Compaq Presario 5000, 5100, and 5200 Series Computers

Models: 5070, 5184, 5201, 5206, 5221, 5240

Product Description

Troubleshooting

Illustrated Parts
Catalog

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See the $\underline{\text{Notice}}$ for copyright and trademark information, and the $\underline{\text{Preface}}$ for symbol conventions and Technician Notes.

<u>Download ZIP file of complete MSG to hard drive</u>.

This MSG will be periodically maintained and updated as needed.

To report a technical problem, contact your Regional Support Center or IM Help Center. For content comments or questions, contact the <u>Editor</u>.

NOTICE

The information in this guide is subject to change without notice.

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Online Maintenance and Service Guide Compaq Presario 5200 Series Personal Computers

June 1998

PREFACE

This *Maintenance and Service Guide* is a troubleshooting guide that can be used for reference when servicing the Compaq Presario 5200 Series Personal Computers.

Compaq Computer Corporation reserves the right to make changes to the Compaq Presario 5200 Series Personal Computers without notice.

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 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 front right side of the chassis (between the CD/DVD/Zip drives and the drive door hinge), and on the rear of the computer above the power supply.



Locating Additional Information

The following documentation is available to support this product:

- Compaq Presario documentation set
- Introducing Windows 95 Guide
- Service Training Guides
- Compaq Service Advisories and Bulletins
- Compaq QuickFind
- Compaq Service Quick Reference Guide
- Compaq Help Center

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Creativity Action Center Rear CPU connectors	U.S., Latin America, Canada Europe, Africa, Middle East						
Power cord set requirements	Japan Asia/Pacific						

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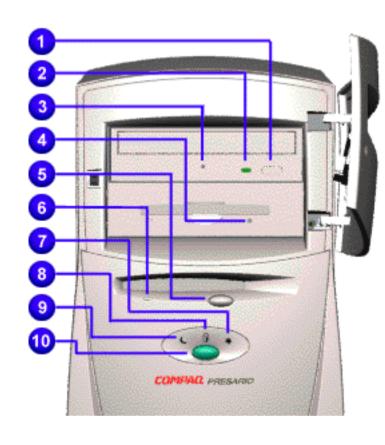
Rear CPU connectors

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PRODUCT DESCRIPTION

CPU Controls and Lights

Click link to see CPU Controls and Lights for the <u>5070</u>, <u>5184</u>, <u>and 5185</u> models.



- 1 CD/DVD load/eject button
- **2** CD/DVD drive activity light (on some models this light is displayed to the left of the manual eject slot)
- 3 Manual eject slot
- **4** Zip drive eject button & activity light
- **5** Floppy or SuperDisk drive eject button
- **6** Floppy or SuperDisk drive activity light
- 7 Power status light
- **8** Drive activity light
- **9** Sleep status light
- **10** Instant on button

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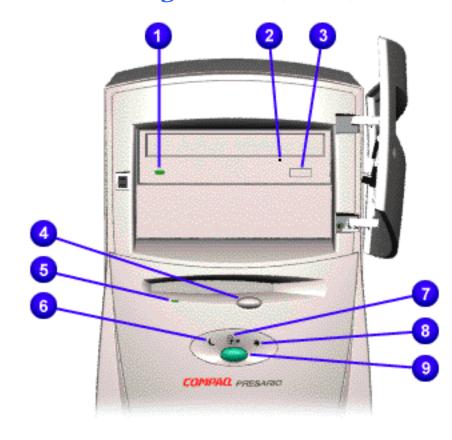
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PRODUCT DESCRIPTION

CPU Controls and Lights - 5070, 5184, 5185



- 1 CD/DVD drive activity light
- **2** Manual eject slot
- **3** CD/DVD load/eject button
- **4** Floppy drive eject button
- **5** Floppy drive activity light
- **6** Sleep status light
- **7** Drive activity light
- **8** Power status light
- **9** Instant on button

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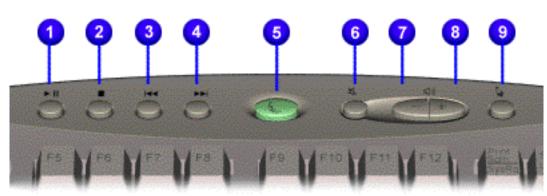
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PRODUCT DESCRIPTION

Keyboard Controls and Lights

Easy Access Internet Keyboard (click here for **Space Saver keyboard**)

Top center (click here for **keyboard top right corner** assignments)



- 1 Play/pause
- 2 Stop
- **3** Previous track
- 4 Next track
- **5** Sleep button
- **6** Mute
- **7** Volume down
- **8** Volume up
- 9 Favorite application launch

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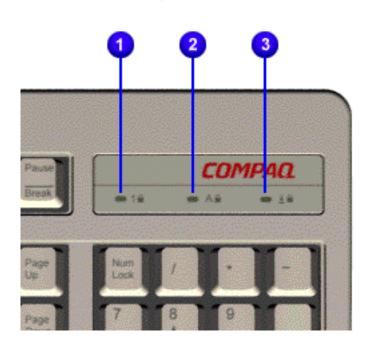
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PRODUCT DESCRIPTION

Keyboard Controls and Lights

Space Saver Keyboard



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

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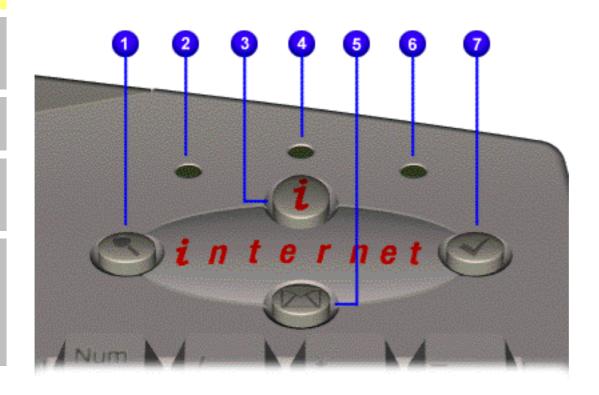
Power cord set requirements

PRODUCT DESCRIPTION

Keyboard Controls and Lights

Easy Access Internet Keyboard

Upper right corner



- 1 Instant search
- 2 Num lock light
- **3** Instant Internet
- 4 Caps lock light
- **5** Instant e-mail
- **6** Scroll lock light
- **7** Featured Web site

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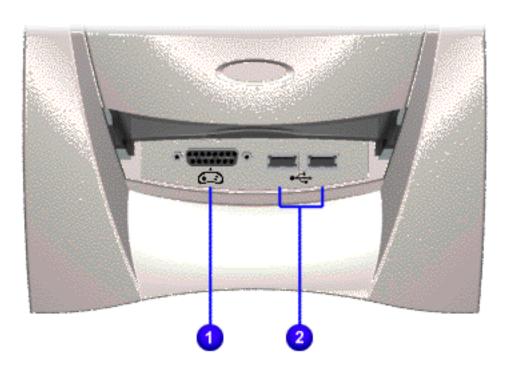
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PRODUCT DESCRIPTION

Creativity Action Center

Available on select models...



- **1**Gamepad/joystick
 port
- **2** USB ports

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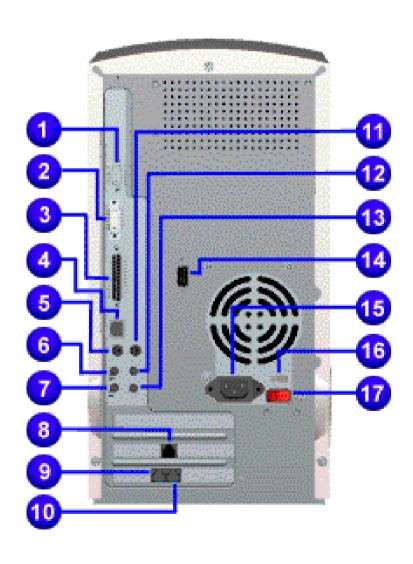
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Creativity Action Center

CPU rear connectors

Power cord set requirements Click link to see CPU Rear Connectors for 5070, 5184, 5185 model.

Click here to jump to connector pin assignments.



- VGA monitor 1
- Flat-panel monitor (select models)
- 3 Parallel (printer) port
- Integrated NIC (select models) 4
- **Keyboard** 5
- Microphone in 6
- Speaker or headphone out 7
- Ethernet network card \triangle (ES models)
- Telephone line to wall outlet (select models)
- **10** Telephone line to telephone \triangle



- **11** Mouse
- **12** Audio line in
- **13** Audio line out
- **14** Serial port
- **15** AC
- **16** Voltage select switch
- **17** Main power on/off



CAUTION: Do not plug a phone line into the network connector or you may damage the computer

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CPU Rear Connectors - 5070, 5184, 5185

Click link to see CPU Rear Connectors for other models.

and lights

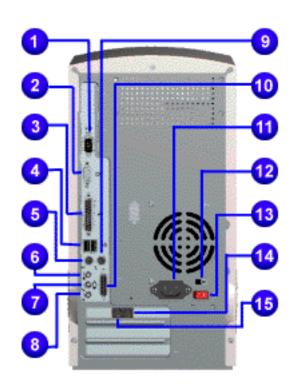
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- Click <u>here</u> to jump to connector pin assignments.
 - 1 Serial port
 - **2** VGA monitor
 - **3** Parallel (printer) port
 - **4** Dual USB connectors
 - **5** Keyboard
 - **6** Microphone in
 - **7** Audio line out
 - **8** Speaker or headphone out
 - **9** Mouse
 - **10** MIDI Gamepad / joystick
 - **11** AC
 - **12** Voltage select switch
 - **13** Main power on/off
 - **14** Telephone line to wall outlet (select models)
 - **15** Telephone line to telephone

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Power cord set requirements **Power Cord Set Requirements**

The power supply needs to be set to 115/230 Volts AC for each country.

The power cord set (flexible cord and wall plug) received with the computer meets the 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 you use the computer. For more information on power cord set requirements, contact your 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

Country	Accredited Agency	Country	Accredited Agency
Australia	EANSW*	Italy	IMQ*
Austria	OVE*	Japan	JIS***
Belgium	CEBC*	Norway	NEMKO*
Canada	CSA**	Sweden	SEMKO*
Denmark	DEMKO*	Switzerland	SEV*
Finland	SETI*	United Kingdom	BSI*
France	UTE*	United States	UL**
Germany	VDE*		

^{*} The flexible cord must be <HAR> Type HO3VV-F, 3-conductor, 1.0 mm2 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.

^{**} 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.

^{***} The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. Flexible cord must be Type VCT or VCTF, 3-conductor, 0.75mm2 conductor size. The wall plug must be a two-pole type with a Japanese Industrial Standard C8303 (15A, 125V) configuration.

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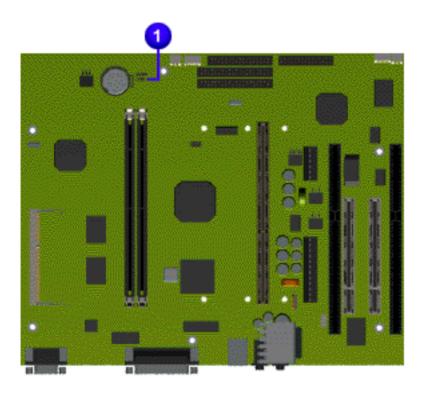
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TROUBLESHOOTING

Clearing CMOS

If the power-on password is unknown, clearing CMOS will disable the password and allow the computer to be operated.

The board shown is an example of one used; your board may differ slightly--see **Note** below.



CMOS jumper location

- **1** Complete the <u>preparation for disassembly.</u>
- **2** Remove the hood.
- **3** Remove the fax/modem board.
- 4 Open the system board bracket.
 - NOTE: If your board is different from the one shown, click links to see alternative boards for other models or 5070, 5184, and 5185 models.
- **5** To disable the password, move the jumper **1** (J22) from pins 1-2 to pins 2-3 for 10 seconds, then return to pins 1-2.
- **6** Replace the system board bracket and perform the desired troubleshooting.

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Clearing CMOS

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Power-On **Self Test** (POST)

Power-On Self Test (POST)

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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 properly functioning:

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

If **POST** finds an error in the system, an error condition is indicated by an audible and/or visual message. The table below gives explanations of the error codes and a recommended course of action.

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

NOTE: An external speaker must be installed into the speaker output connector to hear audible beeps during **POST**.

Click a link below to find the probable cause and recommended action for a given error message.

Diskette Drive A or B Error	Keyboard Controller Error	System BIOS Shadowed
Extended RAM failed at offset nnn	<u>Keyboard Error</u>	System Cache Error
Failing Bits nnn	Operating System Not Found	System CMOS Checksum Bad
Fixed Disk 0 or 1 Failure	Parity Check 1	System RAM Failed at Offset, nnn
Fixed Disk Controller Failure	Parity Check 2	System Timer Error
<u>Incorrect Drive A Type</u>	Real Time Clock Error	<u>UMB Upper Limit Segment</u> <u>Address <i>nnn</i></u>
Invalid NVRAM Media Type	System Battery is Dead	Video BIOS Shadowed

invalid NVRAM Medi	a Type System Battery is Dead	video BIOS Snadowed
	POST Messages	
Error message	Probable Cause	Recommended Action
Diskette Drive A or B Error	Drive A: or B: is present, but fails the BIOS POST diskette tests	 Run <u>Setup</u>. Replace the signal cables. Replace the drive.
Extended RAM failed at offset <i>nnn</i>	Extended memory not working or not configured properly	 Replace the <u>memory modules</u>. Replace the <u>system board</u>.
Failing Bits <i>nnn</i>	nnn is a map of the bits at the RAM address which failed the memory test	 Run <u>Setup</u>. Replace the <u>system board</u>.
Fixed Disk 0 or 1 Failure	Hard drive is not working or not configured properly	 Run <u>Setup</u>. Replace the signal cable. Replace the hard drive.
Fixed Disk Controller Failure	Hard drive is not working or not configured properly	 Run <u>Setup</u>. Replace the <u>system board</u>.
Incorrect Drive A Type	Type of diskette in drive A: not correctly identified	 Run <u>Setup</u>. Replace the <u>diskette drive</u>.
Invalid NVRAM Media Type	Problem with NVRAM (CMOS) access	Replace the <u>system board</u> .
Keyboard Controller Error	Keyboard, I/O keyboard controller (on system board), or mouse error	 Replace the keyboard. Replace the mouse. Replace the <u>system board</u>.
Keyboard Error	Keyboard, I/O keyboard controller (on system board), or mouse error	 Replace the keyboard. Replace the mouse. Replace the <u>system board</u>.
Operating System Not Found	Operating system cannot be located on either drive A: or C:	Run <u>Setup</u> .
Parity Check 1	Parity error found in the system bus	 Run <u>Setup</u>. Replace the <u>memory modules</u>. Replace the <u>system board</u>.
Parity Check 2	Parity error found in the I/O bus	 Run <u>Setup</u>. Replace the <u>ISA board (modem)</u>.
Real Time Clock Error	Real-time clock fails BIOS test	Replace the <u>system board</u> .
System Battery is Dead	RTC battery is dead	 Replace the <u>RTC battery</u>. Run <u>Setup</u>.
System BIOS Shadowed	System BIOS copied to Shadow RAM	Status message. No action required
System Cache Error	RAM cache failed the BIOS test	Run <u>Setup</u> .
System CMOS Checksum Bad	CMOS is corrupted or modified incorrectly	Run <u>Setup</u> .
System RAM Failed at Offset, <i>nnn</i>	System RAM failed	Replace memory modules.
System Timer Error	DMA, timers, etc.	Replace the <u>system board</u> .
UMB Upper Limit Segment Address nnn	Displays the address <i>nnn</i> of the upper limit of Upper Memory Blocks, indicating released segments of the BIOS	Status message. No action required

Video BIOS successfully copied to

shadow RAM

Status message. No action required.

Video BIOS

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without diagnostics This section explains how to use Setup and Compaq Utilities which should be accessed in the following instances:

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

Click a link below to go to the appropriate subsection.

Preparing the Computer

Setup

Accessing Compaq Utilities Options

View System Information (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.

- 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.
- Install loop-back and terminating plugs for complete testing.

Setup

The Setup utility gives 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. Use the Setup utility to:

- Modify settings for audio, storage, power management, communications, and input devices
- Get an overall picture of the computer's hardware configuration
- Verify configuration parameters in determining problems
- Set time and date

Running Setup

To access the Setup utility, turn on the computer and press the **F10** key when the Compaq logo appears. The following menu will appear:

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

Main Advanced Security Power Boot Exit <u>Item Specific Help</u> <Tab>, <Shift-Tab>, or System time: <Enter> selects field. System date: Language: Diskette A: Diskette B: Primary master: Primary slave: Secondary master: Secondary slave: System memory: Extended memory: ↑↓ Select Item -/+ Change Values F1 Help Setup Defaults ←→ Select Menu Enter Select Sub-Menu F10 Previous Values Esc Exit

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

Accessing Compaq Utilities Options

A Compaq Utilities diskette must be created to troubleshoot the system. To create a Compaq Utilities

Create a Compaq Utilities Diskette

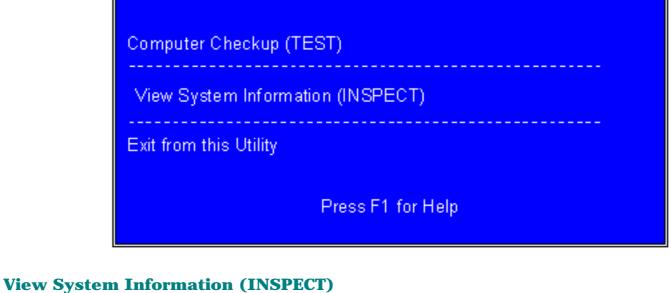
diskette, complete the following steps:

2 From the Windows desktop, click on **Start**, then **Program**, then **Windows Explorer.**

Insert the *QuickRestore CD* into the CD dri

- **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:



Compaq Utilities

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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without diagnostics

Diagnostic

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

Tables listed on this page give possible error codes, descriptions of each error condition, and actions required to resolve the error condition.

IMPORTANT: Retest the system after completing each step. 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 $\underline{\textit{Removal and Replacement}}$ $\underline{\textit{Procedures}}$.

100- xx	<u>Processor</u>	800-xx	Monochrome video	3200- xx	Audio
200- xx	Memory	1100-xx	<u>Serial</u>	3300- xx	CD or DVD
300- xx	Keyboard	1200-xx	<u>Modem</u>	6600- xx	CD or DVD
400- xx	<u>Parallel (printer)</u>	1700-xx	<u>Hard drive</u>	656-xxx	<u>SuperDisk</u> (available on select models)
500- xx	<u>Monitor</u>	1900- xx	<u>Tape drive</u>	8600- xx	Pointing device interface
600- xx	<u>Diskette drive</u>	2400-xx	<u>Video</u>		

Keyboard 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.3 Replace the <u>system board</u> and retest.
304-xx	Keyboard typematic test	3 Replace the <u>system board</u> and retest.

Parallel (printer) 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:
402-xx	Printer data register failed	1 Connect the printer.
403-xx	Printer pattern test failed	2 Check power to the printer.
498-xx	Printer failed or not connected	3 Install the loop-back connector and retest.4 Replace <u>system board</u> and retest.

Monochrome video error codes

	Error Code	Description	Recommended Action
8	802-xx	Video memory test failed	The following step applies to error codes 802-xx through 824-xx:
8	824-xx	Monochrome video text mode test failed	Replace the <u>system board</u> and retest.

Serial error codes

Error Code	Description	Recommended Action
1101- xx	Serial Port Test	The following steps apply to error codes 1101-xx through 1109-xx:
		1 Check the switch settings on the serial/parallel device, if applicable.
1109- xx	Clock Register Test	2 Replace the <u>system board</u> and retest.

Modem error codes

Modelli Citor Codes		
Error Code	Description	Recommended Action
1201-xx	Modem Internal Loop-Back Test	The following steps apply to error codes 1201-xx
1202-xx	Modem Time-Out Error	through 1210-xx: 1 Refer to modem documentation for
1203-xx	lodem External Termination est	correct Setup procedures.
1204-xx	Modem Auto Originate Test	2 Check the modem line.
1206-xx	Dial Multifrequency Tone Test	3 Replace the modem and retest.
1210-xx	Modem Direct Connect Test	

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Configuration Diagnostic error codes

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 $\underline{diagnostics}$

Video error codes

Error Description Code		Recommended Action	
2402-xx	Video memory test failed	The following steps apply	
2403-xx	Video attribute test failed	to error codes 2402-xx through 2456-xx:	
2404-xx	Video character set test failed	1 Run <u>Setup</u> .	
2405-xx	Video 80×25 mode 9×14 character cell test failed	2 Replace the <u>system</u> board and retest.	
2406-xx	Video 80×25 mode 8×8 character cell test failed		
2407-xx	Video 40 × 25 mode test failed		
2408-xx	Video 320×200 mode color set 0 test failed		
2409-xx	Video 320×200 mode color set 1 test failed		
2410-xx	Video 640×200 mode test failed		
2411-xx	Video screen memory page test failed		
2412-xx	Video gray scale test failed		
2414-xx	Video white screen test failed		
2416-xx	Video noise pattern test failed		
2418-xx	ECG/VGC memory test failed		
2419-xx	ECG/VGC ROM checksum test failed		
2420-xx	ECG/VGC attribute test failed		
2421-xx	ECG/VGC 640 × 200 graphics mode test failed		
2422-xx	ECG/VGC 640×350 16 -color set test failed		
2423-xx	ECG/VGC 640×350 64 -color set test failed		
2424-xx	ECG/VGC monochrome text mode test failed		
2425-xx	640 × 480 graphics test failure		
2431-xx	640 × 480 graphics test failure		
2432-xx	320×200 graphics (256-color mode) test failed		
2448-xx	Advanced VGA Controller test failed		
2451-xx	132-column Advance VGA test failed		
2456-xx	Advanced VGA 256-Color test failed		
2468-xx	Advanced VGA BitBLT test	The following steps apply to error codes 2468-xx	
0.477	A decree and V/C/A alleters at leters at	through 2480-vv	

Processor error codes Recommended action

Advanced VGA datapath test

Advanced VGA Linedraw test

Advanced VGA BitBLT test

2477-xx

2478-xx

2480-xx

through 2480-xx:

2 Replace the <u>system</u> board and retest.

1 Run <u>Setup</u>.

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

Description

Video noise pattern test failed

Error

516-xx

Monitor (VGA or flat-panel) error codes

Recommended Action

Code			
	501-xx	Video controller test failed	The following step applies to error
	502-xx	Video memory test failed	codes 501-xx through 516-xx:
	503-xx	Video attribute test failed	Replace the <u>system</u> board and retest.
	504-xx	Video character set test failed	
	505-xx	Video 80×25 mode 9×14 character cell test failed	
	506-xx	Video 80×25 mode 9×14 character cell test failed	
	507-xx	Video 40×25 mode test failed	
	508-xx	Video 320×200 mode color set 0 test failed	
	509-xx	Video 320×200 mode color set 1 test failed	
	510-xx	Video 640 × 200 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	

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Hard drive error codes

Recommended Action

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Clearing CMOS Diagnostic Error Codes (continued) Power-On Self Test (POST)

Error

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Diagnostic error

Troubleshooting <u>without</u> diagnostics

codes

Description

Error Code	Description	Recommended Action
1700- xx	Hard drive ID types test failed	The following steps apply to error codes 1700-xx through 1799-xx:
1701- xx	Hard drive format test failed	1 Run <u>Setup</u> and verify drive type.2 <u>Replace the hard drive signal and power</u>
1702- xx	Hard drive read test failed	<u>cables</u> and retest.3 <u>Replace the hard drive</u> and retest.
1703- xx	Hard drive write/read/compare test failed	4 Replace the <u>system board</u> and retest.
1704- xx	Hard drive random seek test failed	
1705- xx	Hard drive controller test failed	
1706- xx	Hard drive ready test failed	
1707- xx	Hard drive recalibration test failed	
1708- xx	Hard drive format bad track test failed	
1709- xx	Hard drive reset controller test failed	
1710- xx	Hard drive park head test failed	
1714- xx	Hard drive file write test failed	
1715- xx	Hard drive head select test failed	
1716- xx	Hard drive conditional format test failed	
1717- xx	Hard drive ECC* test failed	
1719- xx	Hard drive power mode test failed	
1719-х	Hard drive power mode test failed	
1730-х	Fixed Disk 0 does not support DMA Mode	
1731-х	Fixed Disk 1 does not support DMA Mode	
1740-x	Fixed Disk 0 failed Set Block Mode command	
1741-x	Fixed Disk 1 failed Set Block Mode command	
1750-x	Fixed Disk 0 failed Identify command	
1751-x	Fixed Disk 1 failed Identify command	
1760-x	Fixed Disk 0 does not support Block Mode	

*Error Correction Code

Description

1761-x

1790-x

1792-x

1799-ХX

Error Code

> **Error** Code

Code

Error Code

Fixed Disk 1 does not support

Disk 0 Configuration Error

Secondary Disk Controller

Invalid hard drive type failed

Block Mode

Failure

Recommended Action

Tape drive error codes

1900- xx 1901- xx	Tape ID failed Tape servo write failed	 The following steps apply to error codes 1900-xx through 1906-xx: 1 Replace the tape cartridge and retest. 2 Check and/or replace the signal cable and retest.
1902- xx	Tape format failed	3 Replace the tape drive and retest.4 Replace the <u>system board</u> and retest.
1903- xx	Tape drive sensor test failed	Tropidos ino <u>system souru</u> dira rocesti
1904- xx	Tape BOT/EOT test failed	
1905- xx	Tape read test failed	
1906- xx	Tape write/read/compare failed	

Description Recommended Action

SuperDisk error codes (available on select models)

xxx-101	Drive Not Ready	The following steps apply to all error codes except 656-101 and 656-032:
xxx-032	Incorrect Media Present	1 Replace the diskette and retest.*
xxx-001 xxx-051	Verify Error	2 <u>Check and/or replace the power and signal</u> <u>cables</u> and retest.
xxx-002 xxx-052	Seek Error	3 Replace the SuperDisk drive and retest.4 Replace the system board and retest.
xxx-003 xxx-053	Read Error	
xxx-004 xxx-054	Write Error	
xxx-006	Data Compare Error	
xxx-008	Write Protect Failure	
xxx-011	LED Error	
xxx-021	Format Error	
xxx-022	SuperDisk format pattern not found	

Pointing device interface error codes

8601- xx	Pointing Device Interface test failed	 Replace with a working pointing device and retest. Replace the <u>system board</u> and retest.
	Audio ei	rror codes

Description Recommended Action

3206- xx	Audio System Internal Error	Replace the <u>system board</u> and retest.

CD or **DVD** error codes

Error Code	Description	Recommended Action
3301-xx 3305-xx 66XX-xx	CD or DVD drive read test failed	 The following steps apply to error codes 3301-xx through 3305-xx and 66XX-xx: Replace the CD or DVD disk and retest.* Check the jumper settings on the CD or DVD drive. Check and/or replace the power and signal cables and retest. Replace the CD or DVD drive and retest. Replace the backplane.

DVD and retest.

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Checklist For Solving Minor Problems

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Troubleshooting without diagnostics

computer.

This section describes some simple, preliminary tests and guidelines for troubleshooting the

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 *STARTUP.CMD* file correct?
- Was a nonbootable diskette loaded in the diskette drive at power-up?
- Are all switch settings correct? ■ Was Computer Setup run after installing options (memory, disk drives, etc.)
- and before installing industry standard architecture boards?
- hard drive VGA monitor

CD drive

Quick checks and possible solutions for problems related to these topics:

SuperDisk drive (on select diskette drive hardware installation models only) **DVD** drive power <u>flat-panel monitor</u> (on **USB** ports select models only) are provided in the tables below. The procedure for <u>resolving hardware conflicts</u> is also described.

Flat-panel monitor			
Problem	Probable cause(s)	Possible solution	
Screen is blank.	Your computer may not support flat-panel monitors.	See your authorized dealer or reseller about CPU support for the Digital Video Interface (DVI) needed.	
Cannot find video connector on rear of CPU for flat-panel monitor.	Your computer may not have a digital flat-panel port (DFPP).	See your authorized dealer or reseller about CPU support for flat-panel monitors.	
The display only fills part of the screen.	The monitor does not support your resolution setting.	 FP400 and FP500 Series flat-panel monitors only support 1024 x 768 resolution mode. Change your resolution setting in the Display dialog box: 1 Click on Start 2 Point at Settings and click on Control Panel 3 Double-click on Display 4 Click on the Setting tab, and move the sliding pointer to give 1024 x 768 pixel resolution. 	
Green power light is flashing.	Your flat-panel monitor does not support the video resolution or refresh rate.	 FP400 and FP500 Series flat-panel monitors only support 1024 x 768 resolution mode. Connect a VGA monitor temporarily and change your resolution setting in the Display dialog box: Click on Start Point at Settings and click on Control Panel Double-click on Display Click on the Setting tab, and move the sliding pointer to give 1024 x 768 pixel resolution. 	

Cannot read compact disc. CD is not properly seated in the drive. CD has been loaded upside down. CD may be dirty or scratched. CD is not properly seated in the CD, then re-instructive. Eject the CD, turn it over CD may be dirty or scratched. Clean the CD or load and another compact disc (tray-load only). CD is not properly seated in the drive. After turning the computer.	the reload.
Cannot eject compact disc (tray-load only). CD drive devices CD may be dirty or scratched. Clean the CD or load and scratched. Turn off the computer, in paper clip into the emerging push firmly. Slowly pull the drive until the tray is fully remove the CD. After turning the computer.	
Cannot eject compact disc (tray-load only). CD drive devices Scratched. CD is not properly seated in the drive. Turn off the computer, in paper clip into the emerg push firmly. Slowly pull the drive until the tray is fully remove the CD.	ther CD.
compact disc (tray-load only). seated in the drive. paper clip into the emerg push firmly. Slowly pull the drive until the tray is fully remove the CD. CD drive devices Power cycle delay. After turning the computer	
	ency eject hole, then ne tray out from the
are not detected. seconds before turning the	
CD drive is not connected properly. Open the computer and of drive cable is connected properly.	
Proper driver is not loaded Restart the system and not drive drivers are loaded.	nake sure the CD

DVD drive

reload.

Possible solution

Eject the DVD or CD, press down on the DVD or

CD firmly to correctly seat it in the drive, then

Probable cause(s)

seated in the drive.

DVD or CD is not properly

CD drive

Possible solution

Probable

cause(s)

Problem

Problem

read DVD

Cannot

disk

	DVD or CD has been loaded upside down.	Eject the disk, turn it over, then reload.
	DVD or CD disk may be dirty or scratched.	Load another DVD disk.
DVD does not work in the DOS mode.	Proper drivers are not loaded.	Restart the system and make sure the DVD drive drivers are loaded.
Cannot eject DVD disk.	The system is in the Sleep mode.	Press the Power button to bring the system back to full power, then eject the DVD.
UISK.	The DVD, diskette, or hard drive was active when attempting to eject the DVD.	Wait until all drive activity ends (the CD/hard drive light and diskette drive light will go out), then try to eject the DVD.
	DVD disk is not properly seated in the drive.	Turn off the computer, insert a straightened paper clip into the emergency eject hole, then push firmly. Slowly pull the tray out from the drive until the tray is fully extended, then remove the DVD disk.
DVD drive devices are	DVD drive is not connected properly.	Open the computer and check to see that the drive cable is connected properly.
not detected.	Incorrect driver is installed.	Ensure the correct driver is installed in <i>CONFIG.SYS</i> .
	Drive has been changed.	Make sure the jumper setting is set for "Slave."
	Proper drivers are not loaded.	Restart the system and make sure the DVD drive drivers are loaded.

are:

MIDI Port Base I/O address

Base I/O address

R 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. For example, the factory default settings for the MIDI port audio interface

220H

330H

Interrupt IRQ 5 8-bit DMA Channel 1 When different peripheral devices use the same hardware resources at the same time, the devices and/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 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.

Also see: <u>System</u>

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Drive not found.

Disk transaction

Nonsystem disk

message.

Hard drive

OR

Hard drive

or stays on

Problem

A new device is

not recognized

as part of the

computer system.

Problem

POST.

Computer will not turn on.

display the date and time.

Computer powered off

automatically.

Problem

USB device

does not

work with

Problem

Diskette drive

light stays on.

Diskette drive

Diskette drive

cannot read a

diskette.

Problem

SuperDisk

drive light

SuperDisk drive cannot write to a

diskette.

SuperDisk

read a

diskette.

Problem

Screen is

blank.

Garbled

text.

Monitor

keypad.

overheats.

characters on

are mixed with

Cursor will not

move using the

arrow keys on the numeric

the screen

dim.

Characters are

drive cannot

stays on.

cannot write to a diskette.

the system.

Computer does not automatically

Computer does not beep during

not on.

activity light is

without blinking.

slow

operation seems

problem.

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without

diagnostics

Diagnostic error codes **Troubleshooting**

Hard drive Problem Probable cause(s)

Hard disk has bad Hard drive error occurs. sectors or has failed. Reformat the hard disk.

Run Computer Setup.

Cable could be

Either the directory

structure is bad or there is a problem

The system is trying

diskette that is not

The system is trying to start from the

hard drive but the hard disk has been

Diskette boot has

The hard disk files

may be fragmented.

Probable cause(s)

When the system advised you of

changes to the configuration,

you did not save the changes.

The system may not have

new device.

automatically recognized the

The cables for the new external

device are loose, or the power

The power switch for the new

external device is not turned on.

cables are unplugged.

Hardware installation

Power

source.

volume.

Probable cause(s)

The USB device and the

Probable cause(s)

Diskette may be damaged.

Diskette may be installed

Software program may be

Diskette is not formatted.

Diskette is write-protected.

Writing to the wrong drive.

Diskette is not formatted.

Reading the wrong drive.

by Computer Setup.

Probable cause(s)

Diskette may be damaged.

Diskette may be installed

Software program may be

Diskette is not formatted.

Diskette is write-protected.

Writing to the wrong drive.

Diskette is not formatted.

Reading the wrong drive.

Probable cause(s)

The brightness needs

Screen save has been

the CONFIG.SYS file.

There is not enough

ventilation space for proper

The **Num Lock** key is on.

There is a possible application

The ANSI.SYS driver is not in

set properly.

be installed.

adjusting.

initiated.

airflow.

error.

The brightness control is not

A screen-blanking utility could

by Computer Setup.

Not enough space is left on the

Using the wrong diskette type for

Diskette drive has been disabled

VGA Monitor

incorrectly.

damaged.

diskette.

the drive type.

Not enough space is left on the

Using the wrong diskette type for

Diskette drive has been disabled

SuperDisk Drive

incorrectly.

damaged.

diskette.

the drive type.

system may use

different USB

architectures.

Possible Solution

been disabled in Computer Setup.

to start from a

bootable.

damaged.

loose.

with a file.

Possible solution

Troubleshooting Without Diagnostics (continued)

Check cable connections.

From the desktop click on the **Start** menu. Choose

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,

Accessories → *System Tools* → *Disk Defragmenter*.

Program → Accessories → System Tools →

click on the **Start** menu. Choose *Program*

Remove the diskette from the diskette drive.

Insert a bootable diskette into the diskette drive

and restart the computer with **Ctrl**+**Alt**+**Del**.

Run <u>Computer Setup</u> and enable diskette boot.

Program → *Accessories* → *System Tools* →

From the desktop click on the **Start** menu. Choose

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,

Accessories → System Tools → Disk Defragmenter.

click on the **Start** menu. Choose *Program*

Possible solutions

new device.

Check all cables.

with the computer.

Ensure that the computer is connected to a power

The real-time clock (RTC) battery may need to be

The speaker volume may have been turned down. Select

the **Volume** option from the Control Panel and adjust the

The unit temperature may have been exceeded. Check

Ensure that the USB device and the system share the same USB architecture. (UHCI-compliant

Possible solution

From the desktop click on the

Start menu. Choose Program **Accessories** → **System Tools** → **Scandisk** to check for problems.

Remove the diskette and reinsert.

Either use another diskette that is not write-protected or disable the write protection on the diskette.

Check the drive letter in your path

Use another diskette to write the

Use a diskette that is compatible

Check the drive letter in your path

Run <u>Computer Setup</u> and enable

Check the program diskettes.

Format the diskette.

statement.

information.

with the drive.

the diskette drive.

Possible solution

From the desktop click on the

Start menu. Choose Program 🗪

Accessories → **System Tools** → **Scandisk** to check for problems.

Remove the diskette and reinsert.

Either use another diskette that is

not write-protected or disable the write protection on the diskette.

Check the drive letter in your path

Use another diskette to write the

Use a diskette that is compatible

Check the drive letter in your path

Run <u>Computer Setup</u> and enable

Check the program diskettes.

Format the diskette.

statement.

information.

with the drive.

the diskette drive.

Possible solution

utility installed.

light the screen.

following line:

obstruct air flow.

Adjust the brightness control.

Press any key. If the display

Adjust the brightness control.

Add the ANSI.SYS driver to the

CONFIG.SYS file by adding the

Leave at least 3 inches (7.6 cm) of

is nothing on top of the monitor to

Press the **Num Lock** key. The **Num**

want to use the arrow keys.

Restart the computer.

Lock light should not be on when you

ventilation space. Also, be sure there

DEVICE = C:\ANSI.SYS

reappears, you have a screen-blanking

Press any key or move the mouse to

statement.

Format the diskette.

statement.

Format the diskette.

devices will only work with a UHCI-compliant

system, and OHCI-compliant devices will only

work with a OHCI-compliant system).

replaced. Click here for replacement procedures.

the fan for function and blockage.

Possible solution

USB

Diskette Drive

Reboot the computer and follow the

instructions for saving the changes.

Run <u>Computer Setup</u> and identify the

Turn off the computer, turn on the

external device, and then turn on the computer to integrate the new device

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The computer <u>serial number</u> should be provided to Compaq whenever requesting information or ordering spare parts.

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and 5185 and all other

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Rest the mouse cursor on a part to get a description of the part and the spare part number.

Standard & <u>optional</u> **boards**

Click the links for model <u>5070</u>, <u>5184</u>, <u>5185</u>.

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System Unit - 5070, 5184, 5185

Click the illustrated part for a description of the part and part number.

Click <u>here</u> for other models.



Part Description	Part Number
1 Hard drive mounting bracket	112705-001
2 Hood	317217-001
3 Chassis	108843-001
4 System board bracket	Spared with chassis
5 110W Power supply assembly	319235-001
6 Option slot cover (3 each)	304284-001
7 Logo kit	320672-001
8 Drive bay bezel blank	170717-001
9 CD/DVD drive access door	320671-001
- Front bezel kit	320660-001

	Button Board with Bracket	108844-001
NOT SHOWN	I/O Panel and label (spared with hardware kit)	In miscellaneous hardware kit 320649- 001
	Fan, chassis	298474-001

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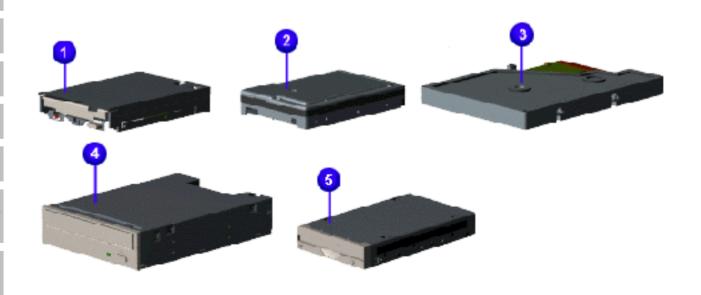
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Mass Storage Devices - 5190, 5201, 5202, 5203, 5204, 5220, 5221, 5222, 5240, 5242, 5245, 5248, 5250, 5253, 5283, 5280, 5282

Position the mouse cursor over a drive to identify it and see the spare part number.

Click the links for models 5206, 5230, 5260, 5270 or models 5070, 5184, 5185.



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Mass Storage Devices - 5206, 5230, 5260, 5270

Cables

Standard & optional boards

Position the mouse cursor over a drive to identify it and see the spare part number.

Click the links for models 5190, 5201, 5202, 5203, 5204, 5220, 5221, 5222, 5240, 5242, 5245, 5248, 5250, 5253, 5283, 5280, 5282 or models 5070, 5184, 5185.

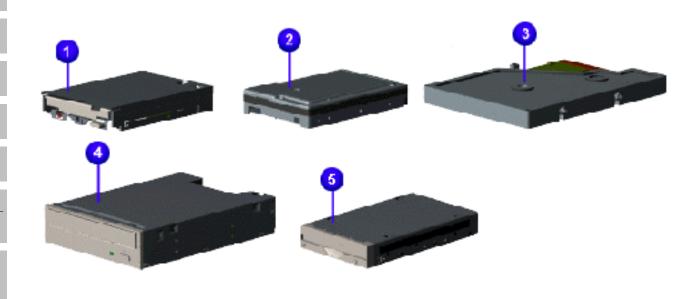
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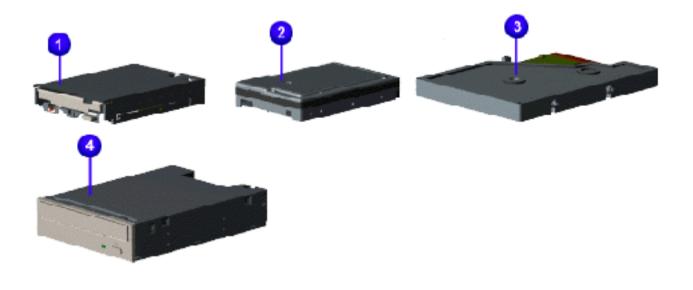
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Mass Storage Devices - 5070. 5184. 5185

Position the mouse cursor over a drive to identify it and see the spare part number.

Click the links for models 5190, 5201, 5202, 5203, 5204, 5220, 5221, 5222, 5240, 5242, 5245, 5248, 5250, 5253, 5283, 5280, 5282 or 5206, 5230, 5260, 5270.



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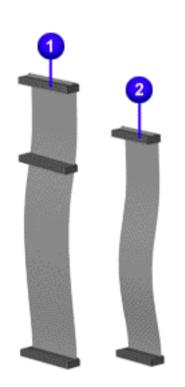
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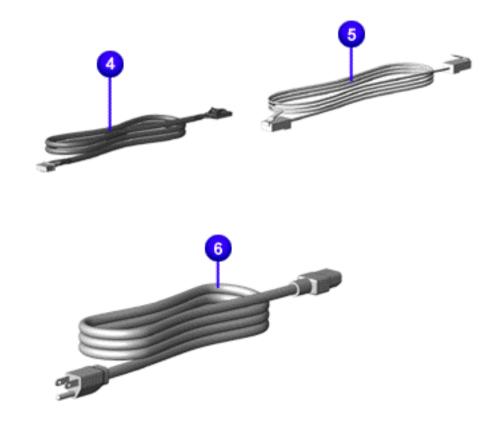
ILLUSTRATED PARTS CATALOG

Cables

Rest the mouse cursor on a part to get a description of the part and the spare part number.

Click the link for model <u>5070</u>, <u>5184</u>, and <u>5185</u>.





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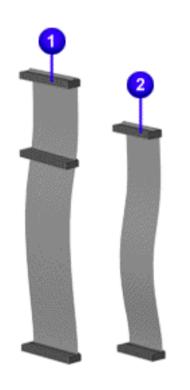
Documentation & software

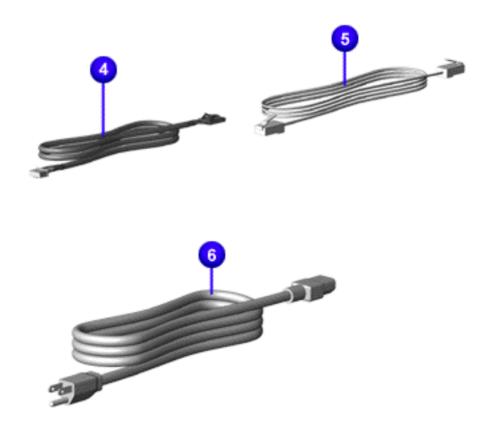
ILLUSTRATED PARTS CATALOG

Cables - 5070, 5184, 5185

Rest the mouse cursor on a part to get a description of the part and the spare part number.

Click the link for other models parts catalog.





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<u>Cables</u>

Click link to see other boards.

Standard & optional boards

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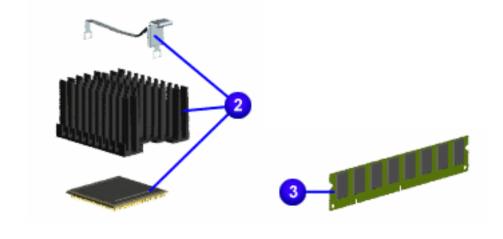
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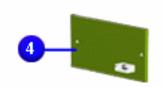
Documentation <u>& software</u>





	Description	Spare Part Number
1	System Board	
	w/o PROC	108846-001
	w/o PROC, w/8MB	108847-001
2	AMD K6-2 Processor	
	350 MHz	388241-001
	Heatsink w/clip	337369-001
3	100-MHz SDRAM DIMM Memory Module	
	64 MB 32 MB	179190-001 337372-001
4	Button board with bracket	320664-001
	Not Shown: 10/100 PCI, w/TX	123494-004

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5100 and 5200 Series (1st board of 2)

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Standard & optional boards

Click links to see the other 5100 and 5200 series board or 5070, 5184, and 5185 boards.

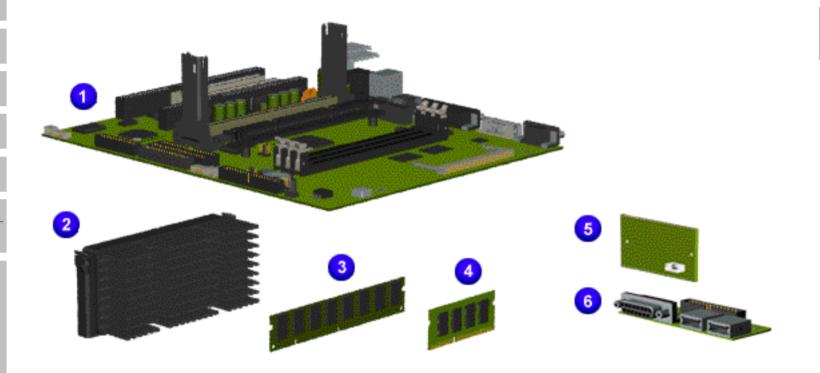
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	Description	Spare Part Number
1	System Board	
	with NIC	480078-001
	without NIC	480077-001
2	Pentium II Processor	
	450 MHz	327585-001
	400 MHz	480076-001
	350 MHz	327583-001
	Celeron II Processor (not shown) 400 MHz 366 MHz	480076-001 388217-001
3	100-MHz SDRAM DIMM Memory Module	
	128 MB	387073-001
	64 MB	320670-001
	32 MB	319326-001
4	4-MB SyncGraphics Video Memory Module (SODIMM)	400431-001
5	Button board with bracket	320664-001
6	Creativity action center (2 USB and1 Gamepad)	330642-001

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5100 and 5200 Series (2nd board of 2)

Standard & optional boards

Click links to see the other 5100 and 5200 Series board or 5070, 5184, 5185 boards.

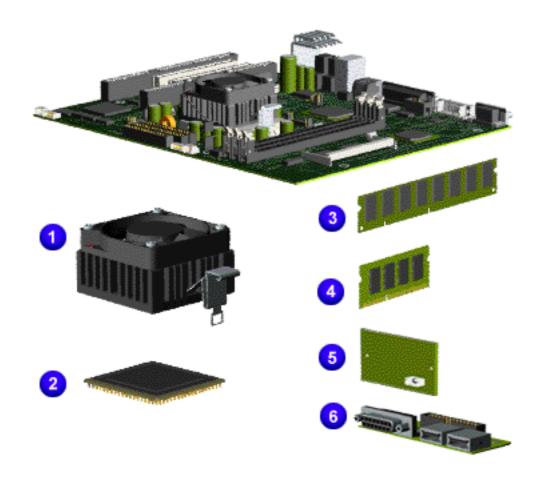
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	Description	Spare Part Number		
Sy	stem Board	em Board		
	without NIC with NIC	480075-001 320645-001		
1	Heat sink with clip and fan	spared with processor		
2	AMD K6-2 Processor			
	400 MHz	320668-001		
	380 MHz	400446-001		
	350 MHz	328966-001		
	333 MHz	337364-001		
3	100 MHz SDRAM DIMM Memory Module			
	128 MB	387073-001		
	64 MB	320670-001		
	32 MB	319326-001		
4	4-MB SyncGraphics Video Memory Module (SODIMM)	400431-001		
5	Button board with bracket	320664-001		
6	Creativity action center (2 USB and1 Gamepad)	330642-001		

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Two examples of the types of modem used are shown. Your modem may differ slightly from those illustrated.

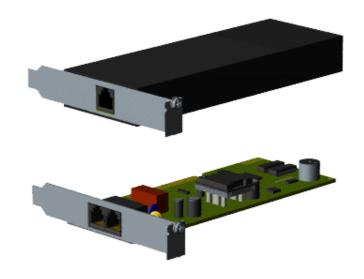
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Description	Spare Part Number
56k PCI DSL / V.90 modem	387518-001
Rockwell HCF 56k PCI controllerless fax/modem	337559-001
1.5 Mb max digital modem G.lite/56k V.90 fax-modem (UDSL / ITU) (North America only)	339573-001
Diamond SupraExpress 56i Pro Modem	334808-021

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Rest the mouse cursor over the item to see a description of the item and a spare part number.

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Click on a monitor to see its catalog information.

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	Description	Spare Part Number
1	Compaq FP500, TFT (not available on models	340615-001
	5070, 5184, 5185) (speakers not shown) Speaker brackets (not shown) Back leg	341043-001 341044-001
2	Compaq Presario MV monitors (speakers not shown)	
	MV400	326902-001
	North America	326902-022
	Northern Hemisphere Southern Hemisphere	326902-B34
	MV500	
	Northern Hemisphere	340707-001
	TCO95	340707-026
	Southern Hemisphere	340707-B34
	MV700	340708-001
	Northern Hemisphere EMEA	340708-001
	Southern Hemisphere	340708-B34
3	Compaq Presario 1525	
	Northern Hemisphere, MPR	241504-002
	Northern Hemisphere, POL	241504-005
	Southern Hemisphere, MPR	241504-003
	North America, POL	241504-001
	Compaq Presario 1725	0.41507.000
	Northern Hemisphere, MPR	241507-002 241507-005
	Northern Hemisphere, POL	241507-005 241507-003
	Southern Hemisphere, MPR North America, POL	241507-003
	North America, FOL	~11007 001
At	tachable speakers (shown on ³)	320426-001
Mo	onitor audio cable (not shown)	268244-001

Compaq Presario 5190, 5201, 5202, 5203, 5204, 5220, 5221, 5222, 5240, 5242, 5245, 5248, 5250, 5253, 5283, 5280, 5282 Series Computers

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Miscellaneous Parts - 5190, 5201,5202, 5203, 5204, 5220, 5221, 5222, 5240, 5242, 5245, 5248, 5250, 5253, 5283, 5280, 5282

Cables

Standard & optional boards

Click the links to see models $\underline{5206}$, $\underline{5230}$, $\underline{5260}$, $\underline{5270}$ or model $\underline{5070}$, $\underline{5184}$, $\underline{5185}$ miscellaneous parts.

Fax/modem

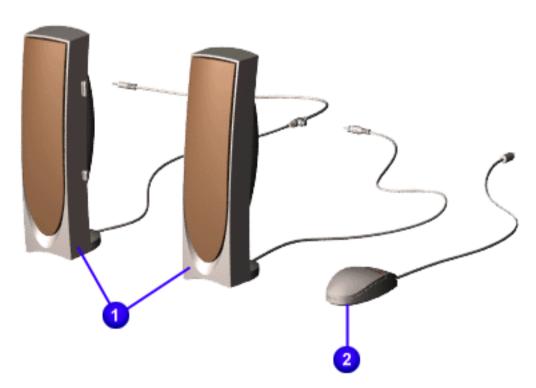
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	Description	Spare Part Number
1	Speakers	304241-001
2	Ivory Mouse	337416-001
	Scroll Mouse (not shown)	334689-001
	Miscellaneous hardware kit	320649-001

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Miscellaneous Parts - 5206, 5230, 5260, 5270

Cables

Standard & optional boards

Click the links to see models <u>5190</u>, <u>5201</u>, <u>5202</u>, <u>5203</u>, <u>5204</u>, <u>5220</u>, <u>5221</u>, <u>5222</u>, <u>5240</u>, <u>5242</u>, <u>5245</u>, <u>5248</u>, <u>5250</u>, <u>5253</u>, <u>5283</u>, <u>5280</u>, <u>5282</u> or model <u>5070</u>, <u>5184</u>, <u>5185</u> miscellaneous parts.

Fax/modem

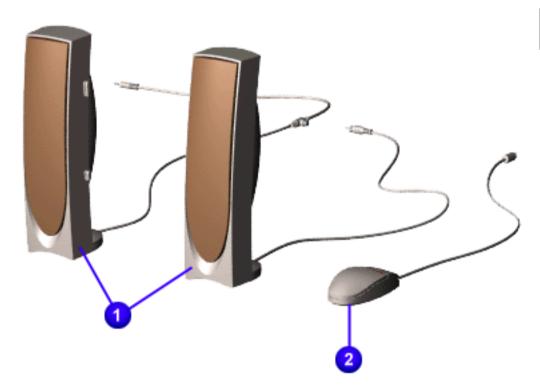
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	Description	Spare Part Number
1	Speakers	304241-001
2	Ivory Mouse	199181-401
	Scroll Mouse (not shown)	334689-001
	Miscellaneous hardware kit	304239-001

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Cables

Standard & optional boards

Click the links to see models <u>5190</u>, <u>5201</u>, <u>5202</u>, <u>5203</u>, <u>5204</u>, <u>5220</u>, <u>5221</u>, <u>5222</u>, <u>5240</u>, <u>5242</u>, <u>5245</u>, <u>5248</u>, <u>5250</u>, <u>5253</u>, <u>5283</u>, <u>5280</u>, <u>5282</u> or <u>5206</u>, <u>5230</u>, <u>5260</u>, <u>5270</u> miscellaneous parts.

Fax/modem

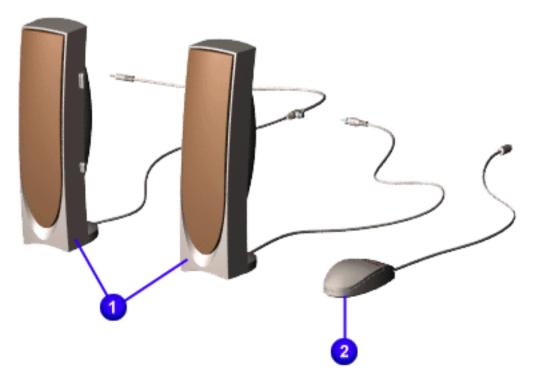
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	Description	Spare Part Number
1	Speakers	304241-001
2	Ivory Mouse	337416-001
	Scroll Mouse - EMEA (not shown)	334689-001
	Miscellaneous plastics kit	108849-001
	Miscellaneous hardware kit	108849-001

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Standard &	Description	Spare Part Number
<u>optional</u> boards	Return kit	320661-001
<u>boards</u>	Carton and buns	320661-002
Fax/modem	Return kit with packing, Compaq Presario V510 monitor	295627-001
Keyboards	Return kit with packing, Compaq Presario V410 monitor	210545-001
<u>neybourus</u>	Return kit with packing, Compaq Presario 1525 monitor	241513-001
<u>Monitors</u>	Return kit with packing, Compaq Presario 1725 monitor	241514-001
Miscellaneous	Return kit with packing, Compaq Presario MV400 monitor	341082-001
<u>-,</u>	Return kit with packing, Compaq Presario MV500 monitor	341083-001
Return kits	Return kit with packing, Compaq Presario MV700 monitor	341084-001
Documentation	Return kit with packing, Compaq Presario FP500 monitor	341139-001
<u>& software</u>	Return kit (Compaq Presario 1525 monitor), 5 each	241517-001
	Return kit (Compaq Presario 1725 monitor), 5 each	241518-001

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* ***	
Manual Kit	320659-001
Manual Kit, Brazilian Portuguese	320659-201
Manual Kit, Latin American Spanish	320659-161
QuickRestore Kit, 5200 Series (Windows 98)	
Belgium Brazil Denmark France Germany Italy Norway Netherlands Spain Sweden Switzerland UK	320890-381 320890-201 320890-081 320890-051 320890-041 320890-161 320890-091 320890-331 320890-071 320890-101 320890-311 320890-311
Quick Reference Guide (1 each)	162212-001
Quick Reference Guide (5 pack)	106854-001
Quick Reference Guide (1 each, quarterly subscription)	184960-001
Quick Reference Guide (5 pack, quarterly subscription)	184961-001
QuickFind for Windows, North America, Latin America, Asia/Pacific	137906-0xx*
QuickFind for Windows, Europe, Middle East, Africa	137907-0xx*

^{*}QuickFind is updated monthly. To complete the QuickFind part number, add the suffix from the table below for the desired month. If you do not specify the 3-digit suffix, the default is the current month in which the order is placed.

Suffix	Month	Suffix	Month	Suffix	Month	Suffix	Month
-001	January	-004	April	-007	July	-010	October
-002	February	-005	May	-008	August	-011	November
-003	March	-006	June	-009	September	-012	December

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REMOVAL & REPLACEMENT PROCEDURES - INDEX PAGE

This section provides general service information for Compaq 5000, 5100, and 5200 Series Personal Computers. Adherence to the procedures and precautions described in this section is essential for safe and proper service.

Electrostatic discharge	System board bracket
Service considerations	System board components
Preparation for disassembly Serial number	battery memory module processor I/O panel system board
Hood	video expansion module Power supply
Fax-modem	Front bezel
Serial port assembly	Instant On button board

Creativity Action Center

Fan

CD or DVD drive Diskette or SuperDisk drive Hard drive Zip drive

Mass storage devices

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discharge

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button board

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REMOVAL & REPLACEMENT

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.

Generating Static

The table below shows the different amounts of static electricity generated by different activities.

	R	elative Humid	ity	
Event	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!

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
- 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 electrostatic-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.

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.
- Always place drives PCB assembly side down on the foam.

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.

■ Handle drives on surfaces that have at least one inch of shock-proof foam.

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

Grounding Workstations

Grounding Methods

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

connected to the work surface and properly grounded tools and equipment. ■ Use static-dissipative mats, heel straps, or air ionizers to give added protection.

• Cover the workstation with approved static-dissipative material. Provide a wrist strap

- 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, and vacuums, that are
- 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.

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

Grounding Equipment

Wrist Straps are flexible straps with a minimum of 1 megohm $\pm 10\%$ resistance to the ground cords. To

provide proper ground, a strap must be worn snug against the skin. On grounded mats without bananaplug connectors, connect a wrist strap with alligator clips.

Heelstraps/Toestraps/Bootstraps can be used at standing 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 megohm resistance between operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

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 megohm 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 megohm $\pm 10\%$ 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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Phillips screwdriver

- Needle-nose pliers
- Flat-bladed screwdriverCompaq Utilities software

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Screws

<u>Hood</u>

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<u>Fan</u>

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.

Cables and Connectors

Most cables used throughout the unit are *ribbon cables*. These 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 cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing the cables, and ensure that they 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.

Ribbon Cable Positions

CD or DVD drive Creativity Action Center

Diskette drive Hard drive Zip drive

SuperDisk drive

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REMOVAL & REPLACEMENT

Preparation for Disassembly

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

- 1 Remove any diskette, compact disc, or tape 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, and 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 its position and routing.

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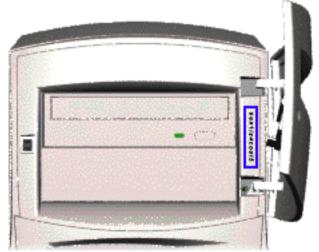
<u>Fan</u>

REMOVAL & REPLACEMENT

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 of the computer above the power supply, and also on the chassis between the CD/DVD/Zip drives and the drive door hinge.





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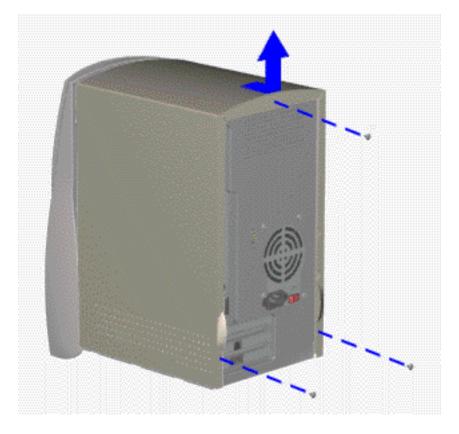
Instant On button board

<u>Creativity</u> <u>Action Center</u>

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REMOVAL & REPLACEMENT

Hood



- **1** Perform the <u>preparation procedures</u>
- **2** Remove the three screws from the back of the computer
- **3** Grasp the handles on the bottom of the hood, pull back slightly, and lift the hood off the computer

To replace the hood, reverse this procedure.

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Front bezel

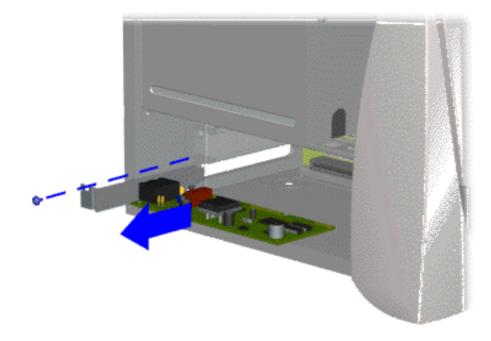
Instant On button board

<u>Creativity</u> Action Center

Fan



REMOVAL & REPLACEMENT



- **1** Perform preparation procedures.
- **2** Remove the hood.
- **3** Remove the screw holding the fax/modem bracket to the chassis and pull the fax/modem out of slot.

Note: If other option cards are installed, you may need to remove these before removing the fax/modem.

For 5070, 5184, and 5185 models, the fax/modem is located in the top slot above the two option slots.

To replace the fax/modem, reverse this procedure.

IMPORTANT:

When replacing the fax/modem, download the latest software from SoftPaq. If QuickRestore is used, it may not have the 56K upgrade software included.

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<u>Fan</u>

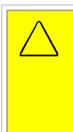
REMOVAL & REPLACEMENT

System Board Bracket



There are *ten* steps in this procedure.

- 1 Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem and any other option cards.



CAUTION: The fax/modem and any other option cards must be removed before the system board bracket, or damage may occur to the system board.

4 Remove one screw from the top of the chassis and one screw from the side of the system board bracket. For models **5070**, **5184**, **and 5185** there is an extra screw at the top of the chassis.

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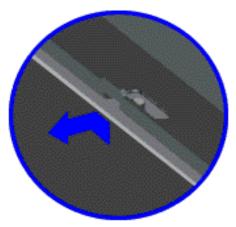
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REMOVAL & REPLACEMENT

Removing the System Board Bracket, continued

5 Push the system board bracket forward and swing open.

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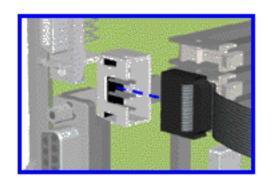
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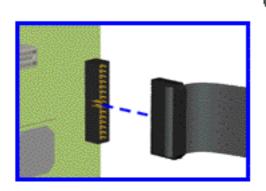
Home

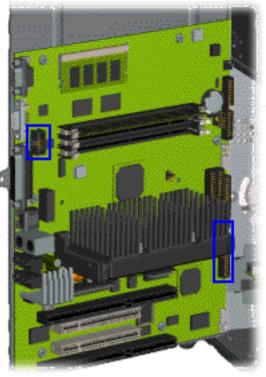
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REMOVAL & REPLACEMENT

Removing the System Board Bracket, continued

6 For 5070, 5184, and 5185 models click here.

Disconnect the serial port cable (top) and the creativity action center cable (bottom) from the system board.

NOTE:

Your board may differ from the one shown.

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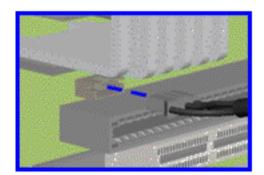
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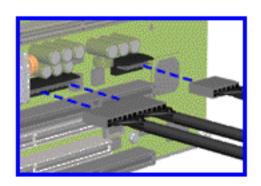
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Removing the System Board Bracket, continued

7 Disconnect the audio and power cables.

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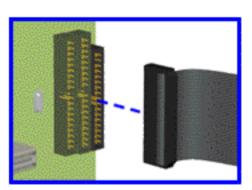
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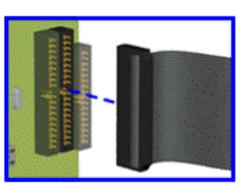
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Removing the System Board Bracket, continued

8 Disconnect the diskette drive (or SuperDisk drive) and hard drive cables.

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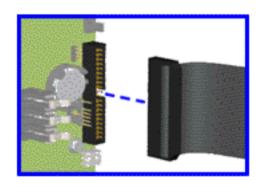
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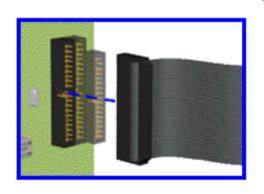
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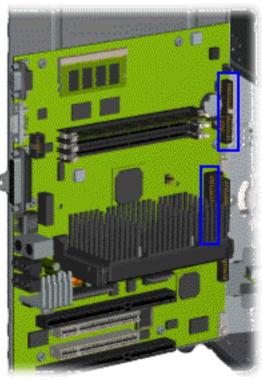
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Removing the System Board Bracket, continued

9 Disconnect the Zip and CD/DVD drive cables.

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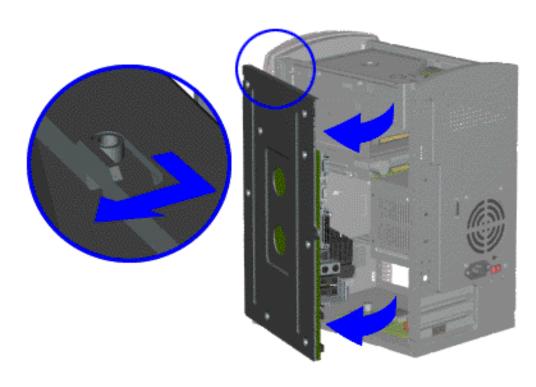
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REMOVAL & REPLACEMENT

Removing the System Board Bracket, continued

10 Slide the system board bracket back at an angle, lining up the pins in the top and bottom with the hinge opening, then pull the system board bracket out of the chassis.

END OF SEQUENCE

To replace the system board bracket, reverse this procedure.



CAUTION: When replacing the system board bracket, ensure the fingers of the I/O bracket are properly aligned to prevent bending the fingers. Bending the bracket fingers may damage the system board.

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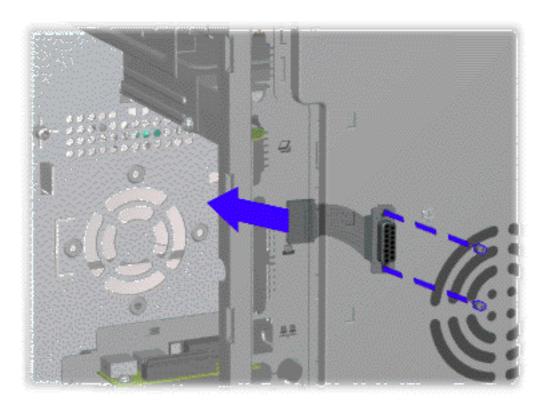
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Front bezel

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- **1** Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem and any other optional cards.



CAUTION: Remove the fax/modem before removing the system board bracket, or the system board may be damaged.

- **4** Open the system board bracket
- **5** Remove the two screwlocks that secure the serial port to the chassis and pull the serial port cable assembly out of the chassis

To replace the serial port, reverse this procedure.

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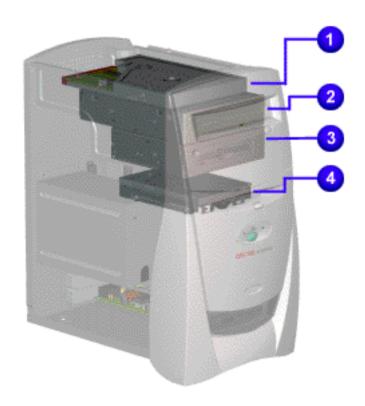
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REMOVAL & REPLACEMENT

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- 1 3.5" Hard drive or 5.25" Hard drive
- 2 CD or DVD drive
- 3 <u>Zip drive</u> (available on select models only)
- 4 <u>Diskette drive</u> or <u>SuperDisk drive</u> (available on select models only)

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<u>SuperDisk</u> drive

3.5" Diskette Drive

3.5" Hard drive

5.25" Hard drive

CD or DVD drive

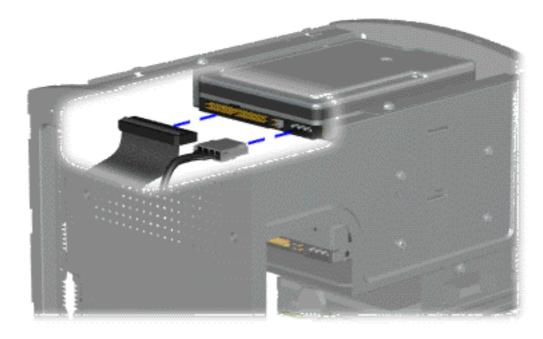
Zip drive

Mass storage devices index page

REMOVAL & REPLACEMENT

Mass Storage Devices

3.5" Hard Drive



There are *six* steps in this procedure.

- 1 Perform preparation procedures.
- **2** Remove the hood.
- **3** Disconnect the signal and power cables from the hard drive.

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Troubleshooting

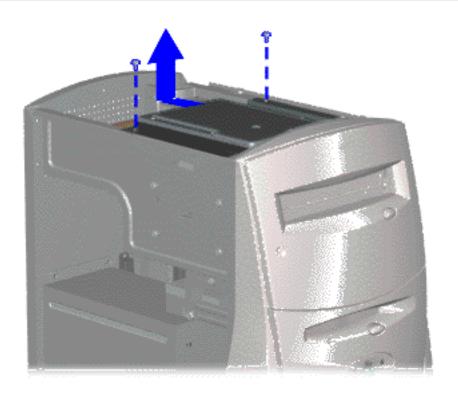
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Mass storage devices

3.5" Hard Drive, continued

- Remove the two screws from the top of the hard drive bracket and chassis.
- **5** Slide the hard drive bracket straight back and up out of the chassis.

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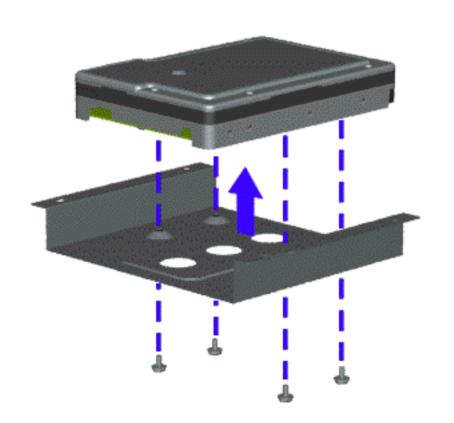
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3.5" Hard Drive, continued

6 Remove the four screws at the bottom of the hard drive bracket to release the hard drive.

END OF PROCEDURE

To replace the 3.5-inch hard drive, reverse this procedure.

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5.25" Hard drive

CD or DVD drive

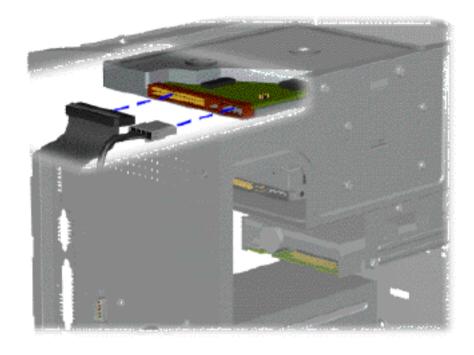
Zip drive

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REMOVAL & REPLACEMENT

Mass Storage Devices

5.25" Hard Drive



There are *seven* steps in this sequence.

- **1** Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem



CAUTION: The fax/modem must be removed before the system board bracket, or the system board may be damaged.

- **4** Open the system board bracket
- **5** Disconnect the signal and power cables from the hard drive.

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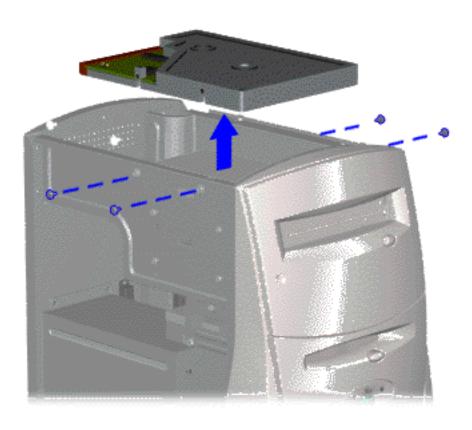
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Mass Storage Devices

5.25" Hard Drive

- **6** Remove the four screws from the sides of the hard drive.
- **7** Lift the hard drive straight out of the chassis.

END OF SEQUENCE

To replace the hard drive, reverse this procedure.

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3.5" Hard drive

5.25" Hard drive

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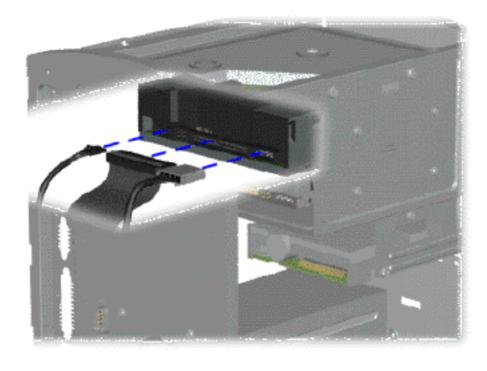
Zip drive

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REMOVAL & REPLACEMENT

Mass Storage Devices

CD or **DVD Drive**



NOTE:

Click <u>here</u> to see how to remove a CD or DVD that has jammed in the drive.

To remove the CD or DVD drive, complete the following *seven* steps:

- **1** Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem



CAUTION: If the fax/modem is not removed before the system board bracket, damage may occur to the system board.

- **4** Open the system board bracket
- **5** Disconnect the signal, power, and audio cables from the CD or DVD drive

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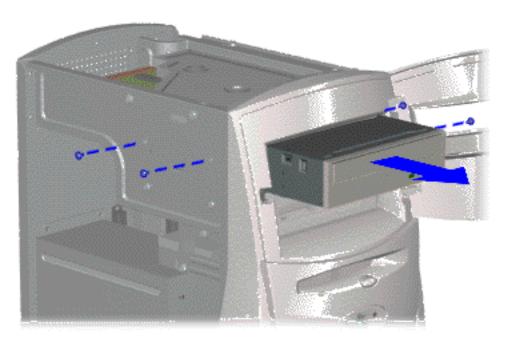
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CD or DVD Drive, continued

- **6** Remove the four screws from the sides of the CD or DVD drive
- **7** Pull the CD or DVD drive straight out of the front of the chassis

END OF SEQUENCE

To replace the CD or DVD drive, reverse this procedure.

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3.5" Hard drive

5.25" Hard drive

CD or DVD drive

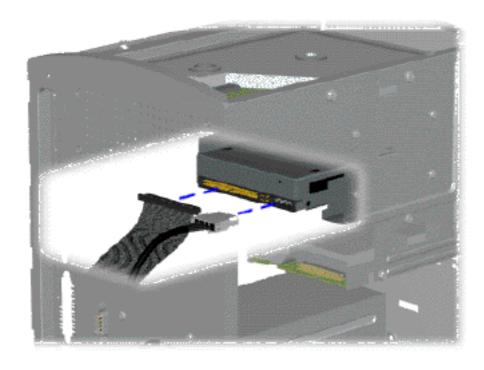
Zip drive

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REMOVAL & REPLACEMENT

Mass Storage Devices

Zip Drive



There are *eight* steps in this sequence.

- **1** Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem



CAUTION: If the fax/modem is not removed before the system board bracket, damage may occur to the system board.

- **4** Open the system board bracket
- **5** Disconnect the signal and power cables from the Zip drive.

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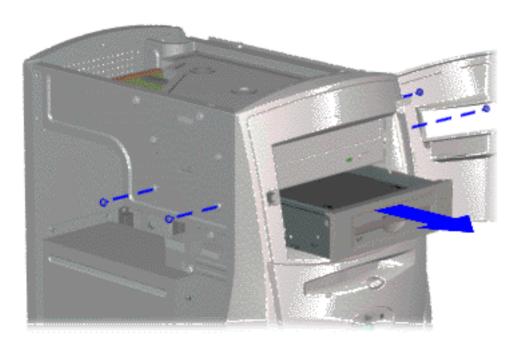
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Zip Drive, continued

- **6** Remove the four screws holding the Zip drive in the chassis
- **7** Slide the Zip drive out the chassis

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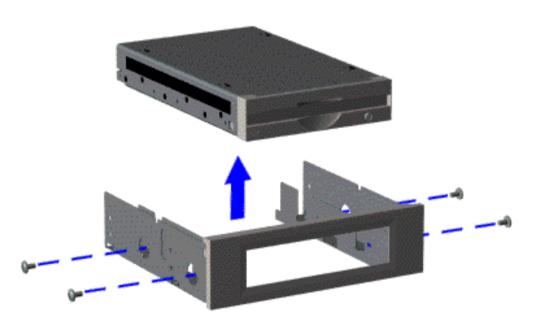
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8 Remove the four screws holding the Zip drive to the bracket

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3.5" Diskette drive

3.5" Hard drive

5.25" Hard drive

CD or DVD drive

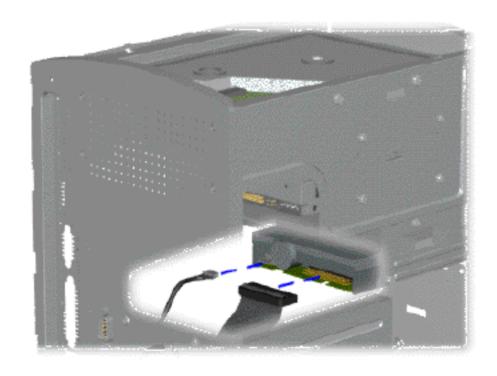
Zip drive

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Mass Storage Devices

Diskette Drive



There are *five* steps in this procedure.

- **1** Perform the preparation procedures.
- **2** Remove the hood.
- **3** Disconnect the signal and power cables from the diskette drive.

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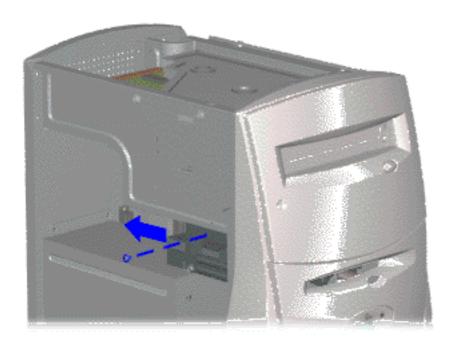
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Diskette Drive and SuperDisk, continued

4 Remove the screw holding the drive bracket to the chassis, then grasp the tab and pull the drive straight back out of the chassis.

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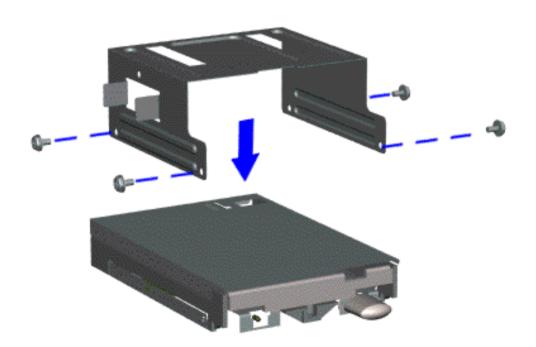
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Diskette Drive and SuperDisk, continued

5 Remove the four screws from the sides of the drive bracket to release the drive from the bracket.

END OF SEQUENCE

To replace the drive, reverse this procedure.

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5.25" Hard drive

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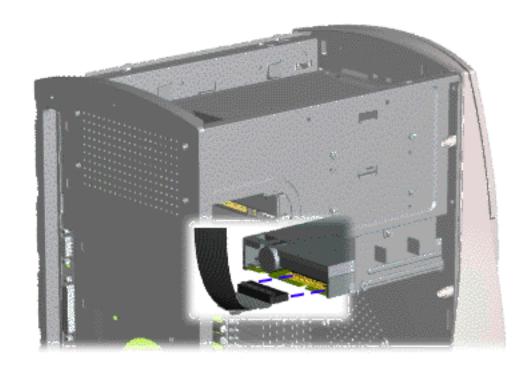
Zip drive

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REMOVAL & REPLACEMENT

Mass Storage Devices

SuperDisk Drive (available on select models only)



There are *five* steps in this procedure.

- Perform the preparation procedures.
- **2** Remove the hood.
- Disconnect the cable from the SuperDisk and CD/DVD drives (drive not shown).

NOTE: Click <u>here</u> to see how to remove a SuperDisk diskette that has jammed in the drive.

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<u>Video</u> <u>memory</u>

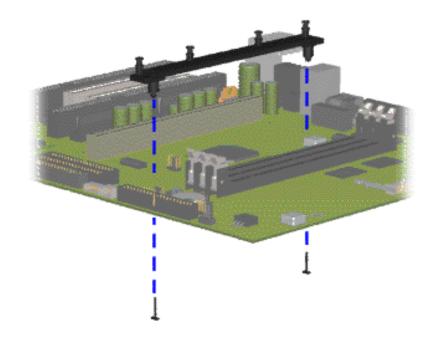
Battery

System board

Heat sink clip

I-O panel

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- 1 Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax-modem
- 4 Remove the system board bracket
- **5** Remove the processor
- **6** Remove the system board and separate it from the bracket
- 7 Locate the two inserts under the system board that secure the heat sink clip and unplug from the system board
- **8** Remove the heat sink clip from the system board

To replace the heat sink clip, reverse this procedure.

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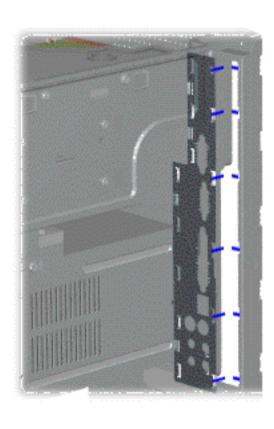
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- 1 Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem
- 4 Remove the system board bracket
- **5** Gently push the I/O panel into the chassis from the rear of the chassis and remove.

Note: Your I/O panel may look slightly different.

To replace the I/O panel, reverse this procedure.

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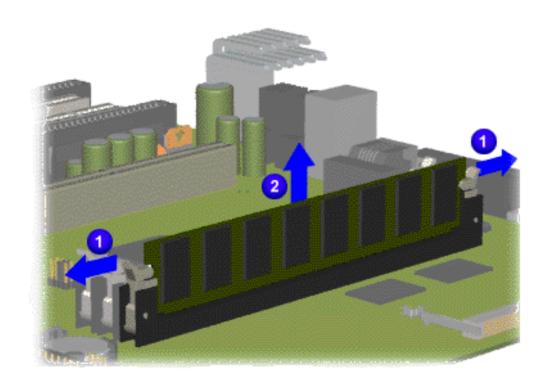
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- 1 <u>Perform preparation</u> procedures
- **2** Remove the hood
- Remove the fax/modem
- 4 Remove the system board bracket
- 5 Release the end latches of the socket 1 and unplug the DIMM from the system board 2

To replace the DIMM, reverse this procedure.

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Video Expansion Module (Not available on 5070, 5184, and 5185 models)

Video memory

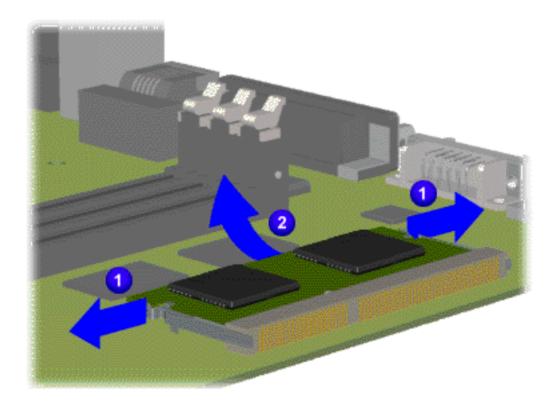
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- **1** Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem
- 4 Remove the system board bracket
- 5 Pull out the tabs on the sides of the socket 1 and unplug the video expansion module from the system board 2

Note: This board is not available on **5070**, **5184**, and **5185** models.

To replace the video expansion module, reverse this procedure.

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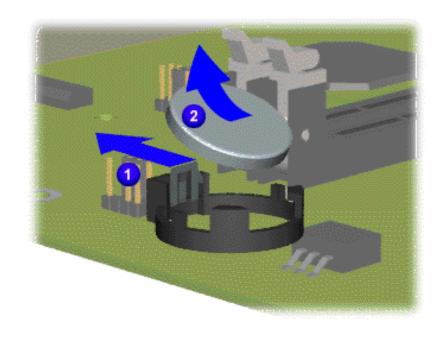
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- **1** Perform preparation procedures.
- **2** Remove the hood.
- **3** Remove the fax/modem.
- **4** Remove the system board bracket .
- **5** Locate the RTC battery.
- 6 Push out the socket levers 1 and slide the RTC battery out of the socket 2.

To replace the RTC battery, reverse this 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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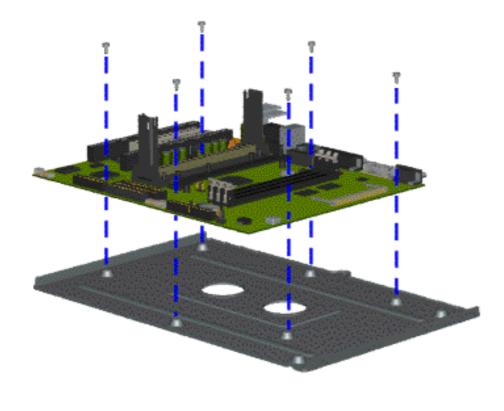
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- 1 Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem
- 4 Remove the system board bracket
- **5** Remove the processor
- **6** Remove the memory module
- 7 Remove the video expansion module
- **8** Remove the six screws from the system board (may differ slightly) and separate it from the bracket

To replace the system board, reverse this procedure.

NOTE:

The system board spare part kit does not include the processor, cache, DIMM, or video expansion module. The components must be transferred from the old system board to the new system board.

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REMOVAL & REPLACEMENT

Memory module System Board Components

Pentium II Processor & Goalposts

Removal & Replacement

<u>Video</u>

memory

System board

Battery

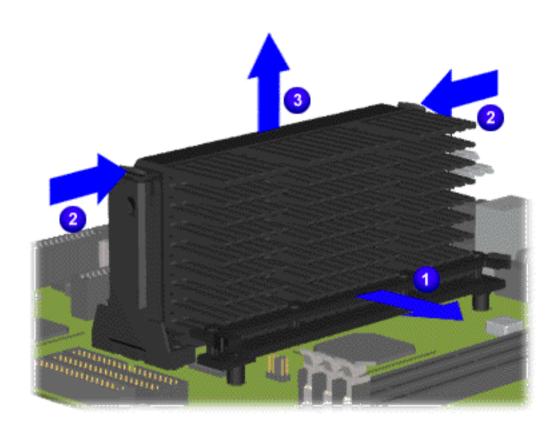
Click the link to see how to remove an AMD K6-2 or Celeron II processor.

This page shows the removal and replacement procedure for a Pentium II processor.

Heat sink clip

I-O panel

System
board
components
index page



- 1 Perform preparation procedures.
- **2** Remove the hood.
- **3** Remove the fax/modem.

Specifications

- **4** Open the system board bracket.
- **5** Locate the Pentium II processor.



The processor may still be very hot if the computer has been running recently.

- **6** If necessary, open the top lever of the heat sink clip to release the heat sink **1**.
- 7 Push in the release tabs on the ends of the processor "goalposts" ².
- 8 Unplug the processor from the system board and slide out of the goalposts 3.

To see how to <u>remove the</u> goalposts, click this link.

If your goalposts are different from those illustrated, you may need to click on this link instead:

Alternative goalposts

To replace the Pentium II processor, reverse the procedure above.

IMPORTANT:

Ensure that the processor is properly aligned in the goalposts before plugging it into the system board.



CAUTION: Before installing a new processor, see Jumper and Switch Information to reset the jumpers for the processor. If the processor is installed with the incorrect jumper settings, the processor and system board may be damaged.

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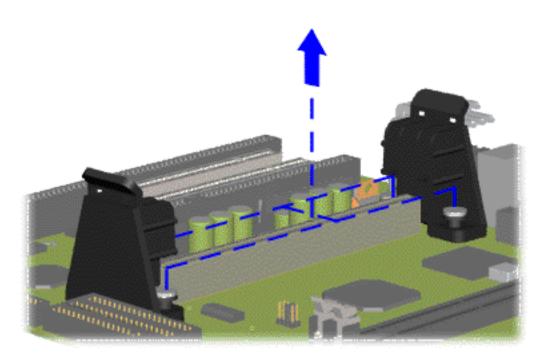
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REMOVAL & REPLACEMENT

System Board Components

Alternative Pentium II Goalposts



To remove the goalposts, remove the pushpins that secure the goalposts to the system board, then pull the goalposts off the system board.

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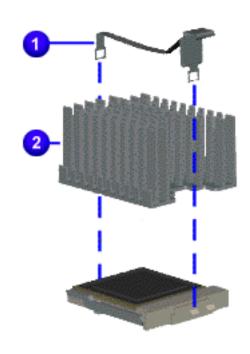
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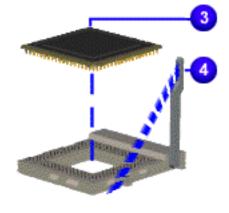
System Board Components

AMD K6-2 Processor

This page shows the removal and replacement procedure for an AMD K6-2 processor.

Click the link to see how to remove a <u>Pentium II</u> or <u>Celeron II</u> processor.





- Perform preparation procedures
- 2 Remove the hood
- **3** Remove the fax/modem
- **4** Open the system board bracket
- **5** Locate the AMD K6-2 processor
- **6** Remove the clip **1** from the heat sink **2**
- 7 Lift up the ZIF socket handle 4 and lift the heat sink 2 and processor 3 out of the socket

To reinstall the AMD K6-2 processor, rub a thermal transfer crayon on the bottom of the heatsink, then reverse the steps above. (The thermal transfer crayon replaces the thermal pad used with earlier K6 processors.)

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Memory module

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Celeron II Processor & Goalposts

Video **memory**

Battery

This page shows the removal and replacement procedure for a Celeron II processor.

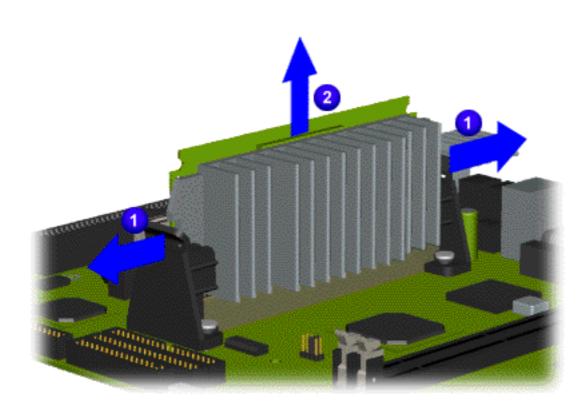
System board

Click the link to see how to remove an AMD K6-2 or Pentium II processor.

Heat sink <u>clip</u>

I-O panel

System board components index page



- **1** Perform preparation procedures
- Remove the hood
- Remove the fax/modem
- **4** Open the system board bracket
- **5** Locate the Celeron processor



CAUTION The processor may still be very hot if the computer has been running recently.

- Open the top lever of the heat sink clip to release the heat sink 1
- **7** Unplug the processor from the system board and slide out from the "goalposts" 2

To see how to <u>remove the</u> goalposts, click this link.

If your goalposts are different from those illustrated, you may need to click on this link instead:

<u>Alternative goalposts</u>

To replace the Celeron II processor, reverse the procedure above.

IMPORTANT:

Ensure that the processor is properly aligned in the goalposts before plugging it into the system board.



CAUTION: Before installing a new processor, see Jumper and Switch <u>Information</u> to reset the jumpers for the processor. If the processor is installed with the incorrect jumper settings, the processor and system board may be damaged.

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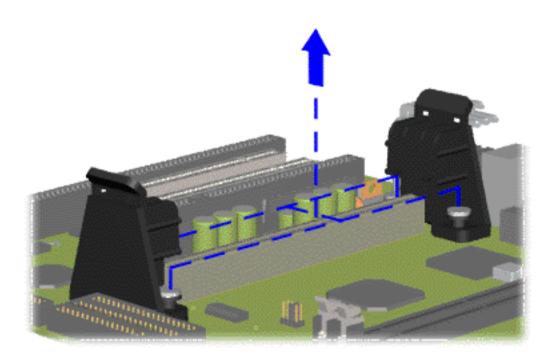
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REMOVAL & REPLACEMENT

System Board Components

Goalposts (Celeron)



To remove the goalposts, remove the pushpins that secure the goalposts to the system board, then pull the goalposts off the system board.

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Fax-modem

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Power supply

Front bezel

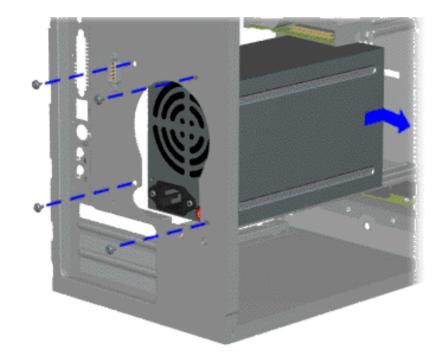
Instant On button board

Creativity Action Center

Fan

REMOVAL & REPLACEMENT

Power Supply



- 1 Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem and any other option cards.
- 4 Remove the system board bracket
- **5** Disconnect the power cables to these mass storage devices:
 - <u>3.5" hard drive</u> or <u>5.25" hard</u> drive
 - CD or DVD drive
 - Zip drive (available on select models)
 - <u>diskette drive</u> or <u>SuperDisk drive</u>
 (available on select models)
- **6** Remove the four screws that secure the power supply to the rear of the chassis
- 7 Slide the power supply back and remove from the chassis.

To replace the power supply, reverse this procedure.

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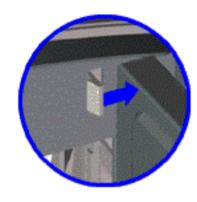
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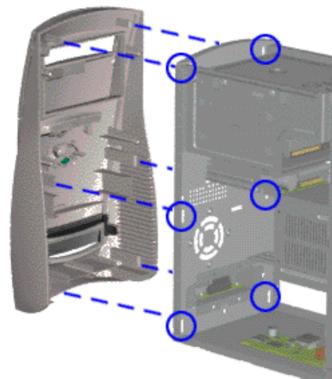
Creativity Action Center

Fan

REMOVAL & REPLACEMENT

Front Bezel





- 1 Perform preparation procedures
- **2** Remove the hood
- 3 Remove the fax/modem and any other option cards.
- 4 Remove the system board bracket
- 5 Release the latches at the bottom, middle, and top of the front bezel, then remove the front bezel from the chassis.

To replace the front bezel, reverse this procedure.

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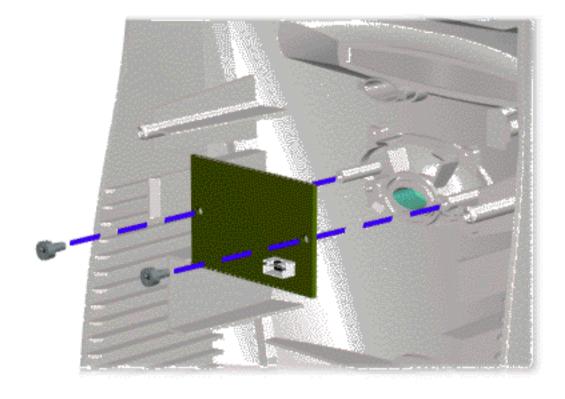
Instant On button board

<u>Creativity</u> Action Center

Fan

REMOVAL & REPLACEMENT

Instant On Button Board



- 1 Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem an any other option cards.
- 4 Remove the system board bracket
- **5** Remove the front bezel
- **6** Remove the two screws from the button assembly and remove the assembly from the rear of front bezel

To replace the button board assembly, reverse this procedure.

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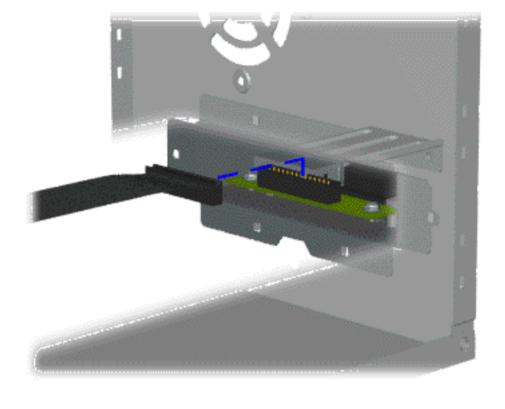
Instant On button board

Creativity Action Center

Fan

REMOVAL & REPLACEMENT

Creativity Action Center - available on select models only



- **1** Perform preparation procedures
- **2** Remove the hood
- **3** Remove the fax/modem and any other option cards.
- 4 Remove the system board bracket
- 5 Remove the front bezel from the chassis
- **6** Disconnect the cable from the creativity action center

NEXT STEP

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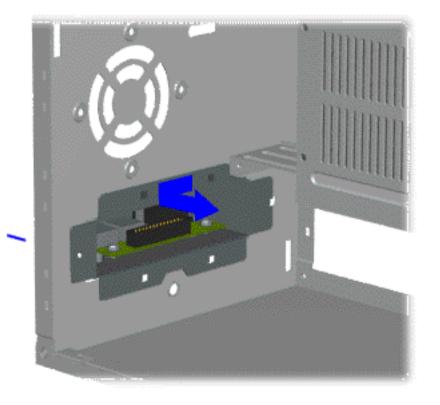
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REMOVAL & REPLACEMENT

Creativity Activity Center, continued



- 7 Remove the screw holding the Creativity Action Center port to the front bezel
- **8** Slide the Creativity Action Center port to one side and pull it out

END OF SEQUENCE

Product Description Troubleshooting Illustrated Parts Catalog MSG index **Home Removal & Replacement Jumper & Switch Information Specifications** REMOVAL & REPLACEMENT DISASSEMBLY **SEQUENCE** Fan - available on select models only Electrostatic discharge **Service** considerations Perform preparation procedures 1 **Preparation** Remove the hood for disassembly Remove the fax/modem and **Serial number** any other option cards. Remove the system board Hood bracket ufan.GIF (42959 bytes) Fax-modem Remove the front bezel from the chassis **System board bracket** Remove four screws from the chassis fan and remove the fan **Serial port** assembly Mass storage devices **System board Power supply Front bezel Instant On button board Creativity Action Center**

Fan

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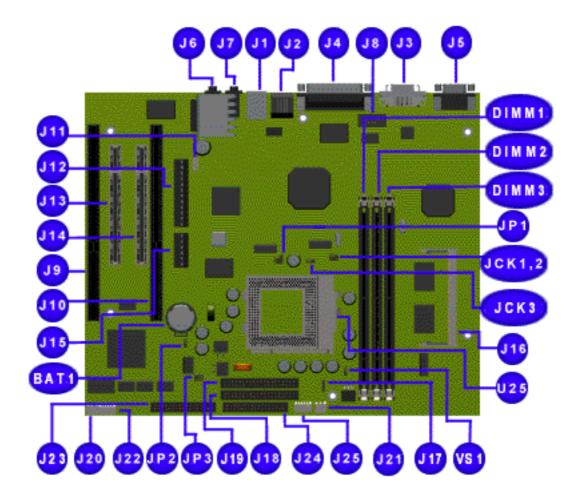
JUMPER & SWITCH INFORMATION

5200 Series System Boards (1st board of 2)

Click the links to see the $\underline{\text{other board}}$ used in the 5200 series or the $\underline{5070}$, $\underline{5184}$, and $\underline{5185}$ series board.

Click on a jumper designator to get its function and a connector description.

Jumper settings for the clock multiplier and bus speed selection.



Connector information		
Function	Description	Reference Designator
Keyboard	Miniature 6-pin	½J1
Mouse	Miniature 6-pin	½J1
Parallel port	DSUB 25-pin	J4
Serial port	DSUB 15-pin	Ј8
Ethernet connector	RJ45	J2
Flat panel monitor connector	20-pin DFPP	Ј3
Video	15-pin VGA	J5
Microphone in	Mini stereo	½J7
Speaker out	Mini stereo	½J6
Line out	Mini stereo	½J7
Line in	Mini stereo	½J6
DIMM sockets	168-pin DIMM	DIMM 1 - 3
SODIMM socket	144-pin SODIMM	J16
Socket 7	321-pin PGA	U25
Socket 7 clock multiplier	6-pin header	JP1
SDRAM clock source	3-pin header	JCK1
CPU bus clock select	3-pin header	JCK2
CPU bus speed select	2-pin header	JCK3
Battery socket	Battery holder	BAT1
Power supply	6- and 12-pin ATPWR headers	J15, J12
PCI slots	32-bit PCI connector	J13, J14
ISA slots	16-bit ISA connector	J9, J10
CD-ROM audio	4-pin header, key 2	J11
IDE drives	40-pin headers, key 20	J18, J19
Diskette drive	34-pin header	J24
Headphone board	5-pin 2mm connector	J22
Internal speakers	2-pin header	J20, J21
Game	DSUB 15-pin	J23
CPU core voltage select	6-pin header	ЈР3
Second fan	4-pin header, key 2	J17
CPU pin U33 voltage select	3-pin header	VS1
CMOS clear	3-pin header	JP2

5-pin header

Button board

J25

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5200 Series System Boards (2nd board of 2)

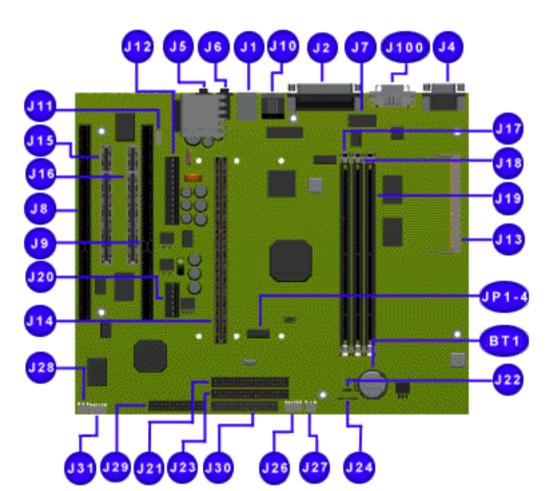
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CD drive

Click the links for the other <u>5200</u> series or <u>5070</u>, <u>5184</u>, and <u>5185</u> boards.

Zip drive

Click on a jumper designator to find the jumper function and connector description.



Two tables are given below: the first is for a 66 MHz bus speed, the other for 100 MHz bus speed.

	Processor frequency required, MHz					
Jumper	200*	233*	266	300	333	
JP1	off	on	off	on	off	
JP2	on	on	off	off	on	
JP3	off	off	on	on	on	
JP4	off	off	off	off	off	

*Not shipped in these configurations

For a 100 MHz bus speed:

	Processor frequency required, MHz					
Jumper	300*	350	400	450	500*	
JP1	off	on	off	on	off	
JP2	on	on	off	off	on	
JP3	off	off	on	on	on	
JP4	off	off	off	off	off	

 $^{{}^*}Not\ shipped\ in\ these\ configurations$

Connector information

Function	Description	Reference Designator
Keyboard	Miniature 6-pin	½ J1
Mouse	Miniature 6-pin	½ J1
Parallel port	DSUB 25-pin	J2
Video	15-pin VGA	J4
Flat panel display	20-pin	J100
Ethernet jack	RJ45	J10
Microphone in	Mini stereo	½ J6
Speaker out	Mini stereo	½ J5
Line in	Mini stereo	½ J6
Line out	Mini stereo	½ J5
DIMM sockets	168-pin DIMM	J17, J18, J19
SODIMM socket	144-pin SODIMM	J13
PCI slots	32-bit PCI connector	J15, J16
ISA slots	16-bit ISA connector	J8, J9
Processor slot	Slot 1 connector	J14
Slot 1 clock multiplier	2-pin header	JP1 JP4
Clear CMOS	3-pin header	J22
Serial port	DB9	J7
GamePort/USB	24-pin 2mm connector	J29
Sleep button & LEDs	5-pin 2mm connector	J26
Battery socket	2-pin socket	BT1
CD-ROM audio	4-pin header, key 2	J11
IDE drives	40-pin headers, key 20	J23 (primary), J21 (secondary)
Diskette drive	34-pin header	J30
Headphone board	5-pin 2mm connector	J31
Internal speakers	2-pin header	J27, J28
Second fan	4-pin header, key 2	J24
+3.3V power	6-pin header	J20
Power supply	12-pin ATPWR header	J12

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5100 and 5200 Series System Boards (1st board of 2) - Jumper Settings

For 5070, 5184, and 5185 jumper settings, click here.

		JP	(CPU	U cloc	k mul	tiplier	•)		
CPU	100 MHz bus	200	250	300	350	400	450	500	550
clock speed	95 MHz bus	190	238	285	333	380	428	475	523
pins 1-	2	on	on	off	off	on	on	off	off
pins 3-	4	off	on	on	off	off	on	on	off
pins 5-	6	off	off	off	off	on	on	on	on

JCK3 (CPU bus speed select)

CPU bus speed (MHz) 100 95 Pins 1-2 off on

^{*} The factory default settings of the following jumpers are marked with an asterisk (*). These settings will not normally need to be adjusted.

JCK1 (SDRAM clock source)								
CMOS state	CPU clock*	AGP clock						
Jumper position	pins 1-2	pins 2-3						
JCK2 (CPU bus clock select)								
CMOS state	66 MHz bus	95 or 100 MHz bus*						
Jumper position	pins 1-2	pins 2-3						
VS1 (CP	VS1 (CPU pin U33 voltage select)							
U33 voltage	3.3 V*	3.45 V						
Jumper position	pins 1-2	pins 2-3						

	JP3	(CPU co	re vo	ltage s	selec	et)		
VCC2H/L# low	2.0	2.1	2.2*	2.3±	2.4	2.5	2.6	2.7
VCC2H/L# high	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5
pins 1-2	off	on	off	on	off	on	off	on
pins 3-4	off	off	on	on	off	off	on	on
pins 5-6	off	off	off	off	on	on	on	on

[±] These settings must be used for the 450MHz K6-2 processor.

Jumper Settings for Models 5070, 5184, and 5185

CPU Processor Speed Multiplier						
Jun	per Pin l	Positions	Multiplier	Notes		
J16	J15	J14				
1-2	1-2	2-3	3x	MII 350		
1-2	1-2	1-2	3.5x	K62-333		
1-2	1-2	1-2	3.5x	K62-350		
2-3	2-3	1-2	4x	K62-380		

CPU Processor Speed Multiplier

Front Side Bus (Both	Jumper Pin Positions Multiplier					
CPU & SDRAM)	J8	J9	J10	J11		
90MHz	2-3	2-3	2-3	2-3		
95MHz	1-2	1-2	2-3	1-2		
$100 \mathrm{MHz}$	2-3	2-3	1-2	1-2		

CPU Core Voltage Selection
JP3 Jumper Pin Positions

Voltage Pin 9-10 Pin 7-8 Pin 5-6 Pin 3-4 Pin 1-2 Pin

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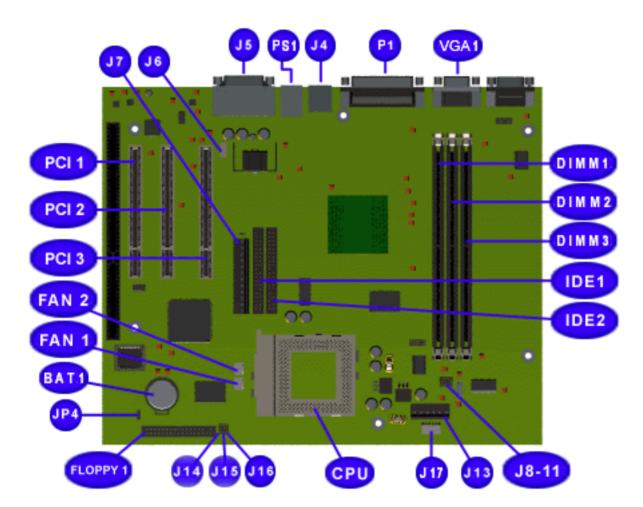
DVD drive
CD drive

C

Zip drive

Click the link to see the <u>5200 Series</u> boards.

Click on a jumper designator to find the jumper function and connector description.



Connector information

Function	Description	Reference Designator
Keyboard	Miniature 6-pin	½ PS1
Mouse	Miniature 6-pin	½ PS1
Parallel port	DSUB 25-pin	P1
Video	15-pin VGA	VGA1
Ethernet jack	RJ45	J4
Microphone in	Mini stereo	½ J5
Speaker out	Mini stereo	½ J5
DIMM sockets	168-pin DIMM	DIMM 1, 2, & 3
PCI slots	32-bit PCI connector	PCI1, PCI2, PCI3
ISA slots	16-bit ISA connector	J8, J9
Processor slot	Slot 1 connector	CPU
Slot 1 clock multiplier	2-pin header	J8-J11
Clear CMOS	3-pin header	JP4
GamePort/USB	24-pin 2mm connector	J5
Sleep button & LEDs	5-pin 2mm connector	J17
Battery socket	2-pin socket	BT1
CD-ROM audio	4-pin header, key 2	Ј6
IDE drives	40-pin headers, key 20	IDE1, IDE2
Floppy drive	34-pin header	J30
CPU core frequency ratio	3-pin header	J14, J15, J16
Second fan	4-pin header, key 2	Fan1, Fan2
+3.3V power	6-pin header	J13
Power supply	12-pin ATPWR header	Ј7

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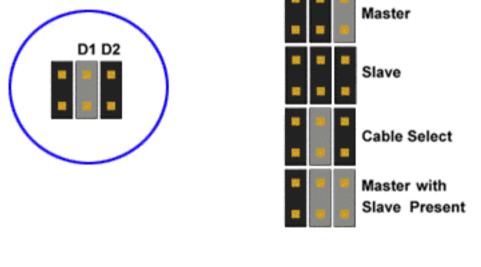
DVD drive

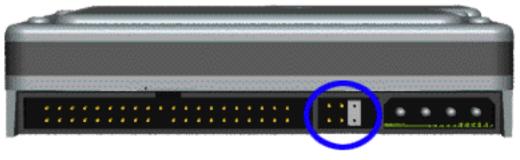
<u>CD drive</u>

Zip drive

Compaq Computer Corporation uses IDE hard disk drives that conform to two different device 0/device 1 implementations. These are Conner mode and ATA-compatible mode. These two modes are incompatible with one another.

Seagate jumper settings are shown below. This link is for Quantum hard drive jumper settings





Seagate IDE Hard Drive Jumper Settings

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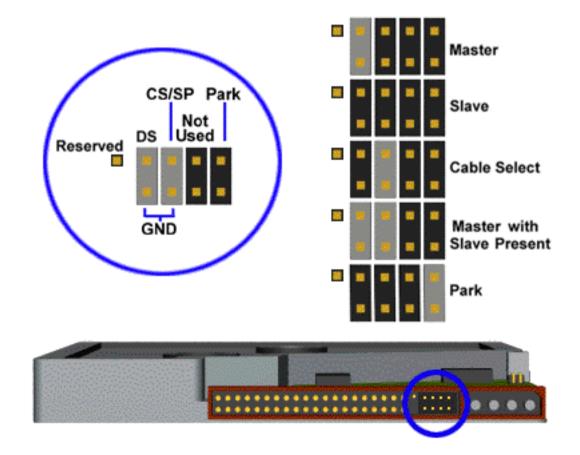
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Quantum IDE Hard Drive Jumper Settings

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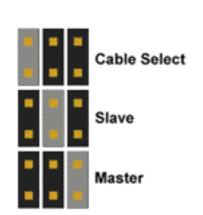
DVD drive

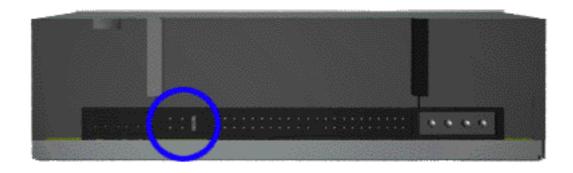
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JUMPER & SWITCH INFORMATION





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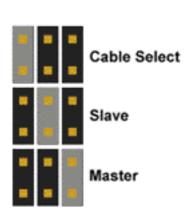
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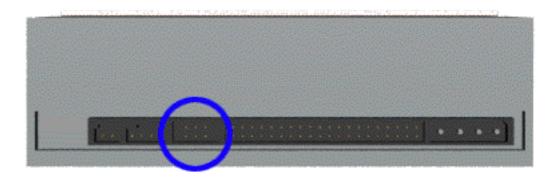
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Hard drives

 $\underline{\textbf{DVD drive}}$

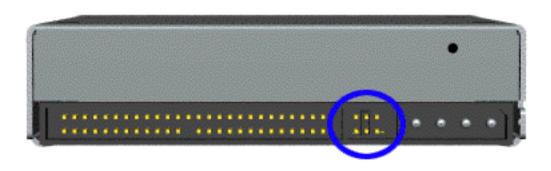
CD drive

Zip drive









MSG index	Product Description	Troubleshooting	Illustrated Parts Catalog
Home	Removal & Replacement	Jumper & Switch Information	Specifications

SPECIFICATIONS - INDEX PAGE

This section provides physical, environmental, and performance specifications for Compaq 5000/5100 and 5200 Series Personal Computers.

CD drive	<u>Mouse</u>
Diskette drive	Power supply
DVD drive	<u>System</u>
Fax-modem	Zip drive
Hard drive	SuperDisk drive

MSG index **Product Description Troubleshooting Illustrated Parts Catalog**

System

drive

SPECIFICATIONS

Removal & Replacement

Power supply

Home

Diskette

CD Drives

SuperDisk <u>drive</u>

Hard drives

Mouse

Fax/modem

Zip drive

Information for the 32x CD drive immediately follows. Click here for 40x CD drive data

2.65 lb

Jumper & Switch Information

1.2 kg

Specifications

32× CD Drive

Dimensions U.S. Metric Width 5.75 in 14.80 cm Height 4.20 cm 1.67 in 8.23 in 20.80 cm

Depth **DVD** drive

Weight **CD** drives

Applicable Disc

CD-ROM Mode 1 and Mode 2 CD-DA Audio

CD-XA Mode 2, Form 1 and 2 Photo CD Single and Multiple Session

Block Size

CD-ROM Mode 1 2048 bytes CD-ROM Mode 2 2340, 2336 bytes CD-DA 2352 bytes CD-XA 2328 bytes 15 mm diameter **Center Hole** 12 cm, 8 cm **Diameter Thickness** 1.2 mm

Laser

Track Pitch

53.5 degrees +/- 1.5 degreesBeam Divergence

1.6 µm

0.14 mW **Output Power**

Type Semiconductor laser GaAIAs

780 nm +/- 25 nm Wave Length

Access Time

Random < 85 ms < 145 ms **Full Stroke**

Audio Output Level

0.8 V (RMS) at 10 kW Line Out Headphone 0.6 V (RMS) at 32 W

Cache Buffer 256 KB

Data Transfer Rate

Mode 2 Mode 1 Sustained 2062 KB/sec (single) 2368 KB/sec 4800 KB/sec (32×) (single) Burst 5512 KB/sec (32×) 16.7 MB/sec 16.7 MB/sec

Interface Cable Length 18 in

(Max)

Startup Time < 7 sec < 4 sec **Stop Time**

40× CD Drive

Dimensions U.S. Metric Width 5.75 in 14.60 cm Height 1.67 in 4.29 cm Depth 8.23 in 20.80 cm

1.98 lb Weight 0.95 kg

Applicable Disc

Mode 1 and Mode 2 CD-ROM CD-DA Audio Mode 2, Form 1 and 2 CD-XA Photo CD Single and Multiple Session

Block Size

CD-ROM Mode 1 2048 bytes 2340, 2336 bytes CD-ROM Mode 2 2352 bytes CD-DA CD-XA 2328 bytes

Center Hole 15 mm diameter **Diameter** 12 cm. 8 cm **Thickness** 1.2 mm **Track Pitch** 1.6 µm

Laser

53.5 degrees + / - 1.5 degreesBeam Divergence **Output Power** 0.14 mW Type Semiconductor laser GaAIAs

Wave Length 780 nm + / - 25 nm

Access Time Random

< 85 ms < 150 ms **Full Stroke**

Audio Output Level

Line Out 0.8 V (RMS) at 47 kW Headphone 0.6 V (RMS) at 32 W

Cache Buffer 128 KB

Data Transfer Rate

6,000 KB/sec (40X) in outer track 2,550 KB/sec in inner track Average 28X for a 60 min disc

Interface Cable Length

Stop Time

(Max) **Startup Time** < 7 sec

18 in

< 4 sec

MSG index	Product Description	Troubleshooting	Illustrated Parts Catalog
<u>Home</u>	Removal & Replacement	Jumper & Switch Information	<u>Specifications</u>
<u>System</u>	SPECIFICATIONS		
Power supply			
Diskette		Mouse	
<u>drive</u>	Dimensions	U. S.	Metric
SuperDisk drive	Height Length	1.22 in 3.94 in	3.1 cm 10 cm
Hard drives	Width	2.21 in	5.6 cm
DVD drive	Weight	2.9 oz	85 g
<u>CD drives</u>	Base Resolution	400 DPI	
Mouse	Tracking Speed (maximum)	10 in/sec	25 cm/sec
Fax/modem	Temperature		
Zip drive	Operating Storage	32° F to 104° F -4° F to 140° F	0° C to 40° C -20° C to 60° C
	Lifetime		
	Mechanical Switch	Exceeds 300 miles Exceeds 1 million operations	Exceeds 483 km Exceeds 1 million operations
	Relative Humidity	10% to 90%, noncondensing	
	ESD	No soft errors through 6 kV; No hard errors through 6 kV; specific performance depends	

MSG index	Product	<u>Description</u>	Troubles	shooting	Illustrated Parts Catalog
<u>Home</u>	Removal &	Replacement	Jumper & Swit	ch Information	Specifications
<u>System</u>	SPECIFIC	CATIONS			
Power supply					
Diskette drive		Fax-	modem		
SuperDisk drive		56-DF	56-DFi	HCF	1.5 Mb MAX Digital G.Lite
Hard drives					(G.922.2) DSL
DVD drive	Maximum	56*	56*	56*	1.5Mbs**
<u>CD drives</u> <u>Mouse</u>	Data Speed (kbps)				
Fax/modem Zip drive	Data	K56Flex, V.34, V.32terbo, V.32bis, V.32, V.22bis, V.22, V.21, Bell 212A, Bell 103	V.32terbo, V.32bis, V.32, V23, V.22bis,	V.90, K56Flex, V.34, V.32terbo, V.32bis, V.32, V.22bis, V.22, V.21, Bell 212A, Bell 103	V.32, V.32bis, V.34, Bell 103, Bell 103J, Bell
	Error Correction	V.42bis,V.42, LAPM, and MNP 2-5	V.42, LAPM, and MNP 2-4	V.42bis, V.42, LAPM, and MNP 2-5	V.42, V.42bis
	Fax	V.17 (14.4 kbps transmission speed) V.29, V.27ter, V.21 Channel 2, Class 1 command set, Group III FAX	V.17 (14.4 kbps transmission speed) V.29, V.27ter, V.21 Channel 2, Group III FAX, Class 1 interface	V.17 (14.4 kbps transmission speed) V.29, V.27ter, V.21 Channel 2, Class 1 command set, Group III FAX	V.17, 14.4 kbps transmission speed) V.17ter, V.21, V.29
	downloads fro Maximum acl	om either K56flex nievable download	signed only to allow or V.90 compliant o transmission rates os, and will vary wit	ligital sources. are currently	

^{**} The G.Lite DSL protocol is designed to allow faster downloads from G.Lite DSL-compliant digital sources. Maximum achievable download transmission rates are currently unknown, may not reach 1.5Mbps, and will vary with line conditions and distance from the telephone company central office..

compaq Tresario 0000, 0100, and 0200 Series compaters			
MSG index Home	Product Description Removal & Replacement J	Troubleshooting Sumper & Switch Information	Illustrated Parts Catalog Specifications
System	SPECIFICATIONS		
Power supply			
<u>Diskette</u> <u>drive</u>	Zip Driv	'e	
	Total formatted capacity (bytes)	100,663,296	
<u>SuperDisk</u>	Sector size (bytes)	512	
<u>drive</u>	Total number of sectors	196,608	
Hard drives	Number of reassignable spare sect	tors 252	
<u>naru urives</u>	Seek times (including settling), ms	S:	
DVD drive	Average	29	
	Track-to-track	5	
<u>CD drives</u>	Maximum	55	
Mouse	Avoraga latanev, ma	10	
Mouse	Average latency, ms		
_ , _	Motor speed, rpm	$2941 \pm 5\%$	

3000

2118

3300

790-1400

12

Fax/modem

Zip drive

Motor start time, ms

Track density, tpi

Track width, µm

Transfer rate, kb/s:

From diskette

Buffer (maximum)

Illustrated Parts Catalog MSG index Product Description Troubleshooting Removal & Replacement Jumper & Switch Information Home **Specifications**

System

SPECIFICATIONS

Power supply

System Specifications

SuperDisk <u>drive</u>

General system specifications

Diskette

<u>drive</u>

Video memory

Hard drives

System interrupts

DVD drive

CD drives

Mouse

System DMA

System memory

Fax/modem

Zip drive

General System Specifications

System I/O (system function - shipping configuration)

General System Specifications			
	U. S.	Outside U. S.	
Dimensions			
Height	15.50 in	39.37 cm	
Depth	12.00 in	30.48 cm	
Width	8.63 in	21.92 cm	
BTUs	<178 BTUs/hour*		
Weight	24.0 lbs.	10.9 kg	
Shipping Weight			
Gross	34.6 lbs	15.72 kg	
Net	24 lbs	10.90 kg	
Input Requirements			
Nominal Line Voltage	100 to 120 VAC	220 to 240 VAC	
Range Line Voltage	90 to 132 VAC	180 to 264 VAC	
Line Frequency	47 to 63 Hz	47 to 63 Hz	
Input Current	5.2 at 90 VAC	3.6 at 180 VAC	
Power (watts)			

Environmental Requirements

110

110

Temperature

Operating	50° to 95° F	10° to 35° C
Shipping	-4° to 140° F	-20° to 60° C

Humidity (noncondensing)

Steady State

Operating	8% to 90%	8% to 90%
Nonoperating	5% to 95%	5% to 95%

Maximum Altitude (unpressurized) 10.000 ft Operating

Operating	10,000 ft	3048 m
Nonoperating	30,000 ft	9144 m
*This number will increase if more bays/slots are occupied.		

ATI 3-D RagePro Video Memory Vertical Refresh (Hz) Colors

Resolution	Colors	Vertical Refresh (Hz)
640 × 480	256	60 and 75
640 × 480	65K (high color)	60 and 75
640 × 480	16M (true color)	60
800 × 600	256	60 and 75
800 × 600	65K (high color, default)	60 and 75
800 × 600	16M (true color)	60 and 75
1024×768	256	60 and 75
1024×768	65K (high color)	60 and 75
1024×768	16M (true color)*	60 and 75
1280×1024	256	60
1280×1024	65K (high color)*	60
1280×1024	16M (true color)*	60
*With 4-MB video m	emory only	

System Interrupts

Hardware IRQ	System Function	
IRQ 0	Refresh Timer	
IRQ 1	Keyboard	
IRQ 2	Interrupt Controller Cascade	
IRQ 3	Controllerless modem (COM 2) shared data/fax	
IRQ 4	Serial Port A (COM 1)	
IRQ 5	Entertainment Audio*^	
IRQ 6	Diskette Drive	
IRQ 7	Parallel Port (LPT 1)*	
IRQ 8	Real-Time Clock	
IRQ 9	Available	
IRQ 10	ISDN Modem if present*	
IRQ 11	PCI Bus shared with Video, USB, DVD	
IRQ 12	Mouse	
IRQ 13	Numeric Coprocessor	
IRQ 14	Disk Drive (Primary IDE)	
IRQ 15	Disk Drive (Secondary IDE)	
^ Audio must use this setting for game compatibility. Used for audio, MPU-401, and volume control.		

Modem - IRQ 4, 10, 11, none Parallel Port - IRQ 3, 4, 5, 9, 10, none System Audio - IRQ 7, 9, 10, none Serial Port - IRQ 3, 5, 7, 9, 10, 12, none

*Default configuration; other configurations are as follows:

Maintenance and Service Guide Compag Presario 5000, 5100, and 5200 Series Computers **MSG index Product Description Troubleshooting Illustrated Parts Catalog Jumper & Switch Information Removal & Replacement** Home **Specifications SPECIFICATIONS System** System Specifications (continued) <u>Power</u> supply **General system specifications Diskette drive** Video memory **Hard drives System interrupts DVD** drive System I-O **CD** drives System memory **Mouse** System DMA Fax/modem Zip drive System I/O **System Function (Shipping Configuration)** I/O Address (Hex)

010 - 01F DMA controller aliases

000 - 00F

021

050-053

053-05F

062 - 063

065 - 06F

070

070

072

073

092

0A1

0B2

0E7 - 0E9

OEC- OEF

OFO - OF1

OEB

OFA

OFC-OFF

103-12F

1F0 - 1F7

202 - 21F

260 - 263

264 - 277

2E8 - 2EF

330 - 331

378 - 37F

38C - 3B3

3B4 - 3B5

3D0 - 3D3

3E8 - 3EF

3F6 - 3F7

4D0

CF9

3BA

3BB

074-07F

090 - 091

093 - 09F

061

020 Interrupt Controller # 1 Control Register

Interrupt Controller #1 Mask Register

Port B: SERR/IOCHK NMI, Speaker, Refresh

RTC/Configuration Memory Index Port (bit 6:0)

Unused (alias of DMA page registers if PIIX4.4C.7=0)

Unused (alias of DMA page registers if PIIX4.4C.7=0)

DMA Controller # 1

022 - 03D Interrupt Controller Aliases

040 - 043 Counter/Timer

044 - 04F Unused

044 - 04F Unused

Unused

Unused

Unused

Unused

060 Keyboard Controller Data Register

Counter/Timer Aliases

064 Keyboard Controller Command/Status Register

071 RTC/Configuration Memory Data Port

RTC Extended Index

RTC Extended Data

NMI mask register (bit 7)

080 - 08F DMA Page Registers

0A0 Interrupt Controller # 2 Control Register

Port 92 (fast reset and A20 gate)

0A2 - 0B1 Unused

Interrupt Controller # 2 Mask Register

0B3 APM Status

0B4-0BF Unused

OCO - ODF DMA Controller # 2

APM Control

0E2 - 0E3 DDC2 Registers

0E4 - 0E5 Master I2C Interface

Unused

0EA Ultra I/O Index Register

Ultra I/O Data Register

Coprocessor Busy Clear/Reset

Primary IDE Controller (Hard Drive)

Reserved - Modem use during POST

Reserved - Serial Port (COM 4)

MPU-401 (Decode in ES 1869)

Video Controller: Monochrome

Video Controller: Monochrome

Reserved: Serial Port (COM 3)

IDE Interface (Hard disk and CD or DVD Drive)

Interrupt Controller 1 Edge/Level Control

Modem Configuration

0F2 - 0F8 Unused

Unused

Unused

100 - 101 Unused102 Video Controller: POS 102 Register

Unused

170 - 177 Secondary IDE Controller (CD Drive)
178 - 1EF Unused

1F8 - 200 Unused
201 Joystick (Decode in ES 1869)

Unused

220 - 22F Entertainment Audio
230 - 25F Unused

278 - 27F Reserved - Parallel Port (LPT 2)
280 - 2E7 Unused

Unused

2F0 - 2F7 Unused

2F8 - 2FF Modem (COM 2)

332 - 36F Unused
370 - 377 Reserved - Diskette Drive Controller 2 (370-371 used for

SIO lock/unlock)

Parallel Port (LPT 1)

380 - 387 Unused
388 - 38B Audio FM Synthesizer - ES 1869

3B6 - 3B9 Unused

Unused

Unused

Unused

3BC -3BF Reserved - Parallel Port

3C0 -3CF Video Controller: VGA Registers

3D4 - 3D5 Video Controller: Color 3D6 - 3D9 Unused

3DA Video Controller: Color
3DB - 3E7 Unused

3F0 - 3F7 Diskette Controller (Primary)

3F8 - 3FF Serial Port (COM 1)

4D1 Interrupt Controller 2 Edge/Level Control
4D2 - 677 Unused

4D2 - 677 Unused
678 - 67A Parallel Port ECP Mode

778 - 77A Parallel Port ECP Mode

CF8 PCI Configuration Index (32 bit I/O only)

Reset Control

CFC - CFF PCI Configuration Data

46E8 Video Controller: Adapter Sleep

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Product Description

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Power supply

System Specifications (continued)

General system specifications

Diskette drive

Hard drives

<u>Video memory</u>

DVD drive

System interrupts

CD drives

<u>Mouse</u>

System I-O

System memory

Fax/modem

System DMA

Zip drive

System Memory

	•	•
Size	Memory Address	System Function
640 K	00000000 - 0009FFFF	Base Memory
128 K	000A0000 - 000BFFFF	Video RAM
32 K	000C0000 - 000C7FFF	Video ROM
32 K	000C8000 - 000CFFFF	Legacy USB Device Header (when legacy support enabled)
64 K	000D000 - 000DFFFF	Unused
48 K	000E0000 - 000EBFFF	Unused (Not available for option cards. May use for UMBs.)
16 K	000EC000 - 000EFFFF	16-bit cacheable, shadowable, read-only memory. Not available for option cards.
64 K	000F0000 - 000FFFFF	System BIOS ROM shadow image
15 M	00100000 - 00FFFFF	Standard Extended Memory
64 M	01000000 - 04FFFFF	Rest of Extended Memory
60 M	05000000 - 07FFFFF	Unused
512 K	08000000 - 0807FFFF	Standard Direct Video Memory
512 K	08080000 - 080FFFFF	Optional Direct Video Memory
1919 M	08100000 - 7FFFFFF	Unused
16 M	80000000 - 80FFFFF	Memory mapped I/O devices
~2000 M	81000000 - FDFDFFFF	Unused/System ROM aliases
128 K	FDFE0000 - FDFFFFFF	System ROM (alias)
$\sim 32 M$	FE000000 - FFFDFFFF	Unused
128 K	FFFE0000 - FFFFFFF	System BIOS ROM

System DMA

Hardware	System Function (Default)	Alternate Mappings
DMA 0	ECP Parallel	1, 2, none
DMA 1	Entertainment Audio	0, 3, none
DMA 2	Diskette Drive	none
DMA 3	Entertainment Audio	0, 1, none
DMA 4	Internally used for cascading	
DMA 5	Available	
DMA 6	Available	
DMA 7	Available	

Troubleshooting

Illustrated Parts Catalog

MSG index

Product Description

Specifications Home Removal & Replacement Jumper & Switch Information SPECIFICATIONS System Power supply **Power Supply Diskette** <u>drive</u> Outside U. S. U.S. **Input Specifications SuperDisk** <u>drive</u> Nominal Line Voltage 100 to 120 VAC 220 to 240 VAC **Hard drives** 180 to 264 VAC Range Input Line 90 to 132 VAC **DVD** drive Frequency Range 47 to 63 Hz 47 to 63 Hz **CD** drives **Power Factor** 0.6 0.6 **Mouse** 280 Watts **Input Power** 280 Watts Fax/modem **Zip drive Input Current** 5.2 at 90 VAC 3.6 at 180 VAC 80 A at 264 VAC **Inrush Current** 80 A at 132 VAC (cold start) (cold start) **Holdup Time** 16 ms from zero crossing at 16 ms from zero crossing 120 VAC at 240 VAC **General Specifications** To 50° C and 1524 m **Full Output Rating** To 122° F and 5,000 ft To 90° F and 10,000 ft To 32° C and 3048 m (derate linearly) (derate linearly) 3.0 A on + 5.0 V output3.0 A on + 5.0 V output;Minimum Load 0.04 A on 12 V output 0.04 A on 12 V output **Ambient Temperature Range** 50° to 122° F 10° to 50° C Operating -40° to 151° F -40° to 66° C Storage **Dielectric Voltage Withstand** Input to Ground 2500 VAC/1 second UL 1950; CSA 22.2 #950 or CSA 22.2 #234; TUV/VDE EN **Safety Standard** 60 950 (VDE0805/11.91); EMKO-TSE (74-SEC) 207/93 **Input Transient Susceptibility** Common and 2500 V, 1 µs, damped sinusoidal **Differential Mode** 600 V, 10 μs pulse (superimposed on AC line) **Differential Mode** 20% step change in AC input voltage

MSG index	Product Description	Troubleshooting	Illustrated Parts Catalog				
<u>Home</u>	Removal & Replacement	Jumper & Switch Information	Specifications				
System	SPECIFICATIONS						
Power supply							
Diskette drive	Diskette I	Drive					
	Diskettes						
Hard drives	Size (in)	3.5 (8.89 cm)					
DVD drive	High Density (MB)	1.44					
<u>CD drives</u>							
<u>Mouse</u>	Low Density (KB)	720					
	Light	Green					
Fax/modem	Height	One-third					
Zip drive		512					
	Bytes per Sector	312					
	Sectors per Track						
	High Density	18					
	Low Density	9					
	Tracks per Side						
	High Density	80					
	Low Density	80					
	Read/Write Heads	2					
	Average Seek Time (ms)						
	Track-to-Track	3					
	Average	94					
	Settling Time	15					
	*	400					

100

Latency Average

Illustrated Parts Catalog

Specifications

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Home	Removal & Replacement	Jumper 8	<u>Illustra</u> <u>S</u>				
C	SPECIFICATIONS						
System		oogata on U	Vostorn Di	icital ham	d drives		
Power supply	Click link for specifications on <u>S</u>	<u>eagate</u> or <u>w</u>	vestern D	<u>ıgıtaı</u> naro	a arives.		
<u>Diskette drive</u>							
<u>SuperDisk</u> <u>drive</u>	Quan	tum Ha	rd Dri	ves			
Hard drives		6.4-GB	8.4- GB	8.4- GB	12.8- GB	19.2- GB	
DVD drive	Compaq Part Number	352743	334180	352744	1 352745	320880	
<u>CD drives</u>	Formatted Capacity Physical (MB)	6418	8455	8455	12838	19259	
<u>Mouse</u>	Logical (MB)	6418	8455	8455	12838	19259	
Fax/modem	Drive Type Transfer Rate	65	65	65	65	65	
Zip drive	Media (Mbits/sec)	168.16	140		168.16	168.16	
	Interface (Mbytes/sec) Typical Seek Time	33.3	33.3	33.3	33.3	33.3	
	(including settling)						
	Single Track (ms) Average (ms)	2.0 10.5	1.7 11.5	2.0 10.5	2.0 10.5	2.0 10.5	
	Full Stroke (ms)	22.0	20.2	22.0	22	22	
	Disk Rotational Speed (RPM)	4000	5400	4000	4000	4000	
	Cylinders						
	Physical Logical	15449 13266	8557 16383	15449 16384	15449 24876	15449 37317	
	Data Heads						
	Physical	2	8	3	4	6	
	Logical	16	16	16	16	16	
	Sectors per Track						
	Physical Logical	289-483 63	306	289- 483	289- 483	289- 483	
	Buffer Size (kB)	128	63 128	63 128	63 128	63 128	
	Seagate		_				
	Sougute	4.0-	8.4-	10.2-	13.5-		
	Compaq Part Number	GB 286118	GB 334180	GB 356039	GB 334807		
	Formatted Capacity						
	Physical (MB) Logical (MB)	4019 4019	8445.0 8445.0	10242 10242	13520.1 8455.2		
	Drive Type	65	65	65	65		
	Transfer Rate	07.0	4.40	4.40	4.40.0		
	Media (Mbits/sec) Interface (Mbytes/sec)	87.8 16.7	140 14.05	148 16.6	148.8 16.7		
	Typical Seek Time (including settling)						
	Single Track (ms)	4.0	1.7	3.0	3.2		
	Average (ms) Full Stroke (ms)	15.0 27.0	11.5 20.2	12.5 21.0	12.5 20.0		
	Disk Rotational Speed	4500	5400	5400	5400		
	(RPM) Cylinders						
	Physical	5690	8557	8557	11530		
	Logical	7787	16383	16383	16383		
	Data Heads	0	0	0	0		
	Physical Logical	8 16	8 16	8 16	8 16		
	Sectors per Track						
	Physical	114-	180-	204-	269-		
	Logical	234 63	306 63	320 63	320 63		
	Buffer Size (kB)	128	128	128	128		
	Western Di			ives			
		4.0-GB	6.0- GB				
	Compaq Part Number	286118	334180)			
	Formatted Capacity Physical (MB)	4019	8445.0				
	Logical (MB)	4019	8445.0				
	Drive Type Transfer Rate	65	65				
	Media (Mbits/sec)	87.8	140				
	Interface (Mbytes/sec) Typical Seek Time	16.7	14.05				
	(including settling)						
	Single Track (ms) Average (ms)	4.0 15.0	1.7 11.5				
	Full Stroke (ms) Disk Rotational Speed	27.0 4500	20.2 5400				
	Disk Rotational Speed (RPM)	1000	J 100				
	Cylinders	F000	0555				
	Physical Logical	5690 7787	8557 16383				

8

16

63

128

114-234

Physical

Sectors per Track

Physical

Logical

Buffer Size (kB)

Logical

Data Heads

8

16

180-

306

128

63

Compaq Presario 5000, 5100, and 5200 Series Computers

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Diskette drive

SuperDisk drive

DVD drive

Hard drives

CD drives

Mouse

Fax/modem

Zip drive

DVD3, 4x, 5x Drive *U. S.*

Specifications

Metric

Width 5.74 in 14.60 cm Height 4.29 cm 1.68 in Depth 8.23 in 20.80 cm

Jumper & Switch Information

1.80 lb 0.9 kgWeight

Applicable Disc Formats

DVD, Single and Double Layer CD-ROM, Mode 1 and Mode 2 CD-DA

CD-XA, Mode 2, Form 1 and 2 Photo CD, Single and Multiple Session

CD-I Ready, and Mode 2, Form 1

and 2 **CD-Bridge** CD-R

Block Size

CD-ROM Mode 0 2352 bytes

CD-ROM Mode 1 2352, 2340,2336, 2048 bytes CD-ROM Mode 2 2352,2340, 2336, 2048 bytes 2048 bytes

DVD

Center Hole 15 mm diameter

12 cm, 8 cm **Disc Diameter**

Thickness 1.2 mm

Track Pitch 1.6 μm (CD-ROM); 0.74 μm (DVD)

Laser

53.5 degrees + / - 1.5 degreesBeam Divergence

Output Power 5 mW

Type Semiconductor laser GaAIAs Wave Length 650 nm + / - 25 nm (DVD)795 nm +/- 25 nm (CD)

Access Time

DVD: CD: Random < 180 ms typical < 120 ms **Full Stroke** < 200 ms < 300 ms

Audio Output Level

Line Out 1.0 V (RMS) at 47 kW 0.7 V (RMS) at 32 W Headphone

Cache Buffer 512 Kb

Sustained Data Transfer Rate 150 KB/sec (1x CD-ROM mode)

1200-3600 KB/sec (24× CAV CD-ROM mode)

2705-5410 KB/sec (4x CAV DVD mode)

Interface Cable Length (Max) 18 in

Typical Startup Time < 10 sec **Typical Stop Time** < 2 sec

Compaq Presario 5000, 5100, and 5200 Series Computers

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<u>System</u>	SPECIFICATION	NS								
Power supply										
Diskette drive	SuperDisk Drive									
SuperDisk drive	Total formatted capacity (bytes)	120MB 125,958,144	1.7MB 1,720,320	1.44MB 1,474,560	1.2MB 1,261,568		720Kb 737,280	640Kb 655,360		
Hard drives	Sector size (bytes) Total number of sectors	512 246,012	512 3360	512 2880	1024 1232			512 1280		
DVD drive	Number of reassignable spare sectors	170	0	0	0	0	0	0		
<u>CD drives</u>	Seek times (including settling), ms:									
Mouse	Average Track-to- track	70 20 120	70 25 170	70 25 170	70 25 170	25	70 25 170	70 25 170		
Fax/modem	Maximum	120	170	170	170	170	170	170		
Zip drive										
	Average latency, ms	41.67	41.67	41.67	41.67		41.67	41.67		
	Motor speed, rpm	$720 \pm 5\%$	$720 \pm 5\%$			$720\pm5\%$				
	Motor start time, ms	800	800	800	800		800	800		
	Track density, tpi	2,490	135	135	135		135	135		
	Track width, µm Transfer rate, kb/s:	8	125	125	125	125	125	125		
	From diskette Buffer (maximum)	375-680	150	150	125	125	75	75		