

# Maintenance & Service Guide

## Presario 3500 Series

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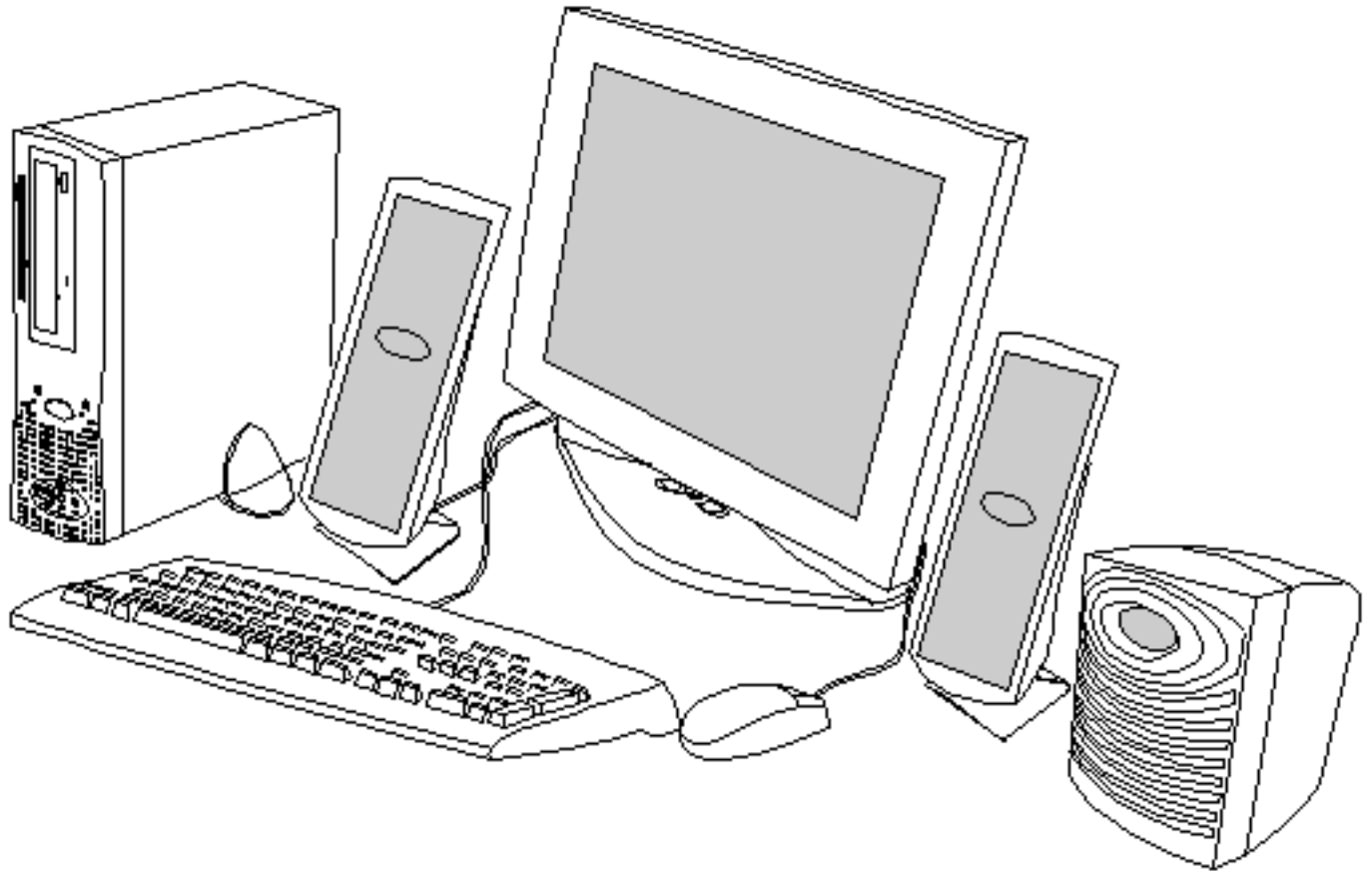
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Welcome to the **Presario 3500 Series Maintenance and Service Guide**. This online guide is designed to serve the needs of those whose job it is to repair Compaq products. Many of the components of the hardcopy MSG are contained in this online guide. The [Notice](#) contains the copyright and trademark information. The [Preface](#) shows symbol conventions, Technician Notes and Serial Number locations on the unit.

**[Click to download ZIP file of complete MSG to hard drive.](#)**

This MSG will be periodically maintained and updated as needed.

For content comments or questions, contact the [Editor](#).

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Compaq Presario 3500 Series  
Personal Computers

1999 Compaq Computer Corporation

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## Symbols

The following words and symbols mark special messages throughout this guide.



**WARNING:** Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or loss of life.



**CAUTION:** Text set off in this manner indicates that failure to follow directions in the caution could result in damage to equipment or loss of data.

**IMPORTANT:** Text set off in this manner presents clarifying information or specific instructions.

**NOTE:** Text set off in this manner presents commentary, sidelights, or interesting points of information.

## Technician Notes



**WARNING:** Only authorized technicians trained by Compaq should repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module level repair. Because of the complexity of the individual boards and subassemblies, the user should not attempt to make repairs at the component level or to make modifications to any printed circuit board. Improper repairs can create a safety hazard. Any indications of component replacement or printed circuit board modifications may void any warranty.

## Serial Number

When requesting information or ordering spare parts, the computer serial number should be provided to Compaq. The [serial number](#) can be found on the rear of the computer next to the fan grill or on the front bezel behind the CD access door.

## Locating Additional Information

The following documentation is available to support this product:

- Compaq Presario documentation set
- *Introducing Windows 98 Guide*
- Service Training Guides
- Compaq Service Advisories and Bulletins
- *Compaq QuickFind*
- *Compaq Service Quick Reference Guide*
- *Compaq Help Center*

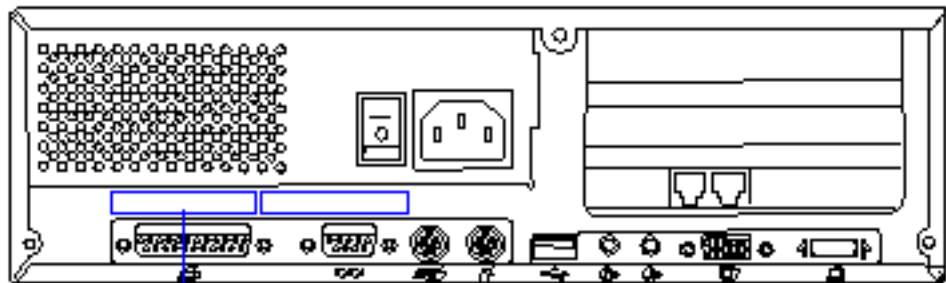
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## Serial Number



Serial Number

The computer serial number should be provided to Compaq whenever requesting information or ordering spare parts. The serial number is located on the rear side of the computer.

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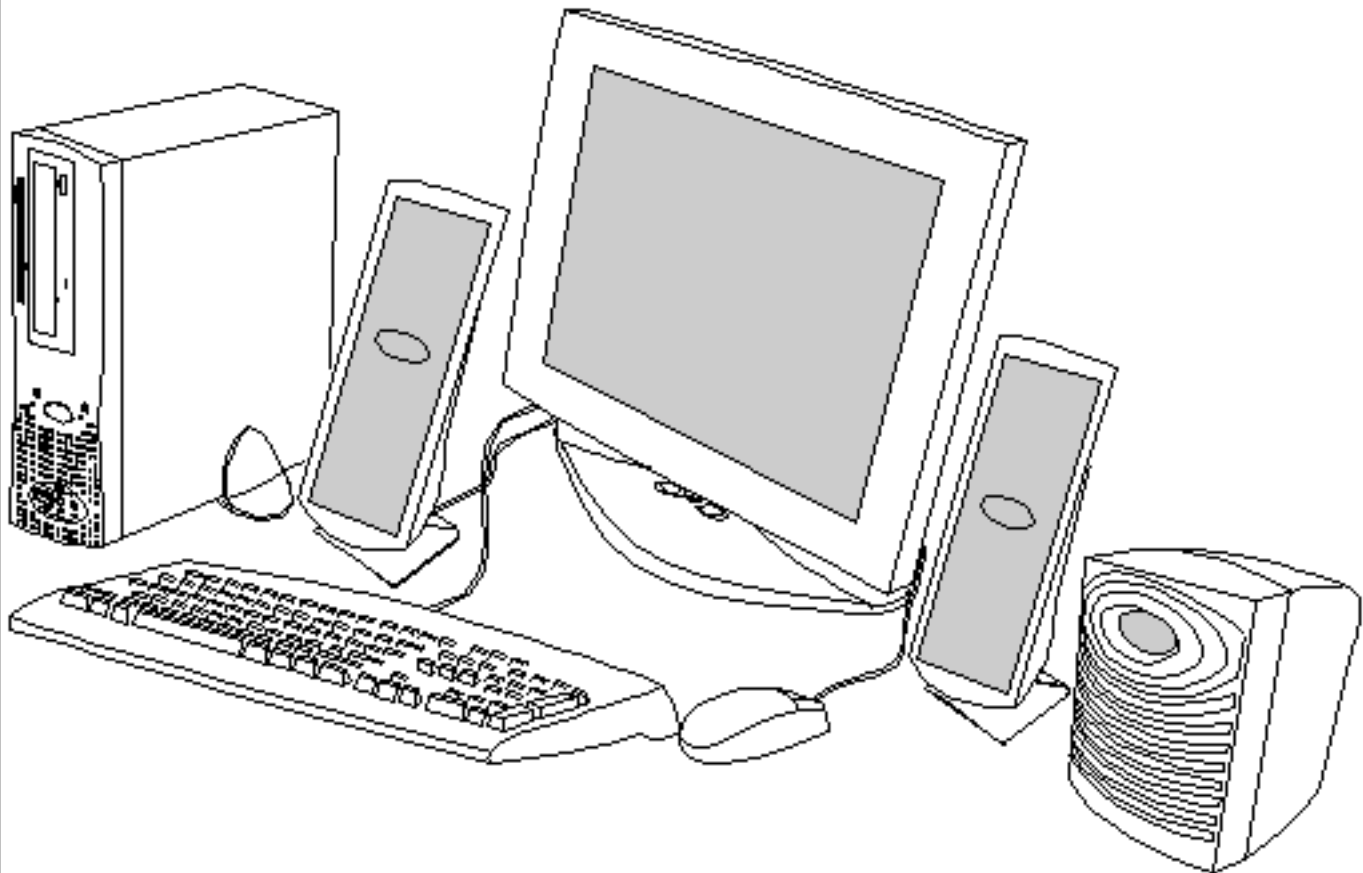
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## Product Description

This section describes the model numbers and features of the Compaq Presario 3500 Series of Personal Computers.



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## **Product Description - Model 3550**

- Celeron processor 500MHz
- 128KB cache
- 64MB memory (Shared Memory Architecture - 8MB dedicated for video memory)
- 8GB hard drive
- CD-RW drive
- 56K ITU V.90 modem

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[Power Controls](#)

## Controls and Lights

Front Components

This section covers the computer controls and lights for the Compaq Presario 3500 Series of personal computers.

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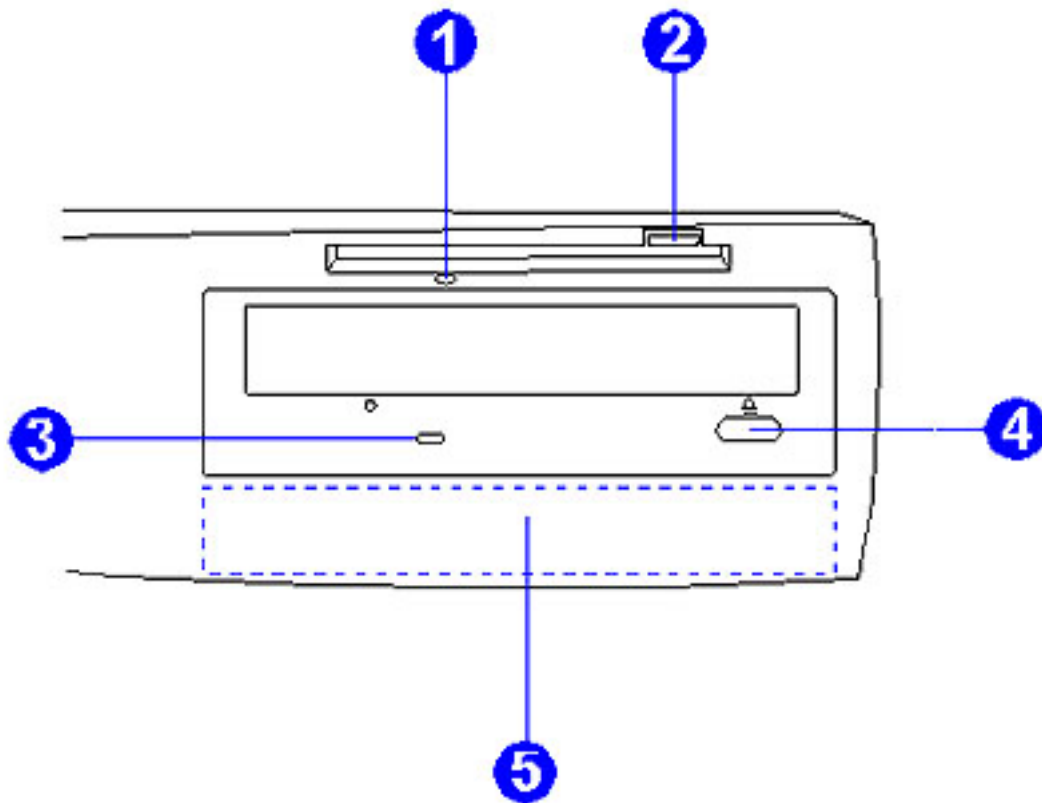
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## Drives



### Description

- 1** Diskette drive activity light
- 2** Diskette drive eject button
- 3** CD activity light
- 4** CD drive load/eject button
- 5** Hard drive

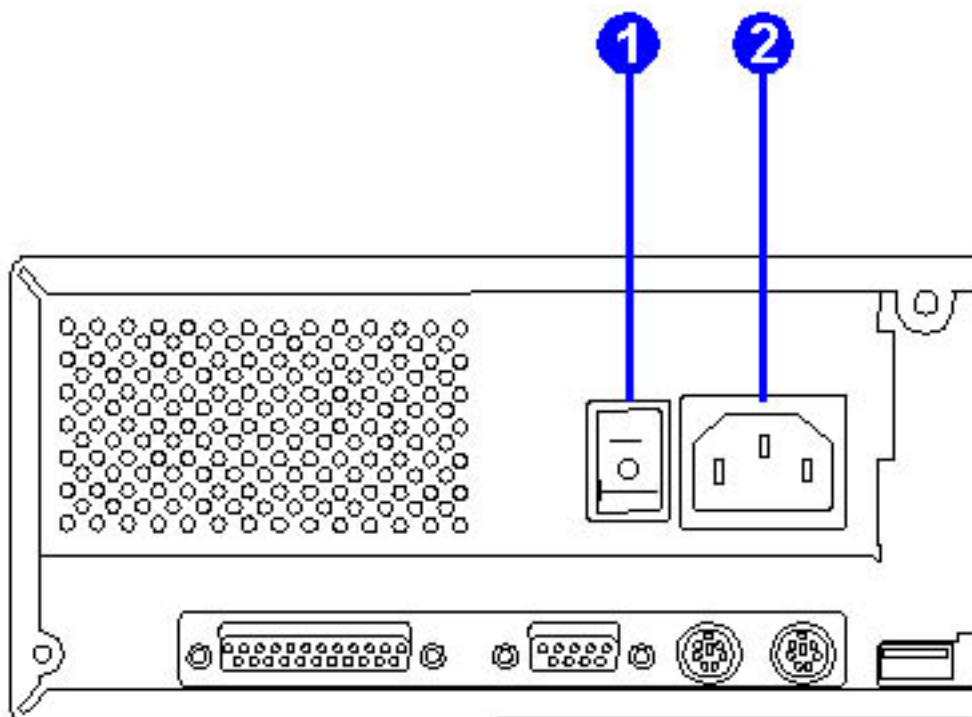


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## Power Controls



### Description

- |          |                          |
|----------|--------------------------|
| <b>1</b> | Main power on/off switch |
| <b>2</b> | AC Power cord connector  |

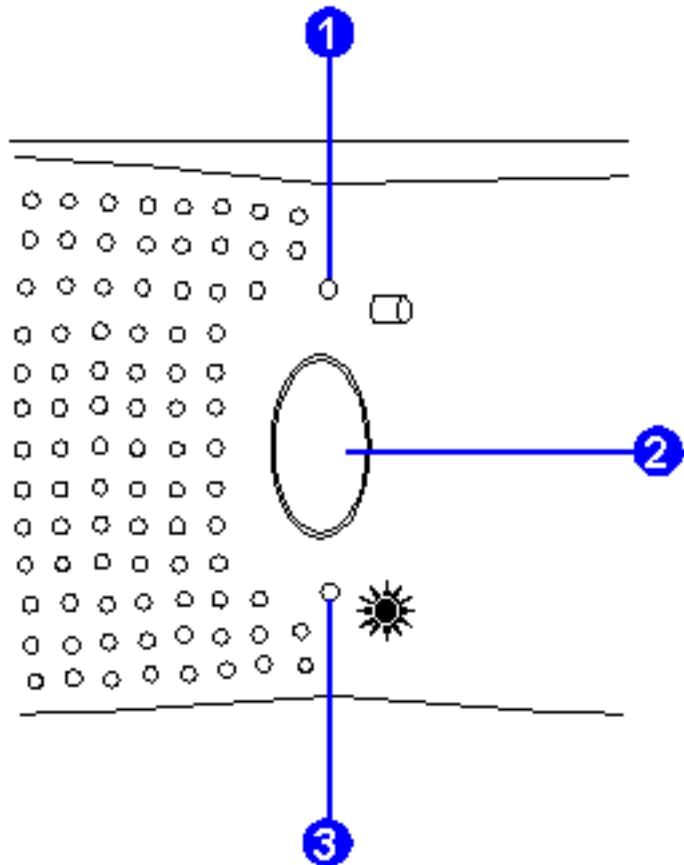
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## Lights & Instant-On Button



- 1** Hard Drive activity
- 2** Instant-on button
- 3** Power-on light

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## Keyboards

This section covers the keyboard controls for the Compaq Presario 3500 Series of personal computers.

[Standard](#)

[Easy Internet Access](#)

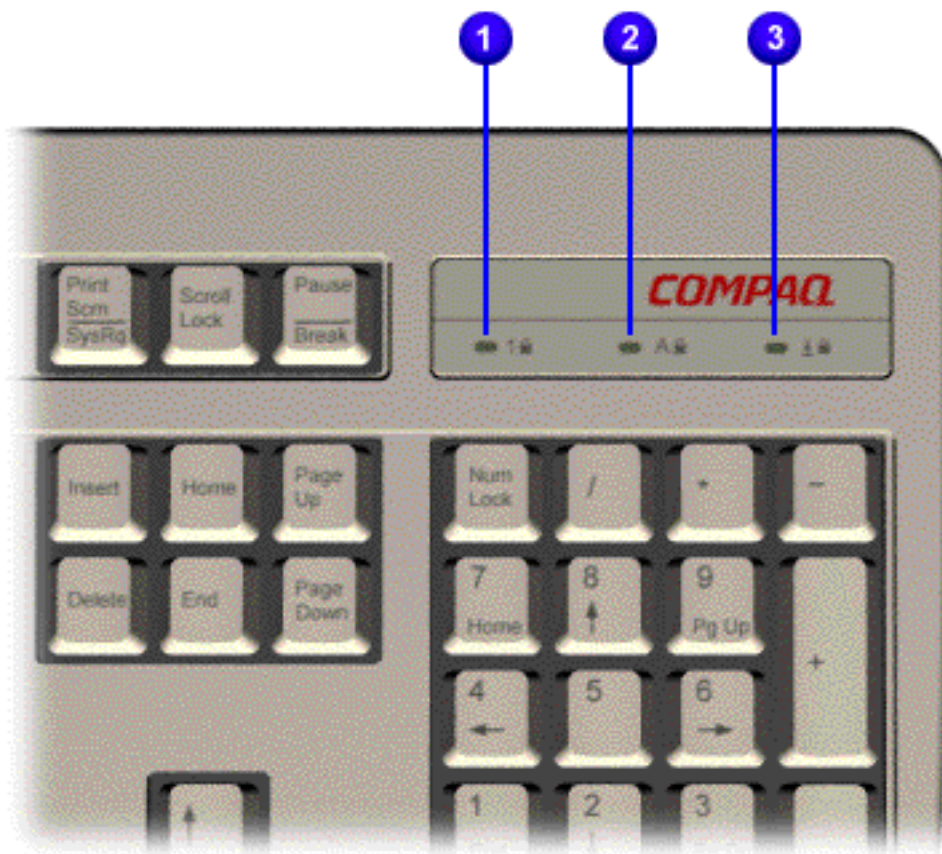
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## Standard Keyboard Lights



Click [here](#) for the Easy Internet Access keyboard controls and lights.

- 1** Num Lock Light
- 2** Caps Lock Light
- 3** Scroll Lock Light

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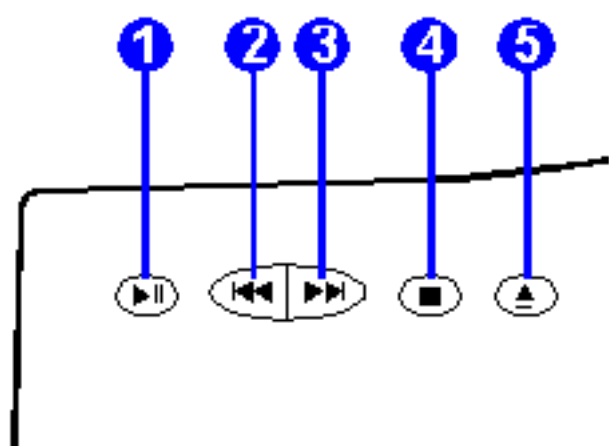
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## Easy Access Internet Keyboard

### [Easy Access Buttons](#)

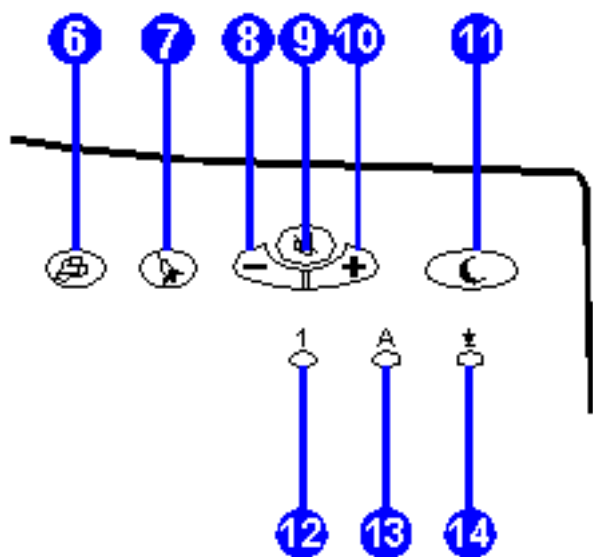
### [Internet Suite Buttons](#)

### [Standard Keyboard Lights](#)



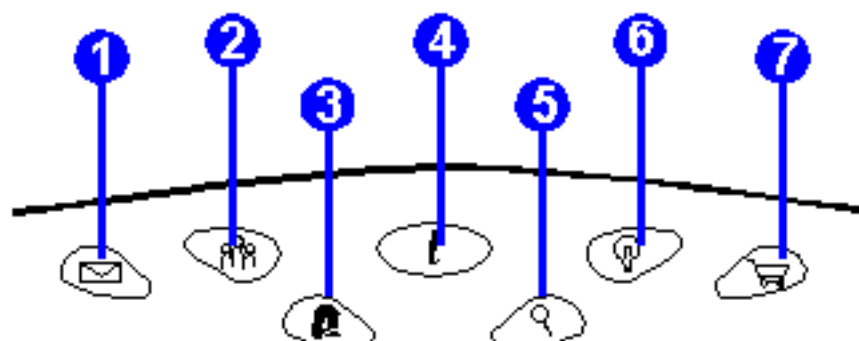
## Easy Access Buttons

- 1** Play/pause
- 2** Previous track
- 3** Next track
- 4** Stop
- 5** Eject



- 6** Quick print
- 7** Start favorite application
- 8** Volume down
- 9** Mute
- 10** Volume up
- 11** Sleep
- 12** Number Lock light
- 13** Caps Lock light
- 14** Scroll Lock light

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## Internet Suite Buttons

- 1** Instant E-mail
- 2** Community
- 3** My Presario
- 4** Instant Internet
- 5** Instant E-Commerce
- 6** Answer
- 7** Presario basic information

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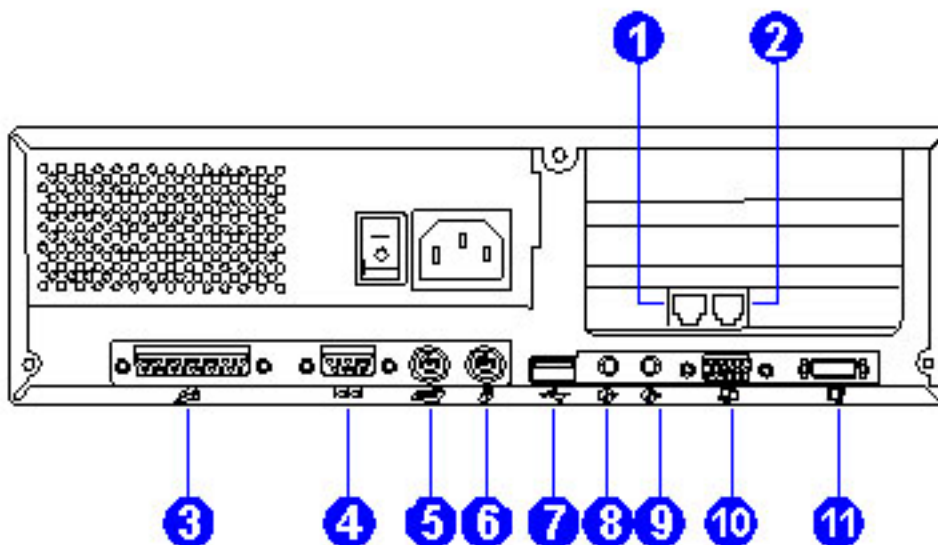
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## Input & Output Connectors



- 1** Telephone line in
- 2** Telephone line out
- 3** Parallel/printer connector
- 4** Serial connector
- 5** Keyboard connector
- 6** Mouse connector
- 7** USB (Universal Serial Bus) connectors
- 8** Audio line out
- 9** Audio line in
- 10** VGA connector
- 11** LCD (Liquid Crystal Display) change to DFT (Digital Flat-Panel) monitor

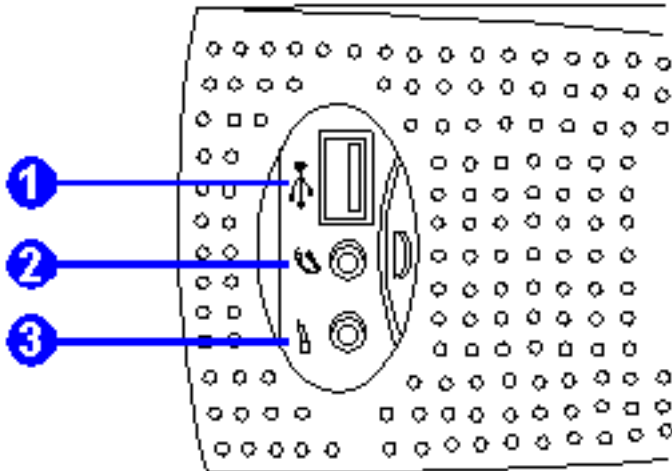
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## Creativity Center



### Description

- 1** USB (Universal Serial Bus) connector
- 2** Speaker out
- 3** Microphone in

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## Power Management Features

Compaq Presario 3500 Series Personal Computers support the following power management capabilities.

- Sleep (standby)
- Advanced [Power Management](#) (APM) 1.2

The following is a list of the power management features:

- **Power Status Lights.** You can quickly tell the sleep condition of the system by glancing at the Power Status Lights.
- **Automatic standby.** In Windows 98 there are different Power Schemes under which the system goes into Sleep mode automatically when it times out. The optional settings for Windows 98 are **Home/Office Desk**, **Portable/Laptop** and **Always On**. The system supports different levels of power management for varying patterns of computer usage.
- **Default and Adjustable timeout settings.** The default setting for Sleep timeout is 30 minutes. The Sleep timeout value can be set in the **Control Panel** by clicking the **Power Management** icon. At the **Properties** screen, click **System Standby**, **Turn off Monitor**, and **Turn off Hard Disk** to set the length of time before the system goes to sleep.
- **Manual standby.** To manually put your computer into sleep mode in the Windows 98 desktop, press the **Instant On** button (on the CPU) or the **Sleep** button (on the keyboard). The power status light on the CPU will light to show that Sleep mode is activated.
- **Other manual standby options.** Another way to put your computer into sleep mode manually under Windows 98 is to select **Start**, then **Shutdown**. Select **Standby** from the list of choices to put the system into Sleep mode. The system can then be turned off or left in Sleep. When the Sleep button is pressed, the system reboots to the Windows 98 Desktop.
- **No audio CD interruption.** When an audio CD is playing, the system will time out and enter Sleep after 30 minutes or the set time, but audio play will not be interrupted. If either the **Instant On** or the **Sleep** button is pressed, CD play is suspended and the unit enters Sleep. CD play resumes on the next track when the system wakes.
- **Synchronized software and hardware volume control buttons.**

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## States of Power Management

Power management can be defined by three distinct power states in which the computer operates: On, Off, and Sleep. The following table describes the power states and lists the power consumption of each state:

Power Management States		
Energy State	Description	Power Consumption
On	Power is available to the system and the <b>On/Off</b> switch in the back is in the <b>ON</b> position. The power status light is green.	64 Watts Avg., 110 Watts Max
Off	Power is not available to the system and the <b>On/Off</b> switch is in the <b>OFF</b> position. The power status light is not lit.	0 Watts
Sleep	Power is available to the system, the <b>On/Off</b> switch in the back is in the <b>ON</b> position and the computer is in a low power/standby mode. The power status light is amber.	23 Watts

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## Troubleshooting

This section provides troubleshooting information for Compaq Presario 3500 Series Personal Computers. Power-On Self-Test (POST) messages, diagnostic error codes, and memory error codes appear in tables.

The message and code tables include a description of the error, the probable cause, and the recommended action that should be taken to resolve the error condition.

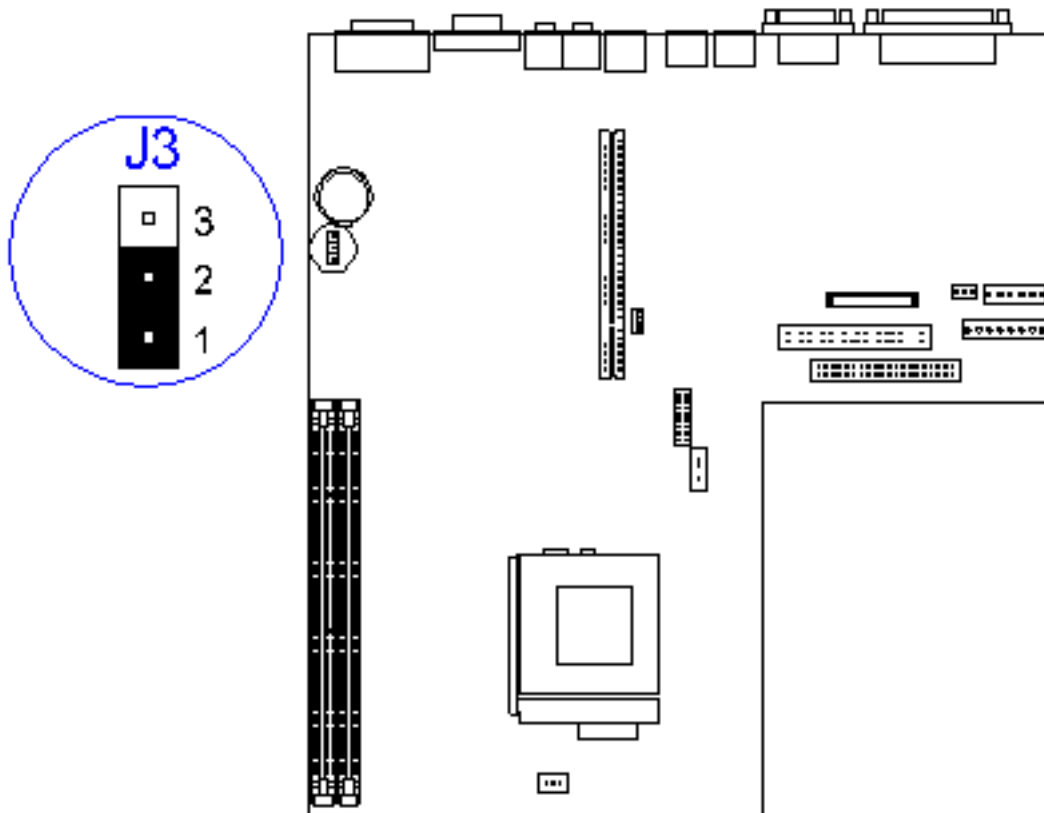
Adherence to the procedures and precautions described in this section is essential for proper service.

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## Clearing CMOS



### Password Jumper Location

If the power-on password is not known, clearing CMOS will disable the power-on password. To clear CMOS, complete the following steps:

1. Complete the [preparation for disassembly](#).
2. [Remove the computer hood](#).
3. To disable the password, move the jumper at J3 from 1-2 to 2-3.
4. Turn on the computer, allow it to boot up, then shut down.
5. Move the jumper at J3 from 2-3 to 1-2.
6. Replace the computer hood and perform the desired troubleshooting.

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## Power-On Self Test (POST)

POST is a series of diagnostic tests that run automatically when the system is turned on. After the computer is turned on, POST checks the following assemblies to ensure that the computer system is functioning properly:

- Keyboard
- System board
- Memory modules
- Video memory
- Diskette drive
- Hard drive
- CD drive
- Power supply

POST also detects the type of mass storage devices installed in the computer.

If POST finds an [error](#) in the system, an error condition is indicated by an audible or visual message.

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## POST (Power On Self Test) Error Messages

An error message displays if the POST encounters a problem. This self-test will run automatically each time the system is powered on. The self-test will check all assemblies within the computer and report any errors found.

Click on the desired error code for the probable cause of the error and a recommended course of action.

<a href="#">CMOS Battery Has Failed</a>	<a href="#">CMOS Checksum Error</a>	<a href="#">Disk Boot Failure</a>
<a href="#">Diskette Drives or Types Mismatch Error</a>	<a href="#">Display Switch Is Set Incorrectly</a>	<a href="#">Display Type Has Changed Since Last Boot</a>
<a href="#">Error Encountered Initializing Hard Drive</a>	<a href="#">Error Initializing Hard Disk Controller</a>	<a href="#">Floppy Disk CNTRLR Error or No CNTRLR Present</a>
<a href="#">Keyboard Error or No Keyboard Present</a>	<a href="#">Memory Address Error at <i>nnn</i></a>	<a href="#">Memory Parity Error at <i>nnn</i></a>
<a href="#">Memory Size Has Changed Since Last Boot</a>	<a href="#">Memory Verify Error at <i>nnn</i></a>	<a href="#">Offending Address Not Found</a>
<a href="#">Offending Segment:</a>	<a href="#">Press A Key to Reboot</a>	<a href="#">Press F1 to Disable NMI, F2 to Reboot</a>
<a href="#">RAM Parity Error</a>	<a href="#">System Halted</a>	<a href="#">Floppy Disk(s) Fail (80)</a>
<a href="#">Floppy Disk(s) Fail (40)</a>	<a href="#">Hard Disk(s) Fail (80)</a>	<a href="#">Hard Disk(s) Fail (40)</a>
<a href="#">Hard Disk(s) Fail (20)</a>	<a href="#">Hard Disk(s) Fail (10)</a>	<a href="#">Hard Disk(s) Fail (08)</a>
<a href="#">BIOS ROM Checksum Error</a>	<a href="#">Memory Test Fail</a>	

<b>CMOS Battery Has Failed</b>
<b>Probable Cause / Solution</b>
CMOS battery is no longer functional. It should be replaced.
<a href="#">Back to Top</a>
<b>CMOS Checksum Error</b>
<b>Probable Cause / Solution</b>
Checksum of CMOS is incorrect. This can indicate that CMOS has become corrupt. This error may have been caused by a weak battery. Check the battery and replace if necessary.
<a href="#">Back to Top</a>
<b>Disk Boot Failure</b>
<b>Probable Cause / Solution</b>
No boot device was found. This could mean that either a boot drive was not detected or the drive does not contain proper system boot files. Insert a system disk into Drive A: and press enter. If you assumed the system would boot from the hard drive, make sure the controller is inserted correctly and all cables are properly attached. Also be sure the disk is formatted as a boot device. Then reboot the system.
<a href="#">Back to Top</a>
<b>Diskette Drives or Types Mismatch Error</b>
<b>Probable Cause / Solution</b>
Type of diskette drive installed in the system is different from the CMOS definition. Run SETUP to reconfigure the drive type correctly.
<a href="#">Back to Top</a>
<b>Display Switch Is Set Incorrectly</b>
<b>Probable Cause / Solution</b>
Display switch on the motherboard can be set to either monochrome or color. This indicates the switch is set to a different setting than indicated in SETUP. Determine which setting is correct, and then either turn off the system and change the jumper, or enter SETUP and change the Video selection.
<a href="#">Back to Top</a>
<b>Display Type Has Changed Since Last Boot</b>
<b>Probable Cause / Solution</b>
Since last powering off the system, the display adapter has been changed. You must configure the system for the new display type.
<a href="#">Back to Top</a>
<b>Error Encountered Initializing Hard Drive</b>
<b>Probable Cause / Solution</b>
Hard drive cannot be initialized. Be sure the adapter is installed correctly and all cables are correctly and firmly attached. Also be sure the correct hard drive type is selected in SETUP.
<a href="#">Back to Top</a>
<b>Error Initializing Hard Disk Controller</b>
<b>Probable Cause / Solution</b>
Cannot initialize controller. Make sure the cord is correctly and firmly installed in the bus. Be sure the correct hard drive type is selected in SETUP. Also check to see if any jumper needs to be set correctly on the hard drive.
<a href="#">Back to Top</a>
<b>Floppy Disk CNTRLR Error or No CNTRLR Present</b>
<b>Probable Cause / Solution</b>
Cannot find or initialize the floppy drive controller. Make sure the controller is installed correctly and firmly. If there are no floppy drives installed, be sure the Diskette Drive selection in SETUP is set to None.
<a href="#">Back to Top</a>
<b>Keyboard Error or No Keyboard Present</b>
<b>Probable Cause / Solution</b>
Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are being pressed during the boot. If you are purposely configuring the system without a keyboard, set the error halt condition in SETUP to <i>All, But Keyboard</i> . This will cause the BIOS to ignore the missing keyboard and continue the boot.
<a href="#">Back to Top</a>
<b>Memory Address Error at <i>nnn</i></b>
<b>Probable Cause / Solution</b>
Indicates a memory address error at a specific location. You can use this location along with the memory map for your system to find and replace the bad memory chips.
<a href="#">Back to Top</a>
<b>Memory Parity Error at <i>nnn</i></b>
<b>Probable Cause / Solution</b>
Indicates a memory address error at a specific location. You can use this location along with the memory map for your system to find and replace the bad memory chips.
<a href="#">Back to Top</a>
<b>Memory Size Has Changed Since Last Boot</b>
<b>Probable Cause / Solution</b>
Press F1 to reconfigure.
<a href="#">Back to Top</a>
<b>Memory Verify Error at <i>nnn</i></b>
<b>Probable Cause / Solution</b>
Indicates an error verifying a value already written to memory. Use the location along with your system's memory map to locate the bad chip.
<a href="#">Back to Top</a>
<b>Offending Address Not Found</b>
<b>Probable Cause / Solution</b>
This message is used in conjunction with the <i>I/O channel check</i> and <i>RAM parity error</i> messages when the segment that has caused the problem cannot be isolated.
<a href="#">Back to Top</a>
<b>Offending Segment:</b>
<b>Probable Cause / Solution</b>
This message is used in conjunction with the <i>I/O channel check</i> and <i>RAM parity error</i> messages when the segment that has caused the problem cannot be isolated.
<a href="#">Back to Top</a>
<b>Press A Key to Reboot</b>
<b>Probable Cause / Solution</b>
This will be displayed at the bottom screen when an error occurs that requires you to reboot. Press any key and the system will reboot.
<a href="#">Back to Top</a>
<b>Press F1 to Disable NMI, F2 to Reboot</b>
<b>Probable Cause / Solution</b>
When BIOS detects a non-maskable interrupt condition during boot, this will allow you to disable the NMI and continue to boot, or you can reboot the system with the NMI enabled.
<a href="#">Back to Top</a>
<b>RAM Parity Error</b>
<b>Probable Cause / Solution</b>
Indicates a parity error in random access memory.
<a href="#">Back to Top</a>
<b>System Halted</b>
<b>Probable Cause / Solution</b>
Indicates the present boot attempt has been aborted and the system must be rebooted. Press and hold down the Ctrl and Alt keys and press Del.
<a href="#">Back to Top</a>
<b>Floppy Disk(s) Fail (80)</b>
<b>Probable Cause / Solution</b>
Unable to reset floppy subsystem.
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<b>Floppy Disk(s) Fail (40)</b>
<b>Probable Cause / Solution</b>
Floppy type mismatch.
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<b>Hard Disk(s) Fail (80)</b>
<b>Probable Cause / Solution</b>
HDD reset failed.
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<b>Probable Cause / Solution</b>
HDD controller diagnostics failed.
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<b>Hard Disk(s) Fail (20)</b>
<b>Probable Cause / Solution</b>
HDD initialization error.
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<b>Hard Disk(s) Fail (10)</b>
<b>Probable Cause / Solution</b>
Unable to recalibrate fixed disk.
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<b>Hard Disk(s) Fail (08)</b>
<b>Probable Cause / Solution</b>
Sector verify failed.
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<b>BIOS ROM Checksum Error</b>
<b>Probable Cause / Solution</b>
The checksum of ROM address F0000H-FFFFFH is bad.
<a href="#">Back to Top</a>
<b>Memory Test Fail</b>
<b>Probable Cause / Solution</b>
BIOS detects an on-board memory error.
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## Compaq Utilities & Setup

This section explains how to use Compaq Utilities and Setup.

Windows 95, Windows 98, and MS-DOS have configuration and diagnostics utilities that you should access in the following instances:

- When a system configuration error is detected during the Power-On Self-Test (POST).
- When you need to change factory default settings for some of the computer features.
- When you need to change the system configuration, which is sometimes necessary when you add or remove optional hardware.
- When you need to set system configuration features.

Click on a selection below for more information on the following utilities:

[Preparing the Computer](#)  
[Computer Setup](#)  
[Compaq Utilities](#)  
[Computer Checkup \(TEST\)](#)  
[View System \(INSPECT\)](#)

## Preparing the Computer

If you encounter an error condition, complete the following steps before starting problem isolation procedures:

1. Ensure proper ventilation. The computer should have a 3-inch (7.6 cm) clearance at the back of the system unit.
2. Turn off the computer and peripheral devices.



**CAUTION:** Always ensure that the power is off before disconnecting or reconnecting the mouse, keyboard, or any other peripheral devices. Disconnecting or connecting the keyboard or mouse while the unit power is on can damage the system board.

3. Disconnect any peripheral devices other than the monitor and keyboard. Do not disconnect the printer if you want to test it or use it to log error messages.
4. Install loop-back and terminating plugs for complete testing.

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## Setup

The Setup utility provides a snapshot of the computer's hardware configuration, aids in troubleshooting, and sets custom features. Setup recognizes a new internal component or an external device and automatically updates the configuration screens. You should use the Setup utility in the following instances:

- When you need to modify the settings for audio, storage, power management, communications, and input devices.
- When you need to get an overall picture of the computer's hardware configuration.
- When you need to verify configuration parameters for determining problems.
- When you need to set the time and date for the computer.

## Running Setup

To access the Setup utility, turn on the computer and press the **F10** key when the cursor appears in the upper right corner of the screen. The following menu will appear:

**NOTE:** The actual menu displayed on your computer may vary slightly, depending on your configuration.



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## Compaq Utilities

This section provides information about the menu options accessible from the **Compaq Utilities** menu.

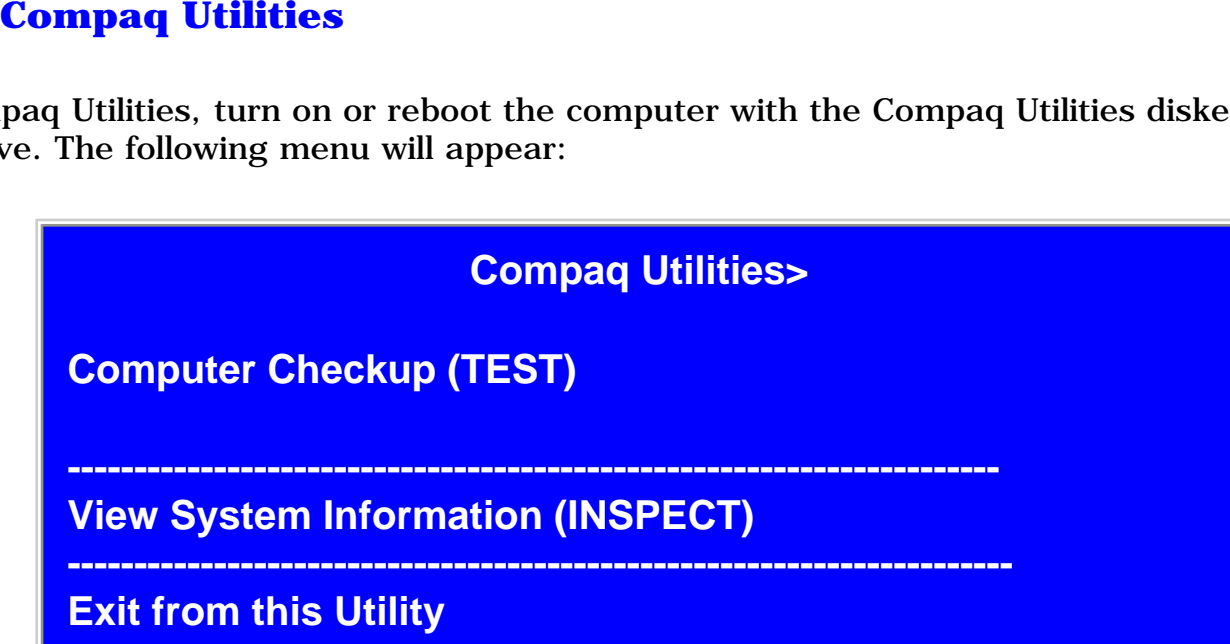
### Create a Compaq Utilities Diskette

A Compaq Utilities diskette must be created to configure the system. To create a Compaq Utilities diskette, complete the following steps:

1. Insert the QuickRestore CD into the CD drive.
2. From the Windows desktop, click on **Start**, then **Programs**, then **Windows Explorer**.
3. Click on the CD drive icon.
4. Double-click on the **PCdiags** folder.
5. Insert a diskette in the diskette drive.
6. Double-click on the **QRST5.exe** icon.
7. Press **Enter** when the QuickRestore label appears.
8. After the CD has completed copying to the diskette, eject the QuickRestore CD.

### Running Compaq Utilities

To run Compaq Utilities, turn on or reboot the computer with the Compaq Utilities diskette in the diskette drive. The following menu will appear:



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## Computer Checkup (TEST)

Computer Checkup (TEST) is a utility that determines if the various computer components installed in the system are recognized by the system and functioning properly. Running TEST after connecting a new device is optional, but we recommend that you do it.

TEST helps analyze the system. This information allows the technician to reproduce the configuration of your computer on another computer for testing.

### Running TEST

To run TEST, complete the following steps:

1. From the Compaq Utilities menu, select the Computer Checkup (TEST) option. A Test Option menu is displayed.
2. Select the option to view the device list. A list of the installed hardware devices is displayed.
3. Verify that the TEST utility correctly detected the devices installed.

**NOTE: This utility may not detect all non-Compaq devices.**

- If the list is correct, select OK. The Test Option menu is displayed again.
- If the list is incorrect, be sure that any new devices are installed properly.

4. Select one of the following from the Test Option menu:

Quick Check Diagnostics runs a quick, general test on each device with a minimal number of prompts. If errors occur, they are displayed when the testing is complete.

- Automatic Diagnostics runs unattended, maximum testing of each device with minimal prompts. You can choose how many times to run the tests, to stop on errors, or to print or file a log of errors.
- Prompted Diagnostics allows maximum control over the device testing process. You can choose attended or unattended testing, decide to stop on errors, or choose to print or file a log of errors.

**IMPORTANT:** Choosing attended testing allows data-destructive tests.

**NOTE:** When you run the TEST utility, record the error message numbers.

5. Follow the instructions on the screen as the diagnostic tests are run on the devices. When the testing is complete, the Test Option menu is displayed again.
6. Exit to the Compaq Utilities menu.

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## View System Information (INSPECT)

The View System Information (INSPECT) utility provides information about the system once it has been configured. INSPECT operates with MS-DOS and provides information about the system operating environment including:

- Contents of the operating system startup files
- Current memory configuration
- ROM version
- Type of processor and coprocessor
- Diskette and hard drives
- Active printer and communications interfaces
- Modem

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## Diagnostic Error Codes

Diagnostic error codes occur if the system recognizes a problem while running the Compaq Utilities TEST program. These error codes help identify possible defective subassemblies.

Retest the system after completing each step.  
**IMPORTANT:** If the problem has been resolved, do not proceed with the remaining steps.

For assistance in the removal and replacement of a particular subassembly, see [Removal and Replacement Procedures](#).

Click on the desired error code range or corresponding test for a list of descriptions of each error condition and actions required to resolve the error condition.

Error Code Range	Test
<a href="#">101-199</a>	<a href="#">Processor Test</a>
<a href="#">200-210</a>	<a href="#">Memory Test</a>
<a href="#">301-304</a>	<a href="#">Keyboard Test</a>
<a href="#">401-498</a>	<a href="#">Parallel Printer Test</a>
<a href="#">501-516</a>	<a href="#">Video Display Unit Test</a>
<a href="#">600-699</a>	<a href="#">Diskette Drive Test</a>
<a href="#">802-824</a>	<a href="#">Monochrome Video Test</a>
<a href="#">1101-1109</a>	<a href="#">Serial Test</a>
<a href="#">1201-1210</a>	<a href="#">Modem Communications Test</a>
<a href="#">1700-1799</a>	<a href="#">Hard Drive Test</a>
<a href="#">2402-2480</a>	<a href="#">Video Test</a>
<a href="#">3206</a>	<a href="#">Audio Test</a>
<a href="#">3301-3305</a>	<a href="#">CD Drive Test</a>
<a href="#">66xx</a>	<a href="#">CD Drive Test</a>
<a href="#">8601</a>	<a href="#">Pointing Interface Device Test</a>

### Processor Test Error Codes

Error Code	Description	Recommended Action
101-xx	CPU test failed	Replace the system board and retest.
102-xx	Processor error	1. Run Computer Checkup or Setup and retest.  2. Replace the processor and retest.
103-xx	DMA controller failed	Replace the system board and retest.
104-xx	Interrupt controller failed	Replace the system board and retest.
105-xx	Port error	Replace the system board and retest.
106-xx	Keyboard controller self-test failed	Replace the system board and retest.
107-xx	CMOS RAM test failed	The following steps apply to error codes 107-xx through 109-xx:
108-xx	CMOS interrupt test failed	1. Replace the battery/clock module and retest.
109-xx	CMOS clock test failed	2. Replace the system board and retest.
110-xx	Programmable timer test failed	The following step applies to error codes 110-xx through 113-01:
111-xx	Refresh detect test failed	Replace the system board and retest.
112-xx	Speed test failed	
113-01	Protected mode test failed	
114-xx	Speaker test failed	1. Verify the speaker connection.  2. Replace the system board and retest.
199-xx	Installed devices test failed	1. Check system configuration.  2. Verify cable connections.  3. Check switch settings.  4. Run Compaq Utilities.  5. Replace the system board and retest.

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### Memory Test Error Codes

Error Code	Description	Recommended Action
200-xx	Invalid memory configuration	1. Verify memory module value compatibility.  2. Reinsert memory in the correct location.
201-xx	Memory machine ID test failed	The following steps apply to error codes 201-xx and 202-xx:
202-xx	Memory system ROM checksum failed	1. Flash the ROM and retest.  2. Replace the memory and retest.  3. Replace the system board and retest.
203-xx	Memory write/read test failed	The following steps apply to error codes 203-xx through 210-xx:
204-xx	Memory address test failed	1. Remove one memory module at a time until the error message stops.
206-xx	Increment pattern test failed	2. Replace other removed modules one at a time, testing each to ensure the error does not return.
210-xx	Random pattern test failed	3. Replace the system board and retest.

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### Keyboard Test Error Codes

Error Code	Description	Recommended Action
301-xx	Keyboard short test, 8042 self-test failed	The following steps apply to error codes 301-xx through 304-xx:
302-xx	Keyboard long test failed	1. Check the keyboard connection. If disconnected, turn the computer off and connect the keyboard.
303-xx	Keyboard LED test, 8042 self-test failed	2. Replace the keyboard and retest.
304-xx	Keyboard typematic test failed	3. Replace the system board and retest.

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### Parallel Printer Test Error Codes

Error Code	Description	Recommended Action
401-xx	Printer failed or not connected	The following steps apply to error codes 401-xx through 498-xx: 1. Connect the printer.
402-xx	Printer data register failed	2. Check power to the printer.
403-xx	Printer pattern test failed	3. Install the loop-back connector and retest.
498-xx	Printer failed or not connected	4. Replace system board and retest.

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### Video Display Unit Test Error Codes

Error Code	Description	Recommended Action
501-xx	Video controller test failed	The following step applies to error codes 501-xx through 516-xx:
502-xx	Video memory test failed	Replace the system board and retest.
503-xx	Video attribute test failed	
504-xx	Video character set test failed	
505-xx	Video 80x25 mode 9x14 character cell test failed	
506-xx	Video 80x25 mode 9x14 character cell test failed	
507-xx	Video 40x25 mode test failed	
508-xx	Video 320x200 mode color set 0 test failed	
509-xx	Video 320x200 mode color set 1 test failed	
510-xx	Video 640x200 mode test failed	
511-xx	Video screen memory page test failed	
512-xx	Video gray scale test failed	
514-xx	Video white screen test failed	
516-xx	Video noise pattern test failed	

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### Diskette Drive Test Error Codes

Error Code	Description	Recommended Action
600-xx	Diskette ID drive types test failed	The following steps apply to error codes 600-xx through 698-xx:
601-xx	Diskette format failed	1. Replace the diskette and retest.
602-xx	Diskette read test failed	2. Check and/or replace the diskette power and signal cables and retest.
603-xx	Diskette write, read, compare test failed	3. Replace the diskette drive and retest.
604-xx	Diskette random seek test failed	4. Replace the system board and retest.
605-xx	Diskette ID media test failed	
606-xx	Diskette speed test failed	
607-xx	Diskette wrap test failed	
608-xx	Diskette write-protect test failed	
609-xx	Diskette reset controller test failed	
610-xx	Diskette change line test failed	
694-xx	Pin 34 is not cut on 360KB diskette drive	
697-xx	Diskette type error	
698-xx	Diskette drive speed not within limits	
699-xx	Diskette drive/media ID error	1. Replace media.  2. Run Setup.

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### Monochrome Video Test Error Codes

Error Code	Description	Recommended Action
802-xx	Video memory test failed	The following step applies to error codes 802-xx through 824-xx:
824-xx	Monochrome video text mode test failed	Replace the system board and retest.

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## Troubleshooting without Diagnostics

If you encounter some minor problem with the computer or software application, go through the following checklist for possible solutions before running any of the Diagnostic utilities:

- Is the computer connected to a working power outlet?
- Is the computer turned on and the power light illuminated?
- Are all cables connected properly and seated?
- Are all of the necessary device drivers installed?
- Is the *CONFIG.SYS* file correct?
- Is the *AUTOEXEC.BAT* file (MS-DOS) or *DOSSTART.BAT* file correct?
- Was a non-bootable diskette loaded in the diskette drive at power-up?
- Are all CMOS settings correct?

Click on a selection below identify some quick checks for common problems.

[Power](#)      [Monitor](#)      [CD Drive](#)      [USB](#)  
[Diskette Drive](#)    [Hard Drive](#)      [Resolving Hardware conflicts](#)

### Solutions for Power Problems

Problem	Possible Solution
Computer will not turn on	Ensure that the computer is connected to a working power source.
Computer does not automatically display the date and time	The real-time clock (RTC) battery may need to be replaced. See Removal and Replacement Procedures.
Computer does not beep during POST	The speaker volume may have been turned down. Push the volume control buttons on the computer and adjust the volume or select the Volume option from the Control Panel.
Computer powered off automatically	1. The unit may be in Sleep. If the amber light on the front bezel is on, then the unit is in Sleep.  2. The unit temperature may have been exceeded. Check the fan for function and blockage.

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### Diskette Drive Problems

Problem	Possible Solution
Diskette drive light stays on	1. Diskette may be damaged. From the Windows desktop, click on the Start button. Choose Programs=>Accessories=> System Tools=>Scandisk to check for problems.  2. Diskette may be installed incorrectly. Remove the diskette and reinsert.  3. Software program may be damaged. Check the program diskettes.
Diskette drive cannot write to a diskette	1. Diskette is not formatted. Format the diskette.  2. Diskette is write-protected. Either use another diskette that is not write-protected, or disable the write protection on the diskette.  3. Writing to the wrong drive. Check the drive letter in your path statement.  4. Not enough space is left on the diskette. Use another diskette to write the information.
Diskette drive cannot read a diskette	1. Diskette is not formatted. Format the diskette.  2. Using the wrong diskette type for the drive type. Use a diskette that is compatible with the drive.  3. Reading the wrong drive. Check the drive letter in your path statement.  4. Diskette drive has been disabled by Setup. Run Setup and enable the diskette drive.

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### Solutions for Monitor Problems

Problem	Possible Solution
Characters are dim	The brightness control is not set properly. Adjust the brightness control.
Screen is blank	1. A screen-blanking (energy-saving) utility could be installed. Press any key. If the display reappears, you have a screen-blanking utility installed.  2. The brightness needs adjusting. Adjust the brightness control.  3. Screen saver has been initiated. Press any key or move the mouse to light the screen.  4. System is in Sleep mode. Press the Sleep button to wake up.
Garbled characters on the screen are mixed with text	The ANSI.SYS driver is not in the <i>CONFIG.SYS</i> file. Add the ANSI.SYS driver to the <i>CONFIG.SYS</i> file by inserting the following line:  DEVICE = C:\path\ANSI.SYS
Monitor overheats	There is not enough ventilation space for proper airflow. Leave at least 3 inches (7.6 cm) of ventilation space. Also, be sure there is nothing on top of the monitor to obstruct airflow.
Cursor will not move using the arrow keys on the numeric keypad	1. The Num Lock key is on. Press the Num Lock key. The Num Lock light should not be on when you want to use the arrow keys.  2. Possible application error. Restart the computer.

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### Solutions for Hard Drive Problems

Problem	Possible Solution
Hard drive error occurs	Hard disk has bad sectors or has failed. Run Setup. Reformat the hard disk.
Disk transaction problem	The directory structure is bad or there is a problem with a file.  From the Windows desktop, click on the Start button. Choose Programs=>Accessories => System Tools=>Scandisk to check for problems. If problems exist, run Scandisk and click on the "Automatically fix errors" checkbox at the bottom to correct the problems. If a large number of lost allocation units is found, click on the Start button. Choose Programs=> Accessories=>System Tools=>Disk Defragmenter.
Drive not found	Cable could be loose. Check cable connections.
Nonsystem disk message	1. The system is trying to start from a diskette that is not bootable. Remove the diskette from the diskette drive.  2. The system is trying to start from the hard drive but the hard disk has been damaged. Insert a bootable diskette into the diskette drive and restart the computer with Ctrl+Alt+ Del.  3. Diskette boot has been disabled in Setup. Run Setup and enable diskette boot.
Hard drive operation seems slow	The hard disk files may be fragmented.  From the Windows desktop, click on the Start button. Choose Programs =>Accessories =>System Tools =>Scandisk to check for problems. If problems exist, run Scandisk and checkmark the "Automatically fix errors" box at the bottom to correct the problems. If a large number of lost allocation units is found, click on the Start button. Choose Programs => Accessories=>System Tools=> Disk Defragmenter.
Hard drive activity light is not on, or stays on without blinking	The hard disk files may be fragmented.  From the Windows desktop, click on the Start button. Choose Programs=> Accessories => System Tools=>Scandisk to check for problems. If problems exist, run Scandisk and checkmark the "Automatically fix errors" box at the bottom to correct the problems. If a large number of lost allocation units is found, click on the Start button. Choose Programs=> Accessories => System Tools=>Disk Defragmenter.

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### Solutions for CD Drive Problems

Problem	Possible Solution
Cannot read compact disc	1. CD is not properly seated in the drive. Eject the CD, press down on the CD firmly to correctly seat it in the drive, then reload.  2. CD has been loaded upside down. Eject the CD, turn it over, then reload.  3. CD may be dirty or scratched. Load another CD.
Cannot eject compact disc	CD is not properly seated in the drive. Turn off the computer, insert a thin metal rod into the emergency eject hole, then push firmly (a straightened paper clip can be used). Slowly pull the tray out from the drive until the tray is fully extended, then remove the CD.
CD drive devices are not detected; driver is not loaded	1. CD drive is not connected properly. Open the computer and check to see that the drive cable is connected properly.  2. Ensure the correct driver is installed in <i>CONFIG.SYS</i> .  3. If drive has been changed, make sure the jumper setting is set for "Slave."

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### Solutions for USB Problems

Problem	Possible Solution
USB device does not work with the system.	The USB device and the system may use different USB architectures. Ensure that the USB device and the system share the same USB architecture. (UHCI-compliant devices will only work with a UHCI-compliant system, and OHCI-compliant devices will only work with a OHCI-compliant system).

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## Resolving Hardware Conflicts

Hardware conflicts occur when two or more peripheral devices attempt to use the same hardware resources. I/O addresses, interrupts, and DMA channels are the most common hardware resources used by peripheral devices.

When different peripheral devices use the same hardware resources at the same time, the devices or the system may not function properly. You can resolve hardware conflicts by ensuring that no devices are configured to use the same hardware resources. These resources can either be dipswitch or jumper settings on the peripheral card or software configurable resources. The Computer Setup selection of your Compaq Utilities allows you to view and modify the settings for the peripheral devices factory installed in your system. Refer to the *User's Guide* for the particular peripheral cards you wish to install for information on how to view and select their settings.

### To resolve hardware conflicts:

1. Change the hardware settings of your audio card or other peripheral card in your system if the peripheral card is using any settings used by the factory-installed devices.
2. If you are unsure of the settings of the peripheral cards, you can isolate the source of the problem by temporarily removing all cards not manufactured by Compaq, or by resetting the default settings and running Compaq Utilities. After that, add the cards back one at a time until the card that is causing the conflict is found.



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## Illustrated Parts

This section provides illustrated parts and a reference for spare parts numbers for Compaq Presario 3500 Series Personal Computers.

When requesting information or ordering spare parts, the computer [serial number](#) should be provided to Compaq. The serial number is displayed on the rear side of the computer.

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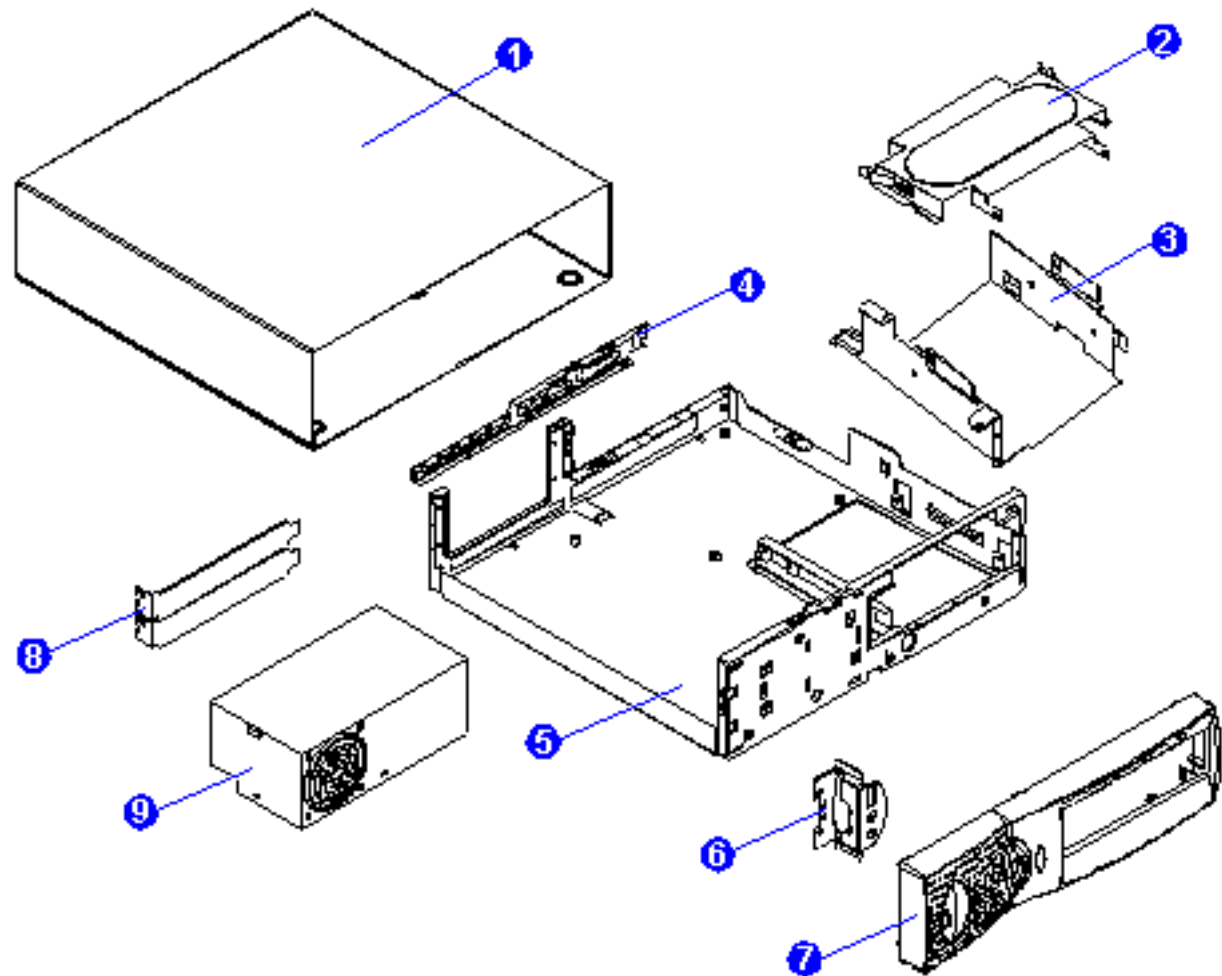
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## Illustrated Parts

### System Unit

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System Unit		
Description		Spare Part Number
<b>1</b>	Cabinet Assembly	161558-001
<b>2</b>	Diskette Drive Bracket	152121-291
<b>3</b>	CD Drive Bracket	152120-291
<b>4</b>	I/O Panel	In misc. hardware kit
<b>5</b>	Chassis	152116-291
<b>6</b>	I/O Board Bracket Assy	166048-001
<b>7</b>	Front Bezel	161559-001
<b>8</b>	Slot Cover	In misc. hardware kit
<b>9</b>	Power Supply	152110-291

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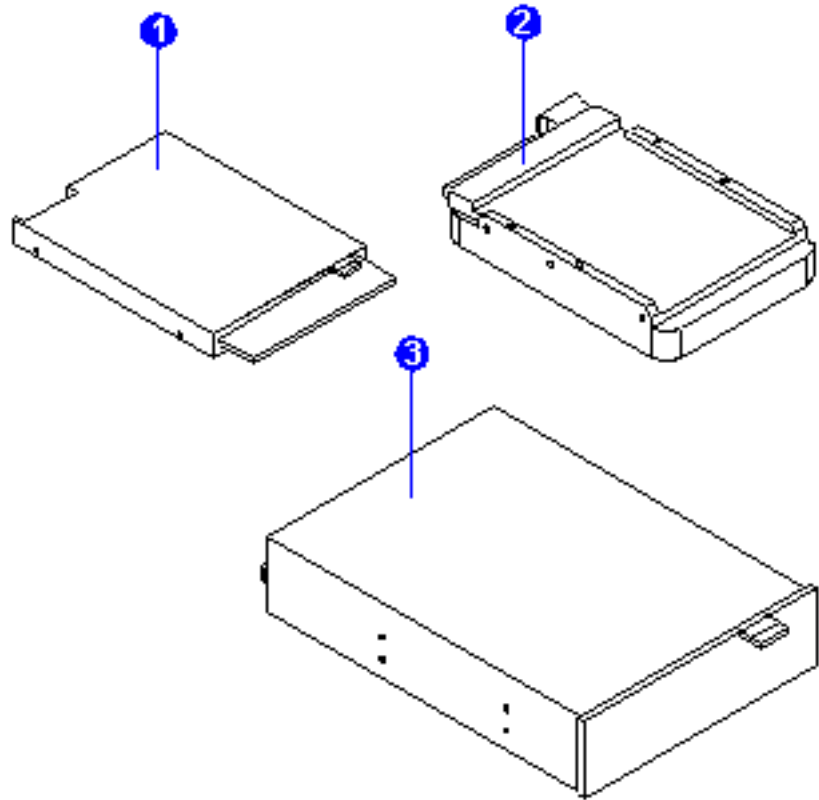
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## Illustrated Parts

### Mass Storage Devices

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Mass Storage Devices		
	Description	Spare Part Number
1	1.44 MB Diskette Drive	161785-001
2	3.5" Hard Drive	161786-001
3	CD-RW Drive	159480-001

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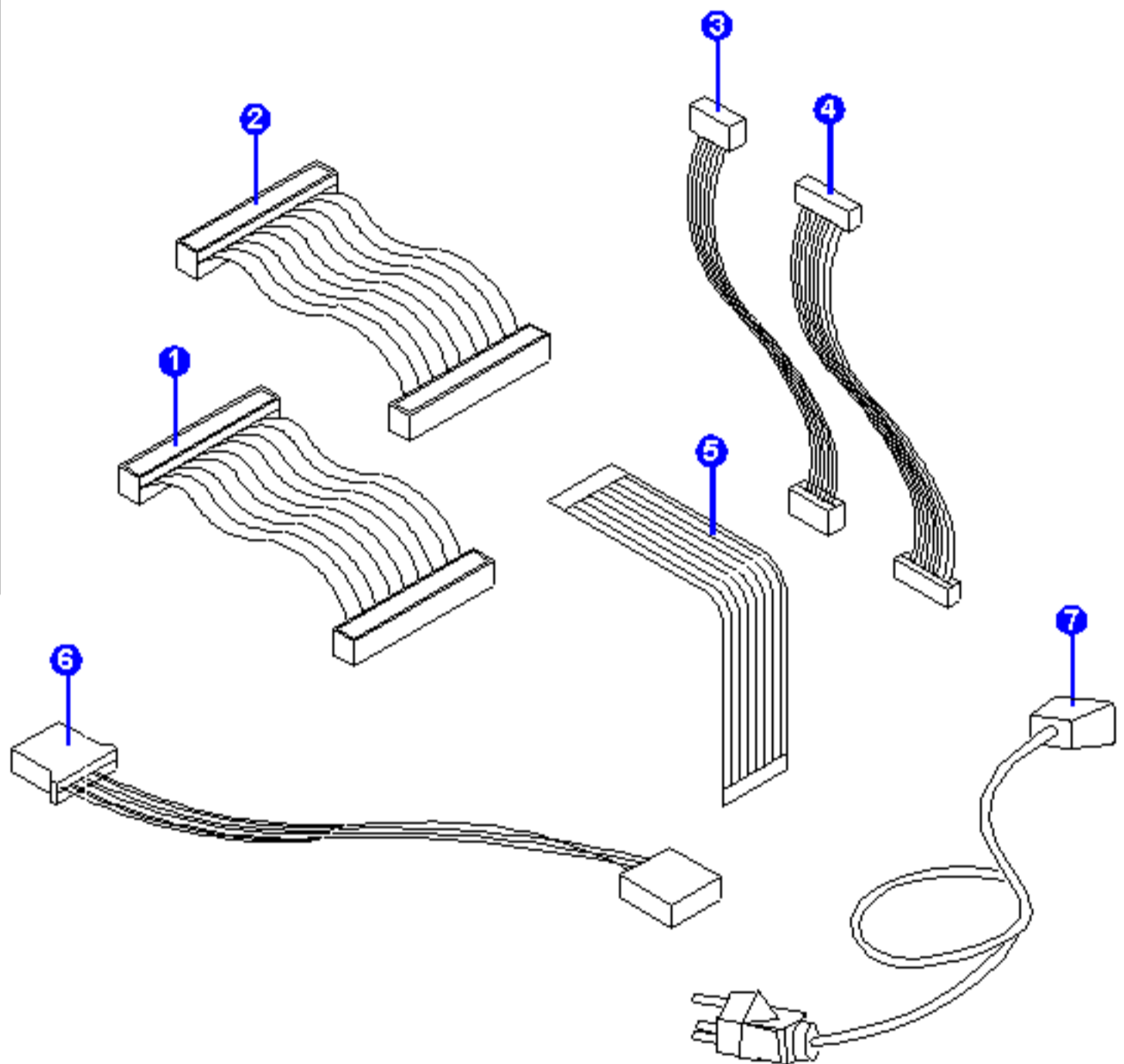
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### Cables

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Cables	
Description	Spare Part Number
Cable Kit, Misc.: <b>1</b> Hard Drive data <b>2</b> CD data <b>3</b> Button Board data <b>4</b> I/O Board data <b>5</b> Diskette data <b>6</b> CD audio	152123-291
<b>7</b> Power Cord:	161561-001

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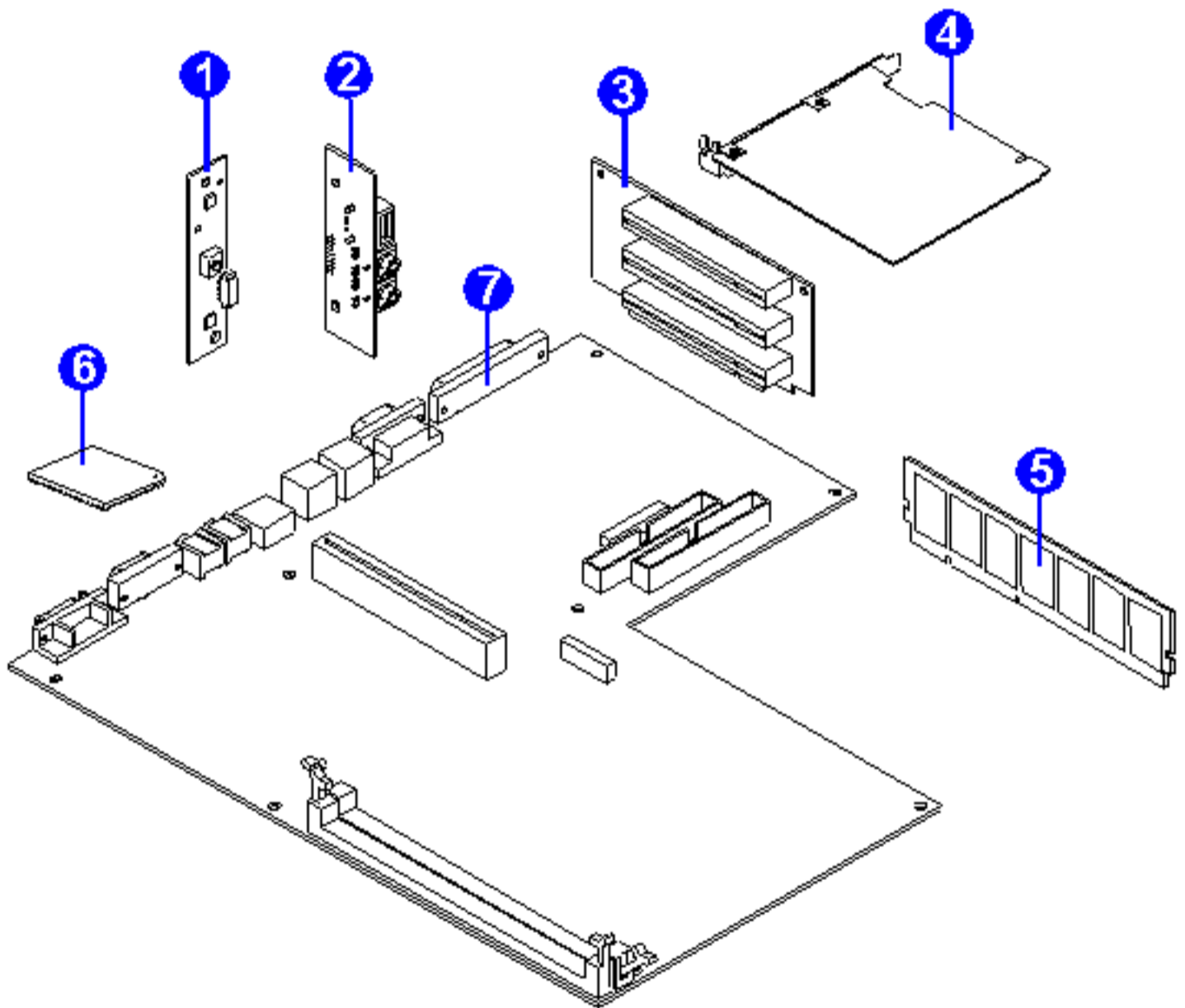
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## Illustrated Parts

### Boards

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<a href="#">System Unit</a>
<a href="#">Mass Storage Devices</a>
<a href="#">Cables</a>
<b>Boards</b>
<a href="#">Keyboards</a>
<a href="#">Monitors</a>
<a href="#">Miscellaneous Hardware</a>
<a href="#">Miscellaneous Plastic Parts</a>



Boards		
	Description	Spare Part Number
<b>1</b>	Button Board	152111-291
<b>2</b>	I/O Board	152112-291
<b>3</b>	Riser Board	152114-291
<b>4</b>	Fax/Modem	128384-001
<b>5</b>	64-MB 100 MHz DIMM (60ns, SDRAM)	152109-291
<b>6</b>	Processor Celeron 500-MHz	163440-001
<b>7</b>	System Board without processor	161783-001

# Maintenance & Service Guide

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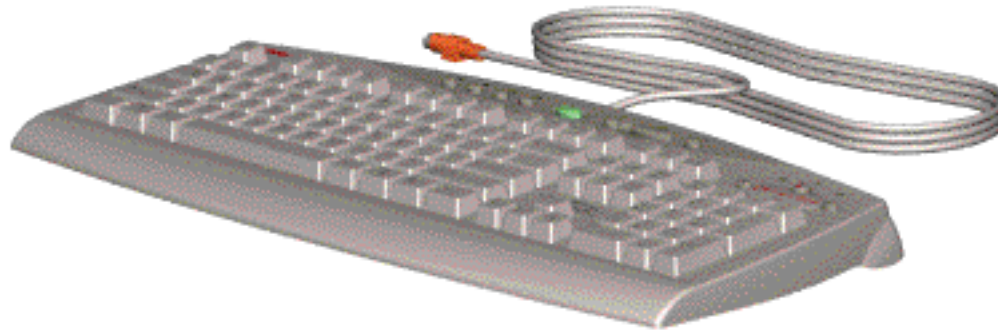
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## Illustrated Parts

### Keyboards

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<b>Keyboards</b>	
<b>Description</b>	<b>Spare Part Number</b>
Internet Keyboard	159482-001

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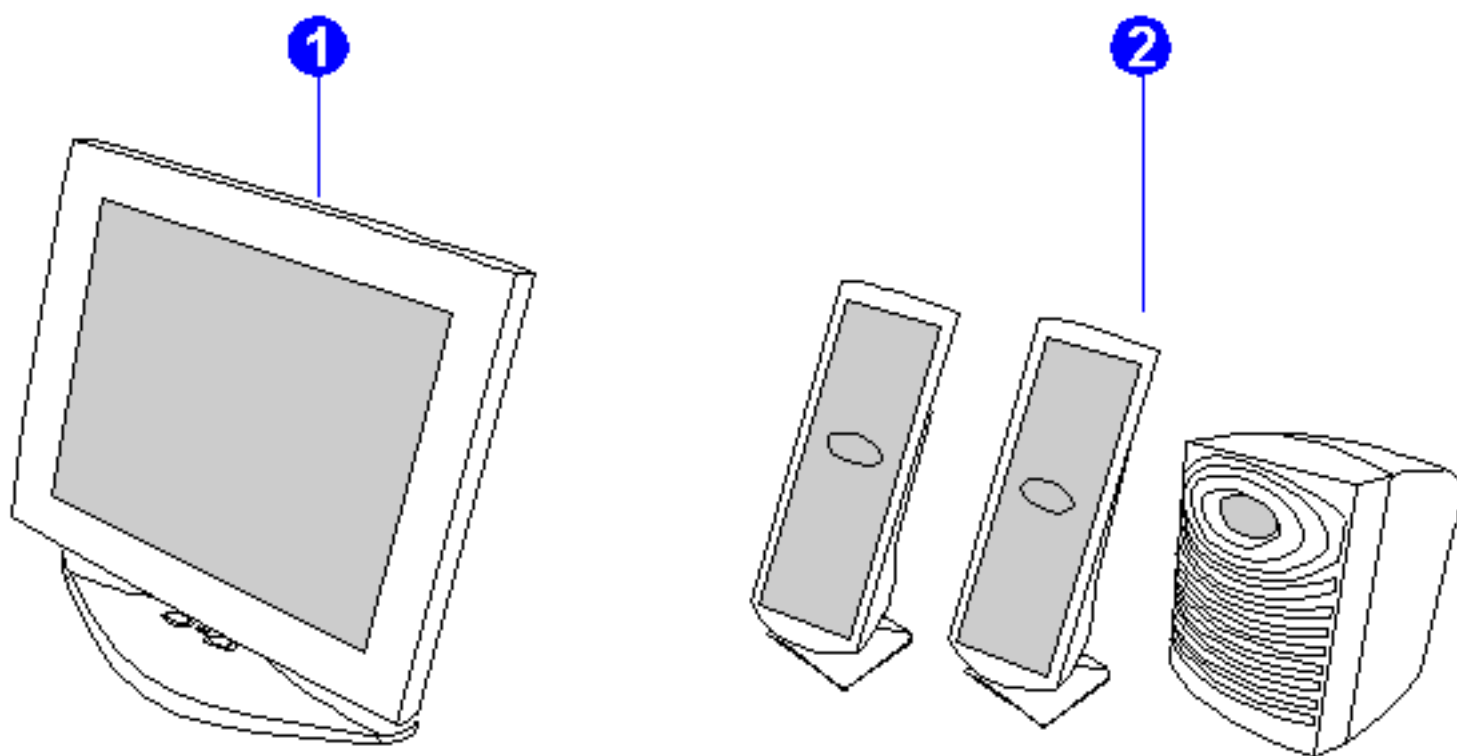
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## Illustrated Parts

### Monitors

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<a href="#">Keyboards</a>
<b>Monitors</b>
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<a href="#">Miscellaneous Plastic Parts</a>



Monitors	
Description	Spare Part Number
<b>1</b> FP725D Monitor	159166-001
<b>2</b> Speakers	160154-001
<b>3</b> Video cable (not shown)	163166-001

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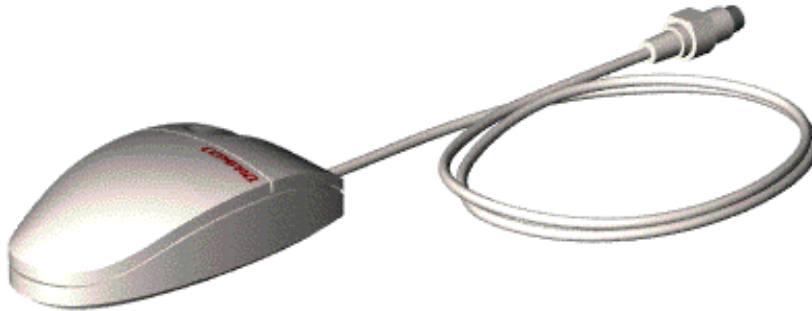
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### Miscellaneous Hardware

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<b>Miscellaneous Hardware</b>
<a href="#">Miscellaneous Plastic Parts</a>



Miscellaneous Hardware		
	Description	Spare Part Number
1	Mouse	159481-001
2	Hardware Kit, Misc. (not shown): <ul style="list-style-type: none"><li>- Hard Drive Bracket</li><li>- Option Card Bracket</li><li>- Riser Board Bracket</li><li>- EMI Clips</li><li>- I/O Board Bracket</li><li>- Label</li><li>- Rubber Feet</li></ul>	152122-291



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## Illustrated Parts

### Miscellaneous Plastic Parts

#### Illustrated Parts

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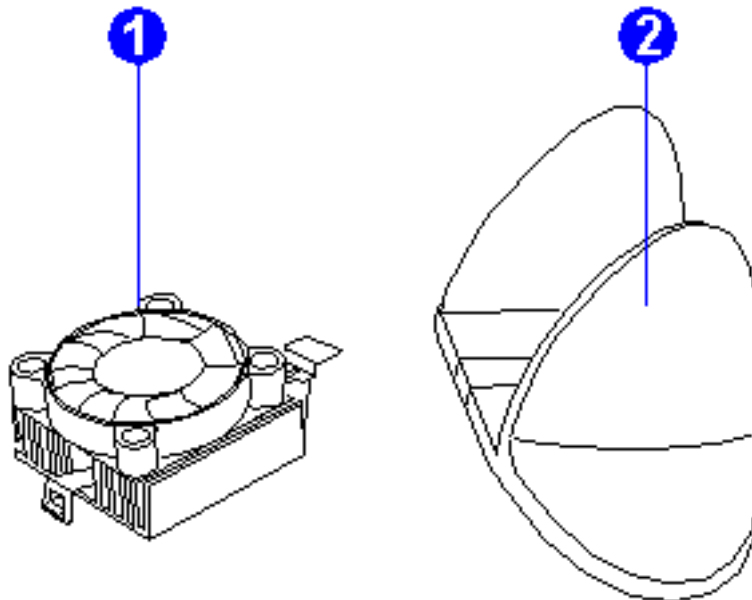
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**Miscellaneous  
Plastic Parts**



#### Miscellaneous Plastic Parts

	Description	Spare Part Number
<b>1</b>	Processor Fan	168595-001
<b>2</b>	Stand	161560-001

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### Disassembly Sequence

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## Removal and Replacement

This chapter provides general service information for Compaq Presario 3500 Series Personal Computers. Adherence to the procedures and precautions described in this chapter is essential for proper service.

The topics discussed in this section include the following:

- [Electrostatic Discharge](#)
- [Generating Static](#)
- [Preventing Electrostatic Damage to Equipment](#)
- [Preventing Damage to Drives](#)
- [Grounding Methods](#)
- [Grounding Workstations](#)
- [Grounding Equipment](#)
- [Recommended Materials and Equipment](#)
- [Tool Requirements](#)
- [Screws](#)
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### Electrostatic Discharge

A sudden discharge of static electricity from a finger or other conductor can destroy static-sensitive devices or microcircuitry. Often the spark is neither felt nor heard, but damage occurs. An electronic device exposed to electrostatic discharge (ESD) may not be affected at all and will work perfectly throughout a normal cycle. Or it may function normally for a while, then degrade in the internal layers, reducing its life expectancy.

Networks built into many integrated circuits provide some protection, but in many cases, the discharge contains enough power to alter device parameters or melt silicon junctions.

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### Generating Static

The accompanying table shows typical electrostatic voltages generated by different activities.

Event	Relative Humidity		
	10%	40%	55%
Walking across carpet	35,000 V	15,000 V	7,500 V
Walking across vinyl floor	12,000 V	5,000 V	3,000 V
Motions of bench worker	6,000 V	800 V	400 V
Removing DIPS from plastic tubes	2,000 V	700 V	400 V
Removing DIPS from vinyl trays	11,500 V	4,000 V	2,000 V
Removing DIPS from Styrofoam	14,500 V	5,000 V	3,500 V
Removing bubble pack from PCBs	26,000 V	20,000 V	7,000 V
Packing PCBs in foam-lined box	21,000 V	11,000 V	5,000 V

**NOTE:** 700 volts can degrade a product.

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### Preventing Electrostatic Damage to Equipment

Many electronic components are sensitive to ESD. Circuitry design and structure determine the degree of sensitivity. The following proper packaging and grounding precautions are necessary to prevent damage:

- Protect all electrostatic parts and assemblies with conductive or approved containers or packaging.
- Keep electrostatic sensitive parts in their containers until they arrive at static-free stations.
- Place items on a grounded surface before removing them from their container.
- Always be properly grounded when touching a sensitive component or assembly.
- Place reusable electronic-sensitive parts from assemblies in protective packaging or conductive foam.
- Use transporters and conveyors made of antistatic belts and metal roller bushings. Mechanized equipment used for moving materials must be wired to ground and proper materials selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

The accompanying table shows typical static-shielding protection levels afforded by different protective packaging materials.

Static-Shielding Protection Levels	
Method	Voltages
Antistatic Plastic	1,500
Carbon-Loaded Plastic	7,500
Metallized Laminate	15,000

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### Preventing Damage to Drives

To prevent static damage to hard drives, use the following precautions:

- Handle drives gently, using static-guarding techniques.
- Store drives in the original shipping containers.
- Avoid dropping drives from any height onto any surface.
- Handle drives on surfaces that have at least one inch of shock-proof foam.
- Always place drives PCB assembly side down on the foam.

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### Grounding Methods

The method for grounding must include a wrist strap or a foot strap at a grounded workstation. When seated, wear a wrist strap connected to a grounded system. When standing, use footstraps and a grounded floor mat.

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### Grounding Workstations

To prevent static damage at the workstation, use the following precautions:

- Cover the workstation with approved static-dissipative material.
- Provide a wrist strap connected to the work surface and properly grounded tools and equipment.
- Use static-dissipative mats, heel straps, or air ionizers to give added protection.
- Handle electrostatic sensitive components, parts, and assemblies by the case or PCB laminate. Handle them only at static-free workstations.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting and removing connectors or test equipment.
- Use fixtures made of static-safe materials when fixtures must directly contact dissipative surfaces.
- Keep work area free of nonconductive materials such as ordinary plastic assembly aids and Styrofoam.
- Use field service tools, such as cutters, screwdrivers, vacuums, that are conductive.
- Use a portable field service kit with a static dissipative vinyl pouch that folds out of a work mat. Also use a wrist strap and a ground cord for the work surface. Ground the cord to the chassis of the equipment undergoing test or repair.

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### Grounding Equipment

Use the following equipment to prevent static electricity damage to the equipment:

- Wrist Straps are flexible straps with a minimum of 1 mega ohm +/- 10% resistance to the ground cords. To provide proper ground, a strap must be worn snug against the skin. On grounded mats without banana-plug connectors, connect a wrist strap with alligator clips.
- Heelstraps/Toe straps/Bootstraps can be used at grounded workstations and are compatible with most types of boots and shoes. On conductive floors or dissipative floor mats, use them on both feet with a minimum of 1 mega ohm resistance between operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

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### Recommended Materials and Equipment

Other materials and equipment that are recommended for use in preventing static electricity include:

- Antistatic tape
- Antistatic smocks, aprons, or sleeve protectors
- Conductive bins, and other assembly or soldering aids
- Conductive foam
- Conductive tabletop workstations with ground cord of 1 mega ohm of resistance
- Static dissipative table or floor mats with hard tie to ground
- Field service kits
- Static awareness labels
- Wrist straps and footwear straps providing 1 mega ohm (+/- 10%) resistance
- Material handling packages
- Conductive plastic bags
- Conductive plastic tubes
- Conductive tote boxes
- Metal tote boxes
- Opaque shielding bags
- Transparent metallized shielding bags
- Transparent shielding tubes

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### Tool Requirements

- Torx T-8, T-10, and T-15 screwdrivers (included in kit number 130619-001)
- Needle-nose pliers
- Flat-bladed screwdriver
- Diagnostics software

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### Screws

The screws used in these products are not interchangeable. If an incorrect screw is used during the reassembly process, it could cause damage to the unit. Compaq strongly recommends that all screws removed during the disassembly process be kept with the part that was removed, then returned to their proper locations.

**IMPORTANT:** As each subassembly is removed from the computer, it should be placed away from the work area to prevent damage

- 

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### Cables and Connectors

Most cables used throughout the unit are ribbon cables. These cables must be handled with extreme care to avoid damage.

Apply only the tension required to seat or unseat the cables during insertion or removal from the connector. Handle the cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing the cables, and ensure that cables are placed in such a way that they cannot be caught or snagged by parts being removed or replaced.



**CAUTION:** When servicing these computers, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can cause severe damage to the unit.

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## Preparing for Disassembly

To prepare the computer for the removal and replacement procedures, complete the following steps:

1. Remove any diskette or compact disc (CD) from the computer.
2. Turn off the computer and any peripheral devices that are connected to the computer.



**CAUTION:** The computer power switch should be turned off before you disconnect any cables.

3. Disconnect the power cord from the electrical outlet then from the computer.
4. Disconnect all peripheral device cables from the computer.

**IMPORTANT:** During disassembly, label each cable as you remove it. Be sure to note the position and routing of each cable before removal.

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## Removal and Replacement

### Hood

#### Disassembly Sequence

#### Hood

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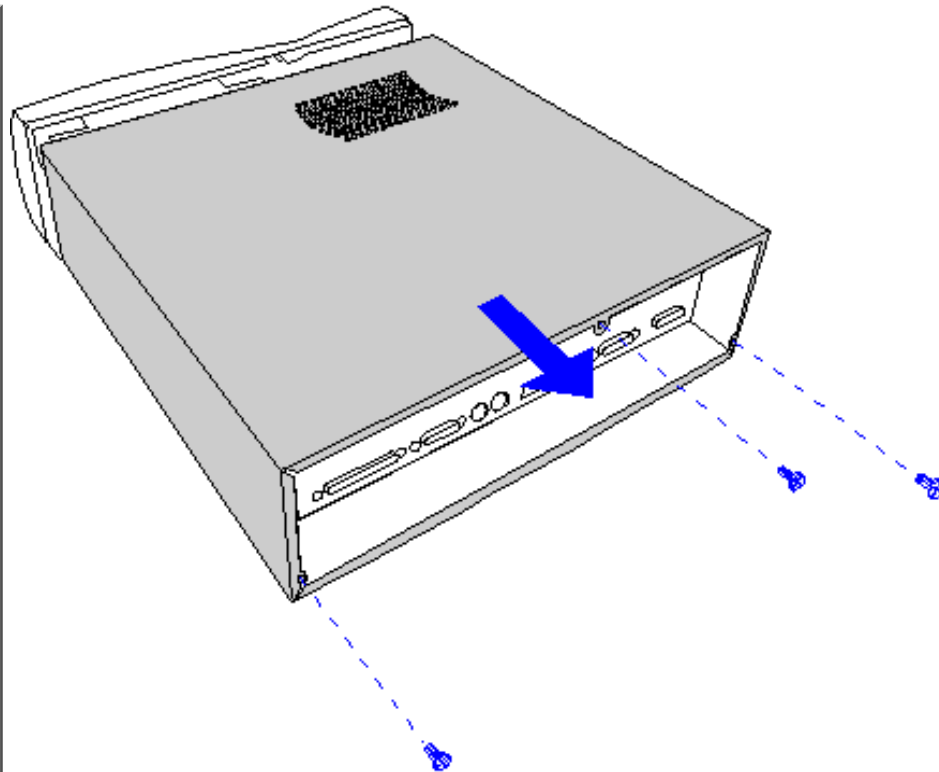
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#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. Remove three screws from the back of the computer.
3. Pull the hood backwards until it is completely detached. End of sequence.

#### Replacement

To replace the hood, reverse the removal procedure.

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## Removal and Replacement

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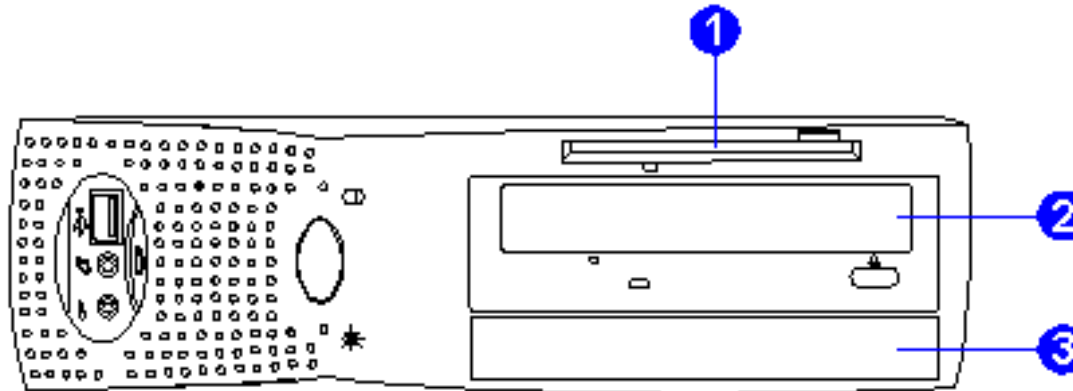
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#### Drive

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## Removal and Replacement

### Fax/Modem

#### Disassembly Sequence

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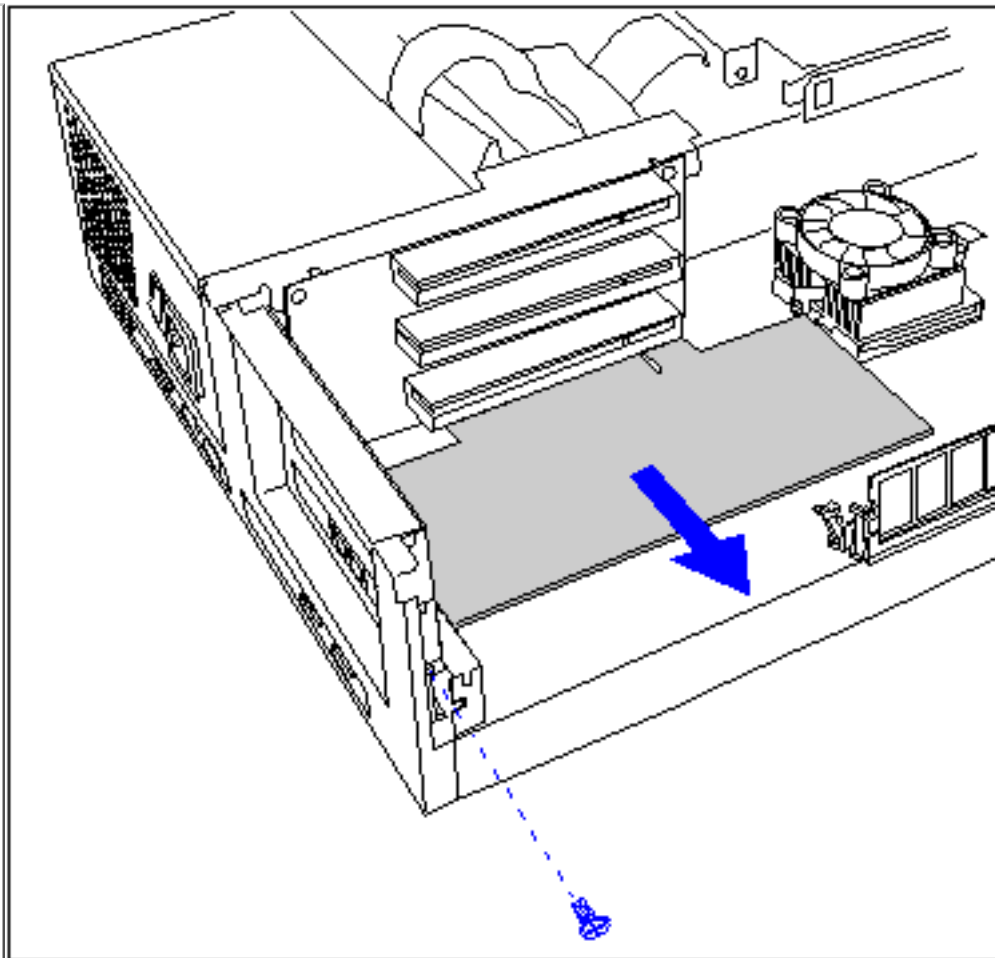
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#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. Remove one screw from the fax/modem bracket.
4. Pull the fax/modem out of the slot.  
End of sequence.

#### Replacement

To replace the fax/modem, reverse the removal procedure.

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## Removal and Replacement

### Riser Board

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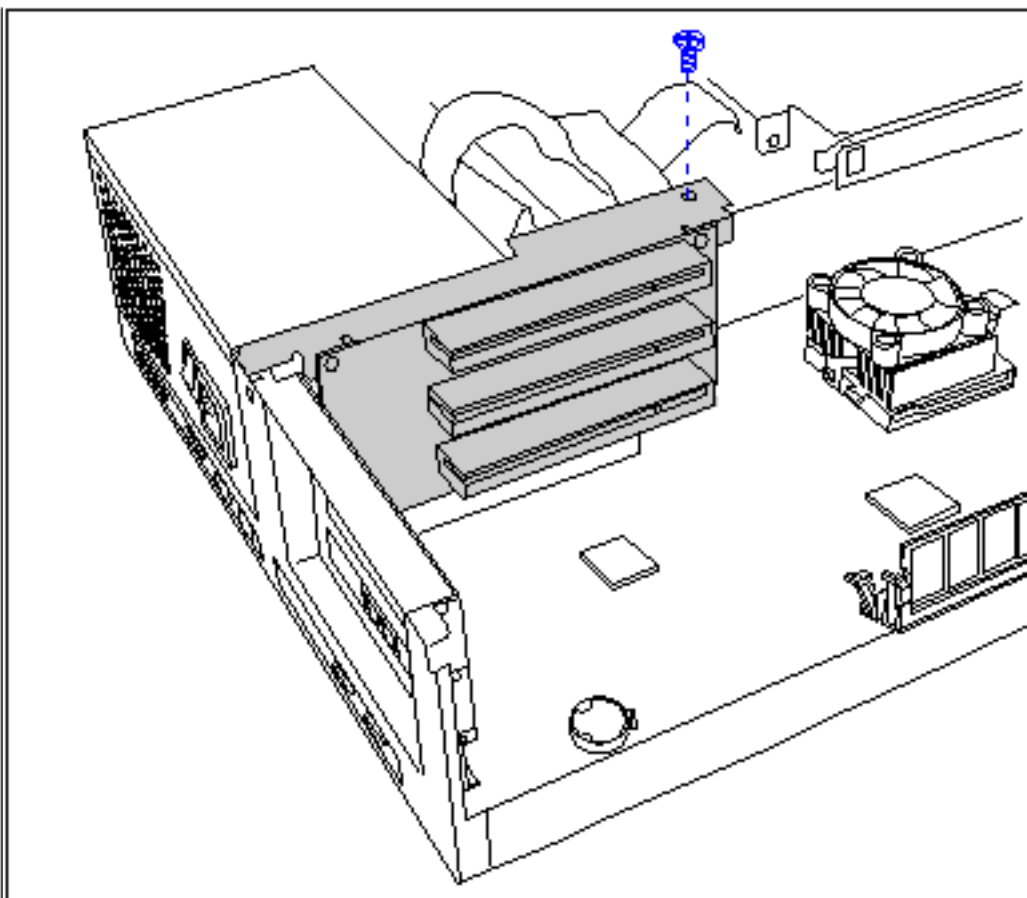
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#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. [Remove the fax/modem](#).
4. Remove one screw from the riser board bracket.
5. Pull the riser board out of the slot.
6. [Remove the riser board mounting bracket](#). End of sequence.

#### Replacement

To replace the riser board, reverse the removal procedure.

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## Removal and Replacement

### Memory Module

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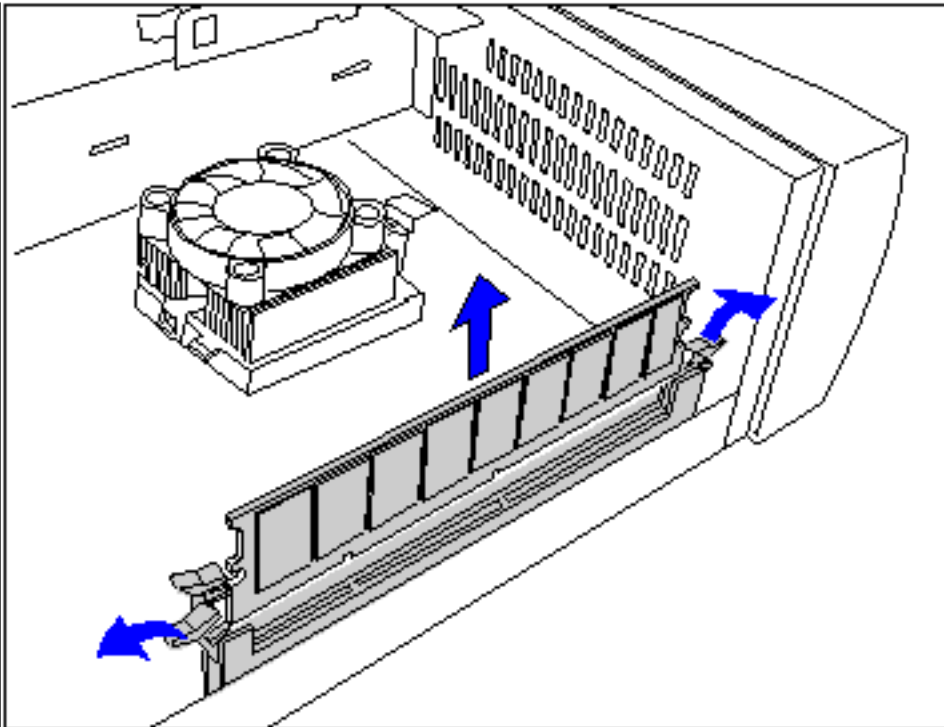
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#### Removal

1. Perform the [preparation for disassembly procedure](#).
2. [Remove the hood](#).
3. Press outward on the release latches found on both ends of the dual inline memory module (DIMM).
4. Detach memory module from the slot. End of sequence.

#### Replacement

To replace the memory module, reverse the removal procedure.



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## Removal and Replacement

### Processor Fan

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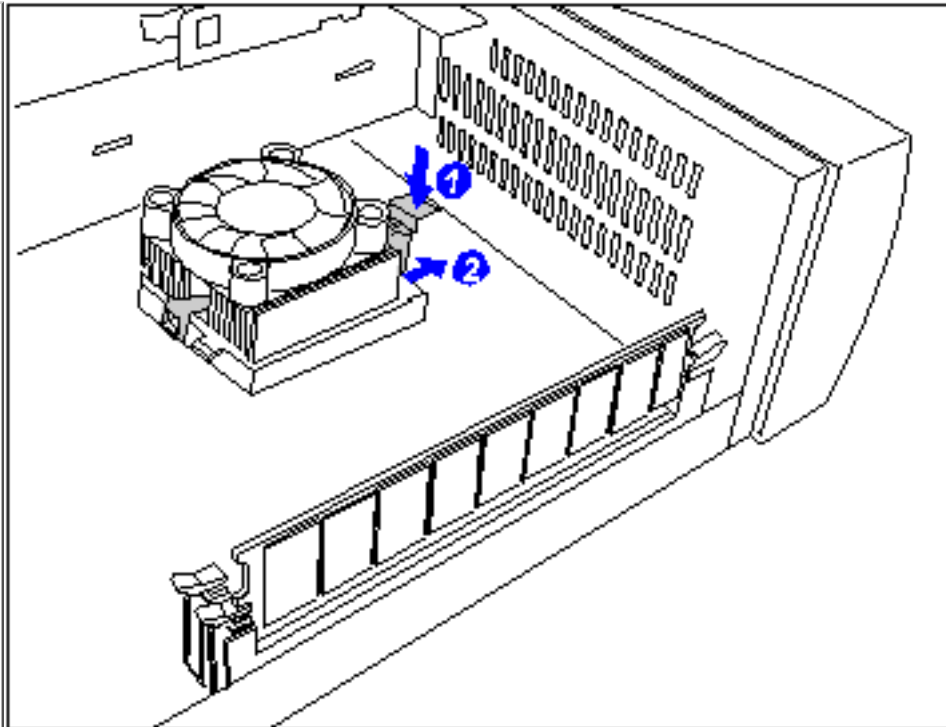
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#### Removal

1. Perform the [preparation for disassembly procedure](#).
2. [Remove the hood](#).
3. Disconnect the fan cable from the system board.
4. To disengage the locking device, press **1** and push outwards **2** the handle part of the locking device to release the end. Then release the other end.
5. Lift the fan.  
End of sequence.

#### Replacement

To replace the processor fan, reverse the removal procedure.

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### Processor

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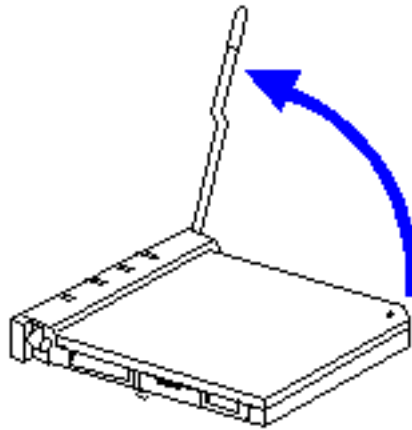
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#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. [Remove the processor fan](#).
4. Pull the socket arm to the vertical position.
5. Lift the processor out of the socket.  
End of sequence.

#### Replacement

To replace the processor, reverse the removal procedure.

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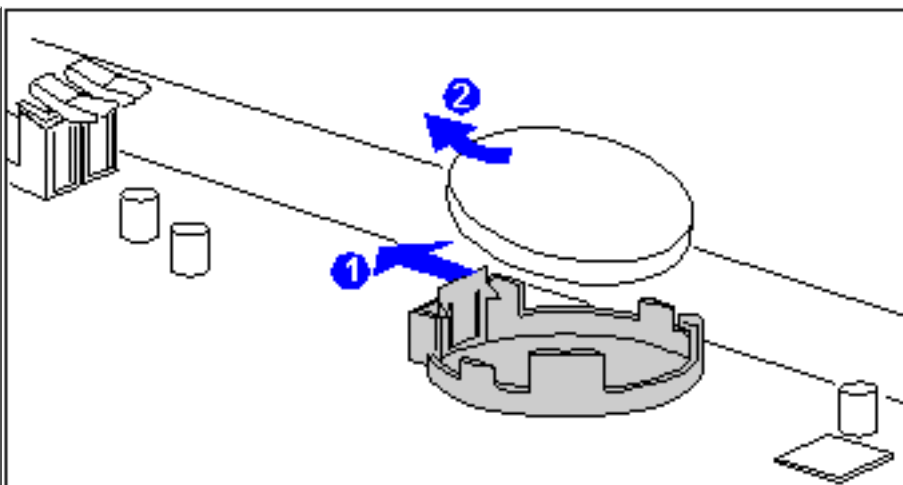
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## Removal and Replacement

### RTC Battery

#### Disassembly Sequence

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<a href="#">I/O Board</a>



#### Removal

1. Perform the [preparation for disassembly procedure](#).
  2. [Remove the hood](#).
  3. Locate the RTC battery.
  4. Push out the socket levers **1** and slide the RTC battery out of the socket **2**.
- End of sequence

#### Replacement

To replace RTC battery, reverse the removal procedure.



**WARNING:** The clock/CMOS lithium battery may explode if mistreated. Do not abuse. Use only replacement batteries supplied by Compaq Computer Corporation.

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## Removal and Replacement

### Power Supply

#### Disassembly Sequence

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**Power Supply**

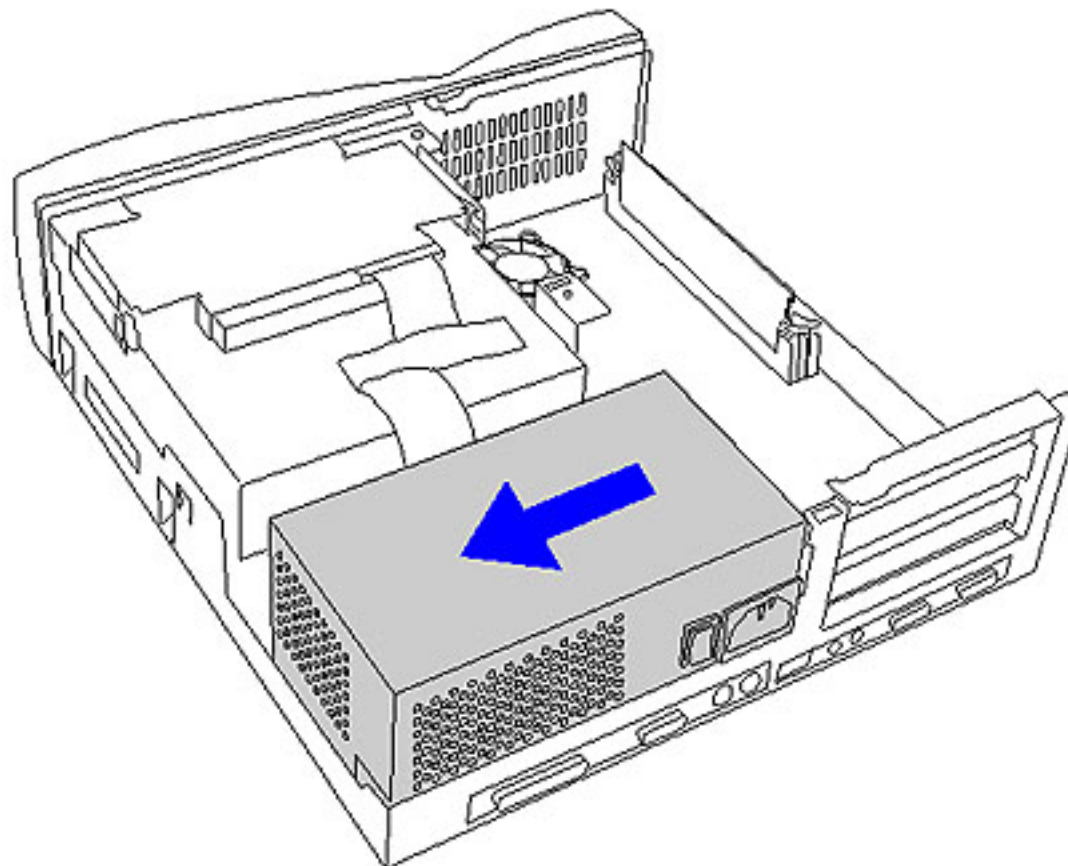
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#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. [Remove the fax/modem](#).
4. [Remove the riser board](#).
5. Slide the power supply towards the left.

[Go to Step 6.](#)

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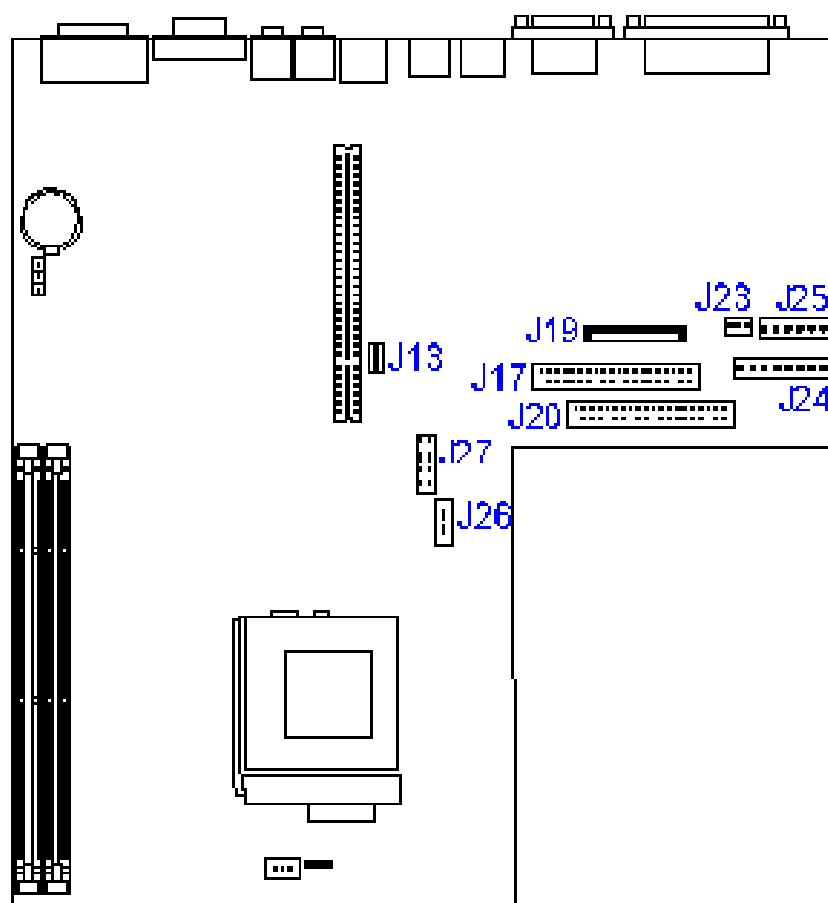
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[I/O Board](#)



#### Removal

1. Processor Fan Cable, J7 system board connector.
2. Audio Cable, J13 system board connector.
3. Data Cables, J17, J19, J20 system board connectors.
4. Power Cables, J23, J24, J25 system board connectors.
5. Button Board Cable, J26 system board connector.
6. Creativity Center Cable, J27 system board connector.

#### Replacement

To replace the system board cables, reverse the removal procedure.

# Maintenance & Service Guide

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## Removal and Replacement

### System Board

#### Dissassembly Sequence

[Hood](#)

[Mass Storage Devices](#)

[Fax/Modem](#)

[Riser Board](#)

[Memory](#)

[Processor Fan](#)

[Processor](#)

[RTC Battery](#)

[Power Supply](#)

[System Board](#)

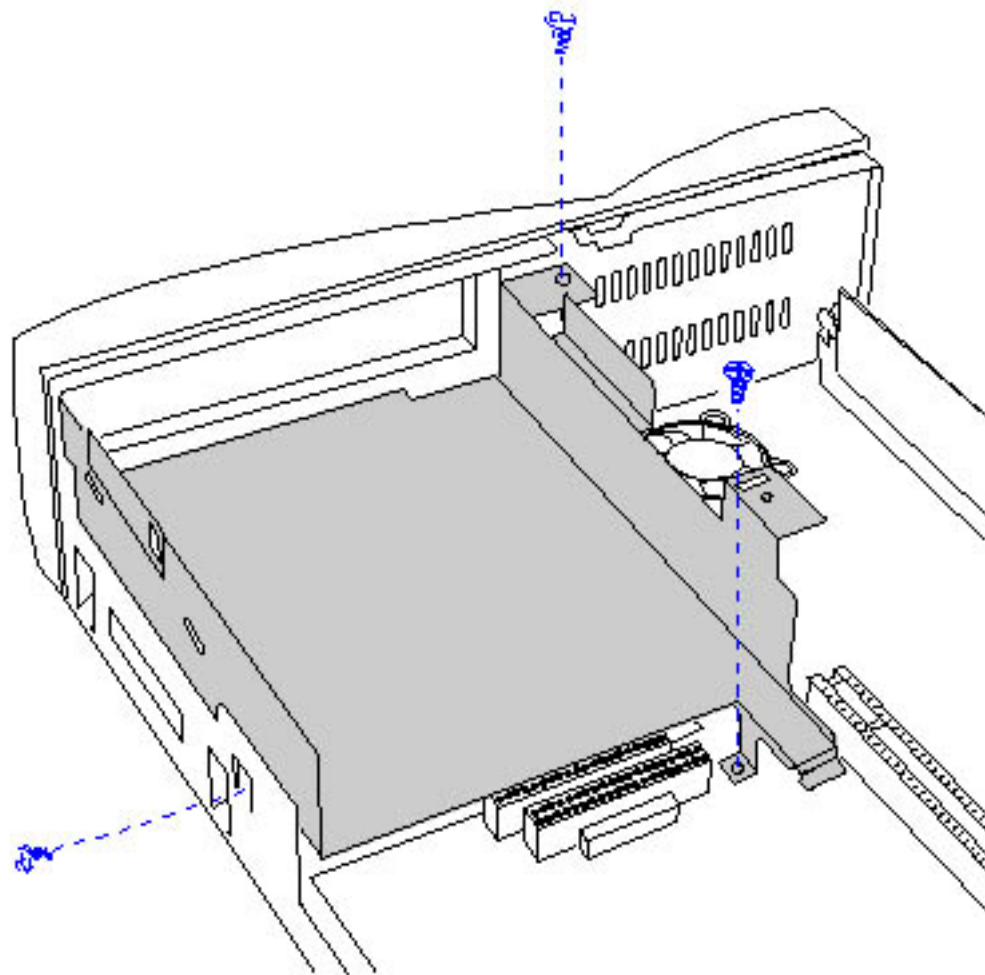
[Connectors](#)

**System Board**

[Front Bezel](#)

[Button Board](#)

[I/O Board](#)



#### Removal

1. Perform the preparation for disassembly procedures.
2. Remove the hood.
3. Remove the fax/modem.
4. Remove the riser board.
5. Remove the power supply.
6. Remove the diskette drive.
7. Remove the CD drive.
8. Remove three screws from the CD drive mounting bracket and slide it backwards to detach.  
[Go to Step 9.](#)

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## Removal and Replacement

### Front Bezel

#### Disassembly Sequence

[Hood](#)

[Mass Storage Devices](#)

[Fax/Modem](#)

[Riser Board](#)

[Memory](#)

[Processor Fan](#)

[Processor](#)

[RTC Battery](#)

[Power Supply](#)

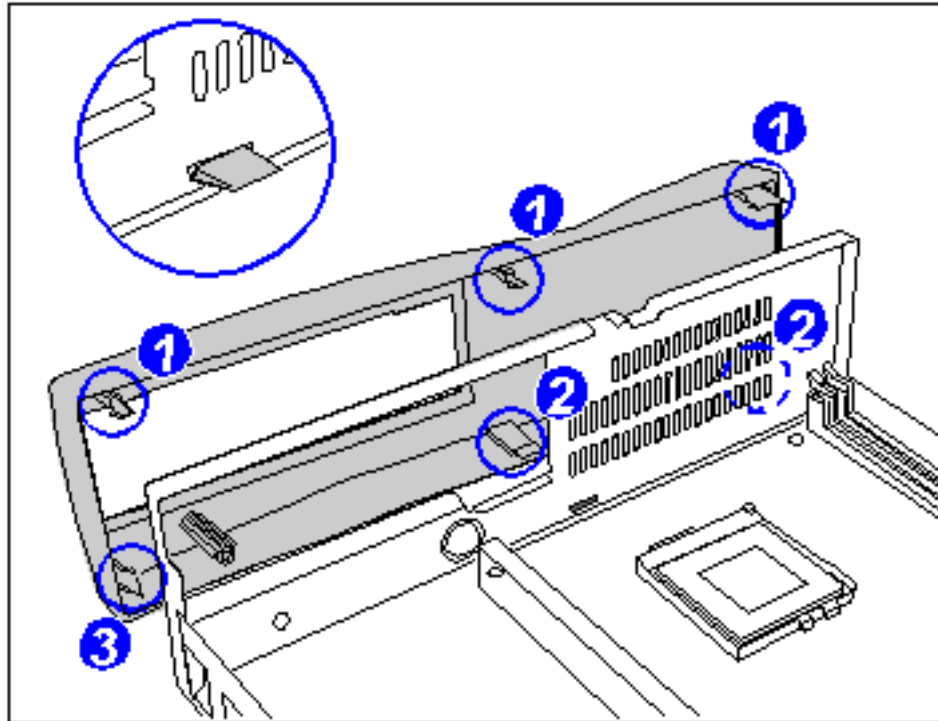
[System Board Connectors](#)

[System Board](#)

**Front Bezel**

[Button Board](#)

[I/O Board](#)



#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. Disengage the six clips on the front bezel following this order: **1** upper three clips, **2** lower right two clips, **3** lower left clip. [Go to Step 4.](#)

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## Removal and Replacement

### Button Board

#### Disassembly Sequence

[Hood](#)

[Mass Storage Devices](#)

[Fax/Modem](#)

[Riser Board](#)

[Memory](#)

[Processor Fan](#)

[Processor](#)

[RTC Battery](#)

[Power Supply](#)

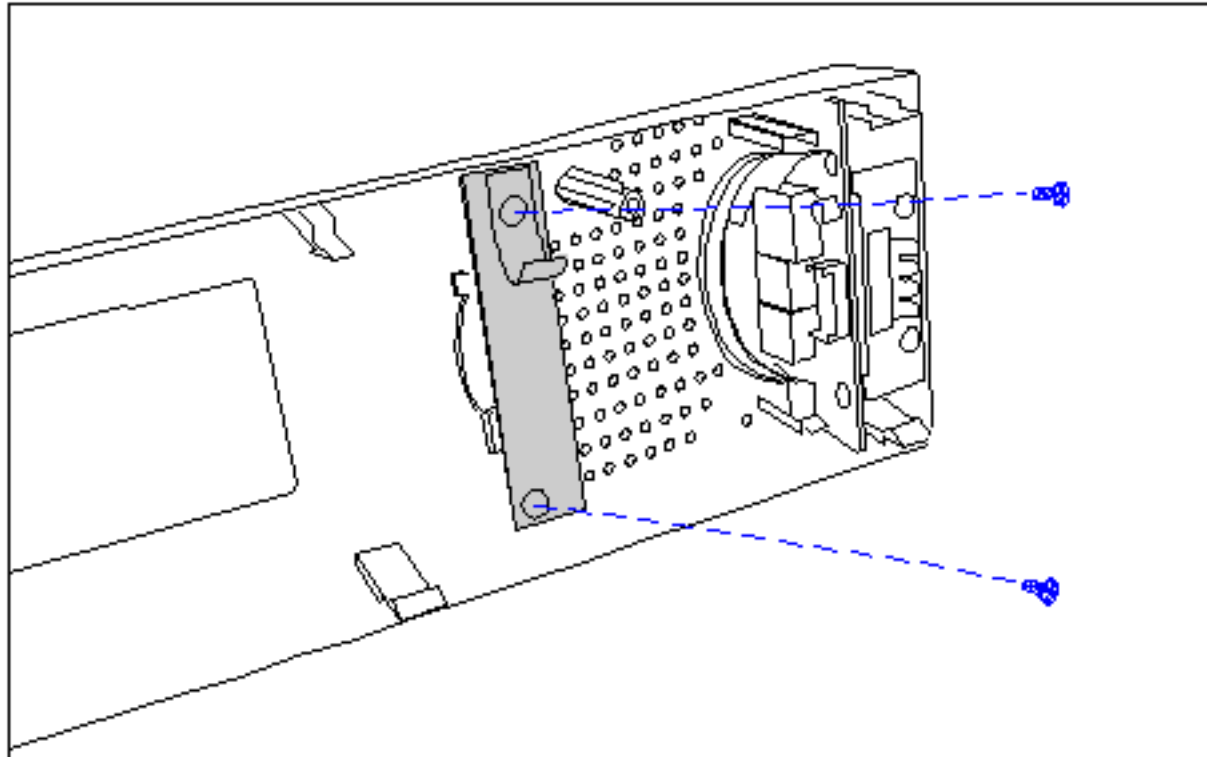
[System Board Connectors](#)

[System Board](#)

[Front Bezel](#)

**Button Board**

[I/O Board](#)



#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. [Remove the front bezel](#).
4. Remove two screws from the button board.  
End of sequence.

#### Replacement

To replace the button board, reverse the removal procedure.



# Maintenance & Service Guide

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## Removal and Replacement

### I/O Board

#### Disassembly Sequence

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[Fax/Modem](#)

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[Memory](#)

[Processor Fan](#)

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[Power Supply](#)

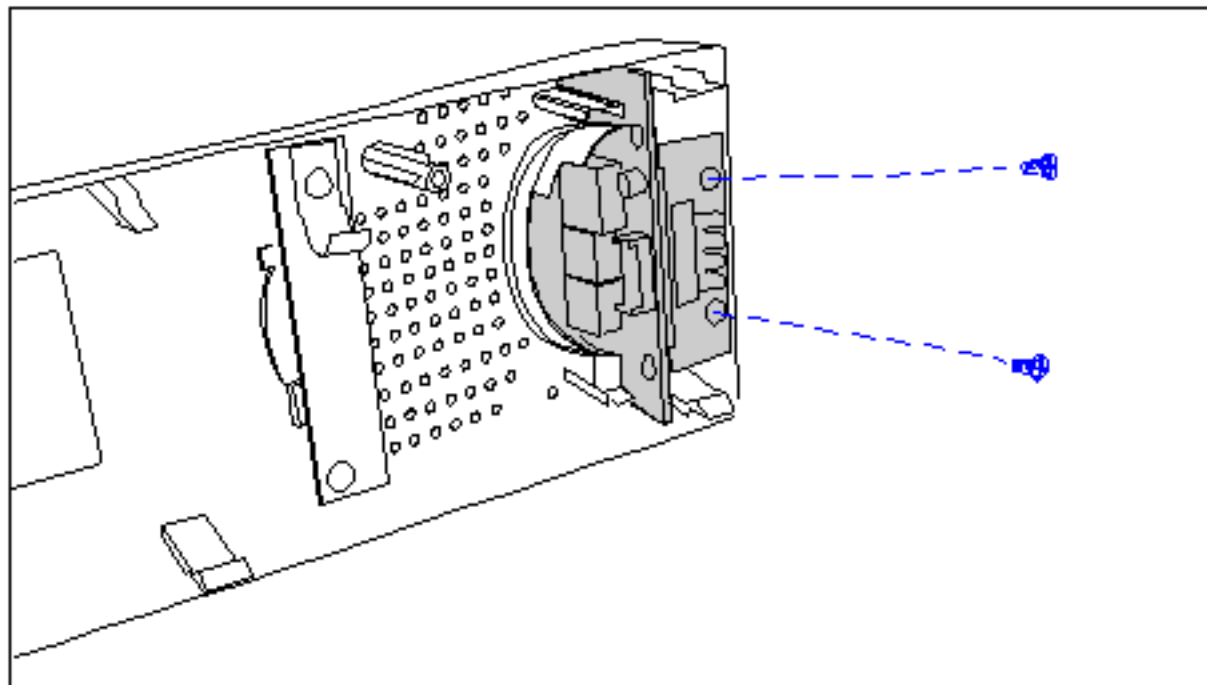
[System Board  
Connectors](#)

[System Board](#)

[Front Bezel](#)

[Button Board](#)

**I/O Board**



#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. [Remove the front bezel](#).
4. Remove two screws from the I/O Board mounting bracket.
5. [Remove the I/O Board mounting bracket](#).  
End of sequence.

#### Replacement

To replace the I/O board, reverse the removal procedure.

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## Removal and Replacement

### Front Bezel Continued

#### Disassembly Sequence

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[Mass Storage Devices](#)

[Fax/Modem](#)

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[Memory](#)

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[Processor](#)

[RTC Battery](#)

[Power Supply](#)

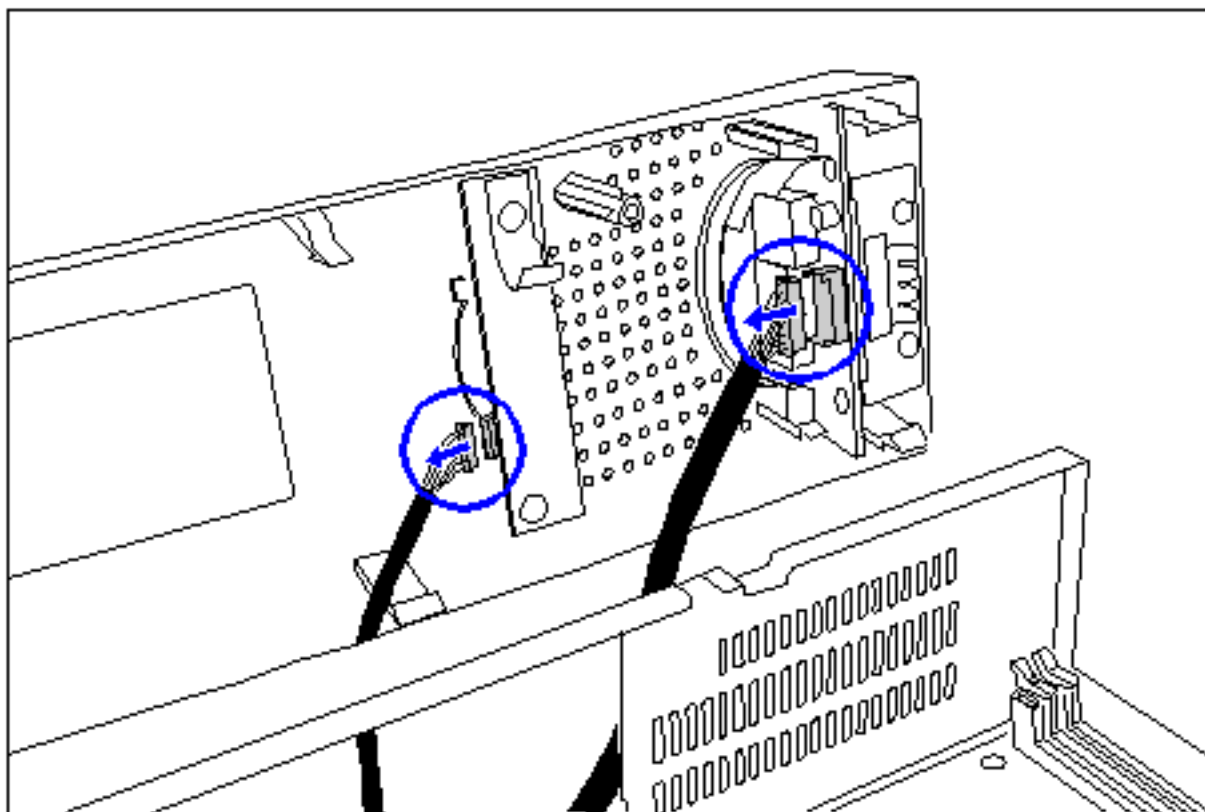
[System Board Connectors](#)

[System Board](#)

**Front Bezel**

[Button Board](#)

[I/O Board](#)



#### Removal

4. Disconnect the Button Board cable and the I/O Board cable.  
End of sequence.

#### Replacement

To replace the front bezel, reverse the removal procedure.

# Maintenance & Service Guide

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[Jumpers & Switches](#) | [Specifications](#) | [Connector Pins](#) | [Power Cord Requirements](#)

## Removal and Replacement

### System Board continued

#### Disassembly Sequence

[Hood](#)

[Mass Storage Devices](#)

[Fax/Modem](#)

[Riser Board](#)

[Memory](#)

[Processor Fan](#)

[Processor](#)

[RTC Battery](#)

[Power Supply](#)

[System Board](#)

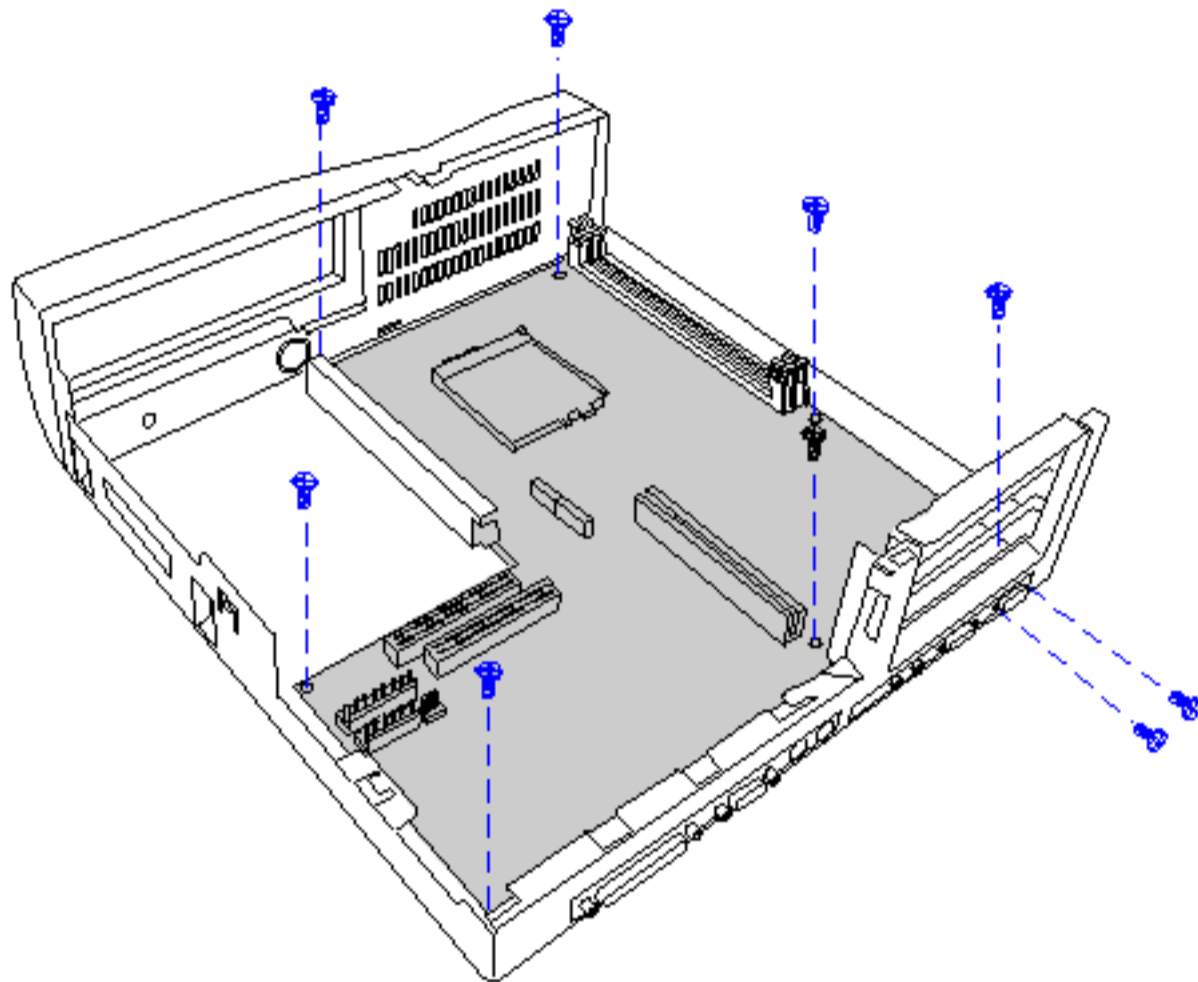
[Connectors](#)

**System Board**

[Front Bezel](#)

[Button Board](#)

[I/O Board](#)



#### Removal

9. Remove the hard drive.
10. Remove the processor.
11. Disconnect the system board cables.
12. Remove two screws from the back of the computer on both sides of the LCD connector.
13. Remove seven screws from the system board.
14. Slide the system board forwards and lift the system board out of the computer.  
End of sequence.

#### Replacement

To replace the system board, reverse the removal procedure.

**NOTE:** Be sure to remove components such as DIMMs, processor, and video memory before replacing the System Board.

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## Removal and Replacement

### Power Supply continued

#### Disassembly Sequence

[Hood](#)

[Mass Storage Devices](#)

[Fax/Modem](#)

[Riser Board](#)

[Memory](#)

[Processor Fan](#)

[Processor](#)

[RTC Battery](#)

**Power Supply**

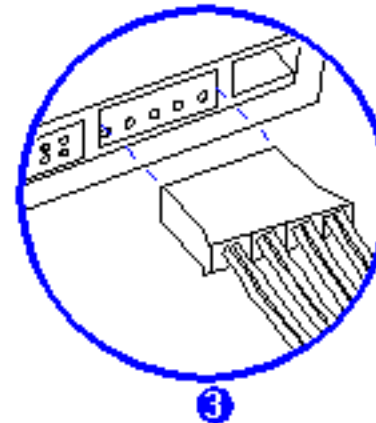
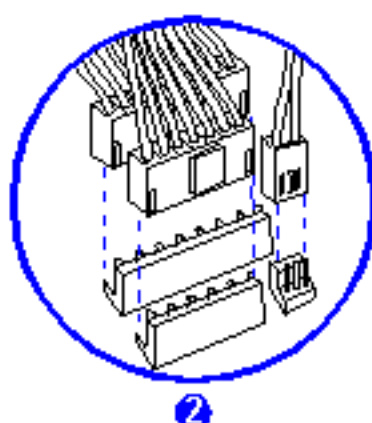
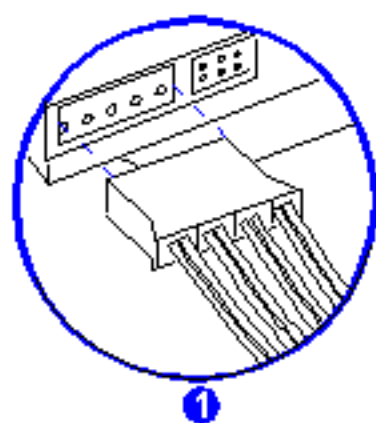
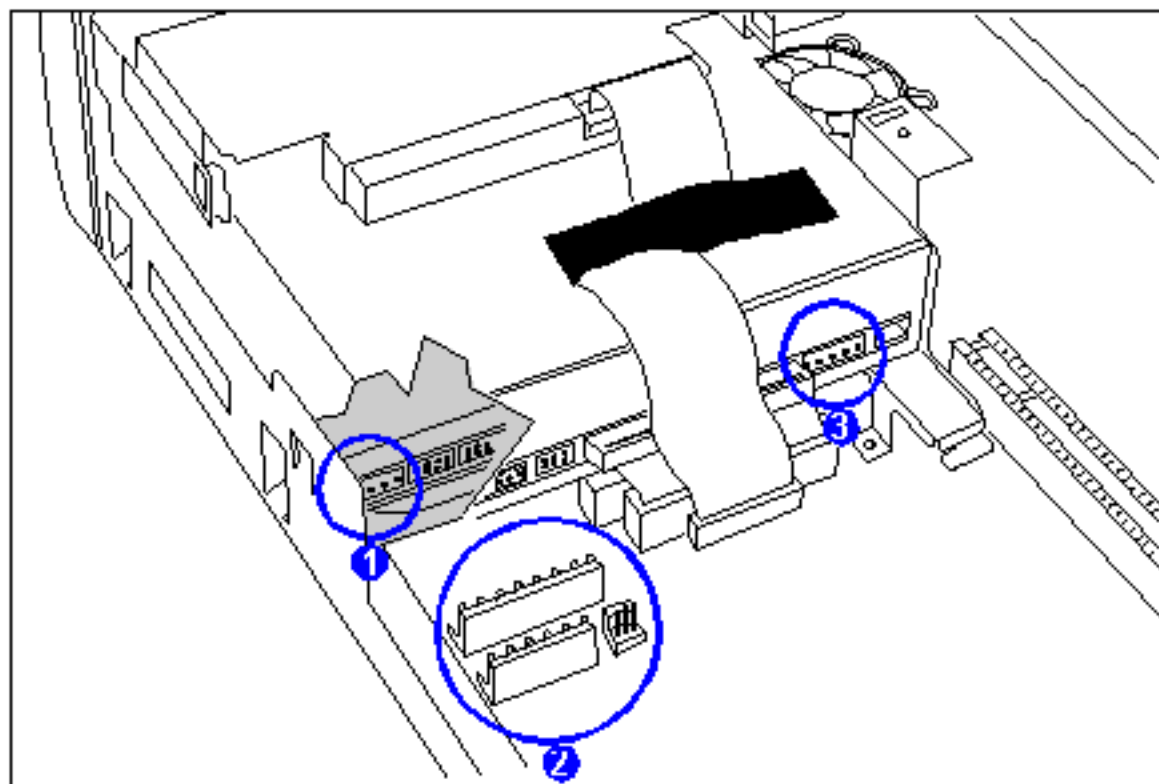
[System Board Connectors](#)

[System Board](#)

[Front Bezel](#)

[Button Board](#)

[I/O Board](#)



#### Removal

6. Disconnect the power cables from the hard drive 1, system board 2, and CD drive 3. End of sequence.

#### Replacement

To replace the power supply, reverse the removal procedure.

# Maintenance & Service Guide

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[Jumpers & Switches](#) | [Specifications](#) | [Connector Pins](#) | [Power Cord Requirements](#)

## Removal and Replacement

### Diskette Drive

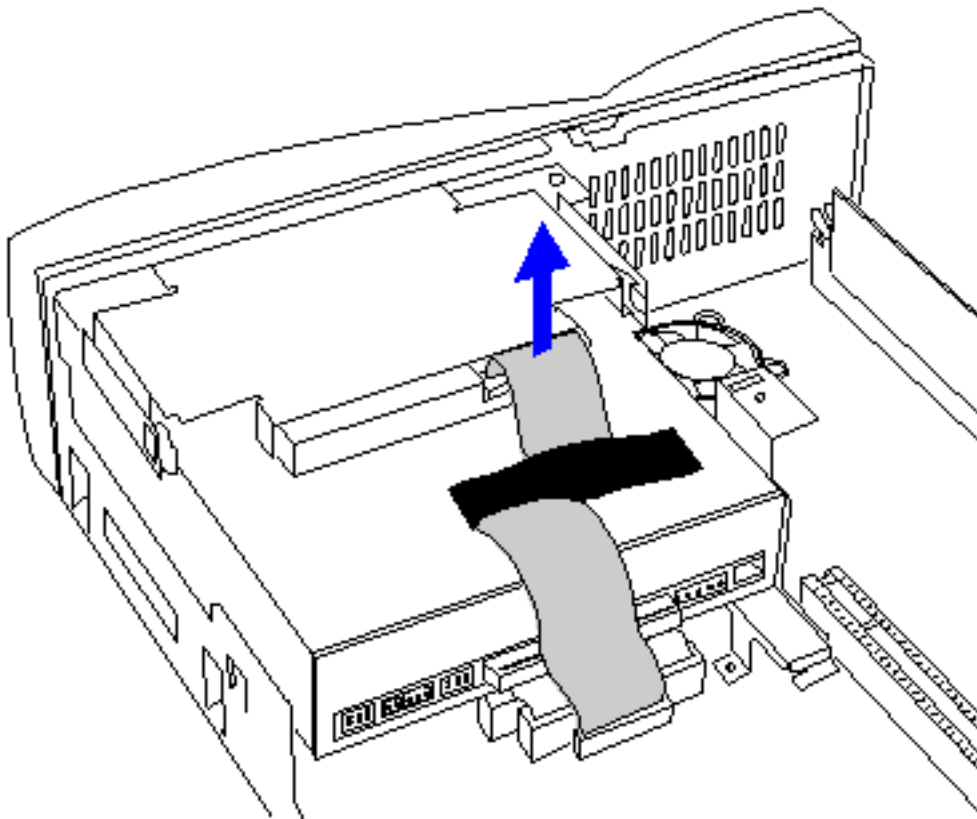
Mass  
Storage  
Devices

**Diskette  
Drive**

[CD Drive](#)

[Hard Drive](#)

[Mass  
Storage  
Devices  
Index](#)



#### Removal

1. Perform [preparation for disassembly procedures.](#)
2. [Remove the hood.](#)
3. Disconnect the data cable from the drive.  
[Go to Step 4.](#)

# Maintenance & Service Guide

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## Removal and Replacement

### Diskette Drive continued

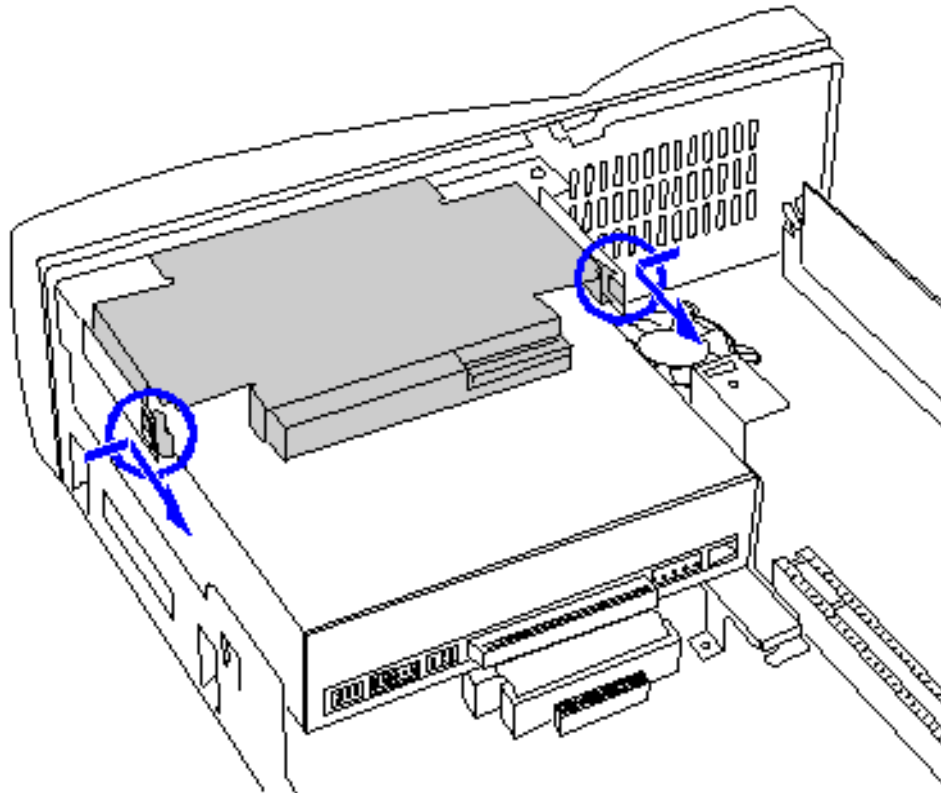
#### Mass Storage Devices

#### Diskette Drive

[CD Drive](#)

[Hard Drive](#)

[Mass Storage Devices  
Index](#)



#### Removal

4. Press in the two spring tabs on both side of the mounting bracket and, holding the tabs, slide the bracket backwards to detach it.
5. [Remove the diskette drive from the mounting bracket.](#)  
End of sequence.

#### Replacement

1. To replace the diskette drive, reverse the removal procedure.

[Return to Removal and Replacement.](#)

# Maintenance & Service Guide

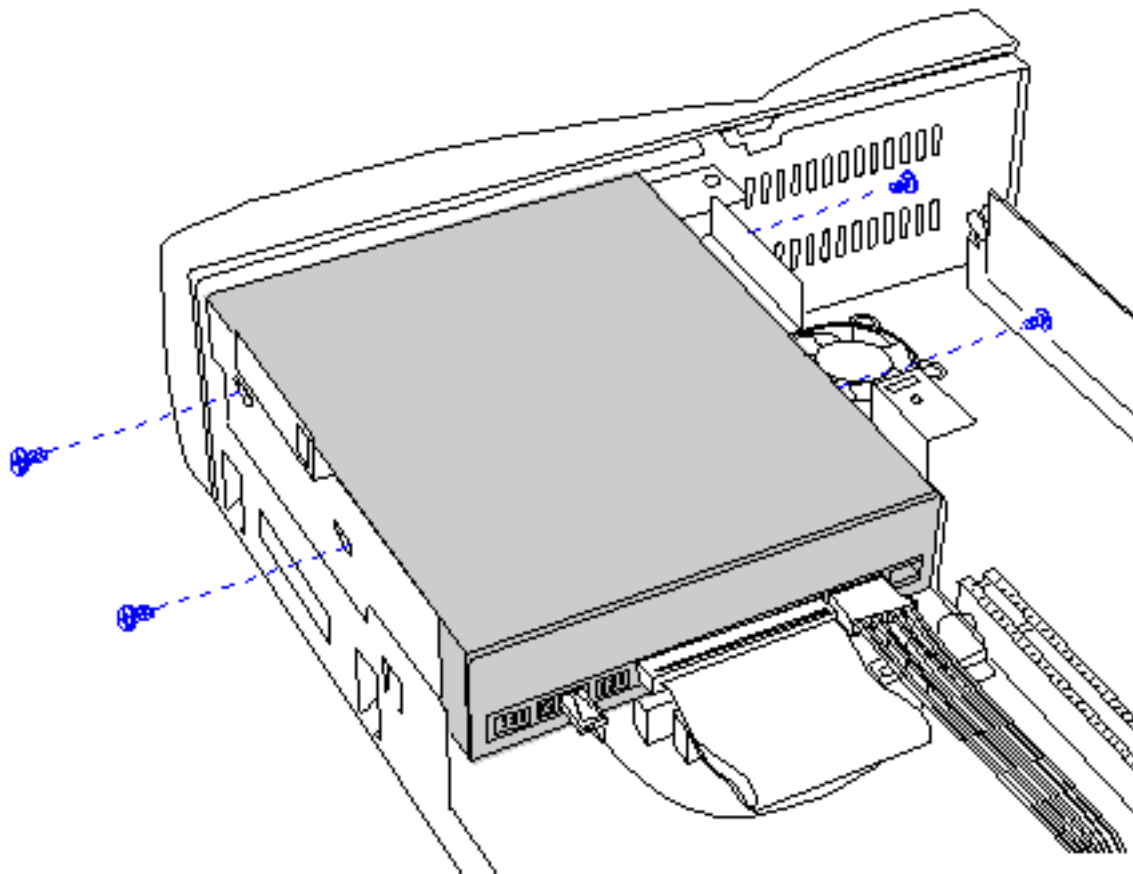
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## Removal and Replacement

### CD Drive



#### Mass Storage Devices

[Diskette Drive](#)

**CD Drive**

[Hard Drive](#)

[Mass Storage Devices Index](#)

#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. [Remove the diskette drive](#).
4. Remove four screws from both sides of the mounting bracket.  
[Go to Step 5.](#)

# Maintenance & Service Guide

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## Removal and Replacement

### CD Drive continued

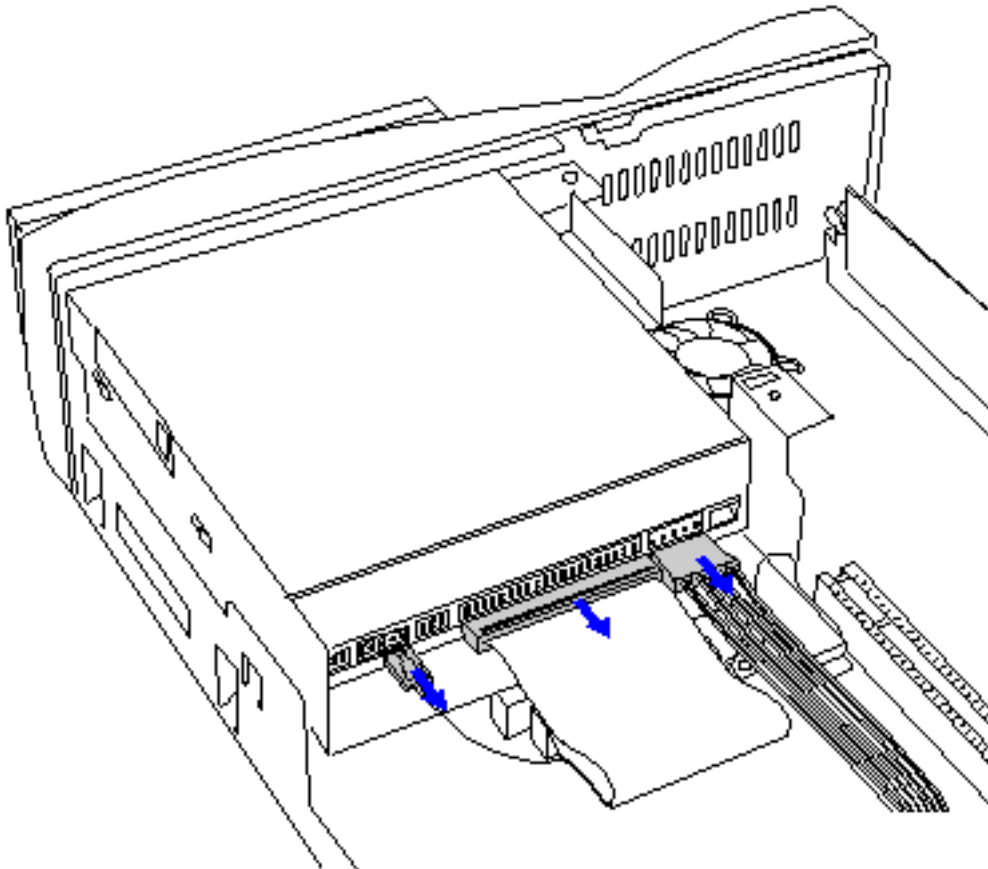
#### Mass Storage Devices

[Diskette  
Drive](#)

**CD Drive**

[Hard  
Drive](#)

[Mass  
Storage  
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Index](#)



#### Removal

- Slide the CD drive forwards to disconnect the data, audio, and power cables from the drive.
- Remove the drive by sliding it forwards through the front bezel. End of sequence.

#### Replacement

To replace the CD drive, reverse the removal procedure.



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## Removal and Replacement

### 3.5 " Hard Drive

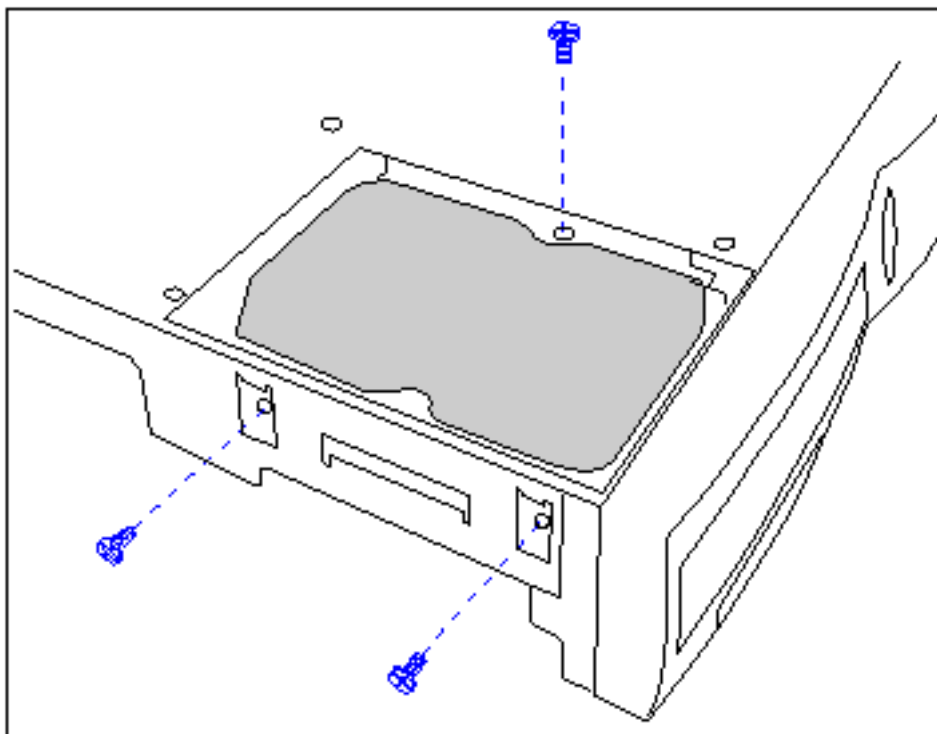
#### Mass Storage Devices

[Diskette Drive](#)

[CD Drive](#)

**Hard Drive**

[Mass Storage Devices Index](#)



#### Removal

1. Perform the [preparation for disassembly procedures](#).
2. [Remove the hood](#).
3. Put the computer with its bottom facing up.
4. Remove three screws from the hard drive. [Go to Step 5](#).

# Maintenance & Service Guide

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## Removal and Replacement

### 3.5 " Hard Drive continued

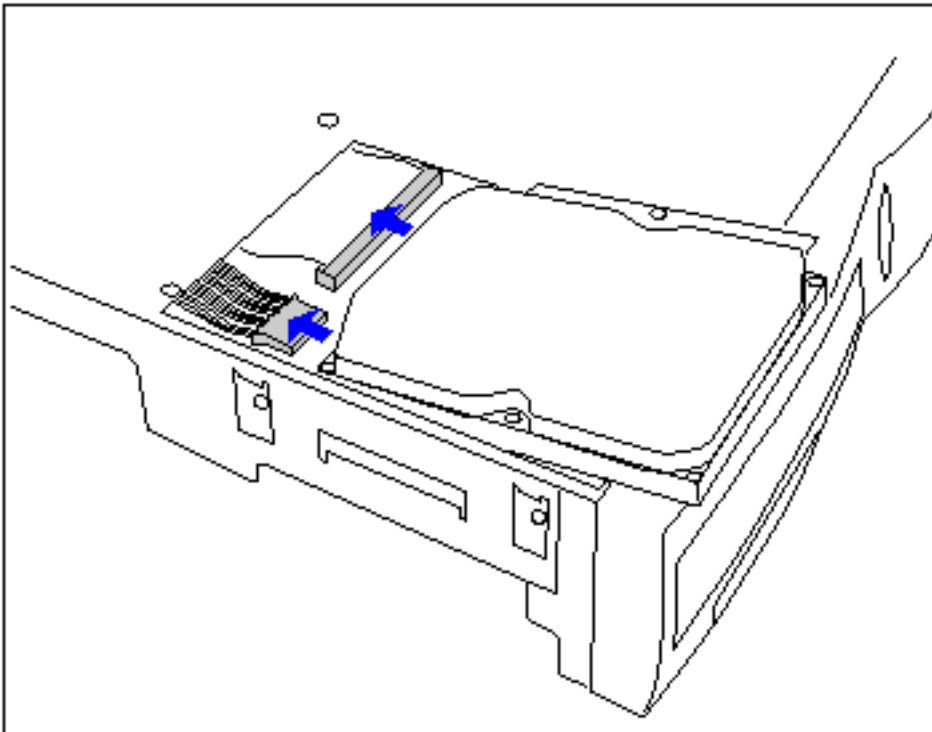
#### Mass Storage Devices

[Diskette  
Drive](#)

[CD Drive](#)

**Hard  
Drive**

[Mass  
Storage  
Devices  
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#### Removal

5. Lift the hard drive to disconnect the data and power cables.
6. [Remove the hard drive bracket](#). End of sequence.

#### Replacement

To replace the hard drive, reverse the removal procedure.

# Maintenance & Service Guide

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Click on a selection below for jumper and switch information.

[System Board](#)

**Mass Storage**

[3.5-inch Hard Drive](#)

[CD-RW Drive](#)

## Jumper and Switch Information

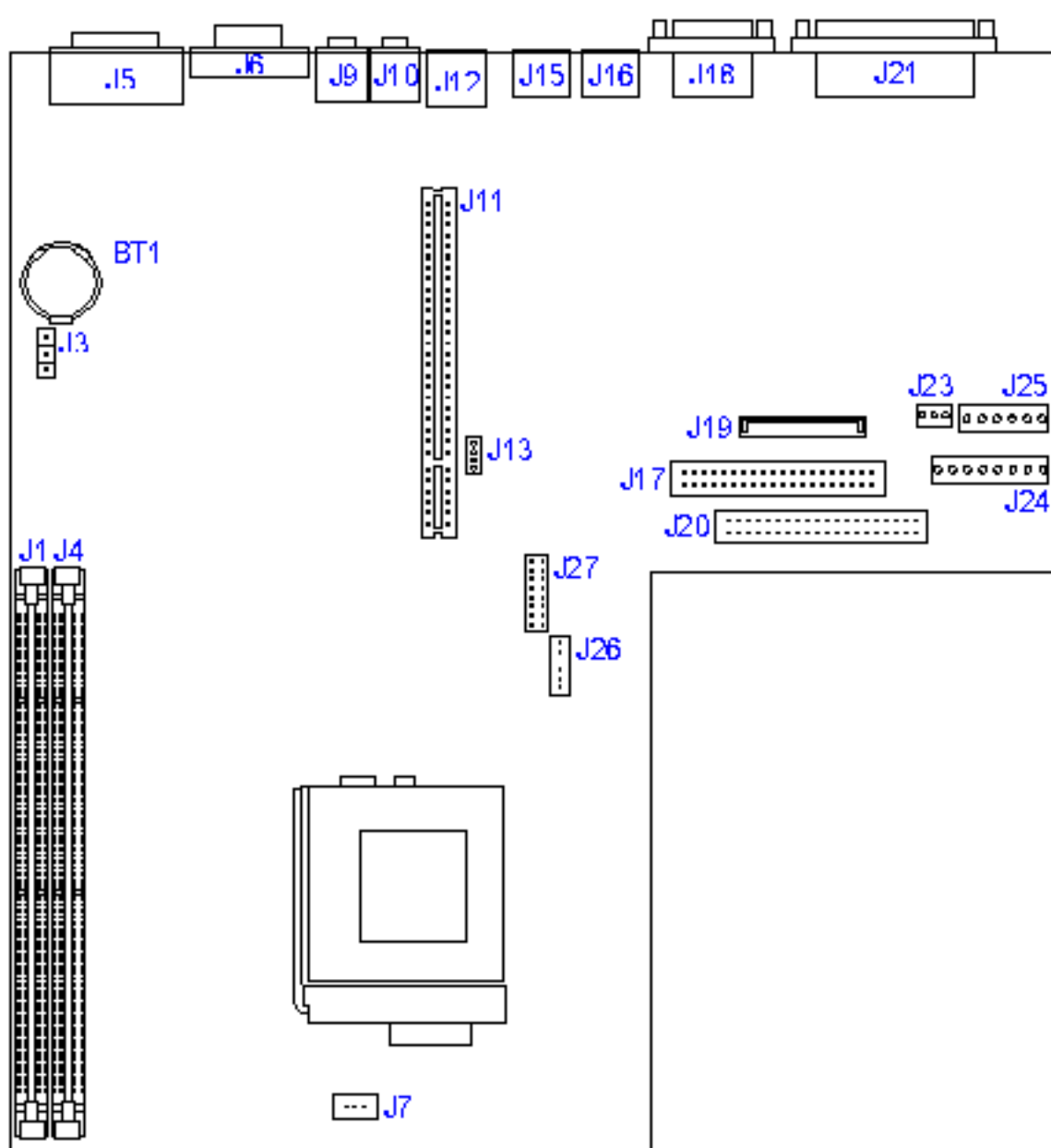
This section contains jumper and switch information for system board, hard disk drives, and CD-RW Drives.

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## System Board



### External Connectors

Function	Description	Designator
DIMM Socket	168-Pin DIMM	J1, J4
CMOS Clear	2-Pin Header	J3
Digital Flat Panel (DFP)	1394 Connector	J5
Video	DSUB 15-Pin	J6
Processor Fan		J7
Audio Line In	Mini Stereo	J9
Audio Line Out	Mini Stereo	J10
Riser Board		J11
USB Port	USB Connector	J12
Internal Line In (CD Drive)	4-Pin Header, Key 2	J13
Mouse	Miniature 6-Pin	J15
Keyboard	Miniature 6-Pin	J16
Secondary IDE Drive (CD Drive)	40-Pin Header, Key 20	J17
Serial	9-Pin Header	J18
Diskette Drive	34-Pin Header	J19
Primary IDE Drive (Hard Drive)	40-Pin Header, Key 20	J20
Parallel	DSUB 25-Pin	J21
Power Fan		J23
Power Supply	12-Pin ATPWR Header	J24, J25
Button Board	4-Pin Header	J26
I/O Board		J27
Replacement Battery	4-Pin Header, Key 2	BT1

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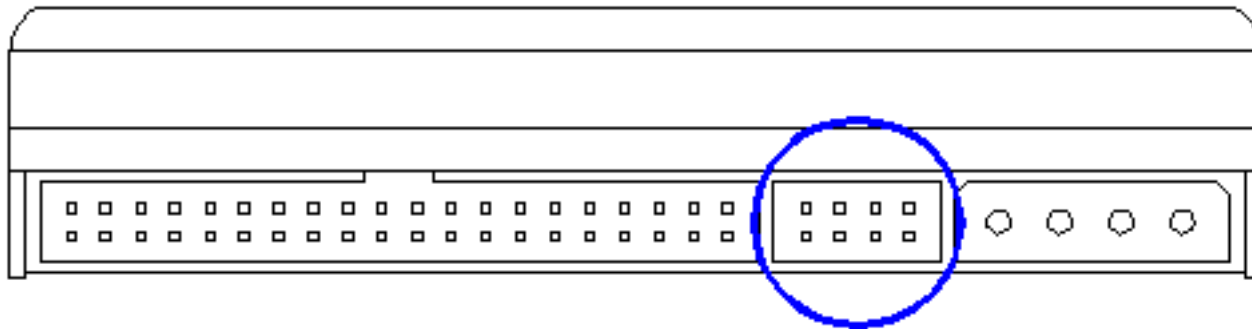
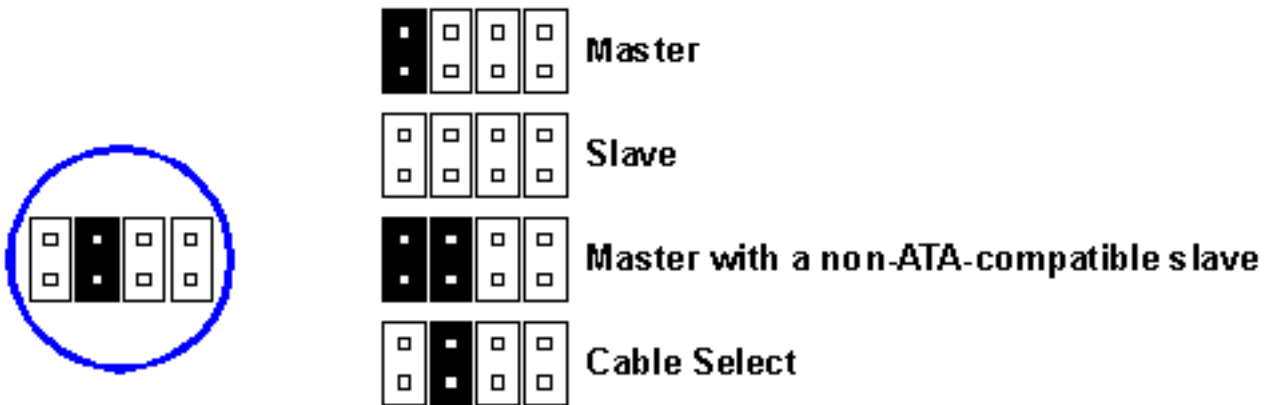
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### 3.5 " Hard Drive



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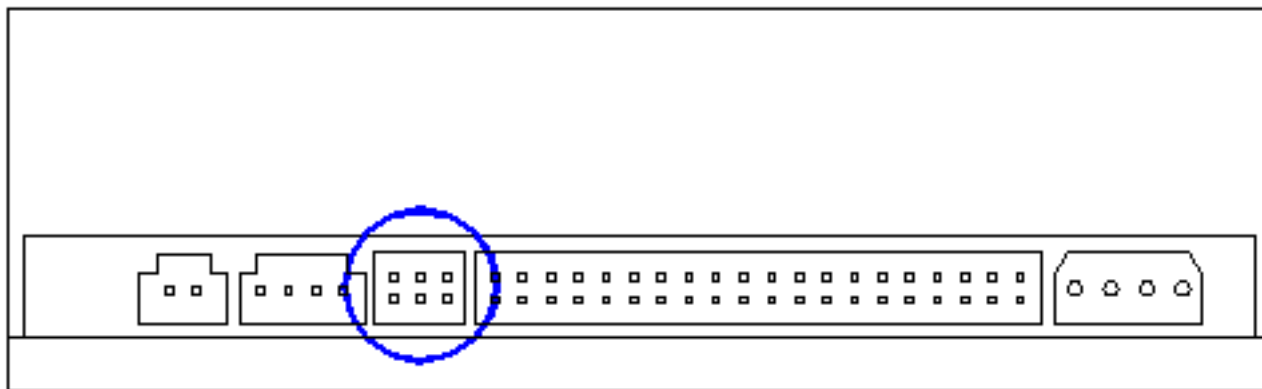
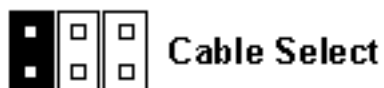
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## CD-RW Drive



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## Specifications

Compaq Presario 3500 Series Personal Computer specifications are listed in the following tables. Select the specification you are interested in from the alphabetical list.

<a href="#">CD-RW Drive</a>	<a href="#">Mouse</a>	<a href="#">System Interrupts</a>
<a href="#">Diskette Drive</a>	<a href="#">Power Supply</a>	<a href="#">System Memory</a>
<a href="#">IDE Hard Drives</a>	<a href="#">Speakers</a>	<a href="#">System Specifications</a>
<a href="#">Fax/Modem</a>	<a href="#">System DMA</a>	
<a href="#">Monitor</a>	<a href="#">System I/O</a>	

<b>System Specifications</b>	
<b>Dimensions</b>	
Height	30 cm
Depth	32 cm
Width	8.6 cm
<b>BTUs</b>	
<b>Weight</b>	
	6 kg
<b>Shipping Weight</b>	
Gross	11 kg
Net	7.4 kg
<b>Input Requirements</b>	
Nominal Line Voltage	100~ 120 VAC / 220~ 240 VAC
Range Line Voltage	90 to 264 VAC
Line Frequency	47 to 63 Hz
Input Current	2.8A at 115VAC / 1.4A at 230VAC
<b>Power (watts)</b>	
Steady State	85
<b>Environmental Requirements</b>	
<b>Temperature</b>	
Operating	10cX C to 35cX C
Shipping	-20cX C to 60cX C
<b>Humidity (noncondensing)</b>	
Operating	8% to 90%
Non-operating	5% to 95%
<b>Maximum Altitude (unpressurized)</b>	
Operating	3048 m
Nonoperating	9144 m
<b>Expansion Slots</b>	
	3 PCI

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<b>System Interrupts</b>	
Hardware IRQ	System Function
IRQ 0	Refresh Timer
IRQ 1	Keyboard
IRQ 2	Internal 8259 Cascade
IRQ 3	Modem (COM 2) shared with modem audio*
IRQ 4	Serial Port (COM 1) shared with Serial Port 2 (COM 3)
IRQ 5	PCI Reserve
IRQ 6	Diskette Drive
IRQ 7	Parallel Port (LPT 1)*
IRQ 8	Real-Time Clock (Not on ISA Bus)
IRQ 9	ISA Expansion
IRQ 10	USB Host Controller, PCI Audio Drive
IRQ 11	810 Chipset Graphics Driver
IRQ 12	PS/2 Mouse
IRQ 13	Numeric Coprocessor
IRQ 14	Primary IDE
IRQ 15	Secondary IDE
*Default Configuration; Other Configurations are the following: Modem;XIRQ 3, 4, 5, 7, 10, 11, 12, 14, 15, none Parallel Port;XIRQ 1, 3-12, 14, 15 none System Audio;XIRQ 5, 7, 9, 10, none Serial Port;XIRQ 1, 3-12, none Modem Audio;XIRQ 4, 10, 11, none	

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## Specifications

Compaq Presario 3500 Series Personal Computer specifications are listed in the following tables. Select the specification you are interested in from the alphabetical list.

- |                                 |                              |                                       |
|---------------------------------|------------------------------|---------------------------------------|
| <a href="#">CD-RW Drive</a>     | <a href="#">Mouse</a>        | <a href="#">System Interrupts</a>     |
| <a href="#">Diskette Drive</a>  | <a href="#">Power Supply</a> | <a href="#">System Memory</a>         |
| <a href="#">IDE Hard Drives</a> | <a href="#">Speakers</a>     | <a href="#">System Specifications</a> |
| <a href="#">Fax/Modem</a>       | <a href="#">System DMA</a>   |                                       |
| <a href="#">Monitor</a>         | <a href="#">System I/O</a>   |                                       |

<b>Monitor</b>	
<b>LCD Panel</b>	15.1" TFT LCD module
<b>Monitor</b> - Effective display size - Resolution - Displayable colors - Brightness - Contrast ratio - Response time - User controls - Plug & play - Interface - Cable - USB ports - Pivot portrait display	15.1" (38.1cm diagonal) XGA 1024x768 (max.) 262K colors (typical) >= 200 Cd/m <sup>2</sup> (typical) >= 200:1 (typical) <= 60ms Power, brightness DDC1/DDC2B Panellink SCSI Panellink signal cable Option; 1 upstream, 1 downstream Option; CD, installation guide
<b>VGA Card</b>	Option; refer to the installation guides
<b>Power Supply</b> - Imbedded universal power system - Max. (ON mode) - Power saving mode	100~ 240V AC < 35W < 5W
<b>Dimension &amp; Weight</b> - Size (WxDxH) - Weight (net)	385x203x373mm 6.0Kg
<b>Operating Environment</b> - Temperature - Humidity - Altitude	5°C~ 35°C 10%~ 80% (non-condensing) up to 10,000ft
<b>Storage Environment</b> - Temperature - Humidity - Altitude	-20°C~ 55°C < 90% (non-condensing) up to 30,000ft

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<b>System I/O</b>		
Low I/O	High I/O	Function
Address	Address	
0000	000F	Direct memory access controller
0010	001F	Motherboard resources
0020	0021	Programmable interrupt controller
0022	003F	Motherboard resources
0040	0043	System timer
0044	005F	Motherboard resources
0060		Keyboard Controller Data Register
0061		System speaker
0062	0063	Motherboard resources
0064		Keyboard Controller Command/Status Register
0065	006F	Motherboard resources
0070	0073	System CMOS/real time clock
0074	007F	Motherboard resources
0080	0090	Direct memory access controller
0091	0093	Motherboard resources
0094	009F	Direct memory access controller
00A0	00A1	Programmable interrupt controller
00A2	00BF	Motherboard resources
00C0	00DF	Direct memory access controller
00E0	00EF	Motherboard resources
00F0	00FF	Numeric data processor
0170	0177	Secondary IDE Controller
01F0	01F7	Primary IDE Controller
0200	0203	Gameport Joystick
0220	022F	ESS solo-1 DOS emulation
0330	0331	ESS solo-1 DOS emulation
0376		Secondary IDE controller
0378	037F	Parallel Port
0388	038B	ESS solo-1 DOS emulation
03B0	03BB	Intel 810 chipset graphics driver
03C0	03DF	Intel 810 chipset graphics driver
03F0	03F1	Motherboard resources
03F2	03F5	Standard floppy disk controller
03F6		Primary IDE controller
03F7		Standard floppy disk controller
03F8	03FF	Communications port
04D0	04D1	Motherboard resources

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## Specifications

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Speakers	
<b>System response</b>	50Hz-20kHz
<b>Max SPL</b>	97dB @ 0.5 meters
<b>Amp and EQ specs.</b>	Subwoofer (50 Hz - 200 Hz), Active cross-over Subsonic filter (High Pass) : 40 Hz 18 dB/octave Low-pass filter: 200 Hz 18 dB/octave Mid-range (200 Hz - 1500 Hz) , Active cross-over High-pass: 200 Hz , 18 dB/octave Low-pass: 1500 Hz , 18 dB/octave Tweeter (1500 Hz - 20 kHz), Active cross-over High-pass: 1500 Hz , 18 dB/octave
<b>Power rating</b>	Subwoofer ( 17 Watts), Mid-range (2 x 8.5 Watts), Tweeter (2x 8.5 Watts) Power ratings are at < 10% THD.
<b>S/N ratio @ 1kHz</b>	90dB
<b>Cross-talk measured @ 1kHz</b>	-48dB

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System Memory			
Size	Low Address	High Address	System Function
640 KB	00000000	0009FFFF	System board extension for ACPI BIOS
128 KB	000A0000	000BFFFF	Video RAM
32 KB	000C0000	000C7FFF	Video ROM
4 KB	000C8000	000C8FFF	unused
24 KB	000CA000	000CFFFF	System board extension for ACPI BIOS
16 KB	000E8000	000EBFFF	unused
64 KB	000F0000	000FFFFF	System board extension for ACPI BIOS
62 MB	00100000	03EFFFFF	System board extension for ACPI BIOS
64.5 MB	E0000000	E407FFFF	Intel 810 chipset graphics driver
512 KB	FFB80000	FFBFFFFF	Intel 82802 Firmware Hub Device
1 MB	FFF00000	FFFFFFF	System board extension for ACPI BIOS

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System DMA			
Default DMA	Function	Alternative Mapping	Device
DMA0			PCI Audio Emulation
DMA1	Audio	0, 1, 3, Disabled	PCI Audio Emulation
DMA2	Floppy Controller	N/A	Super I/O
DMA3	ECP		Super I/O
DMA4	Internal Cascade	N/A	ICHO
DMA5	Available		ICHO
DMA6	Available	0, 3, 7, Disabled	ICHO Bridge
DMA7	Available	0, 3, 6, Disabled	ICHO Bridge

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Power Supply					
Model Name	MPU-85R				
DC Characteristics	+5V	+12V	-12V	+5Vsb	Note
Continuous current (min.)	1.5A	0.24A	0.0A	0.0A	
Continuous current (max.)	11.5A	1.7A	0.12A	1.0A	
Peak Load	13.5A	2.5A	--	--	*, **
Ripple & Noise max.	50mv	150mv	150mv	80mv	***
Regulation	+/-5%	+/-8%	+/-10%	+/-5%	***
Over Voltage Protection	7V	15.5V	--	--	
Short Circuit Protection	Yes	Yes	Yes	Yes	
DC Power on Rise Time	<100ms	<100ms	--	<100ms	full load
Hold-up Time (min.)	16ms	16ms	--	16ms	115Vac/full load
Overshoot	5.5V	13.2V	-13.2V	5.5V	

\* +12V output tolerance is allowed +/-10% between Ipeak.  
 \*\* +5V/13.5V, +12V/1.7A -- 2 sec duration. +5V/11.5A, +12V/2.5A -- 2 sec duration.  
 \*\*\* The ripple and regulation shall be maintained for all combinations of min. and max. current on both DC voltages at min. and max. AC input voltage and min. and max. DC voltage.

AC Characteristics	Min.	Max.	Note
Input Voltage	90 VAC	264 VAC	Universal
Input Line Frequency	47 HZ	63 HZ	
Inrush Current	N/A		*
Efficiency		N/A	**

\* The power supply inrush current must be limited to 80A when operated at 220Vac under ambient temperature 25 degree C, with the tested unit temperature stabilized in the power-off condition until at ambient temperature.  
 \*\* 64% (min.) at full load, 115 Vac 60Hz

Model Name	UM08514010		
Input AC Voltage	Minimum	Nominal	Maximum
	90 V	115V/230V	264V
<b>Input AC Frequency</b>	47 HZ ~ 63 HZ		
<b>Input AC Current</b>	2.8A (max.) at 115V		
DC Load Requirements	Output Current		
Output Voltage	Tolerance	Minimum	Maximum
+5V	+5%/-5%	1.5A	11.5A
+12V	+8%/-8%	0.3A	1.7A
-12V	+10%/-10%	0A	0.12A
+5V (stand by)	+5%/-5%	0A	1.0A
<b>Ripple Voltage and Noise</b>	Differential ripple and noise at the power supply output shall be as shown below when measured under constant load of at least 85 watts with an oscilloscope with a bandwidth of 20 MHz.		
Output Voltage	Maximum Peak to Peak Ripple and Noise		
+5V	50mV		
+12V	150mV		
-12V	150mV		
+5V (stand by)	80mV		

Overvoltage Trip Point Windows		
Output Level	Minimum	Maximum
+5V	----	+7V
+12V	----	+15.5V

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Diskette Drive	
<b>Diskettes</b>	
Size (in)	3.5 (8.89 cm)
High Density (MB)	1.44
Low Density (KB)	720
<b>Light</b>	Green
<b>Height</b>	One-third
<b>Bytes per Sector</b>	512
<b>Sectors per Track</b>	
High Density	18
Low Density	9
<b>Tracks per Side</b>	
High Density	80
Low Density	80
<b>Read/Write Heads</b>	2
<b>Average Seek Time (ms)</b>	
Track-to-Track	3
Average	94
Settling Time	15
Latency Average	100

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<b>IDE Hard Drives</b>		
	6.0-GB	8.0-GB
<b>Compaq Part Number</b>		
<b>Formatted Capacity</b>	6448	8440
<b>Drive Type</b>	65	65
<b>Transfer Rate</b>		
Head (Mbits/sec)	206	206
Interface (Mbytes/sec)	66.6	66.6
<b>Typical Seek Time (including settling)</b>		
Single Track (ms)	2.0 (read) 2.75 (write)	2.0 (read) 2.75 (write)
Average (ms)	10.5 (read) 11.5 (write)	10.5 (read) 11.5 (write)
Full Stroke (ms)	24.0 (read) 26.0 (write)	24.0 (read) 26.0 (write)
<b>Disk Rotational Speed (RPM)</b>	5400	5400
<b>Cylinders</b>	13330	16368
<b>Data Heads</b>	3	4
<b>Sectors per Track</b>	63	63
<b>Buffer Size (KB)</b>	256	256

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<b>CD-RW Drive</b>	
<b>Applicable Disc</b> CD-ROM CD-DA CD-XA Photo CD CD-I CD-RW	Mode 1 and Mode 2 Audio Mode 2, Form 1 and 2 Single and Multiple Session
<b>Block Size</b> Mode 1 & Mode 2 Form 1 Mode 2 Mode 2 Form 2 CD-DA	2048 bytes 2340, 2336 bytes 2332 bytes 2352 bytes
<b>Rotational Speed</b>	Approx. 7000 rpm
<b>Dimensions</b>	W146mm x H41.5mm x D201mm
<b>Mass</b>	Net Approx. 1.0kg
<b>Access Time</b> Random	75 ms (typical)
<b>Cache Buffer</b>	128 KB
<b>Data Transfer Rate</b> Sustained  Burst (ATAPI)	14X (inner side) 2100 Kbytes/sec 32X (Outer side) 4800 Kbytes/sec 16.67 Mbytes/sec (PIO mode 4) 16.67 Mbytes/sec (MULTI-DMA mode 2)
<b>Interface Cable Length (Max)</b>	18 in
<b>Spin up Time</b>	2.7 sec
<b>Spin down Time</b>	3.1 sec
<b>Eject Time</b>	4.94 sec
<b>Load Time</b>	6.21 sec

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<b>Mouse</b>		
	U. S.	Metric
<b>Dimensions</b>		
Height	1.22 in	3.1 cm
Length	3.94 in	10 cm
Width	2.21 in	5.6 cm
<b>Weight</b>	2.9 oz	85 g
<b>Base Resolution</b>	400 DPI	
<b>Tracking Speed (maximum)</b>	10 in/sec	25 cm/sec
<b>Temperature</b> Operating Storage	32°C F to 104°C F -4°C F to 140°C F	0°C C to 40°C C -20°C C to 60°C C
<b>Lifetime</b> Mechanical Switch	Exceeds 300 miles Exceeds 1 million operations	Exceeds 483 km Exceeds 1 million operations
<b>Relative Humidity</b>	10% to 90%, noncondensing	
<b>ESD</b>	No soft errors through 6 kV; No hard errors through 6 kV; specific performance depends on host system	

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<b>Fax/Modem</b>	
<b>Maximum Data Speed (kbps)</b>	56
<b>Data</b>	V.90, K56Flex, V.34, V.32terbo, V.32bis, V.32, V.22bis, V.22, V.21, Bell 212A, Bell 103
<b>Error Correction</b>	V.42bis, V.42, LAPM, and MNP 2-5
<b>Fax</b>	V.17 (14.4 kbps transmission speed) V.29, V.27ter, V.21 Channel 2, Class 1 command set, Group III FAX

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## Connector Pin Assignments

This section contains the connector pin assignments for the Presario 3500 series of personal computers.

### Parallel Connector



Pin	Signal	Pin	Signal
1	Strobe*	10	Acknowledge*
2	Data Bit 0	11	Busy
3	Data Bit 1	12	Paper Out
4	Data Bit 2	13	Select
5	Data Bit 3	14	Auto Linefeed*
6	Data Bit 4	15	Error*
7	Data Bit 5	16	Initialize Printer*
8	Data Bit 6	17	Select In*
9	Data Bit 7	18-25	Signal Ground

\* = Active low

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### Serial Connector

Connector	Pin	Signal
	1	Carrier Detect
	2	Receive Data
	3	Transmit Data
	4	Data Terminal Ready
	5	Signal Ground
	6	Data Set Ready
	7	Ready to Send
	8	Clear to Send
	9	Ring Indicator

### Universal Serial Bus

Connector	Pin	Signal
	1	- Data
	2	+Data
	3	Ground
	4	+5 VDC

### Keyboard

Connector	Pin	Signal
	1	Data
	2	Unused
	3	Ground
	4	+5 VDC
	5	Clock
	6	Unused

### Mouse

Connector	Pin	Signal
	1	Data
	2	Unused
	3	Ground
	4	+5 VDC
	5	Clock
	6	Unused

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### VGA Monitor

Connector	Pin	Signal
	1	Red Analog
	2	Green Analog
	3	Blue Analog
	4	Volume Up
	5	Ground
	6	Ground Analog
	7	Ground Analog
	8	Ground Analog
	9	+5 VDC
	10	Ground
	11	Volume Down
	12	DDC Data
	13	Horizontal Sync
	14	Vertical Sync
	15	DDC Clock

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### Line In

Connector	Connector
	Stereo 1/8" Miniphone

### Speaker/Headphone Out

Connector	Connector
	Stereo 1/8" Miniphone

### Microphone

Connector	Connector
	Stereo 1/8" Miniphone

### Phone Line to Wall Jack

Connector	Pin	Signal
	1	Unused
	2	Tip
	3	Ring
	4	Unused

### Phone Line to Phone

Connector	Pin	Signal
	1	Unused
	2	Tip
	3	Ring
	4	Unused

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## Power Cord Set Requirements

The voltage select switch feature on the computer allows it to operate from any line voltage between 120 or 240 volts AC.

The power cord set (flexible cord and wall plug) sent with the computer meets the [general requirements](#) for use in the country where the computer was purchased.

Power cord sets for use in [other countries](#) must meet the requirements of the country where the computer is used. For more information on power cord set requirements, contact a Compaq authorized dealer, reseller, or service provider.

## General Requirements


The requirements listed below are applicable to all countries.

1. The length of the power cord set must be at least 6.00 feet (1.8 m) and a maximum of 9.75 feet (3.0 m).
2. All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
3. The power cord set must have a minimum current capacity of 10A and a nominal voltage rating of 125 or 250 volts AC, as required by each country's power system.
4. The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector, for mating with appliance inlet on the Switch Box.

## Country-Specific Requirements

Power Cord Set Requirements by Country		
Country	Accredited Agency	Applicable Note Numbers
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	SETI	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	JIS	3
Norway	NEMKO	1
Sweden	SEMKO	1
Switzerland	SEV	1
United Kingdom	BSI	1
United States	UL	2

### NOTES:

1. The flexible cord must be <HAR> Type HO3VV-F, 3-conductor, 1.0 mm<sup>2</sup> conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.
2. The flexible cord must be Type SJT-2 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a  mark and registration number in accordance with the Japanese Dentori Law. Flexible cord must be Type VCT or VCTF, 3-conductor, 0.75mm<sup>2</sup> conductor size. The wall plug must be a two-pole type with a Japanese Industrial Standard C8303 (15A, 125V) configuration.