ThinkCentre™

IBM

Hardware Maintenance Manual
Types 8127, 8183, 8184, 8320, 8416, 8417, 8418, 8419, and 8429

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Note: Before using this information and the product it supports, be sure to read the general information under "Notices" on page 187.

Sixth Edition (February 2005)

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Chapter 1. About this manual

This manual contains service and reference information for IBM® computer Types 8127, 8183, 8184, 8320, 8416, 8417, 8418, 8419 and 8429.

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

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

> **Note:**
>
> This manual is intended for trained servicers who are familiar with IBM Personal Computer products. Use this manual along with advanced diagnostic tests to troubleshoot problems effectively.
>
> Before servicing an IBM product, be sure to review the "Safety information" on page 153.

Important Safety Information

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

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

Lesen Sie alle Sicherheitshinweise, bevor Sie eine Anweisung ausführen.

주의 및 위험 경고문(한글)

중요:

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

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 읽
도록 하십시오.

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

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

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

注意和危险声明(简体中文)

重要事项：

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

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

在按说明执行任何操作前，请务必阅读所有注意和危险声明。

注意及危險聲明（中文）

重要資訊：

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

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

執行任何指示之前，請詳讀所有「注意」及「危險」的聲明。

Strategy for Replacing FRUs for CTO, CMV, and GAV products

Product definition

Dynamic Configure To Order (CTO)
> This provides the ability for a customer to configure an IBM solution from an eSite, and have this configuration sent to fulfillment, where it is built and shipped directly to the customer. The machine label, PC Entitlement Warehouse (PEW), eSupport, and the HMM will load these products as the 4-digit MT and 3-digit model, where model = 'CTO' (Example: 1829-CTO).

Custom Model Variant (CMV)
> This is a unique configuration that has been negotiated between IBM and the customer. A unique 4-digit MT and 3-digit model is provided to the customer to place orders (Example: 1829-W15). A CMV is a special bid offering. Therefore, it is NOT generally announced.

- The MTM portion of the machine label is the 4-digit MT and 3-digit model, where model = 'CTO' (Example: 1829-CTO). The PRODUCT ID portion of the machine label is the 4-digit MT and 3-digit CMV model (Example: 1829-W15).
- The PEW record is the 4-digit MT and 3-digit model, where model = 'CTO' (Example: 1829-CTO).
- eSupport will show both the CTO and CMV machine type models (Example: 1829-CTO and 1829-W15 will be found on the eSupport site.)
- The HMM will have the 4-digit MT and 3-digit CTO model only (Example: 1829-CTO). Again, CMVs are custom models and are not found in the HMM.

General Announce Variant (GAV)

This is a standard model (fixed configuration). GAVs are announced and offered to all customers. The MTM portion of the machine label is a 4-digit MT and 3-digit model, where model = a "fixed model number", not 'CTO' (Example: 1829-F1U). Also, PEW, eSupport, and the HMM will list these products under the same fixed model number.

FRU Identification for CTO, CMV, and GAV products

There are three information resources to identify which FRUs are used to support CTO, CMV, and GAV products. These sources are PEW, eSupport, and the HMM.

Using PEW

- **PEW** is the primary source for identifying FRU part numbers and FRU descriptions for the key commodities for CTO, CMV and GAV products at a MT - serial number level. An example of key commodities are hard disk drives, system boards, microprocessors, Liquid Crystal Displays (LCDs), and memory.
- Remember, All CTO and CMV products are loaded in PEW under the 4-digit MT and 3-digit model, where model = 'CTO' (Example: 1829-CTO). GAVs are loaded in PEW under the 4-digit MT and 3-digit model, where model = a "fixed model number", not 'CTO' (Example: 1829-F1U).
- PEW can be accessed at the following Web site: http://w3-3.ibm.com/pc/entitle
  Click on MACHINE LOOKUP, followed by WARRANTY INFORMATION. Input the MT and Serial number and the list of key commodities will be returned in the PEW record under COMPONENT INFORMATION.
- **Business Partners** using Eclaim will access PEW when performing Entitlement Lookup. Business Partners will enter Loc ID, MT and Serial, and the key commodities will be returned in the Eclaim record under SYSTEM DETAILS.
- Authorized IBM Business Partners can access Eclaim at the following Web site: http://wca.eclaim.com

Using eSupport

For Key Commodities (Examples - hard disk drive, system board, microprocessor, LCD, and memory)

- eSupport can be used to view the list of key commodities built in a particular machine serial (this is the same record found in PEW).
- eSupport can be accessed at the following Web site: http://www.ibm.com/pc/support
- To view the key commodities, click on PARTS INFORMATION, then PARTS LOOKUP. Type in the model type and serial number. The key commodities will be returned in the eSupport record under PARTS SHIPPED WITH YOUR SYSTEM.

For the Remaining FRUs (the complete list of FRUs at the MT Model level)

- eSupport can be used to view the complete list of FRUs for a machine type and model.
- To view the complete list of FRUs, type in the machine type and model (Example: 1829-CTO) under QUICK PATH. Under 'View by Document Type' select PARTS INFORMATION. Under 'Filter by Category' select SERVICE PARTS. Under 'Parts Information by Date' select SYSTEM SERVICE PARTS. The list of service parts by description, with applicable machine type model and FRU will be displayed.

Using the HMM

- Use the HMM as a back-up to PEW and eSupport to view the complete list of FRUs at the MT Model level.

Chapter 2. General information

Access IBM

To find more information about the features on the computer you can use the Access IBM Predesktop Area. To open the Access IBM Predesktop Area, use the following procedure:

1. Shut down the operating system and turn off the computer.
2. Turn on the computer and look for the following prompt on the logo screen:

   `(To interrupt normal startup, press Enter)`

   Press Enter when you see the prompt.
3. The Access IBM Predesktop Area opens.

Additional information resources

If you have Internet access, the most up-to-date information for your computer is available from the World Wide Web.

You can find the following information:
- CRU removal and installation instructions
- Publications
- Troubleshooting information
- Parts information
- Downloads and drivers
- Links to other useful sources of information

To access this information, point your browser to:
`http://www.ibm.com/pc/support/site.wss/document.do?Lndocid=part-video`

Features

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

Microprocessor
- Intel® Celeron™ (some models)
- Intel Pentium® 4 (some models)
- Intel Pentium 4 with HyperThreading (some models)
- Internal cache (size varies by model type)

Memory
Support for two 184-pin dual inline memory modules (DIMMs). Each DIMM socket can support up to 1 GB of PC2700 double data rate (DDR) dynamic random access memory (SDRAM) for a system maximum of 2 GB.

Internal drives
- 3.5-inch, half-inch (slim) diskette drive (some models)
- Hard disk drive
- Optical drives such as CD-ROM, DVD-ROM, DVD-ROM/CD-RW Combo, CD-RW, or IBM Multi-Burner (some models)

Video subsystem
An integrated Intel Extreme Graphics 2 controller for a Video Graphics Array (VGA) monitor

Audio subsystem
The integrated AC′97 audio controller provides four audio connectors.
- Microphone and headphone connectors on the front panel
- Line-in and line-out connectors on the rear panel

Connectivity
- 10/100 Mbps integrated Intel Ethernet controller that supports the Wake on LAN® feature (some models)
- 10/100/1000 Mbps integrated Intel Ethernet controller that supports the Wake on LAN feature (some models)
- Peripheral Component Interconnect (PCI) V.90 Data/Fax modem (some models)

System management features
- Remote Program Load (RPL) and Dynamic Host Configuration Protocol (DHCP)
- Wake on LAN
- Wake on Ring (in the IBM Setup Utility program, this feature is called Serial Port Ring Detect for an external modem and Modem Ring Detect for an internal PCI 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
- Eight USB 2.0 connectors (two on front panel and six on rear panel)
- PS/2® mouse connector
- PS/2 keyboard connector
- Ethernet connector
- VGA monitor connector
- Two audio connectors (line-in and line-out) on rear panel
- Two audio connectors (microphone and headphone) on front panel

Expansion
- Two 32-bit PCI full height adapter slots
- Two DIMM memory connectors

Power
- 200 Watt 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

- User and administrator passwords
- Support for the addition of a cable lock such as a Kensington lock
- Knockout holes for installing a rope clip (U-bolt)
- Optional keylock on top cover
- Startup sequence control
- Startup without diskette drive, keyboard, or mouse
- Diskette and hard disk I/O control
- Serial and parallel port I/O control
- Security profile by device

IBM preinstalled software
The computer comes with preinstalled software. An operating system, device drivers to support built-in features, and other support programs are included.

Operating systems (preinstalled) (varies by model)

Note: Not all countries or regions will have these operating systems.

- Microsoft® Windows® XP Home
- Microsoft Windows XP Professional
- Microsoft Windows 2000

Specifications

This section lists certain specifications for the computer. For the latest specification information, see the *User Guide* for the computer go to:

http://www.ibm.com/pc/support/

Dimensions	Airflow for computers with a microprocessor that runs at or below 2.8 GHz
Width: 12.2 inches (310 mm)	Approximately 13 cubic feet (0.37 cubic meters) per minute

Dimensions

Width: 12.2 inches (310 mm)

Height: 3.35 inches (85 mm)

Depth: 14.1 inches (358 mm)

Weight

Minimum configuration as shipped: 8.3 kg (18.4 lbs)
With stand: 8.5 kg (18.8 lbs)

Environment

Air temperature:

Operating at 0 - 3000 ft (914.4 m): 10° to 35°C (50° to 95°F)

Operating at 3000 ft - 7000 ft (2134 m): 10° to 32°C (50° to 89.6°F)

Non-operating: 10° to 43°C (50° to 110°F)

Humidity:

Operating: 8% to 80%

Non-operating: 8% to 80%

Transit: 8% to 90%

Maximum altitude: 7000 ft (2133.6 m)

Electrical input

Input voltage:

Low range:

Minimum: 90 V ac

Maximum: 137 V ac

Input frequency range: 57–63 Hz

Voltage switch setting: 115 V ac

High range:

Minimum: 180 V ac

Maximum: 265 V ac

Input frequency range: 47–53 Hz

Voltage switch setting: 230 V ac

Input kilovolt-amperes (kVA) (approximate):

Minimum configuration as shipped: 0.09 kVA

Maximum configuration: 0.23 kVA

Heat output (approximate) in British thermal units (Btu) per hour:

Minimum configuration: 205.8 Btu/hr (60 watts)

Maximum configuration: 548.8 Btu/hr (160 watts)

Airflow for computers with a microprocessor that runs at or below 2.8 GHz

Approximately 13 cubic feet (0.37 cubic meters) per minute

Airflow for computers with a microprocessor that runs above 2.8 GHz

Approximately 14 cubic feet (0.40 cubic meters) per minute

Acoustical noise-emission values

Note: In this computer, fan speed is controlled by temperature, configuration, and software. Actual noise-emission values might be different from the stated values depending on the number of fans and the speed of the fans.

Average sound-pressure levels for computers with a microprocessor that runs at or below 2.8 GHz:

At operator position - 0.5 meters:

Idle: 30 dBA

Operating: 34 dBA

At bystander position - 1 meter (3.3 ft):

Idle: 25 dBA

Operating: 29 dBA

Declared (upper limit) sound-power levels:

Idle: 3.9 bels

Operating: 4.3 bels

Average sound-pressure levels for computers with a microprocessor that runs at or greater than 2.8 GHz:

At operator position - 0.5 meters:

Idle: 31 dBA

Operating: 34 dBA

At bystander position - 1 meter (3.3 ft):

Idle: 26 dBA

Operating: 29 dBA

Declared (upper limit) sound-power levels:

Idle: 4.0 bels

Operating: 4.3 bels

Note: 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.

Chapter 3. General Checkout

This general checkout procedure is for Type 8127, 8183, 8184, 8320, 8416, 8417, 8418, 8419, and 8429 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 "Diagnostic error codes" on page 49.

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:
- The default for this computer is to boot 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 IBM Setup Utility program (see "Starting the IBM Setup Utility program" on page 19).
  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 147.
- If multiple error codes are displayed, diagnose the first error code displayed.
- If the computer hangs with a POST error, go to Chapter 7, "Symptom-to-FRU Index," on page 47.
- If the computer hangs and no error is displayed, go to "Undetermined problems" on page 89.
- 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 IBM Setup Utility program (see "Starting the IBM Setup Utility program" on page 19)
2. Select **Power Management** from the IBM 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. See Chapter 4, "IBM Enhanced Diagnostics," on page 13.
- If you receive an error, replace the part that the diagnostic program calls out or go to "Diagnostic error codes" on page 49.
- If the test stops and you cannot continue, replace the last device tested.

Chapter 4. IBM Enhanced Diagnostics

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

You can run the IBM Enhanced Diagnostics from the Access IBM Predesktop Area on your hard disk. Alternatively, you can create a bootable *IBM Enhanced Diagnostics* diskette from the Access IBM Predesktop Area.

You can also download the latest version of the Enhanced Diagnostics program from

`http://www.ibm.com/pc/support/`

on the World Wide Web. Type your machine type and model number into the **Quick Path** field to find the downloadable files that are specific to the computer.

Diagnostics program download

To download the Diagnostics program, do the following:

- Go to `http://www.ibm.com/`.
- Select **Support & downloads**.
- Select **Personal computing** from the ″Get product support for″ list.
- Enter your machine type in the ″Quick Path″ box and click **Go**.
- Follow the links provided to locate the IBM Enhanced Diagnostics.

    Note: You can download either a diskette image or a startable CD-ROM image (.iso file) of the diagnostics.

Running IBM Enhanced Diagnostics from the Access IBM Predesktop Area

To open the Access IBM Predesktop Area, do the following:

1. With the computer off, press and hold the Enter key; then, turn on the computer.
2. When the logo screen appears, release the Enter key.
3. The Access IBM Predesktop Area opens.
4. Select **Run diagnostics** from the Utilities menu.
5. Follow the instructions on the screen.

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 17.

Test selection

To select one or more tests, use the following procedure.
1. Open the corresponding test category.
2. Using the cursor movement keys, highlight the desired test.
3. Press the space bar.

   A selected test is marked by **>>**. Pressing the space bar again de-selects a test and removes the chevron.
4. Repeat steps 2 and 3 above to select all desired tests.

Test results

Diagnostics test results will produce the following error code format:

Function Code	Failure Type	DeviceID	Date	ChkDigits	Text

- **Function Code:**

  Represents the feature or function within the PC.
- **Failure Type:**

  Represents the type of error encountered.
- **DeviceID:**

  Contains the component's unit-ID which corresponds to either a fixed disk drive, removable media drive, serial or parallel port, processor, specific RIMM, or a device on the PCI bus.
- **Date:**

  Contains the date on which the diagnostic test was run. The date is retrieved from CMOS and displayed using the YYYYMMDD format.
- **ChkDigits:**

  Contains a 2-digit check-digit value to ensure the following:
  – Diagnostics were run on the specified date.
  – Diagnostics were run on the specified IBM computer.
  – The diagnostic error code is recorded correctly.
- **Text:**

Description of the error.

Note: See "Diagnostic error codes" on page 49 for error code listings.

Fixed disk advanced test (FDAT)

PC-Doctor's (PCDR) Fixed-Disk Advanced Test module (FDAT) is a full-featured highly configurable fixed-disk test suite. The configurable capabilities of FDAT allow users to enable or disable specific tests, enable or disable testing features, control the test log detail, alter testing parameters, etc. FDAT will test for and report most commonly found errors on a fixed-disk drive and is able to test up to 128 SCSI and 4 IDE drives (up to 132 total drives).

Drive information is gathered through FDAT's enumeration of available devices and user specific configuration parameters located in the FDAT.INI. FDAT uses information supplied by these features to indicate specifically what devices are available for test, what tests are available for the device, device properties, etc. Modify the FDAT.INI file in PC Doctor for DOS to change testing parameters.

FDAT consists of the following subtests and features.

Fixed-Disk Tests:
* *Seek Tests:* - checks the physical operation of the drive head.
  – Linear Seek
  – Random Seek
  – Min-Max Seek
  – Butterfly Seek
* *Verify Tests:* - checks the integrity of the data present on the media.
  – Linear Verify
  – Random Verify
* *Surface Scan Tests:* - checks the drive media for defects.
  – Surface Scan (Linear)
  – Surface Scan (Aggressive) - this is disabled for normal customer use.
  – Surface Scan (Random)
* *SMART:* - checks the SMART functionality for drives that support SMART.
  – Start SMART Self-Test
  – Get SMART test results

Other Test Features:
* *Write-Splice Repair* - detects and corrects Error Correction Code errors during Verify tests.
* *Auto Spin Down* - a gradual spin down of the drive platters to avoid damaging the media.
* *Manufacturer Log* - an in-depth manufacturer supported log of errors on the drive.

Multitasking:

To allow simultaneous testing of multiple hard drives whenever possible, the FDAT module is written as a set of multitasking functions. Each drive under test can run the same test or run a different test at the same time. Each subtest is written to handle a single test pass and all test variables are kept track of in a

structure unique for each drive. However, when testing IDE drives, FDAT will not perform simultaneous testing of IDE drives that are attached to the same IDE cable. For example, if FDAT is testing four IDE drives on a PC, it will perform simultaneous testing on drives 1 and 3 first (master drives), then perform tests on 2 and 4 (slave drives). FDAT will also perform simultaneous testing on a master and slave that are on separate IDE cables, but will not perform simultaneous tests on a master and slave on the same IDE cable. This generally increases the amount of time needed to test multiple IDE drives.

Another limitation of FDAT'S multitasking capability is the use of Ultra DMA (UDMA). Only one drive at a time can access the UDMA channel and the UDMA channel buffer must be kept high in order to maintain a speed advantage over other data transfer modes. In order to use the UDMA channel during testing, users must disable the multitasking feature.

Destructive vs non-destructive testing:

Most of the tests found in FDAT are non-destructive. This means that PCDR will preserve any data that is present on the tested media prior to beginning any destructive operations (i.e. write operations). However, users can run certain tests in destructive mode (i.e. surface scan tests). Destructive tests will speed up testing because FDAT does not preserve the data on the media prior to the test beginning. Unlike non-destructive tests, any data present on the media prior to the test beginning is lost.

FDAT allows for enabling or disabling destructive tests, as well as specifying a range of destructive and non-destructive sectors on the tested drive. This is done through the configuration of the FDAT.INI.If destructive and non-destructive ranges somehow overlap, then the overlapped area is considered non-destructive. For example, if users specify both destructive and non-destructive ranges as the same, then the entire drive is tested as non-destructive.

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.

Important: 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.

Viewing the test log

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

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

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

Chapter 5. Using the IBM Setup Utility

The IBM Setup Utility program is stored in the electrically erasable programmable read-only memory (EEPROM) of the computer. The IBM Setup Utility program is used to view and change the configuration settings of the computer, regardless of which operating system you are using. However, the operating-system settings might override any similar settings in the IBM Setup Utility program.

Starting the IBM Setup Utility program

To start the IBM Setup Utility program, do the following:

1. Shut down the operating system and turn off the computer.
2. Turn on the computer and look for the following prompt on the logo screen:

   `(To interrupt normal startup, press Enter)`

   Press Enter when you see the prompt.
3. When the Access IBM Predesktop Area displays, double click **Start setup utility**.

   Note: If an administrator password has been set, the IBM Setup Utility program menu is not display until you type your password.

The IBM Setup Utility might start automatically when POST detects that hardware has been removed or new hardware has been installed in the computer.

Viewing and changing settings

The IBM Setup Utility program menu lists items that identify system configuration topics.

When working with the IBM Setup Utility program menu, you must use the keyboard. The keys used to perform various tasks are displayed at the bottom of each screen.

Exiting from the IBM Setup Utility program

When you finish viewing or changing settings, press Esc to return to the IBM Setup Utility program menu (you might have to press Esc several times). If you want to save the new settings, select **Save Settings** or **Save and exit the Setup Utility**. Otherwise, your changes will not be saved.

Using passwords

You can use passwords to provide security for the computer and data. There are two kinds of passwords: a user password and an administrator password. You do not have to set a password of either type to use the computer. However, if you decide to set either one, read the following sections.

User password

The user password feature deters unauthorized persons from gaining access to the computer.

Administrator password

Setting an administrator password deters unauthorized persons from changing configuration settings. If you are responsible for maintaining the settings of several computers, you might want to set an administrator password.

After you set an administrator password, a password prompt is displayed each time you try to access the IBM Setup Utility program. If you type the wrong password, you will see an error message. If you type the wrong password three times, you must turn the computer off and start again.

If both the user and administrator passwords are set, you can type either password. However, to change any configuration settings, you must use your administrator password.

Setting, changing, and deleting a password

To set, change, or delete a password, do the following:

Note: A password can be any combination of up to seven characters (A- Z, a-z, and 0-9).

1. Start the IBM Setup Utility program (see "Starting the IBM Setup Utility program" on page 19).
2. From the IBM Setup Utility program menu, select **Security → Set Passwords**. Read the information displayed on the right side of the screen.

Security settings for Access IBM Predesktop Area

The security settings in the IBM Setup Utility allow you to select the level of security that you require for the Access IBM Predesktop Area. These setting are described below:

Secure
This setting does not allow any user or software initiated changes.

Normal
This setting allows the user to make changes but the contents are hidden from the operating system.

Disabled
This setting provides the lowest level of security. The area can be changed by the user or the operating system.

To set the security level for the Access IBM Predesktop Area, do the following:

1. Start the IBM Setup Utility program (see "Starting the IBM Setup Utility program" on page 19).
2. From the IBM Setup Utility program menu, select **Security**.
3. Select **Access IBM Predesktop Area**.
4. Select the desired setting and press Enter.
5. Return to the IBM Setup Utility program menu and select **Exit** and then **Save Settings** or **Save and exit the Setup Utility**.

   Note: If you do not want to save the settings, select **Exit the Setup Utility without saving**.

Using Security Profile by Device

Security Profile by Device is used to enable or disable user access to the following devices:

IDE controller	When this feature is set to **Disable**, all devices connected to the IDE controller (such as hard disk drives or the CD-ROM drive) are disabled and will not be displayed in the system configuration.
Diskette Drive Access	When this feature is set to **Disable**, the diskette drive cannot be accessed.
Diskette Write Protect	When this feature is set to **Enable**, all diskettes are treated as if they are write-protected.

To set Security Profile by Device, do the following:

1. Start the IBM Setup Utility program (see "Starting the IBM Setup Utility program" on page 19).
2. From the IBM Setup Utility program menu, select **Security**.
3. Select **Security Profile by Device**.
4. Select the desired devices and settings and press Enter.
5. Return to the IBM Setup Utility program menu and select **Exit** and then **Save Settings** or **Save and exit the Setup Utility**.

   Note: If you do not want to save the settings, select **Exit the Setup Utility without saving**.

Using IDE Drives Setup

In addition to listing the different IDE devices, there are options for configuring the serial and parallel IDE controllers.

Parallel ATA	This setting allows the user to disable one or both of the parallel IDE controllers.
Serial ATA	This setting allows the user to disable the serial ATA controllers.
Native Mode Operation	This setting is only available when the serial ATA controller is enabled. This allows the user to specify whether the parallel and serial ATA controllers will operate in "legacy" or "native" mode. By default, they will operate in native mode unless both parallel ATA controllers are populated and a serial ATA drive is present. Then the serial ATA drive will become "native" mode. The user can select Automatic or the serial ATA controller to run in "native" mode. However, running in "native" mode might not work with older operating systems.

To configure IDE Drives Setup, do the following:

1. Start the IBM Setup Utility program (see "Starting the IBM Setup Utility program" on page 19).
2. From the IBM Setup Utility program menu, select **Devices**.
3. Select **IDE Drives Setup**.
4. Select the desired devices and settings and press Enter.
5. Return to the IBM Setup Utility program menu and select **Exit** and then **Save Settings**.

Selecting a startup device

If the computer does not start up (boot) from a device such as the CD-ROM, diskette, or hard disk as expected, use one of the following procedures to select a startup device.

Selecting a temporary startup device

Use this procedure to startup from any boot device.

Note: Not all CDs, hard disks, and diskettes are startable (bootable).

1. Turn off the computer.
2. Press and hold the Enter key and turn on the computer. Release the Enter key when the logo appears.
3. The Access IBM Predesktop Area opens.
4. Click **Startup** and follow the instructions on the screen.

Note: Selecting a startup device from this list does not permanently change the startup sequence.

Changing the startup device sequence

To view or permanently change the configured startup device sequence, do the following:

1. Start the IBM Setup Utility program (see "Starting the IBM Setup Utility program" on page 19).
2. Select **Startup**.
3. Select **Startup Sequence**. See the information displayed on the right side of the screen.
4. Select the devices for the Primary Startup Sequence, the Automatic Startup Sequence, and the Error Startup Sequence.
5. Select **Exit** from the IBM Setup Utility menu and then **Save Settings** or **Save and exit the Setup Utility**.

If you have changed these settings and want to return to the default settings, select **Load Default Settings** on the Exit menu.

Advanced settings

On some computer models the Advanced settings menu includes a setting to Enable/Disable HyperThreading. This feature works only with HyperThreading-aware operating systems such as Microsoft Windows XP. The default setting for HyperThreading is Enabled. However, if you select **Set Defaults** and are using an operating system other than Windows XP, the computer performance might be degraded. Therefore, you should always set HyperThreading to Disabled unless you are sure your operating system supports HyperThreading.

Chapter 6. Replacing FRUs

FRU replacements are to be done by trained service technicians only.

Important: Before you install or remove any FRU, read "Safety information" on page 153. These precautions and guidelines will help you work safely.

Locating controls and connectors on the front of the computer

This section shows the various external connectors on the computer to which you can attach external devices.
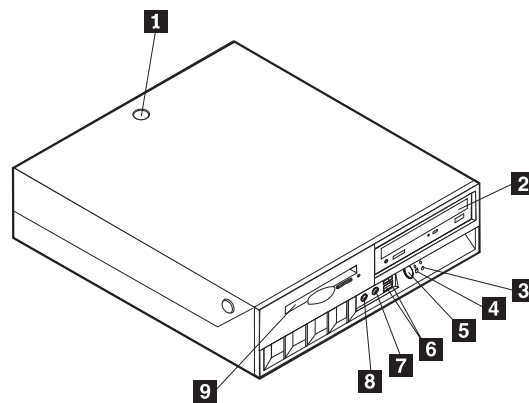
1	Cover keylock (some models)	6	USB connectors (2)
2	Optical drive	7	Microphone connector (line in)
3	Hard disk drive activity indicator	8	Headphone connector (line out)
4	Power-on indicator	9	Diskette drive
5	Power button		

Locating connectors on the rear of the computer

The following illustration shows locations of connectors on the rear of the computer.
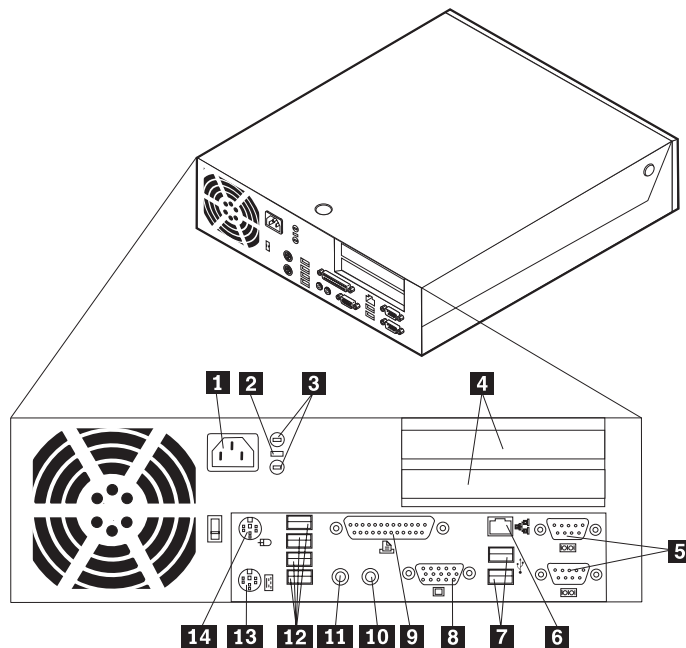
1	Power cord connector	**8**	VGA monitor connector
2	Cable lock latch	**9**	Parallel connector
3	Rope clip (U-bolt) holes	**10**	Audio line-in connector
4	PCI adapter slots	**11**	Audio line-out connector
5	Serial connectors (2)	**12**	USB connectors (4)
6	Ethernet connector	**13**	PS/2 keyboard connector
7	USB connectors (2)	**14**	PS/2 mouse connector

Note: Some connectors on the rear of the computer are color-coded to help determine where to connect the cables.

- Mouse - green
- Keyboard - purple
- Monitor - dark blue
- Microphone - pink
- Audio line-out - lime green

Opening the cover

Attention: Read "Safety information" on page 153 and "Handling electrostatic discharge-sensitive devices" on page 156 before opening the cover.

To open 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 floor stand, if attached.
5. If a cover lock is installed, unlock the cover.
6. Press inward on the two buttons and rotate the top cover upward as illustrated.
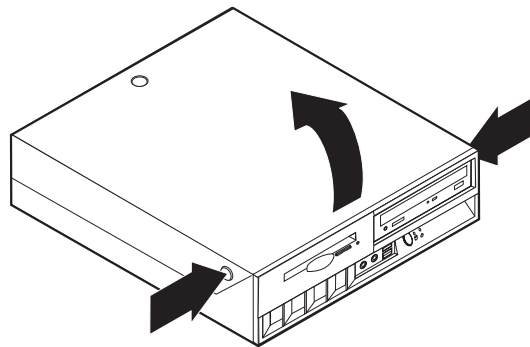
Locating components

The following illustration will help you locate the various components in the computer.
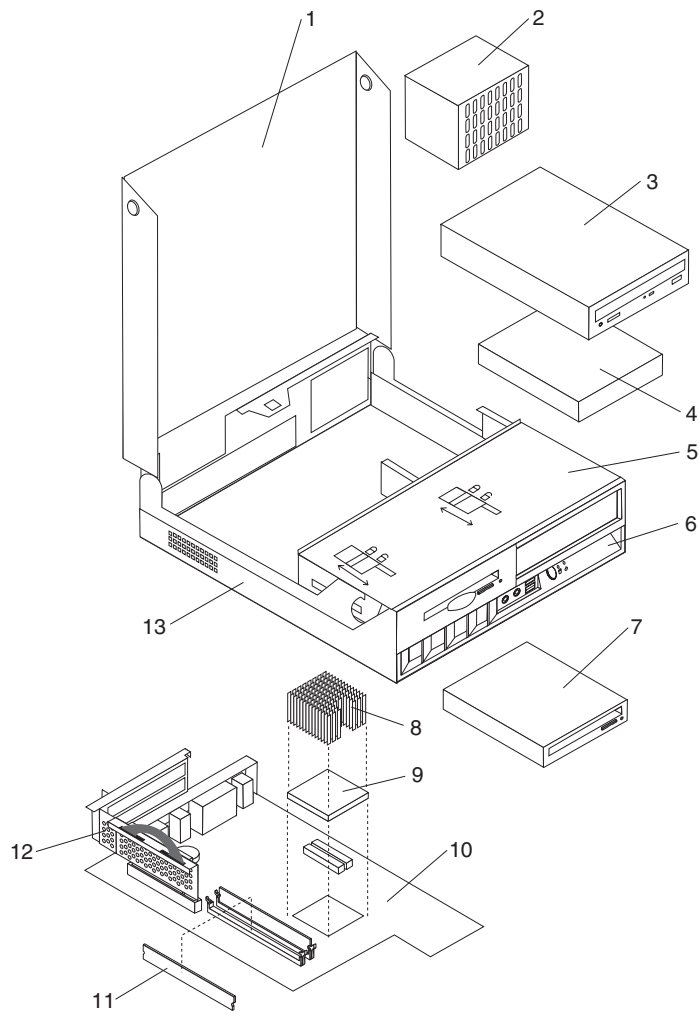
1	Cover	**8**	Heat sink
2	Power supply	**9**	Microprocessor
3	Optical drive	**10**	System board
4	Hard disk drive	**11**	Memory module
5	Rotating drive bay assembly	**12**	PCI riser assembly
6	Front plastic bezel	**13**	Chassis
7	Diskette drive		

Accessing system board components and drives

To access some components on the system board such as memory, the battery, and the Clear CMOS/BIOS recovery jumper, you might need to rotate the drives upward. You can also use this procedure to access the drives when updating to different or higher capacity drives.

To access system board components or drives:
1. Turn off the computer.
2. Open the cover. See "Opening the cover" on page 25.
3. Rotate the drives upward as illustrated.

   Note: Make sure you note the location of any cable connectors and the routing of the cables before you disconnect from the drives or the system board.
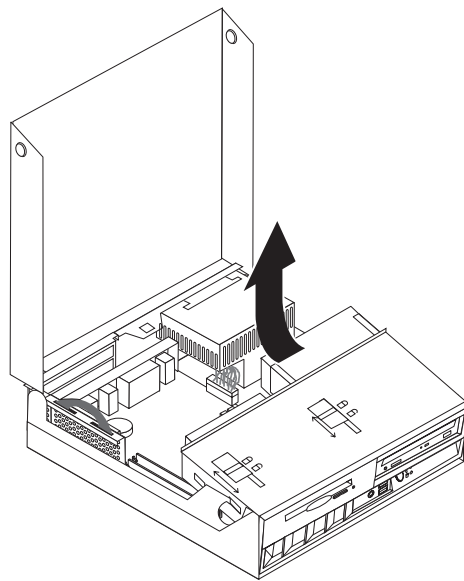
4. If any PCI adapters are installed, remove the PCI riser and adapter cards. Do not remove any adapters from the riser card. See "Replacing a PCI adapter" on page 30.

Identifying parts on the system board

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

The following illustration shows the locations of parts on the system board.
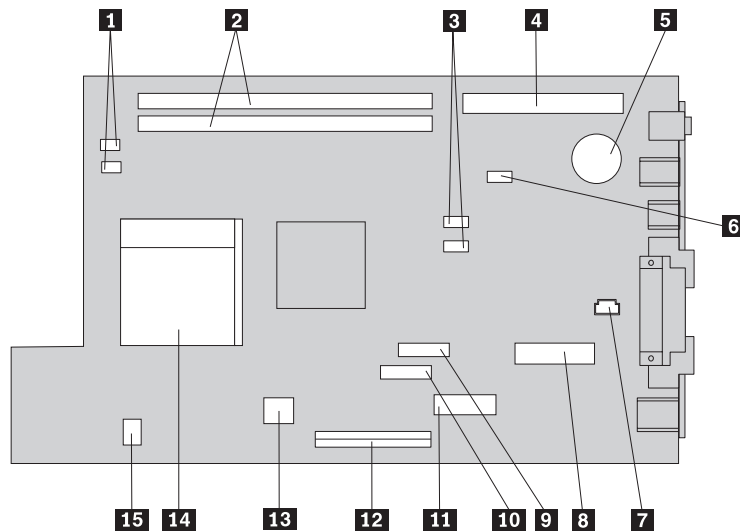
1	Fan connectors (2)	**8**	Promise of value (POV) daughter card connector
2	Memory connectors (2)	**9**	Diskette drive connector
3	SATA 1 IDE and SATA 2 IDE hard disk drive connectors (2)	**10**	Front panel connector
4	PCI riser connector	**11**	Power connector
5	Battery	**12**	PATA Primary IDE connector (hard disk drive and optical drive)
6	Clear CMOS/BIOS recovery jumper	**13**	Power connector
7	Speaker connector	**14**	Microprocessor
		15	CD audio connector

Replacing memory

The computer has two connectors for installing dual inline memory modules that provide up to a maximum of 2 GB of system memory.

When installing memory, the following rules apply:
- Use 2.5 V, 184-pin, double data rate static random access memory (DDR SDRAM), non-ECC memory modules.
- Use 128 MB, 256 MB, 512 MB, or 1 GB memory modules (when available) in any combination.

Note: Only DDR SDRAM memory moduless can be used.

To replace memory modules:
1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Disconnect all other cables attached to the computer.
3. Open the cover. See "Opening the cover" on page 25.
4. Access the system board. See "Accessing system board components and drives" on page 27.
5. Locate the memory module connectors. See "Identifying parts on the system board" on page 28.
6. Open the retaining clips to remove an existing memory module.
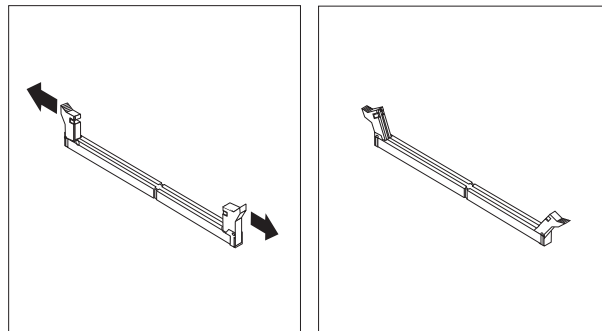
7. Make sure the notch in the replacement memory module aligns with the tab on the connector. Push or insert the memory module straight down into the connector until the retaining clips close.
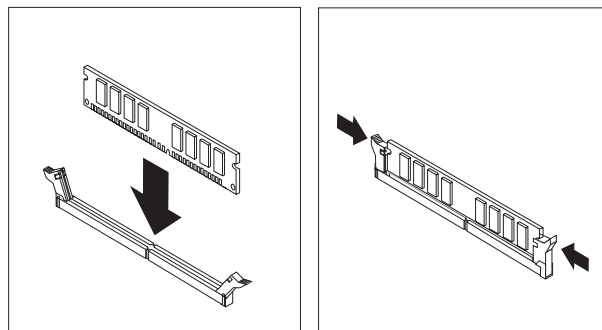
8. Replace the PCI riser and adapters if it was removed.
9. Place the drives back to the original position.
10. Replace the cover. See "Closing the cover and connecting the cables" on page 46.

Replacing a PCI adapter

This section provides information and instructions for removing and replacing a PCI adapter. The computer has a riser card with two PCI expansion slots.

To remove and replace a PCI adapter:

1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Disconnect all other cables attached to the computer.
3. Open the cover. See "Opening the cover" on page 25.
4. While holding the left rear of the computer chassis down, pull upward on the handle provided to remove the PCI riser including any adapters that are already installed.
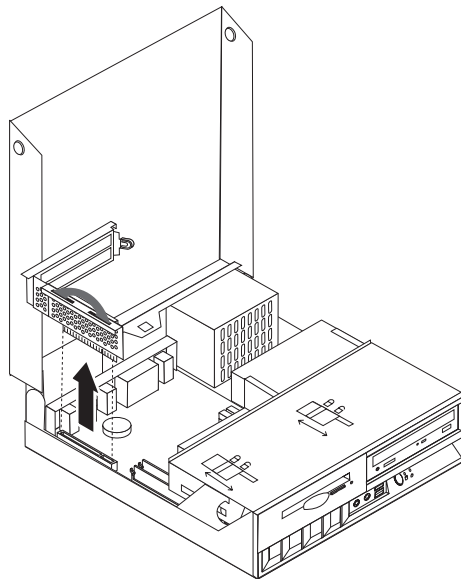
5. Remove the PCI adapter being replaced from the riser.
6. Remove the new PCI adapter from its static-protective package.
7. Install the adapter into the appropriate slot in the PCI riser.
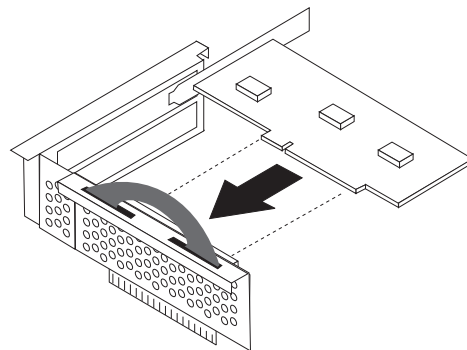
8. Position the adapter-slot-cover latch to retain the adapters.
9. Reinstall the PCI riser and adapters.
10. Close the cover. See "Closing the cover and connecting the cables" on page 46.

Replacing the battery

The computer has a special type of memory that maintains the date, time, and settings for built-in features, such as parallel-port assignments (configuration). A battery keeps this information active when you turn off the computer. If the battery fails, the date, time, and configuration information (including passwords) are lost. An error message is displayed when you turn on the computer.

To replace the battery:

1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Disconnect all other cables attached to the computer.
3. Open the cover. See "Opening the cover" on page 25.
4. Refer to "Identifying parts on the system board" on page 28 and locate the battery.
5. Remove the PCI riser and PCI adapters that impede access to the battery.
6. Remove the old battery.
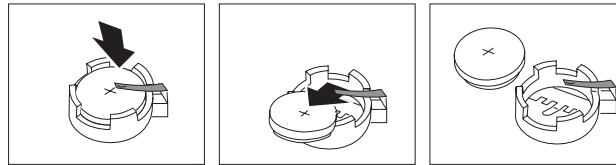
7. Install the new battery.
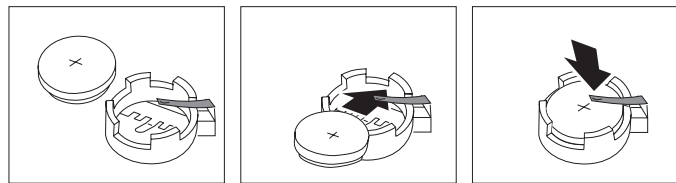
8. Install the PCI riser and adapters if removed.
9. Replace the cover, and connect the cables. See "Closing the cover and connecting the cables" on page 46.

    Note: When the computer is turned on for the first time after battery replacement, an error message might be displayed. This is normal after replacing the battery.
10. Turn on the computer and all attached devices.
11. Use the IBM Setup Utility program to set the date and time and any passwords.

Replacing the power supply

1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Disconnect all other cables attached to the computer.
3. Remove the four screws at the rear of the chassis.
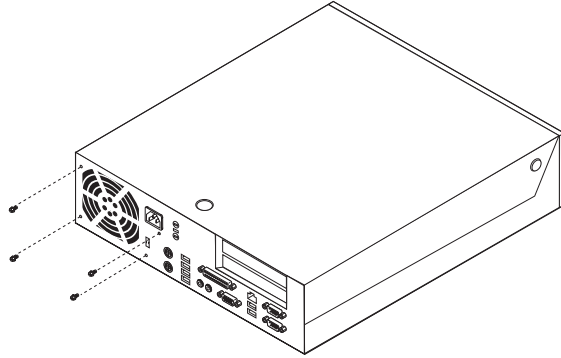
4. Open the cover and rotate the drive bay assembly upward to gain access to the power supply cable connections.
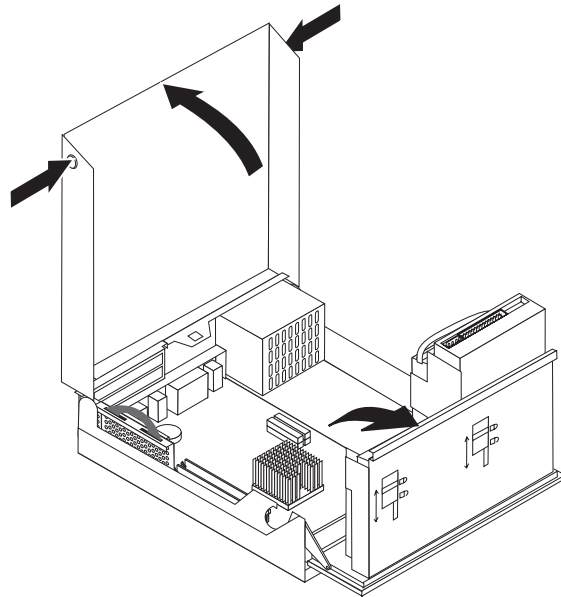
5. Disconnect power supply cable connector P3 from the CD-ROM drive and P4 or P5 from the hard disk drive (HDD). Connector P4 is used for a parallel HDD and connector P5 is used for a serial HDD.
6. Disconnect power supply cable connectors P1 **1** and P2 **2** from the system board.
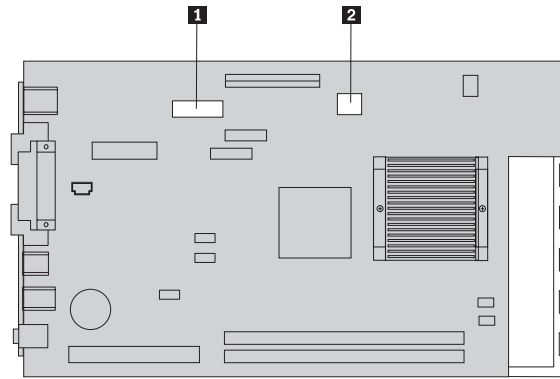
7. Remove the power supply assembly from the computer.
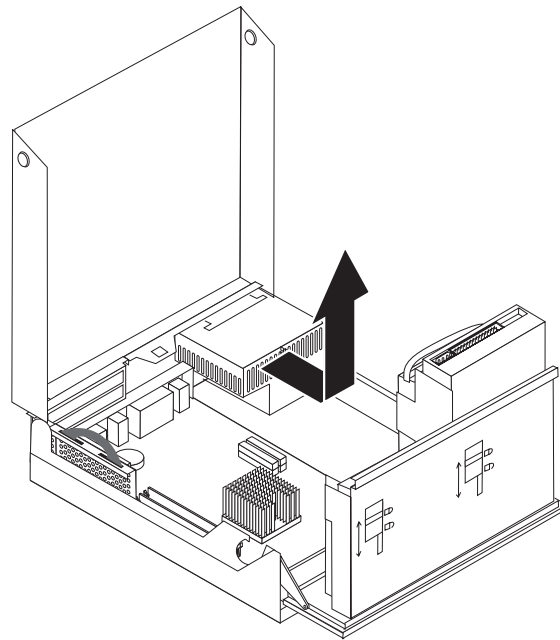
8. Install the new power supply assembly into the chassis so that the screw holes in the power supply assembly align with those in the chassis.

   Note: Use only the screws provided by IBM.
9. Install and tighten the four power supply assembly screws into the rear of the chassis.
10. Reconnect power supply connectors P1 and P2 to the system board.
11. Reconnect power supply cable connector P3 to the CD-ROM drive and connector P4 or P5 to the HDD drive.
12. Use the following illustration to route the cables correctly. It is important to correctly route all power supply cables to avoid interference when lowering the drive bay assembly.
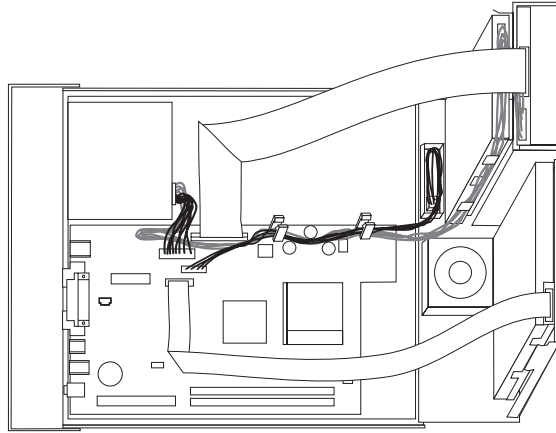
13. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside the computer.
14. Lower the drive bay assembly.
15. Go to "Closing the cover and connecting the cables" on page 46.

Replacing the system board, microprocessor, and heat sink

Attention: If the computer has been turned off for a long period of time the thermal grease between the microprocessor heat sink and the microprocessor might not allow them to be separated easily. In this case turn on the computer for a few minutes to soften the grease.

1. Turn off the computer and disconnect the power cord from the electrical outlet.

2. 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.

3. Open the cover. See "Opening the cover" on page 25.

4. While holding the left rear of the computer chassis down, pull upward on the handle provided, to remove the PCI riser card assembly along with any adapters.
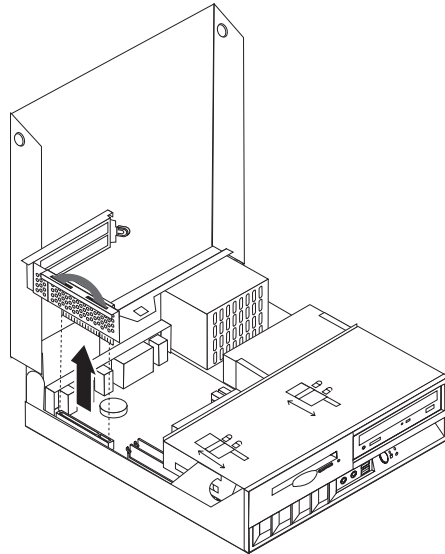
5. Remove the plastic cover from the microprocessor heat sink **1** .
6. Completely loosen the screw in each of the two clamps **2** that secure the microprocessor heat sink. Tilt the two clamps away from the heat sink.
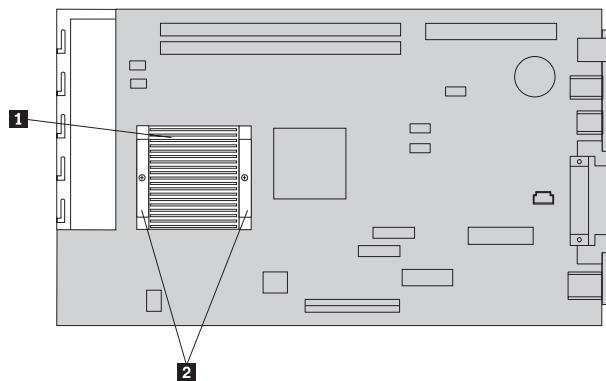
Figure 1. Microprocessor heat sink

7. Carefully twist the heat sink to break the grease seal to the microprocessor, then remove the heat sink.
8. Place the heat sink on a clean work surface.
9. See Figure 2 on page 36. Note the orientation of the beveled corner on the microprocessor **2** . This is important when reinstalling the microprocessor on the system board.
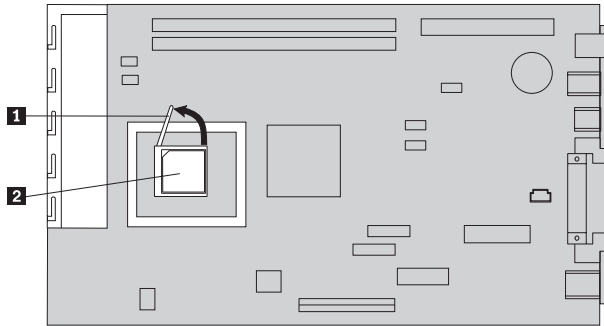
Figure 2. Microprocessor

10. Remove the microprocessor **2** from the system board by lifting the small handle **1** on the microprocessor. Carefully lift the microprocessor out of the socket.

    - If you are installing a new system board assembly, continue at Step 11.
    - If you are replacing only the microprocessor, go to "Replacing the microprocessor" on page 38.

11. Carefully take note of the location of all cable connections on the system board. It will be necessary to reconnect them properly when installing a new system board assembly.

12. Take note of the cable routing. It is important to route the cables properly when installing the new system board.

13. Disconnect the diskette drive cable from the system board by sliding the plastic cable retainer upward to release the cable.

14. Disconnect all other cables connected to the system board.
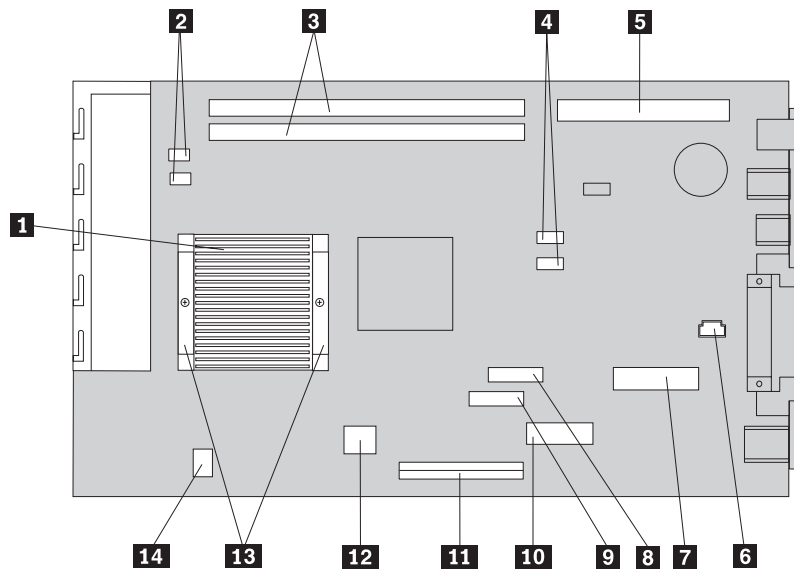
1	Microprocessor heat sink	**8**	Diskette drive connector
2	Fan connectors (2)	**9**	Front panel connector
3	memory module connectors (2)	**10**	Power connector (P1)
4	SATA 1 IDE and SATA 2 IDE connectors (2)	**11**	PATA Primary IDE connector
5	PCI riser connector	**12**	Power connector (P2)
6	Speaker connector	**13**	Heat sink clamps
7	POV connector	**14**	CD audio connector

15. Using the two blue handles provided, lift the system board assembly out of the computer.

    Note: You will have to tilt the system board assembly and move it around the edge of the power supply assembly to remove it from the computer.

16. Take note of the location of the memory memory modules and remove them from the system board.

17. Install the memory modules on the new system board in the same location as they were on the system board being replaced.

18. Install the new system board assembly into the computer chassis by aligning the two tabs on the rear of the system board assembly with the slots in the rear of the computer chassis. Slide the system board assembly to the rear until the front edge of the system board assembly fits behind the flange in the front and is seated flush to the bottom of the chassis.

19. Reconnect all cables that were disconnected from the system board. Make sure all cables are routed correctly.
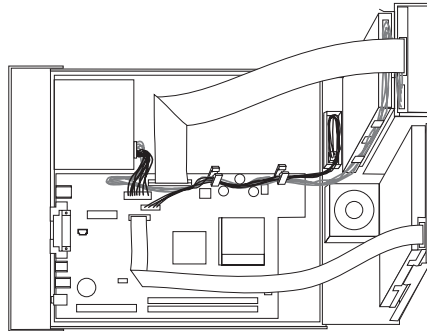
20. Install the microprocessor on the new system board. See "Replacing the microprocessor" on page 38. Return here after replacing the microprocessor.

21. Install the PCI riser card.

22. Lower the drive bay assembly into the normal position.

23. Close the cover.

24. Reconnect the external cables and power cords to the computer.

Replacing the microprocessor

To replace the microprocessor, do the following:

1. Make sure that the handle used to remove the microprocessor is fully in the up position. Otherwise the microprocessor pins might be damaged when installing the microprocessor.

2. Position the microprocessor so that the pins are aligned with the socket and with the beveled corner in the orientation as shown in Figure 2 on page 36.

3. Lower the handle until it is fully in the down position. This locks the microprocessor in place.

4.

   Note: The cleaning pad and thermal grease are separate FRUs and are not included with the system board or microprocessor FRUs. These must be ordered separately and shipped along with the FRUs being replaced.
   Remove the cleaning pad from its package that came with the CRU and use the cleaning pad to wipe the thermal grease from the bottom of the heat sink.

   Note: Be sure that all of the thermal grease is removed.

5. If you are replacing the same microprocessor that was removed, use a clean area of the cleaning pad to wipe the thermal grease from the microprocessor; then, dispose of the cleaning pad.

6. Use the thermal grease syringe to place 16 uniformly spaced dots of 0.01ML each on the top of the microprocessor.
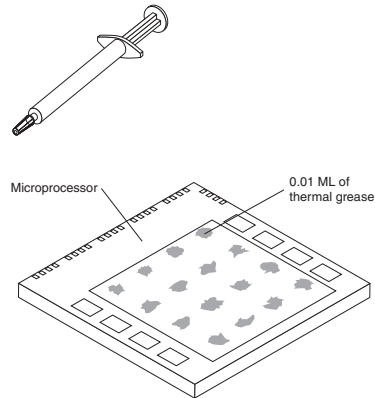
   Note: 0.01ML is one tick mark on the syringe. If the grease is properly applied, approximately half (0.22ML) of the grease will remain in the syringe.

7. Place the heat sink into position on the microprocessor.

8. When tightening the screws that clamp the heat sink, do not overtighten. Tighten the clamp screws evenly by tightening one side some and then the other until they are both snug.

9. Install the plastic cover over the heat sink.

10. Continue at Step 21 on page 37.

Replacing internal drives

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

When you install an internal drive, it is important to note the type of drive that you are installing.

The following illustrations show a parallel ATA IDE hard disk drive and a serial ATA IDE hard disk drive.

Parallel ATA IDE drive
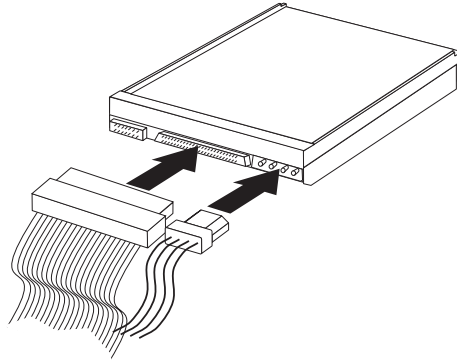
Serial ATA IDE drive
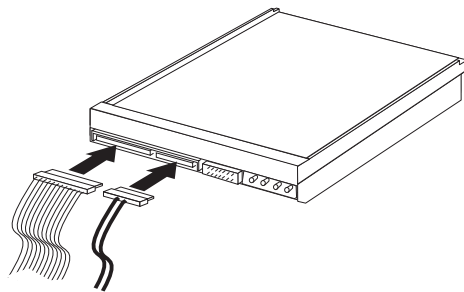
Listed below are the various types of drives and the connector used to connect them to the system board. Each drive also requires the connection of a power cable from the power supply.

Serial ATA IDE hard disk drive
> Connect to an SATA 1 IDE or SATA 2 IDE connector

Parallel ATA IDE hard disk drive
> Connect to the PATA Primary IDE connector

CD-ROM, CD-RW, or DVD optical drives
> Connect to the PATA Primary IDE connector

Diskette drive
> Connect to the diskette drive connector

Replacing a CD-ROM, CD-RW, or DVD optical drive

1. Open the cover. See "Opening the cover" on page 25.
2. Rotate the drive bay upward to gain access to the cable connections. See "Accessing system board components and drives" on page 27 and "Locating components" on page 26.
3. Disconnect the signal and power cables from the drive.

   Note: Blue straps are provided to help when disconnecting cables.
4. Slide the blue plastic drive lock **1** to the unlocked position.
5. Open the door at the front of the drive and slide it out the front of the computer.
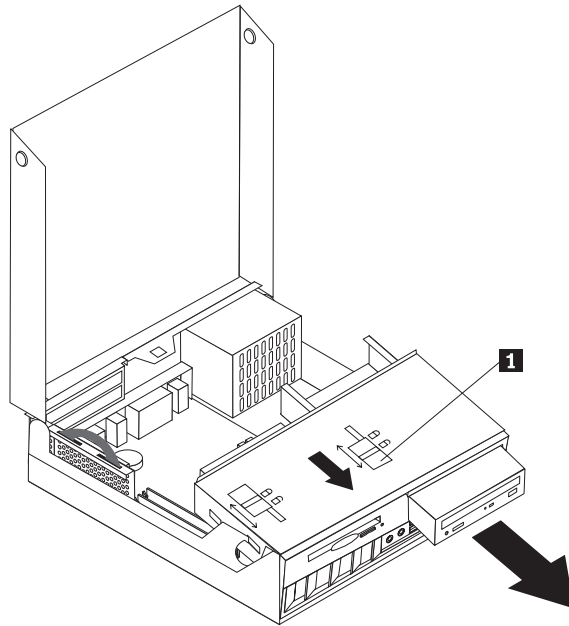
6. Slide the new drive partially into the bay from the rear.

   Note: Be sure to set the new drive's jumper from ″Master″ to ″Cable Select″ before installing it.
7. Connect the flat cable to the new drive.
8. Position the new drive completely into the bay and slide the blue plastic drive lock **1** to the locked position.
9. Depending on the type of drive you are installing, go to "Connecting an IDE hard disk or CD drive" on page 42.
10. Go to "Closing the cover and connecting the cables" on page 46.

Replacing the hard disk drive

1. Open the cover. See "Opening the cover" on page 25.
2. Rotate the drive bay upward to gain access to the cable connections. See "Accessing system board components and drives" on page 27 and "Locating components" on page 26.
3. If a CD drive is installed, it helps to disconnect the signal cable from the drive to access the hard disk drive cables.

   Note: Blue straps are provided to help when disconnecting cables.

4. Disconnect the signal and power cables from the hard disk drive.
5. Rotate the hard disk drive and bracket to the rear by pulling on the blue handle provided in the direction of the arrow.
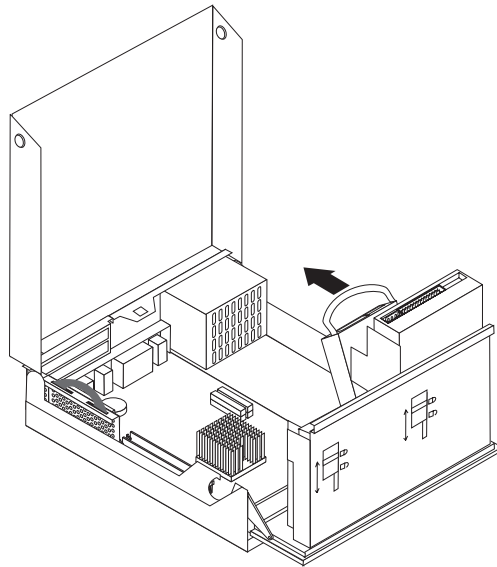
6. Lift the hard disk drive and bracket up to remove. The drive is removed from the bracket by flexing the bracket.
7. Install the new drive into the bracket and place the bracket into the slot.
8. Rotate the drive and bracket towards the front of the computer and snap it into position.
9. Depending on the type of drive you are installing, go to "Connecting a serial ATA hard disk drive" or "Connecting an IDE hard disk or CD drive" on page 42.

   Note: Do not forget to reconnect the CD drive signal cable if it was disconnected.
10. Go to "Closing the cover and connecting the cables" on page 46.

Connecting a serial ATA hard disk drive

1. Locate the signal cable that came with the computer or with the new drive.

   Note: When replacing a parallel ATA with a serial ATA hard disk drive, you must obtain the signal cable. It is not included with the computer.
2. Locate the SATA connectors on the system board. See "Identifying parts on the system board" on page 28.
3. Connect one end of the signal cable to the drive and the other to either the SATA 1 IDE or the SATA 2 IDE connector on the system board.

   Note: It makes no difference which SATA connector you use.
4. Connect a power connector to the drive.
5. Lower the drive bay into the normal position.
6. Go to "Closing the cover and connecting the cables" on page 46.

Replacing the diskette drive

1. Open the cover. See "Opening the cover" on page 25.
2. Slide the blue plastic drive lock to the unlocked position.
3. Slide the drive towards the rear of the computer far enough to gain access to the flat cable connector on the drive.
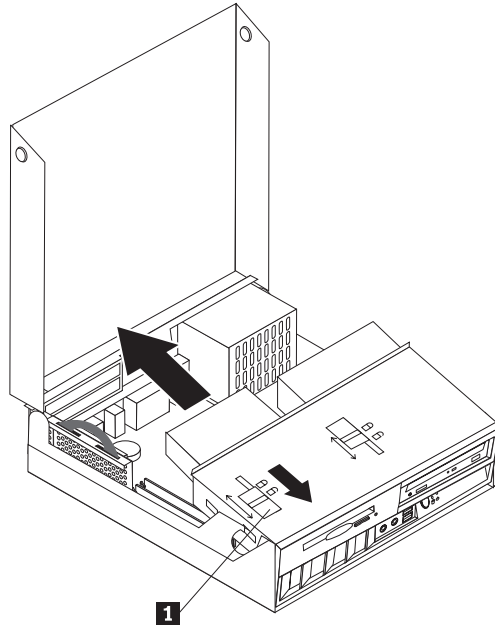
4. Disconnect the flat cable from the drive.
5. Rotate the drive bay upward and remove the diskette drive.

To install a new diskette drive:

1. Slide the new drive partially into the bay from the rear.
2. Connect the flat cable to the new drive.
3. Slide the new drive completely into the bay and slide the blue plastic drive lock into the locked position.
4. Go to "Closing the cover and connecting the cables" on page 46.

Connecting an IDE hard disk or CD drive

1. Locate the three-connector signal cable that came with the computer. One end of the cable is connected to the system board IDE connector. The other two connectors allow you to connect two drives.
2. Make sure one end of the signal cable is connected to the PATA Primary IDE connector on the system board. See "Identifying parts on the system board" on page 28.
3. Connect an unused signal cable connector to the drive being installed.

   Note: When connecting a hard disk drive make sure you connect it to the connector on the end of the cable. Use the other connector for the optical drive.

4. Connect a power connector to the drive.
5. If you have a CD-ROM drive audio cable (not included with computer), connect it to the drive and the system board. For the location of the CD audio connector, see "Identifying parts on the system board" on page 28.

6. Lower the drive bay into the normal position.

7. Go to "Closing the cover and connecting the cables" on page 46.

Replacing the speaker

To replace the speaker:

1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.

2. Open the cover. See "Opening the cover" on page 25.

3. Rotate the drive bay assembly upward to gain access to the speaker.

4. Locate the speaker **1** . See Figure 3.

5. Disconnect the speaker cable from the system board. See "Identifying parts on the system board" on page 28.

   Note: Make sure you note the location of the speaker cable when you disconnect it from the system board.

6. Remove the speaker by sliding the it upward and out of the retaining bracket.

   Note: You may need to slightly flex the side of the computer to aide in removing the speaker.

7. Install the new speaker and reconnect the speaker cable.

8. Lower the drive bay assembly.

9. Replace the cover, and connect the cables. See "Closing the cover and connecting the cables" on page 46.
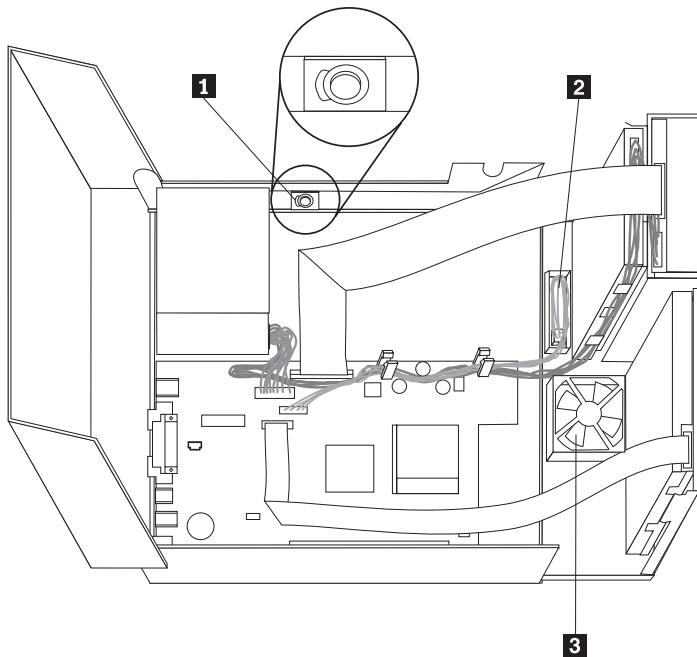
Figure 3. Speaker, fan, power button and LED assembly

Replacing the power button and LED assembly

To replace the power button and LED assembly:

1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Open the cover. See "Opening the cover" on page 25.
3. Rotate the drive bay assembly upward to gain access to the power button and LED assembly.
4. Disconnect the power button and LED assembly cable from the system board. See "Identifying parts on the system board" on page 28.

   Note: Make sure you note the location of the power button and LED assembly cable when you disconnect it from the system board.
5. Lift the tab and slide the power button and LED assembly **2** out. See Figure 3 on page 43.
6. Install the new power button and LED assembly and reconnect the power button and LED assembly cable.
7. Lower the drive bay assembly.
8. Replace the cover, and connect the cables. See "Closing the cover and connecting the cables" on page 46.

Replacing the fan assembly

To replace the fan assembly:
1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Open the cover. See "Opening the cover" on page 25.
3. Rotate the drive bay assembly upward to gain access to the fan assembly **3** . See Figure 3 on page 43.
4. Disconnect fan assembly cable from the system board. See "Identifying parts on the system board" on page 28.

   Note: Make sure you note the location of the fan cable when you disconnect it from the system board.
5. Remove the front bezel by releasing the tab as shown.
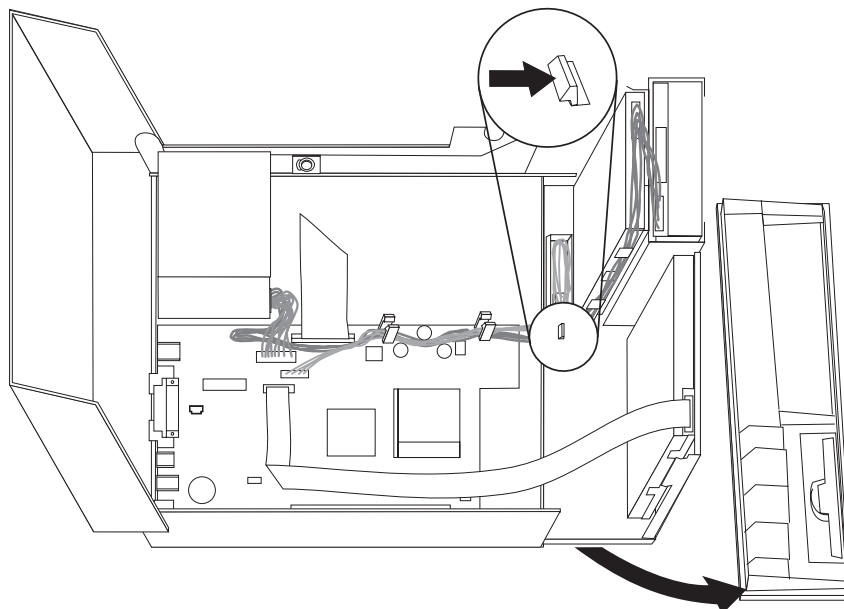
6. Remove the plastic insert behind the bezel by releasing the tabs as shown:
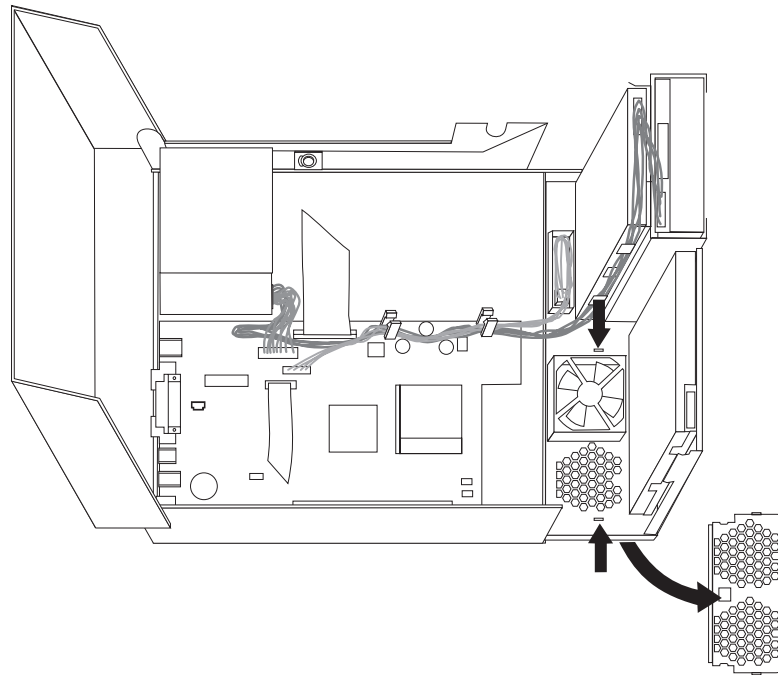
7. Remove the fan assembly by releasing the tabs out as shown.
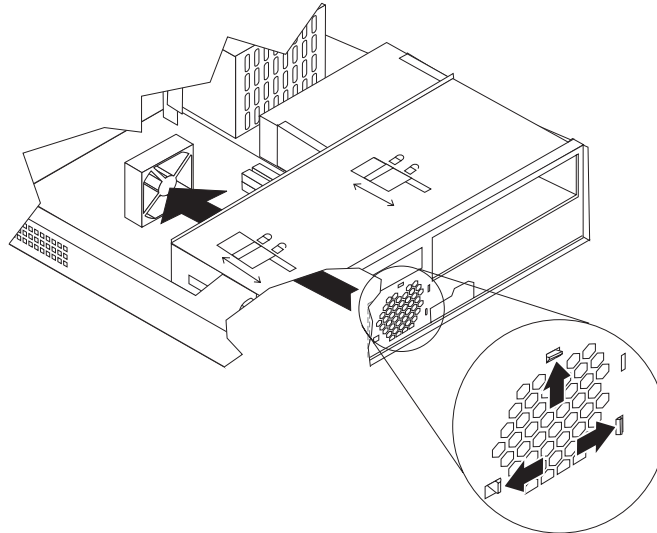
8. Install the new fan assembly and connect the fan cable to the system board.
9. Reinstall the plastic insert.
10. Reinstall the front bezel.
11. Lower the drive bay assembly.
12. Replace the cover, and connect the cables. See "Closing the cover and connecting the cables" on page 46.

Closing the cover and connecting the cables

After replacing a FRU, you need to install any removed parts, close the cover, and reconnect cables, including telephone lines and power cords. Also, depending on the FRU that is installed, you might need to confirm the updated information in the IBM Setup Utility program.

To close the cover and connect cables to the computer:

1. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside the computer.
2. Clear any cables that might impede the replacement of the cover.
3. Make sure that the drive locks are both in the **locked position**. Otherwise, you cannot close the cover.
4. Close the cover.
5. If a cover lock is installed, lock the cover.
6. If the computer is being placed in the vertical position, attach the floor stand.

   Attention: To prevent overheating and possible component damage, always attach the floor stand when placing the computer in the vertical position.
7. Reconnect the external cables and power cords to the computer. See "Locating connectors on the rear of the computer" on page 24.
8. If you have replaced the system board, you must update (flash) the BIOS. See "Flash update procedures" on page 148.
9. To update the configuration, see "Starting the IBM Setup Utility program" on page 19.

Chapter 7. Symptom-to-FRU Index

The Symptom-to-FRU index lists error symptoms and possible causes. The most likely cause is listed first. Always begin with Chapter 3, "General Checkout," on page 11. 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 89.

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

Hard disk drive boot error

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

Error	FRU/Action
The start-up drive is not in the boot sequence in configuration.	Check the configuration and ensure the start-up drive is in the boot sequence.
No operating system installed on the boot drive.	Install an operating system on the boot drive.
The boot sector on the start-up drive is corrupted.	The drive must be formatted, do the following: 1. Attempt to access and recover (back-up) the failing hard disk drive. 2. Using the operating systems programs, format the hard disk drive.
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. • Power Cord • On/Off Switch connector • On/Off Switch Power Supply connector • System Board Power Supply connectors • Microprocessor(s) connection	Reseat connectors
Check the power cord for continuity.	Power Cord

Check/Verify	FRU/Action
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 "Running diagnostics tests" on page 13 for the specific type for information about the Diagnostic programs.

In the following index, *X* can represent any number.

Diagnostic Error Code	FRU/Action
000-000-XXX BIOS Test Passed	1. **No action**
000-002-XXX BIOS Timeout	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
000-024-XXX BIOS Addressing test failure	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
000-025-XXX BIOS Checksum Value error	1. **Flash the system. See "Flash update procedures" on page 148** 2. Boot block 3. System board
000-026-XXX FLASH data error	1. **Flash the system. See "Flash update procedures" on page 148** 2. Boot block 3. System board
000-027-XXX BIOS Configuration/Setup error	1. **Run Setup** 2. Flash the system. See "Flash update procedures" on page 148 3. Boot block 4. System board
000-034-XXX BIOS Buffer Allocation failure	1. **Reboot the system** 2. Flash the system. See "Flash update procedures" on page 148 3. Run memory test 4. System board
000-035-XXX BIOS Reset Condition detected	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
000-036-XXX BIOS Register error	1. **Flash the system. See "Flash update procedures" on page 148** 2. Boot block 3. System board
000-038-XXX BIOS Extension failure	1. **Flash the system. See "Flash update procedures" on page 148** 2. Adapter card 3. System board

Diagnostic Error Code	FRU/Action
000-039-XXX BIOS DMI data error	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
000-195-XXX BIOS Test aborted by user	1. **Information** 2. Re-start the test, if necessary
000-196-XXX BIOS test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
000-197-XXX BIOS test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
000-198-XXX BIOS test aborted	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and retest. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
000-199-XXX BIOS test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test 3. Replace component under function test
000-250-XXX BIOS APM failure	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
000-270-XXX BIOS ACPI failure	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
001-000-XXX System Test Passed	1. **No action**
001-00X-XXX System Error	1. **System board**
001-01X-XXX System Error	1. **System board**
001-024-XXX System Addressing test failure	1. **System board**
001-025-XXX System Checksum Value error	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board

Diagnostic Error Code	FRU/Action
001-026-XXX System FLASH data error	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
001-027-XXX System Configuration/Setup error	1. **Run Setup** 2. Flash the system. See "Flash update procedures" on page 148 3. System board
001-032-XXX System Device Controller failure	1. **System board**
001-034-XXX System Device Buffer Allocation failure	1. **Reboot the system** 2. Flash the system. See "Flash update procedures" on page 148 3. Run memory test 4. System board
001-035-XXX System Device Reset condition detected	1. **System board**
001-036-XXX System Register error	1. **System board**
001-038-XXX System Extension failure	1. **Adapter card** 2. System board
001-039-XXX System DMI data structure error	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
001-040-XXX System IRQ failure	1. **Power-off/on system and re-test** 2. System board
001-041-XXX System DMA failure	1. **Power-off/on system and re-test** 2. System board
001-195-XXX System Test aborted by user	1. **Information** 2. Re-start the test, if necessary
001-196-XXX System test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
001-197-XXX System test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test

Diagnostic Error Code	FRU/Action
001-198-XXX System test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and retest. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
001-199-XXX System test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test 3. Replace component under function test
001-250-XXX System ECC error	1. **System board**
001-254-XXX **001-255-XXX** **001-256-XXX** **001-257-XXX** System DMA error	1. **System board**
001-260-XXX **001-264-XXX** System IRQ error	1. **System board**
001-268-XXX System IRQ1 failure	1. **Device on IRQ1** 2. System board
001-269-XXX System IRQ2 failure	1. **Device on IRQ2** 2. System board
001-270-XXX System IRQ3 failure	1. **Device on IRQ3** 2. System board
001-271-XXX System IRQ4 failure	1. **Device on IRQ4** 2. System board
001-272-XXX System IRQ5 failure	1. **Device on IRQ5** 2. System board
001-273-XXX System IRQ6 (diskette drive) failure	1. **Diskette Cable** 2. Diskette drive 3. System board
001-274-XXX System IRQ7 failure	1. **Device on IRQ7** 2. System board
001-275-XXX System IRQ8 failure	1. **Device on IRQ8** 2. System board
001-276-XXX System IRQ9 failure	1. **Device on IRQ9** 2. System board
001-277-XXX System IRQ10 failure	1. **Device on IRQ10** 2. System board

Diagnostic Error Code	FRU/Action
001-278-XXX System IRQ11 failure	1. **Device on IRQ11** 2. System board
001-279-XXX System IRQ12 failure	1. **Device on IRQ12** 2. System board
001-280-XXX System IRQ13 failure	1. **Device on IRQ13** 2. System board
001-281-XXX System IRQ14 (hard disk drive) failure	1. **Hard disk drive cable** 2. Hard disk drive 3. System board
001-282-XXX System IRQ15 failure	1. **Device on IRQ15** 2. System board
001-286-XXX **001-287-XXX** **001-288-XXX** System Timer failure	1. **System board**
001-292-XXX System CMOS RAM error	1. **Run Setup and re-test** 2. System board
001-293-XXX System CMOS Battery	1. **Battery** 2. System board
001-298-XXX System RTC date/time update failure	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
001-299-XXX System RTC periodic interrupt failure	1. **System board**
001-300-XXX System RTC Alarm failure	1. **System board**
001-301-XXX System RTC Century byte error	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
005-000-XXX Video Test Passed	1. **No action**
005-00X-XXX Video error	1. **Video card, if installed** 2. System board
005-010-XXX **005-011-XXX** **005-012-XXX** **005-013-XXX** Video Signal failure	1. **Video card, if installed** 2. System board
005-016-XXX Video Simple Pattern test failure	1. **Video Ram** 2. Video card, if installed 3. System board
005-024-XXX Video Addressing test failure	1. **Video card, if installed** 2. System board

Diagnostic Error Code	FRU/Action
005-025-XXX Video Checksum Value error	1. **Video card, if installed** 2. System board
005-027-XXX Video Configuration/Setup error	1. **Run Setup** 2. Video drivers update 3. Video card, if installed 4. System board
005-031-XXX Video Device Cable failure	1. **Video cable** 2. Monitor 3. Video card, if installed 4. System board
005-032-XXX Video Device Controller failure	1. **Video card, if installed** 2. System board
005-036-XXX Video Register error	1. **Video card, if installed** 2. System board
005-038-XXX System BIOS extension failure	1. **Video card, if installed** 2. System board
005-040-XXX Video IRQ failure	1. **Video card, if installed** 2. System board
005-195-XXX Video Test aborted by user	1. **Information** 2. Re-start the test, if necessary
005-196-XXX Video test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
005-197-XXX Video test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the Replace the component that is called out in warning statement 4. Replace the component under test
005-198-XXX Video test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
005-199-XXX Video test failed, cause unknown	1. **Go to "Undetermined problems" on page 89** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test

Diagnostic Error Code	FRU/Action
005-2XX-XXX **005-3XX-XXX** Video subsystem error	1. **Video card, if installed** 2. System board
006-000-XXX Diskette interface Test Passed	1. **No action**
006-0XX-XXX Diskette interface error	1. **Diskette drive Cable** 2. Diskette drive 3. System board
006-195-XXX Diskette interface Test aborted by user	1. **Information** 2. Re-start the test, if necessary
006-196-XXX Diskette interface test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
006-197-XXX Diskette interface test warning	1. **If a component is called out, make sure it is connected and/or enabled** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
006-198-XXX Diskette interface test aborted	1. **If a component is called out, make sure it is connected and/or enabled** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
006-199-XXX Diskette interface test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test 3. Replace component under function test
006-25X-XXX Diskette interface Error	1. **Diskette drive cable** 2. Diskette drive 3. System board
011-000-XXX Serial port Interface Test Passed	1. **No action**
011-001-XXX Serial port Presence	1. **Remove external serial device, if present** 2. Run setup, enable port 3. System board
011-002-XXX **011-003-XXX** Serial port Timeout/Parity error	1. **System board**
011-013-XXX **011-014-XXX** Serial port Control Signal/Loopback test failure	1. **System board**
011-015-XXX Serial port External Loopback failure	1. **Wrap plug** 2. System board

Diagnostic Error Code	FRU/Action
011-027-XXX Serial port Configuration/Setup error	1. **Run Setup, enable port** 2. Flash the system. See "Flash update procedures" on page 148 3. System board
011-03X-XXX **011-04X-XXX** Serial port failure	1. **System board**
011-195-XXX Serial port Test aborted by user	1. **Information** 2. Re-start the test, if necessary
011-196-XXX Serial port test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
011-197-XXX Serial port test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
011-198-XXX Serial port test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
011-199-XXX Serial port test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
011-2XX-XXX Serial port signal failure	1. **External serial device** 2. System board
014-000-XXX Parallel port Interface Test Passed	1. **No action**
014-001-XXX Parallel port Presence	1. **Remove external parallel device, if present** 2. Run setup, enable port 3. System board
014-002-XXX **014-003-XXX** Parallel port Timeout/Parity error	1. **System board**
014-013-XXX **014-014-XXX** Parallel port Control Signal/Loopback test failure	1. **System board**

Diagnostic Error Code	FRU/Action
014-015-XXX Parallel port External Loopback failure	1. **Wrap plug** 2. System board
014-027-XXX Parallel port Configuration/Setup error	1. **Run Setup, enable port** 2. Flash the system. See "Flash update procedures" on page 148 3. System board
014-03X-XXX **014-04X-XXX** Parallel port failure	1. **System board**
014-195-XXX Parallel port Test aborted by user	1. **Information** 2. Re-start the test, if necessary
014-196-XXX Parallel port test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
014-197-XXX Parallel port test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
014-198-XXX Parallel port test aborted	1. **If a component is called out, make sure it is connected and/or enabled** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
014-199-XXX Parallel port test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
014-2XX-XXX **014-3XX-XXX** Parallel port failure	1. **External parallel device** 2. System board
015-000-XXX USB port Interface Test Passed	1. **No action**
015-001-XXX USB port Presence	1. **Remove USB device(s) and re-test** 2. System board
015-002-XXX USB port Timeout	1. **Remove USB device(s) and re-test** 2. System board
015-015-XXX USB port External Loopback failure	1. **Remove USB device(s) and re-test** 2. System board

Diagnostic Error Code	FRU/Action
015-027-XXX USB port Configuration/Setup error	1. **Flash the system. See "Flash update procedures" on page 148** 2. System board
015-032-XXX USB port Device Controller failure	1. **System board**
015-034-XXX USB port buffer allocation failure	1. **Reboot the system** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Run memory test 4. System board
015-035-XXX USB port Reset condition detected	1. **Remove USB device(s) and re-test** 2. System board
015-036-XXX USB port Register error	1. **System board**
015-040-XXX USB port IRQ failure	1. **Run setup and check for conflicts** 2. Flash the system. See "Flash update procedures" on page 148 3. System board
015-195-XXX USB port Test aborted by user	1. **Information** 2. Re-start the test, if necessary
015-196-XXX USB port test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
015-197-XXX USB port test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
015-198-XXX USB port test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
015-199-XXX USB port test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
018-000-XXX PCI Card Test Passed	1. **No action**

Diagnostic Error Code	FRU/Action
018-0XX-XXX PCI Card Failure	1. **Riser card, if installed** 2. System board
018-195-XXX PCI Card Test aborted by user	1. **PCI card** 2. Information 3. Re-start the test, if necessary
018-196-XXX PCI Card test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
018-197-XXX PCI Card test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
018-198-XXX PCI Card test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
018-199-XXX PCI Card test failed, cause unknown	1. **Go to "Undetermined problems" on page 89** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
018-250-XXX PCI Card Services error	1. **PCI card** 2. Riser card, if installed 3. System board
020-000-XXX PCI Interface Test Passed	1. **No action**
020-0XX-XXX PCI Interface error	1. **PCI card** 2. Riser card, if installed 3. System board
020-195-XXX PCI Test aborted by user	1. **Information** 2. Re-start the test, if necessary
020-196-XXX PCI test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
020-197-XXX PCI test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
020-198-XXX PCI test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
020-199-XXX PCI test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
020-262-XXX PCI system error	1. **PCI card** 2. Riser card, if installed 3. System board
025-000-XXX IDE interface Test Passed	1. **No action**
025-00X-XXX **025-01X-XXX** IDE interface failure	1. **IDE signal cable** 2. Check power supply voltages 3. Reseat IDE signal cable 4. IDE device 5. System board
025-027-XXX IDE interface Configuration/Setup error	1. **IDE signal cable** 2. Flash the system. See "Flash update procedures" on page 148 3. Reseat IDE signal cable 4. IDE device 5. System board
025-02X-XXX **025-03X-XXX** **025-04X-XXX** IDE Interface failure	1. **IDE signal cable** 2. Check power supply 3. Reseat IDE signal cable 4. IDE device 5. System board
025-195-XXX IDE interface Test aborted by user	1. **Information** 2. Re-start the test, if necessary
025-196-XXX IDE interface test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
025-197-XXX IDE interface test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
025-198-XXX IDE interface test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
025-199-XXX IDE interface test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
030-000-XXX SCSI interface Test Passed	1. **No action**
030-00X-XXX **030-01X-XXX** SCSI interface failure	1. **SCSI signal cable** 2. Check power supply 3. SCSI device 4. SCSI adapter card, if installed 5. System board
030-027-XXX SCSI interface Configuration/Setup error	1. **SCSI signal cable** 2. Flash the system. See "Flash update procedures" on page 148 3. SCSI device 4. SCSI adapter card, if installed 5. System board
030-03X-XXX **030-04X-XXX** SCSI interface error	1. **SCSI signal cable** 2. Check power supply 3. SCSI device 4. SCSI adapter card, if installed 5. installed System board
030-195-XXX SCSI interface Test aborted by user	1. **Information** 2. Re-start the test, if necessary
030-196-XXX SCSI interface test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
030-197-XXX SCSI interface test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
030-198-XXX SCSI interface test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
030-199-XXX SCSI interface test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
035-000-XXX RAID interface Test Passed	1. **No action**
035-0XX-XXX RAID interface Failure	1. **RAID signal cable** 2. RAID device 3. RAID adapter card, if installed 4. System board
035-195-XXX RAID interface Test aborted by user	1. **Information** 2. Re-start the test, if necessary
035-196-XXX RAID interface test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
035-197-XXX RAID interface test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
035-198-XXX RAID interface test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89

Diagnostic Error Code	FRU/Action
035-199-XXX RAID interface test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
071-000-XXX Audio port Interface Test Passed	1. **No action**
071-00X-XXX **071-01X-XXX** **071-02X-XXX** Audio port error	1. **Run Setup** 2. Flash the system. See "Flash update procedures" on page 148 3. System board
071-03X-XXX Audio port failure	1. **Speakers** 2. Microphone 3. Audio card, if installed 4. System board
071-04X-XXX Audio port failure	1. **Run Setup** 2. Audio card, if installed 3. System board
071-195-XXX Audio port Test aborted by user	1. **Information** 2. Re-start the test, if necessary
071-196-XXX Audio port test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
071-197-XXX Audio port test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
071-198-XXX Audio port test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
071-199-XXX Audio port test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
071-25X-XXX Audio port failure	1. **Speakers** 2. Audio card, if installed 3. System board

Diagnostic Error Code	FRU/Action
080-000-XXX Game Port interface Test Passed	1. **No action**
080-XXX-XXX Game Port interface Error	1. **Remove the game port device and re-test the system**
080-195-XXX Game Port interface Test aborted by user	1. **Information** 2. Re-start the test, if necessary
080-196-XXX Game Port interface test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
080-197-XXX Game Port interface test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
080-198-XXX Game Port interface test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
080-199-XXX Game Port interface test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
086-000-XXX Mouse Port interface Test Passed	1. **No action**
086-001-XXX Mouse Port interface Presence	1. **Mouse** 2. System board
086-032-XXX Mouse Port interface Device controller failure	1. **Mouse** 2. System board
086-035-XXX Mouse Port interface Reset	1. **Mouse** 2. System board
086-040-XXX Mouse Port interface IRQ failure	1. **Run Setup** 2. Mouse 3. System board
086-195-XXX Mouse Port interface Test aborted by user	1. **Information** 2. Re-start the test, if necessary
086-196-XXX Mouse Port interface test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
086-197-XXX Mouse Port interface test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
086-198-XXX Mouse Port interface test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
086-199-XXX Mouse Port interface test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
089-000-XXX Microprocessor Test Passed	1. **No action**
089-XXX-XXX Microprocessor failure	1. **Microprocessor(s)** 2. System board
089-195-XXX Microprocessor Test aborted by user	1. **Information** 2. Re-start the test, if necessary
089-196-XXX Microprocessor test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
089-197-XXX Microprocessor test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
089-198-XXX Microprocessor test aborted	1. **Flash the system. See "Flash update procedures" on page 148** 2. Go to "Undetermined problems" on page 89
089-199-XXX Microprocessor test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test

Diagnostic Error Code	FRU/Action
170-000-XXX Voltage Sensor(s) Test Passed	1. **No action**
170-0XX-XXX Voltage Sensor(s) failure	1. **Flash system** 2. System board
170-195-XXX Voltage Sensor(s) Test aborted by user	1. **Information** 2. Re-start the test, if necessary
170-196-XXX Voltage Sensor(s) test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file
170-197-XXX Voltage Sensor(s) test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
170-198-XXX Voltage Sensor(s) test aborted	1. **If a component is called out, make sure it is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
170-199-XXX Voltage Sensor(s) test failed, cause unknown	1. **Go to "Undetermined problems" on page 89** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
170-250-XXX **170-251-XXX** Voltage Sensor(s) Voltage limit error	1. **Power supply** 2. System board
170-254-XXX Voltage Sensor(s) Voltage Regulator Module error	1. **Voltage Regulator Module (VRM)** 2. Microprocessor 3. System board
175-000-XXX Thermal Sensor(s) Test Passed	1. **No action**
175-0XX-XXX Thermal Sensor(s) failure	1. **Flash system** 2. System board
175-195-XXX Thermal Sensor(s) Test aborted by user	1. **Information** 2. Re-start the test, if necessary
175-196-XXX Thermal Sensor(s) test halt, error threshold exceeded	1. **Press F3 to review the log file** 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
175-197-XXX Thermal Sensor(s) test warning	1. **Make sure the component that is called out is connected and/or enabled. See Chapter 5, "Using the IBM Setup Utility," on page 19** 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
175-198-XXX Thermal Sensor(s) test aborted	1. **If a component is called out, make sure it is connected and/or enabled** 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Go to "Undetermined problems" on page 89
175-199-XXX Thermal Sensor(s) test failed, cause unknown	1. Go to "Undetermined problems" on page 89 2. Flash the system and re-test. See "Flash update procedures" on page 148 3. Replace component under function test
175-250-XXX **175-251-XXX** Thermal Sensor(s) limit error	1. **Check fans** 2. Check Power supply voltages 3. Microprocessor 4. System board
185-000-XXX Asset Security Test Passed	1. **No action**
185-XXX-XXX Asset Security failure	1. **Flash system** 2. System board
185-278-XXX Asset Security Chassis Intrusion	1. **Assure Asset Security Enabled** 2. C2 Cover Switch 3. System board
201-000-XXX System Memory Test Passed	1. **No action**
201-XXX-XXX System Memory error	1. **Replace the memory module called out by the test** 2. System board
202-000-XXX System Cache Test Passed	1. **No action**
202-XXX-XXX System Cache error	1. **Cache, if removable** 2. System board 3. Microprocessor
206-000-XXX Diskette Drive Test Passed	1. **No action**
206-XXX-XXX Diskette Drive error	1. **Diskette Drive Cable** 2. Check power supply voltages 3. Diskette drive 4. System board

Diagnostic Error Code	FRU/Action
215-000-XXX CD-ROM Drive Test Passed	1. **No action**
215-XXX-XXX CD-ROM Drive error	1. **CD-ROM Drive Cable** 2. Check power supply voltages 3. CD-ROM drive 4. System board
217-000-XXX Hard Disk Drive Test Passed	1. **No action**
217-25X-XXX **217-26X-XXX** Hard Disk Drive (IDE) error	1. **Hard Disk Drive Cable** 2. Check power supply voltages 3. Reseat the hard disk drive cable 4. Hard Disk drive (IDE) 5. System board
217-28X-XXX **217-29X-XXX** Hard Disk Drive (SCSI) error	1. **Hard Disk Drive Cable** 2. Check power supply voltages 3. Reseat the hard disk drive cable 4. Hard Disk drive (SCSI) 5. SCSI adapter card 6. System board
220-000-XXX Hi-Capacity Cartridge Drive Test Passed	1. **No action**
220-XXX-XXX Hi-Capacity Cartridge Drive error	1. **Remove the Hi-Capacity Cartridge Drive and re-test the system**
301-XXX-XXX Keyboard error	1. **Keyboard** 2. Check and test mouse 3. System board
301-000-XXX Keyboard Test Passed	1. **No action**
302-000-XXX Mouse Test Passed	1. **No action**
302-XXX-XXX Mouse error	1. **Mouse** 2. Check and test Keyboard 3. System board
303-000-XXX Joystick Test Passed	1. **No action**
303-XXX-XXX Joystick error	1. **Remove the Joystick and re-test the system**
305-000-XXX Monitor DDC Test Passed	1. **No action**
305-250-XXX Monitor DDC self test failure	1. **Run Setup to enable DDC** 2. Cable 3. Monitor 4. Video card 5. System board

Diagnostic Error Code	FRU/Action
415-000-XXX Modem Test Passed	1. **No action**
415-XXX-XXX Modem error	1. **Remove the Modem and re-test the system**

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	• One beep • A pause (or break) • Two beeps • A pause (or break) • Any number of breaks
4	Four continuous beeps

Use the following table to diagnose beep symptoms.

Beep Symptom	FRU/Action
1-1-3 CMOS read-write error	1. **Run Setup** 2. System Board
1-2-2-3 ROM BIOS check error	1. **System Board**
1-2-1 Programmable Interval Timer failed	1. **System Board**
1-2-2 DMA Initialization failed	1. **System Board**
1-2-3 DMA page register write/read failed	1. **System Board**
1-2-4 RAM refresh verification failed	1. **DIMM** 2. System Board
1-3-3-1 1st 64K RAM test failed	1. DIMM 2. System Board
1-3-2 1st 64K RAM parity test failed	1. **DIMM** 2. Processor 3. System Board
2-2-3-1 Interrupt vector loading test failed	1. **System Board**
2-1-1 Secondary DMA register failed	1. **System Board**
2-1-2 Primary DMA register failed	1. **System Board**
2-1-3 Primary interrupt mask register failed	1. **System Board**
2-1-4 Secondary interrupt mask register failed	1. **System Board**
2-2-1 Interrupt vector loading failed	1. **System Board**
1-3-1-3 Keyboard controller failed	1. **System Board** 2. Keyboard
2-2-3 CMOS power failure and checksum checks failed	1. **Battery** 2. System Board

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

No-beep symptoms

Symptom/Error	FRU/Action
No beep during POST but computer works correctly.	1. **System Board**
No beep during POST.	1. **See "Undetermined problems" on page 89.** 2. System Board 3. Memory Module 4. Any Adapter or Device 5. Riser Card 6. Power Cord 7. Power Supply

POST error codes

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

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

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

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
000 SCSI Adapter not enabled	1. **Verify adapter device and Bus Master fields are enabled in PCI configuration program. See documentation shipped with computer.**
02X	1. **SCSI Adapter**
08X Check SCSI terminator installation.	1. **SCSI Cable** 2. SCSI Terminator 3. SCSI Device 4. SCSI Adapter
101 System board interrupt failure	1. **System Board**
102 System board timer error	1. **System Board**
106	1. **System Board**
110 System board memory parity error	1. **Memory Module** 2. System Board
111 I/O channel parity error	1. **Reseat adapters** 2. Any adapter 3. Riser card 4. System Board
114 Adapter ROM error	1. **Adapter Memory** 2. System Board 3. Riser card
129 Internal cache test error	1. **Processor** 2. L2 Cache Memory 3. System Board

POST Error Code	FRU/Action
135 Fan failure	1. **Fan** 2. System board
151 System board failure	1. **System Board**
161 Bad CMOS battery	1. **Run Setup** 2. CMOS Backup Battery (see "Replacing the battery" on page 31) 3. System Board
162 Configuration mismatch	1. **Run Setup and verify Configuration** 2. Had a device been added, removed, changed location? If not, suspect that device. 3. Power-on external devices first, then power-on computer 4. CMOS Backup Battery (see "Replacing the battery" on page 31)System Board 5. System Board
163 Date and Time Incorrect	1. **Time and Date Set** 2. CMOS Backup Battery (see "Replacing the battery" on page 31) 3. System Board
164 Memory Size Error	1. **Run Setup. Check System Summary menu for memory size change. (See "Starting the IBM Setup Utility program" on page 19.)** 2. Run the Extended Memory Diagnostic tests
166 Boot Block Check Sum Error	1. **Run Flash Recovery using Boot Block. See "Recovering from a POST/BIOS update failure" on page 148.** 2. System Board
167 No Processor BIOS Update Found	1. **Run Setup. Check Stepping level for the BIOS level needed, then perform the flash update.** 2. Processor
168 Alert on LA™N error	1. **Run Setup. Check to see that Ethernet and Alert on LAN are enabled.** 2. System Board
17X, 18X	1. **C2 Security**
175 Primary Copy of Secure Data is damaged	1. **Run the IBM Setup Utility program. See "Starting the IBM Setup Utility program" on page 19..** 2. System Board
176 The System has been tampered with	1. **Covers were removed from the computer**
177 Corrupted Administrator Password	1. **System Board**

POST Error Code	FRU/Action
178	1. **System Board**
179 Boot Integrity Services Segment Error	1. **System Board**
183	1. **Enter the administrator password**
184 Asset Control Antenna not detected	1. **Make sure Asset Care and Asset ID™ are enabled in Configuration/Setup** 2. RFID Antenna 3. System Board
185 Corrupted boot sequence	1. **Set configuration and reinstall the boot sequence**
186 Security Hardware Control Logic Error	1. **System Board**
187	1. **Clear Administration password** 2. System Board
189	1. **More than three password attempts were made to access the computer**
190 System Security: Invalid Remote Change Requested	1. **System Board**
191 System Security: IBM Embedded Security Hardware Reset	1. **System Board**
193 System Security: IBM Embedded Security Hardware Removed	1. **System Board**
194 System Security: Asset ID Antenna has been Removed	1. **System Board**
195 System Security: Asset ID Antenna has been Installed	1. **System Board**
196 System Tampered Cleared	1. **System Board**
1XX Not listed above	1. **System Board**
201, 20X Memory data error	1. **Run Enhanced Diagnostics Memory Test** 2. Memory Module 3. System Board
225	1. **Unsupported Memory**
229 External cache test error	1. **L2 Cache Memory** 2. System Board
262 POST detected a base memory or extended memory type error	1. **Run Setup. Check System Summary menu for memory. (See "Starting the IBM Setup Utility program" on page 19.)** 2. Run the Extended Memory Diagnostic tests.
301 Keyboard Error	1. **Keyboard** 2. Keyboard Cable 3. System Board

POST Error Code	FRU/Action
303 With an 8603 error	1. **Mouse** 2. Keyboard 3. Keyboard Cable 4. System Board
303 With no 8603 error	1. **Keyboard** 2. Keyboard Cable 3. System Board
3XX Not listed above	1. **Keyboard** 2. Keyboard Cable 3. System Board
5XX	1. **Video Adapter (if installed)** 2. System Board
601	1. **Diskette Drive A** 2. Diskette Drive Cable 3. System Board 4. Riser card
602	1. **Bad Diskette?** 2. Verify Diskette and retry
604 And able to run diagnostics	1. **Run Setup and verify diskette configuration settings** 2. Diskette Drive A/B 3. Diskette Drive Cable 4. System Board 5. Riser card
605 POST cannot unlock the diskette drive	1. **Diskette Drive** 2. Diskette Drive Cable 3. System Board 4. Riser card
662 Configuration Change has occurred	1. **Diskette drive configuration error or wrong diskette drive type; run Setup.**
6XX Not listed above	1. **Diskette Drive** 2. System Board 3. Riser card 4. External Drive Adapter 5. Diskette Drive Cable 6. Power Supply
762 Math coprocessor configuration error	1. **Run Setup** 2. Processor 3. System Board
7XX Not listed above	1. **Processor** 2. System Board

POST Error Code	FRU/Action
962 Parallel port configuration error	1. **Run Setup**. 2. Parallel Adapter (if installed) 3. System Board
9XX	1. **Printer** 2. System Board
1047	1. **16-Bit AT™ Fast SCSI Adapter**
107X Check SCSI terminator installation	1. **Check SCSI terminator installation** 2. SCSI Cable 3. SCSI Terminator 4. SCSI Device 5. SCSI Adapter
1101 Serial connector error, possible system board failure	1. **Run Enhanced Diagnostics**
1101, 1102, 1106, 1108, 1109	1. **System Board** 2. Any Serial Device
1107	1. **Communications Cable** 2. System Board
1102 Card selected feedback error	1. **Run Enhanced Diagnostics**
1103 Port fails register check	1. **Run Enhanced Diagnostics** 2. System Board
1106 Serial option cannot be turned off	1. **Run Enhanced Diagnostics** 2. System Board
1107	1. **Serial Device Cable** 2. System Board
1110 Register test failed	1. **Run Enhanced Diagnostics** 2. System Board
1116 Interrupt error	1. **Run Enhanced Diagnostics**
1117 Failed baud rate test	1. **Run Enhanced Diagnostics**
1162 Serial port configuration error	1. **Run Setup**. 2. Serial Adapter (if installed) 3. System Board
11XX Not listed above	1. **System Board**
1201	1. **System Board** 2. Any Serial Device
1202, 1206, 1208, 1209, 12XX	1. **Dual Async Adapter/A** 2. System Board 3. Any Serial Device

POST Error Code	FRU/Action
1207	1. **Communications Cable** 2. Dual Async Adapter/A
13XX	1. **Game Adapter**
1402 Printer not ready	Information only
1403 No paper error, or interrupt failure	Information only
1404 System board timeout failure	1. **Run Enhanced Diagnostics**
1405 Parallel adapter error	1. **Run Enhanced Diagnostics**
1406 Presence test error	1. **Run Enhanced Diagnostics**
14XX Not listed above. Check printer before replacing system board	1. **Printer** 2. System Board
15XX	1. **SDLC Adapter**
1692 Boot sequence error	1. **Run FDISK to ensure at least one active partition is set active**
16XX	1. **36/38 Workstation Adapter**
1762 Hard disk drive configuration error	1. **Run Setup. (See "Starting the IBM Setup Utility program" on page 19.)**.
1780 (Disk Drive 0) **1781** (Disk Drive 1) **1782** (Disk Drive 2) **1783** (Disk Drive 3)	1. **Hard Disk Drive** 2. System Board 3. Riser card 4. Hard Disk Cable 5. Power Supply
1800 PCI/PnP Error! No Hardware Interrupt Available	1. **Run Setup and verify PCI/ISA configuration settings.** 2. Rerun diagnostics. 3. PCI Adapter
1801 PCI/PnP Error! No Space Available to Shadow ROM	1. **Run Setup and verify PCI/ISA configuration settings.** 2. Rerun diagnostics. 3. PCI Adapter
1802 PCI/PnP Error! Not Enough I/O Space Available	1. **Run Setup and verify PCI/ISA configuration settings.** 2. Rerun diagnostics. 3. PCI Adapter
1803 PCI/PnP Error! Not Enough Memory Space Available	1. **Run Setup and verify PCI/ISA configuration settings.** 2. Rerun diagnostics. 3. PCI Adapter

POST Error Code	FRU/Action
1804 PCI/PnP Error! Not Enough Real Memory Space Available	1. **Run Setup and verify PCI/ISA configuration settings.** 2. If necessary, set ISA adapters to *Not available* to allow PCI adapters to properly configure. 3. Remove any suspect ISA adapters. 4. Rerun diagnostics. 5. PCI Adapter
1805 PCI/PnP Error! Adapter ROM Checksum Error	1. **Run Setup and verify PCI/ISA configuration settings.** 2. Rerun diagnostics. 3. PCI Adapter
180X, 188X PCI configuration or resource error	1. **Run Setup and verify PCI/ISA configuration settings.** 2. Rerun diagnostics. 3. PCI Adapter
1962 No operating system found	1. **Press F1 to repeat boot sequence.**
209X	1. **Diskette Drive** 2. Diskette Cable
20XX Not listed above	1. **BSC Adapter**
21XX	1. **SCSI Device** 2. 16-bit AT Fast SCSU adapter 3. Alternate BSC adapter
2401, 2402 If screen colors change	1. **Display**
2401, 2402 If screen colors are OK	1. **System Board** 2. Display
2409	1. **Display**
2410	1. **System Board** 2. Display
2462 Video memory configuration error	1. **Check cable connections** 2. Run Setup and verify video configuration settings 3. Video Memory Modules 4. Video Adapter (if installed) 5. System Board
4611, 4630	1. **Multiport/2 Interface Board** 2. Multiport/2 Adapter
4612, 4613, 4640, 4641	1. **Memory Module Package** 2. Multiport/2 Adapter
4650	1. **Multiport/2 Interface Cable**

POST Error Code	FRU/Action
46XX Not listed above	1. **Multiport/2 Adapter** 2. Multiport/2 Interface Board 3. Memory Module
5600	1. **Financial System Controller Adapter**
5962 An IDE device (other than hard drive) configuration error	1. **Run Setup**. 2. CD-ROM Drive 3. CD-ROM Adapter 4. Zip or other ATAPI device 5. System Board 6. Riser card
62XX	1. **1st Store Loop Adapter** 2. Adapter Cable
63XX	1. **2nd Store Loop Adapter** 2. Adapter Cable
64XX	1. **Network Adapter**
71XX	1. **Voice Adapter**
74XX	1. **Video Adapter (if installed)**
76XX	1. **Page Printer Adapter**
78XX	1. **High Speed Adapter**
79XX	1. **3117 Adapter**
80XX	1. **PCMCIA Adapter**
84XX	1. **Speech Adapter** 2. Speech Control Assembly.
8601, 8602	1. **Pointing Device (Mouse)** 2. System Board
8603, 8604 Pointing Device Error	1. **System Board** 2. Pointing Device (Mouse)
86XX Not listed above	1. **Mouse** 2. System Board
89XX	1. **PC Music Adapter** 2. MIDI Adapter Unit
91XX	1. **Optical Drive** 2. Adapter
96XX	1. **SCSI Adapter** 2. Any SCSI Device 3. System Board 4. Riser card

POST Error Code	FRU/Action
10101, 10102, 10104, 10105, 10106, 10107, 10108, 10109, 10111, 10112, 10113, 10114, 10115, 10116	1. **Have customer verify correct operating system device drivers are installed and operational.** 2. Modem
10103, 10110, 101171	1. **System Board** 2. Data/Fax Modem 3. Riser card
10117 Not listed above	1. **Check system speaker** 2. Check PSTN cable 3. External DAA (if installed) 4. Modem
10118	1. **Run Diagnostics and verify the correct operation of the modem slot** 2. Modem
10119	1. **Diagnostics detected a non-IBM modem** 2. Modem
10120	1. **Check PSTN Cable** 2. External DAA (if installed) 3. Modem
10132, 10133, 10134, 10135, 10136, 10137, 10138, 10139, 10140, 10141, 10142, 10143, 10144, 10145, 10146, 10147, 10148, 10149, 10150, 10151, 10152	1. **Modem**
10153	1. **Data/Fax Modem** 2. System Board 3. Riser card
101XX Not listed above	1. **Modem Adapter/A** 2. Data/Fax Modem 3. System Board 4. Riser card
10450, 10451, 10490, 10491, 10492, 10499 Read/write error	1. **Run Enhanced Diagnostics** 2. Hard Disk Drive 3. System Board 4. Riser card
10452 Seek test error	1. **Run Enhanced Diagnostics**
10453 Wrong drive type?	Information only
10454 Sector buffer test error	1. **Run Enhanced Diagnostics**

POST Error Code	FRU/Action
10455, 10456 Controller error	1. **Run Enhanced Diagnostics**
10459 Drive diagnostic command error	Information only
10461 Drive format error	1. **Run Enhanced Diagnostics**
10462 Controller seek error	1. **Run Enhanced Diagnostics**
10464 Hard Drive read error	1. **Run Enhanced Diagnostics**
10467 Drive non-fatal seek error	1. **Run Enhanced Diagnostics**
10468 Drive fatal seek error	1. **Run Enhanced Diagnostics**
10469 Drive soft error count exceeded	1. **Run Enhanced Diagnostics**
10470, 10471, 10472 Controller wrap error	1. **Run Enhanced Diagnostics**
10473 Corrupt data. Low level format might be required	Information only
10480	1. **Hard Disk Drive (ESDI)** 2. Drive Cable 3. System Board
10481 ESDI drive D seek error	1. **Run Enhanced Diagnostics**
10482 Drive select acknowledgement bad	1. **Run Enhanced Diagnostics**
106X1	1. **Check Configuration** 2. Ethernet Adapter
10635	1. **Power-off computer, wait ten seconds then power-on the computer** 2. Ethernet Adapter
10651, 10660	1. **Check Cables** 2. Ethernet Adapter
106XX Not listed above	1. **Ethernet Adapter**
107XX	1. **5.25-inch External Diskette Drive** 2. 5.25-inch Diskette Drive Adapter/A
109XX Check the adapter cables	1. **ActionMedia Adapter/A** 2. System Board 3. Riser card

POST Error Code	FRU/Action
112XX This adapter does not have cache	1. **SCSI Adapter** 2. Any SCSI Device 3. System Board 4. Riser card
119XX	1. **3119 Adapter**
121XX	1. **Modem Adapter** 2. Any Serial Device 3. System Board 4. Riser card
136XX	1. **ISDN Primary Rate Adapter** 2. System Board 3. Riser card
137XX	1. **System Board**
141XX	1. **Realtime Interface Coprocessor Portmaster Adapter/A**
143XX	1. **Japanese Display Adapter** 2. System Board 3. Riser card
14710, 14711	1. **System Board Video Adapter** 2. Adapter Video Memory
148XX	1. **Video Adapter**
14901, 14902, 1491X, 14922	1. **Video Adapter (if installed)** 2. System Board 3. Riser card 4. Display (any type)
14932	1. **External Display** 2. Video Adapter
161XX	1. **FaxConcentrator Adapter**
164XX	1. **120 MB Internal Tape Drive** 2. Diskette Cable 3. System Board 4. Riser card
16500	1. **6157 Tape Attachment** 2. Adapter
16520, 16540	1. **6157 Streaming Tape Drive** 2. 6157 Tape Attachment Adapter
166XX, 167XX	1. **Token Ring Adapter** 2. System Board 3. Riser card

POST Error Code	FRU/Action
18001 to 18029	1. **Wizard Adapter** 2. Wizard Adapter Memory
18031 to 18039	1. **Wizard Adapter Cable**
185XXXX	1. **DBCS Japanese Display Adapter/A** 2. System Board 3. Riser card
20001 to 20003	1. **Image Adapter/A** **Image-I Adapter/A** 2. Memory Module DRAM, VRAM
20004	1. **Memory Module DRAM, VRAM** 2. Image Adapter/A Image-I Adapter/A
20005 to 20010	1. **Image Adapter/A** **Image-I Adapter/A** 2. Memory Module DRAM, VRAM
200XX Not listed above	1. **Image Adapter/A** 2. Image-I Adapter/A 3. Memory Module DRAM, VRAM 4. System Board 5. Riser card
20101 to 20103	1. **Printer/Scanner Option** 2. Image Adapter/A 3. Memory Module DRAM, VRAM
20104	1. **Memory Module DRAM, VRAM** 2. Printer/Scanner Option 3. Image Adapter/A
20105 to 20110	1. **Printer/Scanner Option** 2. Image Adapter/A 3. Memory Module DRAM, VRAM
Image Adapter/A Memory Test failure indicated by graphic of adapter	1. **Replace memory module (shown in graphic)**
206XX	1. **SCSI-2 Adapter** 2. Any SCSI Device 3. System Board 4. Riser card
208XX Verify there are no duplicate SCSI ID settings on the same bus.	1. **Any SCSI Device**
210XXXX Internal bus, size unknown **210XXX1** External bus, size unknown	1. **SCSI Hard Disk Drive** 2. SCSI Adapter or System Board 3. SCSI Cable 4. SCSI ID Switch (on some models)

POST Error Code	FRU/Action
Tape Drive amber LED remains on	1. **Tape Drive** 2. SCSI Cable (internal) 3. SCSI Adapter or System Board
Tape Drive green "in use" LED fails to come on	1. **Tape Drive** 2. SCSI Adapter or System Board 3. SCSI Cable (internal) 4. SCSI Cable (external)
Tape automatically ejected from drive	1. **Tape Cassette** **Drive**
SCSI ID on rotary switch does not match SCSI ID set in configuration. Verify drive switches inside cover are set to zero	1. **Rotary Switch Circuit Board** 2. Circuit Board Cable 3. Tape Drive
Tape sticks or breaks in drive. Verify that the tapes used meet ANSI standard X3B5	1. **Tape Cassette**
212XX	1. **SCSI Printer** 2. Printer Cable
213XX	1. **SCSI Processor**
214XX	1. **WORM Drive**
215XXXC, 215XXXD, 215XXXE, 215XXXU If an external device, and power-on LED is off, check external voltages	1. **CD-ROM Drive I** 2. CD-ROM Drive II Enhanced CD-ROM Drive II Any CD-ROM Drive 3. SCSI Cable 4. SCSI Adapter or System Board
216XX	1. **Scanner**
217XX If an external device, and power-on LED is off, check external voltages	1. **Rewritable Optical Drive** 2. SCSI Adapter or System Board 3. SCSI Cable
218XX Check for multi CD tray or jukebox	1. **Changer**
219XX	1. **SCSI Communications Device**
24201Y0, 24210Y0 Be sure wrap plug is attached	1. **ISDN/2 Adapter** 2. ISDN/2 Wrap Plug 3. ISDN/2 Communications Cable
273XX	1. **1 Mbps Micro Channel®** 2. Infrared LAN Adapter
27501, 27503, 27506, 27507	1. **ServerGuard Adapter** 2. System Board 3. Riser card
27502, 27504, 27510, 27511, 27533, 27534, 27536, 27537	1. **ServerGuard Adapter**

POST Error Code	FRU/Action
27509	1. **Remove redundant adapters, run Auto IBM program, then retest.**
27512	1. **WMSELF.DGS diagnostics file is missing** 2. WMSELF.DGS diagnostics file is incorrect
27535	1. **3V Lithium Backup Battery** 2. ServerGuard Adapter
27554	1. **Internal Temperature out of range** 2. ServerGuard Adapter
27555, 27556	1. **ServerGuard Adapter** 2. Power Supply
27557	1. **7.2V NiCad Main Battery Pack** 2. ServerGuard Adapter
27558, 27559, 27560, 27561	1. **PCMCIA Type II Modem** 2. ServerGuard Adapter
27562	1. **External Power Control not connected** 2. External Power Control 3. ServerGuard Adapter
27563, 27564	1. **External Power Control** 2. ServerGuard Adapter
275XX	1. **Update Diagnostic Software**
27801 to 27879	1. **Personal Dictation System** 2. Adapter 3. System Board
27880 to 27889	1. **External FRU (Speaker, Microphone)**
999030X Hard disk reset failure	1. **Possible hard disk drive problem; see "Hard disk drive boot error" on page 47.**

Miscellaneous error messages

Message/Symptom	FRU/Action
CMOS Backup Battery inaccurate	1. **CMOS Backup Battery (see "Safety information" on page 153)** 2. System Board
Changing colors	1. **Display**
Computer will *not* power-off. See "Power Supply Errors" on page 47.	1. **Power Switch** 2. System Board 3. Riser card
Computer will *not* RPL from server	1. **Ensure that network is in startup sequence as first device or first device after diskette** 2. Ensure that network adapter is enabled for RPL 3. Network adapter (Advise network administrator of new MAC address)
Computer will *not* Wake On LAN (if applicable)	1. **Check power supply and signal cable connections to network adapter** 2. Ensure that the operating system settings are set to enable Wake on LAN 3. Ensure Wake On LAN feature is enabled in Setup/Configuration (see "Starting the IBM Setup Utility program" on page 19) 4. Ensure network administrator is using correct MAC address 5. Ensure no interrupt or I/O address conflicts 6. Network adapter (advise network administrator of new MAC address)
Dead computer. See "Power Supply Errors" on page 47.	1. **Power Supply** 2. System Board 3. Riser card
Diskette drive in-use light remains on or does not light when drive is active.	1. **Diskette Drive** 2. System Board 3. Diskette Drive Cable 4. Riser card
Flashing cursor with an otherwise blank display.	1. **System Board** 2. Primary Hard Disk Drive 3. Hard Disk Drive Cable 4. Riser card
Incorrect memory size during POST	1. **Run the Memory tests** 2. Memory Module 3. System Board

Message/Symptom	FRU/Action
"Insert a Diskette" icon appears with a known-good diagnostics diskette in the first 3.5-inch diskette drive.	1. **System Board** 2. Diskette Drive Cable 3. Riser card 4. Network Adapter
Intensity or color varies from left to right of characters and color bars	1. **Display** 2. System Board
No power or fan not running	1. **See "Power Supply Errors" on page 47.**
Non-system disk or disk error-type message with a known-good diagnostic diskette.	1. **Diskette Drive** 2. System Board 3. Diskette Drive Cable 4. Riser card
Other display symptoms not listed above (including blank or illegible display)	1. **Display** 2. System Board
Power-on indicator or hard disk drive in-use light not on, but computer works correctly	1. **Power Supply** 2. System Board 3. LED Cables
Printer problems	1. **Printer**
Program loads from the hard disk with a known-good diagnostics diskette in the first 3.5-inch diskette drive	1. **Run Setup** 2. Diskette Drive 3. Diskette Drive Cable 4. System Board 5. Riser card 6. Power Supply

RPL computer cannot access programs from its own hard disk.	1. **If network administrator is using LCCM Hybrid RPL, check startup sequence:**
	  a. **First device - network**
	  b. **Second device - hard disk**
	2. Hard disk drive

RPL computer does not RPL from server	1. **Check startup sequence** 2. Check the network adapter LED status
Serial or parallel port device failure (system board port)	1. **External Device Self-Test OK?** 2. External Device 3. Cable 4. System Board
Serial or parallel port device failure (adapter port)	1. **External Device Self-Test OK?** 2. External Device 3. Cable 4. Alternate Adapter 5. System Board

Message/Symptom	FRU/Action
Some or all keys on the keyboard do not work	1. **Keyboard** 2. Keyboard Cable 3. System Board

Undetermined problems

Check the power supply voltages (see "Power Supply Errors" on page 47). 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 the system board, microprocessor, and heat sink" on page 34).

Chapter 8. Parts listing

This section lists field replaceable units (FRUs) for Machine Types 8183, 8184, 8320, 8417, 8418, 8419, and 8429.

Note: A CRU (Customer Replaceable Unit) is identified by a single asterisk (*) or two asterisks (**) in the CRU ID column. An N in the CRU ID Column means that the part is not a CRU. A single asterisk (*) means that the part is a Tier 1 CRU; two asterisks (**) mean that the part is a Tier 2 CRU.

Machine Type 8127
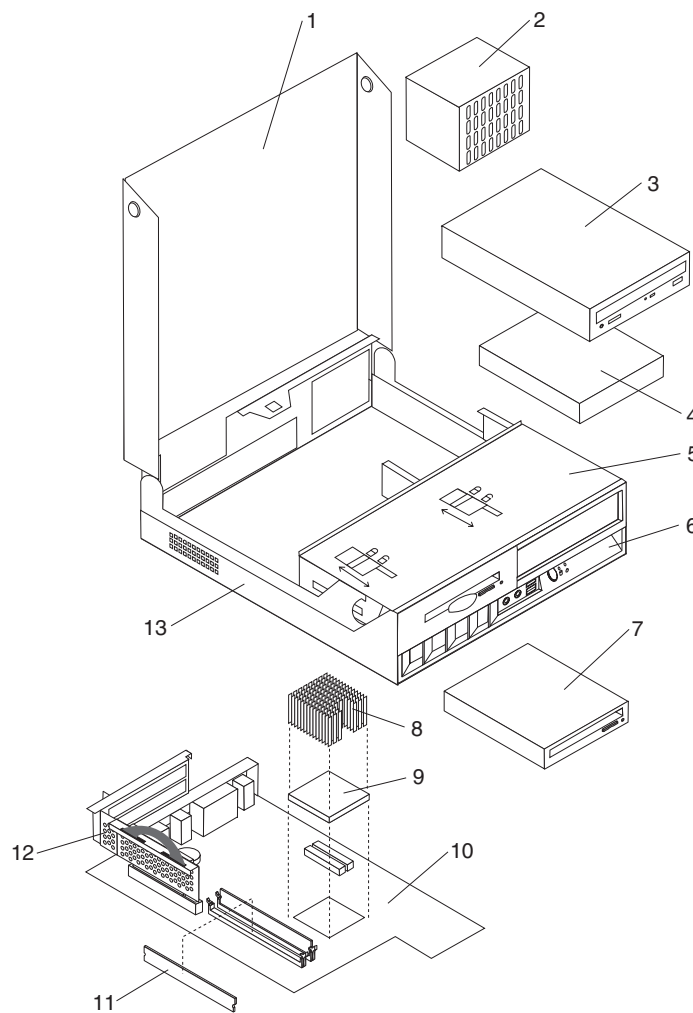
Item #	8127 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	**
2	Power supply 200 W (all models)	24R2614	**
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 11M)	71P7367	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 11M)	71P7369	*

Item #	8127 FRUs	FRU#	CRU
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 11M)	71P7371	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 11M)	71P7375	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 11M)	71P7385	*
3	CD-ROM Drive 48X (Black) (models 11M)	40Y8801	*
3	CD-ROM Drive 48X (Black) (models 11M)	40Y8809	*
3	CD-ROM Drive 48X (Black) (models 11M)	40Y8805	*
4	HDD 40GB 7200 rpm EIDE (models 11M)	19K1568	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5″, slim 1.44MB, 3MODE (models 11M)	36L8645	*
7	Diskette drive 3.5″, slim 1.44MB, 3MODE (models 11M)	40Y8897	*
7	Diskette drive 3.5″, slim 1.44MB, 3MODE (models 11M)	40Y8895	*
8	Heatsink for Prescott (models 11M)	13R9022	**
9	Intel 2.8GHZ Celeron Prescott (models 11M)	19R0411	**
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (models 11M)	89P7935	**
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (optional to 89P7935) (models 11M)	41D0651	**
11	512 MB SDRAM PC2700 (models 11M)	31P9122	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8127 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Lock assembly (Random keyed) (models 11M)	03R0287	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
system board tray (all models)	03R0295	**
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
Cable, C2 (squall) (models 11M)	09K9827	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Fan baffle for Prescott (models 11M)	26K1233	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Mouse, optical wheel (models 11M)	89P5089	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G", "M", "B", "H" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8127 (Preferred Pro) Keyboards	FRU#	CRU
US English (models 11M)	89P8300	*

8127 Power Cords	FRU#	CRU
Power cord (models 11M)	6952301	*
Power cord (models)	13F9939	*

8127 Power Cords	FRU#	CRU
Power cord (models)	13F9978	*
Power cord (models)	14F0032	*
Power cord (models)	13F9996	*
Power cord (models)	14F0068	*
Power cord (models)	36L8879	*
Power cord (models)	1838576	*
Power cord (models)	02K0545	*
Power cord (models)	14F0086	*
Power cord (models)	14F0014	*
Power cord (models)	14F0050	*
Power cord (models)	49P2078	*

8127 Windows XP Pro Recovery CDs	FRU #	CRU
US (models 11M)	29R7998	*
FR (models)	29R7999	*
GR (models)	29R8000	*
IT (models)	29R8002	*
SP (models)	29R8001	*
BR (models)	29R8003	*
DK (models)	29R8005	*
NL (models)	29R8008	*
AE (models)	29R8012	*
SV (models)	29R8004	*
HE (models)	29R8009	*
FI (models)	29R8006	*
NO (models)	29R8007	*
PL (models)	29R8010	*
PO (models)	29R8016	*
RU (models)	29R8013	*
HU (models)	29R8015	*
CZ (models)	29R8011	*
TR (models)	29R8014	*
GK (models)	29R8017	*
JP (models)	13M6438	*
CS (models)	27K6907	*
TW (models)	27K6912	*
HK (models)	27K6917	*
KR (models)	27K6902	*
Multilingual RCD 1 XP-P (models)	19R1268	*
Multilingual RCD 2 XP-P (models)	19R1270	*

Machine Type 8183

Item #	8183 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	**
2	Power supply 200 W (all models)	24R2614	**
3	CD-ROM Drive 48X (Black) (All models EXCEPT those otherwise listed)	33P3203	*
3	CD-ROM Drive 48X (Black) (All models EXCEPT those otherwise listed)	33P3211	*
3	CD-ROM Drive 48X (Black) (All models EXCEPT those otherwise listed)	33P3207	*
3	CD-ROM Drive 48X (Black) (All models EXCEPT those otherwise listed)	71P7353	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF H1G H1C H2U H2F DUE DUJ DWJ GWB GWH)	71P7367	*

Item #	8183 FRUs	FRU#	CRU
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF GMB GMH H1G H1C H2U H2F DUE DUJ DWJ GMU GWB GWH)	71P7369	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF GMB GMH H1G H1C H2U H2F DUE DUJ DWJ GMU GWB GWH)	71P7371	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF GMB GMH H1G H1C H2U H2F DUE DUJ DWJ GMU GWB GWH)	71P7375	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF GMB GMH H1G H1C H2U H2F DUE DUJ DWJ GMU GWB GWH)	71P7385	*
3	CD-ROM Drive 48X (Black) (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF GMB GMH H1G H1C H2U H2F DUE DUJ DWJ GMU GWB GWH)	40Y8809	*
3	CD-ROM Drive 48X (Black) (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF GMB GMH H1G H1C H2U H2F DUE DUJ DWJ GMU GWB GWH)	40Y8805	*

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3	CD-ROM Drive 48X (Black) (models 47U 45G ADU ADS ADP ADY D2B D2H B4U 79G AEU AES AEP AEY B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8LJ 8MJ 8PJ 8QJ 8RJ 8SJ D4S D4Y D5S D5P D5Y B7S B7Y AFJ AGJ AJS AJY AKU ALU ALS ALY B8G BAU BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DEU DES DEY G3B G3H G6J G7J 7CG 47S 47Y AMJ APJ DMJ DPJ GAJ GBJ APJ BPU BPF BPS BPP BPL BQU 61U 62U 63U 64J 65J 67J 68J DSG GFG GFA GFQ GFT GGU GHU GHF GMB GMH H1G H1C H2U H2F DUE DUJ DWJ GMU GWB GWH)	40Y8813	*
3	DVD-ROM 16X/48X (Black) (models 23U 34U 2BG 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 48G 75G 43K 3FG 4KM 4KA 4KC 4KC 4KH 4KR 4KK 45G 4JG 4JM 4JA 4JC 4JH 4JR 2HM B1M D1M 7AG 7BG BBG DCG G5C 7DG 7EG 7FG 34F DRU DRF DRS DRP DRL BRU DTU DTG GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ H5G H6C)	33P3237	*
3	DVD-ROM 16X/48X (Black) (models 23U 34U 2BG 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 48G 75G 43K 3FG 4KM 4KA 4KC 4KC 4KH 4KR 4KK 45G 4JG 4JM 4JA 4JC 4JH 4JR 2HM B1M D1M 7AG 7BG BBG DCG G5C 7DG 7EG 7FG 34F DRU DRF DRS DRP DRL BRU DTU DTG GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ H5G H6C)	71P7357	*
3	DVD-ROM 16X/48X (Black) (models 23U 34U 2BG 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 48G 75G 43K 3FG 4KM 4KA 4KC 4KC 4KH 4KR 4KK 45G 4JG 4JM 4JA 4JC 4JH 4JR 2HM B1M D1M 7AG 7BG BBG DCG G5C 7DG 7EG 7FG 34F DRU DRF DRS DRP DRL BRU DTU DTG GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ H5G H6C)	40Y8803	*
3	DVD-ROM 16X/48X (Black) (models 23U 34U 2BG 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 48G 75G 43K 3FG 4KM 4KA 4KC 4KC 4KH 4KR 4KK 45G 4JG 4JM 4JA 4JC 4JH 4JR 2HM B1M D1M 7AG 7BG BBG DCG G5C 7DG 7EG 7FG 34F DRU DRF DRS DRP DRL BRU DTU DTG GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ H5G H6C)	40Y8811	*
3	CD-RW (48X/24X/48X) (Black) (models A5J A8J 1CJ 1FJ 3BJ 3EJ 2CU 83J 86J 8BJ 8EJ 66J)	33P3289	*
3	CD-RW Drive (48X/24X/48X) (models A5J A8J 1CJ 1FJ 3BJ 3EJ 2CU 83J 86J 8BJ 8EJ 66J)	71P7349	*
3	CD-RW Drive (48X/32X/48X) (models 78G 8KJ 8NJ 8TJ AHJ DBU G8J)	71P7347	*
3	CD-RW Drive (48X/32X/48X) (models 78G 8KJ 8NJ 8TJ AHJ DBU G8J)	40Y8901	*
3	48X Combo drive (models B2U B3S B3P B3U B3Y 87J 88J G2U)	33P3301	*
3	Universal Combo Drive (48x/24x/48x/16x) -- optional to 26K5379 and 26K5381 (models CTO-U CTO-G DGU G4U DJJ BMU ANJ AQJ DNJ DQJ GCJ BSU 69J 6AJ GKU GLU H3U DVJ DYJ GQJ GSJ GUU GVU H7U)	26K5390	*
3	Universal Combo Drive (48x/32x/48x/16x) (models CTO-U CTO-G DGU G4U DJJ BMU ANJ AQJ DNJ DQJ GCJ BSU 69J 6AJ GKU GLU H3U DVJ DYJ GQJ GSJ GUU GVU H7U)	26K5379	*
3	Universal Combo Drive (48x/32x/48x/16x) (models CTO-U CTO-G DGU G4U DJJ BMU ANJ AQJ DNJ DQJ GCJ BSU 69J 6AJ GKU GLU H3U DVJ DYJ GQJ GSJ GUU GVU H7U)	26K5381	*
3	Universal Combo Drive (48x/32x/48x/16x) (models CTO-U CTO-G DGU G4U DJJ BMU ANJ AQJ DNJ DQJ GCJ BSU 69J 6AJ GKU GLU H3U DVJ DYJ GQJ GSJ GUU GVU H7U)	40Y8781	*

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3	Universal Combo Drive (48x/32x/48x/16x) (models CTO-U CTO-G DGU G4U DJJ BMU ANJ AQJ DNJ DQJ GCJ BSU 69J 6AJ GKU GLU H3U DVJ DYJ GQJ GSJ GUU GVU H7U)	40Y8903	*
3	Universal Rambo drive (Black) (models G9J GTJ)	26K5377	*
3	Rambo III drive (Black) (optional to 26K5377) (models G9J)	33P3309	*
3	Rambo IV drive (Black) (models GDJ GTJ)	26K5383	*
4	HDD 40GB 7200 rpm EIDE (All models EXCEPT 4KM 4KA 4KC 4KC 4KH 4KR 4KK 4JG 4JM 4JA 4JC 4JH 4JR B2U D4S D4Y D5S D5P D5Y 8TJ G5C G4U G9J)	19K1568	*
4	HDD 80GB 7200 rpm SATA (models 4KM 4KA 4KC 4KC 4KH 4KR 4KK 4JG 4JM 4JA 4JC 4JH 4JR G5C H6C)	71P7293	*
4	HDD 80GB 7200 rpm EIDE (models B2U D4S D4Y D5S D5P D5Y 8TJ G4U G9J AMJ ANJ APJ AQJ GDJ 67J 68J 69J 6AJ DUE DUJ DVJ DWJ DYJ GPJ GQJ GRJ GSJ GTJ GUU GVU H7U)	24P3665	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5 1.44 MB, 3-mode, slim (All models EXCEPT 2JU B6U AJS AJY B9S B9Y BFU BFS BFY G9J GDJ GGU CTJ)	36L8645	*
7	Diskette drive 3.5 1.44 MB, 3-mode, slim (All models EXCEPT 2JU B6U AJS AJY B9S B9Y BFU BFS BFY G9J GDJ GGU CTJ)	40Y8897	*
7	Diskette drive 3.5 1.44 MB, 3-mode, slim (All models EXCEPT 2JU B6U AJS AJY B9S B9Y BFU BFS BFY G9J GDJ GGU CTJ)	40Y8895	*
8	Heatsink (All models EXCEPT B8G B9S B9Y 7CG BAU BBG BCS BCY BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH 7DG CVU CWU D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DBU DCG DEU DES DEY DFS DFY DGU DHU 7EG CYU CZU)	03R0298	**
8	Heatsink for Prescott (models GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ GPJ GQJ GRJ GSJ GTJ H1G H1C H2U H2F H3U H4U H4F H5G H6C GUU GVU H7U B8G B9S B9Y 7CG BAU BBG BCS BCY BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH 7DG CVU CWU D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DBU DCG DEU DES DEY DFS DFY DGU DHU 7EG CYU CZU BPU BPF BPS BPP BPL BQU C4U C5U DRU DRF DRS DRP DRL CTO-U CTO-G 61U 62U 63U BRU BSU C6U 64J 65J 66J 67J 68J 69J 6AJ 62U 63U DSG DTU DTG DUE DUJ DVJ DWJ DYJ C7U C8U GFG GFA GFQ GFT GGU GHU GHF GKU GLU GMU GWB GWH)	13R9022	**
9	Intel Celeron 2.0 GHz (models A3U A3S A3P A3Y AAG)	02R4094	**
9	Intel Celeron 2.1 GHz (models A4J A5J A6J A7J A8J CEJ A9J ABU ABS ABP ABY)	02R4095	**
9	Intel Celeron 2.2 GHz (models A1U A1S A1P A1Y A2G 81J 82J 83J 84J 85J 86J CJJ CPU 8FJ 8GJ 8LJ)	02R4096	**
9	2.4GHz Celeron (models ADU ADS ADP ADY CQU)	88P7696	**
9	2.5GHz Celeron (models AFJ AGJ AHJ CUJ AMJ ANJ APJ AQJ)	13R80901	**
9	2.6GHz Celeron (models AEU AES AEP AEY AJS AJY AKU C2U)	13R8903	**
9	2.7GHz Celeron (models CRU CSU 7AG)	13R8979	**
9	2.8GHz Celeron (models CRU CSU 7AG ALU ALS ALY C3U)	13R9020	**
9	Intel P4 2.4 GHz (models CAU 12U 12S 12P 12Y 13U 11U 11F 11S 11P 11Y)	02R4098	**
9	Intel P4 2.53 GHz (models 51U 51F 51S 51P 51Y 52U 52S 52P 52Y 53U 53S 53P 53Y 55G 71G 72G)	02R4099	**

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9	Intel P4 2.66 GHz (models 21U CBU 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 22U 22S 22P 22Y 23U 24U 24S 24P 24Y 2AU 2AF 2AS 2AP 2AY 2BG 73G 21K 2DC 2DV 2JU)	74P1600	**
9	Intel P4 2.8 GHz (models CCU 32U 32F 32S 32P 32Y 33U 33S 33P 33Y 34U 35G 74G 75G 3GG B7U B7F B7S B7Y BHC 34F)	74P1601	**
9	Intel P4 3.06 GHz (models 46G 76G 46U D5S D5P D5Y D6S D6Y 8TJ)	74P1602	**
9	Intel P4 2.4 GHz (models 16C 16B 16H 1AE 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ CFJ 1GM 1AM 15U 15S 15P 15Y)	88P5861	**
9	Intel P4 2.6 GHz (models 26C 26B 26H 27B 27H 26U 26F 26S 26P 26Y 29U 2EM 2FM 2CU 2HM 78G CKU 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ CTJ 7AG)	88P5862	**
9	Intel P4 2.8 GHz (models 39J 3AJ 3BJ 3CJ 3DJ 3EJ CGJ 36U 36F 36S 36P 36Y 3FG 3HB 3LM 39M 3HM 3HA 3HC 3HH 3JG 3MM B1M B2U B3S B3P B3U B3Y B4U 87J 88J CLU CMU B5U B6U CRU 8PJ 8QJ 7BG 7FG BMU BNU)	88P5863	**
9	Intel P4 3.0 GHz (models CHJ 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J CDU 43K 4HM 4HA 4HC 4HH 4HV 4GG 4KM 4KA 4KC 4KC 4KH 4KR 4KK 4GG 4HM 4HA 4HC 4HH 4HV 4JG 4JM 4JA 4JC 4JH 4JR D1M D2B D2H 89J 8AJ 8BJ 8CJ 8DJ 8EJ D3U CSU 8RJ 8SJ D4S D4Y DJJ DMJ DNJ DPJ DQJ)	88P5864	**
9	Intel P4 3.2 GHz (models G1U G1F 79G CNU 41U 41F 42U 45G 47U 48G G2U G3B G3H G4U G5C G6J G7J G8J C1J 47S 47Y G9J GAJ GBJ GCJ GDJ)	88P5865	**
9	Intel 2.53GHZ Celeron Prescott (models 64J 65J 66J 67J 68J 69J 6AJ CTO-U CTO-G)	19R0407	**
9	Intel 2.66GHZ Celeron Prescott (models 61U CTO-U CTO-G)	19R0409	**
9	Intel 2.8GHZ Celeron Prescott (models 62U 63U CTO-U CTO-G)	19R0411	**
9	Intel 2.93GHZ Celeron Prescott (models CTO-U CTO-G)	29R6986	**
9	Intel 2.8GHZ Prescott P4 (models CTO-U CTO-G B8G B9S B9Y 7CG BPU BPF BPS BPP BPL BQU C4U C5U BRU BSU C6U)	19R0413	**
9	Intel 2.8GHZ Prescott P4 (models CTO-U CTO-G BAU BBG BCS BCY BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH 7DG CVU CWU)	19R0286	**
9	Intel 3.0GHZ Prescott P4 (models CTO-U CTO-G D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DBU DCG DEU DES DEY DFS DFY DGU DHU 7EG CYU CZU DRU DRF DRS DRP DRL DSG DTU DTG DUE DUJ DVJ DWJ DYJ C7U C8U)	19R0288	**
9	Intel 3.2GHZ Prescott P4 (models CTO-U CTO-G GFG GFA GFQ GFT GGU GHU GHF GKU GLU GMU GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ GPJ GQJ GRJ GSJ GTJ GWB GWH GUU GVU)	19R0290	**
9	Intel 3.4GHZ Prescott P4 (models CTO-U CTO-G H1G H1C H2U H2F H3U H4U H4F H5G H6C H7U)	29R6988	**
10	System board, 10/100 E-net, no POV (models 4HM 4HA 4HC 4HH 4HV ADU ADS ADP ADY B2U B3S B3P B3U B3Y 78G 79G AEU AES AEP AEY B5U B6U D3U 7AG 7BG CPU CQU 8LJ BHC C2U 21U 41U CAU CBU CCU CDU CTO A1U A1S A1P A1Y A2G 12U 12S 12P 12Y 13U 51U 51F 51S 51P 51Y 52U 52S 52P 52Y 53U 53S 53P 53Y 55G 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 22U 22S 22P 22Y 24U 24S 24P 24Y 32U 32F 32S 32P 32Y 33U 33S 33P 33Y 35G 46G 41F 42U 45G 71G 73G 74G 76G A3U A3S A3P A3Y 21K 46U AAG ABU ABS ABP ABY 11U 11F 11S 11P 11Y 15U 15S 15P 15Y 2CU 2DC 2DV 3GG CKU CLU CNU 2JU CPU CQU)	89P7950	**

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10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (optional to 89P7950) (models 4HM 4HA 4HC 4HH 4HV ADU ADS ADP ADY B2U B3S B3P B3U B3Y 78G 79G AEU AES AEP AEY B5U B6U D3U 7AG 7BG CPU CQU 8LJ BHC C2U 21U 41U CAU CBU CCU CDU CTO A1U A1S A1P A1Y A2G 12U 12S 12P 12Y 13U 51U 51F 51S 51P 51Y 52U 52S 52P 52Y 53U 53S 53P 53Y 55G 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 22U 22S 22P 22Y 24U 24S 24P 24Y 32U 32F 32S 32P 32Y 33U 33S 33P 33Y 35G 46G 41F 42U 45G 71G 73G 74G 76G A3U A3S A3P A3Y 21K 46U AAG ABU ABS ABP ABY 11U 11F 11S 11P 11Y 15U 15S 15P 15Y 2CU 2DC 2DV 3GG CKU CLU CNU 2JU CPU CQU)	89P7933	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (optional to 89P7933) (models 4HM 4HA 4HC 4HH 4HV ADU ADS ADP ADY B2U B3S B3P B3U B3Y 78G 79G CKU CLU CNU CPU CQU AEU AES AEP AEY B5U B6U D3U 7AG 7BG CPU CQU 8LJ AJS AJY ALU ALS ALY B8G BDK BEA BET BEV BFU BFS BFY D8A D8T D8V D9U D9S D9Y 7CG CVU CYU BHC C2U BQU C5U 61U DSG GFG GFA GFQ GFT GGU H1G H1C 21U 41U CAU CBU CCU CDU CTO A1U A1S A1P A1Y A2G 12U 12S 12P 12Y 13U 51U 51F 51S 51P 51Y 52U 52S 52P 52Y 53U 53S 53P 53Y 55G 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 22U 22S 22P 22Y 24U 24S 24P 24Y 32U 32F 32S 32P 32Y 33U 33S 33P 33Y 35G 46G 41F 42U 45G 71G 73G 74G 76G A3U A3S A3P A3Y 21K 46U AAG ABU ABS ABP ABY 11U 11F 11S 11P 11Y 15U 15S 15P 15Y 2CU 2DC 2DV 3GG)	41D0649	**
10	System board, 10/100 E-net, POV (models 2AU 2AF 2AS 2AP 2AY 47U 3JG 4GG 72G 75G 3JG 4GG 4JG 4JM 4JA 4JC 4JH 4JR CMU B7U B7F B7S B7Y 47S 47Y 7FG)	89P7949	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (optional to 89P7949) (models 2AU 2AF 2AS 2AP 2AY 47U 3JG 4GG 72G 75G 3JG 4GG 4JG 4JM 4JA 4JC 4JH 4JR CMU B7U B7F B7S B7Y 47S 47Y 7FG)	89P7932	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (optional to 89P7932) (models 2AU 2AF 2AS 2AP 2AY 47U 3JG 4GG 72G 75G 3JG 4GG 4JG 4JM 4JA 4JC 4JH 4JR CMU B7U B7F B7S B7Y 47S 47Y 7FG)	41D0648	**
10	System board, Gigabit E-net, no POV (models 16C 16B 16H 26C 26B 26H 27B 27H 23U 34U 26U 26F 26S 26P 26Y 36U 36F 36S 36P 36Y 1GM 2EM 3HM 3HA 3HC 3HH 3HB 3LM 3MM 4HM 4HA 4HC 4HH 4HV B4U G2U CRU CSU D4S D4Y D5S D5P D5Y C3U BMU BNU 34F G1U G1F)	89P7952	**
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (optional to 89P7952) (models B4U 16C 16B 16H 26C 26B 26H 27B 27H 23U 34U 26U 26F 26S 26P 26Y 36U 36F 36S 36P 36Y 1GM 2EM 3HM 3HA 3HC 3HH 3HB 3LM 3MM 4HM 4HA 4HC 4HH 4HV G2U CRU CSU D4S D4Y D5S D5P D5Y AKU B9S B9Y BAU BCS BCY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J DAC DAB DAH DBU DFS DFY DGU DHU G3B G3H G4U CWU CZU C3U BMU BNU 34F G1U G1F BPU BPF BPS BPP BPL DRU DRF DRS DRP DRL C4U 62U 63U BRU BSU C6U GHU GHF GKU GLU H2U H2F H3U C7U C8U GWB GWH GUU GVU H7U)	89P7935	**
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (optional to 89P7935) (models B4U 16C 16B 16H 26C 26B 26H 27B 27H 23U 34U 26U 26F 26S 26P 26Y 36U 36F 36S 36P 36Y 1GM 2EM 3HM 3HA 3HC 3HH 3HB 3LM 3MM 4HM 4HA 4HC 4HH 4HV G2U CRU CSU D4S D4Y D5S D5P D5Y AKU B9S B9Y BAU BCS BCY BGA BGT BGC BGB BGH D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J DAC DAB DAH DBU DFS DFY DGU DHU G3B G3H G4U CWU CZU C3U BMU BNU 34F G1U G1F BPU BPF BPS BPP BPL DRU DRF DRS DRP DRL C4U 62U 63U BRU BSU C6U GHU GHF GKU GLU H2U H2F H3U C7U C8U GWB GWH GUU GVU H7U)	41D0651	**

Item #	8183 FRUs	FRU#	CRU
10	System board, Gigabit E-net, POV (models A4J A5J A6J A7J A8J 1AE 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 2BG 39J 3AJ 3BJ 3CJ 3DJ 3EJ 48G CEJ CFJ CGJ CHJ A9J 29U 3FG 1AM 2FM 39M 4KM 4KA 4KC 4KC 4KH 4KR 4KK 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ CJJ 2HM B1M D1M D2B D2H 8FJ 8GJ 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ CTJ D6S D6Y 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43K 43J 8TJ DJJ AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ G9J GDJ)	89P7951	**
10	System board, Gigabit E-net, POV (Prescott CPU enabled) (optional to 89P7951) (models DTU DTG DUE DUJ DVJ DWJ DYJ GMU GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ GPJ GQJ GRJ GSJ GTJ H4U H4F H5G H6C 2HM B1M D1M D2B D2H A4J A5J A6J A7J A8J 1AE 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 2BG 39J 3AJ 3BJ 3CJ 3DJ 3EJ 48G CEJ CFJ CGJ CHJ A9J 29U 3FG 1AM 2FM 39M 4KM 4KA 4KC 4KC 4KH 4KR 4KK 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ CJJ 8FJ 8GJ 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ CTJ D6S D6Y 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43K 43J 8TJ AFJ AGJ AHJ BCS DEU DES DEY G5C G6J G7J G8J CUJ C1J DJJ AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ G9J GDJ 64J 65J 66J 67J 68J 69J 6AJ)	89P7934	**
10	System board, Gigabit E-net, POV (Prescott CPU enabled) (optional to 89P7934) (models DTU DTG DUE DUJ DVJ DWJ DYJ GMU GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ GPJ GQJ GRJ GSJ GTJ H4U H4F H5G H6C 2HM B1M D1M D2B D2H A4J A5J A6J A7J A8J 1AE 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 2BG 39J 3AJ 3BJ 3CJ 3DJ 3EJ 48G CEJ CFJ CGJ CHJ A9J 29U 3FG 1AM 2FM 39M 4KM 4KA 4KC 4KC 4KH 4KR 4KK 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ CJJ 8FJ 8GJ 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ CTJ D6S D6Y 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43K 43J 8TJ AFJ AGJ AHJ BCS DEU DES DEY G5C G6J G7J G8J CUJ C1J DJJ AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ G9J GDJ 64J 65J 66J 67J 68J 69J 6AJ)	41D0650	**
11	128 MB NP SDRAM PC2700 (models CAU CBU CCU CDU A2G AAG ABU ABS ABP ABY CKU CLU CMU CNU CPU CQU CPU CQU 8LJ)	31P9120	*
11	256 MB NP SDRAM PC2700 (All models EXCEPT those otherwise listed)	31P9121	*
11	512 MB SDRAM (models 23U 34U 42U 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 48G 43K 36U 36F 36S 36P 36Y 3FG 3LM 4KM 4KA 4KC 4KC 4KH 4KR 4KK 3GG 4JG 4JM 4JA 4JC 4JH 4JR B2U B3S B3P B3U B3Y G1U G1F 79G D1M G2U 8TJ B9S B9Y BAU BBG D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J DBU DCG DEU DES DEY DFS DFY DGU DHU G4U G9J BMU BNU 34F DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ BPU BPF BPS BPP BPL DRU DRF DRS DRP DRL 63U BRU BSU)	31P9122	*
11	256MB NP SDRAM PC3200 (models DSG GFG GFA GFQ GFT GGU H1G H1C GWB GWH)	73P2683	*
11	512MB NP SDRAM PC3200 (models GHU GHF GKU GLU H2U H2F H3U DTU DTG DUE DUJ DVJ DWJ DYJ GMU GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ GPJ GQJ GRJ GSJ GTJ H4U H4F H5G H6C GUU GVU H7U)	73P2684	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8183 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Lock assembly (Random keyed) (models 7FG AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ 64J 65J 66J 67J 68J 69J 6AJ DTU DTG DUE DUJ DVJ DWJ DYJ GMU GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ GPJ GQJ GRJ GSJ GTJ H4U H4F H5G H6C A4J A5J A6J A7J A8J 1AE 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 2AU 2AF 2AS 2AP 2AY 2BG 39J 3AJ 3BJ 3CJ 3DJ 3EJ 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 47U 48G 75G CEJ CFJ CGJ CHJ 43K A9J 29U 3FG 3JG 4GG 1AM 2FM 39M 4KM 4KA 4KC 4KC 4KH 4KR 4KK 3JG 4GG 4JG 4JM 4JA 4JC 4JH 4JR B4U 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ CJJ CMU B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ CTJ B7S B7Y D6S D6Y AFJ AGJ AHJ BBG BCS BCY DCG DEU DES DEY G5C G6J G7J G8J 7DG 7EG CUJ C1J 47S 47Y DJJ)	03R0287	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
system board tray (all models)	03R0295	**
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
Cable, C2 (squall) (models 7FG AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ 64J 65J 66J 67J 68J 69J 6AJ DTU DTG DUE DUJ DVJ DWJ DYJ GMU GNU GNF GNS GNP GNL GNY GNG GNM GNA GNQ GNT GNC GNB GNH GNV GNK GNJ GPJ GQJ GRJ GSJ GTJ H4U H4F H5G H6C A4J A5J A6J A7J A8J 1AE 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 2AU 2AF 2AS 2AP 2AY 2BG 39J 3AJ 3BJ 3CJ 3DJ 3EJ 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 47U 48G 75G CEJ CFJ CGJ CHJ 43K A9J 29U 3FG 3JG 4GG 1AM 2FM 39M 4KM 4KA 4KC 4KC 4KH 4KR 4KK 3JG 4GG 4JG 4JM 4JA 4JC 4JH 4JR B4U 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ CJJ CMU B7U B7F 8FJ 8GJ 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ CTJ B7S B7Y D6S D6Y AFJ AGJ AHJ BBG BCS BCY DCG DEU DES DEY G5C G6J G7J G8J 7DG 7EG CUJ C1J 47S 47Y DJJ)	09K9827	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Korean label (models 21K 43K 4KK 4JR 4KR BDK D7K GNK)	13R9162	*
Fan baffle for Prescott (models CTO-U CTO-G B8G B9S B9Y 7CG BAU BBG BCS BCY BDK BEA BET BEV BFU BFS BFY BGA BGT BGC BGB BGH 7DG CVU CWU D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J D8A D8T D8V D9U D9S D9Y DAC DAB DAH DBU DCG DEU DES DEY DFS DFY DGU DHU 7EG CYU CZU G9J 7FG BMU BNU 34F AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ BPU BPF BPS BPP BQU DRU DRF DRS DRP C4U C5U BPU BPF BPS BPP BPL BQU DRU DRF DRS DRP DRL C4U C5U 61U 62U 63U BRU BSU C6U 64J 65J 66J 67J 68J 69J 6AJ DSG GFG GFA GFQ GFT GGU GHU GHF GKU GLU GWB GU)	26K1233	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Mouse, 2 button black (models CTO CAU CBU CCU CDU CKU CLU CMU CNU CPU CQU CRU CSU CPU CQU CVU CWU CYU CZU C2U C3U)	24P0383	*

8183 FRUs	FRU#	CRU
Mouse, 3 button wheel (models A2G 55G 35G 46G 45G A4J A5J A6J A7J A8J 1AE 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 39J 3AJ 3BJ 3CJ 3DJ 3EJ 71G 72G 73G 74G 75G 76G A9J 1GM 2EM 3LM 3MM 1AM 2FM 39M 46U AAG 3GG 2HM B1M D1M 78G 79G 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ 7AG 7BG 8LJ AFJ AGJ AHJ G6J G7J G8J DJJ B8G 7CG G9J AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ 64J 65J 66J 67J 68J 69J 6AJ DUE DUJ DVJ DWJ DYJ GPJ GQJ GRJ GSJ GTJ)	24P0491	*
Mouse, optical wheel (All models EXCEPT those otherwise listed)	89P5089	*
Two-Drop IDE ATA-100 Cable (use w/Zip Drive) (models CTO-U CTO-G)	88P7258	*
Speakers, Infinity Active T1 (Black) (models CPU CQU)	25P4726	*
Speaker Power brick - US, CE, CF, LA, Thailand (models CPU CQU)	10K2587	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G", "M", "B", "H" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8183 (Preferred Pro) Keyboards	FRU#	CRU
US English (models B7U CRU CSU 8HE 7AG 7BG CPU CQU AKU ALU B8G BAU BBG BEA BFU BGA BGC BGH D7U D7G D7M D7A D7C D7H D8A D9U DAC DAH DBU DCG DEU DGU DHU G3H G4U G5C 7CG 7DG 7EG BHC CVU CWU CYU CZU C2U C3U 7FG BMU BNU BPU BPL BQU DRU DRL 61U 62U 63U BRU BSU DSG GFG GFA GFQ GGU GHU GKU GLU H1G H1C H2U H3U DTU DTG DUE GMU GNU GNL GNG GNM GNA GNQ GNC GNH H4U H5G H6C GWH GUU GVU H7U 21U 41U CAU CBU CCU CDU CTO A1U A2G 12U 13U 16C 16H 51U 52U 53U 55G 26C 26H 27H 21G 21M 21A 21C 21H 22U 23U 24U 32U 33U 34U 35G 46G 42U 45G 1AE 2AU 2BG 43U 43G 43M 43A 43C 43H 47U 48G 71G 72G 73G 74G 75G 76G A3U 26U 36U 29U 3FG 3HM 3HA 3HC 3HH 4HM 4HA 4HC 4HH 3JG 4GG 1GM 2EM 3LM 1AM 2FM 39M 4KM 4KA 4KC 4KC 4KH 4KR 46U AAG ABU 11U 15U 2CU 2DC 3GG 3HM 3HA 3HC 3HH 3JG 3MM 4GG 4HM 4HA 4HC 4HH 4JG 4JM 4JA 4JC 4JH 4JR ADU 2HM B1M B2U B3U D1M D2H G1U B4U 78G 79G CKU CLU CMU CNU 2JU CPU CQU AEU B5U B6U D3U G2U)	89P8300	*
Arabic (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8301	*
Belgian/French (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8302	*
Belgian/UK (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8303	*

8183 (Preferred Pro) Keyboards	FRU#	CRU
Bulgarian (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8305	*
Chinese/US (models 16B 26B 27B 21B 21V 43B 43V 4HV 3HB 2DV 4HV D2B BEV BGB D7B D7V D8V DAB G3B GMB GNB GNV GWB)	89P8306	*
Czech (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8307	*
Danish (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8308	*
Dutch (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8309	*
French (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8310	*
French Canadian 445 (models 51F 21F 32F 41F 2AF 43F 26F 36F 11F G1F B7F D7F 34F BPF DRF GHF H2F GNF H4F)	89P8311	*
French Canadian 58 Preferred Pro (sub'd from 32P5111) (models 51F 21F 32F 41F 2AF 43F 26F 36F 11F G1F B7F D7F 34F BPF DRF GHF H2F GNF H4F)	89P8312	*
German (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8313	*
Greek (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8314	*
Hebrew (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8315	*
Hungarian (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8316	*
Iceland (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8317	*
Italian 141 (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8318	*
Italian 142 (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8319	*
Japanese (models 21J A4J A5J A6J A7J A8J 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 39J 3AJ 3BJ 3CJ 3DJ 3EJ 43J A9J 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ 8TJ 8LJ AFJ AGJ AHJ D7J G6J G7J G8J DJJ G9J AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ 64J 65J 66J 67J 68J 69J 6AJ DUJ DVJ DWJ DYJ GNJ GPJ GQJ GRJ GSJ GTJ)	89P8320	*
Korean (models 21K 43K 4KK BDK D7K GNK)	89P8321	*

8183 (Preferred Pro) Keyboards	FRU#	CRU
LA Spanish (models A1S A1Y 12S 12Y 51S 51Y 52S 52Y 53S 53Y 21S 21Y 22S 22Y 24S 24Y 32S 32Y 33S 33Y 2AS 2AY 43S 43Y A3S A3Y 26S 26Y 36S 36Y ABS ABY 11S 11Y 15S 15Y ADS ADY B3S B3Y AES AEY D4S D4Y D5S D5Y B7S B7Y D6S D6Y AJS AJY ALS ALY B9S B9Y BCS BCY BFS BFY D7S D7Y D9S D9Y DES DEY DFS DFY 47S 47Y BPS DRS GNS GNY)	89P8322	*
Norwegian (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8323	*
Polish (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8324	*
Portuguese (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8325	*
Romanian (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8326	*
Russian preferred Pro (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8327	*
Russian/Cyrillic (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8328	*
Serbian/Cyrillic (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8329	*
Slovak (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8330	*
Spanish (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8331	*
Swedish/Finn (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8332	*
Swiss F/G (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8333	*
Thailand ((models 21T 43T BET BGT D7T D8T GFT GNT)	89P8334	*
Turkish 440 (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8335	*
Turkish 179 (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8336	*
UK English (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8337	*
US Euro (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8338	*

8183 (Preferred Pro) Keyboards	FRU#	CRU
Yugoslav/Latin (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 3JG 4GG 4JG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	89P8339	*
Brazil/Portugese (models A1P 12P 51P 52P 53P 21P 22P 24P 32P 33P 2AP 43P A3P 26P 36P ABP 11P 15P ADP B3P AEP D5P D7P BPP DRP GNP)	89P8304	*

8183 Power Cords	FRU#	CRU
Power cord (models AEU AES AEP B5U B6U D3U G2U B7U B7F CRU CSU D4S D5S D5P B7S D6S 7AG 7BG CPU CQU AJS AKU ALU ALS B8G B9S BAU BBG BCS BEA BET BEV BFU BFS BGA BGT D7U D7F D7S D7P D7G D7A D7T D7V D8A D8T D8V D9U D9S DBU DCG DEU DES DFS DGU DHU G4U 7CG 7DG 7EG CVU CWU CYU CZU 47S C2U C3U 7FG BMU BNU 34F BPU BPF BPS BPP BPL BQU DRU DRF DRS DRP DRL C4U C5U 61U 62U 63U BRU BSU C6U DSG GFG GFA GFT GGU GHU GHF GKU GLU H1G H2U H2F H3U DTU DTG GMU GNU GNF GNS GNP GNL GNG GNA GNT GNV H4U H4F H5G C7U C8U GUU GVU H7U 21U 41U CTO CAU CBU CCU CDU A1U A1S A1P A2G 12U 12S 12P 13U 51U 51F 51S 51P 52U 52S 52P 53U 53S 53P 55G 21F 21S 21P 21G 21M 21A 21T 21V 22U 22S 22P 23U 24U 24S 24P 32U 32F 32S 32P 33U 33S 33P 34U 35G 46G 41F 42U 45G 2AU 2AF 2AS 2AP 2BG 43U 43F 43S 43P 43G 43M 43A 43T 43V 47U 48G 71G 72G 73G 74G 75G 76G A3U A3S A3P 26U 26F 26S 26P 36U 36F 36S 36P 29U 3FG 3HA 4HA 4HV 3JG 4GG 4KA 46U AAG ABU ABS ABP 11U 11F 11S 11P 15U 15S 15P 2CU 2DV 3GG ADU ADS ADP B2U B3S B3P B3U G1U G1F B4U 78G 79G CKU CLU CMU CNU 2JU)	6952301	*
Power cord (models 21M 43M 3HM 4HM 1GM 2EM 3LM 3MM 1AM 2FM 39M 4KM 2HM B1M D1M D7M GNM)	13F9939	*
Power cord (models A2G 55G 21G 21A 35G 46G 45G 2BG 43G 43A 48G 71G 72G 73G 74G 75G 76G 21K 43K 3FG 3JG 4GG 4KR 4KK AAG 3GG 78G 79G 7AG 7BG B8G BBG BDK D7G D7K DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG GNK H5G)	13F9978	*
Power cord (models A2G 16H 55G 26H 27H 21G 21A 21H 35G 46G 45G 2BG 43G 43A 43H 48G 71G 72G 73G 74G 75G 76G 3FG 3HH 4HH 3JG 4GG 4KH AAG 3GG D2H 78G 79G 7AG 7BG B8G BBG BGH D7G D7H DAH DCG G3H 7CG 7DG 7EG 7FG DSG GFG GMH H1G DTG GNG GNH H5G GWH)	14F0032	*
Power cord (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	13F9996	*
Power cord (models A1S A1P A1Y A2G 12S 12P 12Y 51S 51P 51Y 52S 52P 52Y 53S 53P 53Y 55G 21S 21P 21Y 21G 22S 22P 22Y 24S 24P 24Y 32S 32P 32Y 33S 33P 33Y 35G 46G 45G 2AS 2AP 2AY 2BG 43S 43P 43Y 43G 48G 71G 72G 73G 74G 75G 76G A3S A3P A3Y 26S 26P 26Y 36S 36P 36Y 3FG 3JG 4GG AAG ABS ABP ABY 11S 11P 11Y 15S 15P 15Y 3GG ADS ADP ADY B3S B3P B3Y 78G 79G AES AEP AEY D4S D4Y D5S D5P D5Y B7S B7Y D6S D6Y 7AG 7BG AJS AJY ALS ALY B8G B9S B9Y BBG BCS BCY BFS BFY D7S D7P D7Y D7G D9S D9Y DCG DES DEY DFS DFY 7CG 7DG 7EG 47S 47Y 7FG BPS BPP)	14F0068	*
Power cord (models A1Y 12Y 51Y 52Y 53Y 21Y 22Y 24Y 32Y 33Y 2AY 43Y A3Y 26Y 36Y ABY 11Y 15Y ADY B3Y AEY D4Y D5Y B7Y D6Y AJY ALY B9Y BCY BFY D7Y D9Y DEY DFY 47Y GNY)	36L8879	*
Power cord (models A4J A5J A6J A7J A8J 1AJ 1BJ 1CJ 1DJ 1EJ 1FJ 39J 3AJ 3BJ 3CJ 3DJ 3EJ 43J 49A CEJ CFJ CGJ CHJ A9J 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ CJJ 8FJ 8GJ 8HE 8HJ 8JJ 8KJ 8LJ 8MJ 8NJ 8PJ 8QJ 8RJ 8SJ CTJ 8TJ 8LJ AFJ AGJ AHJ D7J G6J G7J G8J CUJ C1J DJJ G9J AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ 64J 65J 66J 67J 68J 69J 6AJ DUE DUJ DVJ DWJ DYJ GNJ GPJ GQJ GRJ GSJ GTJ)	1838576	*
Power cord (models 16C 16B 16H 26C 26B 26H 27B 27H 21C 21B 21H 43C 43B 43H 3HC 3HH 4HC 4HH 3HB 4KC 4KC 4KH 2DC D2B D2H BGC BGB BGH D7C D7B D7H DAC DAB DAH G3B G3H G5C BHC H1C GNC GNB GNH H6C GWB GWH)	02K0545	*

8183 Power Cords	FRU#	CRU
Power cord (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	14F0086	*
Power cord (models A2G 55G 21G 21A 35G 46G 45G 2BG 43G 43A 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	14F0014	*
Power cord (models A2G 55G 21G 35G 46G 45G 2BG 43G 48G 71G 72G 73G 74G 75G 76G 3FG 3JG 4GG AAG 3GG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	14F0050	*
Power cord (models GFQ GNQ)	49P2078	*

8183 Windows 2000 Recovery CDs	FRU #	CRU
US (models 13U 24U 27H 53U)	13R9673	*
BR (models 24P 53P)	13R9678	*
SP (models 24S 24Y 53S 53Y)	13R9676	*
JP (models 1DJ 1EJ 1FJ 3CJ 3DJ 3EJ A6J A7J A8J 84J 85J 86J 88J 8CJ 8DJ 8EJ 8GJ 8LJ 8MJ 8NJ 8QJ 8SJ)	13M6442	*
HK (model 27B)	13M6427	*

8183 Windows XP Pro Recovery CDs	FRU #	CRU
US (models 7CG 7DG 7EG 7FG BMU BNU BPU BPL BQU DRU DRL C4U C5U 61U 62U 63U BRU BSU C6U DSG GFG GFA GFQ GFT GGU GHU GKU GLU H1G H2U H3U DTU DTG DUE GMU GNU GNL GNG GNM GNA GNQ GNT GNH H4U H5G GWH GUU GVU H7U 11U 12U 15U 16H 1AE 1AM 1GM 21A 21G 21H 21M 21T 21U 22U 23U 26H 26U 29U 2AU 2BG 2CU 2EM 2FM 32U 33U 34U 35G 36U 39M 3FG 3GG 3HA 3HH 3HM 3JG 3LM 41U 42U 43A 43G 43H 43M 43T 43U 45G 46G 46U 47U 48G 4GG 4HA 4HH 4HM 4JA 4JG 4JH 4JM 4JR 4KA 4KH 4KM 4KR 51U 52U 55G 71G 72G 73G 74G 75G 76G A1U A2G A3U AAG ABU ADU 2HM B1M B2U B3U D1M D2H G1U B4U 78G 79G 2JU 8HE AEU B5U B6U D3U G2U B7U 7AG 7BG AKU ALU B8G BAU BBG BEA BET BFU BGA BGT BGH D7U D7G D7M D7A D7T D7H D8A D8T D9U DAH DBU DCG DEU DGU DHU G3H G4U)	29R7998	*
FR (models 11F 21F 21G 26F 2AF 2BG 32F 35G 36F 3FG 3GG 3JG 41F 43F 43G 45G 46G 48G 4GG 4JG 51F 55G 71G 72G 73G 74G 75G 76G A2G AAG G1F 78G 79G B7F 7AG 7BG B8G BBG D7F D7G DCG 7CG 7DG 7EG 7FG 34F BPF DRF DSG GFG GHF H1G H2F DTG GNF GNG H4F H5G)	29R7999	*
GR (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8000	*
IT (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8002	*
SP (models 11S 11Y 12S 12Y 15S 15Y 21G 21S 21Y 22S 22Y 26S 26Y 2AS 2AY 2BG 32S 32Y 33S 33Y 35G 36S 36Y 3FG 3GG 3JG 43G 43S 43Y 45G 46G 48G 4GG 4JG 51S 51Y 52S 52Y 55G 71G 72G 73G 74G 75G 76G A1S A1Y A2G A3S A3Y AAG ABS ABY ADS ADY B3S B3Y 78G 79G AES AEY D4S D4Y D5S D5Y B7S B7Y D6S D6Y 7AG 7BG AJS AJY ALS ALY B8G B9S B9Y BBG BCS BCY BFS BFY D7S D7Y D7G D9S D9Y DCG DES DEY DFS DFY 7CG 7DG 7EG 47S 47Y 7FG BPS DRS DSG GFG H1G DTG GNS GNY GNG H5G)	29R8001	*
BR (models 11P 12P 15P 21P 22P 26P 2AP 32P 33P 36P 43P 51P 52P A1P A3P ABP ADP B3P AEP D5P D7P BPP DRP GNP)	29R8003	*

8183 Windows XP Pro Recovery CDs	FRU #	CRU
DK (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8005	*
NL (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8008	*
AE (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8012	*
SV (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8004	*
HE (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8009	*
FI (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8006	*
NO (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8007	*
PL (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8010	*
PO (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8016	*
RU (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8013	*
HU (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8015	*
CZ (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8011	*
TR (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8014	*
GK (models 21G 2BG 35G 3FG 3GG 3JG 43G 45G 46G 48G 4GG 4JG 55G 71G 72G 73G 74G 75G 76G A2G AAG 78G 79G 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	29R8017	*
JP (models 1AJ 1BJ 1CJ 21J 39J 3AJ 3BJ 43J A4J A5J A9J 81J 82J 83J 87J 89J 8AJ 8BJ 8FJ 8HJ 8JJ 8KJ 8PJ 8RJ AFJ AGJ AHJ D7J G6J G7J G8J DJJ G9J AMJ ANJ APJ AQJ DMJ DNJ DPJ DQJ GAJ GBJ GCJ GDJ 64J 65J 66J 67J 68J 69J 6AJ DUJ DVJ DWJ DYJ GNJ GPJ GQJ GRJ GSJ GTJ)	27K6922	*
CS (models 16C 21C 26C 3HC 3HC 43C 4HC 4HC 4JC 4KC BGC D7C DAC G5C H1C GNC H6C)	27K6907	*
TW (models 21V 43V 4HV 4HV GNV)	27K6912	*
HK (models 16B 21B 26B 3HB 43B D2B BGB D7B DAB G3B GMB GNB GWB)	27K6917	*
KR (models 21K 43K 4KK D7K GNK)	27K6902	*

8183 Windows XP Pro Recovery CDs	FRU #	CRU
Multilingual RCD 1 XP-P (models 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	19R1268	*
Multilingual RCD 2 XP-P (models 7AG 7BG B8G BBG D7G DCG 7CG 7DG 7EG 7FG DSG GFG H1G DTG GNG H5G)	19R1270	*

8183 Windows XP Home Recovery CDs	FRU#	CRU
CS (model 2DC BHC)	27K6932	*
JP (model 8LJ)	27K6947	*
TW (model 2DV)	27K6937	*
KR (models BDK)	27K6927	*

Machine Type 8184
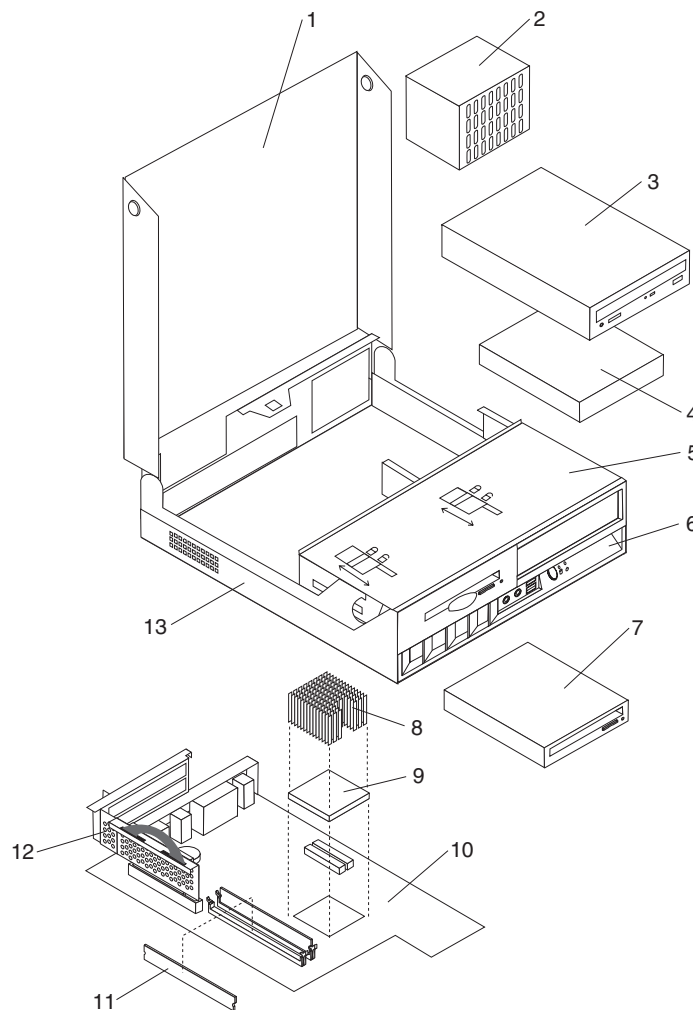
Item #	8184 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	**
2	Power supply 200 W (all models)	24R2614	**

Item #	8184 FRUs	FRU#	CRU
3	CD-ROM Drive 48X (Black) (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	33P3203	*
3	CD-ROM Drive 48X (Black) (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	33P3211	*
3	CD-ROM Drive 48X (Black) (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	33P3207	*
3	CD-ROM Drive 48X (Black) (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	71P7353	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	71P7367	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	71P7369	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	71P7371	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	71P7375	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	71P7385	*
3	CD-ROM Drive 48X (Black) (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	40Y8801	*
3	CD-ROM Drive 48X (Black) (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	40Y8809	*
3	CD-ROM Drive 48X (Black) (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	40Y8805	*
3	CD-ROM Drive 48X (Black) (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A2M B2M D2M B3M D3M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M G1M)	40Y8813	*
3	DVD-ROM 16X/48X (Black) (models 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 43K A1M B1M D1M B4M D4M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J)	33P3237	*
3	DVD-ROM 16X/48X (Black) (models 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 43K A1M B1M D1M B4M D4M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J)	71P7357	*
3	DVD-ROM 16X/48X (Black) (models 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 43K A1M B1M D1M B4M D4M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J)	40Y8803	*
3	DVD-ROM 16X/48X (Black) (models 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 43K A1M B1M D1M B4M D4M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J)	40Y8811	*

Item #	8184 FRUs	FRU#	CRU
3	Universal Combo Drive (48x/24x/48x/16x) -- optional to 26K5379 and 26K5381 (models G2M)	26K5390	*
3	Universal Combo Drive (48x/32x/48x/16x) (models G2M)	26K5379	*
3	Universal Combo Drive (48x/32x/48x/16x) (models G2M)	26K5381	*
3	Universal Combo Drive (48x/32x/48x/16x) (models G2M)	40Y8781	*
3	Universal Combo Drive (48x/32x/48x/16x) (models G2M)	40Y8903	*
4	HDD 40GB EIDE (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 21K 43K 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A1M B1M D1M A2M B2M D2M B3M B4M D3M D4M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J G1M)	19K1568	*
4	HDD 80GB EIDE (models G2M)	24P3665	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5″ 1.44MB 3MODE, slim (all models)	36L8645	*
7	Diskette drive 3.5″ 1.44MB 3MODE, slim (all models)	40Y8897	*
7	Diskette drive 3.5″ 1.44MB 3MODE, slim (all models)	40Y8895	*
8	Heatsink (All models)	03R0298	**
8	Heatsink for Prescott (models B3M B4M D3M D4M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J G1M G2M)	13R9022	**
9	Intel P4 2.66 GHz (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	74P1600	**
9	Intel P4 2.6 GHz (models A1M A2M)	88P5862	**
9	Intel P4 2.8GHZ (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J B1M B2M)	88P5863	**
9	Intel P4 3.0GHZ (models 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 43K D1M D2M)	88P5864	**
9	Intel Celeron Prescott 2.8GHZ (models A1M)	19R0411	**
9	Intel P4 Prescott 2.8GHZ (models B3M B4M)	19R0286	**
9	Intel P4 Prescott 3.0GHZ (models D3M D4M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J)	19R0288	**
9	Intel P4 Prescott 3.2GHZ (models 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J G1M G2M)	19R0290	**
10	System board, 10/100 E-net, no POV (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	89P7950	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	89P7933	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K)	41D0649	**
10	System board, Gigabit E-net, no POV (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A1M B1M D1M A2M B2M D2M)	89P7952	**
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A1M B1M D1M A2M B2M D2M)	89P7935	**

Item #	8184 FRUs	FRU#	CRU
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (models 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A1M B1M D1M A2M B2M D2M)	41D0651	**
10	System board, Gigabit E-net, POV (Prescott CPU enabled) (models 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J)	89P7934	**
10	System board, Gigabit E-net, POV (Prescott CPU enabled) (models 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J)	41D0650	**
11	256 MB SDRAM PC2700 (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 21K A1M)	31P9121	*
11	512 MB SDRAM PC2700 (models 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 43K 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A1M B1M D1M A2M B2M D2M B3M B4M D3M D4M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J)	31P9122	*
11	512 MB SDRAM PC3200 (models 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J G1M G2M)	73P2684	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8184 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Lock assembly (Random keyed) (all models)	03R0287	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, Two-Drop IDE ATA-100 (use w/Zip Drive) (models CTO CTG)	88P7258	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
System board tray (all models)	03R0295	**
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
Cable, C2 (squall) (models 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 43K A2M B2M D2M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J)	09K9827	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Mouse, optical wheel (models 21U 21F 21S 21P 21Y 21G 21M 21A 21T 21C 21B 21H 21V 21J 43U 43F 43S 43P 43Y 43G 43M 43A 43T 43C 43B 43H 43V 43J 21K 43K 36U 36F 36S 36P 36Y 36G 36M 36A 36T 36C 36B 36H 36V 36K 36J A1M B1M D1M A2M B2M D2M B3M B4M D3M D4M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J G1M G2M)	89P5089	*
Korean label (models 21K 43K 36K 32K)	13R9162	*

8184 FRUs	FRU#	CRU
Fan Baffle for Prescott CPU (models B3M B4M D3M D4M D7U D7F D7S D7P D7Y D7G D7M D7A D7T D7C D7B D7H D7V D7K D7J A1M 32U 32F 32S 32P 32L 32Y 32G 32M 32A 32Q 32T 32C 32B 32H 32V 32K 32J G1M G2M)	26K1233	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G", "M", "B", "H" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8184 (Preferred Pro) Keyboards	FRU#	CRU
US English (models 21U 21G 21M 21A 21C 21H 43U 43G 43M 43A 43C 43H 36U 36G 36M 36A 36C 36H A1M B1M D1M A2M B2M D2M B3M B4M D3M D4M D7U D7G D7M D7A D7C D7H A1M 32U 32G 32M 32A 32C 32H 32L 32Q G1M G2M)	89P8300	*
Arabic (models 21G 43G 36G D7G 32G)	89P8301	*
Belgian/French (models 21G 43G 36G D7G 32G)	89P8302	*
Belgian/UK (models 21G 43G 36G D7G 32G)	89P8303	*
Bulgarian (models 21G 43G 36G D7G 32G)	89P8305	*
Chinese/US (models 21B 21V 43B 43V 36B 36V D7B D7V 32B 32V)	89P8306	*
Czech (models 21G 43G 36G D7G 32G)	89P8307	*
Danish (models 21G 43G 36G D7G 32G)	89P8308	*
Dutch (models 21G 43G 36G D7G 32G)	89P8309	*
French (models 21G 43G 36G D7G 32G)	89P8310	*
French Canadian 445 (models 21F 43F 36F D7F 32F)	89P8311	*
French Canadian 58 (models 21F 43F 36F D7F 32F)	89P8312	*
German (models 21G 43G 36G D7G 32G)	89P8313	*
Greek (models 21G 43G 36G D7G 32G)	89P8314	*
Hebrew (models 21G 43G 36G D7G 32G)	89P8315	*
Hungarian (models 21G 43G 36G D7G 32G)	89P8316	*
Iceland (models 21G 43G 36G D7G 32G)	89P8317	*
Italian 141 (models 21G 43G 36G D7G 32G)	89P8318	*
Italian 142 (models 21G 43G 36G D7G 32G)	89P8319	*
Japanese (models 21J 43J 36J D7J 32J)	89P8320	*

8184 (Preferred Pro) Keyboards	FRU#	CRU
Korean (models 21K 43K 36K D7K 32K)	89P8321	*
LA Spanish (models 21S 21Y 43S 43Y 36S 36Y D7S D7Y 32S 32Y)	89P8322	*
Norwegian (models 21G 43G)	89P8323	*
Polish (models 21G 43G 36G D7G 32G)	89P8324	*
Portugese (models 21G 43G 36G D7G 32G)	89P8325	*
Romanian (models 21G 43G 36G D7G 32G)	89P8326	*
Russian (models 21G 36G 43G	89P8327	*
Russian/Cyrillic (models 21G 43G 36G D7G 32G)	89P8328	*
Serbian/Cyrillic (models 21G 43G 36G D7G 32G)	89P8329	*
Slovak (models 21G 43G 36G D7G 32G)	89P8330	*
Spanish (models 21G 43G 36G D7G 32G)	89P8331	*
Swedish/Finn (models 21G 43G 36G D7G 32G)	89P8332	*
Swiss F/G (models 21G 43G 36G D7G 32G)	89P8333	*
Thailand (models 21T 36T 43T)	89P8334	*
Turkish (models 21G 43G 36G D7G 32G)	89P8336	*
UK English (models 21G 43G 36G D7G 32G)	89P8337	*
US Euro (models 21G 43G 36G D7G 32G)	89P8338	*
Yugoslav/Latin (models 21G 36G 43G)	89P8339	*
Brazil/Portugese (models 21P 43P 36P D7P 32P)	89P8304	*

8184 Power Cords	FRU#	CRU
Power cord (models 21U 21F 21S 21P 21G 21A 21T 21V 43U 43F 43S 43P 43G 43A 43T 43V 36U 36F 36S 36P 36G 36A 36T 36V D7U D7F D7S D7P D7G D7A D7T D7V 32U 32F 32S 32P 32L 32G 32A 32T 32V)	6952301	*
Power cord (models 21M 43M 36M B3M B4M D3M D4M D7M A1M 32M G1M G2M)	13F9939	*
Power cord (models 21G 21A 43G 43A 21K 43K 36G 36K D7G D7K 32G 32K)	13F9978	*
Power cord (models 21G 21A 21H 43G 43A 43H 36G 36H D7G D7H 32G 32H)	14F0032	*
Power cord (models 21G 43G 36G D7G 32G)	13F9996	*
Power cord (models 21S 21P 21Y 21G 43S 43P 43Y 43G 36S 36P 36Y 36G D7S D7P D7Y D7G 32S 32P 32L 32Y 32G)	14F0068	*
Power cord (models 21Y 43Y 36Y D7Y 32Y)	36L8879	*
Power cord (models 21C 21B 21H 43C 43B 43H 36C 36B 36H D7C D7B D7H 32C 32B 32H)	02K0545	*
Power cord (models 32J)	1838576	*
Power cord (models 21G 43G 36G D7G 32G)	14F0086	*
Power cord (models 21G 21A 43G 43A 36G D7G 32G)	14F0014	*
Power cord (models 21G 43G 36G D7G 32G)	14F0050	*
Power cord (models 32Q)	49P2078	*

8184 Windows XP Pro Recovery CDs	FRU#	CRU
US (models 21U 43U 21G 21M 21A 21T 21H 43G 43M 43A 43T 43H 36U 36G 36M 36A 36T 36H A1M B1M D1M A2M B2M D2M B3M B4M D3M D4M D7U D7G D7M D7A D7T D7H A1M 32U 32L 32G 32M 32A 32Q 32T 32H G1M G2M)	29R7998	*

8184 Windows XP Pro Recovery CDs	FRU#	CRU
FR (models 21G 43G 36G)	29R7999	*
GR (models 21G 43G 36G)	29R8000	*
IT (models 21G 43G 36G)	29R8002	*
SP (models 21S 21Y 21G 43S 43Y 43G 36S 36Y 36G D7S D7Y D7G 32S 32Y 32G)	29R8001	*
BR (models 21G 43G 36G)	29R8003	*
DK (models 21G 43G 36G)	29R8005	*
NL (models 21G 43G 36G)	29R8008	*
AE (models 21G 43G 36G)	29R8012	*
SV (models 21G 43G 36G)	29R8004	*
HE (models 21G 43G 36G)	29R8009	*
FI (models 21G 43G 36G)	29R8006	*
NO (models 21G 43G 36G)	29R8007	*
PL (models 21G 43G 36G)	29R8010	*
PO (models 21G 43G 36G)	29R8016	*
RU (models 21G 43G 36G)	29R8013	*
HU (models 21G 43G 36G)	29R8015	*
CZ (models 21G 43G 36G)	29R8011	*
TR (models 21G 43G 36G)	29R8014	*
GK (models 21G 43G 36G)	29R8017	*
JP (models 21J 43J 36J D7J 32J)	27K6922	*
CS (models 21C 43C 36C D7C 32C)	27K6907	*
TW (models 21V 43V 36V D7V 32V)	27K6912	*
HK (models 21B 43B 36B D7B 32B)	27K6917	*
KR (models 21K 43K 36K D7K 32K)	27K6902	*
Multilingual RCD 1 (models D7G 32G)	19R1268	*
Multilingual RCD 2 (models D7G 32G)	19R1270	*

Machine Type 8320

Item #	8320 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	*
2	Power supply 200 W (all models)	24R2614	**
3	CD-ROM Drive 48X (Black) (models A1J A3J A4J A6J A7J A9J 12J 13J 15J 16J 18J 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU)	33P3203	*
3	CD-ROM Drive 48X (Black) (models A1J A3J A4J A6J A7J A9J 12J 13J 15J 16J 18J 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU)	33P3211	*
3	CD-ROM Drive 48X (Black) (models A1J A3J A4J A6J A7J A9J 12J 13J 15J 16J 18J 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU)	33P3207	*
3	CD-ROM Drive 48X (Black) (models A1J A3J A4J A6J A7J A9J 12J 13J 15J 16J 18J 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU)	71P7353	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J)	71P7367	*

Item #	8320 FRUs	FRU#	CRU
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J 67J 68J 69J 6AJ)	71P7369	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J 67J 68J 69J 6AJ)	71P7371	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J 67J 68J 69J 6AJ)	71P7375	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J 67J 68J 69J 6AJ)	71P7385	*
3	CD-ROM Drive 48X (Black) (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J ARJ)	40Y8801	*
3	CD-ROM Drive 48X (Black) (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J ARJ)	40Y8809	*
3	CD-ROM Drive 48X (Black) (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J ARJ)	40Y8805	*
3	CD-ROM Drive 48X (Black) (models 51U 52U 53U 27U 84J 85J 87J 88J 8AJ 8BJ 8CJ 8EJ 8FJ 54M 55M 28M 34M 8KJ 8MJ 56E 56J 57J 5AJ 5BJ 36J 37J 71G 5CJ 5DJ 3CJ 3DJ 74G 75G 77G 5FJ 5GJ 5HJ 5JJ 7AG 7BG 7DG 7FG 7GG AKJ ALJ AMJ ANJ 44J 45J 61J 62J 63J 64J ARJ)	40Y8813	*
3	DVD-ROM 16X/48X (Black) (models 24C 25C 31C 3BC 72G 73G 76G 78G 7CG 7EG 7HG 7KG)	33P3237	*
3	DVD-ROM 16X/48X (Black) (models 24C 25C 31C 3BC 72G 73G 76G 78G 7CG 7EG 7HG 7KG)	71P7357	*
3	DVD-ROM 16X/48X (Black) (models 24C 25C 31C 3BC 72G 73G 76G 78G 7CG 7EG 7HG 7KG)	40Y8803	*
3	DVD-ROM 16X/48X (Black) (models 24C 25C 31C 3BC 72G 73G 76G 78G 7CG 7EG 7HG 7KG)	40Y8811	*
3	CD-RW Drive (48X/32X/48X) (models 86J 89J 8DJ 8GJ 29M 35M 58J 3AB 5EJ 3EJ 5LJ APJ 46J 65J 6BJ)	71P7347	*
3	CD-RW Drive (48X/32X/48X) (models A5J A8J 14J 17J 26U 19B 81J 5LJ 86J 89J 8DJ 8GJ 29M 35M 58J 3AB 5EJ 3EJ APJ 46J 65J 6BJ)	71P7349	*
3	CD-RW Drive (48X/32X/48X) (models A5J A8J 14J 17J 26U 19B 81J 5LJ 86J 89J 8DJ 8GJ 29M 35M 58J 3AB 5EJ 3EJ APJ 46J 65J 6BJ)	40Y8901	*
3	48X24X48X CD-RW (Black) (models) (models A5J A8J 14J 17J 26U 19B 81J)	33P3289	*
3	Combo drive 48X24X/48X/16X(models 23V 32C 41C 82J 83J 33B 8HJ 8JJ)	33P3301	*
3	Universal Combo Drive (48x/24x/48x/16x) (models 59J 39J 42B 43C 3FJ 79G 5KJ 5MJ 7JG 7LG AQJ 47J 66J 6CJ)	26K5390	*

Item #	8320 FRUs	FRU#	CRU
3	Combo drive 48X32X/48X/16X) (models 59J 39J 42B 43C 3FJ 79G 5KJ 5MJ 7JG 7LG AQJ 47J 66J 6CJ)	26K5379	*
3	Combo Drive (48x32x/48x/16x) (models 59J 39J 42B 43C 3FJ 79G 5KJ 5MJ 7JG 7LG AQJ 47J 66J 6CJ)	26K5381	*
3	Combo Drive (48x32x/48x/16x) (models 59J 39J 42B 43C 3FJ 79G 5KJ 5MJ 7JG 7LG AQJ 47J 66J 6CJ)	40Y8781	*
3	Combo Drive (48x32x/48x/16x) (models 59J 39J 42B 43C 3FJ 79G 5KJ 5MJ 7JG 7LG AQJ 47J 66J 6CJ)	40Y8903	*
4	HDD 40GB EIDE (models A1J A3J A4J A5J A6J A7J A8J A9J 12J 13J 14J 15J 16J 17J 18J 19B 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU 26U 81J 82J 83J 51U 52U 33B 53U 27U 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ 54M 55M 28M 29M 34M 35M 8KJ 8MJ 56E 56J 57J 58J 5AJ 5BJ 36J 37J 38J 39J 3AB 71G 72G 73G 5CJ 5DJ 5EJ 3CJ 3DJ 3EJ 3FJ 74G 75G 76G 77G 5FJ 5GJ 5HJ 5JJ 5LJ 5MJ 7AG 7BG 7CG 7DG 7EG 7FG 7GG AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ)	19K1568	*
4	HDD 80GB SATA (models 23V 22C 24C 25C 31C 32C 41C 3BC)	71P7293	*
4	HDD 80GB EIDE (models 21B 59J 42B 78G 79G 5KJ 7HG 7JG 7KG 7LG)	24P3665	*
4	HDD 120GB EIDE (models 43C)	24P3687	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5 3mode, slim 1.44 MB (All models EXCEPT 8AJ 8KJ 8MJ 5AJ 5BJ 5HJ 5JJ AMJ ANJ 63J 64J 69J 6AJ)	36L8645	*
7	Diskette drive 3.5 3mode, slim 1.44 MB (All models EXCEPT 8AJ 8KJ 8MJ 5AJ 5BJ 5HJ 5JJ AMJ ANJ 63J 64J 69J 6AJ)	40Y8897	*
7	Diskette drive 3.5 3mode, slim 1.44 MB (All models EXCEPT 8AJ 8KJ 8MJ 5AJ 5BJ 5HJ 5JJ AMJ ANJ 63J 64J 69J 6AJ)	40Y8895	*
8	Heat sink (All models)	03R0298	**
8	Heat sink for Prescott CPU (models 36J 37J 38J 39J 71G CHJ 3AB 3BC 72G 42B 43C 73G 78G 79G 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ)	13R9022	**
9	Intel Celeron 2.0 GHz (models A1J CAU A3J A4J A5J A6J A7J A8J A9J CCJ ABU ACU ADS ADP ADY)	02R4094	**
9	Intel Celeron 2.1 GHz (model AEU)	02R4095	**
9	Intel Celeron 2.2 GHz (models 81J 51U 53U 84J 85J 86J 87J 88J 89J 8AJ CEJ 8KJ 8MJ)	02R4096	**
9	Intel Celeron 2.4 GHz (models52U 52U 54M 56E 56J 57J 58J 59J 5AJ 5BJ CGJ 5CJ 5DJ 5EJ 74G)	88P7696	**
9	Intel Celeron 2.6 GHz (model 55M 75G 76G)	13R8903	**
9	Intel P4 2.4 GHz (models CBU 12J 13J 14J 15J 16J 17J 18J CDJ 1CJ 1CS 1CP 1CY 1DU 1EU 82J 83J)	02R4098	**
9	Intel P4 2.66 GHz (models 26U 25C 27U 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ CFJ 28M 29M)	74P1600	**
9	Intel P4 2.4 GHz (model 19B)	88P5861	**
9	Intel P4 2.6 GHz (models 23V 21B 22C 24C)	88P5862	**
9	Intel P4 2.8 GHz (models 31C 32C 33B)	88P5863	**
9	Intel P4 2.8 GHz (models 3 34M 35M 3CJ 3DJ 3EJ 3FJ 77G)	74P1601	**

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9	Intel P4 3.0 GHz (model 41C)	88P5864	**
9	Intel Celeron Prescott 2.4 GHz (models 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ)	19R0779	**
9	Intel Celeron Prescott 2.53 GHz (models 7AG AKJ ALJ AMJ ANJ APJ AQJ)	19R0407	**
9	Intel Celeron Prescott 2.66 GHz (models 7BG 7CG)	19R0409	**
9	Intel Celeron Prescott 2.8 GHz (models 7DG 7EG 61J 62J 63J 64J 65J 66J)	19R0411	**
9	Intel Celeron Prescott 2.93 GHz (models 67J 68J 69J 6AJ 6BJ 6CJ)	29R6986	**
9	Intel Prescott P4 2.8 GHz (models 36J 37J 38J 39J 71G CHJ)	19R0413	**
9	Intel Prescott P4 2.8 GHz (models 3AB 3BC 72G)	19R0286	**
9	Intel Prescott P4 3.0 GHz (models 42B 43C 73G 78G 79G 7FG 44J 45J 46J 47J)	19R0288	**
9	Intel Prescott P4 3.2 GHz (models 7GG 7HG 7JG)	19R0290	**
9	Intel Prescott P4 3.4 GHz (models 7KG 7LG)	26R6988	**
10	System board, 10/100 E-net, no POV - Primary (models A1J CAU CBU A3J A4J A5J A6J A7J A8J A9J 12J 13J 14J 15J 16J 17J 18J 23V CCJ CDJ 19B 21B 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU 26U 22C 24C 25C 31C 32C 41C 81J 82J 83J 51U 52U 33B 53U 27U 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ CEJ CFJ 54M 55M 28M 29M 34M 35M 8KJ 8MJ 5CJ 5DJ 5EJ 3CJ 3DJ 3EJ 3FJ 74G 75G 76G)	89P7950	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (models 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ A1J CAU CBU A3J A4J A5J A6J A7J A8J A9J 12J 13J 14J 15J 16J 17J 18J 23V CCJ CDJ 19B 21B 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU 26U 22C 24C 25C 31C 32C 41C 81J 82J 83J 51U 52U 33B 53U 27U 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ CEJ CFJ 54M 55M 28M 29M 34M 35M 8KJ 8MJ 56E 56J 57J 58J 59J 5AJ 5BJ 36J 37J 38J 39J 3AB 3BC 42B 43C 71G CGJ CHJ 5CJ 5DJ 5EJ 3CJ 3DJ 3EJ 3FJ 74G 75G 76G 77G 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ 7AG 7BG 7CG 7DG 7EG 7FG 7GG AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J)	89P7933	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (optional to 89P7933) (models 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ ARJ A1J CAU CBU A3J A4J A5J A6J A7J A8J A9J 12J 13J 14J 15J 16J 17J 18J 23V CCJ CDJ 19B 21B 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU 26U 22C 24C 25C 31C 32C 41C 81J 82J 83J 51U 52U 33B 53U 27U 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ CEJ CFJ 54M 55M 28M 29M 34M 35M 8KJ 8MJ 56E 56J 57J 58J 59J 5AJ 5BJ 36J 37J 38J 39J 3AB 3BC 42B 43C 71G CGJ CHJ 5CJ 5DJ 5EJ 3CJ 3DJ 3EJ 3FJ 74G 75G 76G 77G 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ 7AG 7BG 7CG 7DG 7EG 7FG 7GG AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J)	41D0649	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (models 72G 73G 78G 79G 7HG 7JG 7KG 7LG)	89P7932	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (optional to 89P7932) (models 72G 73G 78G 79G 7HG 7JG 7KG 7LG)	41D0648	**
11	128 MB SDRAM PC2700 (models A1J CAU CBU A3J A4J A5J A6J A7J A8J 12J 13J 14J 15J 16J 17J 18J 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU 26U 51U 52U 53U 27U 5BJ 5HJ AMJ 63J 69J)	31P9120	*
11	256 MB SDRAM PC2700 (models A9J 23V 21B 22C 19B 24C 25C 31C 32C 41C 81J 82J 83J 33B 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ 54M 55M 28M 29M 34M 35M 8KJ 8MJ 56E 56J 57J 58J 59J 5AJ 36J 37J 38J 39J 3AB 3BC 42B 43C 71G 72G 73G 5CJ 5DJ 5EJ 3CJ 3DJ 3EJ 3FJ 74G 75G 76G 77G 78G 5FJ 5GJ 5JJ 5KJ 5LJ 5MJ 7AG 7BG 7CG 7DG 7EG AKJ ALJ ANJ APJ AQJ 61J 62J 64J 65J 67J 68J 6AJ 6BJ 6CJ 66J)	31P9121	*
11	512 MB SDRAM PC2700 (models 79G)	31P9122	*
11	256 MB SDRAM PC3200 (models 7FG 7GG 7HG 7KG 44J 45J 46J 47J)	73P2683	*

Item #	8320 FRUs	FRU#	CRU
11	512 MB SDRAM PC3200 (models 7JG 7LG)	73P2684	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8320 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Lock assembly (Random keyed) (models 72G 73G 78G 79G 7HG 7JG 7KG 7LG)	03R0287	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, Two-Drop IDE ATA-100 (use w/Zip Drive) (models CTO CTG)	88P7258	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
System board tray (all models)	03R0295	*
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
Cable, C2 (Squall) (models 72G 73G 78G 79G 7HG 7JG 7KG 7LG)	09K9827	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Fan Baffle for Prescott CPU (models 36J 37J 38J 39J 71G CHJ 3AB 3BC 72G 42B 43C 73G 5CJ 5DJ 5EJ 3CJ 3DJ 3EJ 3FJ 74G 75G 76G 77G 78G 79G 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ)	26K1233	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Mouse, 2 button black (models A1J CAU CBU A3J A4J A5J A6J A7J A8J A9J 12J 13J 14J 15J 16J 17J 18J 1CJ ABU ACU ADS ADP AEU ADY 1CS 1CP 1CY 1DU 1EU 26U 81J 82J 83J 51U 52U 53U 27U 8AJ)	24P0383	*
PS/2 3 Btn (Ball) Wheel Mouse (models 56E 56J 57J 58J 59J 5AJ 5BJ 36J 37J 38J 39J 71G 3CJ 3DJ 3EJ 3FJ 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ)	24P0491	*
Mouse, optical wheel (models 23V 19B 21B 22C 24C 25C 31C 32C 41C 33B 84J 85J 86J 87J 88J 89J 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ 54M 55M 28M 29M 34M 35M 8KJ 8MJ 3AB 3BC 42B 43C 72G 73G 5CJ 5DJ 5EJ 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P5089	CRU
PCI Modem Card (Soft), ATX (models A9J 23V 19B 21B 22C 1CJ ABU 1CS 1CP 1CY 1DU 26U 24C 25C 31C 32C 41C 81J 33B 59J 3AB 3BC 42B 43C 5KJ)	22P7943	*
Speakers, Infinity Active T1 (Black) (models A9J 23V 19B 21B 22C 24C 25C 31C 32C 41C 81J 33B 59J 3AB 3BC 42B 43C 5KJ)	25P4726	*
Speaker Power brick - Taiwan, Thailand (model 23V)	03R0338	*
Speaker Power brick - UK, Hong Kong (3 prong) (models 19B 21B 33B 3AB 42B)	25P5703	*

8320 FRUs	FRU#	CRU
Speaker Power brick (newer 2 prong) - China, Hong Kong (models 19B 21B 22C 24C 25C 31C 32C 41C 33B 3AB 3BC 42B 43C)	10K2597	*
Speaker Power brick - Japan (model A9J 81J 59J 5KJ)	10K2593	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark (All "G" models))	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G" "M" "B" "H" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*
IEEE 1394 Adapter (ATX) (models 22C 24C 25C 31C 32C 41C 3BC 43C)	22P6849	*

8320 (Preferred Pro) Keyboards	FRU#	CRU
US English (models CAU CBU ABU ACU AEU 1DU 1EU 26U 51U 52U 53U 27U 54M 55M 28M 29M 34M 35M 56E 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8300	*
Arabic (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8301	*
Belgian/French (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8302	*
Belgian/UK (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8303	*
Bulgarian (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8305	*
Czech (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8307	*
Danish (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8308	*
Dutch (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8309	*
French (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8310	*
German (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8313	*
Greek (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8314	*
Hebrew (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8315	*
Hungarian (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8316	*

8320 (Preferred Pro) Keyboards	FRU#	CRU
Iceland (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8317	*
Italian 141 (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8318	*
Italian 142 (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8319	*
Japanese (models A1J A3J A4J A5J A6J A7J A8J A9J 12J 13J 14J 15J 16J 17J 18J 1CJ 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ 8KJ 8MJ 56J 57J 58J 59J 5AJ 5BJ 36J 37J 38J 39J 5CJ 5DJ 5EJ 3CJ 3DJ 3EJ 3FJ 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ)	89P8320	*
LA Spanish (models ADS ADY 1CS 1CY)	89P8322	*
Norwegian (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8323	*
Polish (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8324	*
Portuguese (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8325	*
Romanian (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8326	*
Russian (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8327	*
Russian/Cyrillic (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8328	*
Serbian/Cyrillic (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8329	*
Slovak (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8330	*
Spanish (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8331	*
Swedish/Finn (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8332	*
Swiss F/G (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8333	*
Turkish 440 (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8335	*
Turkish 179 (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8336	*
UK English (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8337	*
US Euro (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8338	*
Yugoslav/Latin (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	89P8339	*
Brazil/Portugese (models ADP 1CP)	89P8304	*

8320 RAK III Lite keyboard	FRU#	CRU
US English (models 22C 24C 25C 31C 32C 41C 3BC 43C)	19K1910	*

8320 RAK III Lite keyboard	FRU#	CRU
Chinese/US (models 23V 19B 21B 33B 3AB 42B)	19K1915	*

8320 Power Cords	FRU#	CRU
Power cord (models CAU CBU 23V ABU ACU ADS ADP AEU 1CS 1CP 1DU 1EU 26U 51U 52U 53U 27U 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	6952301	*
Power cord (models 54M 55M 28M 29M 34M 35M)	13F9939	*
Power cord (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13F9978	*
Power cord (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	14F0032	*
Power cord (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13F9996	*
Power cord (models ADS ADP ADY 1CS 1CP 1CY 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	14F0068	*
Power cord (models ADY 1CY)	36L8879	*
Power cord (models A1J A3J A4J A5J A6J A7J A8J A9J 12J 13J 14J 15J 16J 17J 18J CCJ CDJ 1CJ 81J 82J 83J 84J 85J 86J 87J 88J 89J 8AJ 8BJ 8CJ 8DJ 8EJ 8FJ 8GJ 8HJ 8JJ CEJ CFJ 8KJ 8MJ 56E 56J 57J 58J 59J 5AJ 5BJ 36J 37J 38J 39J CGJ CHJ 5CJ 5DJ 5EJ 5FJ 5GJ 5HJ 5JJ 5KJ 5LJ 5MJ AKJ ALJ AMJ ANJ APJ AQJ 44J 45J 46J 47J 61J 62J 63J 64J 65J 66J 67J 68J 69J 6AJ 6BJ 6CJ)	1838576	*
Power cord (models 19B 21B 22C 33B 3AB 3BC 42B 43C)	02K0545	*
Power cord (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	14F0086	*
Power cord (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	14F0014	*
Power cord (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	14F0050	*

8320 Windows 2000 Recovery CDs	FRU#	CRU
JP (models 15J 16J 17J A6J A7J A8J 83J 87J 88J 89J 8EJ 8FJ 8GJ 8JJ 5CJ 5DJ 5EJ)	13M6442	*

8320 Windows XP Home Recovery CDs	FRU#	CRU
US (models 1DU 26U ABU 53U)	13R9714	*
BR (model ADP)	13R9719	*
SP (models ADS ADY)	13R9717	
JP (models 18J A1J A9J 81J 8AJ 59J 5BJ 5HJ 5KJ AMJ 63J 69J)	27K6947	*
CS (models 22C 24C 25C 31C 32C 41C 3BC 43C)	13M6409	*
TW (model 23V)	13M6413	*
HK (models 19B 21B 33B 3AB 42B)	13M6417	*

8320 Windows XP Pro Recovery CDs	FRU#	CRU
US (models 1EU ACU AEU 51U 52U 27U 54M 55M 28M 29M 34M 35M 56E 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9693	*

8320 Windows XP Pro Recovery CDs	FRU#	CRU
FR (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9694	*
GR (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9695	*
IT (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9697	*
SP (models 1CS 1CY 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9696	*
BR (models 1CP)	13R9698	*
DK (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9700	*
NL (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9704	*
AE (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9708	*
SV (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9699	*
HE (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9705	*
FI (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9702	*
NO (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9703	*
PL (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9706	*
PO (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9712	*
RU (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9709	*
HU (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9711	*
CZ (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9707	*
TR (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9710	*
GK (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	13R9713	*
JP (models 12J 13J 14J 1CJ A3J A4J A5J 82J 84J 85J 86J 8BJ 8CJ 8DJ 8HJ 8KJ 8MJ 56J 57J 58J 5AJ 36J 37J 38J 39J 3CJ 3DJ 3EJ 3FJ 5FJ 5GJ 5JJ 5LJ 5MJ)	13M6438	*
JP with Service Pack 2 (models 12J 13J 14J 1CJ A3J A4J A5J 82J 84J 85J 86J 8BJ 8CJ 8DJ 8HJ 8KJ 8MJ 56J 57J 58J 5AJ 36J 37J 38J 39J 3CJ 3DJ 3EJ 3FJ 5FJ 5GJ 5JJ 5LJ 5MJ AKJ ALJ ANJ APJ AQJ 44J 45J 46J 47J 61J 62J 64J 65J 66J 67J 68J 6AJ 6BJ 6CJ)	27K6922	*
Multilingual RCD 1 (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	19R1268	*
Multilingual RCD 2 (models 71G 72G 73G 74G 75G 76G 77G 78G 79G 7AG 7BG 7CG 7DG 7EG 7FG 7GG 7HG 7JG 7KG 7LG)	19R1270	*

Machine Type 8416

Item #	8416 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	*
2	Power supply 200W (all models)	24R2614	**
3	DVD-ROM 16X/48X (Black) (models KUH KFH)	33P3237	*
3	DVD-ROM 16X/48X (Black) (models KUH KFH)	71P7357	*
3	DVD-ROM 16X/48X (Black) (models KUH KFH)	40Y8803	*
3	DVD-ROM 16X/48X (Black) (models KUH KFH)	40Y8811	*
4	HDD 40GB EIDE (models KUH KFH)	19K1568	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5″, 1.44MB, 3MODE, slim (models KUH KFH)	36L8645	*
7	Diskette drive 3.5″, 1.44MB, 3MODE, slim (models KUH KFH)	40Y8897	*
7	Diskette drive 3.5″, 1.44MB, 3MODE, slim (models KUH KFH)	40Y8895	*
8	Heatsink (all models)	03R0298	**
9	Intel P4 3.0 GHz (models KUH KFH)	88P5864	**

Item #	8416 FRUs	FRU#	CRU
10	System board, Gigabit E-net, POV (models KUH KFH)	89P7951	**
10	System board, Gigabit E-net, POV (Prescott CPU enabled) (optional to 89P7951) (models KUH KFH)	89P7934	**
10	System board, Gigabit E-net, POV (Prescott CPU enabled) (optional to 89P7934) (models KUH KFH)	41D0650	**
11	1GB NP SDRAM PC2700 (models KUH KFH)	31P9123	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8416 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Lock assembly (Random keyed) (all models)	03R0287	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
System board tray (all models)	03R0295	*
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Mouse, optical wheel (models KUH KFH)	89P5089	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8416 (Preferred Pro) keyboards	FRU#	CRU
US English (models KUH)	89P8300	*
French (models KFH)	89P8310	*

8416 Power cords	FRU#	CRU
Power cord (models KUH KFH)	6952301	*

8416 Windows XP Pro Recovery CDs	FRU#	CRU
US (models KUH)	29R7998	*
FR/CF (models KFH)	29R7999	*

Machine Type 8417
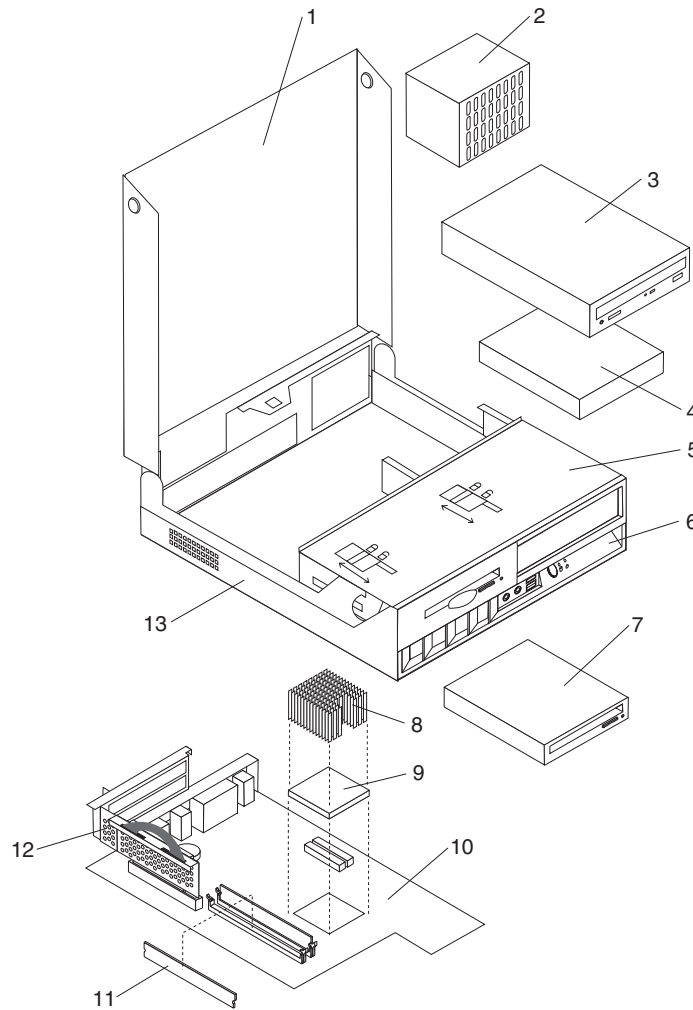
Item #	8417 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	*
2	Power supply 200W (all models)	24R2614	**

Item #	8417 FRUs	FRU#	CRU
3	CD-ROM Drive 48X (Black) (models A1G A2G)	33P3203	*
3	CD-ROM Drive 48X (Black) (models A1G A2G)	33P3211	*
3	CD-ROM Drive 48X (Black) (models A1G A2G)	33P3207	*
3	CD-ROM Drive 48X (Black) (models A1G A2G)	71P7353	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	71P7367	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	71P7369	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	71P7371	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	71P7375	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	71P7385	*
3	CD-ROM Drive 48X (Black) (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	40Y8801	*
3	CD-ROM Drive 48X (Black) (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	40Y8809	*
3	CD-ROM Drive 48X (Black) (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	40Y8805	*
3	CD-ROM Drive 48X (Black) (models A4G A5G A6G 73G 74G 75G 32U 42U 33U 44U A7G A8G A9G AAG 51U 61U)	40Y8813	*
4	HDD 40GB EIDE (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 31U 32U 41U 42U 33U 43U 44U A7G A8G A9G AAG 51U 61U)	19K1568	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 31U 32U 41U 42U 33U 43U 44U A7G A8G A9G AAG 51U 61U)	36L8645	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 31U 32U 41U 42U 33U 43U 44U A7G A8G A9G AAG 51U 61U)	40Y8897	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 31U 32U 41U 42U 33U 43U 44U A7G A8G A9G AAG 51U 61U)	40Y8895	*
8	Heat sink (All models)	03R0298	**
8	Heat sink for Prescott CPU (models 33U 43U 44U A7G A8G A9G AAG 51U 61U)	13R9022	**
9	Intel Celeron 2.0 GHz (model A1G)	02R4094	**
9	Intel Celeron 2.2 GHz (models A2G 71G)	02R4096	**
9	Intel Celeron 2.3 GHz (models A3G 72G)	88P5866	**
9	Intel Celeron 2.4 GHz (models A4G 73G)	88P7696	**
9	Intel Celeron 2.5 GHz (models A5G 74G)	13R8901	**
9	Intel Celeron 2.6 GHz (models A6G 75G)	13R8903	**
9	Intel P4 2.8 GHz (models 31U 32U)	88P5863	**
9	Intel P4 3.0GHz (models 41U 42U)	88P5864	**
9	Intel Celeron Prescott 2.4 GHz (models A7G)	19R0779	**
9	Intel Celeron Prescott 2.53 GHz (models A8G)	19R0407	**
9	Intel Celeron Prescott 2.66 GHz (models A9G)	19R0409	**

Item #	8417 FRUs	FRU#	CRU
9	Intel Celeron Prescott 2.8 GHz (models AAG)	19R0411	**
9	Intel Prescott P4 2.8GHz (models 33U)	19R0286	**
9	Intel Prescott P4 3.0GHz (models 43U 44U)	19R0288	**
9	Intel Prescott P4 3.2GHz (models 51U)	19R0290	**
9	Intel Prescott P4 3.4GHz (models 61U)	29R6988	**
10	System board, 10/100 E-net, no POV (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 31U 41U)	89P7950	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (models A4G A5G A6G 71G 73G 74G 75G A1G A2G 31U 41U 43U A7G A8G A9G AAG)	89P7933	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (optional to 89P7933) (models A4G A5G A6G 71G 73G 74G 75G A1G A2G 31U 41U 43U A7G A8G A9G AAG)	41D0649	**
10	System board, 10/100 E-net, POV (models 32U 42U)	89P7949	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (models 32U 42U)	89P7932	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (optional to 89P7932) (models 32U 42U)	41D0648	**
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (models 51U 61U 33U 44U)	89P7935	**
10	System board, Gigabit E-net, no POV (Prescott CPU enabled) (optional to 89P7935) (models 51U 61U 33U 44U)	41D0651	**
11	128 MB SDRAM PC2700 (models A1G A2G 71G 73G 74G 75G)	31P9120	*
11	256 MB SDRAM PC2700 (models A4G A5G A6G 31U 41U 43U A7G A8G A9G AAG)	31P9121	*
11	512 MB SDRAM PC2700 (models 32U 42U 33U 44U)	31P9122	*
11	512 MB SDRAM PC3200 (models 51U 61U)	73P2684	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8417 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, Two-Drop IDE ATA-100 (use w/Zip Drive) (models CTO CTG)	88P7258	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
System board tray (all models)	03R0295	*
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*

8417 FRUs	FRU#	CRU
Fan baffle for Prescott CPU models (models 33U 43U 44U A7G A8G A9G AAG 51U 61U)	26K1233	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Mouse, 3 button wheel (models A1G A2G A4G A5G A6G 71G 73G 74G 75G)	24P0491	*
Optical Wheelmouse (models 31U 32U 41U 42U 33U 43U 44U A7G A8G A9G AAG 51U 61U)	89P5089	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G", "M", "B", "H" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8417 (Preferred Pro) keyboards	FRU#	CRU
US English (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 31U 32U 41U 42U 33U 43U 44U A7G A8G A9G AAG 51U 61U)	89P8300	*
Arabic (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8301	*
Belgian/French (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8302	*
Belgian/UK (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8303	*
Bulgarian (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8305	*
Czech (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8307	*
Danish (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8308	*
Dutch (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8309	*
French (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8310	*
German (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8313	*
Greek (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8314	*
Hebrew (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	89P8315	*
Hungarian (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8316	*
Iceland ((models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8317	*
Italian 141 (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8318	*
Italian 142 (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8319	*
Norwegian (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8323	*
Polish (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8324	*

8417 (Preferred Pro) keyboards	FRU#	CRU
Portugese (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8325	*
Romanian (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8326	*
Russian (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8327	*
Russian/Cyrillic (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8328	*
Serbian/Cyrillic (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8329	*
Slovak (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8330	*
Spanish (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8331	*
Swedish/Finn (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8332	*
Swiss F/G (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8333	*
Turkish 440 (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8335	*
Turkish 179 (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8336	*
UK English (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8337	*
US Euro (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8338	*
Yugoslav/Latin (models A1G A2G A4G A5G A6G 71G 73G 74G A7G A8G A9G AAG)	89P8339	*

8417 Power cords	FRU#	CRU
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	6952301	*
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	13F9978	*
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	14F0032	*
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	13F9996	*
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	14F0068	*
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	14F0086	*
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	14F0014	*
Power cord (models A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	14F0050	*

8417 Windows XP Pro Recovery CDs	FRU#	CRU
US (models 31U 32U 41U 42U A1G A2G A4G A5G A6G 71G 73G 74G 75G 33U 43U 44U A7G A8G A9G AAG 51U 61U)	29R7998	*
FR (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R7999	*
GR (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8000	*
IT (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8002	*
BR (models A1G A2G A4G A5G A6G 71G 73G 74G 75GA7G A8G A9G AAG)	29R8003	*
SP (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8001	*
DK (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8005	*
NL (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8008	*

8417 Windows XP Pro Recovery CDs	FRU#	CRU
AE (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8012	*
SV (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8004	*
HE (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8009	*
FI (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8006	*
NO (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8007	*
PL (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8010	*
PO (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8016	*
RU (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8013	*
HU (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8015	*
CZ (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8011	*
TR (models A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8014	*
GK (models 31U 32U 41U 42U A1G A2G A4G A5G A6G 71G 73G 74G 75G A7G A8G A9G AAG)	29R8017	*
Multilingual RCD 1 (models A7G A8G A9G AAG)	19R1268	*
Multilingual RCD 2 (models A7G A8G A9G AAG)	19R1270	*

Machine Type 8418

Item #	8418 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	*
2	Power supply 200W (all models)	24R2614	**
3	CD-ROM Drive 48X (Black) (models A4G 31G)	33P3203	*
3	CD-ROM Drive 48X (Black) (models A4G 31G)	33P3211	*
3	CD-ROM Drive 48X (Black) (models A4G 31G)	33P3207	*
3	CD-ROM Drive 48X (Black) (models A4G 31G)	71P7353	*
4	HDD 40GB EIDE (models A4G 31G)	19K1568	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models A4G 31G)	36L8645	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models A4G 31G)	40Y8897	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models A4G 31G)	40Y8895	*
8	Heat sink (all models)	03R0298	**
9	Intel Celeron 2.0 GHz (model A4G)	02R4094	**

Item #	8418 FRUs	FRU#	CRU
9	Intel P4 2.8 GHz (model 31G)	88P5863	**
10	System board, 10/100 E-net, no POV (models A4G 31G)	89P7950	**
10	System board, 10/100 E-net, no POV (Prescott enabled) (models A4G 31G)	89P7933	**
10	System board, 10/100 E-net, no POV (Prescott enabled) (optional to 89P7933) (models A4G 31G)	41D0649	**
11	128 MB SDRAM (model A4G)	31P9120	*
11	256 MB SDRAM (model 31G)	31P9121	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8418 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
System board tray (all models)	03R0295	*
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
Cable, C2 (squall)	09K9827	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Mouse, 3 button wheel (models A4G 31G)	24P0491	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G", "M", "B", "H" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All"G" models)	60H6053	*

8418 FRUs	FRU#	CRU
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8418 (Preferred Pro) keyboards	FRU#	CRU
US English (models A4G 31G)	89P8300	*
Arabic (models A4G 31G)	89P8301	*
Belgian/French (models A4G 31G)	89P8302	*
Belgian/UK (models A4G 31G)	89P8303	*
Bulgarian (models A4G 31G)	89P8305	*
Czech (models A4G 31G)	89P8307	*
Danish (models A4G 31G)	89P8308	*
Dutch (models A4G 31G)	89P8309	*
French (models A4G 31G)	89P8310	*
German (models A4G 31G)	89P8313	*
Greek (models A4G 31G)	89P8314	*
Hebrew (models A4G 31G)	89P8315	*
Hungarian (models A4G 31G)	89P8316	*
Iceland (models A4G 31G)	89P8317	*
Italian 141 (models A4G 31G)	89P8318	*
Italian 142 (models A4G 31G)	89P8319	*
Norwegian (models A4G 31G)	89P8323	*
Polish (models A4G 31G)	89P8324	*
Portugese (models A4G 31G)	89P8325	*
Romanian (models A4G 31G)	89P8326	*
Russian (models A4G 31G)	89P8327	*
Russian/Cyrillic (models A4G 31G)	89P8328	*
Serbian/Cyrillic (models A4G 31G)	89P8329	*
Slovak (models A4G 31G)	89P8330	*
Spanish (models A4G 31G)	89P8331	*
Swedish/Finn (models A4G 31G)	89P8332	*
Swiss F/G (models A4G 31G)	89P8333	*
Turkish 440 (models A4G 31G)	89P8335	*
Turkish 179 (models A4G 31G)	89P8336	*
UK English (models A4G 31G)	89P8337	*
US Euro (models A4G 31G)	89P8338	*
Yugoslav/Latin (models A4G 31G)	89P8339	*

8418 Power cords	FRU#	CRU
Power cord (models A4G 31G)	6952301	*
Power cord (models A4G 31G)	13F9978	*
Power cord (models A4G 31G)	14F0032	*

8418 Power cords	FRU#	CRU
Power cord (models A4G 31G)	13F9996	*
Power cord (models A4G 31G)	14F0068	*
Power cord (models A4G 31G)	14F0086	*
Power cord (models A4G 31G)	14F0014	*
Power cord (models A4G 31G)	14F0050	*

8418 Windows XP Pro Recovery CDs	FRU#	CRU
US (models A4G 31G)	13M6885	*
FR (models A4G 31G)	13M6890	*
GR (models A4G 31G)	13M6895	*
IT (models A4G 31G)	13M6905	*
SP (models A4G 31G)	13M6900	*
DK (models A4G 31G)	13M6920	*
NL (models A4G 31G)	74P2610	*
AE (models A4G 31G)	74P2635	*
SV (models A4G 31G)	13M6915	*
HE (models A4G 31G)	74P2615	*
FI (models A4G 31G)	13M7038	*
NO (models A4G 31G)	74P2605	*
PL (models A4G 31G)	74P2620	*
PO (models A4G 31G)	74P2650	*
RU (models A4G 31G)	74P2625	*
HU (models A4G 31G)	74P2645	*
CZ (models A4G 31G)	74P2630	*
TR (models A4G 31G)	74P2640	*
GK (models A4G 31G)	74P2655	*

Machine Type 8419
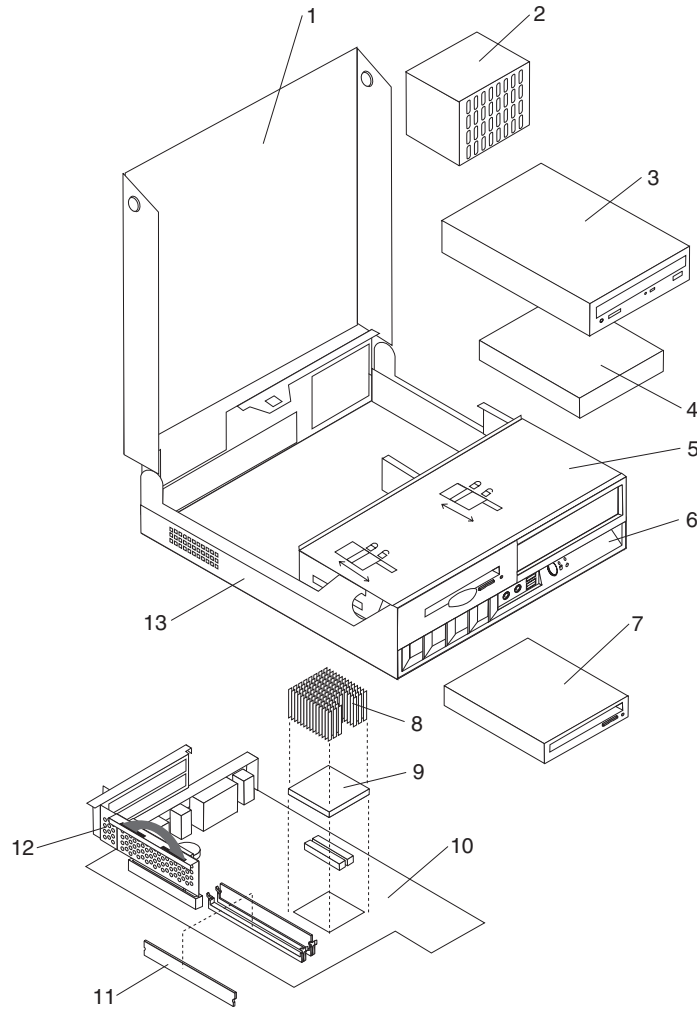
Item #	8419 FRUs	FRU#	CRU
1	Cover (all models)	26K1217	*
2	Power supply 200W (all models)	24R2614	**
3	CD-ROM Drive 48X (Black) (models 21U 31U 33U 11U 43U)	33P3203	*
3	CD-ROM Drive 48X (Black) (models 21U 31U 33U 11U 43U)	33P3211	*
3	CD-ROM Drive 48X (Black) (models 21U 31U 33U 11U 43U)	33P3207	*
3	CD-ROM Drive 48X (Black) (models 21U 31U 33U 11U 43U)	71P7353	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 23U 35U 41U 51U A1M 37U 44U 53U)	71P7367	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 23U 35U 41U 51U A1M 37U 44U 53U)	71P7369	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 23U 35U 41U 51U A1M 37U 44U 53U)	71P7371	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 23U 35U 41U 51U A1M 37U 44U 53U)	71P7375	*
3	CD-ROM Drive 48X (Black) - w/o volume ctrl and headphone jack (models 23U 35U 41U 51U A1M 37U 44U 53U)	71P7385	*

Item #	8419 FRUs	FRU#	CRU
3	CD-ROM Drive 48X (Black) (models 23U 35U 41U 51U A1M 37U 44U 53U)	40Y8801	*
3	CD-ROM Drive 48X (Black) (models 23U 35U 41U 51U A1M 37U 44U 53U)	40Y8809	*
3	CD-ROM Drive 48X (Black) (models 23U 35U 41U 51U A1M 37U 44U 53U)	40Y8805	*
3	CD-ROM Drive 48X (Black) (models 23U 35U 41U 51U A1M 37U 44U 53U)	40Y8813	*
3	48X24X48X CD-RW (Black) (models 22U 32U 34U 12U)	33P3289	*
3	CD-RW 48X/32X/48X (models 24U 36U 42U 52U 55M)	71P7347	*
3	CD-RW 48X/32X/48X (models 24U 36U 42U 52U 55M)	71P7349	*
3	CD-RW 48X/32X/48X (models 24U 36U 42U 52U 55M)	40Y8901	*
3	Universal Combo Drive (48x/24x/48x/16x) (models 54U 61U)	26K5390	*
3	Combo Drive (48x32x/48x/16x) (models 54U 61U)	26K5379	*
3	Combo Drive (48x32x/48x/16x) (models 54U 61U)	26K5381	*
3	Combo Drive (48x32x/48x/16x) (models 54U 61U)	40Y8781	*
3	Combo Drive (48x32x/48x/16x) (models 54U 61U)	40Y8903	*
3	Universal Rambo drive (Black) (models 56M)	26K5377	*
3	Rambo IV drive (Black) (models 56M)	26K5383	*
4	HDD 40GB EIDE (models 21U 22U 31U 32U 33U 34U 11U 12U 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M 37U 44U 53U 54U 61U)	19K1568	*
4	HDD 80GB EIDE (models 55M 56M)	71P7293	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M 37U CHU 44U 53U 54U 55M 56M 61U CJU CKU CLU)	36L8645	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M 37U CHU 44U 53U 54U 55M 56M 61U CJU CKU CLU)	40Y8897	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M 37U CHU 44U 53U 54U 55M 56M 61U CJU CKU CLU)	40Y8895	*
8	Heatsink (All models EXCEPT 35U 36U 42U 43U)	03R0298	**
8	Heatsink for prescott CPU (models 35U 36U 42U 43U A1M 37U CHU 44U CJU 53U 54U 55M 56M CKU 61U CLU)	03R0298	**
9	Intel P4 2.4 GHz (models 11U 12U CEU)	02R4098	**
9	Intel P4 2.66 GHz (models 21U 22U CAU)	74P1600	**
9	Intel P4 2.8 GHz (models 31U 32U CCU)	74P1601	**
9	Intel P4 3.06 GHz (models 41U)	74P1602	**
9	Intel P4 2.4 GHz (model CGU)	88P5861	**
9	Intel P4 2.6 GHz (model CBU 23U 24U)	88P5862	**
9	Intel P4 2.8 GHz (models 33U 34U CDU)	88P5863	**
9	Intel P4 3.2 GHz (models 51U 52U)	88P5865	**
9	Intel Celeron Prescott 2.8 GHz (models A1M)	19R0411	**
9	Intel Prescott P4 2.8 GHz (models 35U 36U 37U CHU)	19R0286	**
9	Intel Prescott P4 3.0 GHz (models 42U 43U 44U CJU)	19R0288	**

Item #	8419 FRUs	FRU#	CRU
9	Intel Prescott P4 3.2 GHz (models 53U 54U 55M 56M CKU)	19R0290	**
9	Intel Prescott P4 3.4 GHz (models 61U CLU)	29R6988	**
10	System board, 10/100 E-net, no POV (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U)	89P7950	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U 35U 36U 41U 42U 51U 52U 43U 44U 53U 54U 55M 56M 61U CJU CKU CLU)	89P7933	**
10	System board, 10/100 E-net, no POV (Prescott CPU enabled) (optional to 89P7933) (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U 35U 36U 41U 42U 51U 52U 43U 44U 53U 54U 55M 56M 61U CJU CKU CLU)	41D0649	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (models A1M 37U CHU)	89P7932	**
10	System board, 10/100 E-net, POV (Prescott CPU enabled) (optional to 89P7932) (models A1M 37U CHU)	41D0648	**
11	128 MB SDRAM PC2700 (models CAU CBU CCU CDU CEU CGU)	31P9120	*
11	256 MB SDRAM PC2700(models 21U 22U 31U 32U 33U 34U 11U 12U 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M)	31P9121	*
11	128 MB SDRAM PC3200 (models 53U)	73P2683	*
11	256 MB SDRAM PC3200 (models 44U 54U 55M 56M 61U)	73P2684	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

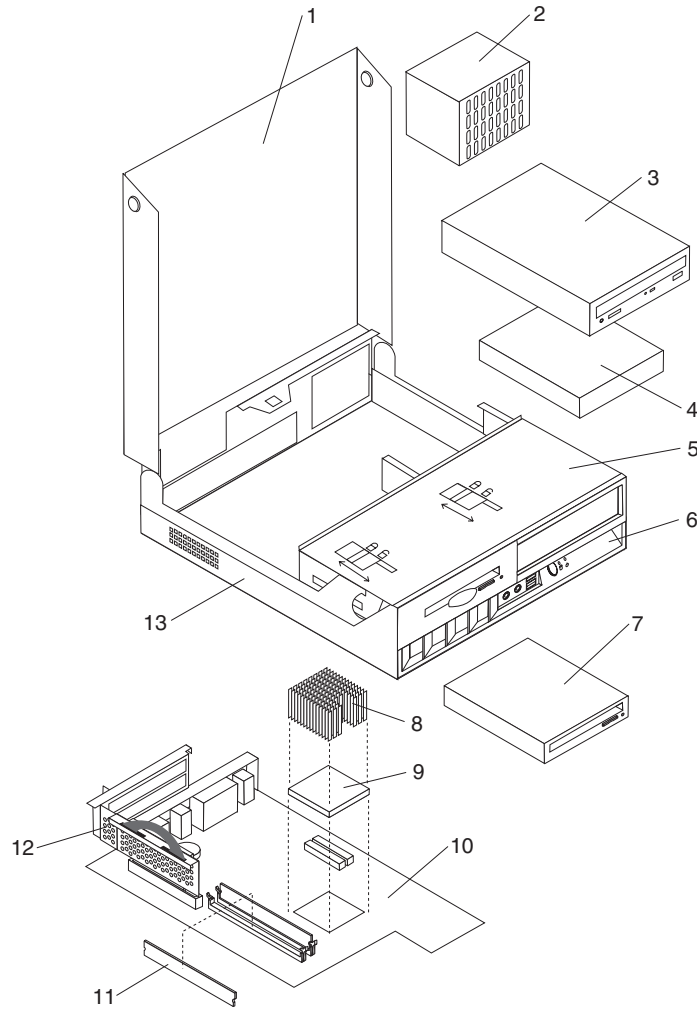| 8419 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (All EXCEPT 44U 53U 54U 61U CJU CKU CLU 37U CHU)	03R0294	*
System board tray (all models)	03R0295	*
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Fan baffle for Prescott CPU models (models 35U 36U 42U 43U A1M 37U CHU 44U 53U 54U 55M 56M 61U CJU CKU CLU)	26K1233	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Rambo II (Black)	33P3243	*

8419 FRUs	FRU#	CRU
Mouse, 2 button black (models CAU CBU CCU CDU CEU CGU)	24P0383	*
Mouse, optical wheel (models 21U 22U 31U 32U 33U 34U 11U 12U 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M 37U 44U 53U 54U 55M 56M 61U)	89P5089	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G", "M", "B", "H" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8419 keyboards	FRU#	CRU
US English (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M 37U 44U 53U 54U 55M 56M 61U)	89P8300	*

8419 Power cords	FRU#	CRU
Power cord (models 21U 22U 31U 32U 33U 34U CAU CBU CCU CDU 11U 12U CEU CGU 23U 24U 35U 36U 41U 42U 51U 52U 43U 37U CHU 44U 53U 54U 61U CJU CKU CLU)	6952301	*
Power cord (models A1M 55M 56M)	13F9939	*

8419 Windows XP Pro Recovery CDs	FRU#	CRU
US (models 21U 22U 31U 32U 33U 34U 11U 12U 23U 24U 35U 36U 41U 42U 51U 52U 43U A1M 37U 44U 53U 54U 55M 56M 61U)	29R7998	*

Machine Type 8429

Item #	8429 FRUs	FRU#	CRU
1	Cover (all models)	03R0286	*
2	Power supply 200W (all models)	24R2614	**
3	Optical drive (no models)	N/A	**
4	HDD 40GB EIDE (models 11G 21G 22G 31G 41G)	19K1568	*
5	Rotating bay assembly (all models)	03R0285	*
6	Plastic bezel kit (all models)	03R0288	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models 11G 21G 31G 41G)	36L8645	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models 11G 21G 31G 41G)	40Y8897	*
7	Diskette drive 3.5, 1.44 MB, 3mode, slim (models 11G 21G 31G 41G)	40Y8895	*
8	Heatsink (all models)	03R0298	**
9	Intel P4 2.6 GHz (model 11G)	88P5862	**
9	Intel P4 2.8 GHz (models 21G 22G)	88P5863	**
9	Intel P4 3.0 GHz (model 31G)	88P5864	**
9	Intel P4 3.2 GHz (model 41G)	88P5865	**

Item #	8429 FRUs	FRU#	CRU
10	System board, 10/100 E-net, no POV (models 11G 21G 22G 31G 41G)	89P7950	**
10	System board, 10/100 E-net, no POV (optional to 89P7950) (models 11G 21G 22G 31G 41G)	89P7933	**
10	System board, 10/100 E-net, no POV (optional to 89P7933) (models 11G 21G 22G 31G 41G)	41D0649	**
10	System board, 10/100 E-net, no POV (Prescott enabled) (models 11G 21G 22G 31G 41G)	13R8917	**
11	256 MB SDRAM (models 11G 21G 22G 31G 41G)	31P9121	*
12	Riser card assembly (all models)	89P7701	*
13	Chassis (all models)	03R0284	**

The FRUs listed in the following table are not illustrated.

8429 FRUs	FRU#	CRU
Tool-less hardfile tray (all models)	03R0302	*
Cable, pwr/LED (all models)	03R0283	*
Internal plastic kit (all models)	03R0289	*
Cable, optical 1-drop ATA 100 (all models)	03R0291	*
Cable, 2-drop ATA 100 (all models)	03R0292	*
Cable, SATA (all models)	03R0293	*
Speaker assembly (all models)	03R0294	*
System board tray (all models)	03R0295	*
Fan assembly 60 x 20 mm (all models)	03R0296	*
Cable, Diskette drive (all models)	03R0297	*
5.25 EMC shield (all models)	19K5548	*
Floor stand and vertical deflector (all models)	74P0404	*
Battery (all models)	33F8354	*
Monitor cable (all models)	19R3015	*
Dongle (all models)	19R3017	*
Universal Adapter Bracket 5.25 to 3.5, No Bezel (for HDD)	32P4743	*
Mouse, optical wheel (models 11G 21G 22G 31G 41G)	89P5089	*
RJ11 connector adapter (Spain, Ireland) (All "G" models)	60H6043	*
RJ11 connector adapter (Austria) (All "G" models)	60H6045	*
RJ11 connector adapter (Belgium) (All "G" models)	60H6046	*
RJ11 connector adapter (Denmark) (All "G" models)	60H6047	*
RJ11 connector adapter (Norway, Finland) (All "G" models)	60H6048	*
RJ11 connector adapter (France) (All "G" models)	60H6049	*
RJ11 connector adapter (Germany) (All "G" models)	60H6050	*
RJ11 connector adapter (UK, NZ, HK) (All "G" models)	60H6051	*
RJ11 connector adapter (Italy) (All "G" models)	60H6052	*
RJ11 connector adapter (Netherlands) (All "G" models)	60H6053	*
RJ11 connector adapter (Sweden) (All "G" models)	60H6054	*

8429 FRUs	FRU#	CRU
RJ11 connector adapter (Switzerland) (All "G" models)	60H6055	*

8429 (Preferred Pro) keyboards	FRU#	CRU
US English (models 11G 21G 22G 31G 41G)	89P8300	*
Arabic (models 11G 21G 22G 31G 41G)	89P8301	*
Belgian/French (models 11G 21G 22G 31G 41G)	89P8302	*
Belgian/UK (models 11G 21G 22G 31G 41G)	89P8303	*
Bulgarian (models 11G 21G 22G 31G 41G)	89P8305	*
Czech (models 11G 21G 22G 31G 41G)	89P8307	*
Danish (models 11G 21G 22G 31G 41G)	89P8308	*
Dutch (models 11G 21G 22G 31G 41G)	89P8309	*
French (models 11G 21G 22G 31G 41G)	89P8310	*
German (models 11G 21G 22G 31G 41G)	89P8313	*
Greek (models 11G 21G 22G 31G 41G)	89P8314	*
Hebrew (models 11G 21G 22G 31G 41G)	89P8315	*
Hungarian (models 11G 21G 22G 31G 41G)	89P8316	*
Iceland (models 11G 21G 22G 31G 41G)	89P8317	*
Italian 141(models 11G 21G 22G 31G 41G)	89P8318	*
Italian 142 (models 11G 21G 22G 31G 41G)	89P8319	*
Norwegian (models 11G 21G 22G 31G 41G)	89P8323	*
Polish (models 11G 21G 22G 31G 41G)	89P8324	*
Portugese (models 11G 21G 22G 31G 41G)	89P8325	*
Romanian (models 11G 21G 22G 31G 41G)	89P8326	*
Russian (models 11G 21G 22G 31G 41G)	89P8327	*
Russian/Cyrillic (models 11G 21G 22G 31G 41G)	89P8328	*
Serbian/Cyrillic (models 11G 21G 22G 31G 41G)	89P8329	*
Slovak (models 11G 21G 22G 31G 41G)	89P8330	*
Spanish (models 11G 21G 22G 31G 41G)	89P8331	*
Swedish (models 11G 21G 22G 31G 41G)	89P8332	*
Swiss (models 11G 21G 22G 31G 41G)	89P8333	*
Turkish 440 (models 11G 21G 22G 31G 41G)	89P8335	*
Turkish 179 (models 11G 21G 22G 31G 41G)	89P8336	*
UK English (models 11G 21G 22G 31G 41G)	89P8337	*
US Euro (models 11G 21G 22G 31G 41G)	89P8338	*
Yugoslav/Latin (models 11G 21G 22G 31G 41G)	89P8339	*

8429 Power cords	FRU#	CRU
Power cord (models 11G 21G 22G 31G 41G)	6952301	*
Power cord (models 11G 21G 22G 31G 41G)	13F9978	*
Power cord (models 11G 21G 22G 31G 41G)	14F0032	*
Power cord (models 11G 21G 22G 31G 41G)	13F9996	*

8429 Power cords	FRU#	CRU
Power cord (models 11G 21G 22G 31G 41G)	14F0068	*
Power cord (models 11G 21G 22G 31G 41G)	14F0086	*
Power cord (models 11G 21G 22G 31G 41G)	14F0014	*
Power cord (models 11G 21G 22G 31G 41G)	14F0050	*

8429 Windows XP Pro Recovery CDs	FRU#	CRU
US (models 11G 21G 22G 31G 41G)	29R7998	*
FR/CF (models 11G 21G 22G 31G 41G)	29R7999	*
GR (models 11G 21G 22G 31G 41G)	29R8000	*
IT (models 11G 21G 22G 31G 41G)	29R8002	*
SP/LA (models 11G 21G 22G 31G 41G)	29R8001	*
DK (models 11G 21G 22G 31G 41G)	29R8005	*
NL (models 11G 21G 22G 31G 41G)	29R8008	*
AE (models 11G 21G 22G 31G 41G)	29R8012	*
SV (models 11G 21G 22G 31G 41G)	29R8004	*
HE (models 11G 21G 22G 31G 41G)	29R8009	*
FI (models 11G 21G 22G 31G 41G)	29R8006	*
NO (models 11G 21G 22G 31G 41G)	29R8007	*
PL (models 11G 21G 22G 31G 41G)	29R8010	*
PO (models 11G 21G 22G 31G 41G)	29R8016	*
RU (models 11G 21G 22G 31G 41G)	29R8013	*
HU (models 11G 21G 22G 31G 41G)	29R8015	*
CZ (models 11G 21G 22G 31G 41G)	29R8011	*
TR (models 11G 21G 22G 31G 41G)	29R8014	*
GK (models 11G 21G 22G 31G 41G)	29R8017	*

Chapter 9. Additional Service Information

Security features

Security features in this section include the following:
- Passwords
- Vital Product Data
- Management Information Format (MIF)
- Alert on LAN

Passwords

The following section provides information about computer hardware and software-related passwords.
- Power-on Password
- Administrator Password
- Operating System Password

Power-on and Administrator passwords are set in the Setup Utility program. See "Starting the IBM Setup Utility program" on page 19 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.

> **Note:** On some models, this procedure will also remove the administrator password.

1. Unplug the power cord and remove the top cover.
2. Refer to "Identifying parts on the system board" on page 28 to find the Virtual clear CMOS/BIOS recovery jumper.
3. Move the recovery jumper from **normal** to **ROM recovery**.
4. Power-on the computer. The system senses the change in the position and erases the password.
5. Wait 30 seconds for beeps to sound, and then power down by holding the power button for 10 seconds.
6. Return the jumper to normal position.
7. Reset the date and time and 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:**
>
> This computer has Enhanced Security Mode. If Enhanced Security mode is enabled and there is no password set, the computer will act as if Enhanced Security is disabled.
>
> If Enhanced Security is Enabled and an administrator password is set, 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 "Starting the IBM Setup Utility program" on page 19.

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.

Erasing a lost or forgotten password (clearing CMOS)

This section applies to lost or forgotten passwords. For more information about lost or forgotten passwords, go to Access IBM.

Note: Some models have a POV daughter card installed on the system board. In these models, the password is stored in the EEPROM on the POV card and cannot be erased. See "Identifying parts on the system board" on page 28 for the location of the POV card.

To erase a forgotten password:

1. Refer to "Identifying parts on the system board" on page 28
2. Locate the Clear CMOS/BIOS recovery jumper on the system board. See "Identifying parts on the system board" on page 28
3. Move the jumper from the standard position (pins 1 and 2) to the maintenance or configure position (pins 2 and 3).
4. Install the PCI riser and adapters if removed.
5. Lower the drives and reconnect any cables that were disconnected.
6. Close the cover and connect the power cable. See "Closing the cover and connecting the cables" on page 46.
7. Restart the computer, leave it on for approximately 10 seconds, and then turn off the computer.
8. Repeat step 1.
9. Move the CMOS/BIOS recovery jumper back to the standard position (pins 1 and 2).
10. Reassemble the computer and close the cover. See "Closing the cover and connecting the cables" on page 46.

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 update procedures" on page 148.

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.

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**.

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 support web site: `http://www.ibm.com/pc/support/`
  2. IBM Support Center
  3. Levels 1 and 2 Support
  4. RETAIN[®]
- Sources for obtaining the latest level BIOS available
  1. IBM PC support web site:`http://www.ibm.com/pc/support/`
  2. IBM Support Center
  3. Levels 1 and 2 Support

To update (flash) the BIOS, see "Flash update procedures" on page 148.

Flash update procedures

This section details how to flash (update) the BIOS.

Updating (flashing) BIOS from a diskette

1. Insert a system program update (flash) diskette into the diskette drive (drive A) in the computer. System program updates are available at http://www.ibm.com/pc/support/ on the World Wide Web.
2. Turn on the computer. If it is on already, you must turn it off and back on again. The update begins.

Updating (flashing) BIOS from your operating system

Note: Due to constant improvements being made to the IBM Web site, Web page content (including the links referenced in the following procedure) is subject to change.

1. From your browser, type http://www.ibm.com/pc/support/ in the address field and press Enter.
2. Locate the Downloadable files for your machine type.
3. Under Select your product, choose your machine type and click **Go**.
4. In Downloadable file by category, click **BIOS**.
5. Under Download files - BIOS by date, click your machine type.
6. Scroll down and look for a .txt file that has instructions for Flash BIOS update from the operating system. Click the .txt file.
7. Print these instructions. This is very important since they are not on the screen after the download begins.
8. From your browser, Click **Back** to return to the list of files. Carefully follow the printed instructions to download, extract, and install the update.

Recovering from a POST/BIOS update failure

If power to the computer is interrupted while POST/BIOS is being updated (flash update), the computer might not restart correctly. If this happens, perform the following procedure (also known as a Boot-block Recovery):

1. Turn off the computer and any attached devices, such as printers, monitors, and external drives.
2. Unplug all power cords from electrical outlets, and open the cover. See "Opening the cover" on page 25.
3. Locate the Clear CMOS/Recovery jumper on the system board. See Identifying parts on the system board in the chapter for your model type.
4. If necessary, refer to Installing adapters to remove any adapters that impede access to the Clear CMOS/Recovery jumper.
5. Move the jumper from the standard position (pins 1 and 2) to pins 2 and 3.
6. Replace the cover. See Replacing the cover and connecting the cables in the chapter for your model type.
7. Reconnect the power cords for the computer and monitor to electrical outlets.
8. Insert the POST/BIOS update (flash) diskette into drive A, and turn on the computer and the monitor.
9. After the update session is completed, there will be no video and the series of beeps will end. Remove the diskette from the diskette drive, and turn off the computer and monitor.

10. Unplug the power cords from electrical outlets.
11. Open the cover. See "Opening the cover" on page 25.
12. Remove any adapters that impede access to the BIOS Configuration jumper.
13. Replace the Clear CMOS/Recovery jumper to its original position.
14. Replace any adapters that were removed.
15. Close the cover and reconnect any cables that were disconnected.
16. Turn on the computer to restart the operating system.

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.

Set the time for the system to enter a low-power state.

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.
- **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 "Starting the IBM Setup Utility program" on page 19).
2. Select **Power Management** from the Configuration/Setup Utility program menu.

3. Select **APM BIOS Mode** within the APM sub menu 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).

Chapter 10. Related service information

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

Safety information

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

General safety

Follow these rules to ensure general safety:

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

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

Electrical safety

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

Observe the following rules when working on electrical equipment.

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

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

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

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

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

  and 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

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 procedure**s.
- **Connect and disconnect cables as described in the following table when installing, moving, or opening covers on this product or attached devices.**

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

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.

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.

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

CAUTION:
Use safe practices when lifting.

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.

CAUTION:

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

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.	

CUIDADO:

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

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

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

PRECAUCIÓN:

Quando produtos a laser (unidades de CD-ROM, unidades de DVD, dispositivos de fibra ítica, transmissores, etc.) estiverem instalados, observe o seguinte:

- Não remova as tampas. A remoção das tampas de um produto a laser pode resultar em exposição prejudicial à radiação de laser. Nenhuma peça localizada no interior do dispositivo pode ser consertada.
- A utilização de controles ou ajustes ou a execução de procedimentos diferentes dos especificados aqui pode resultar em exposição prejudicial à radiação.

PERIGO

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

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

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

CUIDADO:

Ao levantar a máquina, faça-o com segurança.

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:

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。

将应与本产品连接的所有设备连接至正确布线的插座上。

尽量只使用单手拆接信号电缆。

有水、火及结构损坏迹象时，请勿打开任何设备。

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

安装、移动或打开本产品及其附带设备的机盖时，应按下表所述连接和断开电缆。

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

声明 2

警告:

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

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

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

声明 3

警告:

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

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

非此处指定的其它控制、调整或与性能有关的操作都有可能导致激光辐射的危险。

危险

某些激光产品中包含内嵌的 3A 级或 3B 级激光二极管。请注意以下事项。

打开时会产生激光辐射。不要直视光束，不要使用光学仪器直接观看光束，避免直接暴露于光束之下。

声明 4

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

警告：
抬起时请采用安全操作方法。

声明 5

警告：

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

声明 6

警告：

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

声明 7

警告:

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

声明 8

警告:
不要拆除电源外盖或贴有下列标签的任何部件。

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

声明 9

警告:

为避免人员伤害,拆除设备上的风扇前应拨下热插拨风扇电缆。

声明 10

警告:

机柜安装的设备上面不能放置重于 82kg(180 磅)的物品。

> 82 kg (180 磅)

声明 11

⚠

警告：

下面的标签表明附近有锋利的边、角或接头。

⚠ 👉

声明 12

⚠

警告：
下面的标签表明附近有高热表面。

♨

重要資訊：

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

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

> 執行任何指示之前，請詳讀所有「注意」及「危險」的聲明。

聲明 1

危險

電源、電話及通信電纜上所產生的電流均有危險性。

欲避免電擊危險：

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

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

聲明 2

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

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

請遵照當地法令規章處理廢棄電池。

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。

2
1

聲明 10

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

> 82 公斤 (180 磅)

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.	

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.

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.

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

ATTENTION:

Faites-vous aider pour soulever ce produit.

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.

ATTENTION:

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

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

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.

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.

≥18 kg   ≥32 kg   ≥55 kg

ACHTUNG:

Beim Anheben der Maschine die vorgeschriebenen Sicherheitsbestimmungen beachten.

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.
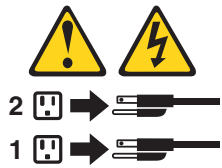
ACHTUNG:

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

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.	

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.

ATTENZIONE:

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

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

PERICOLO

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

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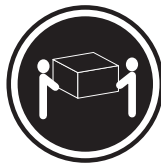

| ≥18 kg | ≥32 kg | ≥55 kg |

ATTENZIONE:

Durante il sollevamento della macchina seguire delle norme di sicurezza.

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.
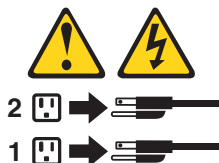
ATTENZIONE:

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.

- 가능한한 신호 케이블을 한 손으로 연결하거나
  끊으십시오.

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

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

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

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

경고문 2

주의:

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

다음을 주의하십시오.

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

지역 법령이나 규정의 요구에 따라 배터리를 처분하십시오.

경고문 3

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

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

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

위험

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

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

경고문 4

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

주의:
기계를 들 때는 안전하게 들어 올리십시오.

경고문 5

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

2
1

경고문 10

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

> 82 kg (180 lbs)

PELIGRO

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

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

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

PRECAUCIÓN:

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

No realice las acciones siguientes:
- Arrojarla al agua o sumergirla

- Calentarla a una temperatura que supere los 100°C (212°F)
- Repararla o desmontarla

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

PRECAUCIÓN:

Cuando instale productos láser (como, por ejemplo, CD-ROM, unidades DVD, dispositivos de fibra íptica o transmisores), tenga en cuenta las advertencias siguientes:
- No retire las cubiertas. Si retira las cubiertas del producto láser, puede quedar expuesto a radiaciín láser perjudicial. Dentro del dispositivo no existe ninguna pieza que requiera mantenimiento.
- El uso de controles o ajustes o la realizaciín de procedimientos que no sean los que se han especificado aquí pueden dar como resultado una exposiciín perjudicial a las radiaciones.

PELIGRO

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

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


| ≥18 kg | ≥32 kg | ≥55 kg |

PRECAUCIÓN:

Tome medidas de seguridad al levantar el producto.

PRECAUCIÓN:

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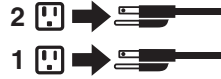
PRECAUCIÓN:

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 74P2661). Your input will help us to improve our publications.

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

Name: _____

Phone number: _____

1. Do you like this manual?

   ☐ Yes ☐ No

   _____
   _____

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

   _____
   _____

3. What is your service experience level?

   ☐ Less than five years

   ☐ More than five years
4. Which computers do you service most?

   _____
   _____
   _____
   _____

Thank you for your response!

Problem determination tips

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

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

Note: To eliminate confusion, identical systems are considered identical only if they:
1. Are the exact machine type and models
2. Have the same BIOS level
3. Have the same adapters/attachments in the same locations
4. Have the same address jumpers/terminators/cabling
5. Have the same software versions and levels
6. Have the same Reference/Diagnostics Diskette (version)
7. Have the same configuration options set in the system
8. Have the same setup for the operation system control files

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

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