | AP English Win 2K (models 27A, 27D, 27Q) | 25P6021 |
|  | French Win 2K (model 27G)                | 25P6022 |
|  | Canadian French Win 2K (model 27F)       | 25P6023 |
|  | Spanish Win 2K (model 27G)               | 25P6024 |
|  | LA Spanish Win 2K (model 27S)            | 25P6025 |
|  | Brazil, Portuguese Win 2K (model 27P)    | 25P6026 |

| <b>Recovery CDs Win 2K - Machine Type 6347</b> |                                     |         |
|--|-------------------------------------|---------|
|  | German Win 2K (model 27G)           | 25P6027 |
|  | Greek (model 27G)                   | 25P6072 |
|  | Hebrew (model 27G)                  | 25P6061 |
|  | Italian Win 2K (model 27G)          | 25P6028 |
|  | Dutch Win 2K (model 27G)            | 25P6029 |
|  | Danish Win 2K (model 27G)           | 25P6030 |
|  | Finnish Win 2K (model 27G)          | 25P6031 |
|  | Norwegian Win 2K (model 27G)        | 25P6032 |
|  | Swedish Win 2K (model 27G)          | 25P6033 |
|  | Arabic Localized Win 2K (model 27G) | 25P6035 |
|  | Czech Win 2K (model 27G)            | 25P6036 |
|  | Russian Win 2K (model 27G)          | 25P6037 |
|  | Polish Win 2K (model 27G)           | 25P6038 |
|  | Hungarian Win 2K (model 27G)        | 25P6039 |
|  | Turkish Win 2K (model 27G)          | 25P6040 |
|  | Thai Win 2K (model 27T)             | 25P6041 |

| <b>Recovery CDs Win SE - Machine Type 6347</b> |                    |         |
|--|--------------------|---------|
|  | US English         | 25P6102 |
|  | UK English         | 25P6103 |
|  | AP English         | 25P5715 |
|  | French             | 25P6105 |
|  | Canadian French    | 25P6106 |
|  | Spanish            | 25P6107 |
|  | LA Spanish         | 25P6108 |
|  | Portuguese         | 25P6109 |
|  | Brazil, Portuguese | 25P6110 |
|  | German             | 25P6111 |
|  | Italian            | 25P6112 |
|  | Dutch              | 25P6113 |
|  | Danish             | 25P6114 |
|  | Finnish            | 25P6115 |
|  | Norwegian          | 25P6129 |
|  | Swedish            | 25P6116 |
|  | Arabic Enabled     | 25P6117 |
|  | Hebrew             | 25P6119 |
|  | Czech              | 25P6120 |



| <b>Recovery CDs Win SE - Machine Type 6347</b> |           |         |
|--|-----------|---------|
|  | Russian   | 25P6121 |
|  | Polish    | 25P6122 |
|  | Hungarian | 25P6123 |
|  | Slovenian | 25P6124 |
|  | Slovak    | 25P6125 |
|  | Greek     | 25P6126 |
|  | Turkish   | 25P6127 |
|  | Thai      | 25P6104 |

| <b>Keyboards - Machine Type 6347</b> |   |         |
|--------------------------------------|---|---------|
|                                      | US English, white (all models)                  | 32P5040 |
|                                      | Arabic, white (all models)                      | 32P5041 |
|                                      | Belgium/French, white (all models)              | 32P5042 |
|                                      | Belgium/UK, white (all models)                  | 32P5043 |
|                                      | Bulgarian, white (all models)                   | 32P5044 |
|                                      | Chinese/US Hong Kong/Taiwan, white (all models) | 32P5045 |
|                                      | Czech, white (all models)                       | 32P5046 |
|                                      | Danish, white (all models)                      | 32P5047 |
|                                      | Dutch, white (all models)                       | 32P5048 |
|                                      | French, white (all models)                      | 32P5049 |
|                                      | French Canadian, white (all models)             | 32P5050 |
|                                      | French Canadian, white (all models)             | 32P5051 |
|                                      | German, white (all models)                      | 32P5052 |
|                                      | Greek, white (all models)                       | 32P5053 |
|                                      | Hebrew, white (all models)                      | 32P5054 |
|                                      | Hungarian, white (all models)                   | 32P5055 |
|                                      | Iceland, white (all models)                     | 32P5056 |
|                                      | Italy, white (all models)                       | 32P5057 |
|                                      | Japanese, white (all models)                    | 32P5058 |
|                                      | LA Spanish, white (all models)                  | 32P5059 |
|                                      | Norwegian, white (all models)                   | 32P5060 |
|                                      | Polish, white (all models)                      | 32P5061 |
|                                      | Portuguese, white (all models)                  | 32P5062 |
|                                      | Romanian, white (all models)                    | 32P5063 |
|                                      | Russian, white (all models)                     | 32P5064 |
|                                      | Russian/Cy, white (all models)                  | 32P5065 |
|                                      | Serbian/Cyrillic, white (all models)            | 32P5066 |

| <b>Keyboards - Machine Type 6347</b> |                                       |         |
|--------------------------------------|---------------------------------------|---------|
|                                      | Slovak, white (all models)            | 32P5067 |
|                                      | Spanish, white (all models)           | 32P5068 |
|                                      | Swedish/Finn, white (all models)      | 32P5069 |
|                                      | Swiss F/G, white (all models)         | 32P5070 |
|                                      | Thailand, white (all models)          | 32P5071 |
|                                      | Turkish, white (all models)           | 32P5072 |
|                                      | Turkish, white (all models)           | 32P5073 |
|                                      | UK English, white (all models)        | 32P5074 |
|                                      | US International, white (all models)  | 32P5075 |
|                                      | Yugoslav/Latin, white (all models)    | 32P5076 |
|                                      | Japanese, white (all models)          | 32P5077 |
|                                      | Brazil/Portuguese, white (all models) | 32P5078 |

| <b>Power Cords - Type 6347</b> |                              |         |
|--------------------------------|------------------------------|---------|
|                                | Arabic (all models)          | 14F0033 |
|                                | Australian (all models)      | 93F2365 |
|                                | Belgian (all models)         | 1339520 |
|                                | Bulgarian (all models)       | 1339520 |
|                                | Canadian (all models)        | 93F2364 |
|                                | Czechoslovakian (all models) | 1339520 |
|                                | Denmark (all models)         | 13F9997 |
|                                | Finland (all models)         | 1339520 |
|                                | France (all models)          | 1339520 |
|                                | German (all models)          | 1339520 |
|                                | Hungarian (all models)       | 1339520 |
|                                | Israel (all models)          | 14F0087 |
|                                | Italian (all models)         | 14F0069 |
|                                | Latin American (all models)  | 6952301 |
|                                | Netherlands (all models)     | 1339520 |
|                                | New Zealand (all models)     | 93F2365 |
|                                | Norwegian (all models)       | 1339520 |
|                                | Polish (all models)          | 1339520 |
|                                | Portuguese (all models)      | 1339520 |
|                                | Serbian (all models)         | 1339520 |
|                                | Slovakian (all models)       | 1339520 |
|                                | South African (all models)   | 14F0015 |
|                                | Spanish (all models)         | 1339520 |

| <b>Power Cords - Type 6347</b> |  |         |
|--------------------------------|--|---------|
|                                | Swiss (all models)                           | 1339520 |
|                                | Swiss - French/German (all models)           | 14F0051 |
|                                | US English (all models)                      | 93F2364 |
|                                | UK - Ireland (all models)                    | 14F0033 |
|                                | Yugoslavian (all models)                     | 1339520 |
|                                | Chile (all models)                           | 14F0069 |
|                                | Argentina, Paraguay, & Uruaguay (all models) | 36L8880 |
|                                | Japan (all models)                           | 24G0222 |
|                                | China (all models)                           | 02K0545 |

| <b>Machine Type 6341</b> |  |         |
|--------------------------|--|---------|
| 1                        | Top Cover Assembly, Pearl White (all models)   | 06P2732 |
| 2                        | 5.25 DASD Bracket (all models)   | 09N5746 |
| 3                        | CD-ROM 48x, White (models 18A 1AA 23U 23F 23A 27U 27F 27S 27P 27A 27C 27M 27D A1A A2A B3A B4U B4F B5U B5F B5G B6G B7U B7A PAG PBG PCG PCT PCQ B7F 51G 52G 41U 41F 41S 41P 41A 41C 41M 41D 41V 44U 44F 44A 44T 44Q 45T 45Q 58U 58S 58F 58P 58A 58C 58M 58D 58W 58V 5AA 5AT 5AQ 5BT 5BQ 64U 64S 64F 64P 64G 64A 64C 64M 64D 64V 65U 65F 65G 65A 65T 65Q 66T 66Q PDT PDQ PEG PGT PGQ PHG 3CG 3DG 5AU 5AF 93C 93D 93M 93V)         | 24P3603 |
| 3                        | CD-ROM 48x Lite-On, White (models 18A 1AA 23U 23F 23A 27U 27F 27S 27P 27A 27C 27M 27D A1A A2A B3A B4U B4F B5U B5F B5G B6G B7U B7A PAG PBG PCG PCT PCQ B7F 51G 52G 41U 41F 41S 41P 41A 41C 41M 41D 41V 44U 44F 44A 44T 44Q 45T 45Q 58U 58S 58F 58P 58A 58C 58M 58D 58W 58V 5AA 5AT 5AQ 5BT 5BQ 64U 64S 64F 64P 64G 64A 64C 64M 64D 64V 65U 65F 65G 65A 65T 65Q 66T 66Q PDT PDQ PEG PGT PGQ PHG 3CG 3DG 5AU 5AF 93C 93D 93M 93V) | 19K1529 |
| 3                        | CD-ROM 48x Samsung, White (models 18A 1AA 23U 23F 23A 27U 27F 27S 27P 27A 27C 27M 27D A1A A2A B3A B4U B4F B5U B5F B5G B6G B7U B7A PAG PBG PCG PCT PCQ B7F 51G 52G 41U 41F 41S 41P 41A 41C 41M 41D 41V 44U 44F 44A 44T 44Q 45T 45Q 58U 58S 58F 58P 58A 58C 58M 58D 58W 58V 5AA 5AT 5AQ 5BT 5BQ 64U 64S 64F 64P 64G 64A 64C 64M 64D 64V 65U 65F 65G 65A 65T 65Q 66T 66Q PDT PDQ PEG PGT PGQ PHG 3CG 3DG 5AU 5AF 93C 93D 93M 93V) | 19K1533 |
| 4                        | EMC Shield for 5.25" Bay (all models)  | 19K5548 |
| 5                        | 3.5" 1.44MB Diskette Drive, No Bezel (all models)  | 75H9550 |

|    | Machine Type 6341  |         |
|----|--|---------|
| 6  | 20 GB Hardfile EIDE 5400rpm (models 13C 13M 13D 18A 19G 1AA 1BT 1BQ 21C 21M 21D 22G 23U 23F 23A 26G 27U 27F 27S 27P 27A 27C 27M 27D B4U B4F B5U B5F B5G B6G PAG PBG B8C B8M B8D 13G 13A 13T 20U 31G 32G 41G 42G 51G 52G 41U 41F 41S 41P 41A 41C 41M 41D 41V 44U 44F 44A 44T 44Q 46G 47G 51G 51A 51T 51Q 56G 57G 57T 57Q 58U 58S 58F 58P 58A 58C 58M 58D 58W 58V 5AA 5AT 5AQ 64U 64S 64F 64P 64G 64A 64C 64M 64D 64V 65U 65F 65G 65A 65T 65Q PCG PEG PHG 37G 38G 39G 3AG 3BG 3CG 3DG 5AU 5AF 93C 93D 93M 93V) | 19K1560 |
| 6  | 40 GB ATA-100 HDD (models 12S 12P 14S 14P 24S 24P 25S 25P 25T 28T A1A A2A B1S B1P B2S B2P B3A B7U B7A PCG 25Q 28Q PCT PCQ B7F 42S 42P 42C 42M 42D 42V 43S 43P 45T 45Q 53S 53P 54S 54P 54T 54Q 54V 59T 59Q 5BT 5BQ 61S 61P 62S 62P 62C 62M 62D 62V 66T 66Q PDT PDQ PGT PGQ 54C 54D 54M 54V 91C 91D 91M 91P 91S 91V 92P 92S)   | 25P6005 |
| 7  | DASD Soft Mount HDD Rail Assembly (all models)   | 19K5331 |
| 8  | 3.5 DASD Bracket (all models)  | 06P2734 |
| 9  | Chassis Assembly (all models)  | 06P2731 |
| 10 | Fan/Speaker Bracket (all models)   | 09N5763 |
| 11 | System Board W/O Mem/Proc (all models)   | 06P1369 |
| 12 | EMC Planar Shield (all models)   | 06P1365 |
| 13 | Intel Celeron 100/800 128 K (models 12S 12P 13C 13M 13D 14S 14P 18A 19G 1AA 1BT 1BQ PAG 13G 13A 13T 20U 31G 32G)   | 24P5784 |
| 13 | Intel Celeron 100/850 128K (models 21C 21M 21D 22G 23U 23F 23A 24P 24S 25P 25S 25T 25Q 26G 27U 27F 27S 27P 27A 27C 27M 27D 28T 28Q 41G 42G)  | 24P5944 |
| 13 | Intel Celeron 900MHz (models 41U 41F 41S 41P 41A 41C 41M 41D 41V 42S 42P 42C 42M 42D 42V 43S 43P 44U 44F 44A 44T 44Q 45T 45Q 46G 47G PBG 37G 38G)  | 32P4094 |
| 13 | Intel Celeron 950MHz (models 51-GATQ 53-SP 54-SPTQV 56G 57-GTQ 58-USFPACMDWV 59-TQ 5A-ATQ 5B-TQ 39G 3AG 3BG 5AU 5AF 54C 54D 54M 54V)   | 48P5039 |
| 13 | Intel Celeron 1GHz (models 61-SP 62-SPCMDV 64-USFPACMDV 65-UFGATQ 66-TQ PEG PG-TQ PHG 3CG 3DG)   | 48P5040 |
| 13 | Intel Celeron 1.1GHz (models 91C 91D 91M 91P 91S 91V 92P 92S 93C 93D 93M 93V)  | 33P0807 |
| 13 | Intel PIII 933 MHz Processor (models A1A, A2A)   | 25P0719 |
| 13 | Intel PIII 1GHz (models B1S B1P B2S B2P B3A B4U B4F B5U B5F B5G B6G B7U B7A PCG PCT PCQ B7F B8C B8M B8D 51G 52G PDT PDQ)   | 25P0718 |
| 14 | 64MB SDRAM Memory (models 12S 12P 13C 13M 13D 14S 14P18A 21C 21M 21D 23U 23F 23A 24P 24S 25S 25P 25T 25Q A1A B1S B1P B2S B2P B3A B4U B4F B8C B8M B8D 13G 13A 13T 31G 42S 42P 42C 42M 42D 42V 43S 43P 51G 51A 51T 51Q 53S 53P 54S 54P 54T 54Q 54V 61S 61P 62S 62P 62C 62M 62D 62V 39G 54C 54D 54M 54V 91C 91D 91M 91P 91S 91V 92P 92S)  | 33L3072 |

|    | Machine Type 6341   |         |
|----|---|---------|
| 14 | 128 MB SDRAM Memory (models 19G 1AA 1BQ 1BT 22G 26G 27U 27F 27S 27P 27A 27C 27M 27D 28T 28Q B5U B5F B5G B6G B7A PAG PBG PCG A2A B7U PCT PCQ B7F 20U 32G 41G 42G 51G 52G 41-UFSPACMDV 44-UFATQ 45-TQ 46G 47G 56G 57G 57T 57Q 58U 58S 58F 58P 58A 58C 58M 58D 58W 58V 59T 59Q 5AA 5AT 5AQ 5BT 5BQ 64U 64S 64F 64P 64G 64A 64C 64M 64D 64V 65U 65F 65G 65A 65T 65Q 66T 66Q PDT PDQ PEG PGT PGQ PHG 37G 38G 3AG 3BG 3CG 3DG 5AU 5AF 93C 93D 93M 93V)  | 33L3074 |
| 15 | I/O Cam Bracket (all models)  | 09N5734 |
| 16 | 155 W Power Supply, uATX (models 23U 27U B4U B5U B7U 23F 27F B4F B5F 12S 14S 24S 25S 27S B1S B2S 12P 14P 24P 25P 27P B1P B2P 18A 1AA 23A 27A A1A A2A B7A 1BT 25T 28T 13M 21M 27M 13D 21D 27D 1BQ 25Q 28Q B3A PCT PCQ B7F B8M B8D 13A 13T 20U 41U 41F 41S 41P 41A 41M 41D 41V 42S 42P 42M 42D 42V 43S 43P 44U 44F 44A 44T 44Q 45T 45Q 51A 51T 51Q 53S 53P 54S 54P 54T 54Q 54V 57T 57Q 58U 58S 58F 58P 58A 58M 58D 58W 58V 59T 59Q 5AA 5AT 5AQ 5BT 5BQ 61S 61P 62S 62P 62M 62D 62V 64U 64S 64F 64P 64A 64M 64D 64V 65U 65F 65A 65T 65Q 66T 66Q PDT PDQ PGT PGQ 5AU 5AF 54C 54D 54M 54V 91C 91D 91M 91P 91S 91V 92P 92S 93C 93D 93M 93V) | 00N7685 |
| 16 | 155 W Power Supply - Japan & EMEA (models 19G 22G 26G B5G B6G PAG PBG PCG 13G 31G 32G 41G 42G 51G 52G 46G 47G 51G 56G 57G 64G 65G PEG PHG 37G 38G 39G 3AG 3BG 3CG 3DG)  | 00N7687 |
| 16 | 155 W Power Supply - China (models 13C 21C 27C B8C 41C 42C 58C 62C 64C 54C 91C 93C)   | 00N7689 |
|    | Fansink - Heatsink with Fan and Clip (models 12S 12P 13C 13M 13D 14S 14P 18A 19G 1AA 1BT 1BQ PAG 21C 21M 21D 22G 23U 23F 23A 24P 24S 25P 25S 25T 25Q 26G 27U 27F 27S 27P 27A 27C 27M 27D 28T 28Q 13G 13A 13T 20U 31G 32G 41G 42G)   | 10K1689 |
|    | Fansink - Heatsink with Fan and Clip Assembly (models B1S B1P B2S B2P B3A B4U B4F B5U B5F B5G B6G B7U B7A PCU PCG A1A A2A PCT PCQ B7F B8C B8M B8D 51G 52G 41-UFSPACMDV 42-SPCMDV 43-SP 44-UFATQ 45-TQ 46G 47G 51-GATQ 53-SP 54-SPTQV 56G 57-GTQ 58-USFPACMDWV 59-TQ 5A-ATQ 5B-TQ 61-SP 62-SPCMDV 64-USFPGACMDV 65-UFGATQ 66-TQ PBG PDT PDQ PEG PG-TQ PHG 37G 38G 39G 3AG 3BG 3CG 3DG 5AU 5AF 54C 54D 54M 54V 91C 91D 91M 91P 91S 91V 92P 92S 93C 93D 93M 93V)   | 06P2458 |
|    | INTEL ake Clark 2.7 Ethernet Adapter (models 54C 54D 54M 54V 91C 91D 91M 91P 91S 91V 92P 92S 93C 93D 93M 93V)   | 22P4709 |
|    | Lithium Battery (all models)  | 33F8354 |
|    | 2 Button Mouse (all models)   | 10L6145 |
|    | 3.5 DASD Bracket Handle (all models)  | 09N5748 |
|    | 5.25 DASD Bracket Handle (all models)   | 09N5747 |
|    | Blank Bezel 5.25" Bay Kit, White (all models)   | 09N5732 |
|    | Nameplate, Blue (all models)  | 09N5733 |
|    | Misc. Hardware Kit (all models)   | 09N5764 |

| <b>Machine Type 6341</b> |   |         |
|--------------------------|---|---------|
|                          | Foot (4) (all models)                           | 03K9655 |
|                          | FDD Cable (all models)                          | 33L2596 |
|                          | CD-ROM Audio Cable (all models)                 | 75H9219 |
|                          | USB Cable Assembly (all models)                 | 25P6152 |
|                          | Cable Assembly ATA-66 (2 drop) (all models)     | 37L5098 |
|                          | Cable Assembly Ultra ATA HDD Cable (all models) | 37L4525 |

| <b>Recovery CDs Win 2K - Machine Type 6341</b> |  |         |
|--|--|---------|
|  | US English Win 2K (model 27U B5U B7U 41U 58U 64U)  | 25P6019 |
|  | UK English Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                               | 25P6020 |
|  | AP English Win 2K (models 1AA 1BQ 27A 27D 28Q A2A B7A PCQ 41-AD 45Q 57Q 58-AD 59Q 5BQ 64-AD 66Q PDQ PGQ 91D 93D) | 25P6021 |
|  | French Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                   | 25P6022 |
|  | Canadian French Win 2K (models 27F B5F B7F 41F 58F 64F)  | 25P6023 |
|  | Spanish Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                  | 25P6024 |
|  | LA Spanish Win 2K (models 12S 24S 27S B1S 41S 43S 53S 58S 61S 64S 92S)   | 25P6025 |
|  | Brazil, Portuguese Win 2K (models 12P 24P 27P B1P 41P 43P 53P 58P 61P 64P 92P)                                   | 25P6026 |
|  | German Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                   | 25P6027 |
|  | Greek Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                    | 25P6072 |
|  | Hebrew Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                   | 25P6061 |
|  | Italian Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                  | 25P6028 |
|  | Dutch Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                    | 25P6029 |
|  | Danish Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                   | 25P6030 |
|  | Finnish Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                  | 25P6031 |
|  | Japan Win 2K (models 41J 58J 64J)  | 46P4685 |
|  | Norwegian Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                | 25P6032 |
|  | Swedish Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)                                  | 25P6033 |

| <b>Recovery CDs Win 2K - Machine Type 6341</b> |  |         |
|--|--|---------|
|  | Arabic Localized Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG) | 25P6035 |
|  | Czech Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)            | 25P6036 |
|  | Russian Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)          | 25P6037 |
|  | Polish Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)           | 25P6038 |
|  | Hungarian Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)        | 25P6039 |
|  | Turkish Win 2K (models PCG 19G 26G B5G 32G 42G 51G 47G 57G 64G PEG 38G 3AG 3DG)          | 25P6040 |
|  | Thai Win 2K (model 1BT 28T PCT 45T 57T 59T 5BT 66T PDT PGT)                              | 25P6041 |

| <b>Recovery CDs Win SE - Machine Type 6341</b> |   |         |
|--|---|---------|
|  | US English (models 23U B4U 20U 44U 65U 5AU)   | 25P6102 |
|  | UK English (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)         | 25P6103 |
|  | AP English (models 13D 18A 21D 23A 25Q A1A B3A B8D 13A 42D 44-AQ 51-AQ 54Q 5A-AQ 62D 65-AQ 54D) | 25P5715 |
|  | French (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)             | 25P6105 |
|  | Canadian French (models 23F B4F 44F 65F 5AF)  | 25P6106 |
|  | Spanish (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)            | 25P6107 |
|  | LA Spanish (models 14S 25S B2S 42S 54S 62S)   | 25P6108 |
|  | Portuguese (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)         | 25P6109 |
|  | Brazil, Portuguese (models 14P 25P B2P 42P 54P 62P 91P)   | 25P6110 |
|  | German (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)             | 25P6111 |
|  | Italian (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)            | 25P6112 |
|  | Dutch (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)              | 25P6113 |
|  | Danish (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)             | 25P6114 |
|  | Finnish (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)            | 25P6115 |
|  | Norwegian (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)          | 25P6129 |
|  | Swedish (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)            | 25P6116 |

|  | <b>Recovery CDs Win SE - Machine Type 6341</b>  |         |
|--|---|---------|
|  | Arabic Enabled (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG) | 25P6117 |
|  | Hebrew (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)         | 25P6119 |
|  | Czech (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)          | 25P6120 |
|  | Russian (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)        | 25P6121 |
|  | Polish (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)         | 25P6122 |
|  | Hungarian (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)      | 25P6123 |
|  | Slovenian (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)      | 25P6124 |
|  | Slovak (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)         | 25P6125 |
|  | Greek (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)          | 25P6126 |
|  | Turkish (models 22G B6G PAG PBG 13G 31G 41G 52G 46G 51G 56G 65G PHG 37G 39G 3BG 3CG)        | 25P6127 |
|  | Thai (models 25T 13T 44T 51T 54T 5AT 65T)   | 25P6104 |
|  | Japan (models 42J 54J 62J)  | 46P4684 |

|  | <b>Keyboards PS2 NetVista, White - Machine Type 6341</b> |         |
|--|--|---------|
|  | US English, white (all models)                           | 32P5040 |
|  | Arabic, white (all models)                               | 32P5041 |
|  | Belgium/French, white (all models)                       | 32P5042 |
|  | Belgium/UK, white (all models)                           | 32P5043 |
|  | Bulgarian, white (all models)                            | 32P5044 |
|  | Chinese/US Hong Kong/Taiwan, white (all models)          | 32P5045 |
|  | Czech, white (all models)                                | 32P5046 |
|  | Danish, white (all models)                               | 32P5047 |
|  | Dutch, white (all models)                                | 32P5048 |
|  | French, white (all models)                               | 32P5049 |
|  | French Canadian, white (all models)                      | 32P5050 |
|  | French Canadian, white (all models)                      | 32P5051 |
|  | German, white (all models)                               | 32P5052 |
|  | Greek, white (all models)                                | 32P5053 |
|  | Hebrew, white (all models)                               | 32P5054 |
|  | Hungarian, white (all models)                            | 32P5055 |
|  | Iceland, white (all models)                              | 32P5056 |



| <b>Keyboards PS2 NetVista, White - Machine Type 6341</b> |                                       |         |
|--|---------------------------------------|---------|
|  | Italy, white (all models)             | 32P5057 |
|  | Japanese, white (all models)          | 32P5058 |
|  | LA Spanish, white (all models)        | 32P5059 |
|  | Norwegian, white (all models)         | 32P5060 |
|  | Polish, white (all models)            | 32P5061 |
|  | Portuguese, white (all models)        | 32P5062 |
|  | Romanian, white (all models)          | 32P5063 |
|  | Russian, white (all models)           | 32P5064 |
|  | Russian/Cy, white (all models)        | 32P5065 |
|  | Serbian/Cyrillic, white (all models)  | 32P5066 |
|  | Slovak, white (all models)            | 32P5067 |
|  | Spanish, white (all models)           | 32P5068 |
|  | Swedish/Finn, white (all models)      | 32P5069 |
|  | Swiss F/G, white (all models)         | 32P5070 |
|  | Thailand, white (all models)          | 32P5071 |
|  | Turkish, white (all models)           | 32P5072 |
|  | Turkish, white (all models)           | 32P5073 |
|  | UK English, white (all models)        | 32P5074 |
|  | US International, white (all models)  | 32P5075 |
|  | Yugoslav/Latin, white (all models)    | 32P5076 |
|  | Japanese, white (all models)          | 32P5077 |
|  | Brazil/Portuguese, white (all models) | 32P5078 |

| <b>Power Cords - Type 6341</b> |                              |         |
|--------------------------------|------------------------------|---------|
|                                | Arabic (all models)          | 14F0033 |
|                                | Australian (all models)      | 93F2365 |
|                                | Belgian (all models)         | 1339520 |
|                                | Bulgarian (all models)       | 1339520 |
|                                | Canadian (all models)        | 93F2364 |
|                                | Czechoslovakian (all models) | 1339520 |
|                                | Denmark (all models)         | 13F9997 |
|                                | Finland (all models)         | 1339520 |
|                                | France (all models)          | 1339520 |
|                                | German (all models)          | 1339520 |
|                                | Hungarian (all models)       | 1339520 |
|                                | Israel (all models)          | 14F0087 |
|                                | Italian (all models)         | 14F0069 |

|  | <b>Power Cords - Type 6341</b>               |         |
|--|--|---------|
|  | Latin American (all models)                  | 6952301 |
|  | Netherlands (all models)                     | 1339520 |
|  | New Zealand (all models)                     | 93F2365 |
|  | Norwegian (all models)                       | 1339520 |
|  | Polish (all models)                          | 1339520 |
|  | Portuguese (all models)                      | 1339520 |
|  | Serbian (all models)                         | 1339520 |
|  | Slovakian (all models)                       | 1339520 |
|  | South African (all models)                   | 14F0015 |
|  | Spanish (all models)                         | 1339520 |
|  | Swiss (all models)                           | 1339520 |
|  | Swiss - French/German (all models)           | 14F0051 |
|  | US English (all models)                      | 93F2364 |
|  | UK - Ireland (all models)                    | 14F0033 |
|  | Yugoslavian (all models)                     | 1339520 |
|  | Chile (all models)                           | 14F0069 |
|  | Argentina, Paraguay, & Uruaguay (all models) | 36L8880 |
|  | Japan (all models)                           | 24G0222 |
|  | China (all models)                           | 02K0545 |

|    | <b>Machine Type 6336</b>                             |         |
|----|--|---------|
| 1  | Top Cover Assembly, Pearl White (all models)         | 06P2732 |
| 2  | 5.25 DASD Bracket (all models)                       | 09N5746 |
| 3  | CD-ROM 48x, White (models CVF CVU G03 G04)           | 24P3603 |
| 3  | CD-ROM 48x Lite-On, White (models CVF CVU G03 G04)   | 19K1529 |
| 3  | CD-ROM 48x Samsung, White (models CVF CVU G03 G04)   | 19K1533 |
| 4  | EMC Shield for 5.25" Bay (all models)                | 19K5548 |
| 5  | 3.5" 1.44MB Diskette Drive, No Bezel (all models)    | 75H9550 |
| 6  | 20 GB Hardfile EIDE 5400rpm (models CVF CVU G03 G04) | 19K1560 |
| 6  | 40 GB ATA-100 HDD (models CVF CVU)                   | 19K1562 |
| 7  | DASD Soft Mount HDD Rail Assembly (all models)       | 19K5331 |
| 8  | 3.5 DASD Bracket (all models)                        | 06P2734 |
| 9  | Chassis Assembly (all models)                        | 06P2731 |
| 10 | Fan/Speaker Bracket (all models)                     | 09N5763 |
| 11 | System Board W/O Mem/Proc (all models)               | 48P5062 |
| 12 | EMC Planar Shield (all models)                       | 06P1365 |
| 13 | Intel Celeron 100/800 128 K (models CVF CVU)         | 24P5784 |

| <b>Machine Type 6336</b> |  |         |
|--------------------------|--|---------|
| 13                       | Intel Celeron 100/850 128K (models CVF CVU)                            | 24P5944 |
| 13                       | Intel Celeron 900MHz (models CVF CVU)                                  | 32P4094 |
| 13                       | Intel Celeron 950MHz (models CVF CVU)                                  | 48P5039 |
| 13                       | Intel Celeron 1GHz (models CVF CVU G03 G04)                            | 48P5040 |
| 13                       | Intel PIII 933 MHz Processor (models CVF CVU)                          | 25P0719 |
| 13                       | Intel PIII 1GHz (models CVF CVU)                                       | 25P0718 |
| 14                       | 64MB SDRAM Memory (models CVF CVU G04)                                 | 33L3072 |
| 14                       | 128 MB SDRAM Memory (models CVF CVU G03)                               | 33L3074 |
| 15                       | I/O Cam Bracket (all models)   | 09N5734 |
| 16                       | 155 W Power Supply, uATX (models CVF CVU G03 G04)                      | 00N7685 |
| 16                       | 155 W Power Supply - Japan & EMEA                                      | 00N7687 |
| 16                       | 155 W Power Supply - China   | 00N7689 |
|                          | INTEL Lake Clark 2.7 Ethernet adapter (models CVF CVU G03 G04)         | 22P4709 |
|                          | Fansink - Heatsink with Fan and Clip (models CVF CVU)                  | 10K1689 |
|                          | Fansink - Heatsink with Fan and Clip Assembly (models CVF CVU G03 G04) | 06P2458 |
|                          | Lithium Battery (all models)   | 33F8354 |
|                          | 2 Button Mouse (all models)  | 10L6145 |
|                          | 3.5 DASD Bracket Handle (all models)                                   | 09N5748 |
|                          | 5.25 DASD Bracket Handle (all models)                                  | 09N5747 |
|                          | Blank Bezel 5.25" Bay Kit, White (all models)                          | 09N5732 |
|                          | Nameplate, Blue (all models)   | 09N5733 |
|                          | Misc. Hardware Kit (all models)  | 09N5764 |
|                          | Foot (4) (all models)  | 03K9655 |
|                          | FDD Cable (all models)   | 33L2596 |
|                          | CD-ROM Audio Cable (all models)  | 75H9219 |
|                          | USB Cable Assembly (all models)  | 25P6152 |
|                          | Cable Assembly ATA-66 (2 drop) (all models)                            | 37L5098 |
|                          | Cable Assembly Ultra ATA HDD Cable (all models)                        | 37L4525 |

| <b>Recovery CDs Win 2K - Machine Type 6336</b> |                                     |         |
|--|-------------------------------------|---------|
|  | US English Win 2K (model CVU G03)   | 25P6019 |
|  | UK English Win 2K                   | 25P6020 |
|  | AP English Win 2K                   | 25P6021 |
|  | French Win 2K                       | 25P6022 |
|  | Canadian French Win 2K (models CVF) | 25P6023 |
|  | Spanish Win 2K                      | 25P6024 |

| <b>Recovery CDs Win 2K - Machine Type 6336</b> |                           |         |
|--|---------------------------|---------|
|  | LA Spanish Win 2K         | 25P6025 |
|  | Brazil, Portuguese Win 2K | 25P6026 |
|  | German Win 2K             | 25P6027 |
|  | Greek Win 2K              | 25P6072 |
|  | Hebrew Win 2K             | 25P6061 |
|  | Italian Win 2K            | 25P6028 |
|  | Dutch Win 2K              | 25P6029 |
|  | Danish Win 2K             | 25P6030 |
|  | Finnish Win 2K            | 25P6031 |
|  | Norwegian Win 2K          | 25P6032 |
|  | Swedish Win 2K            | 25P6033 |
|  | Arabic Localized Win 2K   | 25P6035 |
|  | Czech Win 2K              | 25P6036 |
|  | Russian Win 2K            | 25P6037 |
|  | Polish Win 2K             | 25P6038 |
|  | Hungarian Win 2K          | 25P6039 |
|  | Turkish Win 2K            | 25P6040 |
|  | Thai Win 2K               | 25P6041 |

| <b>Recovery CDs Win SE - Machine Type 6336</b> |                             |         |
|--|-----------------------------|---------|
|  | US English (model CVU G04)  | 25P6102 |
|  | UK English                  | 25P6103 |
|  | AP English                  | 25P5715 |
|  | French                      | 25P6105 |
|  | Canadian French (model CVF) | 25P6106 |
|  | Spanish                     | 25P6107 |
|  | LA Spanish                  | 25P6108 |
|  | Portuguese                  | 25P6109 |
|  | Brazil, Portuguese          | 25P6110 |
|  | German                      | 25P6111 |
|  | Italian                     | 25P6112 |
|  | Dutch                       | 25P6113 |
|  | Danish                      | 25P6114 |
|  | Finnish                     | 25P6115 |
|  | Norwegian                   | 25P6129 |
|  | Swedish                     | 25P6116 |
|  | Arabic Enabled              | 25P6117 |

| <b>Recovery CDs Win SE - Machine Type 6336</b> |           |         |
|--|-----------|---------|
|  | Hebrew    | 25P6119 |
|  | Czech     | 25P6120 |
|  | Russian   | 25P6121 |
|  | Polish    | 25P6122 |
|  | Hungarian | 25P6123 |
|  | Slovenian | 25P6124 |
|  | Slovak    | 25P6125 |
|  | Greek     | 25P6126 |
|  | Turkish   | 25P6127 |
|  | Thai      | 25P6104 |

| <b>Keyboards - Machine Type 6336</b> |  |         |
|--------------------------------------|--|---------|
|                                      | US English, white (models CVU G03 G04) | 32P5040 |
|                                      | Arabic, white                          | 32P5041 |
|                                      | Belgium/French, white                  | 32P5042 |
|                                      | Belgium/UK, white                      | 32P5043 |
|                                      | Bulgarian, white                       | 32P5044 |
|                                      | Chinese/US Hong Kong/Taiwan, white     | 32P5045 |
|                                      | Czech, white                           | 32P5046 |
|                                      | Danish, white                          | 32P5047 |
|                                      | Dutch, white                           | 32P5048 |
|                                      | French, white                          | 32P5049 |
|                                      | French Canadian, white (model CVF)     | 32P5050 |
|                                      | French Canadian, white (model CVF)     | 32P5051 |
|                                      | German, white                          | 32P5052 |
|                                      | Greek, white                           | 32P5053 |
|                                      | Hebrew, white                          | 32P5054 |
|                                      | Hungarian, white                       | 32P5055 |
|                                      | Iceland, white                         | 32P5056 |
|                                      | Italy, white                           | 32P5057 |
|                                      | Japanese, white                        | 32P5058 |
|                                      | Korean, white                          | 32P5059 |
|                                      | LA Spanish, white                      | 32P5060 |
|                                      | Norwegian, white                       | 32P5061 |
|                                      | Polish, white                          | 32P5062 |
|                                      | Portuguese, white                      | 32P5063 |
|                                      | Romanian, white                        | 32P5064 |

| <b>Keyboards - Machine Type 6336</b> |                          |         |
|--------------------------------------|--------------------------|---------|
|                                      | Russian, white           | 32P5065 |
|                                      | Russian/Cy, white        | 32P5066 |
|                                      | Serbian/Cyrillic, white  | 32P5067 |
|                                      | Slovak, white            | 32P5068 |
|                                      | Spanish, white           | 32P5069 |
|                                      | Swedish/Finn, white      | 32P5070 |
|                                      | Swiss F/G, white         | 32P5071 |
|                                      | Thailand, white          | 32P5072 |
|                                      | Turkish, white           | 32P5073 |
|                                      | Turkish, white           | 32P5074 |
|                                      | UK English, white        | 32P5075 |
|                                      | US International, white  | 32P5076 |
|                                      | Yugoslav/Latin, white    | 32P5077 |
|                                      | Brazil/Portuguese, white | 32P5078 |

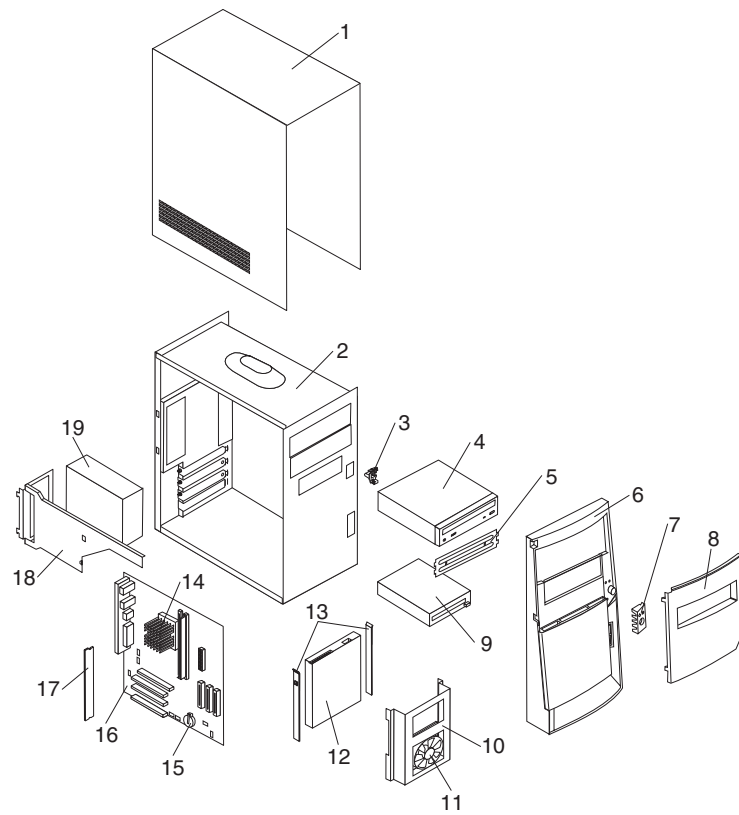
| <b>Power Cords - Type 6336</b> |                 |         |
|--------------------------------|-----------------|---------|
|                                | Arabic          | 14F0033 |
|                                | Australian      | 93F2365 |
|                                | Belgian         | 1339520 |
|                                | Bulgarian       | 1339520 |
|                                | Canadian        | 93F2364 |
|                                | Czechoslovakian | 1339520 |
|                                | Denmark         | 13F9997 |
|                                | Finland         | 1339520 |
|                                | France          | 1339520 |
|                                | German          | 1339520 |
|                                | Hungarian       | 1339520 |
|                                | Israel          | 14F0087 |
|                                | Italian         | 14F0069 |
|                                | Latin American  | 6952301 |
|                                | Netherlands     | 1339520 |
|                                | New Zealand     | 93F2365 |
|                                | Norwegian       | 1339520 |
|                                | Polish          | 1339520 |
|                                | Portuguese      | 1339520 |
|                                | Serbian         | 1339520 |
|                                | Slovakian       | 1339520 |

| <b>Power Cords - Type 6336</b> |                                     |         |
|--------------------------------|-------------------------------------|---------|
|                                | South African                       | 14F0015 |
|                                | Spanish                             | 1339520 |
|                                | Swiss                               | 1339520 |
|                                | Swiss - French/German               | 14F0051 |
|                                | US English (models CVF CVU G03 G04) | 93F2364 |
|                                | UK - Ireland                        | 14F0033 |
|                                | Yugoslavian                         | 1339520 |
|                                | Chile                               | 14F0069 |
|                                | Argentina, Paraguay, & Uruguay      | 36L8880 |
|                                | China                               | 02K0545 |

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## **Microtower Model**

Types 6348, 6342, 2257, 2254, 6337





| <b>Machine Type 6348</b> |   |         |
|--------------------------|---|---------|
| 1                        | Top Cover Assembly, Pearl White (models 26A 26C 26M 26D 26Q 26T 26V)                          | 06P8211 |
| 1                        | Top Cover Assembly, Black (models 26U 26F 26S 26P 26G)  | 19K7810 |
| 2                        | Chassis Assembly (all models)   | 19K7811 |
| 3                        | LED/Power Switch Assembly (all models)  | 19K7858 |
| 4                        | CD-ROM 48x, White (models 26A 26C 26M 26D 26Q 26T 26V)  | 24P3603 |
| 4                        | CD-ROM 48x Lite-On, White (models 26A 26C 26M 26D 26Q 26T 26V)                                | 19K1529 |
| 4                        | CD-ROM 48x Samsung, White (models 26A 26C 26M 26D 26Q 26T 26V)                                | 19K1533 |
| 4                        | CD-ROM 48x, Black (models 26U 26F 26S 26P 26G)  | 24P3605 |
| 4                        | CD-ROM 48x, Lite-On, Black (models 26U 26F 26S 26P 26G)                                       | 19K1531 |
| 4                        | CD-ROM 48x Samsung, Black (models 26U 26F 26S 26P 26G)  | 06P5281 |
| 4                        | 12x CD-RW, LG, Black  | 06P5161 |
| 4                        | 8x4x32x8x DVD/CD-RW Combo from Samsung, Black   | 06P5289 |
| 5                        | EMC Shield for 5.25" Bay (all models)   | 19K5548 |
| 6                        | Front Bezel Assembly, Pearl White (models 26A 26C 26M 26D 26Q 26T 26V)                        | 06P8212 |
| 6                        | Front Bezel Assembly, Black (models 26U 26F 26S 26P)  | 19K7818 |
| 6                        | Front Bezel Assembly, Blue (model 26G)  | 19K7860 |
| 7                        | Power Button, Platinum Metallic (all models)  | 19K7813 |
| 8                        | Door Assembly, Pearl White (models 26A 26C 26M 26D 26Q 26T 26V)                               | 06P8213 |
| 8                        | Door Assembly, Black (models 26U 26F 26S 26P)   | 19K7817 |
| 8                        | Door Assembly, Blue (model 26G)   | 19K7859 |
| 9                        | 3.5" 1.44MB Diskette Drive, with Pearl White Bezel (models 26A, 26C, 26M, 26D, 26Q, 26T, 26V) | 93F2361 |
| 9                        | 3.5" 1.44MB Diskette Drive, Black (models 26U, 26F, 26S, 26P, 26G)                            | 76H4091 |
| 10                       | HF/Fan/Speaker Bracket (all models)   | 37L2501 |
| 11                       | Fan Assembly (all models)   | 37L4526 |
| 12                       | 20 GB Hardfile EIDE 5400rpm (all models)  | 19K1560 |
| 12                       | 40 GB ATA-100 HDD   | 19K1562 |
| 12                       | 60 GB ATA-100 HDD   | 19K1581 |
| 13                       | DASD Soft Mount HDD Rail Assembly (all models)  | 19K5331 |
| 14                       | Intel Celeron 100/850 128K (all models)   | 24P5944 |
| 14                       | Intel PIII 933 MHz Processor  | 25P0719 |
| 14                       | Intel PIII 1GHz   | 25P0718 |
| 15                       | Lithium Battery (all models)  | 33F8354 |
| 16                       | System Board W/O Mem/Proc (all models)  | 06P1369 |

| <b>Machine Type 6348</b> |   |         |
|--------------------------|---|---------|
| 17                       | 64MB SDRAM Memory   | 33L3072 |
| 17                       | 128 MB SDRAM Memory (all models)  | 33L3074 |
| 17                       | 256 MB SDRAM Memory   | 33L3076 |
| 18                       | Power Supply Bracket (all models)   | 37L2502 |
| 19                       | 155 W Power Supply, uATX (models 26U 26F 26S 26P 26A 26M 26D 26Q 26T 26V) | 00N7685 |
| 19                       | 155 W Power Supply - Japan & EMEA (model 26G)                             | 00N7687 |
| 19                       | 155 W Power Supply - China (model 26C)                                    | 00N7689 |
|                          | Fansink - Heatsink with Fan and Clip (all models)                         | 10K1689 |
|                          | Fansink - Heatsink with Fan and Clip Assembly                             | 06P2458 |
|                          | 2 Button Mouse, White (models 26A 26C 26M 26D 26Q 26T 26V)                | 10L6145 |
|                          | 2 Button Mouse, Black (models 26U 26F 26S 26P 26G)                        | 10L6149 |
|                          | Mouse - Scrollpoint III, USB, Black                                       | 24P0485 |
|                          | External Tier 4 Powered Speakers  | 25P4723 |
|                          | Speaker Brick - US/Canada/LA/Taiwan                                       | 10K2587 |
|                          | Blank Bezel 5.25" Bay, Pearl White (models 26A 26C 26M 26D 26Q 26T 26V)   | 06P8210 |
|                          | Blank Bezel 5.25" Bay, Black (models 26U 26F 26S 26P 26G)                 | 09N1749 |
|                          | EMC Planar Shield (all models)  | 06P1365 |
|                          | Misc. Hardware Kit (all models)   | 09N5764 |
|                          | Foot (4) (all models)   | 03K9655 |
|                          | Dual Front USB Cable (all models)   | 25P6152 |
|                          | FDD Cable (all models)  | 01K1513 |
|                          | CD-ROM Audio Cable Assembly, Dual (all models)                            | 09N1782 |
|                          | Cable Assembly ATA-66 (2 drop) (all models)                               | 37L5098 |
|                          | Cable Assembly Ultra ATA HDD Cable (all models)                           | 37L4525 |

| <b>Recovery CDs Win 2K - Machine Type 6348</b> |  |         |
|--|--|---------|
|  | US English Win 2K (model 26U)            | 25P6019 |
|  | UK English Win 2K (model 26G)            | 25P6020 |
|  | AP English Win 2K (models 26A, 26D, 26Q) | 25P6021 |
|  | French Win 2K (model 26G)                | 25P6022 |
|  | Canadian French Win 2K (model 26F)       | 25P6023 |
|  | Spanish Win 2K (model 26G)               | 25P6024 |
|  | LA Spanish Win 2K (model 26S)            | 25P6025 |
|  | Brazil, Portuguese Win 2K (model 26P)    | 25P6026 |
|  | German Win 2K (model 26G)                | 25P6027 |

| <b>Recovery CDs Win 2K - Machine Type 6348</b> |                                     |         |
|--|-------------------------------------|---------|
|  | Greek Win 2K (model 26G)            | 25P6072 |
|  | Hebrew Win 2 K (model 26G)          | 25P6061 |
|  | Italian Win 2K (model 26G)          | 25P6028 |
|  | Dutch Win 2K (model 26G)            | 25P6029 |
|  | Danish Win 2K (model 26G)           | 25P6030 |
|  | Finnish Win 2K (model 26G)          | 25P6031 |
|  | Norwegian Win 2K (model 26G)        | 25P6032 |
|  | Swedish Win 2K (model 26G)          | 25P6033 |
|  | Arabic Localized Win 2K (model 26G) | 25P6035 |
|  | Czech Win 2K (model 26G)            | 25P6036 |
|  | Russian Win 2K (model 26G)          | 25P6037 |
|  | Polish Win 2K (model 26G)           | 25P6038 |
|  | Hungarian Win 2K (model 26G)        | 25P6039 |
|  | Turkish Win 2K (model 26G)          | 25P6040 |
|  | Thai Win 2K (model 26T)             | 25P6041 |

| <b>Recovery CDs Win SE - Machine Type 6348</b> |                    |         |
|--|--------------------|---------|
|  | US English         | 25P6102 |
|  | UK English         | 25P6103 |
|  | AP English         | 25P5715 |
|  | French             | 25P6105 |
|  | Canadian French    | 25P6106 |
|  | Spanish            | 25P6107 |
|  | LA Spanish         | 25P6108 |
|  | Portuguese         | 25P6109 |
|  | Brazil, Portuguese | 25P6110 |
|  | German             | 25P6111 |
|  | Italian            | 25P6112 |
|  | Dutch              | 25P6113 |
|  | Danish             | 25P6114 |
|  | Finnish            | 25P6115 |
|  | Norwegian          | 25P6129 |
|  | Swedish            | 25P6116 |
|  | Arabic Enabled     | 25P6117 |
|  | Hebrew             | 25P6119 |
|  | Czech              | 25P6120 |
|  | Russian            | 25P6121 |

| <b>Recovery CDs Win SE - Machine Type 6348</b> |           |         |
|--|-----------|---------|
|  | Polish    | 25P6122 |
|  | Hungarian | 25P6123 |
|  | Slovenian | 25P6124 |
|  | Slovak    | 25P6125 |
|  | Greek     | 25P6126 |
|  | Turkish   | 25P6127 |
|  | Thai      | 25P6104 |

| <b>Keyboards - Machine Type 6348</b> |   |         |
|--------------------------------------|---|---------|
|                                      | US English, white (models 26A, 26C, 26Q)                  | 32P5040 |
|                                      | Arabic, white   | 32P5041 |
|                                      | Belgium/French, white                                     | 32P5042 |
|                                      | Belgium/UK, white   | 32P5043 |
|                                      | Bulgarian, white  | 32P5044 |
|                                      | Chinese/US Hong Kong/Taiwan, white (models 26M, 26D, 26V) | 32P5045 |
|                                      | Czech, white  | 32P5046 |
|                                      | Danish, white   | 32P5047 |
|                                      | Dutch, white  | 32P5048 |
|                                      | French, white   | 32P5049 |
|                                      | French Canadian, white                                    | 32P5050 |
|                                      | French Canadian, white                                    | 32P5051 |
|                                      | German, white   | 32P5052 |
|                                      | Greek, white  | 32P5053 |
|                                      | Hebrew, white   | 32P5054 |
|                                      | Hungarian, white  | 32P5055 |
|                                      | Iceland, white  | 32P5056 |
|                                      | Italy, white  | 32P5057 |
|                                      | Japanese, white   | 32P5058 |
|                                      | LA Spanish, white   | 32P5059 |
|                                      | Norwegian, white  | 32P5060 |
|                                      | Polish, white   | 32P5061 |
|                                      | Portuguese, white   | 32P5062 |
|                                      | Romanian, white   | 32P5063 |
|                                      | Russian, white  | 32P5064 |
|                                      | Russian/Cy, white   | 32P5065 |
|                                      | Serbian/Cyrillic, white                                   | 32P5066 |
|                                      | Slovak, white   | 32P5067 |

| <b>Keyboards - Machine Type 6348</b> |                          |         |
|--------------------------------------|--------------------------|---------|
|                                      | Spanish, white           | 32P5068 |
|                                      | Swedish/Finn, white      | 32P5069 |
|                                      | Swiss F/G, white         | 32P5070 |
|                                      | Thailand, white          | 32P5071 |
|                                      | Turkish, white           | 32P5072 |
|                                      | Turkish, white           | 32P5073 |
|                                      | UK English, white        | 32P5074 |
|                                      | US International, white  | 32P5075 |
|                                      | Yugoslav/Latin, white    | 32P5076 |
|                                      | Japanese, white          | 32P5077 |
|                                      | Brazil/Portuguese, white | 32P5078 |

| <b>Keyboards - Machine Type 6348</b> |                                     |         |
|--------------------------------------|-------------------------------------|---------|
|                                      | US English, Black (model 26U)       | 32P5000 |
|                                      | Arabic, Black (model 26G)           | 32P5001 |
|                                      | Belgium/French, Black (model 26G)   | 32P5002 |
|                                      | Belgium/UK, Black (model 26G)       | 32P5003 |
|                                      | Bulgarian, Black (model 26G)        | 32P5004 |
|                                      | Chinese/US Hong Kong/Taiwan, Black  | 32P5005 |
|                                      | Czech, Black (model 26G)            | 32P5006 |
|                                      | Danish, Black (model 26G)           | 32P5007 |
|                                      | Dutch, Black (model 26G)            | 32P5008 |
|                                      | French, Black (model 26G)           | 32P5009 |
|                                      | French Canadian, Black              | 32P5010 |
|                                      | French Canadian, Black (model 26F)  | 32P5011 |
|                                      | German, Black (model 26G)           | 32P5012 |
|                                      | Greek, Black (model 26G)            | 32P5013 |
|                                      | Hebrew, Black (model 26G)           | 32P5014 |
|                                      | Hungarian, Black (model 26G)        | 32P5015 |
|                                      | Iceland, Black (model 26G)          | 32P5016 |
|                                      | Italy, Black (model 26G)            | 32P5017 |
|                                      | Japanese, Black                     | 32P5018 |
|                                      | Korean, Black                       | 32P5019 |
|                                      | LA Spanish, Black (models 26S, 26P) | 32P5020 |
|                                      | Norwegian, Black (model 26G)        | 32P5021 |
|                                      | Polish, Black (model 26G)           | 32P5022 |
|                                      | Portuguese, Black (model 26G)       | 32P5023 |

| <b>Keyboards - Machine Type 6348</b> |                                     |         |
|--------------------------------------|-------------------------------------|---------|
|                                      | Romanian, Black (model 26G)         | 32P5024 |
|                                      | Russian, Black (model 26G)          | 32P5025 |
|                                      | Russian/Cy, Black (model 26G)       | 32P5026 |
|                                      | Serbian/Cyrillic, Black (model 26G) | 32P5027 |
|                                      | Slovak, Black (model 26G)           | 32P508  |
|                                      | Spanish, Black (model 26G)          | 32P5029 |
|                                      | Swedish/Finn, Black (model 26G)     | 32P5030 |
|                                      | Swiss F/G, Black (model 26G)        | 32P5031 |
|                                      | Thailand, Black                     | 32P5032 |
|                                      | Turkish, Black (model 26G)          | 32P5033 |
|                                      | Turkish, Black (model 26G)          | 32P5034 |
|                                      | UK English, Black (model 26G)       | 32P5035 |
|                                      | US International, Black             | 32P5036 |
|                                      | Yugoslav/Latin, Black (model 26G)   | 32P5037 |
|                                      | Brazil/Portuguese, Black            | 32P5038 |

| <b>Power Cords - Type 6348</b> |                              |         |
|--------------------------------|------------------------------|---------|
|                                | Arabic (all models)          | 14F0033 |
|                                | Australian (all models)      | 93F2365 |
|                                | Belgian (all models)         | 1339520 |
|                                | Bulgarian (all models)       | 1339520 |
|                                | Canadian (all models)        | 93F2364 |
|                                | Czechoslovakian (all models) | 1339520 |
|                                | Denmark (all models)         | 13F9997 |
|                                | Finland (all models)         | 1339520 |
|                                | France (all models)          | 1339520 |
|                                | German (all models)          | 1339520 |
|                                | Hungarian (all models)       | 1339520 |
|                                | Israel (all models)          | 14F0087 |
|                                | Italian (all models)         | 14F0069 |
|                                | Latin American (all models)  | 6952301 |
|                                | Netherlands (all models)     | 1339520 |
|                                | New Zealand (all models)     | 93F2365 |
|                                | Norwegian (all models)       | 1339520 |
|                                | Polish (all models)          | 1339520 |
|                                | Portuguese (all models)      | 1339520 |
|                                | Serbian (all models)         | 1339520 |

| <b>Power Cords - Type 6348</b> |  |         |
|--------------------------------|--|---------|
|                                | Slovakian (all models)                       | 1339520 |
|                                | South African (all models)                   | 14F0015 |
|                                | Spanish (all models)                         | 1339520 |
|                                | Swiss (all models)                           | 1339520 |
|                                | Swiss - French/German (all models)           | 14F0051 |
|                                | US English (all models)                      | 93F2364 |
|                                | UK - Ireland (all models)                    | 14F0033 |
|                                | Yugoslavian (all models)                     | 1339520 |
|                                | Chile (all models)                           | 14F0069 |
|                                | Argentina, Paraguay, & Uruaguay (all models) | 36L8880 |

| <b>Machine Type 6342</b> |   |         |
|--------------------------|---|---------|
| 1                        | Top Cover Assembly, Pearl White (models 12C 12M 12D 12V PSA PST PSQ 13T 13Q 22C 22M 22D 22V 23A 23T 23Q 24T 24Q 25T 25Q 26V B3T B3Q PAV PGV PSV B1C B1M B1D B1V B4T B4Q 42-CMDTQV 43-ATQ 45-TQ 46-CMDV 51-CMDTQV 54-CMDV 55-ATQ 56-TQ 62-CMDV 64-CMDTQV 66-TQ RD-ATQ RE-GV RGG 91C 91D 91M 91V 92C 92D 92M 92V) | 06P8211 |
| 1                        | Top Cover Assembly, Black (models 14S 14P 15G 25U 25S 25P B2S B2P PAG PBU PHU PNU PQU PSU PSF PTU PGG PJG PPG PRG PUU PUF 23U 23F 26U 26F B3U 26G B3F B5U B5F B6G B7G 41-SP 43-UFG 46-UFG 47-SP 53-SP 54-GUF 55-UFG 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RAG RB-UF RC-GV)   | 19K7810 |
| 2                        | Chassis Assembly (all models)   | 19K7811 |
| 3                        | LED/Power Switch Assembly (all models)  | 19K7858 |
| 4                        | CD-ROM 48x, White (models PSA PST PSQ 13T 13Q 23A 23T 23Q 25T 25Q 26V B3T B3Q PAV PGV PSV 43-ATQ 45-TQ 46-CMDV 54-CMDV 55-ATQ 56-TQ 62-CMDV 66-TQ RD-ATQ RE-GV RGG 92C 92D 92M 92V)   | 24P3603 |
| 4                        | CD-ROM 48x Lite-On, White (models PSA PST PSQ 13T 13Q 23A 23T 23Q 25T 25Q 26V B3T B3Q PAV PGV PSV 43-ATQ 45-TQ 46-CMDV 54-CMDV 55-ATQ 56-TQ 62-CMDV 66-TQ RD-ATQ RE-GV RGG 92C 92D 92M 92V)   | 19K1529 |
| 4                        | CD-ROM 48x Samsung, White (models PSA PST PSQ 13T 13Q 23A 23T 23Q 25T 25Q 26V B3T B3Q PAV PGV PSV 43-ATQ 45-TQ 46-CMDV 54-CMDV 55-ATQ 56-TQ 62-CMDV 66-TQ RD-ATQ RE-GV RGG 92C 92D 92M 92V)   | 19K1533 |
| 4                        | CD-ROM 48x, Black (models 14S 14P 15G 25U 25S 25P B2S B2P PAG PBU PGG PHU PJG PPG PRG PSU PSF PUU PUF 23U 23F 26U 26F B3U 26G B3F B6G B7G 41-SP 43-UFG 46-UFG 47-SP 53-SP 54-GUF 55-UFG 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RAG RC-GV 81G 62G)   | 24P3605 |

|   | Machine Type 6342  |         |
|---|--|---------|
| 4 | CD-ROM 48x, Lite-On, Black (models 14S 14P 15G 25U 25S 25P B2S B2P PAG PBU PGG PHU PJG PPG PRG PSU PSF PUU PUF 23U 23F 26U 26F B3U 26G B3F B6G B7G 41-SP 43-UFG 46-UFG 47-SP 53-SP 54-GUF 55-UFG 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RAG RC-GV 81G 62G)   | 19K1531 |
| 4 | CD-ROM 48x Samsung, Black (models 14S 14P 15G 25U 25S 25P B2S B2P PAG PBU PGG PHU PJG PPG PRG PSU PSF PUU PUF 23U 23F 26U 26F B3U 26G B3F B6G B7G 41-SP 43-UFG 46-UFG 47-SP 53-SP 54-GUF 55-UFG 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RAG RC-GV 81G 62G)  | 06P5281 |
| 4 | 12x CD-RW, LG, Black (models PNU PQU B5U B5F RB-UF)  | 06P5161 |
| 4 | 8x4x32x8x DVD/CD-RW Combo from Samsung, Black (model PTU)  | 06P5289 |
| 5 | EMC Shield for 5.25" Bay (all models)  | 19K5548 |
| 6 | Front Bezel Assembly, Pearl White (models 12C 12M 12D 12V PSA PST PSQ 13T 13Q 22C 22M 22D 22V 23A 23T 23Q 24T 24Q 25T 25Q 26V B3T B3Q PAV PGV PSV B1C B1M B1D B1V B4T B4Q 42-CMDTQV 43-ATQ 45-TQ 46-CMDV 51-CMDTQV 54-CMDV 55-ATQ 56-TQ 62-CMDV 64-CMDTQV 66-TQ RD-ATQ RE-GV RGG 91C 91D 91M 91V 92C 92D 92M 92V)                  | 06P8212 |
| 6 | Front Bezel Assembly, Black (models 14S 14P 25U 25S 25P B2S B2P PBU PHU PNU PQU PSU PSF PTU PUU PUF 23U 23F 26U 26F B3U B3F B5U B5F 41-SP 43-UF 46-UF 47-SP 53-SP 54-UF 55-UF 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RB-UF)  | 19K7818 |
| 6 | Front Bezel Assembly, Blue (models 15G PAG PGG PJG PPG PRG 26G B6G B7G 43G 46G 54G 55G RAG RCG 81G 62G)  | 19K7860 |
| 7 | Power Button, Platinum Metallic (all models)   | 19K7813 |
| 8 | Door Assembly, Pearl White (models 12C 12M 12D 12V PSA PST PSQ 13T 13Q 22C 22M 22D 22V 23A 23T 23Q 24T 24Q 25T 25Q 26V B3T B3Q PAV PGV PSV B1C B1M B1D B1V B4T B4Q 42-CMDTQV 43-ATQ 45-TQ 46-CMDV 51-CMDTQV 54-CMDV 55-ATQ 56-TQ 62-CMDV 64-CMDTQV 66-TQ RD-ATQ RE-GV RGG 91C 91D 91M 91V 92C 92D 92M 92V)                         | 06P8213 |
| 8 | Door Assembly, Black (models 14S 14P 25U 25S 25P B2S B2P PBU PHU PNU PQU PSU PSF PTU PUU PUF 23U 23F 26U 26F B3U B3F B5U B5F 41-SP 43-UF 46-UF 47-SP 53-SP 54-UF 55-UF 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RB-UF)   | 19K7817 |
| 8 | Door Assembly, Blue (models 15G PAG PGG PJG PPG PRG 26G B6G B7G 43G 46G 54G 55G 81G 62G)   | 19K7859 |
| 9 | 3.5" 1.44MB Diskette Drive, with Pearl White Bezel (models 12C 12M 12D 12V 13T 13Q 22C 22M 22D 22V 23A 23T 23Q 24T 24Q 25T 25Q 26V B3T B3Q PSA PST PSQ PAV PGV PSV B1C B1M B1D B1V B4T B4Q 42-CMDTQV 43-ATQ 45-TQ 46-CMDV 51-CMDTQV 54-CMDV 55-ATQ 56-TQ 62-CMDV 64-CMDTQV 66-TQ RD-ATQ RE-GV RGG 91C 91D 91M 91V 92C 92D 92M 92V) | 93F2361 |
| 9 | 3.5" 1.44MB Diskette Drive, Black (models 14S 14P 15G 25U 25S 25P B2S B2P PAG PBU PGG PHU PJG PNU PPG PQU PRG PSU PSF PTU PUU PUF 23U 23F 26U 26F B3U 26G B3F B5U B5F B6G B7G 41-SP 43-UFG 46-UFG 47-SP 53-SP 54-GUF 55-UFG 56-SP 61-UFA 62-UF 63-UF B8-UFTQ PA-GV PGG PJV PPG PQ-UF PRG PS-ATQV RAG RB-UF RC-GV 81G 62G)          | 76H4091 |



| Machine Type 6342 |  |         |
|-------------------|--|---------|
| 10                | HF/Fan/Speaker Bracket (all models)  | 37L2501 |
| 11                | Fan Assembly (all models)  | 37L4526 |
| 12                | 20 GB Hardfile EIDE 5400rpm (models 12C 12M 12D 12V 13T 13Q 15G 22C 22M 22D 22V 23A 23T 23Q 24T 24Q 26V PAG PBU PGG PHU PJG PPG PRG PAV PGV 23U 23F 26U 26F B1C B1M B1D B1V 26G B6G B7G 41-SP 42-CMDTQV 43-UFGATQ 46-UFGCMDV 47-SP 51-CMDTQV 54-CMDVGUF 55-UFGATQ 61-UFA 62-UFCMDV 64-CMDTQV RAG RC-GV RE-GV RGG 81G 62G 91C 91D 91M 91V 92C 92D 92M 92V)  | 19K1560 |
| 12                | 40 GB ATA-100 HDD (models 14S 14P 25P 25T B2S B2P 25U 25S 25Q B3T B3Q PNU PQU PSU PSF PSA PST PSQ PTU PSV B3U B4T B4Q B3F B5U B5F 45-TQ 53-SP 56-SPTQ 63-UF 66-TQ B8-UFTQ RB-UF RD-ATQ)  | 19K1562 |
| 12                | 60 GB ATA-100 HDD (models PUU PUF)   | 19K1581 |
| 13                | DASD Soft Mount HDD Rail Assembly (all models)   | 19K5331 |
| 14                | Intel Celeron 100/800 128K (models 12C 12M 12D 14S 14P PAG 12V 15G PBU 13T 13Q PAV)  | 24P5784 |
| 14                | Intel Celeron 100/850 128K (models 23A 25P 25S 25T 25Q 22C 22M 22D 22V 23T 23Q 24T 24Q 25U 26V PGG PHU PJG PGV 23U 23F 26U 26F 26G 41-SP)  | 24P5944 |
| 14                | Intel Celeron 900MHz (models 42T 42Q 42C 42M 42D 42V 43U 43F 43G 43A 43T 43Q 45T 45Q 46U 46F 46G 46C 46M 46D 46V 47-SP PAG PAV PGG PJV)  | 32P4094 |
| 14                | Intel Celeron 950MHz (models 51-CMDTQV 53-SP 54-CMDV 54-GUF 55UFGATQ 56-SPTQ)  | 48P5039 |
| 14                | Intel Celeron 1GHz (models 61-UFA 62-UF 62-CMDV 63-UF 64-CMDTQV 66-TQ B8-UFTQ RAG RB-UF RC-GV RD-ATQ RE-GV RGG 81G 62G)  | 48P5040 |
| 14                | Intel Celeron 1.1 GHz (models 91C 91D 91M 91V 92C 92D 92M 92V)   | 33P0807 |
| 14                | Intel PIII 933 MHz Processor (model PNU)   | 25P0719 |
| 14                | Intel PIII 1GHz (models B2S B2P B3T B3Q PPG PQU PRG PSU PSF PSA PST PSQ PTU PSV PUU PUF B1C B1M B1D B1V B3U B4T B4Q B3F B5U B5F B6G B7G)   | 25P0718 |
| 15                | Lithium Battery (all models)   | 33F8354 |
| 16                | System Board W/O Mem/Proc (all models)   | 06P1369 |
| 17                | 64MB SDRAM Memory (models 14S 14P 12C 12M 12D B2S B2P PBU PHU 12V 13T 13Q 22C 22M 22D 22V 24T 24Q 41-SP 42-CMDTQV 47-SP 51-CMDTQV 53-SP 64-CMDTQV 91C 91D 91M 91V)   | 33L3072 |
| 17                | 128 MB SDRAM Memory (models PGG PJG PNU PPG PQU PRG PSU PSF PSA PST PSQ 15G 23A 23T 23Q 25U 25S 25P 25T 25Q 26V B3T B3Q PAG PAV PGV PSV 23U 23F 26U 26F B1C B1M B1D B1V B3U 26G B3F B5U B5F B6G B7G 43-UFGATQ 45-TQ 46-UFGCMDV 54-CMDVGUF 55-UFGATQ 56-SPTQ 61-UFA 62-UFCMDV 63-UF 66-TQ B8-UFTQ RAG RB-UF RC-GV RD-ATQ RE-GV RGG 81G 62G 92C 92D 92M 92V) | 33L3074 |
| 17                | 256 MB SDRAM Memory (models PTU PUU PUF B4T B4Q)   | 33L3076 |
| 18                | Power Supply Bracket (all models)  | 37L2502 |

|    | Machine Type 6342  |         |
|----|--|---------|
| 19 | 155 W Power Supply, uATX (models 13T 13Q 14S 14P 22M 22D 22V 23A 23T 23Q 24T 24Q 25U 25S 25P 25T 25Q 26V B2S B2P B3T B3Q PBU PHU PNU PQU PSU PSF PSA PST PSQ PTU 12M 12D 12V PAV PGV PSV PUU PUF 23U 23F 26U 26F B1M B1D B1V B3U B4T B4Q B3F B5U B5F 41-SP 42-MDTQV 43-UFATQ 45-TQ 46-UFMDV 47-SP 51-MDTQV 53-SP 54-MDVUF 55-UFATQ 56-SPTQ 61-UFA 62-UFMDV 63-UF 64-MDTQV 66-TQ B8-UFTQ RB-UF RCV RD-ATQ REV81G 62G 91D 91M 91V 92D 92M 92V) | 00N7685 |
| 19 | 155 W Power Supply - Japan & EMEA (model PGG PJG PPG PRG 15G PAG 26G B6G B7G 43G 46G 54G 55G RAG RCG REG RGG)  | 00N7687 |
| 19 | 155 W Power Supply - China (model 12C 22C B1C 42C 46C 51C 54C 62C 64C 91C 92C)   | 00N7689 |
|    | Lake Clark 2.7 Ethernet Adapter (models 81G 62G 91C 91D 91M 91V 92C 92D 92M 92V)   | 22P4709 |
|    | Fansink - Heatsink with Fan and Clip (models 12C 12M 12D 14S 14P 12V 15G 13T 13Q 15G 22C 22M 22D 22V 23A 23T 23Q 26V 24T 24Q 25U 25S 25P 25T 25Q PAG PBU PGG PHU PJG PAV PGV 23U 23F 26U 26F 26G 41S 41P)  | 10K1689 |
|    | Fansink - Heatsink with Fan and Clip Assembly (models B2S B2P PNU B3T B3Q PPG PQU PRG PSU PSF PSA PST PSQ PTU PSV PUU PUF B1C B1M B1D B1V B3U B4T B4Q B3F B5U B5F B6G B7G 42-CMDTQV 43-UFATQ 45-TQ 46-UFMDV 47-SP 51-CMDTQV 53-SP 54-CMDV GUF 55-UFATQ 56-SPTQ 61-UFA 62-UFMDV 63-UF 64-CMDTQV 66-TQ B8-UFTQ RAG RB-UF RC-GV RD-ATQ RE-GV RGG 81G 62G 91C 91D 91M 91V 92C 92D 92M 92V)   | 06P2458 |
|    | 2 Button Mouse, White (models 12C 12M 12D 12V 13T 13Q 22C 22M 22D 22V 23A 23T 23Q 24T 24Q 25T 25Q 26V B3T B3Q PSA PST PSQ PAV PGV PSV B1C B1M B1D B1V B4T B4Q 42-CMDTQV 43-ATQ 45-TQ 46-CMDV 51-CMDTQV 54-CMDV 55-ATQ 56-TQ 62-CMDV 64-CMDTQV 66-TQ RD-ATQ RE-GV RGG 81G 62G 91C 91D 91M 91V 92C 92D 92M 92V)  | 10L6145 |
|    | 2 Button Mouse, Black (models 14S 14P 15G 25U 25S 25P B2S B2P PAG PGG PJG PPG PRG PSU PSF PUU PUF 23U 23F 26U 26F B3U 26G B3F B5U B5F B6G B7G 41-SP 43-UF 46-UF 47-SP 53-SP 54-GUF 55-UF 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RAG RB-UF RC-GV)   | 10L6149 |
|    | Mouse - Scrollpoint III, USB, Black (models PBU PHU PNU PQU PTU)   | 24P0485 |
|    | External Tier 4 Powered Speakers (models PBU PHU PNU PQU PTU PUU PUF RB-UF)  | 25P4723 |
|    | Speaker Brick - US/Canada/LA/Taiwan (models PBU PHU PNU PQU PTU PUU PUF RB-UF)   | 10K2587 |
|    | Blank Bezel 5.25" Bay, Pearl White (models 12C 12M 12D 12V PSA PST PSQ 13T 13Q 22C 22M 22D 22V 23A 23T 23Q 24T 24Q 25T 25Q 26V B3T B3Q PAV PGV PSV B1C B1M B1D B1V B4T B4Q 42-CMDTQV 43-ATQ 45-TQ 46-CMDV 51-CMDTQV 54-CMDV 55-ATQ 56-TQ 62-CMDV 64-CMDTQV 66-TQ RD-ATQ RE-GV RGG 91C 91D 91M 91V 92C 92D 92M 92V)   | 06P8210 |

|  | <b>Machine Type 6342</b>   |         |
|--|--|---------|
|  | Blank Bezel 5.25" Bay, Black (models 14S 14P 15G 25U 25S 25P B2S B2P PAG PBU PHU PNU PQU PSU PSF PTU PGG PJG PPG PRG PUU PUF 23U 23F 26U 26F B3U 26G B3F B5U B5F B6G B7G 41-SP 43-UFG 46-UFG 47-SP 53-SP 54-GUF 55-UFG 56-SP 61-UFA 62-UF 63-UF B8-UFTQ RAG RB-UF RC-GV) | 09N1749 |
|  | EMC Planar Shield (all models)   | 06P1365 |
|  | Misc. Hardware Kit (all models)  | 09N5764 |
|  | Foot (4) (all models)  | 03K9655 |
|  | Dual Front USB Cable (all models)  | 25P6152 |
|  | FDD Cable (all models)   | 01K1513 |
|  | CD-ROM Audio Cable Assembly, Dual (all models)   | 09N1782 |
|  | Cable Assembly ATA-66 (2 drop) (all models)  | 37L5098 |
|  | Cable Assembly Ultra ATA HDD Cable (all models)  | 37L4525 |

|  | <b>Recovery CDs Win 2K - Machine Type 6342</b>   |         |
|--|--|---------|
|  | US English Win 2K (models 25U PBU PHU PNU PQU PSU PTU PUU 26U B3U B3F B5U B5F 46U 54U 62U PQU RBU) | 25P6019 |
|  | UK English Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                     | 25P6020 |
|  | AP English Win 2K (models 25Q PSA PSQ B3Q RDA 46D 54D 62D 45Q 56Q 66Q PSQ RDQ 92D)                 | 25P6021 |
|  | French Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                         | 25P6022 |
|  | Canadian French Win 2K (models PSF PUF 26F 46F 54F 62F PQF RBF)                                    | 25P6023 |
|  | Spanish Win 2K (model PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                         | 25P6024 |
|  | LA Spanish Win 2K (model 25S 56S)  | 25P6025 |
|  | Brazil, Portuguese Win 2K (model 25P 56P)  | 25P6026 |
|  | German Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                         | 25P6027 |
|  | Greek Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                          | 25P6072 |
|  | Hebrew Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                         | 25P6061 |
|  | Italian Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                        | 25P6028 |
|  | Dutch Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                          | 25P6029 |
|  | Danish Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                         | 25P6030 |
|  | Finnish Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)                        | 25P6031 |

|  | <b>Recovery CDs Win 2K - Machine Type 6342</b>                                       |         |
|--|--|---------|
|  | Norwegian Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)        | 25P6032 |
|  | Swedish Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)          | 25P6033 |
|  | Arabic Localized Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G) | 25P6035 |
|  | Czech Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)            | 25P6036 |
|  | Russian Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)          | 25P6037 |
|  | Polish Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)           | 25P6038 |
|  | Hungarian Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)        | 25P6039 |
|  | Turkish Win 2K (models PGG PJG PPG PRG 26G B7G 46G 54G PPG PRG RAG RCG 62G)          | 25P6040 |
|  | Thai Win 2K (models 25T PST B3T 45T 56T 66T PST RDT)                                 | 25P6041 |
|  | Japan Win 2K (models 26J,46J,54J,62J)  | 46P4685 |

|  | <b>Recovery CDs Win SE - Machine Type 6342</b>  |         |
|--|---|---------|
|  | US English (model 23U 43U 55U 61U 62U 63U B8U)  | 25P6102 |
|  | UK English (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6103 |
|  | AP English (models 23A 23Q 12D 13Q 22D 24Q B1D B4Q 43A 55A 61A 42D 51D 64D 42Q 43Q 51Q 55Q 64Q B8Q 91D) | 25P5715 |
|  | French (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6105 |
|  | Canadian French (model 23F 43F 55F 61F 63F B8F)   | 25P6106 |
|  | Spanish (models PAG 15G B6G 43G 55G PGG REG RGG 81G)  | 25P6107 |
|  | LA Spanish (models 14S B2S 53S)   | 25P6108 |
|  | Portuguese (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6109 |
|  | Brazil, Portuguese (models 14P B2P 53P)   | 25P6110 |
|  | German (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6111 |
|  | Italian (models PAG 15G B6G 43G 55G PGG REG RGG 81G)  | 25P6112 |
|  | Dutch (models PAG 15G B6G 43G 55G PGG REG RGG 81G)  | 25P6113 |
|  | Danish (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6114 |
|  | Finnish (models PAG 15G B6G 43G 55G PGG REG RGG 81G)  | 25P6115 |
|  | Norwegian (models PAG 15G B6G 43G 55G PGG REG RGG 81G)  | 25P6129 |
|  | Swedish (models PAG 15G B6G 43G 55G PGG REG RGG 81G)  | 25P6116 |
|  | Arabic Enabled (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6117 |

| <b>Recovery CDs Win SE - Machine Type 6342</b> |  |         |
|--|--|---------|
|  | Hebrew (models PAG 15G B6G 43G 55G PGG REG RGG 81G)    | 25P6119 |
|  | Czech (models PAG 15G B6G 43G 55G PGG REG RGG 81G)     | 25P6120 |
|  | Russian (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6121 |
|  | Polish (models PAG 15G B6G 43G 55G PGG REG RGG 81G)    | 25P6122 |
|  | Hungarian (models PAG 15G B6G 43G 55G PGG REG RGG 81G) | 25P6123 |
|  | Slovenian (models PAG 15G B6G 43G 55G PGG REG RGG 81G) | 25P6124 |
|  | Slovak (models PAG 15G B6G 43G 55G PGG REG RGG 81G)    | 25P6125 |
|  | Greek (models PAG 15G B6G 43G 55G PGG REG RGG 81G)     | 25P6126 |
|  | Turkish (models PAG 15G B6G 43G 55G PGG REG RGG 81G)   | 25P6127 |
|  | Thai (models 13T 23T 24T B4T 42T 43T 51T 55T 64T B8T)  | 25P6104 |
|  | Japan (models 12J,22J,B1J,42J,51J,64J)                 | 46P4684 |

| <b>Recovery CDs Win ME - Machine Type 6342</b> |                                     |         |
|--|-------------------------------------|---------|
|  | US English                          | 25P5813 |
|  | UK English                          | 25P5814 |
|  | AP English                          | 25P5821 |
|  | French                              | 25P5822 |
|  | Canadian French                     | 32P4491 |
|  | Spanish                             | 32P4492 |
|  | LA Spanish (models 41S 47S)         | 32P4493 |
|  | Portuguese                          | 32P4494 |
|  | Brazil, Portuguese (models 41P 47P) | 25P5965 |
|  | German                              | 25P5966 |
|  | Italian                             | 25P5967 |
|  | Dutch                               | 25P5968 |
|  | Danish                              | 25P5969 |
|  | Finnish                             | 25P5970 |
|  | Norwegian                           | 25P6075 |
|  | Swedish                             | 25P5971 |
|  | Arabic Enabled                      | 25P5972 |
|  | Hebrew                              | 25P5974 |
|  | Czech                               | 25P5975 |
|  | Russian                             | 25P5976 |
|  | Polish                              | 25P5977 |
|  | Hungarian                           | 25P5978 |
|  | Slovenian                           | 25P5979 |

| <b>Recovery CDs Win ME - Machine Type 6342</b> |         |         |
|--|---------|---------|
|  | Slovak  | 25P5980 |
|  | Greek   | 25P5981 |
|  | Turkish | 25P5982 |
|  | Thai    | 25P5983 |

| <b>Keyboards PS2 NetVista, White - Machine Type 6342</b> |   |         |
|--|---|---------|
|  | US English, white (all models)                  | 32P5040 |
|  | Arabic, white (all models)                      | 32P5041 |
|  | Belgium/French, white (all models)              | 32P5042 |
|  | Belgium/UK, white (all models)                  | 32P5043 |
|  | Bulgarian, white (all models)                   | 32P5044 |
|  | Chinese/US Hong Kong/Taiwan, white (all models) | 32P5045 |
|  | Czech, white (all models)                       | 32P5046 |
|  | Danish, white (all models)                      | 32P5047 |
|  | Dutch, white (all models)                       | 32P5048 |
|  | French, white (all models)                      | 32P5049 |
|  | French Canadian, white (all models)             | 32P5050 |
|  | French Canadian, white (all models)             | 32P5051 |
|  | German, white (all models)                      | 32P5052 |
|  | Greek, white (all models)                       | 32P5053 |
|  | Hebrew, white (all models)                      | 32P5054 |
|  | Hungarian, white (all models)                   | 32P5055 |
|  | Iceland, white (all models)                     | 32P5056 |
|  | Italy, white (all models)                       | 32P5057 |
|  | Japanese, white (all models)                    | 32P5058 |
|  | LA Spanish, white (all models)                  | 32P5059 |
|  | Norwegian, white (all models)                   | 32P5060 |
|  | Polish, white (all models)                      | 32P5061 |
|  | Portuguese, white (all models)                  | 32P5062 |
|  | Romanian, white (all models)                    | 32P5063 |
|  | Russian, white (all models)                     | 32P5064 |
|  | Russian/Cy, white (all models)                  | 32P5065 |
|  | Serbian/Cyrillic, white (all models)            | 32P5066 |
|  | Slovak, white (all models)                      | 32P5067 |
|  | Spanish, white (all models)                     | 32P5068 |
|  | Swedish/Finn, white (all models)                | 32P5069 |
|  | Swiss F/G, white (all models)                   | 32P5070 |

| <b>Keyboards PS2 NetVista, White - Machine Type 6342</b> |                                       |         |
|--|---------------------------------------|---------|
|  | Thailand, white (all models)          | 32P5071 |
|  | Turkish, white (all models)           | 32P5072 |
|  | Turkish, white (all models)           | 32P5073 |
|  | UK English, white (all models)        | 32P5074 |
|  | US International, white (all models)  | 32P5075 |
|  | Yugoslav/Latin, white (all models)    | 32P5076 |
|  | Japanese, white (all models)          | 32P5077 |
|  | Brazil/Portuguese, white (all models) | 32P5078 |

| <b>Keyboards PS2 NetVista, Black - Machine Type 6342</b> |   |         |
|--|---|---------|
|  | US English, Black (all models)                  | 32P5000 |
|  | Arabic, Black (all models)                      | 32P5001 |
|  | Belgium/French, Black (all models)              | 32P5002 |
|  | Belgium/UK, Black (all models)                  | 32P5003 |
|  | Bulgarian, Black (all models)                   | 32P5004 |
|  | Chinese/US Hong Kong/Taiwan, Black (all models) | 32P5005 |
|  | Czech, Black (all models)                       | 32P5006 |
|  | Danish, Black (all models)                      | 32P5007 |
|  | Dutch, Black (all models)                       | 32P5008 |
|  | French, Black (all models)                      | 32P5009 |
|  | French Canadian, Black (all models)             | 32P5010 |
|  | French Canadian, Black (all models)             | 32P5011 |
|  | German, Black (all models)                      | 32P5012 |
|  | Greek, Black (all models)                       | 32P5013 |
|  | Hebrew, Black (all models)                      | 32P5014 |
|  | Hungarian, Black (all models)                   | 32P5015 |
|  | Iceland, Black (all models)                     | 32P5016 |
|  | Italy, Black (all models)                       | 32P5017 |
|  | Japanese, Black (all models)                    | 32P5018 |
|  | Korean, Black (all models)                      | 32P5019 |
|  | LA Spanish, Black (all models)                  | 32P5020 |
|  | Norwegian, Black (all models)                   | 32P5021 |
|  | Polish, Black (all models)                      | 32P5022 |
|  | Portuguese, Black (all models)                  | 32P5023 |
|  | Romanian, Black (all models)                    | 32P5024 |
|  | Russian, Black (all models)                     | 32P5025 |
|  | Russian/Cy, Black (all models)                  | 32P5026 |

| <b>Keyboards PS2 NetVista, Black - Machine Type 6342</b> |                                       |         |
|--|---------------------------------------|---------|
|  | Serbian/Cyrillic, Black (all models)  | 32P5027 |
|  | Slovak, Black (all models)            | 32P508  |
|  | Spanish, Black (all models)           | 32P5029 |
|  | Swedish/Finn, Black (all models)      | 32P5030 |
|  | Swiss F/G, Black (all models)         | 32P5031 |
|  | Thailand, Black (all models)          | 32P5032 |
|  | Turkish, Black (all models)           | 32P5033 |
|  | Turkish, Black (all models)           | 32P5034 |
|  | UK English, Black (all models)        | 32P5035 |
|  | US International, Black (all models)  | 32P5036 |
|  | Yugoslav/Latin, Black (all models)    | 32P5037 |
|  | Brazil/Portuguese, Black (all models) | 32P5038 |

| <b>Keyboards - Machine Type 6342</b> |   |         |
|--------------------------------------|---|---------|
|                                      | US English, Rapid Access IIIe Keyboard (black) (models PBU PHU PNU PQU PTU) | 19K1910 |

| <b>Power Cords - Type 6342</b> |                              |         |
|--------------------------------|------------------------------|---------|
|                                | Arabic (all models)          | 14F0033 |
|                                | Australian (all models)      | 93F2365 |
|                                | Belgian (all models)         | 1339520 |
|                                | Bulgarian (all models)       | 1339520 |
|                                | Canadian (all models)        | 93F2364 |
|                                | Czechoslovakian (all models) | 1339520 |
|                                | Denmark (all models)         | 13F9997 |
|                                | Finland (all models)         | 1339520 |
|                                | France (all models)          | 1339520 |
|                                | German (all models)          | 1339520 |
|                                | Hungarian (all models)       | 1339520 |
|                                | Israel (all models)          | 14F0087 |
|                                | Italian (all models)         | 14F0069 |
|                                | Latin American (all models)  | 6952301 |
|                                | Netherlands (all models)     | 1339520 |
|                                | New Zealand (all models)     | 93F2365 |
|                                | Norwegian (all models)       | 1339520 |
|                                | Polish (all models)          | 1339520 |
|                                | Portuguese (all models)      | 1339520 |



| <b>Power Cords - Type 6342</b> |  |         |
|--------------------------------|--|---------|
|                                | Serbian (all models)                         | 1339520 |
|                                | Slovakian (all models)                       | 1339520 |
|                                | South African (all models)                   | 14F0015 |
|                                | Spanish (all models)                         | 1339520 |
|                                | Swiss (all models)                           | 1339520 |
|                                | Swiss - French/German (all models)           | 14F0051 |
|                                | US English (all models)                      | 93F2364 |
|                                | UK - Ireland (all models)                    | 14F0033 |
|                                | Yugoslavian (all models)                     | 1339520 |
|                                | Chile (all models)                           | 14F0069 |
|                                | Argentina, Paraguay, & Uruaguay (all models) | 36L8880 |

| <b>Machine Type 2257</b> |   |         |
|--------------------------|---|---------|
| 1                        | Top Cover Assembly, Black (all models)  | 19K7810 |
| 2                        | Chassis Assembly (all models)   | 19K7811 |
| 3                        | LED/Power Switch Assembly (all models)  | 19K7858 |
| 4                        | CD-ROM 48x, Black (models 11S 11H 11Y 13A 22G 26S 26H 26Y 12U 24U 22A 46S 46H 46Y 47G 48C 48V 51S 51H 51Y 55G 57S 57H 57Y 61A 63A 64A 71Q 71T 81A 83V 84A 85A 86H 86S 86Y 91H 91S 91Y)          | 24P3605 |
| 4                        | CD-ROM 48x, Lite-On, Black (models 11S 11H 11Y 13A 22G 26S 26H 26Y 12U 24U 22A 46S 46H 46Y 47G 48C 48V 51S 51H 51Y 55G 57S 57H 57Y 61A 63A 64A 71Q 71T 81A 83V 84A 85A 86H 86S 86Y 91H 91S 91Y) | 19K1531 |
| 4                        | CD-ROM 48x Samsung, Black (models 11S 11H 11Y 13A 22G 26S 26H 26Y 12U 24U 22A 46S 46H 46Y 47G 48C 48V 51S 51H 51Y 55G 57S 57H 57Y 61A 63A 64A 71Q 71T 81A 83V 84A 85A 86H 86S 86Y 91H 91S 91Y)  | 06P5281 |
| 4                        | 12x CD-RW, LG, Black (models 21A A1A B3A B4U B4F 23U 23F 44-UF 45-UF 49-UF 56-UF)   | 06P5161 |
| 4                        | 16x CD-RW, LG, Black (models 72F 72U 82F 82U 92F 92U 93Q 93T)   | 24P3627 |
| 4                        | 16x CD-RW, LG, Black (models 72F 72U 82F 82U 92F 92U 93Q 93T)   | 24P3631 |
| 4                        | 16x40x DVD, Black (models B7G B8C B8V 45U 45F 94G)  | 06P5285 |
| 4                        | 8x4x32x8x DVD/CD-RW Combo from Samsung, Black (models B9S B9H B9Y D1U D1F D2Q 62U 62F)  | 06P5289 |
| 5                        | EMC Shield for 5.25" Bay (all models)   | 19K5548 |
| 6                        | Front Bezel Assembly, Black (models 12U 24U 11S 11H 11Y 26S 26H 26Y B4U B4F B9S B9H B9Y D1U D1F 23U 23F 44U 44F 45U 45F 46S 46H 46Y 49U 49F 51S 51H 51Y 56U 56F 57S 57H 57Y 62U 62F)            | 19K7818 |

|    | Machine Type 2257  |         |
|----|--|---------|
| 6  | Front Bezel Assembly, Blue (models 13A 21A 22G A1A B3A B7G B8C B8V 22A D2Q 47G 48-CV 55G 61A 63A 64A 71Q 71T 81A 83V 84A 85A 93Q 93T 94G)  | 19K7860 |
| 7  | Power Button, Platinum Metallic (all models)   | 19K7813 |
| 8  | Door Assembly, Black (models 12U 24U 11S 11H 11Y 26S 26H 26Y B4U B4F B9S B9H B9Y D1U D1F 23U 23F 44U 44F 45U 45F 46S 46H 46Y 49U 49F 51S 51H 51Y 56U 56F 57S 57H 57Y 62U 62F)  | 19K7817 |
| 8  | Door Assembly, Blue (models 13A 21A 22G A1A B3A B7G B8C B8V 22A D2Q 47G 48-CV 55G 61A 63A 64A 71Q 71T 81A 83V 84A 85A 93Q 93T 94G)   | 19K7859 |
| 9  | 3.5" 1.44MB Diskette Drive, Black (models 13A 21A 22G 12U 24U 11S 11H 11Y 26S 26H 26Y A1A B3A B4U B4F B7G B8C B8V B9S B9H B9Y D1U D1F 22A 23U 23F D2Q 44U 44F 45U 45F 46S 46H 46Y 47G 48C 48V 49U 49F 51S 51H 51Y 55G 56U 56F 57S 57H 57Y 61A 62U 62F 63A 64A 71Q 71T 72F 72U 81A 82F 82U 83V 84A 85A 86H 86S 86Y 91H 91S 91Y 92F 92U 93Q 93T 94G) | 76H4091 |
| 10 | HF/Fan/Speaker Bracket (all models)  | 37L2501 |
| 11 | Fan Assembly (all models)  | 37L4526 |
| 12 | 20 GB Hardfile EIDE 5400rpm (models 13A 21A 22G 12U 24U B7G 22A 23U 23F 44-UF 47G 48C 48V 55G 56U 56F 61A 63A 64A 71Q 71T 72F 72U 81A 83V 84A 85A)   | 19K1560 |
| 12 | 40 GB ATA-100 HDD (models 11S 11H 11Y 26S 26H 26Y A1A B3A B4U B4F B8C B8V B9S B9H B9Y D2Q 45U 45F 46S 46H 46Y 49U 49F 51S 51H 51Y 57S 57H 57Y 82F 82U 86H 86S 86Y 91H 91S 91Y 93Q 93T 94G)   | 19K1562 |
| 12 | 60 GB ATA-100 HDD (models D1U D1F 62U 62F 92F 92U)   | 19K1581 |
| 13 | DASD Soft Mount HDD Rail Assembly (all models)   | 19K5331 |
| 14 | Intel Celeron 100/800 128K (models 11S 11H 11Y 12U)  | 24P5784 |
| 14 | Intel Celeron 100/850 128K (models 21A 22G 26S 26H 26Y 24U 13A 22A 23U 23F)  | 24P5944 |
| 14 | Intel Celeron 900MHz (models 44U 44F 45U 45F 46S 46H 46Y 47G 48C 48V 49U 49F)  | 32P4094 |
| 14 | Intel Celeron 950MHz (models 51S 51H 51Y 55G 56U 56F 57S 57H 57Y 71Q71T 72F)   | 48P5039 |
| 14 | Intel Celeron 1GHz (models 61A 62U 62F 63A 64A 81A 82F 82U 83V 84A 85A 86H 86S 86Y)  | 48P5040 |
| 14 | Intel Celeron 1.1GHz (models 91H 91S 91Y 92F 92U 93Q 93T 94G)  | 33P0807 |
| 14 | Intel PIII 933 MHz Processor (model A1A)   | 25P0719 |
| 14 | Intel PIII 1GHz (models B3A B4U B4F B7G B8C B8V B9S B9H B9Y D1U D1F D2Q)   | 25P0718 |
| 15 | Lithium Battery (all models)   | 33F8354 |
| 16 | System Board W/O Mem/Proc (all models)   | 06P1369 |
| 17 | 64MB SDRAM Memory (models 11S 11H 11Y 13A 22G 26S 26H 26Y 12U 24U 22A 23U 23F 44U 44F 45U 45F 46S 46H 46Y 47G 51S 51H 51Y 55G 56U 56F 57S 57H 57Y)   | 33L3072 |

|    | Machine Type 2257   |         |
|----|---|---------|
| 17 | 128 MB SDRAM Memory (models A1A B3A B4U B4F B7G B8C B8V B9S B9H B9Y 21A D2Q 48C 48V 49U 49F 61A 62U 62F 63A 64A 71Q 71T 72F 72U 81A 82F 82U 83V 84A 85A 86H 86S 86Y 91H 91S 91Y 92F 92U 93Q 93T 94G)  | 33L3074 |
| 17 | 256 MB SDRAM Memory (models D1U D1F)  | 33L3076 |
| 18 | Power Supply Bracket (all models)   | 37L2502 |
| 19 | 155 W Power Supply, uATX (models 11S 11H 11Y 13A 26S 26H 26Y 12U 24U 21A A1A B3A B4U B4F B8C B8V B9S B9H B9Y D1U D1F 22A 23U 23F D2Q 44U 44F 45U 45F 46S 46H 46Y 48C 48V 49U 49F 51S 51H 51Y 56U 56F 57S 57H 57Y 61A 62U 62F 63A 64A 71Q 71T 72F 72U 81A 82F 82U 83V 84A 85A 86H 86S 86Y 91H 91S 91Y 92F 92U 93Q 93T 94G) | 00N7685 |
| 19 | 155 W Power Supply - Japan & EMEA (model 22G B7G 47G 55G)   | 00N7687 |
|    | Fansink - Heatsink with Fan and Clip (models 11S 11H 11Y 13A 12U 21A 22G 26S 26H 26Y 24U 22A 23U 23F)   | 10K1689 |
|    | Fansink - Heatsink with Fan and Clip Assembly (models A1A B3A B4U B4F B7G B8C B8V B9S B9H B9Y D1U D1F D2Q 44U 44F 45U 45F 46S 46H 46Y 47G 48C 48V 49U 49F 51S 51H 51Y 55G 56U 56F 57S 57H 57Y 61A 62U 62F 63A 64A 71Q 71T 72F 72U 81A 82F 82U 83V 84A 85A 86H 86S 86Y 91H 91S 91Y 92F 92U 93Q 93T 94G)                    | 06P2458 |
|    | Modem Universal 56K (models 13A 21A 22G A1A B3A B7G 22A 47G 55G 61A 63A 64A 81A 84A 85A 94G)  | 19K2963 |
|    | Modem Domestic 56K (models 11S 11H 11Y 26S 26H 26Y B4U B4F 12U 24U B8C B8V B9S B9H B9Y D1U D1F 23U 23F D2Q 44U 44F 45U 45F 46S 46H 46Y 48V 49U 49F 51S 51H 51Y 56U 56F 57S 57H 57Y 62U 62F 48C 71Q 71T 72F 72U 82F 82U 83V 86H 86S 86Y 91H 91S 91Y 92F 92U 93Q 93T)   | 19K2965 |
|    | Mouse - Scrollpoint III, USB, Black (all except models 71Q 71T 93Q 93T)   | 24P0485 |
|    | Mouse - Scrollpoint III, USB, White (models 71Q 71T 93Q 93T)  | 24P0483 |
|    | External Tier 4 Powered Speakers (all models)   | 25P4723 |
|    | Speaker Brick - China (model B8C D2C 48C)   | 10K2597 |
|    | Speaker Brick - GB/UK (models 22G B7G B8M 47G 55G D2Q 71Q 93Q 94G)  | 25P5703 |
|    | Speaker Brick - US/Canada/LA/Taiwan (models 12U 24U 11S 26S B4U B4F B8V B9S D1U D1F 23U 23F 44U 44F 45U 45F 46S 48V 49U 49F 51S 56U 56F 57S 62U 62F 71T 72F 72U 82F 82U 83V 86S 91S 92F 92U 93T)  | 10K2587 |
|    | Speaker Brick - Japan   | 10K2593 |
|    | Speaker Brick - Brazil  | 25P5706 |
|    | Speaker Brick - ANZ (models 13A 21A A1A B3A 11Y 26Y B9Y 22A 46Y 51Y 57Y 61A 63A 64A 81A 84A 85A 86Y 91Y)  | 25P5705 |
|    | Speaker Brick - EMEA/LA High Volt (models 22G 11H 26H B7G B9H 46H 47G 51H 55G 57H 86H 91H 94G)  | 25P5704 |
|    | Microphone, Noise Cancelling (model 83V)  | 19K3403 |

| <b>Machine Type 2257</b> |  |         |
|--------------------------|--|---------|
|                          | PCI Video Adapter, nVidia Vanta M64 16MB (models D1U, D1F 62-UF)   | 06P7289 |
|                          | IEEE 1394 Adapter (models 71Q 71J 81A 83V 84V 85A 93Q 93T)   | 22P2447 |
|                          | INTEL Lake Clark 2.7 Ethernet Adapter (models 71Q 71T 72F 72U 81A 82F 82U 83V 84A 85A 86H 86S 86Y 91H 91S 91Y 92FU 92 93Q 93T 94G) | 22P4709 |
|                          | Blank Bezel 5.25" Bay, Black (all models)  | 09N1749 |
|                          | EMC Planar Shield (all models)   | 06P1365 |
|                          | Misc. Hardware Kit (all models)  | 09N5764 |
|                          | Foot (4) (all models)  | 03K9655 |
|                          | SPDIF Daughter Card (models 13A 21A A1A B3A B8C B8V 23U 23F 61A 63A 64A 48C 48V 71Q 71T 81A 83V 84A 85A 93Q 93T)                   | 22P4400 |
|                          | Dual Front USB Cable (all models)  | 25P6152 |
|                          | FDD Cable (all models)   | 01K1513 |
|                          | CD-ROM Audio Cable Assembly, Dual (all models)   | 09N1782 |
|                          | Cable Assembly ATA-66 (2 drop) (all models)  | 37L5098 |
|                          | Cable Assembly Ultra ATA HDD Cable (all models)  | 37L4525 |
|                          | SPDIF Daughter Card Cable (models 13A 21A A1A B3A B8C B8V 23U 23F 61A 63A 64A 48C 48V 71Q 71T 81A 83V 84A 85A 93Q 93T)             | 22P4399 |

| <b>Recovery CDs Win ME - Machine Type 2257</b> |   |         |
|--|---|---------|
|  | US English (models B4U 12U 24U D1U 23U 44U 45U 49U 56U 62U)                                 | 25P5813 |
|  | UK English (models 22G B7G 47G 55G)   | 25P5814 |
|  | AP English (models 13A 21A A1A B3A B8D 22A D2Q B3Q 61A 63A 64A)                             | 25P5821 |
|  | French (models 22G, B7G 47G 55G)  | 25P5822 |
|  | Canadian French (models B4F D1F 23F 44F 45F 49F 56F 62F)                                    | 32P4491 |
|  | Spanish (models 22G, B7G 47G 55G)   | 32P4492 |
|  | LA Spanish (models 11S 11H 11Y 26S 26H 26Y B9S B9H B9Y 46S 46H 46Y 51S 51H 51Y 57S 57H 57Y) | 32P4493 |
|  | Portuguese (models 22G B7G 47G 55G)   | 32P4494 |
|  | Brazil, Portuguese (models 22G B7G 47G 55G)   | 25P5965 |
|  | German (models 22G B7G 47G 55G)   | 25P5966 |
|  | Italian (models 22G B7G 47G 55G)  | 25P5967 |
|  | Dutch (models 22G B7G 47G 55G)  | 25P5968 |
|  | Danish (models 22G B7G 47G 55G)   | 25P5969 |
|  | Finnish (models 22G B7G 47G 55G)  | 25P5970 |

|  | <b>Recovery CDs Win ME - Machine Type 2257</b> |         |
|--|--|---------|
|  | Norwegian (models 22G B7G 47G 55G)             | 25P6075 |
|  | Swedish (models 22G B7G 47G 55G)               | 25P5971 |
|  | Arabic Enabled (models 22G B7G 47G 55G)        | 25P5972 |
|  | Hebrew (models 22G B7G 47G 55G)                | 25P5974 |
|  | Czech (models 22G B7G 47G 55G)                 | 25P5975 |
|  | Russian (models 22G B7G 47G 55G)               | 25P5976 |
|  | Polish (models 22G B7G 47G 55G)                | 25P5977 |
|  | Hungarian (models 22G B7G 47G 55G)             | 25P5978 |
|  | Slovenian (models 22G B7G 47G 55G)             | 25P5979 |
|  | Slovak (models 22G B7G 47G 55G)                | 25P5980 |
|  | Greek (models 22G B7G 47G 55G)                 | 25P5981 |
|  | Turkish (models 22G B7G 47G 55G)               | 25P5982 |
|  | Thai   | 25P5983 |

|  | <b>Recovery CDs Win XP Home - Machine Type 2256</b>      |         |
|--|--|---------|
|  | English (models 71Q 71T 72U 81A 82U 84A 85A 92U 93Q 93T) | 33P2085 |
|  | French (models 72F 82F 92F 94G)                          | 33P2088 |
|  | German (model 94G)                                       | 33P2091 |
|  | Italian (model 94G)                                      | 33P2094 |
|  | Spanish (models 86S 91S 94G)                             | 33P2097 |
|  | Brazil/Portuguese (models 86P 86Y 91P 91Y)               | 33P2100 |
|  | Swedish (model 94G)                                      | 33P2103 |
|  | Danish (model 94G)                                       | 33P2106 |
|  | Finnish (model 94G)                                      | 33P2109 |
|  | Norwegian (model 94G)                                    | 33P2112 |
|  | Dutch (model 94G)  | 33P2115 |
|  | Hebrew Enabled(model 94G)                                | 33P2118 |
|  | Polish (model 94G)                                       | 33P2121 |
|  | Russian (model 94G)                                      | 33P2124 |
|  | Czech (model 94G)  | 33P2127 |
|  | Arabic Enabled (model 94G)                               | 33P2130 |
|  | Turkish (model 94G)                                      | 33P2133 |
|  | Hungarian (model 94G)                                    | 33P2136 |
|  | Greek (model 94G)  | 33P2139 |
|  | Portuguese (model 94G)                                   | 33P2142 |

| Keyboards - Machine Type 2257 |   |         |
|-------------------------------|---|---------|
|                               | US English, Rapid Access IIIe Keyboard (black) (models 13A 21A A1A B3A B4U 12U 24U D1U B8C 22A 23U D2Q B3Q 44U 45U 49U 56U 61A 62U 63A 64A 72U 82U 81A 84A 85A 92U 93Q) | 19K1910 |
|                               | Arabic, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1911 |
|                               | Belgium/French, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1912 |
|                               | Belgium/UK, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1913 |
|                               | Brazil/Portuguese, Rapid Access IIIe Keyboard (black)   | 19K1948 |
|                               | Bulgarian, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1914 |
|                               | Chinese/US, Rapid Access IIIe Keyboard (black) (model B8V 48V 83V)  | 19K1915 |
|                               | Czech, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1916 |
|                               | Danish, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1917 |
|                               | Dutch, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1918 |
|                               | French, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1919 |
|                               | French Canadian, Rapid Access IIIe Keyboard (black) (models B4F D1F 23F 44F 49F 45F 56F 62F 72F 82F 92F)  | 19K1920 |
|                               | French Canadian, Rapid Access IIIe Keyboard (black)   | 19K1921 |
|                               | German, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1922 |
|                               | Greek, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1923 |
|                               | Hebrew, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1924 |
|                               | Hungarian, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1925 |
|                               | Iceland, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1926 |
|                               | Italy, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1927 |
|                               | Japanese, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1928 |
|                               | LA Spanish, Rapid Access IIIe Keyboard (black) (models 11S 11H 11Y 26S 26H 26Y B9S B9H B9Y 46S 46H 46Y 51S 51H 51Y 57S 57H 57Y 86H 86S 86Y 91H 91S 91Y)                 | 19K1930 |
|                               | Norwegian, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)  | 19K1931 |

| <b>Keyboards - Machine Type 2257</b> |   |         |
|--------------------------------------|---|---------|
|                                      | Polish, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)           | 19K1932 |
|                                      | Portuguese, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)       | 19K1933 |
|                                      | Romanian, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)         | 19K1934 |
|                                      | Russian, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)          | 19K1935 |
|                                      | Russian/Cy, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)       | 19K1936 |
|                                      | Serbian/Cyrillic, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G) | 19K1937 |
|                                      | Slovak, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)           | 19K1938 |
|                                      | Spanish, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)          | 19K1939 |
|                                      | Swedish/Finn, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)     | 19K1940 |
|                                      | Swiss F/G, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)        | 19K1941 |
|                                      | Thailand, Rapid Access IIIe Keyboard (black)                                      | 19K1942 |
|                                      | Turkish, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)          | 19K1943 |
|                                      | Turkish, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)          | 19K1944 |
|                                      | UK English, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)       | 19K1945 |
|                                      | US International, Rapid Access IIIe Keyboard (black)                              | 19K1946 |
|                                      | Yugoslav/Latin, Rapid Access IIIe Keyboard (black) (models 22G B7G 47G 55G 94G)   | 19K1947 |
|                                      | Japanese, Rapid Access IIIe Keyboard (black)                                      | 19K1908 |

| <b>Keyboards - Machine Type 2257</b> |   |         |
|--------------------------------------|---|---------|
|                                      | US English, Rapid Access IIIe Keyboard (white) (models 71Q 93Q) | 24P0510 |
|                                      | Arabic, Rapid Access IIIe Keyboard (white)                      | 24P0511 |
|                                      | Belgium/French, Rapid Access IIIe Keyboard (white)              | 24P0512 |
|                                      | Belgium/UK, Rapid Access IIIe Keyboard (white)                  | 24P0513 |
|                                      | Bulgarian, Rapid Access IIIe Keyboard (white)                   | 24P0514 |
|                                      | Chinese/US, Rapid Access IIIe Keyboard (white)                  | 24P0515 |
|                                      | Czech, Rapid Access IIIe Keyboard (white)                       | 24P0516 |
|                                      | Danish, Rapid Access IIIe Keyboard (white)                      | 24P0517 |
|                                      | Dutch, Rapid Access IIIe Keyboard (white)                       | 24P0518 |

| <b>Keyboards - Machine Type 2257</b> |   |         |
|--------------------------------------|---|---------|
|                                      | French, Rapid Access IIIe Keyboard (white)                    | 24P0519 |
|                                      | French Canadian, Rapid Access IIIe Keyboard (white)           | 24P0520 |
|                                      | French Canadian, Rapid Access IIIe Keyboard (white)           | 24P0521 |
|                                      | German, Rapid Access IIIe Keyboard (white)                    | 24P0522 |
|                                      | Greek, Rapid Access IIIe Keyboard (white)                     | 24P0523 |
|                                      | Hebrew, Rapid Access IIIe Keyboard (white)                    | 24P0524 |
|                                      | Hungarian, Rapid Access IIIe Keyboard (white)                 | 24P0525 |
|                                      | Iceland, Rapid Access IIIe Keyboard (white)                   | 24P0526 |
|                                      | Italy, Rapid Access IIIe Keyboard (white)                     | 24P0527 |
|                                      | Japanese, Rapid Access IIIe Keyboard (white)                  | 24P0528 |
|                                      | LA Spanish, Rapid Access IIIe Keyboard(white)                 | 24P0529 |
|                                      | Norwegian, Rapid Access IIIe Keyboard (white)                 | 24P0530 |
|                                      | Polish, Rapid Access IIIe Keyboard (white)                    | 24P0531 |
|                                      | Portuguese, Rapid Access IIIe Keyboard (white)                | 24P0532 |
|                                      | Romanian, Rapid Access IIIe Keyboard (white)                  | 24P0533 |
|                                      | Russian, Rapid Access IIIe Keyboard (white)                   | 24P0534 |
|                                      | Russian/Cy, Rapid Access IIIe Keyboard (white)                | 24P0535 |
|                                      | Serbian/Cyrillic, Rapid Access IIIe Keyboard (white)          | 24P0536 |
|                                      | Slovak, Rapid Access IIIe Keyboard (white)                    | 24P0537 |
|                                      | Spanish, Rapid Access IIIe Keyboard (white)                   | 24P0538 |
|                                      | Swedish/Finn, Rapid Access IIIe Keyboard (white)              | 24P0539 |
|                                      | Swiss F/G, Rapid Access IIIe Keyboard (white)                 | 24P0540 |
|                                      | Thailand, Rapid Access IIIe Keyboard (white) (models 71T 93T) | 24P0541 |
|                                      | Turkish, Rapid Access IIIe Keyboard (white)                   | 24P0542 |
|                                      | Turkish, Rapid Access IIIe Keyboard (white)                   | 24P0543 |
|                                      | UK English, Rapid Access IIIe Keyboard (white)                | 24P0544 |
|                                      | US International, Rapid Access IIIe Keyboard(white)           | 24P0545 |
|                                      | Yugoslav/Latin, Rapid Access IIIe Keyboard (white)            | 24P0546 |
|                                      | Japanese, Rapid Access IIIe Keyboard (white)                  | 24P0547 |
|                                      | Brazil/Portuguese, Rapid Access IIIe Keyboard (white)         | 24P5048 |

| <b>Power Cords - Type 2257</b> |                         |         |
|--------------------------------|-------------------------|---------|
|                                | Arabic (all models)     | 14F0033 |
|                                | Australian (all models) | 93F2365 |
|                                | Belgian (all models)    | 1339520 |
|                                | Bulgarian (all models)  | 1339520 |
|                                | Canadian (all models)   | 93F2364 |



|  | <b>Power Cords - Type 2257</b>               |         |
|--|--|---------|
|  | Czechoslovakian (all models)                 | 1339520 |
|  | Denmark (all models)                         | 13F9997 |
|  | Finland (all models)                         | 1339520 |
|  | France (all models)                          | 1339520 |
|  | German (all models)                          | 1339520 |
|  | Hungarian (all models)                       | 1339520 |
|  | Israel (all models)                          | 14F0087 |
|  | Italian (all models)                         | 14F0069 |
|  | Latin American (all models)                  | 6952301 |
|  | Netherlands (all models)                     | 1339520 |
|  | New Zealand (all models)                     | 93F2365 |
|  | Norwegian (all models)                       | 1339520 |
|  | Polish (all models)                          | 1339520 |
|  | Portuguese (all models)                      | 1339520 |
|  | Serbian (all models)                         | 1339520 |
|  | Slovakian (all models)                       | 1339520 |
|  | South African (all models)                   | 14F0015 |
|  | Spanish (all models)                         | 1339520 |
|  | Swiss (all models)                           | 1339520 |
|  | Swiss - French/German (all models)           | 14F0051 |
|  | US English (all models)                      | 93F2364 |
|  | UK - Ireland (all models)                    | 14F0033 |
|  | Yugoslavian (all models)                     | 1339520 |
|  | Chile (all models)                           | 14F0069 |
|  | Argentina, Paraguay, & Uruaguay (all models) | 36L8880 |

|   | <b>Machine Type 2254</b>                                       |         |
|---|--|---------|
| 1 | Top Cover Assembly, Black (models CVF CVU G05 G06)             | 19K7810 |
| 2 | Chassis Assembly (models CVF CVU G05 G06)                      | 19K7811 |
| 3 | LED/Power Switch Assembly (models CVF CVU G05 G06)             | 19K7858 |
| 4 | CD-ROM 48x, Black (models CVF CVU G05)                         | 24P3605 |
| 4 | CD-ROM 48x, Lite-On, Black (models CVF CVU G05)                | 19K1531 |
| 4 | CD-ROM 48x Samsung, Black (models CVF CVU G05)                 | 06P5281 |
| 4 | 12x CD-RW, LG, Black (models CVF CVU G06)                      | 06P5161 |
| 4 | 16x40x DVD, Black (models CVF CVU)                             | 06P5285 |
| 4 | 8x4x32x8x DVD/CD-RW Combo from Samsung, Black (models CVF CVU) | 06P5289 |
| 5 | EMC Shield for 5.25" Bay (models CVF CVU G05 G06)              | 19K5548 |

| Machine Type 2254 |  |         |
|-------------------|--|---------|
| 6                 | Front Bezel Assembly, Black (models CVF CVU G05 G06)                   | 19K7818 |
| 6                 | Front Bezel Assembly, Blue (models CVF CVU)                            | 19K7860 |
| 7                 | Power Button, Platinum Metallic (models CVF CVU G05 G06)               | 19K7813 |
| 8                 | Door Assembly, Black (models CVF CVU G05 G06)                          | 19K7817 |
| 8                 | Door Assembly, Blue (models CVF CVU)                                   | 19K7859 |
| 9                 | 3.5" 1.44MB Diskette Drive, Black (all models)                         | 76H4091 |
| 10                | HF/Fan/Speaker Bracket (models CVF CVU G05 G06)                        | 37L2501 |
| 11                | Fan Assembly (models CVF CVU G05 G06)                                  | 37L4526 |
| 12                | 20 GB Hardfile EIDE 5400rpm (models CVF CVU G05)                       | 19K1560 |
| 12                | 40 GB ATA-100 HDD (models CVF CVU G06)                                 | 19K1562 |
| 12                | 60 GB ATA-100 HDD (models CVF CVU)                                     | 19K1581 |
| 13                | DASD Soft Mount HDD Rail Assembly (models CVF CVU G05 G06)             | 19K5331 |
| 14                | Intel Celeron 100/800 128K (models CVF CVU)                            | 24P5784 |
| 14                | Intel Celeron 100/850 128K (models CVF CVU)                            | 24P5944 |
| 14                | Intel Celeron 900MHz (models CVF CVU)                                  | 32P4094 |
| 14                | Intel Celeron 950 MHz (models CVF CVU)                                 | 48P5039 |
| 14                | Intel Celeron 1GHz (models CVF CVU G05 G06)                            | 48P5040 |
| 14                | Intel PIII 933 MHz Processor (models CVF CVU)                          | 25P0719 |
| 14                | Intel PIII 1GHz (models CVF CVU)                                       | 25P0718 |
| 15                | Lithium Battery (all models)   | 33F8354 |
| 16                | System Board W/O Mem/Proc (all models)                                 | 06P1369 |
| 17                | 64MB SDRAM Memory (models CVF CVU)                                     | 33L3072 |
| 17                | 128 MB SDRAM Memory (models CVF CVU G05 G06)                           | 33L3074 |
| 17                | 256 MB SDRAM Memory (models CVF CVU)                                   | 33L3076 |
| 18                | Power Supply Bracket (models CVF CVU G05 G06)                          | 37L2502 |
| 19                | 155 W Power Supply, uATX (models CVF CVU G05 G06)                      | 00N7685 |
| 19                | 155 W Power Supply - Japan & EMEA                                      | 00N7687 |
|                   | INTEL Lake Clark 2.7 Ethernet adapter (models CVF CVU G05 G06)         | 22P4709 |
|                   | Fansink - Heatsink with Fan and Clip (models CVF CVU)                  | 10K1689 |
|                   | Fansink - Heatsink with Fan and Clip Assembly (models CVF CVU G05 G06) | 06P2458 |
|                   | Modem Universal 56K (all models)                                       | 19K2963 |
|                   | Modem Domestic 56K (models CVF CVU G05 G06)                            | 19K2965 |
|                   | Mouse - Scrollpoint III, USB, Black (all models)                       | 24P0485 |
|                   | External Tier 4 Powered Speakers (all models)                          | 25P4723 |
|                   | Speaker Brick - China  | 10K2597 |
|                   | Speaker Brick - GB/UK  | 25P5703 |

| <b>Machine Type 2254</b> |  |         |
|--------------------------|--|---------|
|                          | Speaker Brick - Hong Kong/Singapore                          | 10K2597 |
|                          | Speaker Brick - US/Canada/LA/Taiwan (models CVF CVU G05 G06) | 10K2587 |
|                          | Speaker Brick - Japan  | 10K2593 |
|                          | Speaker Brick - Brazil                                       | 25P5706 |
|                          | Speaker Brick - ANZ  | 25P5705 |
|                          | Speaker Brick - EMEA/LA High Volt                            | 25P5704 |
|                          | Microphone, Noise Cancelling (models CVF CVU)                | 19K3403 |
|                          | PCI Video Adapter, nVidia Vanta M64 16MB (models CVF CVU)    | 06P7289 |
|                          | Blank Bezel 5.25" Bay, Black (models CVF CVU G05 G06)        | 09N1749 |
|                          | EMC Planar Shield (models CVF CVU G05 G06)                   | 06P1365 |
|                          | Misc. Hardware Kit (models CVF CVU G05 G06)                  | 09N5764 |
|                          | Foot (4) (models CVF CVU G05 G06)                            | 03K9655 |
|                          | SPDIF Daughter Card (models CVF CVU)                         | 22P4400 |
|                          | Dual Front USB Cable (models CVF CVU G05 G06)                | 25P6152 |
|                          | FDD Cable (models CVF CVU G05 G06)                           | 01K1513 |
|                          | CD-ROM Audio Cable Assembly, Dual (models CVF CVU G05 G06)   | 09N1782 |
|                          | Cable Assembly ATA-66 (2 drop) (models CVF CVU G05 G06)      | 37L5098 |
|                          | Cable Assembly Ultra ATA HDD Cable (models CVF CVU G05 G06)  | 37L4525 |
|                          | SPDIF Daughter Card Cable (models CVF CVU)                   | 22P4399 |

| <b>Recovery CDs Win ME - Machine Type 2254</b> |                                |         |
|--|--------------------------------|---------|
|  | US English (model CVU G05 G06) | 25P5813 |
|  | UK English                     | 25P5814 |
|  | AP English                     | 25P5821 |
|  | French                         | 25P5822 |
|  | Canadian French (model CVF)    | 32P4491 |
|  | Spanish                        | 32P4492 |
|  | LA Spanish                     | 32P4493 |
|  | Portuguese                     | 32P4494 |
|  | Brazil, Portuguese             | 25P5965 |
|  | German                         | 25P5966 |
|  | Italian                        | 25P5967 |
|  | Dutch                          | 25P5968 |
|  | Danish                         | 25P5969 |
|  | Finnish                        | 25P5970 |

| <b>Recovery CDs Win ME - Machine Type 2254</b> |                |         |
|--|----------------|---------|
|  | Norwegian      | 25P6075 |
|  | Swedish        | 25P5971 |
|  | Arabic Enabled | 25P5972 |
|  | Hebrew         | 25P5974 |
|  | Czech          | 25P5975 |
|  | Russian        | 25P5976 |
|  | Polish         | 25P5977 |
|  | Hungarian      | 25P5978 |
|  | Slovenian      | 25P5979 |
|  | Slovak         | 25P5980 |
|  | Greek          | 25P5981 |
|  | Turkish        | 25P5982 |
|  | Thai           | 25P5983 |

| <b>Keyboards - Machine Type 2254</b> |   |         |
|--------------------------------------|---|---------|
|                                      | US English, Rapid Access IIIe Keyboard (black) (models CVU G05 G06) | 19K1910 |
|                                      | Arabic, Rapid Access IIIe Keyboard (black)                          | 19K1911 |
|                                      | Belgium/French, Rapid Access IIIe Keyboard (black)                  | 19K1912 |
|                                      | Belgium/UK, Rapid Access IIIe Keyboard (black)                      | 19K1913 |
|                                      | Brazil/Portuguese, Rapid Access IIIe Keyboard (black)               | 19K1948 |
|                                      | Bulgarian, Rapid Access IIIe Keyboard (black)                       | 19K1914 |
|                                      | Chinese/US, Rapid Access IIIe Keyboard (black)                      | 19K1915 |
|                                      | Czech, Rapid Access IIIe Keyboard (black)                           | 19K1916 |
|                                      | Danish, Rapid Access IIIe Keyboard (black)                          | 19K1917 |
|                                      | Dutch, Rapid Access IIIe Keyboard (black)                           | 19K1918 |
|                                      | French, Rapid Access IIIe Keyboard (black)                          | 19K1919 |
|                                      | French Canadian, Rapid Access IIIe Keyboard (black) (model CVF)     | 19K1920 |
|                                      | French Canadian, Rapid Access IIIe Keyboard (black)                 | 19K1921 |
|                                      | German, Rapid Access IIIe Keyboard (black)                          | 19K1922 |
|                                      | Greek, Rapid Access IIIe Keyboard (black)                           | 19K1923 |
|                                      | Hebrew, Rapid Access IIIe Keyboard (black)                          | 19K1924 |
|                                      | Hungarian, Rapid Access IIIe Keyboard (black)                       | 19K1925 |
|                                      | Iceland, Rapid Access IIIe Keyboard (black)                         | 19K1926 |
|                                      | Italy, Rapid Access IIIe Keyboard (black)                           | 19K1927 |
|                                      | Japanese, Rapid Access IIIe Keyboard (black)                        | 19K1928 |
|                                      | LA Spanish, Rapid Access IIIe Keyboard (black)                      | 19K1930 |

| <b>Keyboards - Machine Type 2254</b> |  |         |
|--------------------------------------|--|---------|
|                                      | Norwegian, Rapid Access IIIe Keyboard (black)        | 19K1931 |
|                                      | Polish, Rapid Access IIIe Keyboard (black)           | 19K1932 |
|                                      | Portuguese, Rapid Access IIIe Keyboard (black)       | 19K1933 |
|                                      | Romanian, Rapid Access IIIe Keyboard (black)         | 19K1934 |
|                                      | Russian, Rapid Access IIIe Keyboard (black)          | 19K1935 |
|                                      | Russian/Cy, Rapid Access IIIe Keyboard (black)       | 19K1936 |
|                                      | Serbian/Cyrillic, Rapid Access IIIe Keyboard (black) | 19K1937 |
|                                      | Slovak, Rapid Access IIIe Keyboard (black)           | 19K1938 |
|                                      | Spanish, Rapid Access IIIe Keyboard (black)          | 19K1939 |
|                                      | Swedish/Finn, Rapid Access IIIe Keyboard (black)     | 19K1940 |
|                                      | Swiss F/G, Rapid Access IIIe Keyboard (black)        | 19K1941 |
|                                      | Thailand, Rapid Access IIIe Keyboard (black)         | 19K1942 |
|                                      | Turkish, Rapid Access IIIe Keyboard (black)          | 19K1943 |
|                                      | Turkish, Rapid Access IIIe Keyboard (black)          | 19K1944 |
|                                      | UK English, Rapid Access IIIe Keyboard (black)       | 19K1945 |
|                                      | US International, Rapid Access IIIe Keyboard (black) | 19K1946 |
|                                      | Yugoslav/Latin, Rapid Access IIIe Keyboard (black)   | 19K1947 |
|                                      | Japanese, Rapid Access IIIe Keyboard (black)         | 19K1908 |

| <b>Power Cords - Type 2254</b> |                      |         |
|--------------------------------|----------------------|---------|
|                                | Arabic               | 14F0033 |
|                                | Australian           | 93F2365 |
|                                | Belgian              | 1339520 |
|                                | Bulgarian            | 1339520 |
|                                | Canadian (model CVF) | 93F2364 |
|                                | Czechoslovakian      | 1339520 |
|                                | Denmark              | 13F9997 |
|                                | Finland              | 1339520 |
|                                | France               | 1339520 |
|                                | German               | 1339520 |
|                                | Hungarian            | 1339520 |
|                                | Israel               | 14F0087 |
|                                | Italian              | 14F0069 |
|                                | Latin American       | 6952301 |
|                                | Netherlands          | 1339520 |
|                                | New Zealand          | 93F2365 |
|                                | Norwegian            | 1339520 |

|  | <b>Power Cords - Type 2254</b>  |         |
|--|---------------------------------|---------|
|  | Polish                          | 1339520 |
|  | Portuguese                      | 1339520 |
|  | Serbian                         | 1339520 |
|  | Slovakian                       | 1339520 |
|  | South African                   | 14F0015 |
|  | Spanish                         | 1339520 |
|  | Swiss                           | 1339520 |
|  | Swiss - French/German           | 14F0051 |
|  | US English (models CVU G05 G06) | 93F2364 |
|  | UK - Ireland                    | 14F0033 |
|  | Yugoslavian                     | 1339520 |
|  | Chile                           | 14F0069 |
|  | Argentina, Paraguay, & Uruaguay | 36L8880 |

|   | <b>Machine Type 6337</b>                                       |         |
|---|--|---------|
| 1 | Top Cover Assembly, Pearl White (models CVF CVU)               | 06P8211 |
| 1 | Top Cover Assembly, Black (models CVF CVU G03 G04 G05)         | 19K7810 |
| 2 | Chassis Assembly (models CVF CVU G03 G04 G05)                  | 19K7811 |
| 3 | LED/Power Switch Assembly (models CVF CVU G03 G04 G05)         | 19K7858 |
| 4 | CD-ROM 48x, White (models CVF CVU)                             | 24P3603 |
| 4 | CD-ROM 48x Lite-On, White (models CVF CVU)                     | 19K1529 |
| 4 | CD-ROM 48x Samsung, White (models CVF CVU)                     | 19K1533 |
| 4 | CD-ROM 48x, Black (models CVF CVU G03 G05)                     | 24P3605 |
| 4 | CD-ROM 48x, Lite-On, Black (models CVF CVU G03 G05)            | 19K1531 |
| 4 | CD-ROM 48x Samsung, Black (models CVF CVU G03 G05)             | 06P5281 |
| 4 | 12x CD-RW, LG, Black (models CVF CVU G04)                      | 06P5161 |
| 4 | 8x4x32x8x DVD/CD-RW Combo from Samsung, Black (models CVF CVU) | 06P5289 |
| 5 | EMC Shield for 5.25" Bay (models CVF CVU G03 G04 G05)          | 19K5548 |
| 6 | Front Bezel Assembly, Pearl White (models CVF CVU)             | 06P8212 |
| 6 | Front Bezel Assembly, Black (models CVF CVU G03 G04 G05)       | 19K7818 |
| 6 | Front Bezel Assembly, Blue (models CVF CVU)                    | 19K7860 |
| 7 | Power Button, Platinum Metallic (models CVF CVU G03 G04 G05)   | 19K7813 |
| 8 | Door Assembly, Pearl White (models CVF CVU)                    | 06P8213 |
| 8 | Door Assembly, Black (models CVF CVU G03 G04 G05)              | 19K7817 |
| 8 | Door Assembly, Blue (models CVF CVU)                           | 19K7859 |

|    | <b>Machine Type 6337</b>   |         |
|----|--|---------|
| 9  | 3.5" 1.44MB Diskette Drive, with Pearl White Bezel (models CVF CVU)        | 93F2361 |
| 9  | 3.5" 1.44MB Diskette Drive, Black (models CVF CVU G03 G04 G05)             | 76H4091 |
| 10 | HF/Fan/Speaker Bracket (models CVF CVU G03 G04 G05)                        | 37L2501 |
| 11 | Fan Assembly (models CVF CVU G03 G04 G05)                                  | 37L4526 |
| 12 | 20 GB Hardfile EIDE 5400rpm (models CVF CVU G03 G05)                       | 19K1560 |
| 12 | 40 GB ATA-100 HDD (models CVF CVU G04)                                     | 19K1562 |
| 12 | 60 GB ATA-100 HDD (models CVF CVU)   | 19K1581 |
| 13 | DASD Soft Mount HDD Rail Assembly (models CVF CVU G03 G04 G05)             | 19K5331 |
| 14 | Intel Celeron 100/800 128K (models CVF CVU)                                | 24P5784 |
| 14 | Intel Celeron 100/850 128K (models CVF CVU)                                | 24P5944 |
| 14 | Intel Celeron 900MHz (models CVF CVU)                                      | 32P4094 |
| 14 | Intel Celeron 950MHz (models CVF CVU)                                      | 48P5039 |
| 14 | Intel Celeron 1GHz (models CVF CVU G03 G04 G05)                            | 48P5040 |
| 14 | Intel PIII 933 MHz Processor (models CVF CVU)                              | 25P0719 |
| 14 | Intel PIII 1GHz (models CVF CVU)   | 25P0718 |
| 15 | Lithium Battery (all models)   | 33F8354 |
| 16 | System Board W/O Mem/Proc (all models)                                     | 48P5062 |
| 17 | 64MB SDRAM Memory (models CVF CVU)   | 33L3072 |
| 17 | 128 MB SDRAM Memory (models CVF CVU G03 G04 G05)                           | 33L3074 |
| 17 | 256 MB SDRAM Memory (models CVF CVU)                                       | 33L3076 |
| 18 | Power Supply Bracket (models CVF CVU G03 G04 G05)                          | 37L2502 |
| 19 | 155 W Power Supply, uATX (models CVF CVU)                                  | 00N7685 |
| 19 | 155 W Power Supply - Japan & EMEA  | 00N7687 |
| 19 | 155 W Power Supply - China   | 00N7689 |
|    | INTEL Lake Clark 2.7 Ethernet adapter (models G03 G04 G05)                 | 22P4709 |
|    | Fansink - Heatsink with Fan and Clip (models CVF CVU)                      | 10K1689 |
|    | Fansink - Heatsink with Fan and Clip Assembly (models CVF CVU G03 G04 G05) | 06P2458 |
|    | 2 Button Mouse, White (models CVF CVU)                                     | 10L6145 |
|    | 2 Button Mouse, Black (models CVF CVU G03 G04 G05)                         | 10L6149 |
|    | Mouse - Scrollpoint III, USB, Black (models CVF CVU)                       | 24P0485 |
|    | External Tier 4 Powered Speakers (all models)                              | 25P4723 |
|    | Speaker Brick - US/Canada/LA/Taiwan (all models)                           | 10K2587 |
|    | Blank Bezel 5.25" Bay, Pearl White (models CVF CVU)                        | 06P8210 |
|    | Blank Bezel 5.25" Bay, Black (models CVF CVU G03 G04 G05)                  | 09N1749 |
|    | EMC Planar Shield (models CVF CVU G03 G04 G05)                             | 06P1365 |
|    | Misc. Hardware Kit (models CVF CVU G03 G04 G05)                            | 09N5764 |

| <b>Machine Type 6337</b> |   |         |
|--------------------------|---|---------|
|                          | Foot (4) (models CVF CVU G03 G04 G05)                           | 03K9655 |
|                          | Dual Front USB Cable (models CVF CVU G03 G04 G05)               | 25P6152 |
|                          | FDD Cable (models CVF CVU G03 G04 G05)                          | 01K1513 |
|                          | CD-ROM Audio Cable Assembly, Dual (models CVF CVU G03 G04 G05)  | 09N1782 |
|                          | Cable Assembly ATA-66 (2 drop) (models CVF CVU G03 G04 G05)     | 37L5098 |
|                          | Cable Assembly Ultra ATA HDD Cable (models CVF CVU G03 G04 G05) | 37L4525 |

| <b>Recovery CDs Win 2K - Machine Type 6337</b> |                                       |         |
|--|---------------------------------------|---------|
|  | US English Win 2K (model CVU G03 G04) | 25P6019 |
|  | UK English Win 2K                     | 25P6020 |
|  | AP English Win 2K                     | 25P6021 |
|  | French Win 2K                         | 25P6022 |
|  | Canadian French Win 2K (model CVF)    | 25P6023 |
|  | Spanish Win 2K                        | 25P6024 |
|  | LA Spanish Win 2K                     | 25P6025 |
|  | Brazil, Portuguese Win 2K             | 25P6026 |
|  | German Win 2K                         | 25P6027 |
|  | Greek Win 2K                          | 25P6072 |
|  | Hebrew Win 2K                         | 25P6061 |
|  | Italian Win 2K                        | 25P6028 |
|  | Dutch Win 2K                          | 25P6029 |
|  | Danish Win 2K                         | 25P6030 |
|  | Finnish Win 2K                        | 25P6031 |
|  | Norwegian Win 2K                      | 25P6032 |
|  | Swedish Win 2K                        | 25P6033 |
|  | Arabic Localized Win 2K               | 25P6035 |
|  | Czech Win 2K                          | 25P6036 |
|  | Russian Win 2K                        | 25P6037 |
|  | Polish Win 2K                         | 25P6038 |
|  | Hungarian Win 2K                      | 25P6039 |
|  | Turkish Win 2K                        | 25P6040 |
|  | Thai Win 2K                           | 25P6041 |



| <b>Recovery CDs Win SE - Machine Type 6337</b> |                             |         |
|--|-----------------------------|---------|
|  | US English (model CVU)      | 25P6102 |
|  | UK English                  | 25P6103 |
|  | AP English                  | 25P5715 |
|  | French                      | 25P6105 |
|  | Canadian French (model CVF) | 25P6106 |
|  | Spanish                     | 25P6107 |
|  | LA Spanish                  | 25P6108 |
|  | Portuguese                  | 25P6109 |
|  | Brazil, Portuguese          | 25P6110 |
|  | German                      | 25P6111 |
|  | Italian                     | 25P6112 |
|  | Dutch                       | 25P6113 |
|  | Danish                      | 25P6114 |
|  | Finnish                     | 25P6115 |
|  | Norwegian                   | 25P6129 |
|  | Swedish                     | 25P6116 |
|  | Arabic Enabled              | 25P6117 |
|  | Hebrew                      | 25P6119 |
|  | Czech                       | 25P6120 |
|  | Russian                     | 25P6121 |
|  | Polish                      | 25P6122 |
|  | Hungarian                   | 25P6123 |
|  | Slovenian                   | 25P6124 |
|  | Slovak                      | 25P6125 |
|  | Greek                       | 25P6126 |
|  | Turkish                     | 25P6127 |
|  | Thai                        | 25P6104 |

| <b>Recovery CDs Win ME - Machine Type 6337</b> |                             |         |
|--|-----------------------------|---------|
|  | US English (model CVU G05)  | 25P5813 |
|  | UK English                  | 25P5814 |
|  | AP English                  | 25P5821 |
|  | French                      | 25P5822 |
|  | Canadian French (model CVF) | 32P4491 |
|  | Spanish                     | 32P4492 |
|  | LA Spanish                  | 32P4493 |
|  | Portuguese                  | 32P4494 |

| <b>Recovery CDs Win ME - Machine Type 6337</b> |                    |         |
|--|--------------------|---------|
|  | Brazil, Portuguese | 25P5965 |
|  | German             | 25P5966 |
|  | Italian            | 25P5967 |
|  | Dutch              | 25P5968 |
|  | Danish             | 25P5969 |
|  | Finnish            | 25P5970 |
|  | Norwegian          | 25P6075 |
|  | Swedish            | 25P5971 |
|  | Arabic Enabled     | 25P5972 |
|  | Hebrew             | 25P5974 |
|  | Czech              | 25P5975 |
|  | Russian            | 25P5976 |
|  | Polish             | 25P5977 |
|  | Hungarian          | 25P5978 |
|  | Slovenian          | 25P5979 |
|  | Slovak             | 25P5980 |
|  | Greek              | 25P5981 |
|  | Turkish            | 25P5982 |
|  | Thai               | 25P5983 |

| <b>Keyboards - Machine Type 6337</b> |                                    |         |
|--------------------------------------|------------------------------------|---------|
|                                      | US English, white (model CVU)      | 32P5040 |
|                                      | Arabic, white                      | 32P5041 |
|                                      | Belgium/French, white              | 32P5042 |
|                                      | Belgium/UK, white                  | 32P5043 |
|                                      | Bulgarian, white                   | 32P5044 |
|                                      | Chinese/US Hong Kong/Taiwan, white | 32P5045 |
|                                      | Czech, white                       | 32P5046 |
|                                      | Danish, white                      | 32P5047 |
|                                      | Dutch, white                       | 32P5048 |
|                                      | French, white                      | 32P5049 |
|                                      | French Canadian, white (model CVF) | 32P5050 |
|                                      | French Canadian, white (model CVF) | 32P5051 |
|                                      | German, white                      | 32P5052 |
|                                      | Greek, white                       | 32P5053 |
|                                      | Hebrew, white                      | 32P5054 |
|                                      | Hungarian, white                   | 32P5055 |

| <b>Keyboards - Machine Type 6337</b> |                          |         |
|--------------------------------------|--------------------------|---------|
|                                      | Iceland, white           | 32P5056 |
|                                      | Italy, white             | 32P5057 |
|                                      | Japanese, white          | 32P5058 |
|                                      | Korean, white            | 32P5059 |
|                                      | LA Spanish, white        | 32P5060 |
|                                      | Norwegian, white         | 32P5061 |
|                                      | Polish, white            | 32P5062 |
|                                      | Portuguese, white        | 32P5063 |
|                                      | Romanian, white          | 32P5064 |
|                                      | Russian, white           | 32P5065 |
|                                      | Russian/Cy, white        | 32P5066 |
|                                      | Serbian/Cyrillic, white  | 32P5067 |
|                                      | Slovak, white            | 32P5068 |
|                                      | Spanish, white           | 32P5069 |
|                                      | Swedish/Finn, white      | 32P5070 |
|                                      | Swiss F/G, white         | 32P5071 |
|                                      | Thailand, white          | 32P5072 |
|                                      | Turkish, white           | 32P5073 |
|                                      | Turkish, white           | 32P5074 |
|                                      | UK English, white        | 32P5075 |
|                                      | US International, white  | 32P5076 |
|                                      | Yugoslav/Latin, white    | 32P5077 |
|                                      | Brazil/Portuguese, white | 32P5078 |

| <b>Keyboards - Machine Type 6337</b> |  |         |
|--------------------------------------|--|---------|
|                                      | US English, Black (models CVU G03 G04 G05) | 32P5000 |
|                                      | Arabic, Black                              | 32P5001 |
|                                      | Belgium/French, Black                      | 32P5002 |
|                                      | Belgium/UK, Black                          | 32P5003 |
|                                      | Bulgarian, Black                           | 32P5004 |
|                                      | Chinese/US Hong Kong/Taiwan, Black         | 32P5005 |
|                                      | Czech, Black                               | 32P5006 |
|                                      | Danish, Black                              | 32P5007 |
|                                      | Dutch, Black                               | 32P5008 |
|                                      | French, Black                              | 32P5009 |
|                                      | French Canadian, Black (model CVF)         | 32P5010 |
|                                      | French Canadian, Black (model CVF)         | 32P5011 |

| <b>Keyboards - Machine Type 6337</b> |                          |         |
|--------------------------------------|--------------------------|---------|
|                                      | German, Black            | 32P5012 |
|                                      | Greek, Black             | 32P5013 |
|                                      | Hebrew, Black            | 32P5014 |
|                                      | Hungarian, Black         | 32P5015 |
|                                      | Iceland, Black           | 32P5016 |
|                                      | Italy, Black             | 32P5017 |
|                                      | Japanese, Black          | 32P5018 |
|                                      | Korean, Black            | 32P5019 |
|                                      | LA Spanish, Black        | 32P5020 |
|                                      | Norwegian, Black         | 32P5021 |
|                                      | Polish, Black            | 32P5022 |
|                                      | Portuguese, Black        | 32P5023 |
|                                      | Romanian, Black          | 32P5024 |
|                                      | Russian, Black           | 32P5025 |
|                                      | Russian/Cy, Black        | 32P5026 |
|                                      | Serbian/Cyrillic, Black  | 32P5027 |
|                                      | Slovak, Black            | 32P5028 |
|                                      | Spanish, Black           | 32P5029 |
|                                      | Swedish/Finn, Black      | 32P5030 |
|                                      | Swiss F/G, Black         | 32P5031 |
|                                      | Thailand, Black          | 32P5032 |
|                                      | Turkish, Black           | 32P5033 |
|                                      | Turkish, Black           | 32P5034 |
|                                      | UK English, Black        | 32P5035 |
|                                      | US International, Black  | 32P5036 |
|                                      | Yugoslav/Latin, Black    | 32P5037 |
|                                      | Brazil/Portuguese, Black | 32P5038 |

| <b>Keyboards - Machine Type 6337</b> |  |         |
|--------------------------------------|--|---------|
|                                      | US English, Rapid Access IIIe Keyboard (black) (model CVU) | 19K1910 |

| <b>Power Cords - Type 6337</b> |            |         |
|--------------------------------|------------|---------|
|                                | Arabic     | 14F0033 |
|                                | Australian | 93F2365 |
|                                | Belgian    | 1339520 |
|                                | Bulgarian  | 1339520 |

|  | <b>Power Cords - Type 6337</b>  |         |
|--|---------------------------------|---------|
|  | Canadian                        | 93F2364 |
|  | Czechoslovakian                 | 1339520 |
|  | Denmark                         | 13F9997 |
|  | Finland                         | 1339520 |
|  | France                          | 1339520 |
|  | German                          | 1339520 |
|  | Hungarian                       | 1339520 |
|  | Israel                          | 14F0087 |
|  | Italian                         | 14F0069 |
|  | Latin American (all models)     | 6952301 |
|  | Netherlands                     | 1339520 |
|  | New Zealand                     | 93F2365 |
|  | Norwegian                       | 1339520 |
|  | Polish                          | 1339520 |
|  | Portuguese                      | 1339520 |
|  | Serbian                         | 1339520 |
|  | Slovakian                       | 1339520 |
|  | South African                   | 14F0015 |
|  | Spanish                         | 1339520 |
|  | Swiss                           | 1339520 |
|  | Swiss - French/German           | 14F0051 |
|  | US English (models G03 G04 G05) | 93F2364 |
|  | UK - Ireland                    | 14F0033 |
|  | Yugoslavian                     | 1339520 |
|  | Chile                           | 14F0069 |
|  | Argentina, Paraguay, & Uruaguay | 36L8880 |



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## Chapter 8. Additional Service Information

|   |     |  |     |
|---|-----|--|-----|
| Security features . . . . .                 | 191 | Flash recovery boot block jumper . . . . . | 194 |
| BIOS levels . . . . .                       | 193 | Power management . . . . .                 | 195 |
| Flash (BIOS/VPD) update procedure . . . . . | 194 | Network settings . . . . .                 | 198 |

---

### 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 10 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 59 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 10.

## 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 194.

## 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 PC Company 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 PC Company 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 59 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 10).
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 199.

---

## 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 194.

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 10.
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 10.
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 mobile 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  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Turn everything OFF.</li> <li>2. First, attach all cables to devices.</li> <li>3. Attach signal cables to connectors.</li> <li>4. Attach power cords to outlet.</li> <li>5. Turn device ON.</li> </ol> | <ol style="list-style-type: none"> <li>1. Turn everything OFF.</li> <li>2. First, remove power cords from outlet.</li> <li>3. Remove signal cables from connectors.</li> <li>4. Remove all cables from devices.</li> </ol> |

- 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)

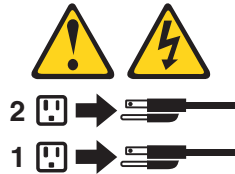
**CAUTION:**  
Use safe practices when lifting.

- 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:**

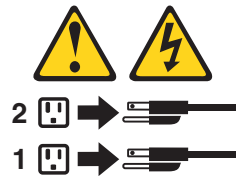
Ao levantar a máquina, faça-o com segurança.

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一类型的模块进行更换。电池中含有锂，如果使用、拿放或处理不当，可能会发生爆炸。

请勿对电池进行下列操作：  
扔入或浸入水中  
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)

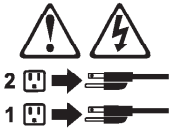
警告：  
抬起时请采用安全操作方法。

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。
- 儘可能使用單子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，請依照下表中「連接」及「切斷」電纜線的步驟執行。

#### 連接：

1. 關閉所有開關。
2. 先將所有電纜線接上裝置。
3. 將信號電纜接上接頭。
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

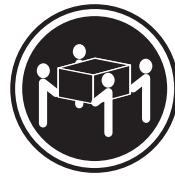




≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

**ATTENTION:**

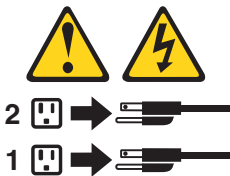
Faites-vous aider pour soulever ce produit.

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:**

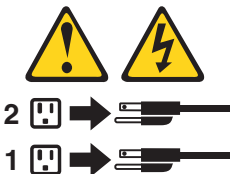
Beim Anheben der Maschine die vorgeschriebenen Sicherheitsbestimmungen beachten.

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:**

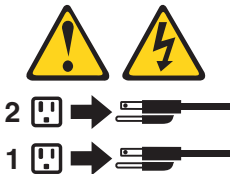
Durante il sollevamento della macchina seguire delle norme di sicurezza.

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, 전화 및 통신 케이블로부터 흘러 나오는 전류는 위험합니다.

전기 충격을 피하려면:

- 뇌우를 동반할 때는 케이블의 연결이나 철수, 이 제품의 설치, 유지보수 또는 재구성을 하지 마십시오.
- 모든 전원 코드를 적절히 배선 및 접지해야 합니다.
- 이 제품에 연결될 모든 장비를 적절하게 배선된 콘센트에 연결하십시오.
- 가능한 한 신호 케이블을 한 손으로 연결하거나 끊으십시오.
- 화재, 수해 또는 구조상의 손상이 있을 경우 장비를 꺼지 마십시오.
- 설치 및 구성 프로시저에 다른 설명이 없는 한, 장치 덮개를 열기 전에 연결된 전원 코드, 원거리 통신 시스템, 네트워크 및 모뎀을 끊어 주십시오.
- 제품 또는 접속된 장치를 설치, 이동 및 덮개를 열 때 다음 설명에 따라 케이블을 연결하거나 끊도록 하십시오.

연결하려면:

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.



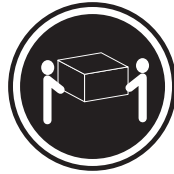
### **PELIGRO**

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:**

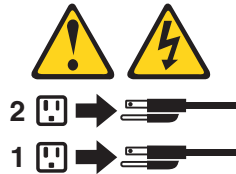
Tome medidas de seguridad al levantar el producto.

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 24P2923). 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 servers 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.

---

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Part Number: 24P2928  
File Number:



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24P2928

