



Maintenance and Service Guide

Compaq Presario 7400 Series Computers

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See the [Notice](#) for copyright and trademark information, and the [Preface](#) for symbol conventions and [Technician Notes](#).

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PRODUCT DESCRIPTION

Product Description
Models and features
CPU controls and lights
Keyboard
Creativity Action Center
Back components
Power cord requirements

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TROUBLESHOOTING

Troubleshooting
Clearing CMOS
Power-On Self Test (POST)
Configuration
Diagnostics Software
Troubleshooting without diagnostics

This section provides troubleshooting information for Compaq Presario 7400 Series Personal Computers. Power-On Self-Test (POST) messages appear in tables.

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

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

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ILLUSTRATED PARTS

NOTE:

The computer [serial number](#) should be provided to Compaq whenever requesting information or ordering spare parts.

Illustrated Parts
System unit
Mass storage devices
Cables
Standard board
Fax/modem
Keyboards
Monitors
Miscellaneous parts
Return kits
Documentation & software



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REMOVAL & REPLACEMENT PROCEDURES

This section provides general service information for Compaq 7400 Series Personal Computers. Adherence to the procedures and precautions described in this section is essential for safe and proper service.

Removal Sequence
Before you begin
Serial number
Chassis
Power supply
Mass storage devices
Fax-modem
PCI bracket
System board
Instant On button board
Creativity Action Center

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JUMPER & SWITCH INFORMATION - INDEX PAGE

Jumper & Switch Information
System board
Hard drive
CD drive
DVD drive
CD-RW
Zip drive (available on select models)

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SPECIFICATIONS - INDEX PAGE

This section provides physical, environmental, and performance specifications for Compaq 7400 Series Personal Computers.

System
Power supply
Diskette drive
Hard drive
DVD drive
CD drive
Mouse
Fax-modem
Zip drive

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PREFACE

This Maintenance and Service Guide is a troubleshooting guide that can be used for reference when servicing the Compaq Presario 7400 Series Personal Computers.

Compaq Computer Corporation reserves the right to make changes to the Compaq Presario 7400 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 also on the back of the computer above the power supply.

SHOW ME

Locating Additional Information

The following documentation is available to support this product:

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

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Before You Begin

- [Electrostatic discharge](#)
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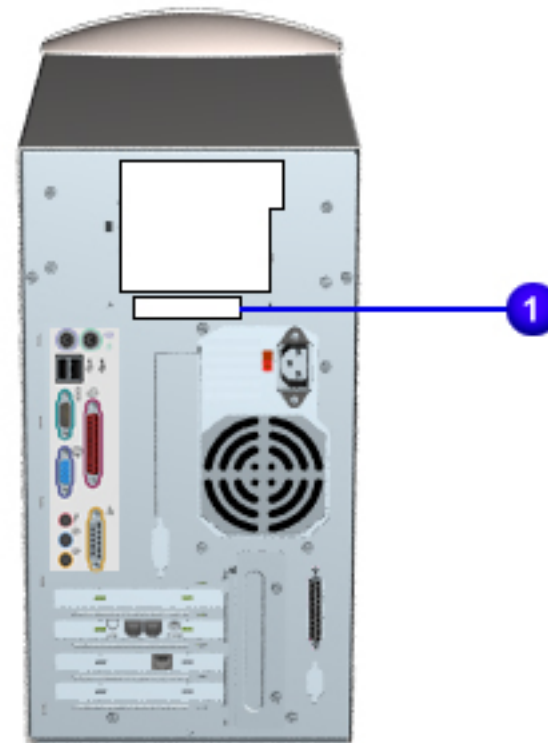
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REMOVAL & REPLACEMENT PROCEDURES

Serial Number

The computer serial number should be provided to Compaq whenever you request information or order spare parts. The serial number **1** is located on the back of the computer above the power supply and also on the cover next to the bezel.



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Chassis

Removal

- 1 Perform the [preparation procedures](#).
- 2 Remove the three screws from the back of the computer.
- 3 Grasp the handle on the back of the computer chassis and pull to separate the chassis from the cover.

- 4 Lift up on the chassis and pull it completely out of the cover.

Replacement

To replace the chassis, reverse this procedure.

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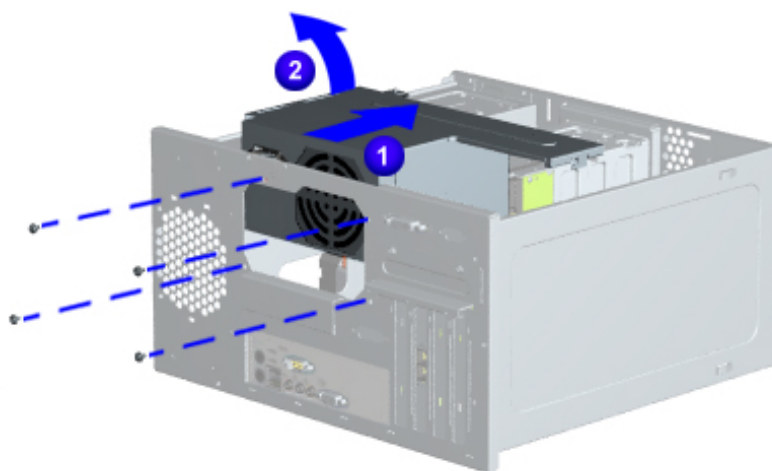
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REMOVAL & REPLACEMENT PROCEDURES



Power Supply

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 Gently lay the computer on its side with back connectors closest to the working surface.
- 4 Remove the four screws that secure the power supply to the back of the chassis as shown.
- 5 Slide the power supply away from the back of the chassis **1**, rotate it up and away **2**, and slide it to the right to remove it from the slots.
- 6 Disconnect the power supply cables from the system board, hard drive, floppy drive, and CD/DVD drive and remove the cables from the chassis.

Replacement

To replace the power supply, reverse this procedure.

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REMOVAL & REPLACEMENT PROCEDURES



Mass Storage Devices

- 1 [CD/DVD/CD-RW drive](#)
- 2 [3.5" Hard drive](#) or [5.25" Hard drive](#)
- 3 [Zip drive](#)
(available on select models)
- 4 [Diskette drive](#)

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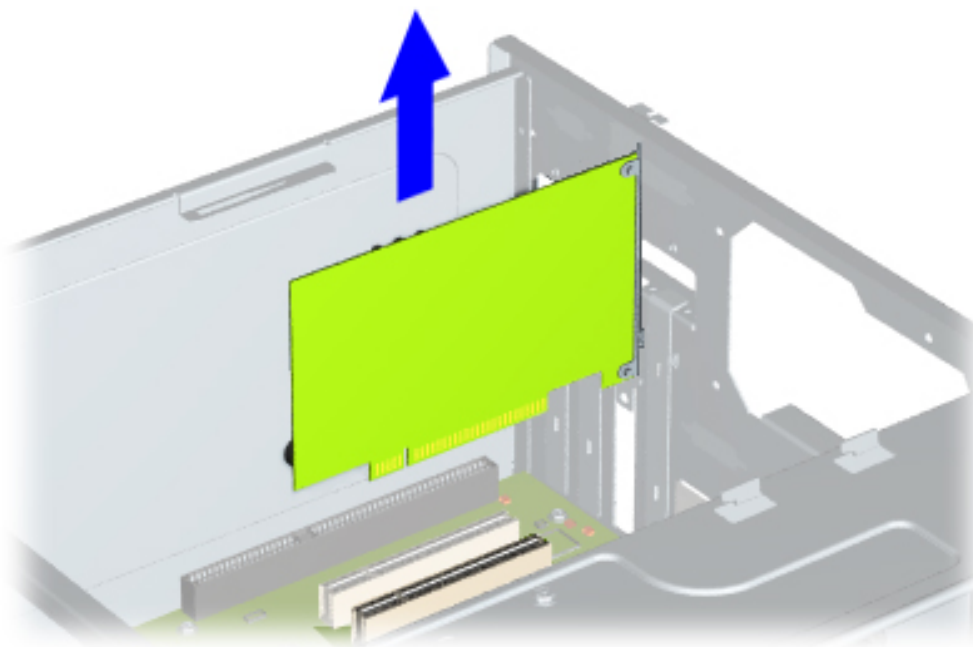
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REMOVAL & REPLACEMENT PROCEDURES



Fax/modem

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 Remove the screws holding the option card bracket to the chassis.

- 5 Remove the bracket and pull the fax/modem out of the slot.

NOTE: Select models may contain an Ethernet network card.

Replacement

To replace the fax/modem, reverse this procedure.

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REMOVAL & REPLACEMENT PROCEDURES



PCI Bracket

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 Gently lay the computer on its side with back connectors closest to the working surface.

4 Remove the two screws that secure the PCI bracket to the back of the chassis.

5 Remove the bracket.

Replacement

To replace the PCI bracket, reverse this procedure.

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- [Fan/Heat sink & processor](#)
- [Memory module](#)
- [RTC battery](#)
- [System board components](#)

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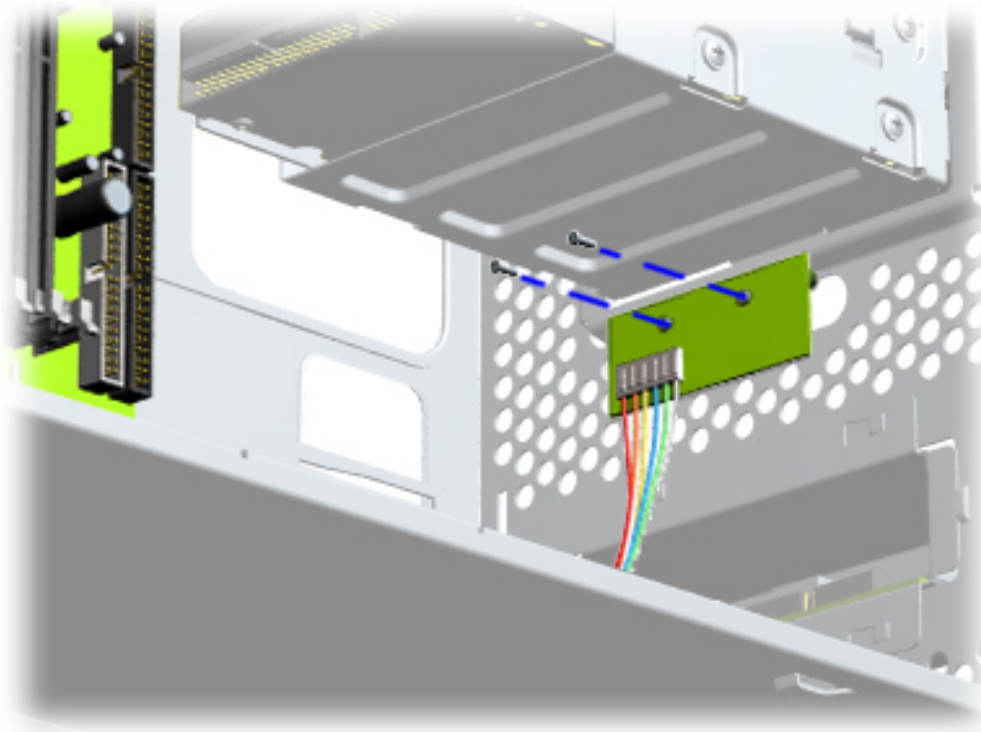
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REMOVAL & REPLACEMENT PROCEDURES



Instant On Button Board

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 Remove the two screws from the button assembly.

[Next Step](#)



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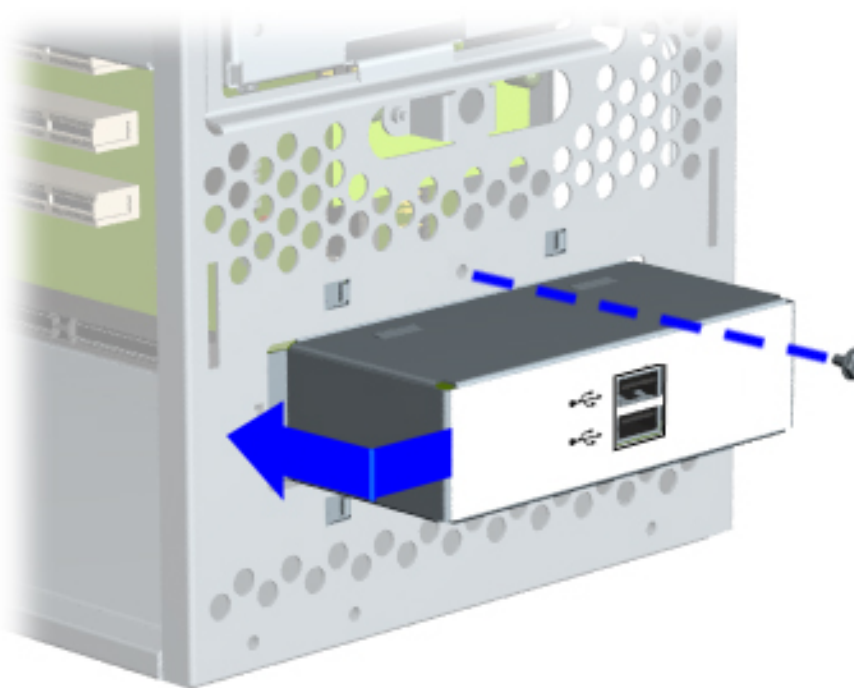
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REMOVAL & REPLACEMENT PROCEDURES



**Creativity
Action
Center -
(available
on select
models
only)**

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the cover.](#)
- 3 Remove the gasket from the Creativity Action Center (not shown).

- 4 Remove the screw holding the Creativity Action Center port to the chassis.
- 5 Release the top clip by sliding the Creativity Action Center port to the left and push it in to remove it.

[Next Step](#)

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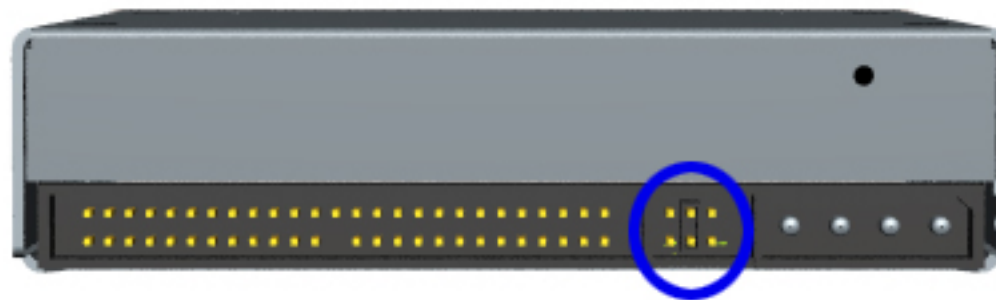
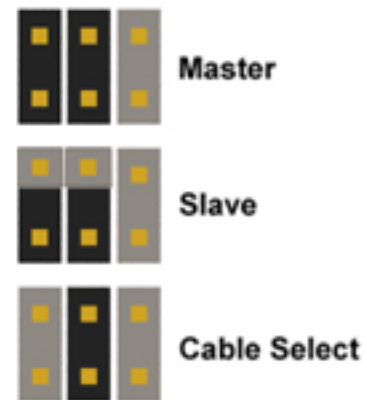
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JUMPER & SWITCH INFORMATION

3.5" Hard Drives

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 5.25" hard drive jumper settings](#)



3.5" Hard Drive Jumper Settings

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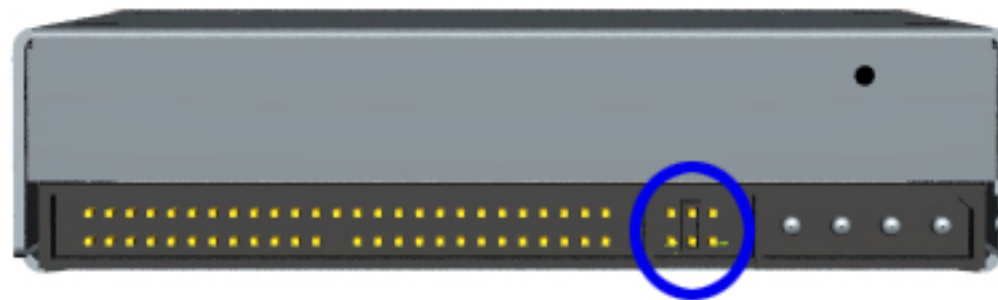
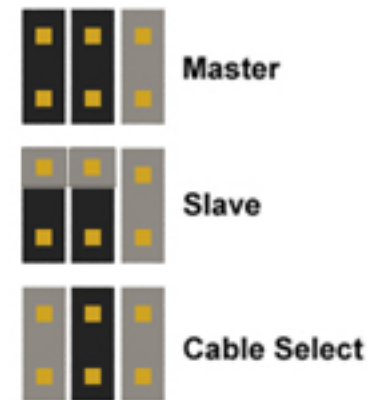
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CD Drive



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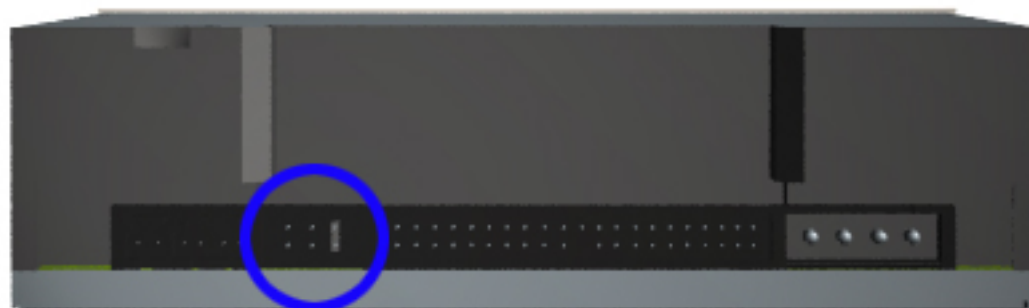
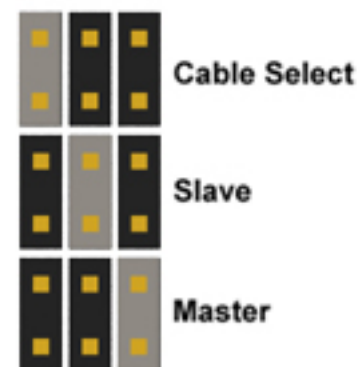
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DVD Drive



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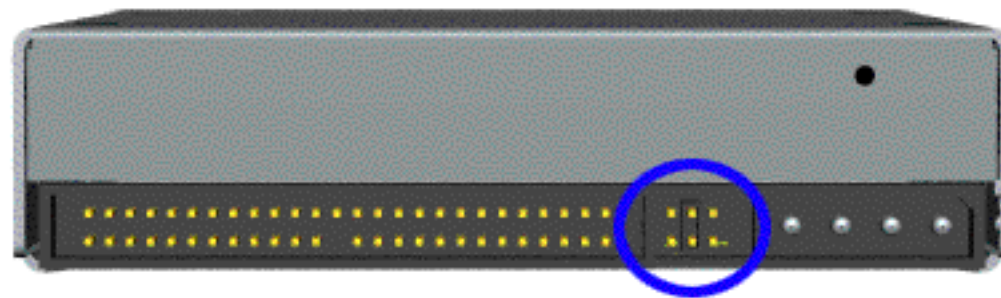
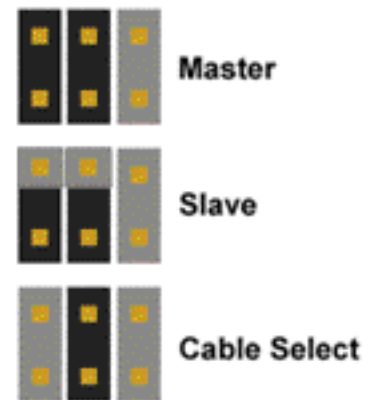
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SPECIFICATIONS

System Specifications

- [General system specifications](#)
- [System interrupts](#)
- [System I/O \(system function - shipping configuration\)](#)
- [System memory](#)
- [System DMA](#)

General System Specifications

	U. S.	Outside U. S.
Dimensions		
Height	16.55 in	420.37 mm
Depth	17.30 in	439.32 mm
Width	8.76 in	222.50 mm
Weight	25.3 lbs.	11.5 kg

Shipping Weight	36.6 lbs	16.4 kg
Input Requirements		
Voltage Range	100 to 120	210 to 240
AC Frequency	50 or 60 Hz	50 or 60 Hz
Fluctuations	5v +/-5%	3.3v +/-3%
Power (watts)		
Steady State	145	145
Sleep Mode	< 30	< 30
Environmental Requirements		
Temperature		
Operating	50° to 95° F	10° to 35° C
Shipping	-22° to 140° F	-30° to 60° C
Humidity (noncondensing)		
Operating	10% to 90%	10% to 90%
Nonoperating	5% to 95%	5% to 95%
Maximum Altitude (unpressurized)		
Operating	10,000 ft	3048 m
Nonoperating	30,000 ft	9144 m

***This number will increase if more bays/slots are occupied.**

System Interrupts

Hardware IRQ	System Function
IRQ 0	System Timer
IRQ 1	Standard 101/102-Key or Microsoft Natural Keyboard
IRQ 2	Programmable interrupt controller

IRQ 3	(free)
IRQ 4	Communications Port (COM1)
IRQ 5	(free)
IRQ 6	Standard Floppy Disk Controller
IRQ 7	ECP Printer Port (LPT1)
IRQ 8	System CMOS/real time clock
IRQ 9	SCI IRQ used by ACPI bus
IRQ 10	(free)
IRQ 11	ACPI IRQ Holder for PCI IRQ Steering
IRQ 11	ACPI IRQ Holder for PCI IRQ Steering
IRQ 11	ACPI IRQ Holder for PCI IRQ Steering
IRQ 11	PCI Multimedia Audio Device
IRQ 11	IRQ Holder for PCI Steering
IRQ 11	Standard PCI Graphics Adapter (VGA)
IRQ 11	VIA tech 3038 PCI to USB Universal Host Controller
IRQ 11	VIA tech 3038 PCI to USB Universal Host Controller
IRQ 12	PS/2 Compatible Mouse Port
IRQ 13	Numeric data processor
IRQ 14	Primary IDE controller (dual fifo)
IRQ 14	VIA Bus Master PCI IDE Controller
IRQ 15	Secondary IDE controller (dual fifo)
IRQ 15	VIA Bus Master PCI IDE Controller

Audio must use this setting for game compatibility. Used for audio, MPU-401, and volume control.

***Default configuration; other configurations are as follows:**

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

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SPECIFICATIONS

Power Supply		
	U. S.	Outside U. S.
Input Specifications		
Nominal Line Voltage	100 to 120 VAC	220 to 240 VAC
Range Input Line	90 to 132 VAC	180 to 264 VAC
Frequency Range	47 to 63 Hz	47 to 63 Hz
Input Power	210 Watts	210 Watts
Input Current	4.5 at 90 VAC	2.2 at 180 VAC
Holdup Time	16 ms from zero crossing at 120 VAC	16 ms from zero crossing at 240 VAC
General Specifications		
Full Output Rating	To 122° F and 5,000 ft To 90° F and 10,000 ft (derate linearly)	To 50° C and 1524 m To 32° C and 3048 m (derate linearly)

Minimum Load	1.0 A on + 5.0 V output 0.2 A on 12 V output	1.0 A on + 5.0 V output; 0.2 A on 12 V output
Ambient Temperature Range		
Operating	50° to 122° F	10° to 50° C
Storage	-40° to 151° F	-40° to 66° C
Dielectric Voltage Withstand		
Input to Ground	1500 VAC/1 second	
Safety Standard	UL 1950; CSA 22.2 #950 or CSA 22.2 #234; TUV/VDE EN 60 950 (VDE0805/11.91); EMKO-TSE (74-SEC) 207/93	
Input Transient Susceptibility		
Common and Differential Mode (superimposed on AC line)	2500 V, 1 μs, damped sinusoidal 600 V, 10 μs pulse	
Differential Mode	20% step change in AC input voltage	

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SPECIFICATIONS

Diskette Drive	
Diskettes	
Size (in)	3.5 (8.89 cm)
High Density (MB)	1.44
Low Density (KB)	720
Light	Green
Height	One-third
Bytes per Sector	512
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
Latency Average	100



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System
Power supply
Diskette drive
Hard drives
DVD drive
CD drives
Mouse
Fax/modem
Zip drive
System

SPECIFICATIONS

Western Digital hard drives

Click link for specifications on [Seagate](#) or [Quantum](#) hard drives.

Western Digital Hard Drives - 3.5"

	8.4-GB	10.0-GB	13.0-GB
Compaq Part Number	148611-001	144364-001	144365-001
Formatted Capacity			
Physical (MB)	8455.2 MB	10005 MB	13520.1 MB
Data Transfer Rate			
Disk to Buffer (Mb/second)	87.9 - 233.57	87.9 - 233.57	87.9 - 233.57
Interface w/o IORDY	12.5	12.5	12.5
Interface w/ IORDY	16.6	16.6	16.6
UDMA	66.6	66.6	66.6
Typical Seek Time (including settling)			

Track to Track (ms)

2.0 - 5.0

2.0 - 5.0

2.0 - 5.0

Average (ms)

9.5 - 15.0

9.5 - 15.0

9.5 - 15.0

Full Stroke (ms)

19 - 23

19 - 23

19 - 23

Disk Rotational Speed (RPM)

5400 +/- 0.5
percent5400 +/- 0.5
percent5400 +/- 0.5
percent

Data Cylinders

Physical

16579

16579

16579

Logical

16383

16383

16383

Data Heads/ Cylinder

Physical

3

3

4

Logical

16

16

16

Sectors per Track

Physical

282 - 504
(20 zones)282 - 504
(20 zones)282 - 504
(20 zones)

Logical

63

63

63

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SPECIFICATIONS

DVD3, 6x/10x Drive		
Dimensions	U. S.	Metric
Width	5.74 in	14.60 cm
Height	1.68 in	4.29 cm
Depth	8.23 in	20.80 cm
Weight	1.80 lb	0.9 kg
Applicable Disc Formats		
DVD-5, DVD-9, DVD-10, DVD-18 CD-ROM CD-DA CD-XA Photo CD CD-I Ready CD-Bridge CD-R	Mode 1 and Mode 2 Audio Mode 2, Form 1 and 2 Single and Multiple Session	
Block Size		

CD-ROM Mode 0 CD-ROM Mode 1 CD-ROM Mode 2 DVD	2352 bytes 2352, 2340, 2336, 2048 bytes 2352, 2340, 2336, 2048 bytes 2048 bytes	
Center Hole	15 mm diameter	
Disc Diameter	12 cm, 8 cm	
Thickness	1.2 mm	
Track Pitch	1.6 μ m (CD-ROM); 0.74 μ m (DVD)	
Access Time		
Random Full Stroke	DVD: < 180 ms typical < 300 ms	CD: < 120 ms < 200 ms
Audio Output Level		
Line Out Headphone	1.0 V (RMS) at 47 kW 0.7 V (RMS) at 32 W	
Cache Buffer	512 Kb	
Sustained Data Transfer Rate	150 KB/sec (1x CD-ROM mode) 1200-3600 KB/sec (32x CAV CD-ROM mode) 2705-8115 KB/sec (6x CAV DVD mode)	
Interface Cable Length (Max)	18 in	
Typical Startup Time	< 10 sec	
Typical Stop Time	< 2 sec	

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SPECIFICATIONS

CD Drives (including **CD-RW**)

32× CD Drive		
Dimensions	U. S.	Metric
Width	5.75 in	150.1 mm (maximum)
Height	1.67 in	42.9 mm (maximum)
Depth	8.23 in	208.0 mm (maximum)
Weight	2.65 lb	1200 grams
Applicable Disc		
CD-ROM CD-DA CD-R/W CD-XA Photo CD	Modes 1 and 2 Audio Mode 2, Form 1 and 2 Single and Multiple Session	
Block Size		
CD-ROM Mode 1 CD-ROM Mode 2 CD-DA CD-XA	2048 bytes 2340, 2336 bytes 2352 bytes 2328 bytes	
Diameter	12 cm, 8 cm (drive must support 8 cm adapters)	
Thickness	1.2 mm	
Track Pitch	1.6 μm	

Laser		
Divergence Angle	53.5 degrees +/- 1.5 degrees	
Output Power	0.14 mW (@ objective lens)	
Type	Semiconductor laser GaAIAs	
Wave Length	780 nm +/- 25 nm	
Access Time		
Random	< 100 ms (typical)	
Full Stroke	< 150 ms (typical)	
Audio Output Level		
Line Out	0.7 V (RMS)	
Cache Buffer	128 KB (minimum)	
Data Transfer Rate		
Sustained	150 kB/s (IX, using audio disc) 2100 to 4800 kB/s (14X to 32X variable, w/650 MB disc)	
Bus Rate		
Burst	4.0 MB/s minimum	
Startup Time (Single)	< 7 sec (typical)	
Startup Time (Multisession)	< 30 sec (typical)	
Stop Time	< 4 sec	
CD-RW		
Dimensions	U. S.	Metric
Width	5.75 in	150.1 mm (maximum)
Height	1.67 in	42.9 mm (maximum)
Depth	8.23 in	208.0 mm (maximum)
Weight	2.65 lb	1200 grams
Applicable Disc		

CD-ROM CD-DA CD-ROM XA Photo CD CD-I CD EXTRA CD-R/W Video CD CD-TEXT	Modes 1 and 2 Audio Mode 2, Form 1 and 2 Single and Multi Session Mode 2, Form 1 and 2
Read Only Block Size	
CD-ROM Mode 1 CD-ROM Mode 2 Form 1 CD-ROM Mode 2 Form 2 CD-DA	2048 and 2352 bytes 2048, 2328, 2336, 2340, and 2352 bytes 2328, 2336, 2340, and 2352 bytes 2352 and 2368 bytes
Writeable Block Size	
CD-ROM Mode 1 CD-ROM Mode 2 Form 1 CD-ROM Mode 2 Form 2 CD-DA	2048 bytes 2048 and 2352 bytes 2352 bytes 2352 and 2368 bytes
Diameter	12 cm, 8 cm (drive must support 8 cm adapters)
Thickness	1.2 mm
Track Pitch	1.6 μ m
Laser	
Divergence Angle Output Power Type Wave Length	53.5 degrees +/- 1.5 degrees 0.14 mW (@ objective lens) Semiconductor laser GaAIAs 780 nm +/- 25 nm
Access Time	
Random Full Stroke	150 ms (typical) 350 ms (typical)
Audio Output Level	
Line Out	0.7 V (RMS)
Cache Buffer	1 Mbyte (minimum)
Data Transfer Rate	
Sustained	150 kB/s (1X, read/write), 300 KB/s (2X, read/write), 600 KB/s (4X, read/write), 1200 KB/s (8X, read), Variable 1500 to 3600 KB/s (10X to 24X, read)

Bus Rate	
Burst	4.0 MB/s minimum
Startup Time (Single)	< 7 sec (typical)
Startup Time (Multisession)	< 30 sec (typical)
Stop Time	< 4 sec

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SPECIFICATIONS

Mouse		
Dimensions	U. S.	Metric
Height	1.22 in	3.1 cm
Length	3.94 in	10 cm
Width	2.21 in	5.6 cm
Weight	2.9 oz	85 g
Base Resolution	400 DPI	
Tracking Speed (maximum)	10 in/sec	25 cm/sec
Temperature		
Operating	32° F to 104° F	0° C to 40° C
Storage	-4° F to 140° F	-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 on host system	

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SPECIFICATIONS

Fax-modem		
	Conexant HCF V.90 56K Data Fax PCI Modem	Supra Express 56i PRO
Maximum Data Speed (kbps)	56*	56*
Data	V.90, K56Flex, V.34, V.32terbo, V.32bis, V.32, V.22bis, V.22, V.21, Bell 212A, Bell 103	V.90, K56Flex, V.34, V.32terbo, V.32bis, V.32, V.23, V.22bis, V.22, V.21, Bell 212A, Bell 103
Error Correction	V.42bis, V.42, LAPM, and MNP 2-5	V.42, LAPM, and MNP 2-4
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

* Both K56flex and V.90 are designed only to allow faster downloads from either K56flex or V.90 compliant digital sources. Maximum achievable download transmission rates are currently unknown, may not reach 56kbps, and will vary with line conditions.

** 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.

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SPECIFICATIONS

Zip Drive	
Total formatted capacity (bytes)	100,663,296
Sector size (bytes)	512
Total number of sectors	196,608
Number of reassignable spare sectors	252
Seek times (including settling), ms:	
Average	29
Track-to-track	5
Maximum	55
Average latency, ms	10
Motor speed, rpm	2941±5%
Motor start time, ms	3000
Track density, tpi	2118
Track width, µm	12
Transfer rate, kb/s:	
From diskette	790-1400 kb/sec
Buffer (maximum)	3.3 MB/sec



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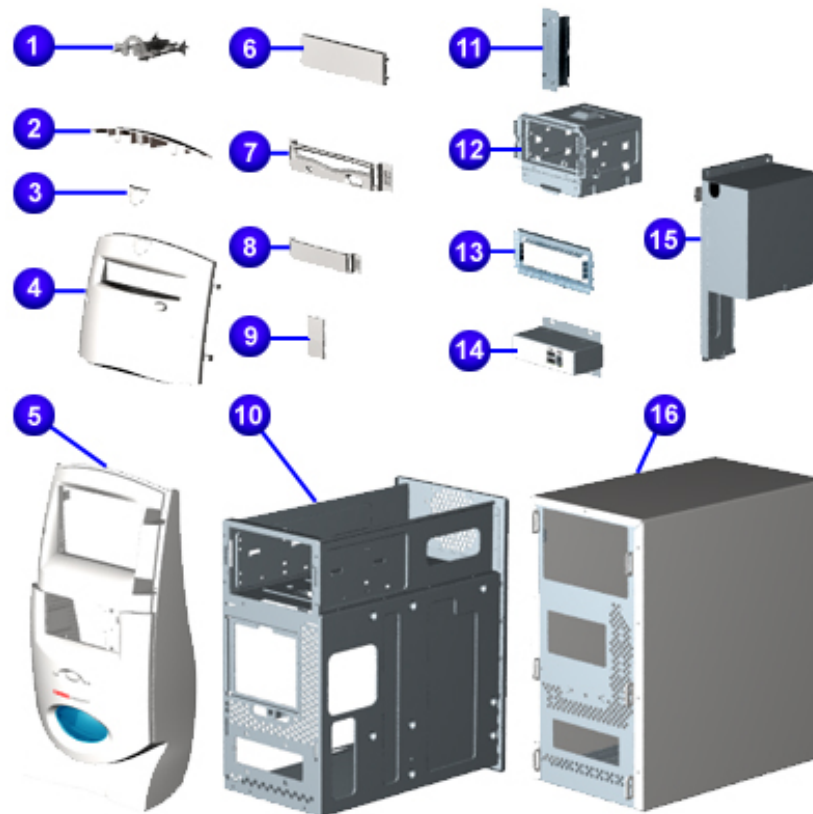
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ILLUSTRATED PARTS



System Unit

Description	Part Number
1 Lightpipe	Spared with bezel
2 Bezel cap	Spared with bezel
3 Logo plate	166183-001
4 Door assembly	Spared with bezel
5 Front bezel	171287-001 155468-021 EMEA
6 Drive bay bezel, blank (5.25" hard drive)	Spared with bezel
7 Floppy bezel	Spared with bezel
8 Drive bay bezel, blank (3.5" hard drive)	Spared with bezel
9 Filler (3.5")	Spared with bezel
10 Chassis assembly	170197-001
11 PCI back bracket	Spared with chassis
12 Drive cage assembly	Spared with chassis
13 I/O front clip	Spared with chassis
14 Front I/O USB	170077-001 155464-001 EMEA
15 Power supply	
• 120W	• 182952-001 (EMEA)
• 145W	• 127999-001
• 200W	• 128017-001
16 Hood assembly	128388-001 155466-021 EMEA

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Mass Storage Devices

1. 100 MB Zip drive (select models) - not spared

2.

3.

4.

5.



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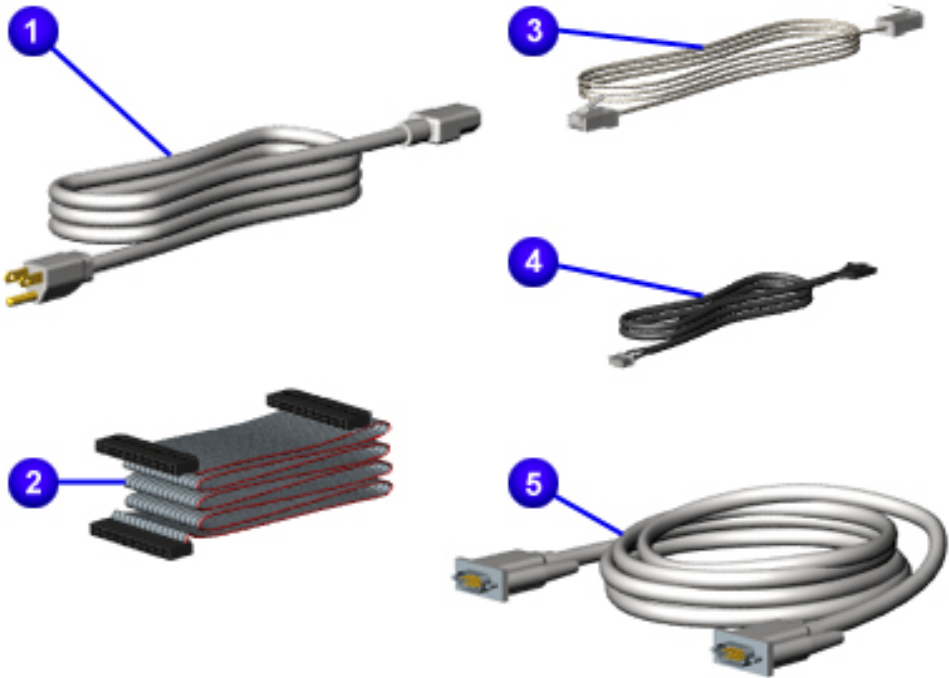
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Miscellaneous Cable Kit
- 128385-001

- 1 Power cable - click for country-specific part number
- 2 CD/DVD drive cable in cable kit 128385-001
- 3 Fax/Modem cable in cable kit 128385-001
- 4 CD Audio in cable kit 128385-001
- 5 Serial cable in cable kit 128385-001

Cables	
Cables (not shown)	Spare Part Number
Modem Adapter Cable	304398-xxx. Click on the box to find the dash number for the modem adapter cable for a specific location. Italy 316904-061
Diskette Data Cable	
Hard Drive Dual Data Cable	
CD/DVD Dual Connector Cable	171290-001
Misc. Cable	171291-001
Tie Wrap	190086-001
CD Audio Cable (18-in)	174773-001
USB Data Cable	202405-001

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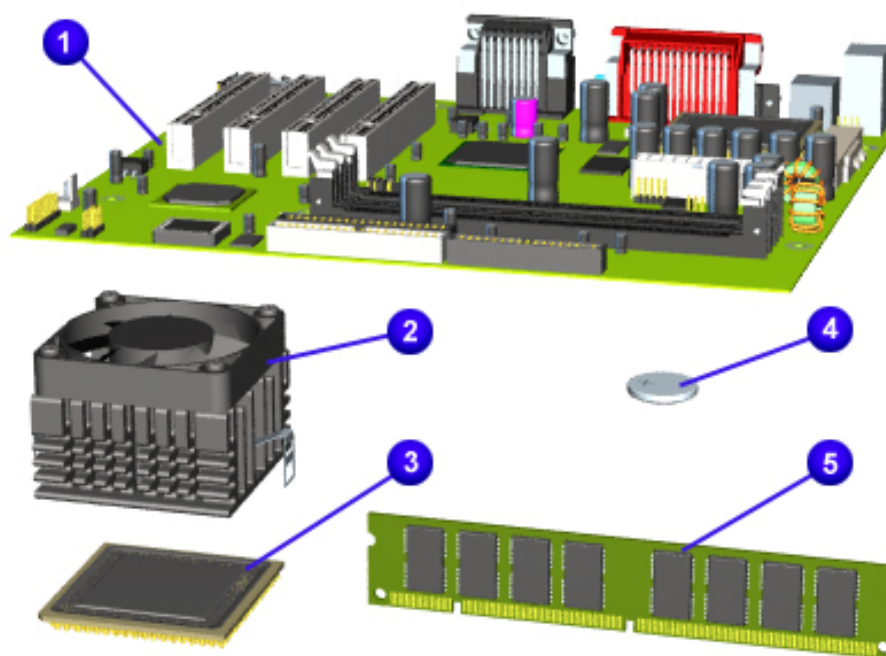
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Standard Board

Description	Spare Part Number
1 System Board	166050-101
-- w/o PROC, no dis	157070-001
-- w/o PROC, no dis BRZ	161258-202
K6-2 System Board	201671-001
K6-2 System Board	202400-001 (EMEA)
2 Heat sink (Active) with fan	Spared with processor
3 Pentium Celeron Processor w/Heat sink	
-- 550 MHz	170072-001
-- 533 MHz	170071-001
-- 500 MHz	170070-001
-- 475 MHz	170069-001
--533/100 MHz	202964-001
--550/100 MHz	202965-001
4 RTC Battery	
5 100-MHz SDRAM DIMM Memory Module	

32 MB	337372-001
64 MB	179190-001
128 MB	387073-001

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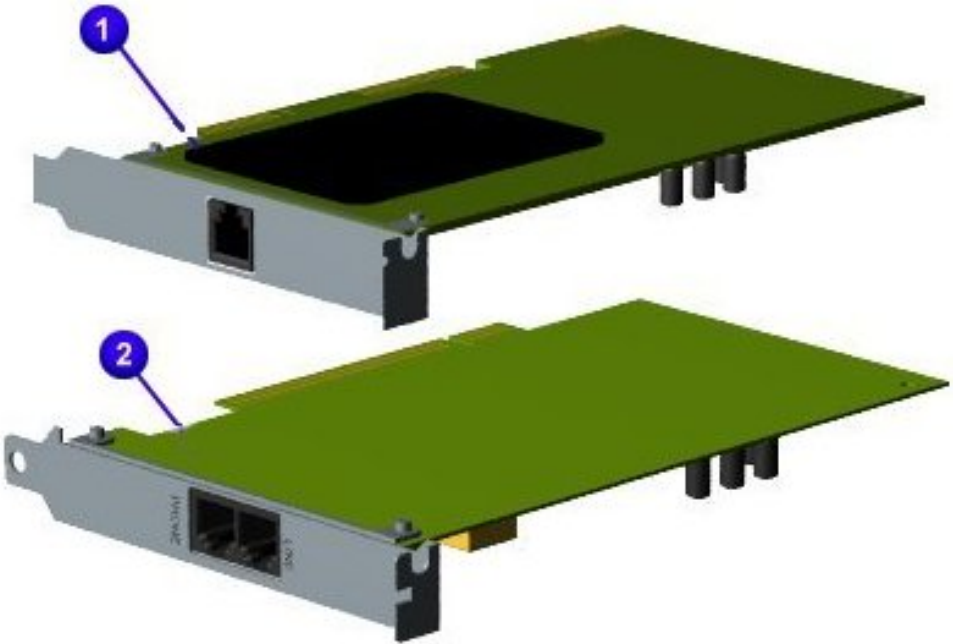
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ILLUSTRATED PARTS

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



Fax-modem

Description		Spare Part Number
1	International 56k Modem (S)	166358-002
2	PCI ITU V.90 56K Modem (E)	166386-001 166386-002 (LA-excluded)

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ILLUSTRATED PARTS

Easy Access Internet keyboard Part Number 387084-xxx or 198664-xxx. Click on the drop-down box to find xxx for a particular region or country.

Your keyboard may differ slightly from the one illustrated.



Keyboard

For models 7476, 7477,
and 7480

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Monitors



Compaq MV 520, 15" (speakers 341265-001 not shown)



Compaq MV 720, 17" (speakers 341267-001 not shown)



Compaq MV920, 19" (speakers 341269-001 not shown)

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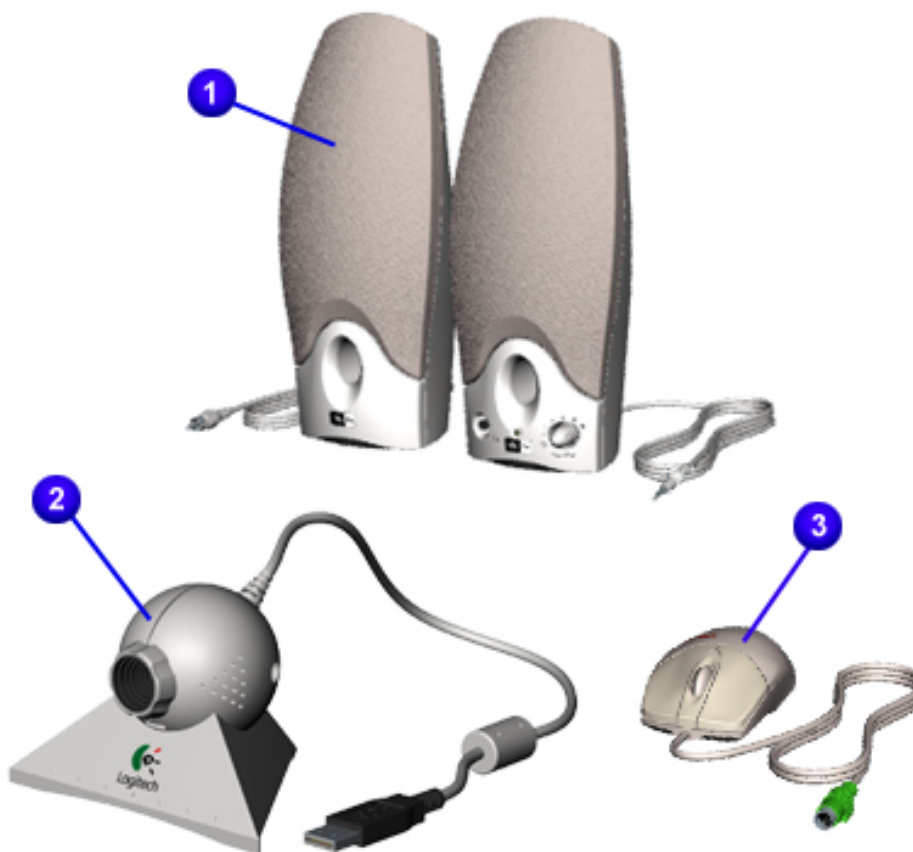
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Miscellaneous Parts

Description	Spare Part Number
1 JBL Pro Speakers	387766-001
2 Logitech QuickCam digital camera	Not spared
3 Scroll Mouse	334689-002



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Return Kits

Description	Spare Part Number
Return kit	128389-001

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Documentation & Software for 7400 models

Description	Spare Part Number
Product Brick	
<ul style="list-style-type: none">User's GuideCompaq Warranty	
QuickRestore CD, 7400 Series (Windows 98)	
QuickRestore CD #2, 7400 Series (Windows 98)	

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

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REMOVAL SEQUENCE
Electrostatic discharge
Service considerations
Preparation for disassembly
Serial number
Chassis
Power supply
Mass storage devices
Fax-modem
Parallel port assembly
PCI bracket
System board
Instant On button board

REMOVAL & REPLACEMENT - BEFORE YOU BEGIN

Electrostatic Discharge

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

Event	Relative Humidity		
	10%	40%	55%
Walking across carpet	35,000 V	15,000 V	7,500 V
Walking across vinyl floor	12,000 V	5,000 V	3,000 V
Motions of bench worker	6,000 V	800 V	400 V
Removing DIPS from plastic tubes	2,000 V	700 V	400 V

Creativity Action Center

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 stations.
- Place items on a grounded surface before removing them from their container.
- Always be properly grounded when touching a sensitive component or assembly.
- Place reusable electrostatic-sensitive parts from assemblies into 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 grounded and constructed of 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.
- Handle drives on surfaces that have at least one inch of shock-proof foam.
- Always place drives PCB assembly side down on the foam.

Grounding Methods

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

and a grounded floor mat.

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

Grounding Workstations

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

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

Grounding Equipment

Use the following equipment to prevent static electricity damage to the 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 banana-plug connectors, connect a wrist strap with alligator clips.

Heelstraps/ToStraps/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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[Parallel port
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REMOVAL & REPLACEMENT PROCEDURES - BEFORE YOU BEGIN

Service Considerations

Tool Requirements

- Phillips screwdriver
- Needle-nose pliers
- Flathead screwdriver
- Compaq Utilities software

Screws

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

IMPORTANT:

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

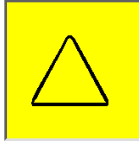
Cables and Connectors

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

[Instant On
button board](#)

[Creativity
Action Center](#)

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/DVD](#) (Primary optical storage)

[Creativity Action Center](#)

[CD-RW drive](#) (Secondary optical storage)

[Hard drive](#)

[Diskette drive](#)

[Zip drive](#)

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[Front bezel](#)

REMOVAL & REPLACEMENT PROCEDURES - BEFORE YOU BEGIN

Preparation for Disassembly

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

- 1 Remove any diskettes, compact discs, or Zip disks 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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board](#)

[Creativity Action
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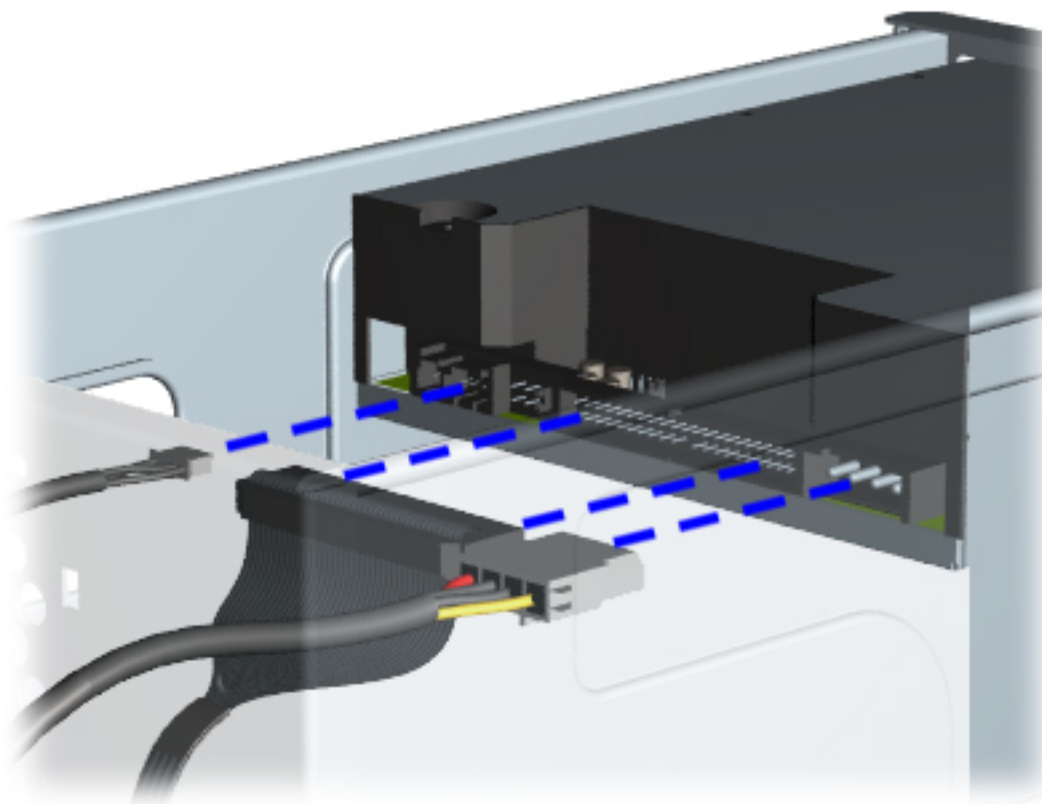


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REMOVAL & REPLACEMENT PROCEDURES



Mass Storage Devices

CD/DVD/CD-RW Drive

NOTE:

To **remove** a CD, DVD, or CD-RW that has jammed in the drive, manually eject the disc.

To remove the CD, DVD, or CD-RW drive, complete the following steps:

Removal

- 1 [Perform preparation procedures.](#)

- 2 [Remove the cover.](#)
- 3 Disconnect the signal, power, and audio cables from the CD, DVD, or CD-RW drive.

[NEXT STEP](#)

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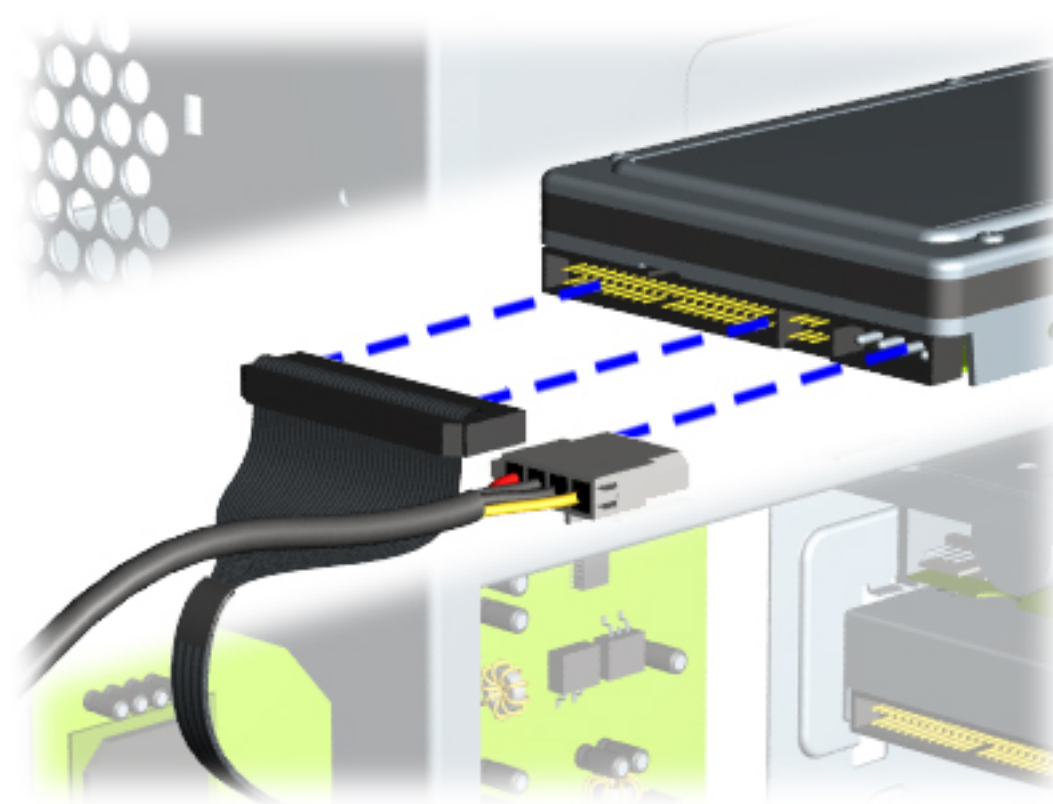


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REMOVAL & REPLACEMENT PROCEDURES



Mass Storage Devices

3.5" Hard Drive

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 Disconnect the signal and power cables from the hard drive.

[NEXT STEP](#)

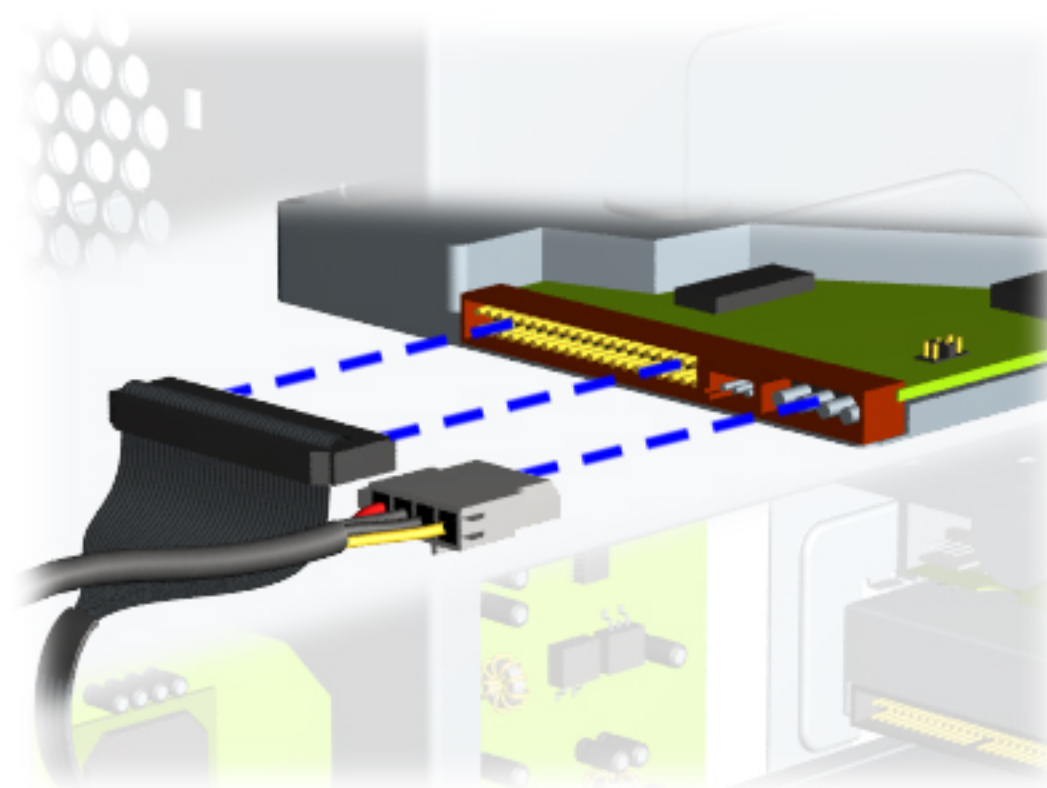


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REMOVAL & REPLACEMENT PROCEDURES



Mass Storage Devices

5.25" Hard Drive

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 Disconnect the signal and power cables from the hard drive.

[NEXT STEP](#)

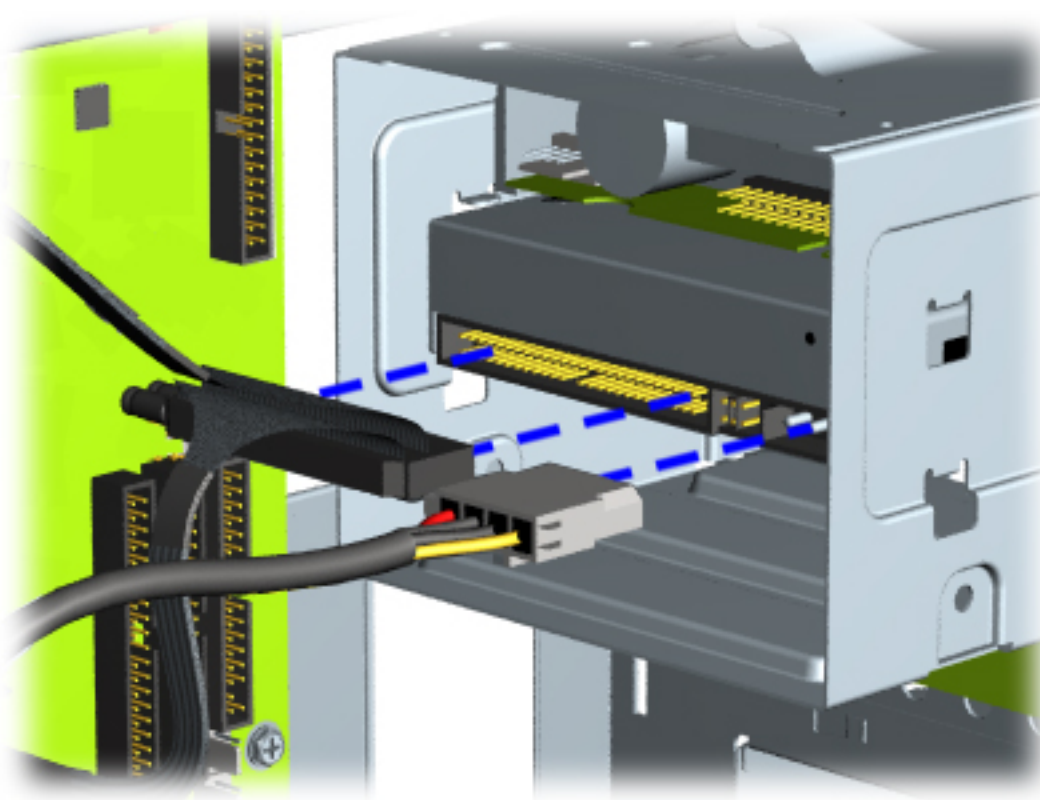


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REMOVAL & REPLACEMENT PROCEDURES



Mass Storage Devices

Zip Drive

- 1 [Perform preparation procedures.](#)
- 2 [Remove the cover.](#)
- 3 [Remove the power supply](#)
- 4 Disconnect the signal and power cables from the Zip drive.

[NEXT STEP](#)

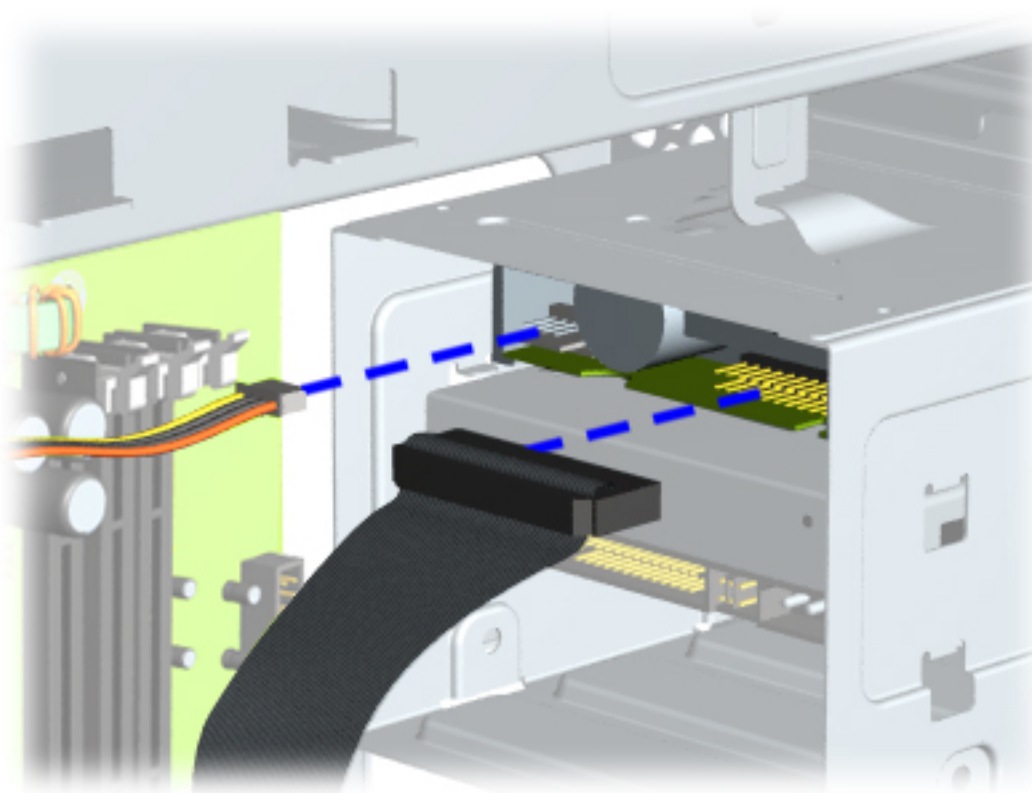


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REMOVAL & REPLACEMENT PROCEDURES



Mass Storage Devices

Diskette Drive

- 1 [Perform the preparation procedures.](#)
- 2 [Remove the cover.](#)
- 3 [Remove the power supply.](#)
- 4 Disconnect the signal and power cables from the diskette drive.

[NEXT STEP](#)

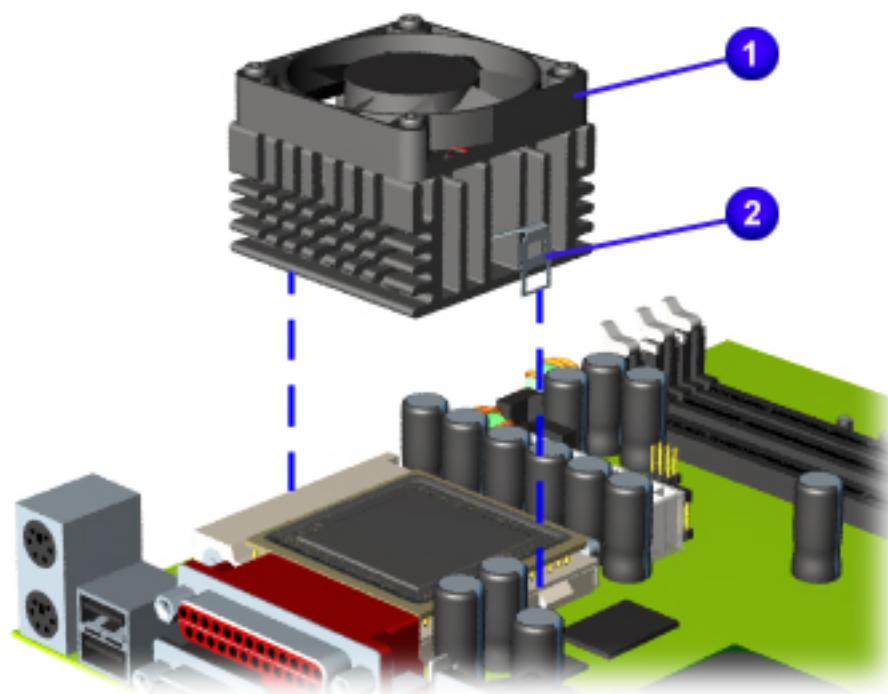


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REMOVAL & REPLACEMENT PROCEDURES



System Board Components

Fan/Heat Sink and processor

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 Locate the heat sink clip **2** and release the clip from the heat sink **1**.
- 5 Lift the heat sink clip and remove the heat sink from the system board.

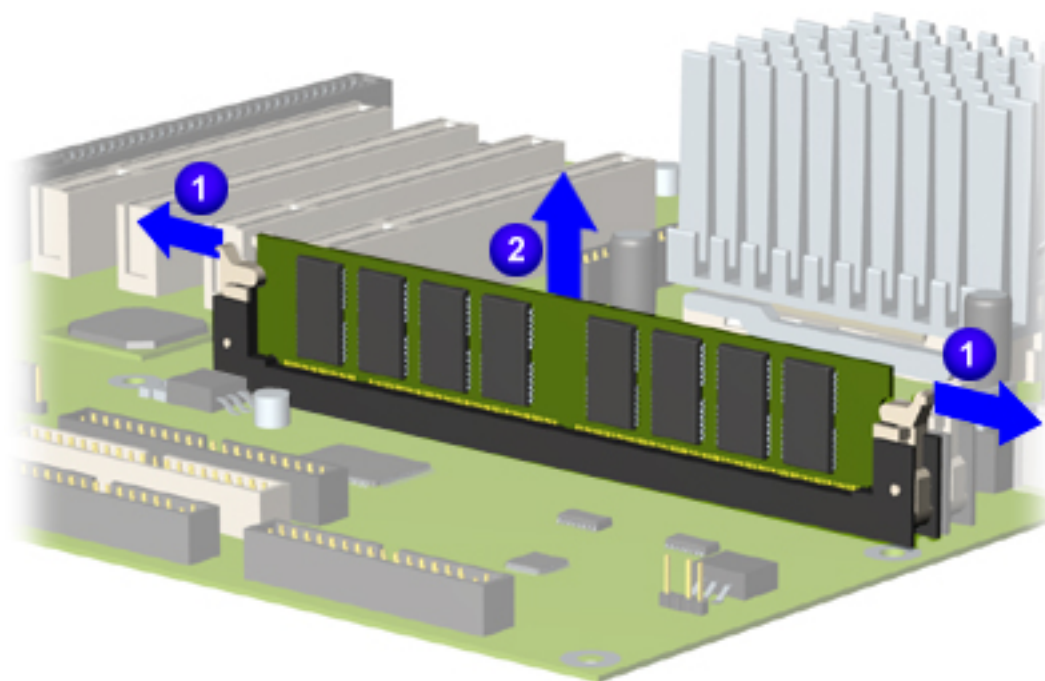


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REMOVAL & REPLACEMENT PROCEDURES



System Board Components

Memory Module (DIMM)

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 [Remove mass storage devices.](#)

- 5 Release the retention clips of the socket ❶ and unplug the DIMM from the system board ❷ .

Replacement

To replace the DIMM, reverse this procedure.

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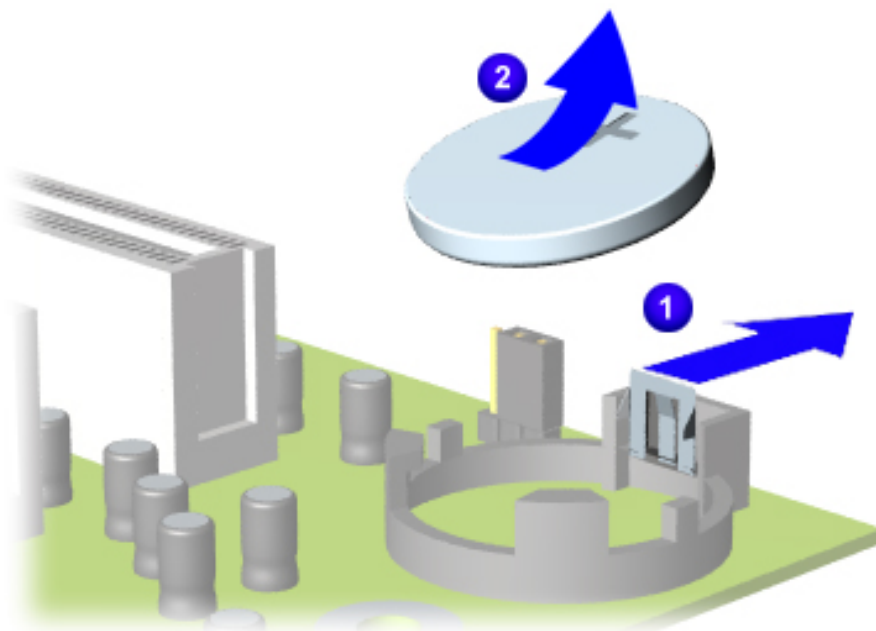


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REMOVAL & REPLACEMENT PROCEDURES



System Board Components

RTC Battery

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 Locate the RTC battery.
- 5 Push out the socket lever ① and slide the RTC battery ② out of the socket.

Replacement

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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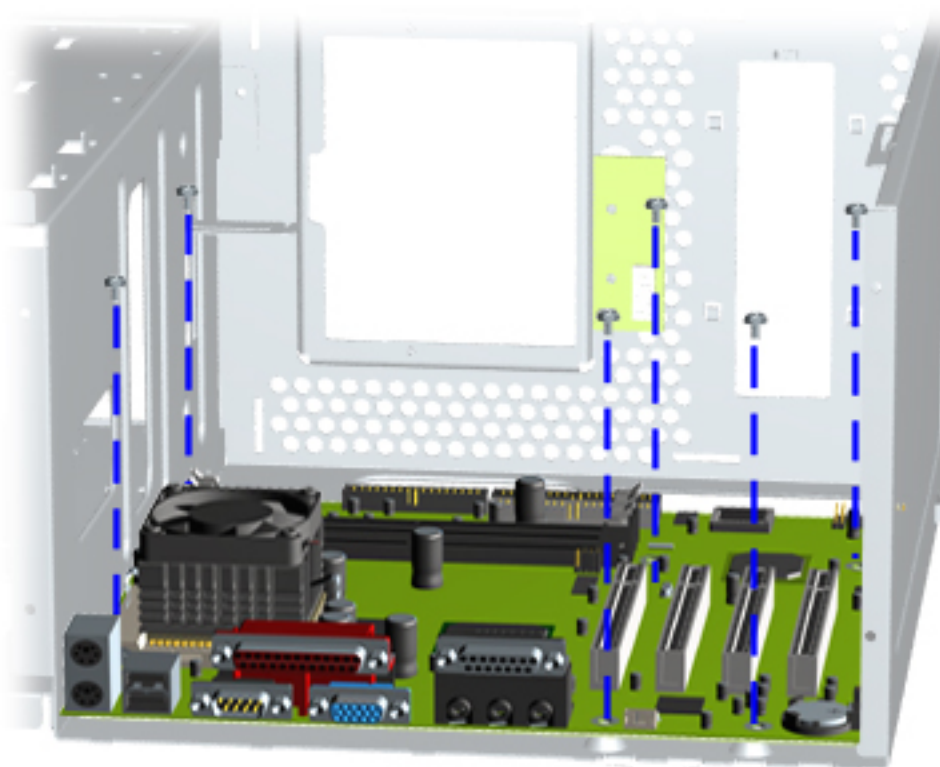


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REMOVAL & REPLACEMENT PROCEDURES



System Board Components

System Board

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 [Remove hard drive.](#)
- 5 [Remove the fax/modem.](#)
- 6 [Remove the processor.](#)

- 7 Remove the memory module.
- 8 Remove all cables from the system board.
- 9 Remove the six screws from the system board (may differ slightly from illustration) and separate it from the bracket.

Replacement

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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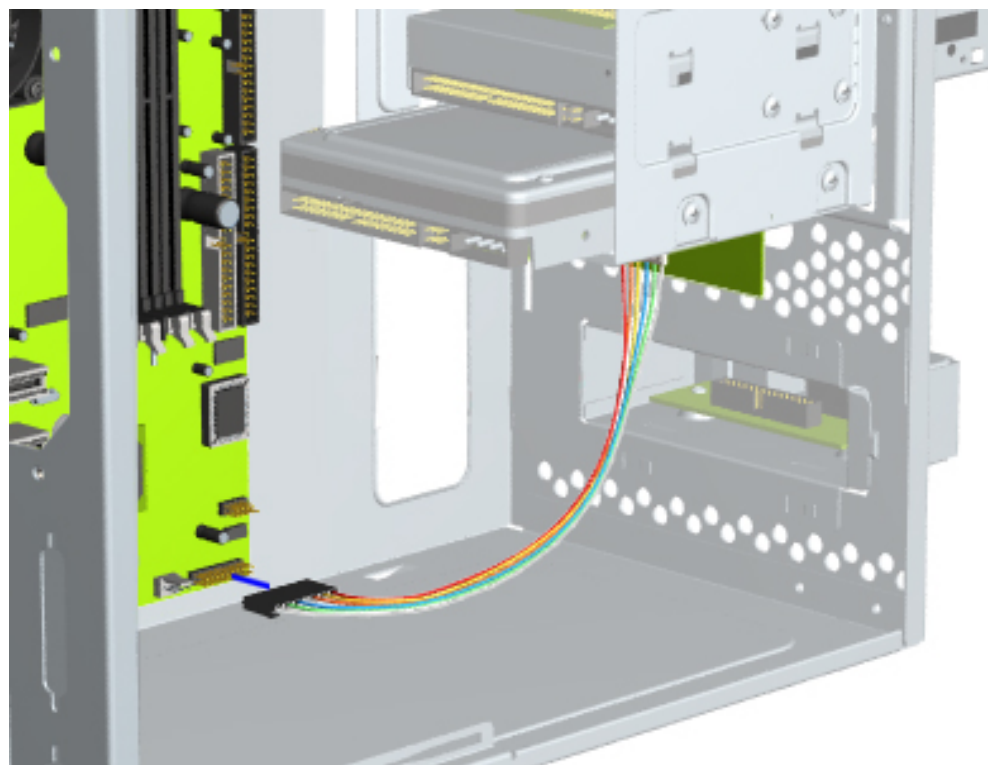
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Removal Sequence
Before you begin
Serial number
Chassis
Power supply
Mass storage devices
Fax-modem
PCI bracket
System board
Instant On button board
Creativity Action Center

REMOVAL & REPLACEMENT PROCEDURES

Instant On Button Board, continued



Removal,
continued

- 3 Remove the assembly from the back of front bezel.
- 4 Remove the Button Board cable from the system board.

Replacement

To replace the button board assembly, reverse this procedure.



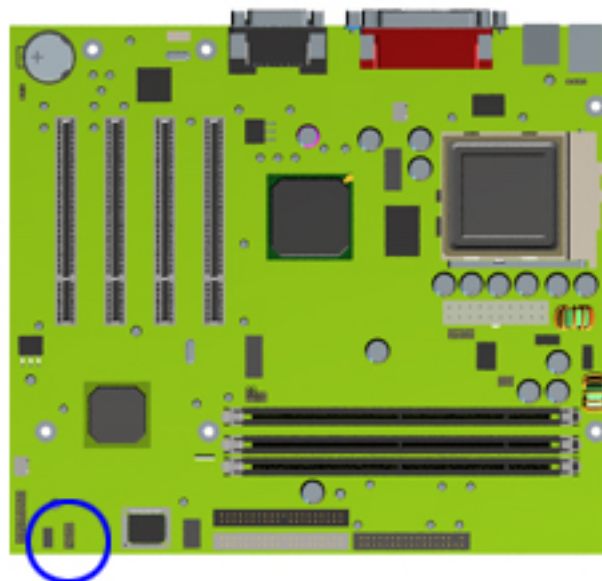
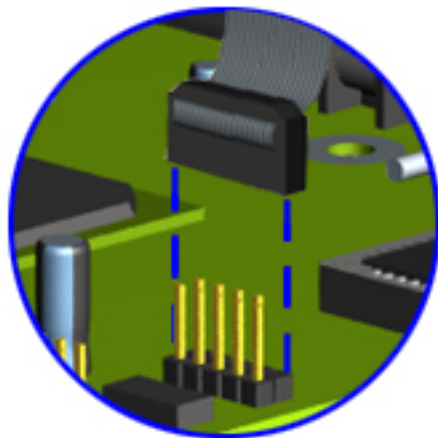
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REMOVAL & REPLACEMENT

Creativity Activity Center, continued



- 6 Disconnect the cable from the Creativity Action Center.
- 7 Remove the Creativity Action Center cable from the board.

Replacement

To replace the Creativity Action Center, reverse this procedure.



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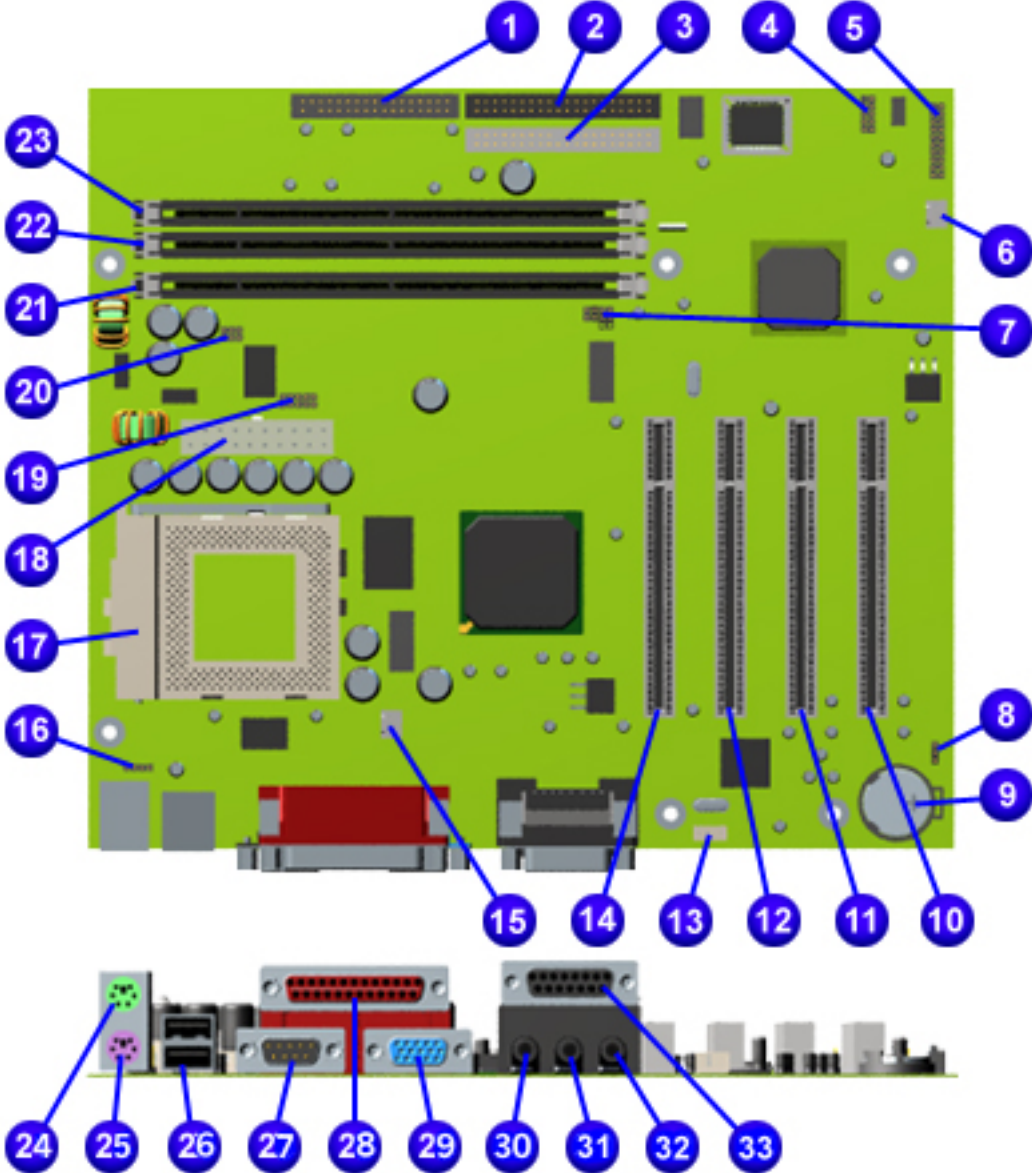
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JUMPER & SWITCH INFORMATION

System Board Connectors

Click on an item number to identify the system board component.



Number	Function	Description	Reference Designator
1	Diskette Drive	34-pin	FDD1
2	Primary IDE Drive	40-pin	IDE1

3	Secondary IDE Drive	40-pin	IDE2
4	Front I/O Panel	10-pin	USB2
5	Button Board	20-pin	J2
6	N/A		
7	Processor Bus Frequency Jumper	4, 2-pin	JP12-15
8	CMOS	3-pin	JP3
9	Battery Socket	Battery holder	BAT1
10-12, 14	PCI Slots	32-bit PCI connector	PCI 1 to 4
13	CD Audio	4-pin	CD1
15	Fan	3-pin	Fan1
16	N/A		
17	Socket 7	321-pin PGA	U6
18	Power Supply	20-pin	CN1
19	CPU Core Voltage Select	5, 2-pin	JP7-11
20	Clock Multiplier	3, 2-pin	JP4-6
21-23	DIMM Sockets	168-pin DIMM	DIMM 1 to 3
24	Mouse	Miniature 6-pin	PS1 (1/2)
25	Keyboard	Miniature 6-pin	PS1 (1/2)
26	Back USB	Dual 4-pin	USB1
27	Serial Port	DSUB 9-pin	Con1
28	Parallel Port	DSUB 25-pin	PJ1

29	VGA Connector	DSUB 15-pin	VGA1
30	Line Out	Mini Stereo	Game1D
31	Line In	Mini Stereo	Game1B
32	Microphone	Mini Stereo	Game1C
33	Game Port	DSUB 15-pin	Game1A

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JUMPER & SWITCH INFORMATION

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- [Jumper 3 \(CMOS\)](#)
- [Jumpers 4-6 \(Multiplier\)](#)
- [Jumpers 7-11 \(Core Voltage Setting\)](#)
- [Jumpers 12-15 \(Clock Speed\)](#)

Jumper 3	
CMOS Normal	CMOS Clear
pins 1-2	pins 2-3

Jumpers 4-6			
JP4	JP5	JP6	CPU/Host Ratio
ON	ON	OFF	2.5
OFF	ON	OFF	3.0
ON	OFF	OFF	2.0
OFF	OFF	OFF	1.5/3.5

ON	ON	ON	4.5
OFF	ON	ON	5.0
ON	OFF	ON	4.0
OFF	OFF	ON	5.5

Jumpers 7-10				
JP10	JP9	JP8	JP7	VCC2
OFF	OFF	OFF	OFF	0
OFF	OFF	OFF	ON	2.1
OFF	OFF	ON	OFF	2.2
OFF	OFF	ON	ON	2.3
OFF	ON	OFF	OFF	2.4
OFF	ON	OFF	ON	2.5
OFF	ON	ON	ON	2.6
OFF	ON	ON	ON	2.7
ON	OFF	OFF	OFF	2.8
ON	OFF	OFF	ON	2.9
ON	OFF	ON	OFF	3.0
ON	OFF	ON	ON	3.1
ON	ON	OFF	OFF	3.2
ON	ON	OFF	ON	3.3
ON	ON	ON	OFF	3.4
ON	ON	ON	ON	3.5

Jumpers 12-15				CPU
15	14	13	12	
OFF	OFF	OFF	ON	66.6
OFF	ON	ON	OFF	95.25
OFF	ON	OFF	OFF	97

OFF	ON	ON	ON	100
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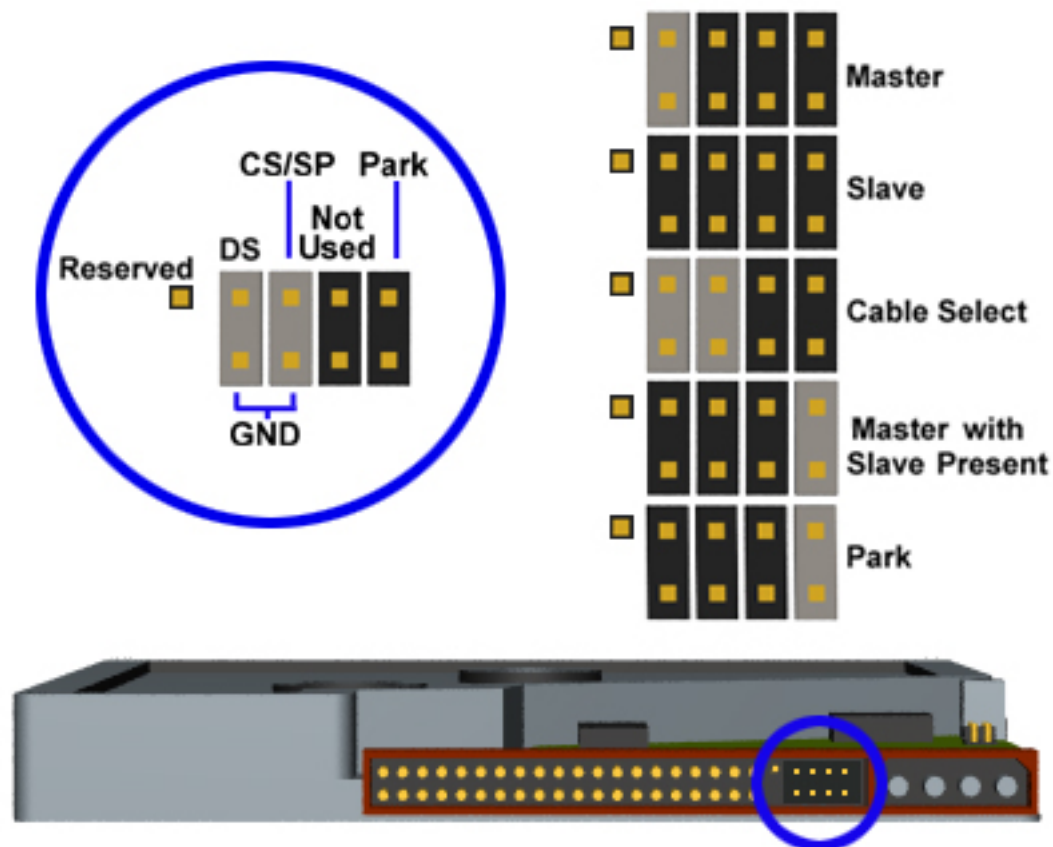
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Hard drives
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JUMPER & SWITCH INFORMATION

5.25" Hard Drive



5.25" Hard Drive Jumper Settings

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System

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- [System memory](#)
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System I/O

Low - high	Description
x0000 - x000F	Direct memory access controller
x0010 - x001F	Motherboard resources
x0020 - x003F	Programmable interrupt controller

x0040 - x0043	System timer
x0050 - x0052	Motherboard resources
x0060 - x0060	Standard 101/102-Key or Microsoft Natural Keyboard
x0061 - x0061	System speaker
x0064 - x0064	Standard 101/102-Key or Microsoft Natural Keyboard
x0070 - x0071	System CMOS/real time clock
x0072 - x0077	Motherboard resources
x0080 - x008F	Direct memory access controller
x0090 - x009F	Motherboard resources
x00A0 - x00BF	Programmable interrupt controller
x00C0 - x00DF	Direct memory access controller
x00F0 - x00FF	Numeric data processor
x0170 - x0177	VIA Bus Master PCI IDE Controller
x0170 - x0177	Secondary IDE controller (dual fifo)
x01F0 - x01F7	VIA Bus Master PCI IDE Controller
x01F0 - x01F7	Primary IDE controller (dual fifo)
x0376 - x0376	VIA Bus Master PCI IDE Controller
x0376 - x0376	Secondary IDE controller (dual fifo)
x0378 - x037F	ECP Printer Port (LPT1)
x03B0 - x03BB	Standard PCI Graphics Adapter (VGA)
x03C0 - x03DF	Standard PCI Graphics Adapter (VGA)

x03F0 - x03F5	Standard Floppy Disk Controller
x03F6 - x03F6	VIA Bus Master PCI IDE Controller
x03F6 - x03F6	Primary IDE controller (dual fifo)
x03F8 - x03FF	Communications Port (COM1)
x04D0 - x04D1	Motherboard resources
x0570 - x0776	Aliases
x0778 - x077F	ECP Printer Port (LPT1)
x07B0 - x0BF6	Alias of Standard PCI Graphics Adapter (VGA)
x0CF8 - x0CFF	PCI bus
x0D70 - x0FF6	Alias of VIA Bus Master PCI IDE Controller
x1000 - x10FF	PCI Multimedia Audio Device
x1170 - x13F6	Alias of VIA Bus Master PCI IDE Controller
x1400 - x141F	VIA Tech 3038 PCI to USB Universal Host Controller
x1420 - x143F	VIA Tech 3038 PCI to USB Universal Host Controller
x1440 - x1447	Primary IDE controller (dual fifo)
x1440 - x144F	VIA Bus Master PCI IDE Controller
x1448 - x144F	Secondary IDE controller (dual fifo)
x1570 - xEDF7	Alias of VIA Bus Master PCI IDE Controller
xEE00 - xEE7F	Motherboard resources
xEE80 - xEEFF	Motherboard resources
xEF00 - xEF5F	Motherboard resources

xEF76 - xFFF6

Alias of VIA Bus Master PCI IDE Controller

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System memory
System DMA

System Memory

Low and High Memory Addresses	System Function
x00000000 - x0009FFFF	System board extension for ACPI BIOS
x000A0000 - x000AFFFF	Standard PCI Graphics Adapter (VGA)

x000B0000 - x000BFFFF	Standard PCI Graphics Adapter (VGA)
x000C0000 - x000CFFFF	Standard PCI Graphics Adapter (VGA)
x000E0000 - x000FFFFF	System board extension for ACPI BIOS
x00100000 - x038FFFFF	System board extension for ACPI BIOS
x40000000 - x407FFFFF	Standard PCI Graphics Adapter (VGA)
x40000000 - x410FFFFF	VIA Tech 8501 CPU to AGP controller
x40800000 - x40FFFFFF	Standard PCI Graphics Adapter (VGA)
x41000000 - x4101FFFF	Standard PCI Graphics Adapter (VGA)
x41020000 - x4102FFFF	Standard PCI Graphics Adapter (VGA)
x50000000 - x53FFFFFF	VIA Tech VT501 CPU to PCI bridge
xFFF80000 - xFFFFFFFF	System board extension for ACPI BIOS

System DMA

Hardware	System Function (Default)
DMA 0	ECP Printer Port (LPT1)
DMA 1	(free)
DMA 2	Standard Floppy Disk Controller
DMA 3	(free)
DMA 4	Direct memory access controller
DMA 5	(free)
DMA 6	(free)
DMA 7	(free)

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Mouse
Fax/modem
Zip drive
System

SPECIFICATIONS

Seagate hard drives

Click link for specifications on [Quantum](#) or [Western Digital](#) hard drives.

Seagate Hard Drives - 3.5"

	8.4-GB	10.0-GB	13.0-GB	13.0-GB	17.0-GB
Compaq Part Number	112224-001	116193-001	143873-001	116194-001	116195-001
Formatted Capacity					
Physical (MB)	8640 MB	10005 MB	13520	13022	17245 MB
Logical (MB)	8455 MB	8455 MB	8455	13022	17245 MB
Transfer Rate					
Disk to Buffer (Mbits/sec)	105.15-222.87	188 Max.	323 Max.	171 Max.	188 Max.
Interface (Mbytes/sec)					
IORDY	16.6	16.6	16.6	16.6	16.6
DMA	16.6	16.6	16.6	16.6	16.6
UDMA	66.6	66.6	66.6	33.3	66.6
Typical Seek Time (including settling)					
Single Track (ms)	1.3 - 2.1	2.0 - 2.4	1.5 - 3.0	1.5 - 3.0	1.3 - 2.1
Average (ms)	9.0 - 10.5	10.5 - 11.5	9 - 12	9 - 12	9 - 10.5
Full Stroke (ms)	18 - 20	24 - 26	18 - 20	18 - 20	18 - 20
Disk Rotational Speed (RPM)	5400 +/- 0.1 percent	5400 +/- 0.2 percent	7200 +/- 0.2 percent	5400 +/- 0.2 percent	5400 +/- 0.2 percent
Data Cylinders					
Physical	12210 (+/-)	12561	15399	12561	12561
Logical	16383	16383	16383	16383	16383
Data Heads/ Cylinder					

Physical	3	8	4	6	8
Logical	16	16	16	16	16
Sectors per Track					
Physical	244-437 nom	244-416 (10 zones)	316-508 (10 zones)	245-421 (10 zones)	244-416 (10 zones)
Logical	63	63	63	63	63

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System
Power supply
Diskette drive
Hard drives
DVD drive
CD drives
Mouse
Fax/modem
Zip drive
System

SPECIFICATIONS

Quantum hard drives

Click links for specifications on [Seagate](#) or [Western Digital](#) hard drives.

Quantum Hard Drives - 3.5"

	8.4-GB	10.0-GB	13.0-GB
Compaq Part Number	122258-001	138224-001	138225-001
Formatted Capacity			
Physical (MB)	8640 MB	10020 MB	13020 MB
Logical (MB)	8455 MB	10020 MB	13020 MB
Data Transfer Rate			
Head (Mb/second)			
Zone 1	121.9	148.8	121.9
Zone 15	194.9	241.9	194.9
Interface (Mbytes/sec)	66	66	66
Typical Seek Time (including settling)			

Track to Track (ms)	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0
Average (ms)	11 - 13	11 - 13	11 - 13
Full Stroke (ms)	18 - 22	18 - 22	18 - 22
Disk Rotational Speed (RPM)	5400	5400	5400
Data Cylinders			
Physical	12515	16383	12515
Logical	16383	16383	16384
Data Heads/ Cylinder			
Physical	4	3	6
Logical	16	16	16
Sectors per Track			
Physical	250-403 (15 zones)	307-512 (15 zones)	250-403 (15 zones)
Logical	63	63	63

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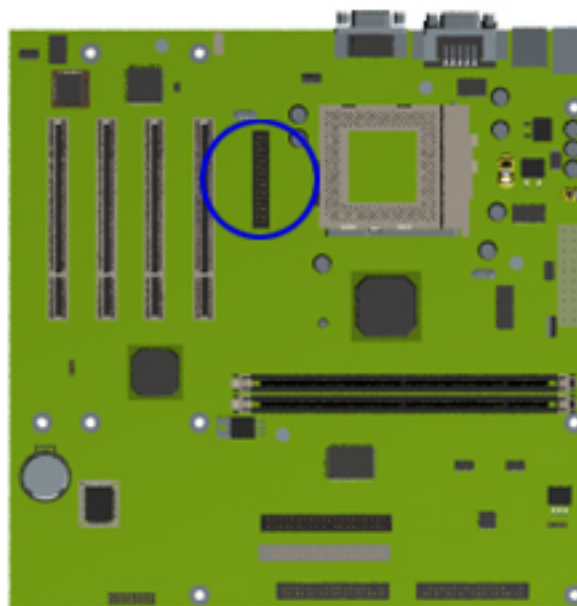
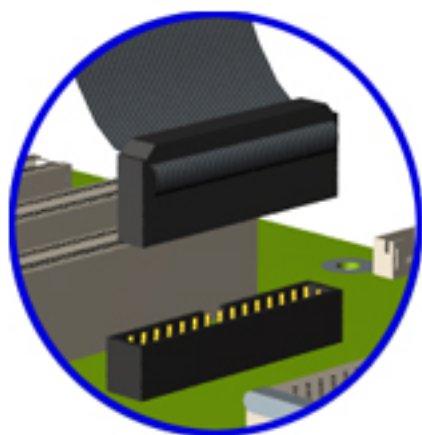
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REMOVAL SEQUENCE

[Before you begin](#)[Serial number](#)[Chassis](#)[Power supply](#)[Mass storage
devices](#)[Fax-modem](#)[Parallel port
assembly](#)[PCI bracket](#)[System board
components](#)[Instant On button
board](#)

REMOVAL & REPLACEMENT PROCEDURES



Parallel Port Cable Assembly

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 Disconnect the parallel cable from the system board.

[Creativity Action
Center](#)

- 5 Remove the two screwlocks that secure the parallel port to the chassis and pull the parallel port cable assembly out of the chassis.

Replacement

To replace the parallel port, reverse this procedure.

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- [Jumper & Switch Information](#)
- [Specifications](#)

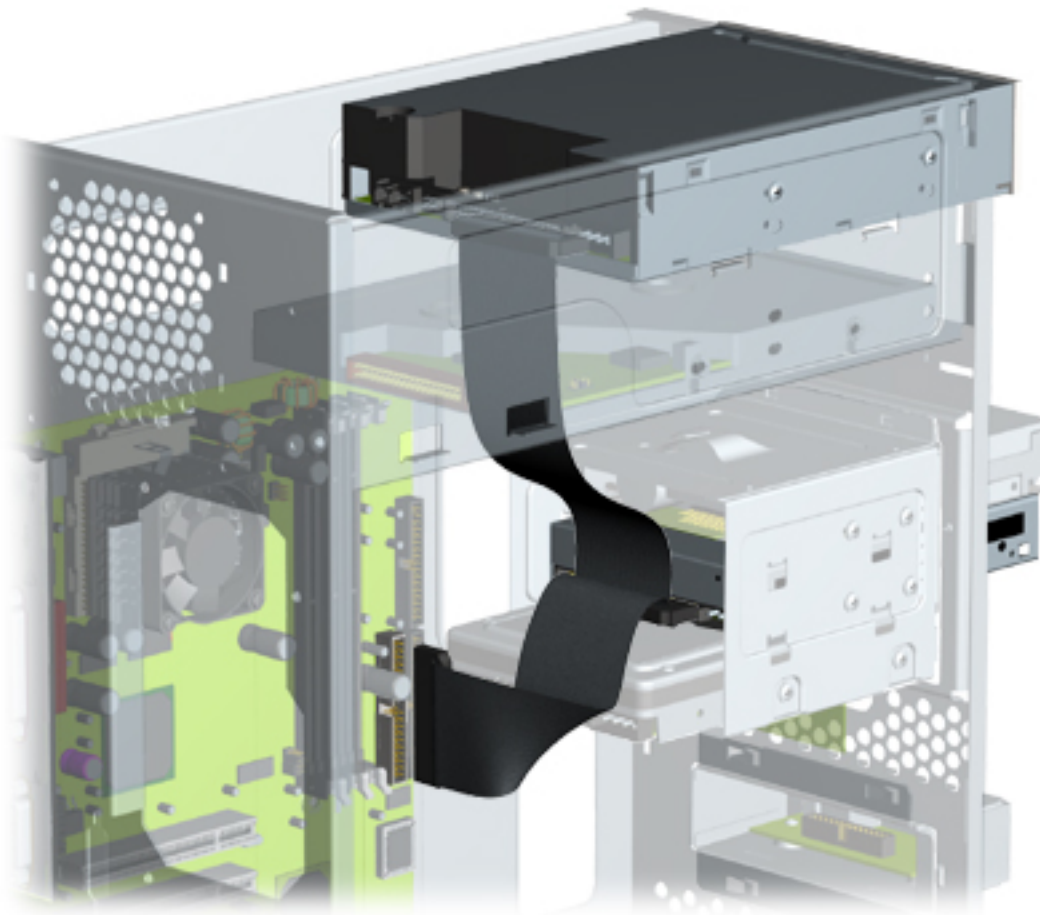
CD/DVD
CD-RW
Creativity action center
Diskette drive
Hard drive
Zip drive
Service considerations index page

REMOVAL & REPLACEMENT

Service Considerations - Cable Positions

CD/DVD drive (Primary optical storage)

This cable goes behind the power supply and attaches to the system board.



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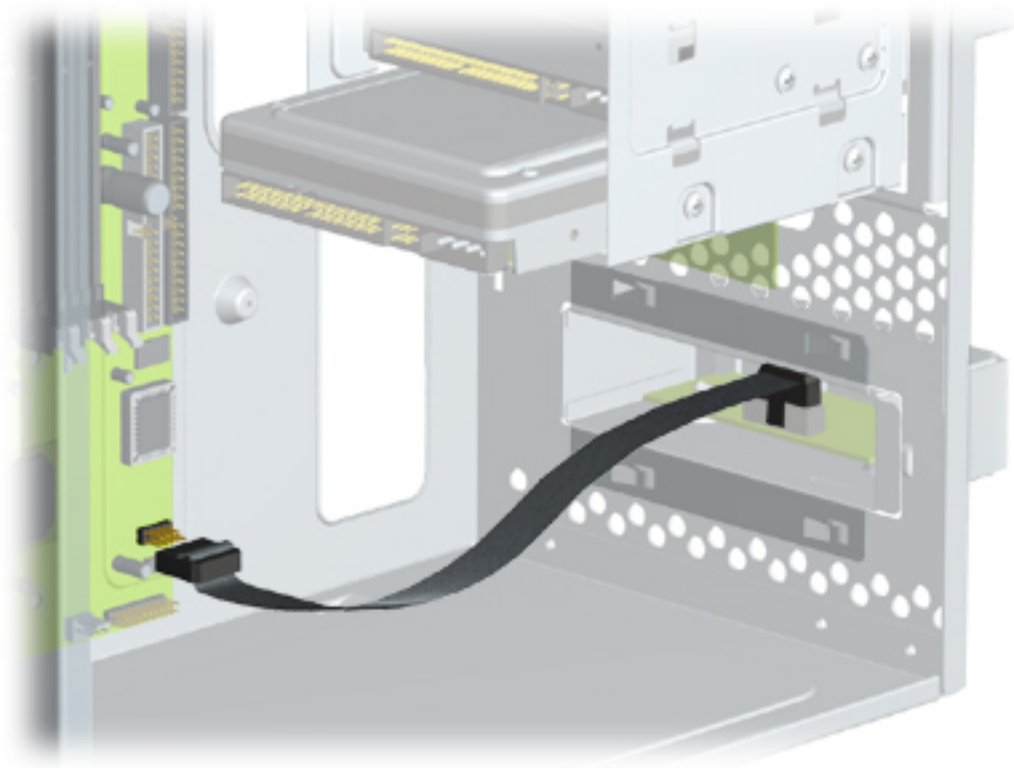
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center](#)[Diskette drive](#)[Hard drive](#)[Zip drive](#)[Service
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REMOVAL & REPLACEMENT

Service Considerations - Cable Positions

Creativity Action Center - (available on select models)



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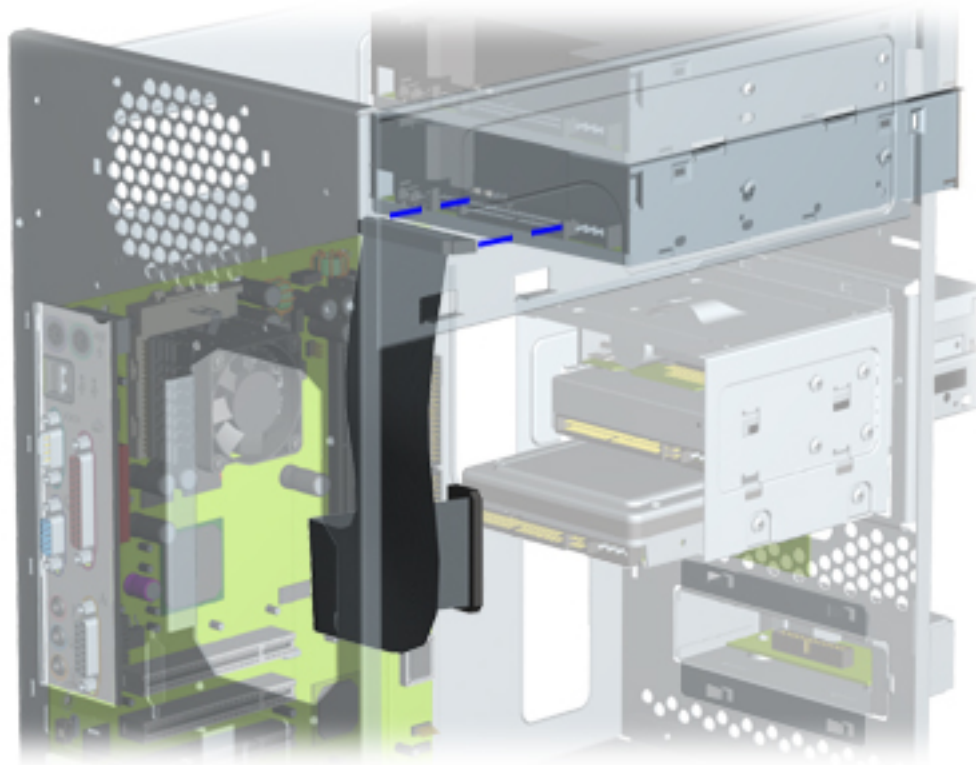
CD/DVD
CD-RW
Creativity action center
Diskette drive
Hard drive
Zip drive
Service considerations index page

REMOVAL & REPLACEMENT

Service Considerations - Cable Positions

CD-RW drive (Secondary optical storage)

This cable goes behind the power supply and attaches to the system board.



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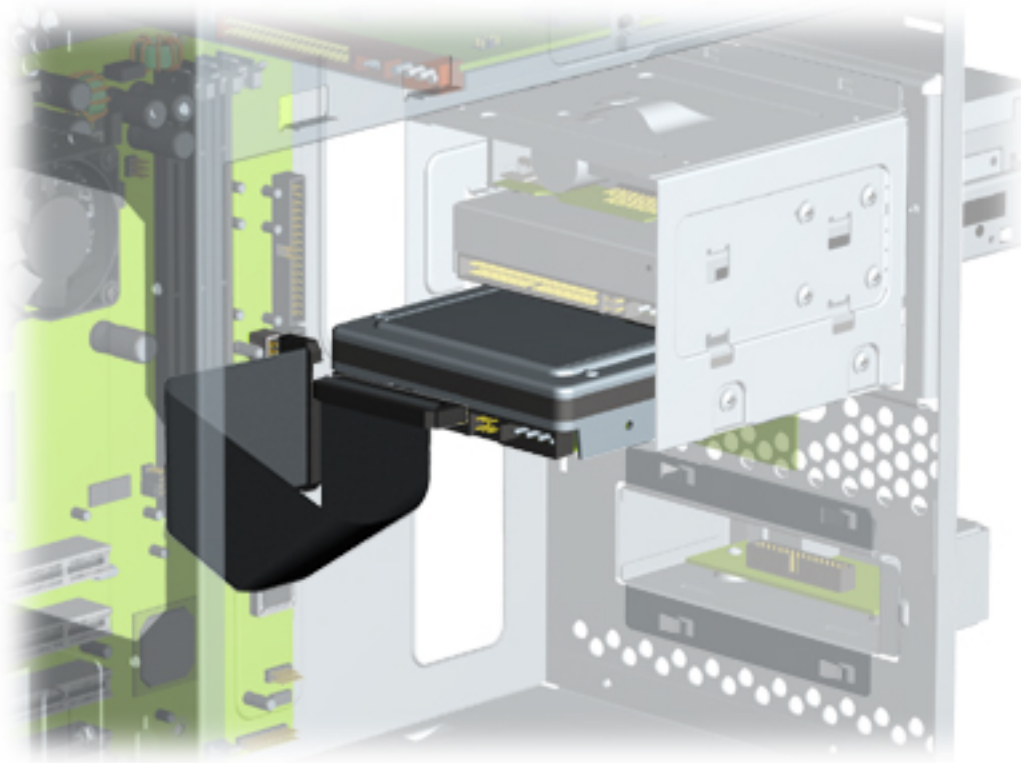
CD/DVD
CD-RW
Creativity action center
Diskette drive
Hard drive
Zip drive
Service considerations index page

REMOVAL & REPLACEMENT PROCEDURES

Service considerations - Cable positions

3.5" Hard Drive ([Click here to see the 5.25" hard drive](#))

The cable goes behind the power supply and attaches to the system board. For some models the position will differ slightly.



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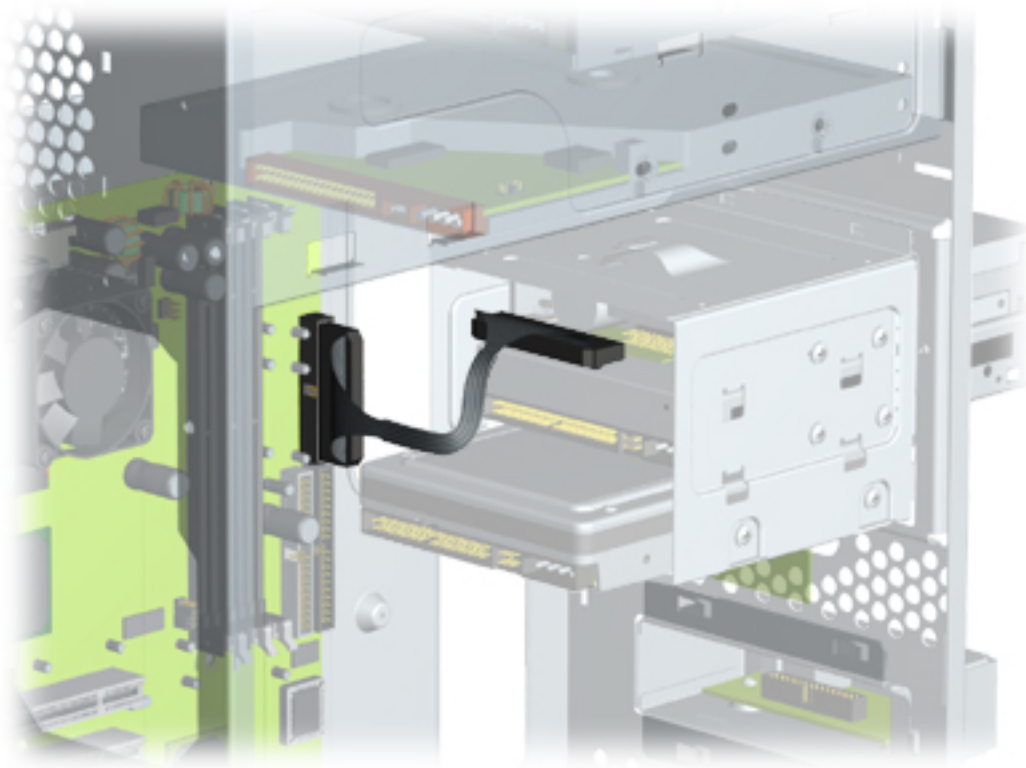
CD/DVD
CD-RW
Creativity action center
Diskette drive
Hard drive
Zip drive
Service considerations index page

REMOVAL & REPLACEMENT PROCEDURES

Service Considerations - Cable Positions

Diskette Drive

This cable goes behind the power supply and attaches to the system board.



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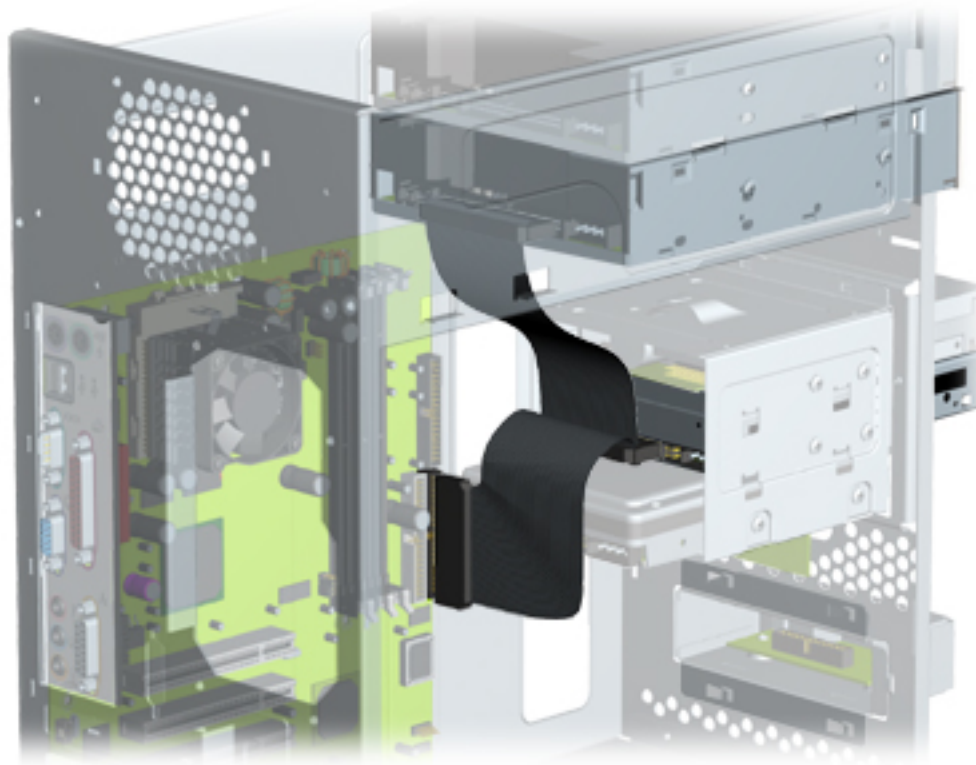
CD/DVD
CD-RW
Creativity action center
Diskette drive
Hard drive
Zip drive
Service considerations index page

REMOVAL & REPLACEMENT PROCEDURES

Service Considerations - Cable Positions

Zip Drive (available on select models)

This cable goes behind the power supply and attaches to the system board. It also attaches to the CD drive.



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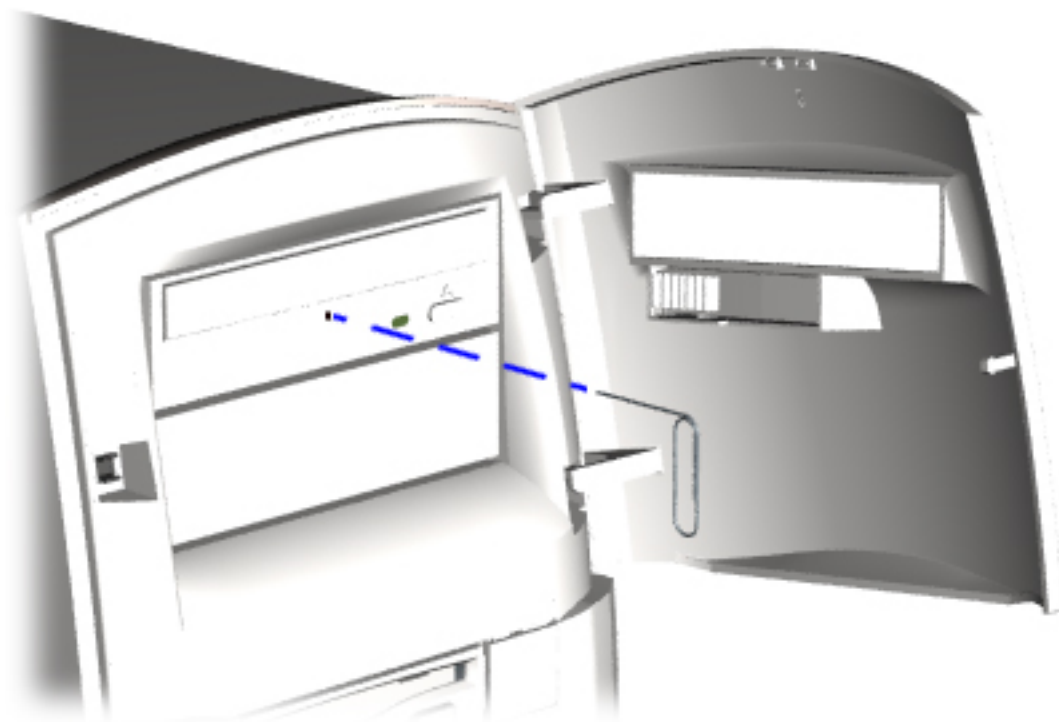
REMOVAL & REPLACEMENT

Mass Storage Devices

Removing a Jammed CD, DVD or SuperDisk (available on select models only and not pictured here) from the drive.

Insert a straightened paper clip into the manual eject hole and push firmly. On select models the eject hole is located next to the eject button.

Note: The manual eject hole for the SuperDisk is located in the button cover of the manual eject button.



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REMOVAL & REPLACEMENT PROCEDURES

Mass Storage Devices

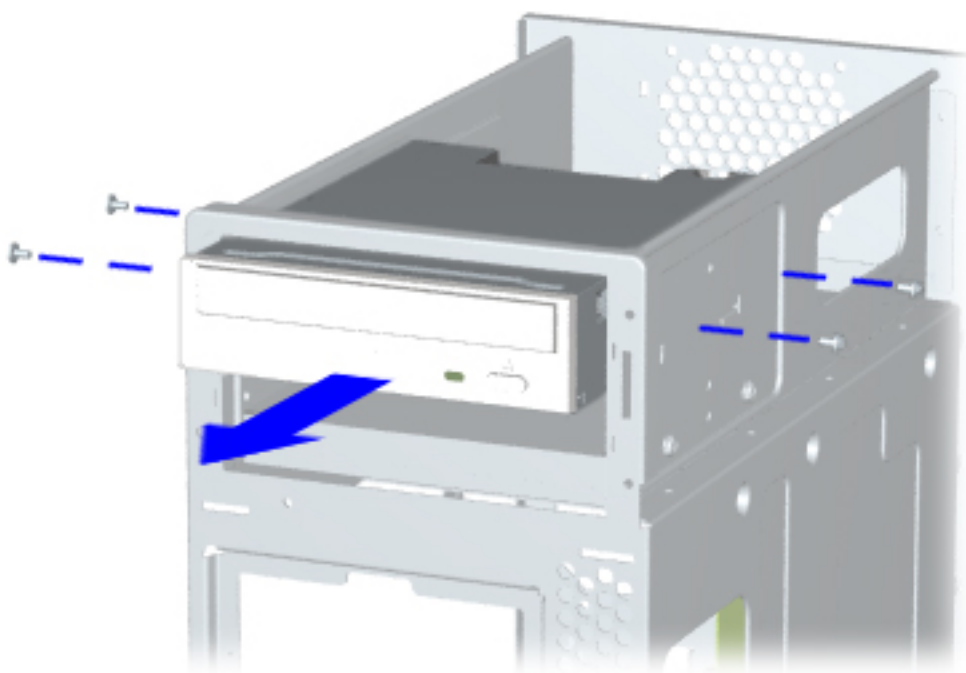
CD or DVD Drive, continued

- 4 Remove the four screws from the sides of the CD, DVD, or CD-RW drive.
- 5 Pull the CD, DVD, or CD-RW drive straight out of the front of the chassis.

Replacement

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

[Return to section index](#)



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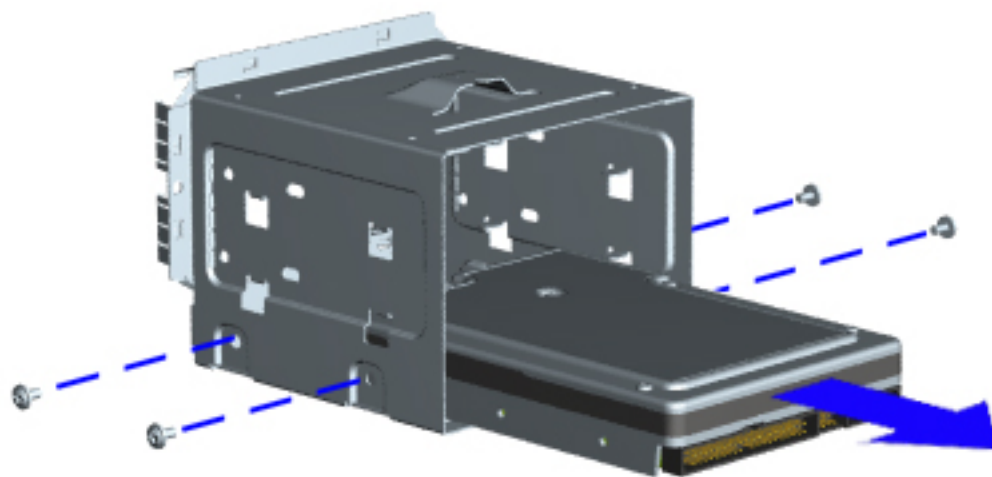
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REMOVAL & REPLACEMENT PROCEDURES

Mass storage devices

3.5" Hard Drive, continued



- 5 Remove the four screws from the side of the hard drive cage.
- 6 Remove the hard drive from the back of the drive cage.

NEXT STEP

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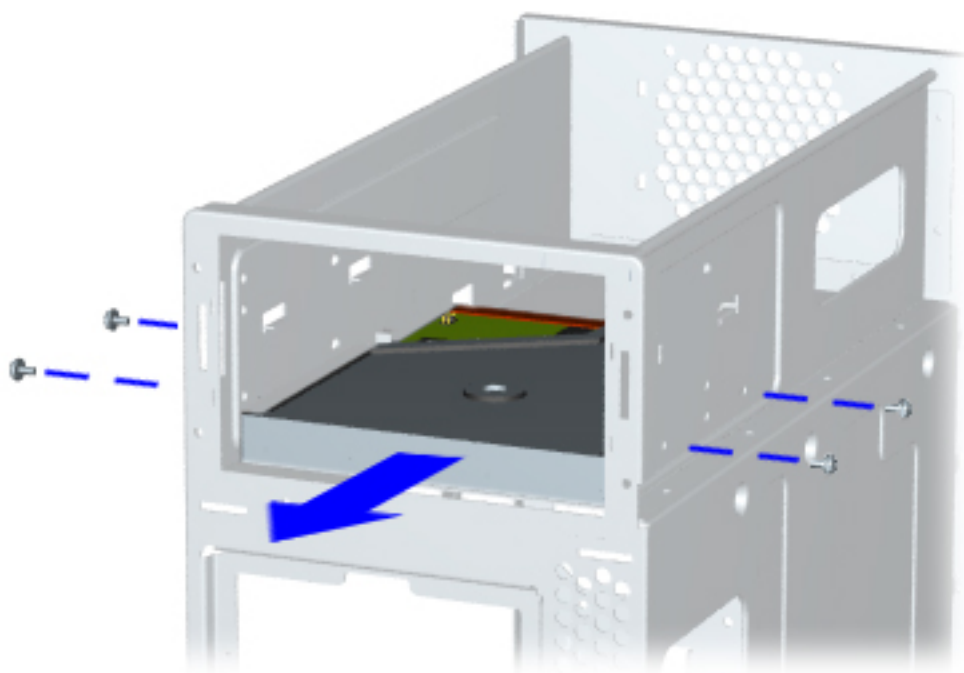
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REMOVAL & REPLACEMENT PROCEDURES

Mass Storage Devices

5.25" Hard Drive, continued

- 4 Remove the four screws from the sides of the hard drive.
- 5 Pull the hard drive from the front of the chassis.

[Next Step](#)

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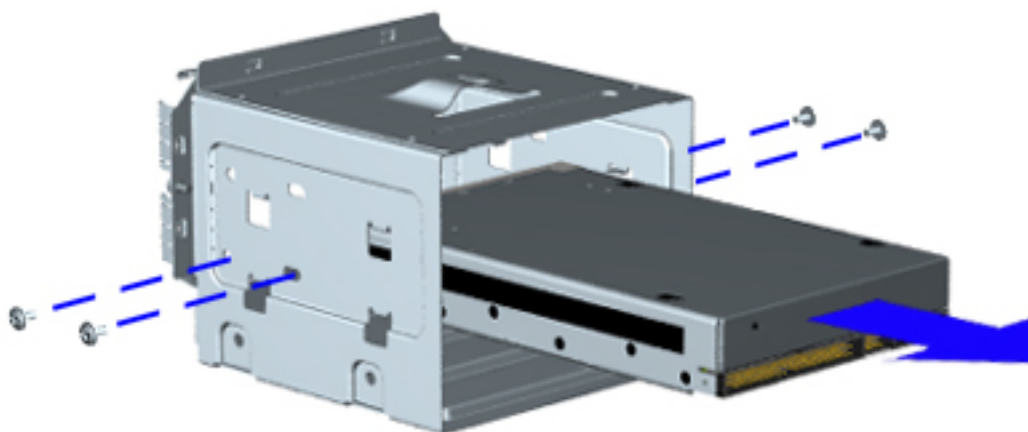
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REMOVAL & REPLACEMENT PROCEDURES

Mass Storage Devices

Zip Drive Removal, Continued

- 5 Remove the four screws from the sides of the Zip drive.
- 6 Remove the Zip drive from the front of the drive cage assembly.

[Next Step](#)

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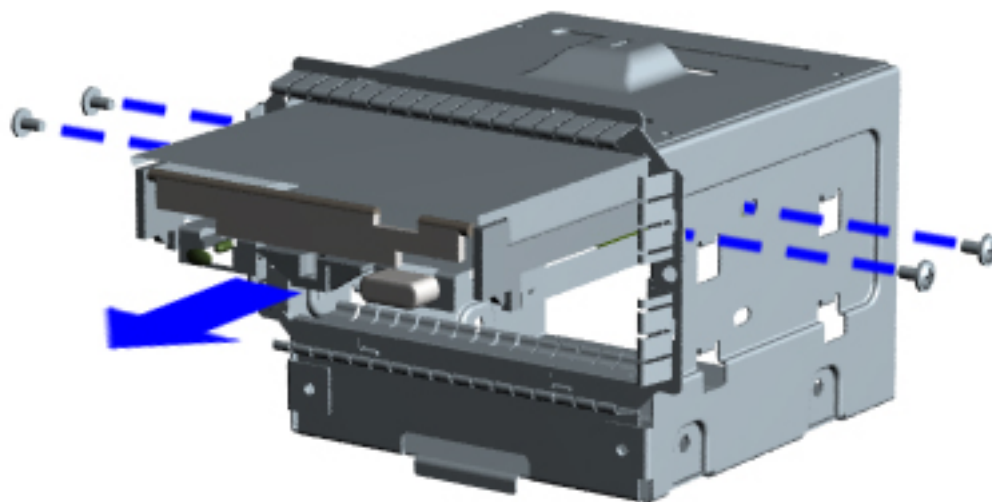


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REMOVAL & REPLACEMENT PROCEDURES



Mass Storage Devices

Diskette Drive, continued

- 5 Remove the four screws from the sides of the drive bracket.
- 6 Remove the drive from the front of the drive age assembly.

Replacement

To replace the diskette drive, reverse this procedure.

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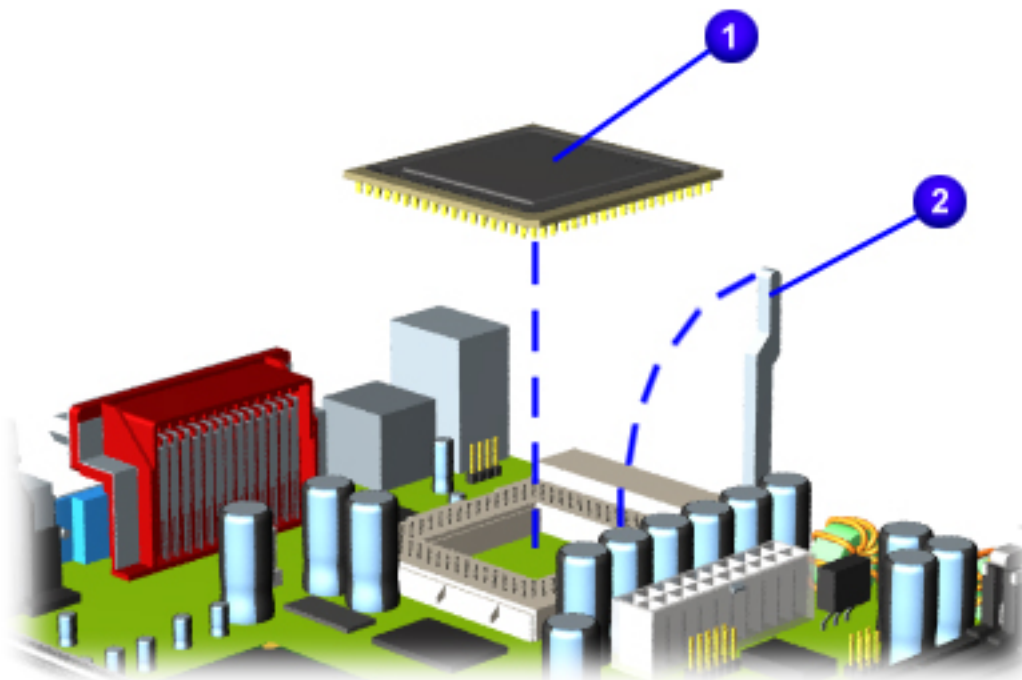


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& processor](#)[Memory
module](#)[RTC battery](#)[System board
components](#)[System board
components
index page](#)

REMOVAL & REPLACEMENT PROCEDURES



System Board Components

Processor

Removal

- 1 [Perform preparation procedures.](#)
- 2 [Remove the chassis.](#)
- 3 [Remove the power supply.](#)
- 4 [Remove the Fan/heat sink.](#)
- 5 Lift the socket lever **2** and remove the processor **1** from the socket.

Replacement

To replace the processor, reverse this procedure.

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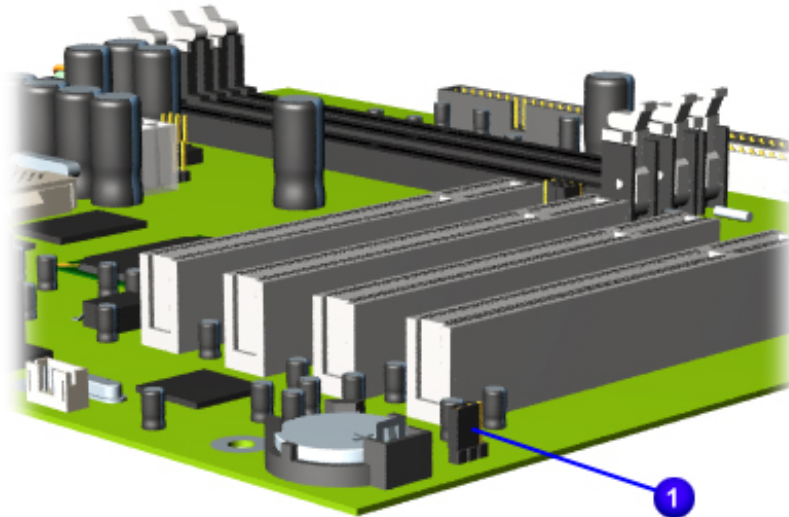
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TROUBLESHOOTING

Clearing CMOS

[Troubleshooting](#)[Clearing CMOS](#)[Power-On Self Test \(POST\)](#)[Configuration](#)[Diagnostics Software](#)[Troubleshooting without diagnostics](#)

CMOS jumper location

- 1 Complete the [preparation for disassembly](#).
- 2 [Remove the chassis](#).
- 3 [Remove the fax/modem board](#).
- 4 [Remove the PCI bracket](#).
- 5 To clear the CMOS: move the jumper (JP3) pins to the 2-3 position for 10 seconds. To return to normal operation, move the pins back to the 1-2 position.
- 6 Replace the system board bracket and perform the desired troubleshooting.

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Troubleshooting
Clearing CMOS
Power-On Self Test (POST)
Configuration
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TROUBLESHOOTING

Power-On Self Test (POST)

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

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

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

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

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](#)[Keyboard Error](#)[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](#)[Incorrect Drive A Type](#)[Real Time Clock Error](#)[UMB Upper Limit Segment Address nnn](#)[Invalid NVRAM Media Type](#)[System Battery is Dead](#)[Video BIOS Shadowed](#)

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	<ol style="list-style-type: none"> 1. Run Setup. 2. Replace the signal cables. 3. Replace the drive.
Extended RAM failed at offset nnn	Extended memory not working or not configured properly	<ol style="list-style-type: none"> 1. Replace the memory modules. 2. Replace the system board.
Failing Bits nnn	nnn is a map of the bits at the RAM address which failed the memory test	<ol style="list-style-type: none"> 1. Run Setup. 2. Replace the system board.
Fixed Disk 0 or 1 Failure	Hard drive is not working or not configured properly	<ol style="list-style-type: none"> 1. Run Setup. 2. Replace the signal cable. 3. Replace the hard drive.
Fixed Disk Controller Failure	Hard drive is not working or not configured properly	<ol style="list-style-type: none"> 1. Run Setup. 2. Replace the system board.

Incorrect Drive A Type	Type of diskette in drive A: not correctly identified	1. Run Setup . 2. Replace the diskette drive .
Invalid NVRAM Media Type	Problem with NVRAM (CMOS) access	Replace the system board .
Keyboard Controller Error	Keyboard, I/O keyboard controller (on system board), or mouse error	1. Replace the keyboard. 2. Replace the mouse. 3. Replace the system board .
Keyboard Error	Keyboard, I/O keyboard controller (on system board), or mouse error	1. Replace the keyboard. 2. Replace the mouse. 3. Replace the system board .
Operating System Not Found	Operating system cannot be located on either drive A: or C:	Run Setup .
Parity Check 1	Parity error found in the system bus	1. Run Setup . 2. Replace the memory modules . 3. Replace the system board .
Parity Check 2	Parity error found in the I/O bus	1. Run Setup . 2. Replace the ISA board (modem) .
Real Time Clock Error	Real-time clock fails BIOS test	Replace the system board .
System Battery is Dead	RTC battery is dead	1. Replace the RTC battery . 2. Run Setup .
System BIOS Shadowed	System BIOS copied to Shadow RAM	Status message. No action required.
System Cache Error	RAM cache failed the BIOS test	Run Setup .
System CMOS Checksum Bad	CMOS is corrupted or modified incorrectly	Run Setup .
System RAM Failed at Offset, nnn	System RAM failed	Replace memory modules .

System Timer Error DMA, timers, etc.

Replace the [system board](#).

UMB Upper Limit Segment Address nnn	Displays the address nnn of the upper limit of Upper Memory Blocks, indicating released segments of the BIOS	Status message. No action required.
Video BIOS Shadowed	Video BIOS successfully copied to shadow RAM	Status message. No action required.



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TROUBLESHOOTING

Configuration

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 (POST)
- 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:

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Clearing CMOS
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Configuration
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Troubleshooting without diagnostics

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



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

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

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:

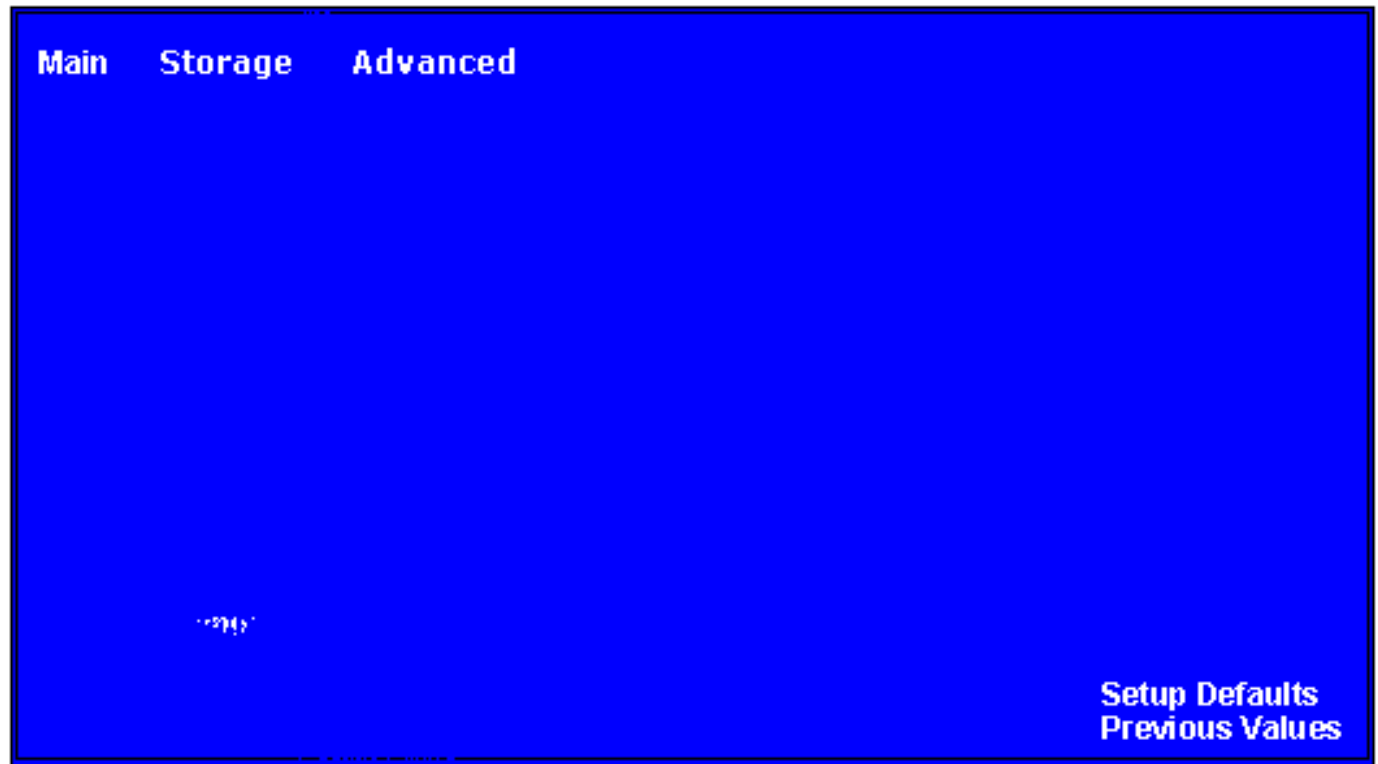
- Modify settings for audio, storage, power management, communications, and input devices
- Get an overall picture of the computer's hardware configuration
- Verify configuration parameters in determining problems
- Set time and date

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.



Accessing Compaq Utilities Options

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

Create a Compaq Utilities Diskette

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

- 1 Insert the QuickRestore CD into the CD drive.
- 2 From the Windows desktop, click on Start, then Program, then Windows Explorer.
- 3 Click on the CD drive icon.
- 4 Double-click on the PCdiags folder.
- 5 Insert a diskette in the diskette drive.
- 6 Double-click on the QRST5.exe icon.
- 7 Press Enter when the QuickRestore label appears.

8 After the CD has completed copying to the diskette, eject the QuickRestore CD.

View System Information (INSPECT)

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

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

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TROUBLESHOOTING

Diagnostics Software

Two diagnostic software tools are available to assist in troubleshooting your Presario Product:

- Compaq Diagnostics for Windows is preinstalled on your system. To access Diagnostics for Windows, click Start, point to Settings, then select Control Panel, and then double-click Compaq Diagnostics.
- Compaq Personal Computer Diagnostics, a DOS-based tool, is available for download from the Compaq Web site at www.compaq.com.

Both tools provide general system information, verify system functionality, test the system, and identify possible defective components. Compaq Diagnostics for Windows provides specific recommended actions in the case of failure.

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TROUBLESHOOTING

Troubleshooting Without Diagnostics

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

Checklist For Solving Minor Problems

If you encounter some minor problem with the computer or with a 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 the options (memory, disk drives, etc.) and before installing the industry standard architecture boards?

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

[CD drive](#)[hard drive](#)[VGA monitor](#)[diskette drive](#)[hardware installation](#)

Troubleshooting
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[DVD drive](#)[power](#)[flat-panel monitor](#) (on
select models only)[USB ports](#)

are provided in the tables below. The procedure for [resolving hardware conflicts](#) 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 the video connector on back of the CPU for a 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.	<p>FP400 and FP500 Series flat-panel monitors only support the 1024 x 768 resolution mode. To change your resolution setting in the Display dialog box:</p> <ol style="list-style-type: none"> 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.	<p>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:</p> <ol style="list-style-type: none"> 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.
--------------------------------	--	---

CD drive		
Problem	Probable cause(s)	Possible solution
Cannot read compact disc.	CD is not properly seated in the drive.	Eject the CD, then re-insert it, pressing down gently on the CD to correctly seat it in the drive.
	CD has been loaded upside down.	Eject the CD, turn it over, then reload.
	CD may be dirty or scratched.	Clean the CD or load another CD.
Cannot eject compact disc (tray-load only).	CD 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 CD.
CD drive devices are not detected.	Power cycle delay	After turning the computer off, wait 30 seconds before turning the computer on again.

	CD drive is not connected properly.	Open the computer and check to see that the drive cable is connected properly.
	Proper driver is not loaded.	Restart the system and make sure the CD drive drivers are loaded.

DVD drive		
Problem	Probable cause(s)	Possible solution
Cannot read DVD disc	DVD or CD is not properly seated in the drive.	Eject the DVD or CD, press down on the DVD or CD firmly to seat it correctly in the drive, then reload.
	DVD or CD has been loaded upside down.	Eject the disc, turn it over, then reload.
	DVD or CD disc 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 disc.	The system is in the Sleep mode.	Press the Power button to bring the system back to full power, then eject the DVD.
	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 disc 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 CONFIG.SYS.
	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.

Resolving Hardware Conflicts

Hardware conflicts occur when two or more peripheral devices attempt to use the same hardware resources. I/O addresses, interrupts, and DMA channels are the most common hardware resources used by peripheral devices. For example, the factory default settings for the MIDI port audio interface are:

Base I/O address	220H
MIDI Port Base I/O address	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: [System](#)

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diagnostics](#)

TROUBLESHOOTING

Troubleshooting Without Diagnostics (continued)

Hard drive		
Problem	Probable cause(s)	Possible solution
Hard drive error occurs.	Hard disk has bad sectors or has failed.	Run Computer Setup . Reformat the hard disk.
Drive not found.	Cable could be loose.	Check cable connections.

Disk transaction problem.	Either the directory structure is bad or there is a problem with a file.	From the desktop click on the Start menu. Choose Program ➔ Accessories ➔ System Tools ➔ Scandisk to check for problems. If problems exist, run Scandisk and checkmark the "Automatically fix errors" box at the bottom to correct the problems. If a large number of lost allocation units is found, click on the Start menu. Choose Program ➔ Accessories ➔ System Tools ➔ Disk Defragmenter.
Nonsystem disk message.	The system is trying to start from a diskette that is not bootable.	Remove the diskette from the diskette drive.
	The system is trying to start from the hard drive but the hard disk has been damaged.	Insert a bootable diskette into the diskette drive and restart the computer with Ctrl+Alt+Del.
	Diskette boot has been disabled in Computer Setup.	Run Computer Setup and enable diskette boot.
Hard drive operation seems slow OR Hard drive activity light is not on, or stays on without blinking.	The hard disk files may be fragmented.	From the desktop click on the Start menu. Choose Program ➔ Accessories ➔ System Tools ➔ Scandisk to check for problems. If problems exist, run Scandisk and checkmark the "Automatically fix errors" box at the bottom to correct the problems. If a large number of lost allocation units is found, click on the Start menu. Choose Program ➔ Accessories ➔ System Tools ➔ Disk Defragmenter.

Hardware installation		
Problem	Probable cause(s)	Possible solutions
A new device is not recognized as part of the computer system.	When the system advised you of changes to the configuration, you did not save the changes.	Reboot the computer and follow the instructions for saving the changes.
	The system may not have automatically recognized the new device.	Run Computer Setup and identify the new device.
	The cables for the new external device are loose, or the power cables are unplugged.	Check all cables.
	The power switch for the new external device is not turned on.	Turn off the computer, turn on the external device, and then turn on the computer to integrate the new device with the computer.

Power	
Problem	Possible Solution
Computer will not turn on.	Ensure that the computer is connected to a power source.

Computer does not automatically display the date and time.	The real-time clock (RTC) battery may need to be replaced. Click here for replacement procedures.
Computer does not beep during POST.	The speaker volume may have been turned down. Select the Volume option from the Control Panel and adjust the volume.
Computer powered off automatically.	The unit temperature may have been exceeded. Check the fan for function and blockage.

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

Diskette Drive		
Problem	Probable cause(s)	Possible solution

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

SuperDisk Drive		
Problem	Probable cause(s)	Possible solution
SuperDisk drive light stays on.	Diskette may be damaged.	From the desktop click on the Start menu. Choose Program ➡ Accessories ➡ System Tools ➡ Scandisk to check for problems.
	Diskette may be installed incorrectly.	Remove the diskette and reinsert.
	Software program may be damaged.	Check the program diskettes.
SuperDisk drive cannot write to a diskette.	Diskette is not formatted.	Format the diskette.
	Diskette is write-protected.	Either use another diskette that is not write-protected or disable the write protection on the diskette.
	Writing to the wrong drive.	Check the drive letter in your path statement.
	Not enough space is left on the diskette.	Use another diskette to write the information.
SuperDisk drive cannot read a diskette.	Diskette is not formatted.	Format the diskette.
	Using the wrong diskette type for the drive type.	Use a diskette that is compatible with the drive.
	Reading the wrong drive.	Check the drive letter in your path statement.
	Diskette drive has been disabled by Computer Setup .	Run Computer Setup and enable the diskette drive.

VGA Monitor		
Problem	Probable cause(s)	Possible solution
Characters are dim.	The brightness control is not set properly.	Adjust the brightness control.
Screen is blank.	A screen-blanking utility could be installed.	Press any key. If the display reappears, you have a screen-blanking utility installed.
	The brightness needs adjusting.	Adjust the brightness control.
	Screen save has been initiated.	Press any key or move the mouse to light the screen.
Garbled characters on the screen are mixed with text.	The ANSI.SYS driver is not in the CONFIG.SYS file.	Add the ANSI.SYS driver to the CONFIG.SYS file by adding the following line: DEVICE = C:\ANSI.SYS
Monitor overheats.	There is not enough ventilation space for proper airflow.	Leave at least 3 inches (7.6 cm) of ventilation space. Also, be sure there is nothing on top of the monitor to obstruct air flow.
Cursor will not move using the arrow keys on the numeric keypad.	The Num Lock key is on.	Press the Num Lock key. The Num Lock light should not be on when you want to use the arrow keys.

There is a possible
application error.

Restart the computer.

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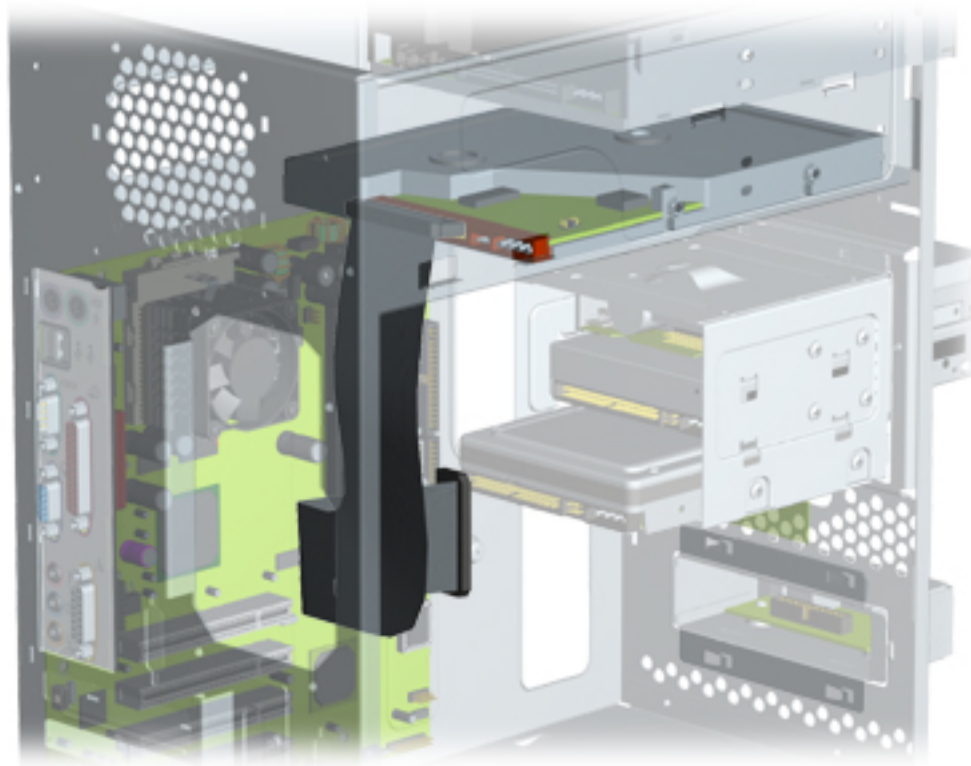
CD/DVD
CD-RW
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Diskette drive
Hard drive
Zip drive
Service considerations index page

REMOVAL & REPLACEMENT PROCEDURES

Service considerations - Cable positions

5.25" Hard Drive ([Click here to see the 3.5" hard drive](#))

The cable goes behind the power supply and attaches to the system board. For some models the position will differ slightly.



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REMOVAL & REPLACEMENT PROCEDURES

Mass storage devices

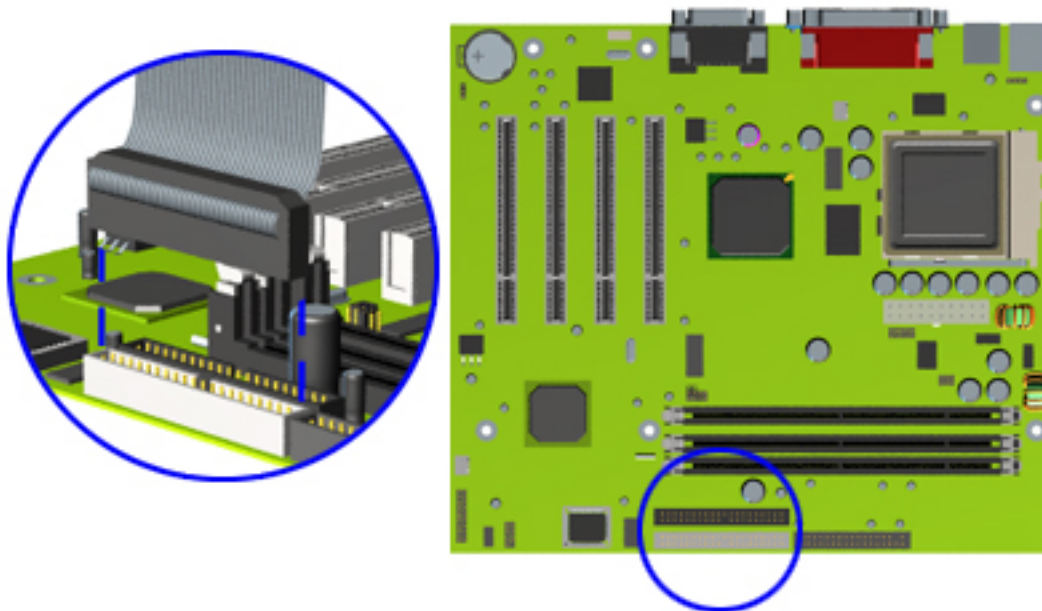
3.5" Hard Drive, continued

- 7 Disconnect the hard drive cable from the board.

Replacement

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

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REMOVAL & REPLACEMENT PROCEDURES

Mass Storage Devices

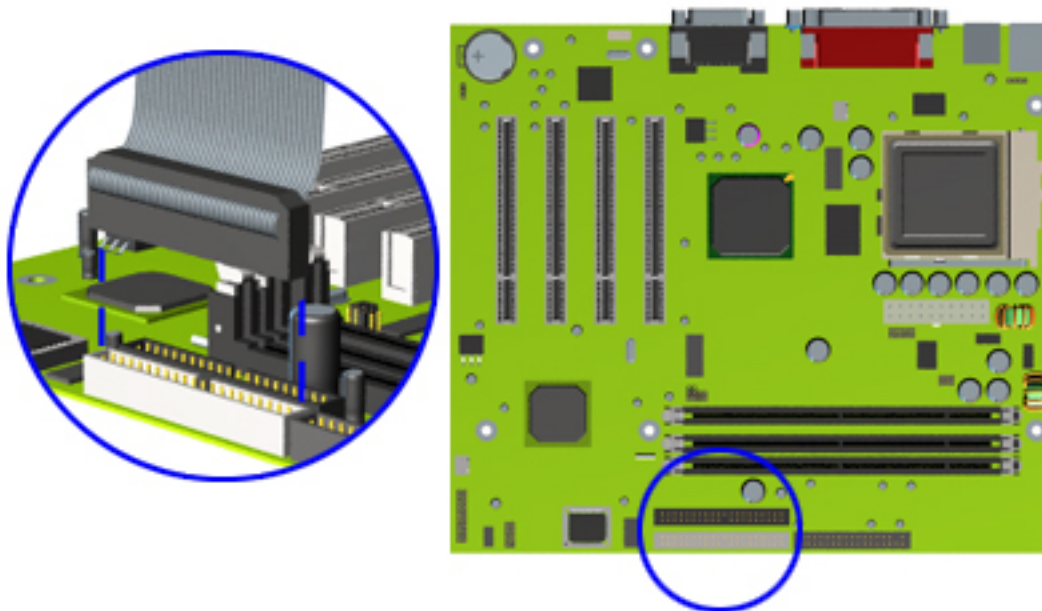
5.25" Hard Drive, continued

- 6 Disconnect the hard drive cable from the board.

Replacement

To replace the hard drive, reverse this procedure.

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Mass Storage Devices

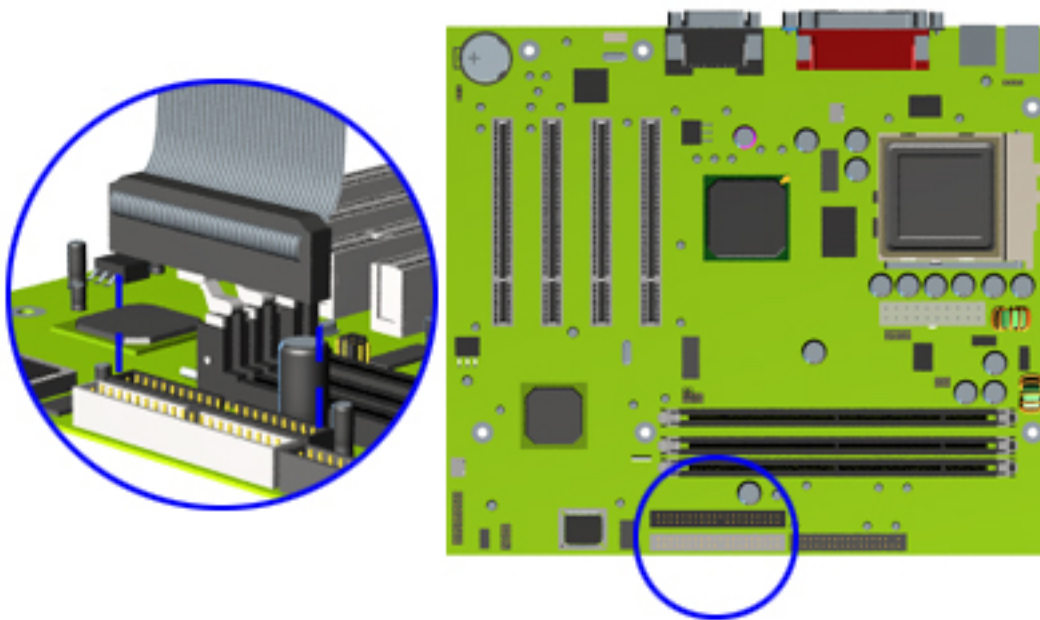
Zip Drive Removal, Continued

- 7 Remove the zip drive cable from the board.

Replacement

To replace the Zip drive, reverse the removal procedure.

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PRODUCT DESCRIPTION

Compaq Presario 7400 Series Standard Configurations

Models	Processor MHz	Hard drive GB	RAM MB	CD/DVD/CD-RW	Modem
North America (NA)					
7460	K6-2 (500)	8.0	64	CD-RW	PCI ITU V.90 56K
7461	K6-2 (500)	8.0	64	40X CD	PCI ITU V.90 56K
7462	K6-2 (500)	10.0	64	8X/10X DVD	PCI ITU V.90 56K
7464	K6-2 (500)	8.0	64	8X/10X DVD	PCI ITU V.90 56K
7465	K6-2 (533)	17.0	64	CD-RW	PCI ITU V.90 56K
7467	K6-2 (500)	10.0	64	40X CD	PCI ITU V.90 56K
7469	K6-2 (500)	13.0	64	40X CD	PCI ITU V.90 56K

7471	K6-2 (533)	30.0	64	CD-RW	PCI ITU V.90 56K
7473	K6-2 (533)	10.0	64	CD-RW	PCI ITU V.90 56K
7475	K6-2 (533)	40.0	64	8X/10X DVD and CD-RW	PCI ITU V.90 56K
7477	K6-2 (533)	20.0	64	CD-RW	PCI ITU V.90 56K
7478	K6-2 (533)	8.0	64	CD-RW	PCI ITU V.90 56K
7479	K6-2 (533)	20.0	64	CD-RW	PCI ITU V.90 56K
7485	K6-2 (550)	20.0	64	CD-RW	PCI ITU V.90 56K
7488	K6-2 (550)	30.0	64	CD-RW	PCI ITU V.90 56K
7489	K6-2 (550)	40.0	64	8X/10X DVD and CD-RW	PCI ITU V.90 56K
APD					
7400	K6-2 (500)	8.0	64	40X CD	International 56K
7400	K6-2 (533)	8.0	64	40X CD	International 56K
7480	K6-2 (550)	10.0	64	40X CD	International 56K
EMEA					
7450	K6-2 (475)	8.0	64	40X CD	International 56K
7460	K6-2 (500)	8.0	64	CD-RW	International 56K
7461	K6-2 (500)	8.0	64	40X CD	International 56K
7464	K6-2 (500)	8.0	64	8X/10X DVD	International 56K
7470	K6-2 (533)	10.0	128	8X/10X DVD	International 56K

7474	K6-2 (533)	8.0	64	8X/10X DVD	International 56K
7478	K6-2 (533)	30.0	64	8X/10X DVD and CD-RW	International 56K
7479	K6-2 (533)	15.0	64	40X CD	International 56K
7480	K6-2 (550)	15.0	64	40X CD	International 56K
7481	K6-2 (550)	15.0	64	CD-RW	International 56K
7482	K6-2 (550)	15.0	64	8X/10X/12X DVD	International 56K
7483	K6-2 (550)	15.0	64	8X/10X/12X DVD	International 56K
7484	K6-2 (533)	15.0	64	8X/10X/12X DVD	International 56K
Latin America (LA)					
7453	K6-2 (475)	5.0	32	40X CD	PCI ITU V.90 56K
7463	K6-2 (500)	5.0	64	40X CD	PCI ITU V.90 56K
7470	K6-2 (533)	20.0	64	CD-RW	PCI ITU V.90 56K
7476	K6-2 (533)	10.0	64	40X CD	PCI ITU V.90 56K
7477	K6-2 (550)	20.0	64	CD-RW	PCI ITU V.90 56K

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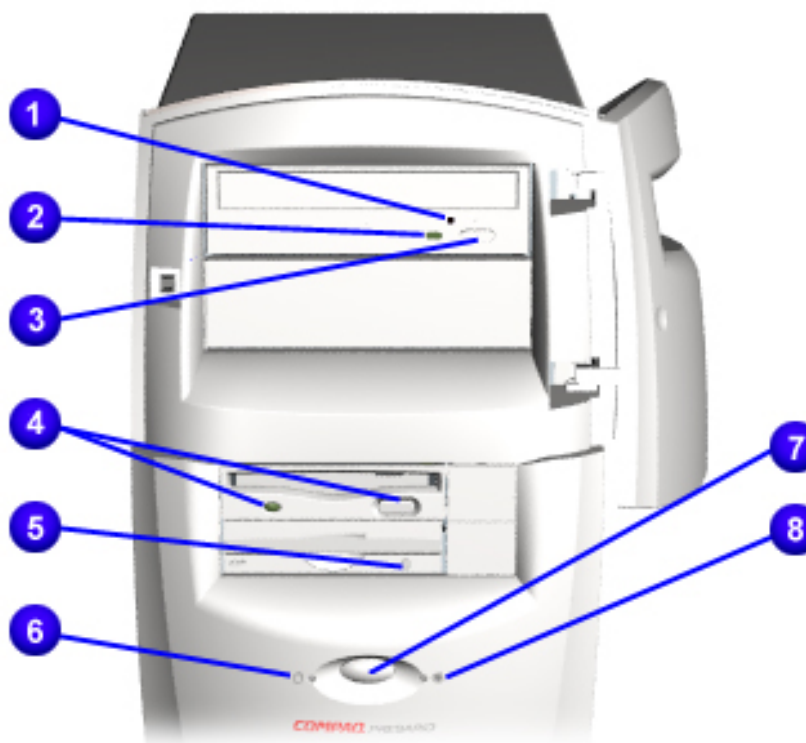


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CPU Controls and Lights

- 1 Emergency eject slot
- 2 CD/DVD drive activity light (on select models the light is displayed to the left of the manual eject slot) (CD-RW - selected models)
- 3 CD/DVD load/eject button
- 4 Floppy drive eject button & activity light
- 5 Zip drive eject button & activity light (Zip drive - selected models)
- 6 Hard drive activity light
- 7 Instant On button
- 8 Power status light

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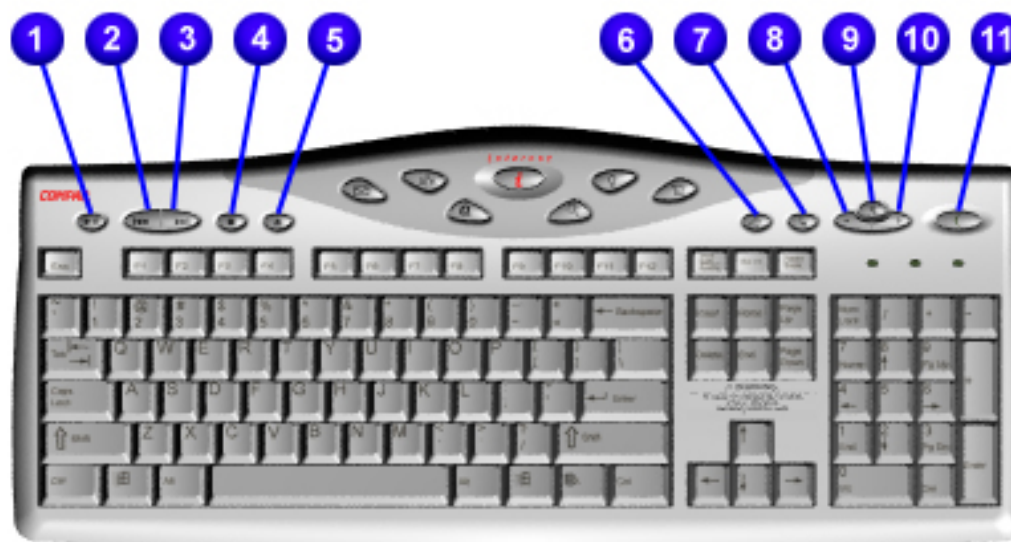
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Top left and right controls (View [keyboard top right corner](#) assignments)



Keyboard Controls and Lights

- 1 Play/pause
- 2 Previous track
- 3 Next track
- 4 Stop
- 5 Load/Eject CD
- 6 Quick Print
- 7 Application launch
- 8 Volume down
- 9 Mute
- 10 Volume up
- 11 Sleep button

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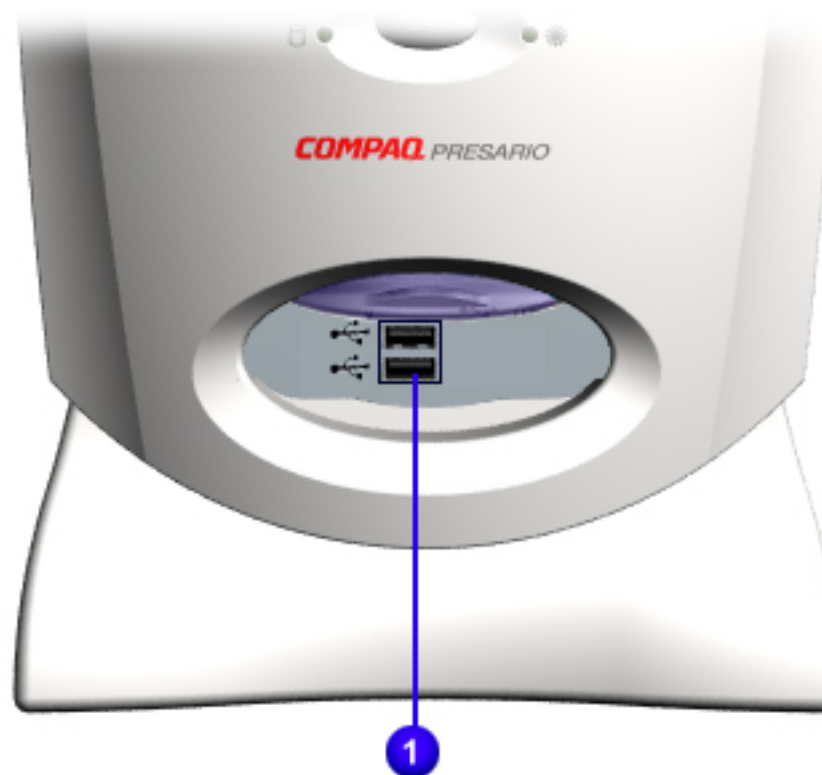
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Available on select models.

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Creativity Action Center

1 Two USB
(Universal Serial
Bus) ports

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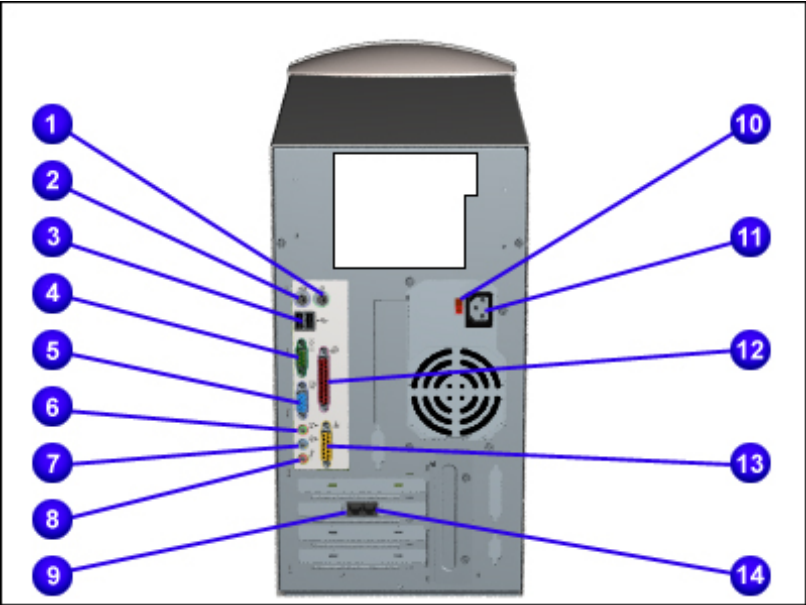
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[View](#) connector pin assignments.



Back CPU Connectors

- 1 Mouse
- 2 Keyboard
- 3 Two USB ports
- 4 Serial port
- 5 SVGA monitor port
- 6 Audio line out
- 7 Audio line in
- 8 Microphone in
- 9 Modem line
- 10 Voltage select switch
- 11 AC power connector
- 12 Parallel Port
- 13 MIDI Game Port
- 14 Telephone line to telephone

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

IMPORTANT:

The Back CPU connectors and cable connectors are color coded.

NOTE:

Select models may contain an Ethernet network card.

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Power Cord Set Requirements

The power supply should be set based on the country where it purchased and used. The voltage select switch feature should be set to 115 Volts AC for the USA.

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 no longer than 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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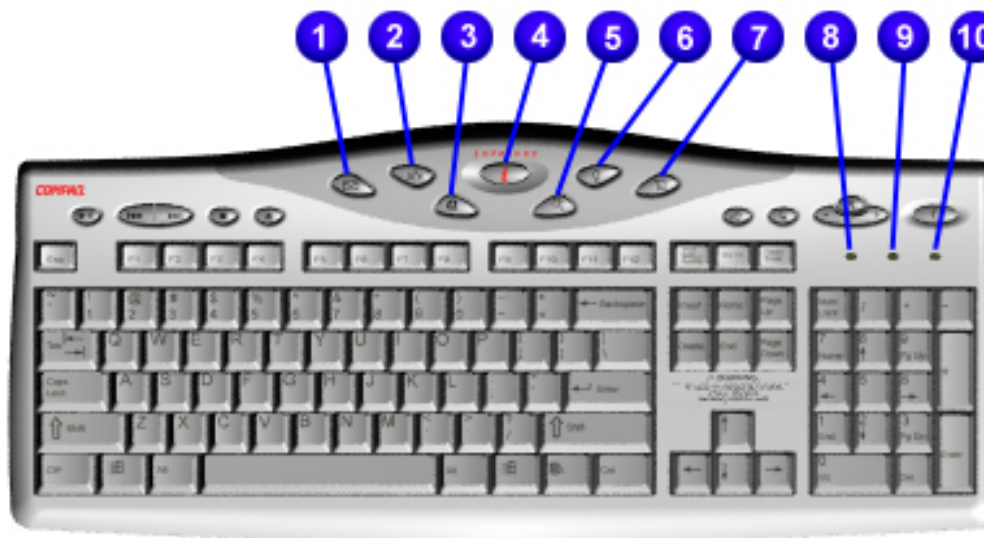
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PRODUCT DESCRIPTION

Center controls and upper right corner lights



Keyboard Controls and Lights

- 1 Instant e-mail
- 2 Daily destination
- 3 My Presario
- 4 Instant Internet
- 5 Instant Search
- 6 Online Marketplace
- 7 Retail Central
- 8 Num Lock Light
- 9 Caps Lock Light
- 10 Scroll Lock Light

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Power cord set requirements

PRODUCT DESCRIPTION

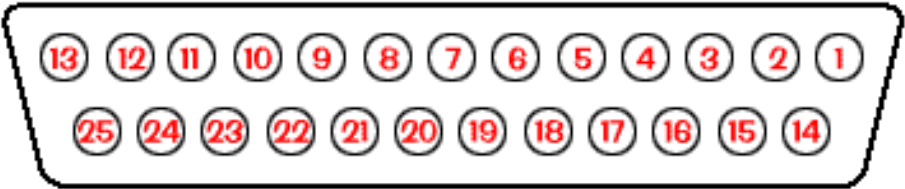
CPU Back Connectors

Connector Pin Assignments

Select an item to see its pin assignments.

- [Audio line out](#)
- [Keyboard](#)
- [Parallel Connector](#)
- [Speaker/headphone out](#)
- [Audio line in](#)
- [Microphone](#)
- [Phone line to phone](#)
- [USB](#)
- [CD drive data cable](#)
- [MIDI/joystick](#)
- [Phone line to wall jack](#)
- [VGA monitor](#)
- [Fax/modem](#)
- [Mouse](#)
- [Serial Connector](#)

Parallel Connector

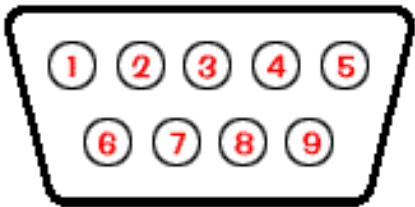


Pin	Signal	Pin	Signal	Pin	Signal
1	Strobe*	7	Data Bit 5	13	Select
2	Data Bit 0	8	Data Bit 6	14	Auto Linefeed*
3	Data Bit 1	9	Data Bit 7	15	Error*
4	Data Bit 2	10	Acknowledge*	16	Initialize Printer*
5	Data Bit 3	11	Busy	17	Select In*
6	Data Bit 4	12	Paper Out	18-25	Signal Ground

* Active low

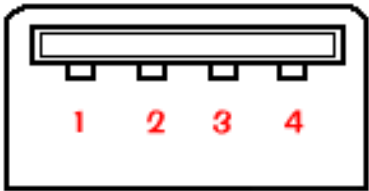
Serial Connector

Pin	Signal
1	Carrier Detect
2	Receive Data
3	Transmit Data



- 4 Data Terminal Ready
- 5 Signal Ground
- 6 Data Set Ready
- 7 Ready to Send
- 8 Clear to Send
- 9 Ring Indicator

Universal Serial Bus



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

Keyboard & Mouse

Pin	Signal
1	Data
2	Unused
3	Ground



- 4 + 5 VDC
- 5 Clock
- 6 Unused

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Maintenance and Service Guide

Compaq Presario 7400 Series Computers

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Models and features
CPU controls and lights
Keyboard controls and lights
Creativity Action Center
CPU back connectors
Power cord set requirements

PRODUCT DESCRIPTION

CPU Back Connectors

Connector Pin Assignments

Click on an item to see its pin assignments.

Audio line out	Flat panel monitor	Mouse	Serial Connector
Audio line in	Keyboard	Parallel Connector	Speaker/headphone out
CD drive data cable	Microphone	Phone line to phone	USB
Fax/modem	MIDI/joystick	Phone line to wall jack	VGA monitor

MIDI / Joystick



Pin	Signal	Pin	Signal	Pin	Signal
1	+ 5 VDC	6	Y-Axis (1)	11	X-Axis (2)
2	Fire A (1)	7	Fire B (1)	12	MIDI Out
3	X-Axis (1)	8	+ 5 VDC	13	Y-Axis (2)
4	Ground	9	+ 5 VDC	14	Fire B (2)
5	Ground	10	Fire A (2)	15	MIDI In

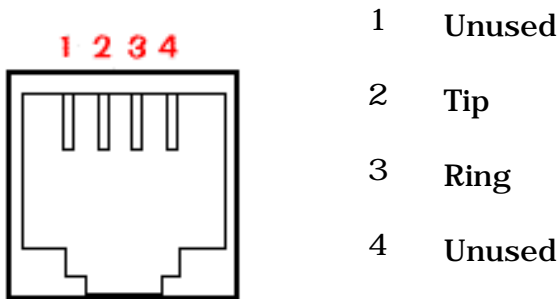
Line out
Line in
Speaker/Headphone Out
Microphone



Stereo 1/8" Miniphone

Phone Line to Wall Jack
Phone Line to Phone

Pin	Signal
-----	--------



Internal Fax/Modem					
Pin	Signal	Pin	Signal	Pin	Signal
1	Unused	3	Ring	5	Unused
2	Unused	4	Tip	6	Unused

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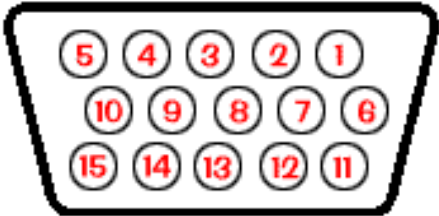
CPU Rear Connectors

Connector Pin Assignments

Audio line out	Flat panel monitor	Mouse	Serial
Audio line in	Keyboard	Parallel	Speaker/headphone out
CD drive data cable	Microphone	Phone line to phone	USB
Fax/modem	MIDI/joystick	Phone line to wall jack	VGA monitor

VGA Monitor

Pin	Signal	Pin	Signal
1	Red Analog	9	+ 5 VDC



- | | | | |
|---|---------------|----|-----------------|
| 2 | Green Analog | 10 | Ground |
| 3 | Blue Analog | 11 | Volume Down |
| 4 | Volume Up | 12 | DDC Data |
| 5 | Ground | 13 | Horizontal Sync |
| 6 | Ground Analog | 14 | Vertical Sync |
| 7 | Ground Analog | 15 | DDC Clock |
| 8 | Ground Analog | | |

CD Drive Data Cable							
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	RESET	11	DD3	21	DMARK	31	INTRQ
2	GND	12	DD12	22	GND	32	-IOCS16
3	DD7	13	DD2	23	-DIOW	33	DA0
4	DD8	14	DD13	24	GND	34	-PDIA6
5	DD6	15	DD1	25	-DIOR	35	DA0
6	DD9	16	DD14	26	GND	36	DAZ
7	DD5	17	DD0	27	IORDY	37	-CS1FX
8	DD10	18	DD15	28	SPSYNC	38	-CS3FX
9	DD4	19	GND	29	-DMACK	39	-DASP

10 DD11 20 (KEY) 30 GND 40 GNP



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