Presario 1200 Series Model: 1245

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Welcome to the Maintenance & Service Guide for the Presario Model 1245

Preface
Product
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Troubleshooting
Illustrated
Parts Catalog
Removal &
Replacement
Procedures
Specifications
Connector Pin
Assignments
Battery Pack
Operations



This online guide is designed to serve the needs of those whose job it is to repair Compaq products.

This Guide will be periodically maintained and updated online as needed.

For content comments or questions, contact <u>Customer Support</u>.

To report a technical problem, contact your Regional Support Center or IM Help Center.

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Notice

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

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Maintenance and Service Guide

Compaq Presario 1200 Series Portable Computers

First Edition (June 1999)
Compaq Computer Corporation

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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 Model 1245 Portable Computer.

Compaq Computer Corporation reserves the right to make changes to the Model 1245 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 is located on the bottom of the computer.

Locating Additional Information

The following documentation is available to support this product:

- Compaq Presario 1200 Series Portable Computer documentation set
- Introducing Windows 95 Guide
- Service Training Guides
- Compaq Service Advisories and Bulletins
- Compaq QuickFind
- Compaq Service Quick Reference Guide

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Product Description

Models and Features

Controls and Lights

Left Side

Components

Right Side

Components

Bottom of Unit

Rear Connectors

Power Management

for Windows 98



Compaq Presario Portable Computers...

are a continuation of new generation multimedia portable computers with innovative integrated designs, outstanding audio and video. advanced core features. and attractive styling.

This fullfunction,
AMD-K6
portable
computer
allows full
desktop
functionality.

Presario 1200 Series Model: 1245

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Models & Features

Models and Features
Controls and Lights
<u>Left Side</u> <u>Components</u>
Right Side Components
Bottom of Unit
Rear Connectors
<u>Power</u> <u>Management</u>

Compaq Presario 1200 Series Portable Computer Model 1245

Display	12. 1" HPA
Processor	AMD-K6II 333-MHz MMX
Hard Drive	3.2-GB
CD Drive	24× MAX
Modem	56K Metis (or) 56K Khan
Battery	ES NiMH
System Memory	32 MB

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Controls and Lights

Models and Features

Controls and

Lights

<u>Left Side</u> <u>Components</u>

Right Side

Components

Bottom of Unit

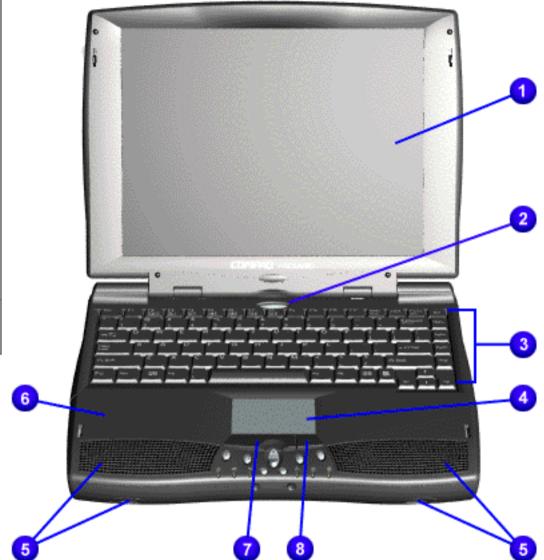
Rear

Connectors

Management

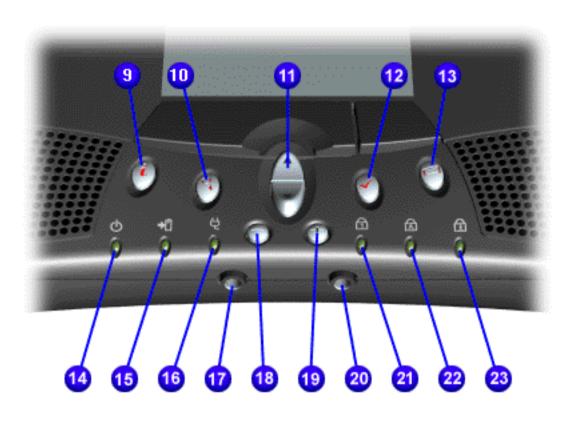
for Windows
98

Power



Front Panel Components

- 1. Display
- 2. Power Button
- *3.*
- Keyboard
- 4.TouchPad
- **5.**
- Speakers & Ports
- 6. Palmrest
- 7. (L)
 TouchPad
 Button
- 8. (R) TouchPad Button



- 9. Instant Internet Access Button
- 10. Instant Search Button
- 11. Scroll up/down Button
- 12. Instant
 ECommerce
 Button
 (or Retail
 Center)

NOTE: Depending on

the model, the icon for this button may be either a check mark or a shopping cart.

- 13. Instant E-mail
- 14. Power Light
- 15. Battery Charge Light
- 16. AC Adapter Light
- 17. Headphone Jack
- 18. Volume Down Button
- 19. Volume Up Button

20. Microphone Jack

21. Number Lock Light

22. Cap Lock Light

23. Scroll Lock Light

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- 1. PC Card Eject Lever
- 2. PC Card Slot
- 3.
 Diskette
 Drive
 Slot
- 4. Diskette Eject Button

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Right Side Components

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Right Side Components

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- 1. Battery Compartment.
- 2. CD Drive.
- 3. CD Drive Eject Button.

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Bottom of Unit

Models and Features

Controls and Lights

Left Side

Components

Right Side **Components**

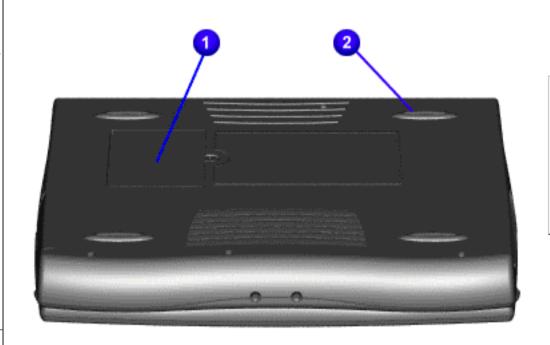
Bottom of Unit

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Connectors

Management for Windows

Power 98



1. **Upgradeable** memory compartment.

2. Rubber feet.

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Rear Connectors

Models and Features

Controls and

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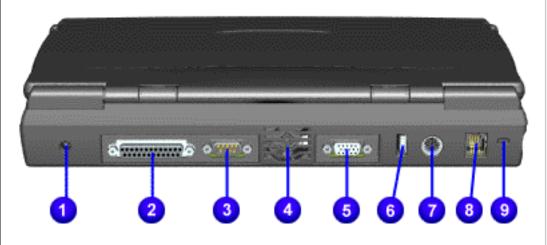
Left Side Components

Right Side Components

Bottom of Unit

Rear Connectors

Power Management for Windows 98



- 1. AC Adapter.
- 2. Parallel Printer Port.
- 3. Serial Port.
- 4. Fan Exhaust.
- 5. External Monitor Port.
- 6. USB.
- 7.
 Keyboard/Mouse
 Port.
- 8. Modem Jack.
- 9. Security Slot.

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Power Management for Windows 98

The following power management features are available for conserving AC power and extending battery operating time:

Power Management
Settings

<u>Sleep</u>

Hibernation

Battery Operating
<u>Time</u>

Rebooting After Lockup

Servicing Your Computer

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Power Management for Windows 98

Power Management Settings

Depending on your patterns of computer use, you can set different levels of power management. These different power management levels can be activated based on the amount of time passed since the last system activity. System activity examples include keyboard or mouse movement, CD or DVD playback (while under program control that monitors Sleep), and modem use.

You can select different conditions or power schemes through Power Management. The optional settings are **Home/Office Desk**, **Portable/Laptop**, and **Always On**. From the default settings, you can change the following settings:

- the System goes to Sleep (Standby) mode
- the screen times out and goes blank
- the hard drive spins down

Each of these system components goes to sleep after the selected or default periods of inactivity.

(The setting for hard drive must be less than, or equal to, the setting for System.)

IMPORTANT: If you're on a network, it's recommended that you set **System Standby** to **Never**.

There are five categories of power management settings under the Control Panel.

The default settings for each feature are listed in the following tables:

Power Management Properties	
Plugged in	Running on Batteries
Never	After 15 minutes
3 hours	Never
After 15 minutes	After 10 minutes
	Plugged in Never 3 hours

Power Manage	ement Properties
Tab: ALARMS::	
Low Battery Alarm:	10%
Critical Battery Alarm	0%
Alarm Actions:	X Display Message Notification:
	Text Action: No Action

Power Man	agement Properties
Tab: POWER METER :	Default
Tab: ADVANCED	Default (show power meter on taskbar)

Display Properties	

Return to Power Management for Windows 98 list.

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Power Management for Windows 98

Sleep

You can select Sleep mode instead of turning off the computer when you have finished using it. This allows the computer to wake up faster than turning it off and saves power over the active (On) mode. Compaq Presario Notebook computers have two levels of sleep—Hibernation and Sleep.

Hibernation - pushing the power button once causes your computer to perform a save to disk followed by a shut down of the computer into Off mode.

Sleep - is a low-power mode, also referred to as Standby mode. While in Sleep mode, your computer maintains system information and open files. Unsaved information is lost if you turn off your system before system wake-up, or if you lose power while using the AC adapter.



CAUTION: While in Sleep mode, your computer maintains system information and open files. **Unsaved information is lost if you turn off your system before system wake-up, or if you lose power while using the AC adapter**.

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Power Management for Windows 98

Hibernation Mode

Hibernation helps conserve battery life and protect your data. Hibernation can be a routine power saving event, or can be the result of a low battery condition. As it enters Hibernation, your computer displays a progress screen, as it automatically saves the machine state before it shuts down and turns itself off. Your computer automatically goes into Hibernation when the battery has little power left, or when the system (operating on battery power) has been in Sleep mode for more than an hour. You can also manually initiate Hibernation by pressing the power button once while the system is active. To restore the computer's previous state, simply press the power button once again. While waking up, the computer displays a progress screen.

The following table shows the conditions and indicators for getting in and out of the various power management modes—Sleep, Hibernation, and Off.

Mode	To Initiate	To End	Indicators
Sleep	Manual keys combination - Fn+F4	Press any key	Flashing green Power LED
	Time Out Default - 15 minutes if on Battery power (system will not time out to sleep)		
Hibernate	Manual - Press Power Button once	Press Power Button once	No Power LED, blank screen
	Time Out Default - If low battery or after 1 hour of sleep (system will not Hibernate if on AC power)		
Off	Perform normal Windows shutdown via the start button, or press and hold down the power button for 4 seconds	Press Power Button once	No Power LED, blank screen

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Power Management for Windows 98

Rebooting After a Lockup

Occasionally you may encounter a frozen keyboard or a locked screen. To reboot your computer (as if from a cold start), press and hold down the Power Button for at least four seconds, which will cause a manual shutdown. Then, restart the computer with a single press of the Power Button. If it still does not recover, press the Power Button and hold it for four seconds to power off the computer. Then, remove the battery or unplug the AC power for at least 30 seconds. Reinsert the battery or reconnect AC power and press the Power Button once to reboot.

Return to <u>Power Management for Windows 98</u> list.

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Power Management for Windows 98

Servicing Your Computer - Full Off Mode

If you need to install or replace components in your system, you must turn the computer off *completely*.

Place the computer into <u>Off mode</u>, unplug it from the outlet, and remove the battery <u>(see battery section for instruction on removing battery).</u>

Return to Power Management for Windows 98 list.

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Illustrated Parts Catalog

This section provides a breakdown and identifies the spare parts ordering number associated with each item for the Compaq Presario 1200 Series Portable Computers.

System Unit <u>Cables</u>

Boards Miscellaneous Hardware & Plastics Kit

<u>Display Assembly</u> Miscellaneous Parts

Mass Storage Devices
Documentation & Software

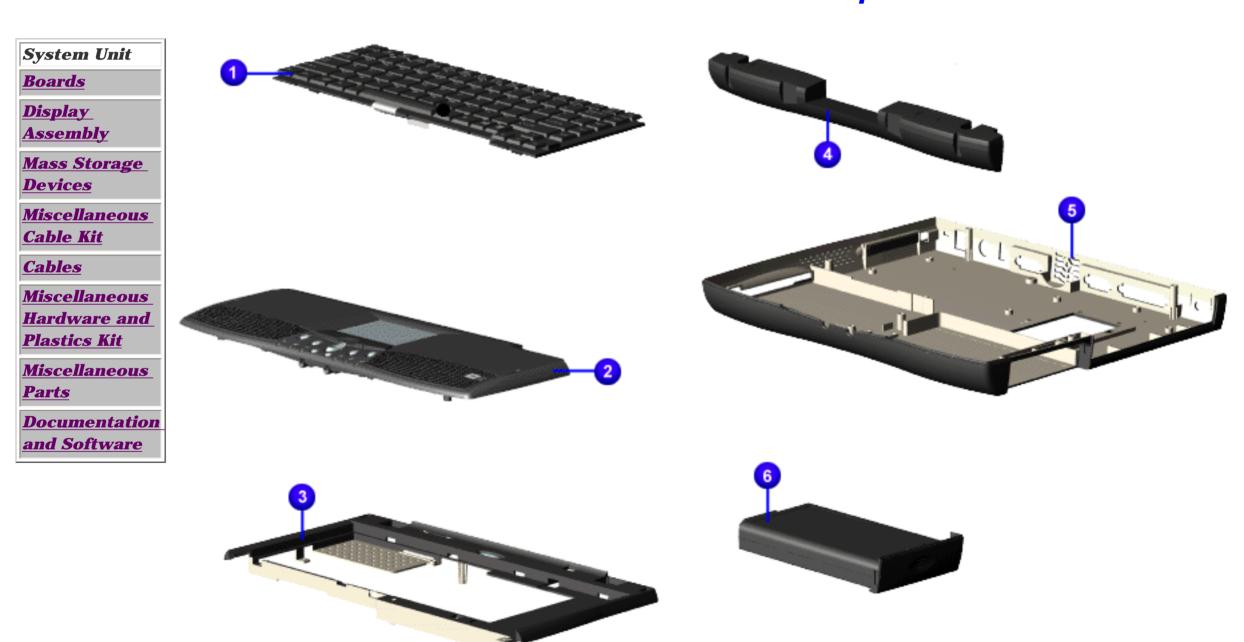
Miscellaneous Cable Kit

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System Unit

Place cursor over each device to obtain its part number.



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Boards

System Unit

Boards

<u>Display</u> <u>Assembly</u>

Mass Storage
Devices

<u>Miscellaneous</u>

Cable Kit

Cables

Miscellaneous

Hardware and Plastics Kit

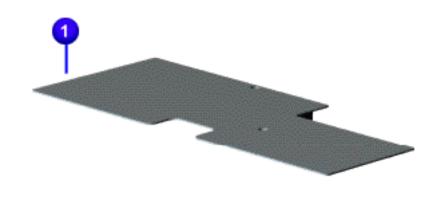
Miscellaneous

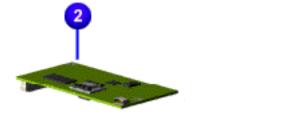
Parts

Documentation

and Software

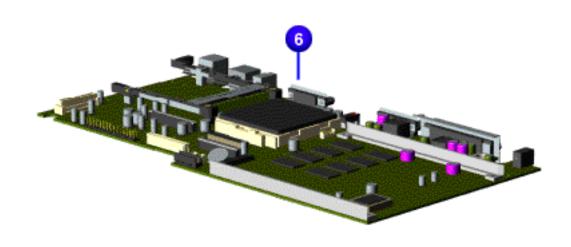
Place cursor over each device to obtain its part number.











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Mass Storage Devices

System Unit

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<u>Display</u> Assembly

Mass Storage Devices

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Cables

Miscellaneous

Hardware and Plastics Kit

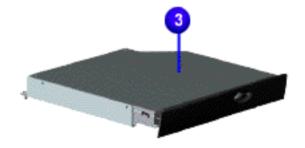
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Place cursor over each device to obtain its part number.





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Cables

<u>Miscellaneous</u>

Hardware and

Plastics Kit

Miscellaneous

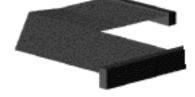
<u>Parts</u>

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and Software

Place cursor over each device for a description of that item.

Spare Part Number: 330946-001









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Description	Spare Part Number
Power Cord	[FrontPage Save Results Component]

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Miscellaneous Hardware and Plastics Kit

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Miscellaneous Hardware and Plastics Kit

Hardware Spare Part Number: 346853-001 Plastics Kit Spare Part Number 142657-001

Description	Quantity
1. Door, Battery Pack	1 each
2. Cover, Memory Module	1 each
3. Door, PCMCIA	2 each
4. Hinge (Clutch) Cover, Left	1 each
5. Hinge (Clutch) Cover, Right	1 each
6. Rubber Foot	10 each
7. Hard Drive Mounting Bracket	1 each

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<u>Cable Kit</u>

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Miscellaneous Parts

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Use the scroll down menu for the description and spare part number of spare parts **Not Shown**.

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<u>Cables</u>
Miscellaneous Hardware and Plastics Kit
<u>Miscellaneous</u> <u>Parts</u>
Documentation and Software

Description	Spare Part Number	
Reference Guide		
UC Canada	117894-001	
US, Canada	117894-121	
French Canada	117894-161	
Latin America, Mexico		
Australia, New Zealand, Asia,	117894-031	
Pacific, United Kingdom	117894-291	
Japan	117894-051	
France, Belgium	117894-061	
Italy	117894-101	
Sweden	117894-331	
Netherlands		
Quick Restore CD		
US, Canada	122315-001	
French Canada	122315-121	
	122315-161	
Latin America, Mexico		
Australia, New Zealand, Asia,	122315-371	
Pacific United Viscosians	122315-031	
United Kingdom	122315-291	
Japan	122315-051	
France,	122315-AK1	
Belgium	122315-061	
Italy	122315-101	
Sweden	122315-331	
Netherlands		
Feature Guide		
US, Canada	120231-001	
French Canada	120231-121	
Latin America, Mexico	120231-161	
Australia, New Zealand, Asia,		
Pacific, United Kingdom	120231-031	
Japan	120231-291	
France, Belgium	120231-051	
Italy	120231-061	
Sweden	120231-101	
Netherlands	120231-331	
1.0tilolidiab		

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Removal and Replacement Procedures

This section explains the removal and replacement procedures for the computer.

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Disassembly

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Palmrest

Cover with

Touch Pad

Heatspreader

Keyboard

Processor

Hard Drives

CD Drive

Battery

Charger Board

Modem

Display Panel

<u>Assembly</u>

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

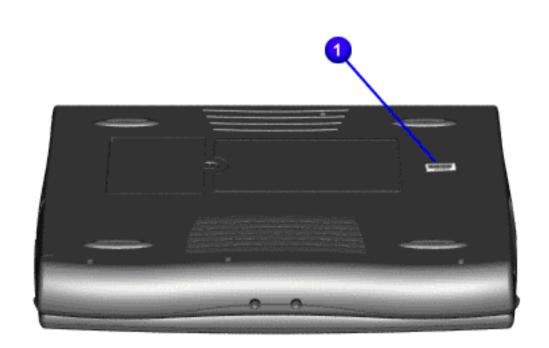
System Board

Dip Switch

Settings

<u>Memory</u>

Module



Report the computer [1] serial number to Compaq when requesting information or ordering spare parts.

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Electrostatic Discharge



A sudden discharge of static electricity from a finger or other conductor can destroy static-sensitive devices or microcircuitry.

- Often the spark is neither felt nor heard, but damage occurs. An electronic device exposed to an electrostatic discharge (ESD) may not be affected at all and will work perfectly throughout a normal cycle. Although it may function normally for a while, it is possible for the exposed device's internal layers to degrade, reducing its life expectancy considerably.
- Networks built into multiple integrated circuits provide some protection, but in many cases, the discharge can contain enough power to alter device parameters and melt silicon junctions.

Generating Static

This table shows the different electrostatic voltage levels generated by various activities.

NOTE: 700 volts can degrade a product.

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

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Service Considerations

Listed below are some of the considerations that you should keep in mind during the disassembly and re-assembly of the computer.

Tool and Software Requirements

To service the computer, you need the following:

- Compaq screwdriver kit (Spare Part No. 161946-001)
- Torx T-9 screwdriver
- 3/16-inch and 5mm nut drivers (for screwlocks and standoffs)
- Small, standard screwdriver
- Small, Phillips screwdriver
- Diagnostics software

Screws

The screws used in the computer are not interchangeable. If an incorrect screw is used during the reassembly process it can damage the unit.

Compaq strongly recommends that each screw removed during disassembly be kept with the part from which it was removed, then returned to the original location.

IMPORTANT:

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

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Cables and Connectors

Most cables used throughout the units are ribbon cables; they must be handled with extreme care to avoid damage.

Use the following precautions when handling cables to prevent damage to the cable or computer:

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



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.

Select the desired illustration.

- Removing a Cable from a <u>ZIF Connector</u>.
- The ribbon cable position for the **3.2-GB**, **4.0-GB**, **4.3-GB**, **and 6.4-GB** hard drive.
- The ribbon cable position for the **CD drive**.
- The ribbon cable position for the **diskette drive**.
- The cable position for the speaker assembly.

Plastic Parts

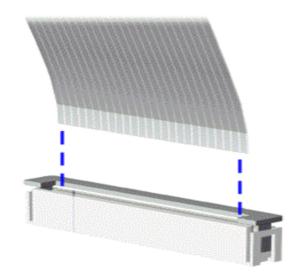
Plastic parts can be damaged if excessive force is used during disassembly and reassembly. When handling the plastic parts, use care. Apply pressure only at the points designated in the maintenance instructions.

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ZIF Connectors

The computer uses a zero insertion force (ZIF) connector for the keyboard cable to the system board. To remove a cable from a ZIF connector, lift both corners of the ZIF connector and slide simultaneously with constant light force.





CAUTION: A ZIF connector and its attached cable can be easily damaged. Handle only the connector slide when removing or replacing a cable. Never pull or twist on the cable while it is connected.

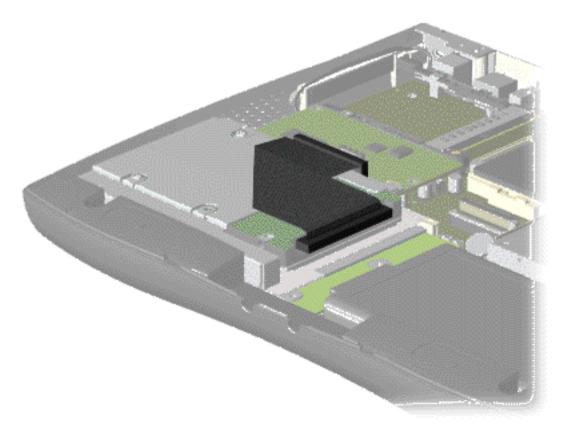


CAUTION: When servicing this computer, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the computer.

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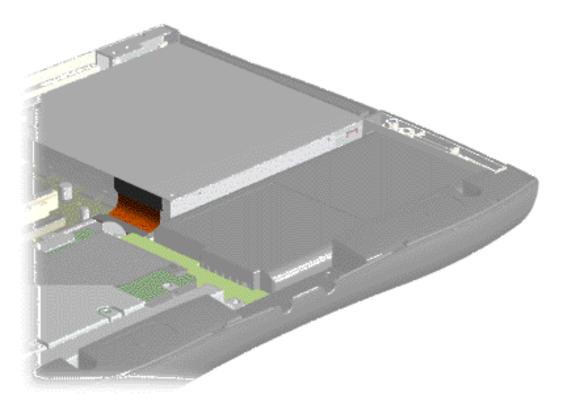
The ribbon cable position for the 3.2-GB hard drive.



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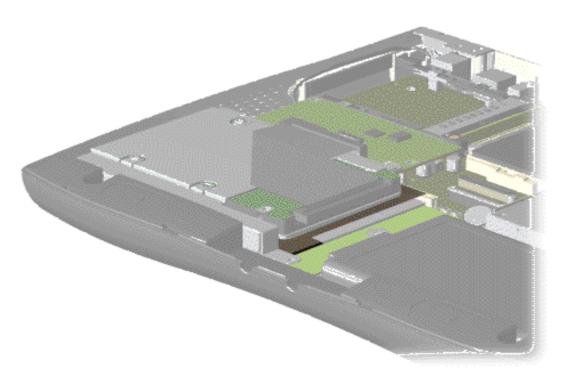
The ribbon cable position for the CD drive.



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The ribbon cable position for the diskette drive.



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The cable position for the speaker assembly.



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<u>Service</u> Considerations

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<u>Heatspreader</u>

Keyboard

<u>Processor</u>

Hard Drives

<u>CD Drive</u>

Battery Charger Board

3.6 3

<u>Modem</u>

<u>Display Panel</u> Assembly

<u>Upper CPU</u> Cover

<u>Speaker</u> <u>Assembly</u>

Diskette Drive

Fan Assembly

System Board

Dip Switch

Settings

Memory Module

Before beginning removal and replacement procedures, complete the following procedures:

- 1. Disconnect AC power and any external devices.
- 2. Remove the battery pack.
- 3. Remove any PC Cards.



WARNING: Metal objects can damage the battery pack as well as the battery contacts in the battery compartment. To prevent damage, do not allow metal objects to touch the battery contacts. Place only the battery pack for the Compaq Presario Model 1245 Portable Computer into the battery compartment. Do not force the battery pack into the bay if insertion does not occur easily.



CAUTION: Do not crush, puncture, or incinerate the battery pack. Do not open a battery pack, as this damages the pack, makes it unusable, and exposes potentially harmful battery components. There are no field-serviceable parts located inside the battery pack.



The Compaq Presario Model 1245 Portable Computer has several screws of various sizes which are **not** interchangeable. Care must be taken during reassembly to ensure that the correct screws are used in their correct location. During removal please keep respective screws with their associated subassembly.

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Processor

Hard Drives

CD Drive

Battery

Charger Board

Modem

Display Panel

Assembly

Upper CPU

<u>Cover</u>

<u>Speaker</u>

Assembly

Diskette Drive

Fan Assembly

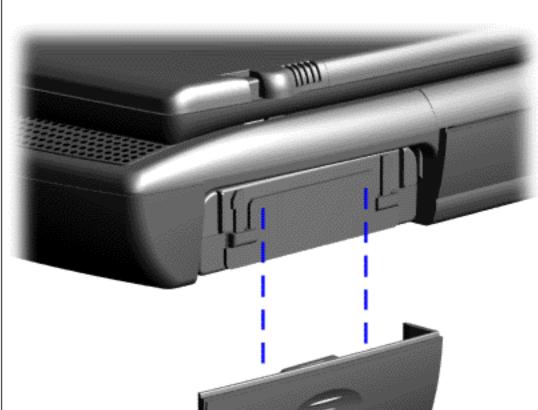
System Board

Dip Switch

Settings

Memory

Module

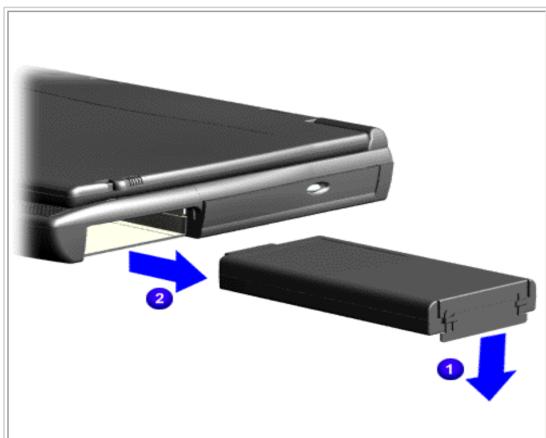


To remove the battery pack, complete the following steps:

1. Slide the battery pack compartment door down and remove it from the battery pack.

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2. Pull forward on the battery pack tab 1 and remove the battery pack 2 from the chassis.

To replace the battery pack, reverse the previous procedures.

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Removing the Palmrest Cover with Touch Pad

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<u>CD Drive</u>

<u>Battery</u> <u>Charger Board</u>

Modem

<u>Display Panel</u> <u>Assembly</u>

<u>Upper CPU</u> Cover

<u>Speaker</u>

<u>Assembly</u>

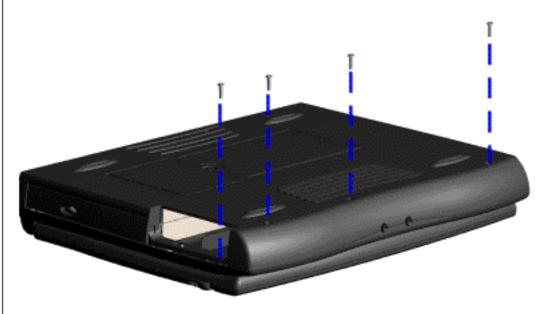
Diskette Drive

<u>Fan Assembly</u>

System Board

Dip Switch Settings

<u>Memory</u> Module



The palmrest cover with touch pad must be removed to gain access to any of the interior components of the computer, and it is the first component that has to be removed to gain access to the interior components.

It is not necessary to remove the display panel

NOTE: assembly to access the interior components of the computer.

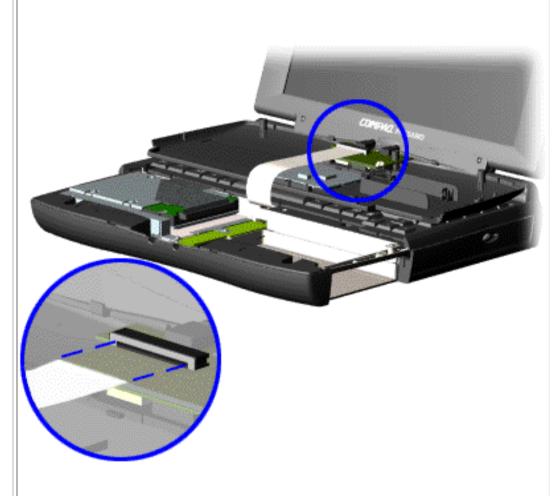
To remove the palmrest cover with touch pad, complete the following steps:

- 1. <u>Prepare the computer for disassembly</u>.
- 2. Close the computer and turn the computer upside down.
- 3. Remove four screws from the bottom of the computer.

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- 4. Turn the computer over (right side up), pull forward on the display latches to release and open the display assembly.
- 5. Lift up front end of the palmrest cover with touch pad and remove it from the groove in the chassis.
- 6. Tilt the palmrest cover with touch pad, allowing it to rest on top of the keyboard, and disconnect the flex cable from the ZIF connector on the palmrest cover.

caution: When replacing the palmrest cover with touch pad, ensure that the cable is fully inserted into the ZIF connector on the system board. If the metal end comes in contact with the keyboard, damage may occur to the computer.

To replace the palmrest cover with touch pad, reverse the previous procedures.

NOTE:

When replacing the palmrest cover, ensure that the cable is properly routed through the slot on the Upper CPU cover.

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<u>Display Panel</u>

<u>Assembly</u>

Upper CPU

<u>Cover</u>

<u>Speaker</u>

<u>Assembly</u>

Diskette Drive

Fan Assembly

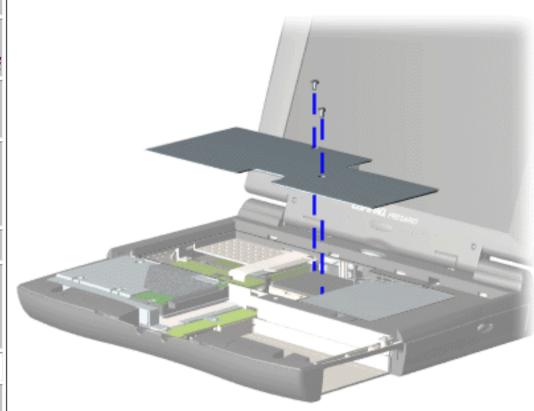
System Board

Dip Switch

Settings

Memory

Module



To remove the heatspreader, complete the following steps:

1. <u>Prepare</u>
<u>the computer</u>
<u>for</u>
disassembly.

2. Remove the <u>palmrest</u> <u>cover with</u> <u>touch pad</u>.

3. Remove Keyboard.

4. Remove two screws from the heatspreader and lift out of the chassis.

To replace the heatspeader, reverse the previous procedures.

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<u>Battery</u> Charger Board

Modem

<u>Display Panel</u> <u>Assembly</u>

<u>Upper CPU</u> Cover

<u>Speaker</u> Assembly

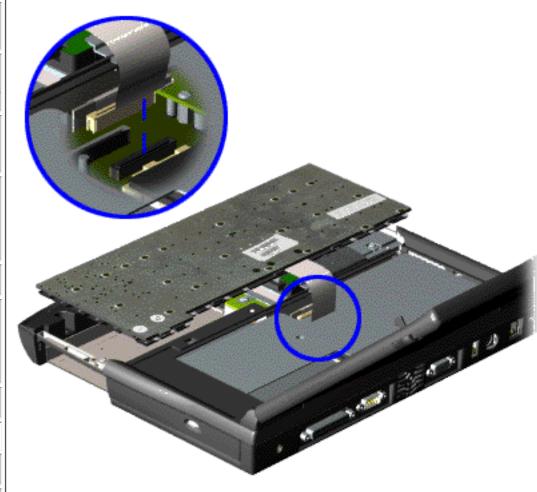
Diskette Drive

Fan Assembly

System Board

Dip Switch Settings

<u>Memory</u> Module



To remove the keyboard, complete the following steps:

- 1. <u>Prepare the computer for disassembly</u>.
- 2. Remove the palmrest cover with touch pad.
- 3. Turn the keyboard over, and allow it to rest on top of the palmrest cover with touchpad slot opening.
- 4. Remove the <u>heatspreader</u>.
- 5. Disconnect the flex cable from the ZIF connector on the system board.

To replace the keyboard, reverse the previous procedures.

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Removing the Processor

Electrostatic Discharge Service **Consideration** Cables and **Connectors** Preparing the **Computer for Disassembly Battery Pack Palmrest Cover with Touch Pad** <u>Heatspreader</u> **Keyboard** Processor **Hard Drives CD Drive** <u>Battery</u> Charger **Board** Modem **Display Panel** Assembly <u>Upper CPU</u> Cover <u>Speaker</u> Assembly Diskette **Drive** Fan Assembly

System

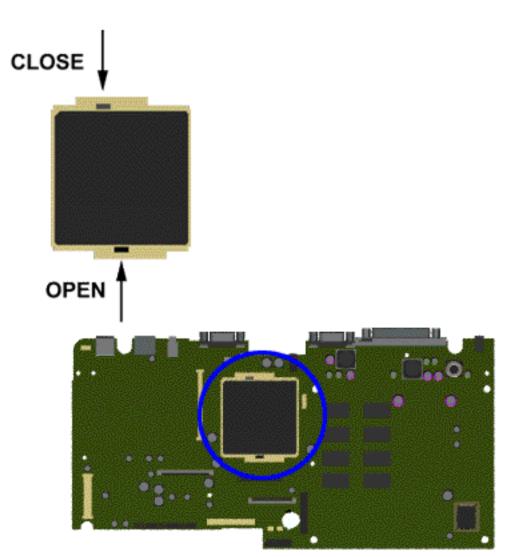
Settings

<u>Memory</u>

Module

Dip Switch

Board



To remove the processor, complete the following steps:

- 1. <u>Prepare</u>
 <u>the computer</u>
 <u>for</u>
 <u>disassembly</u>.
- 2. Remove palmrest cover with touch pad.
- 3. Remove the heatspreader.
- 4. Remove the <u>keyboard</u>.
- 5. Insert a small-blade screwdriver into the bottom slot opening on the processor and push toward the display to release the processor from the chassis slot.
- 6. Lift the processor out of the processor chassis slot.

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To replace the processor complete the following steps:

1. Insert the processor into the slot on the system board.



The notch on the left corner of the processor serves as an orientation indicator. Align the notch on the left corner of the processor with the notch on the left corner of the processor chassis slot.



When installing the processor into the chassis slot, be sure that the hole pattern on the chassis slot lines up with the pins on the processor. The processor should drop into the socket without any force.

- 2. Insert a small blade screw driver into the top slot opening on the processor and push it away from the display to lock the processor.
- 3. Verify the switch settings.

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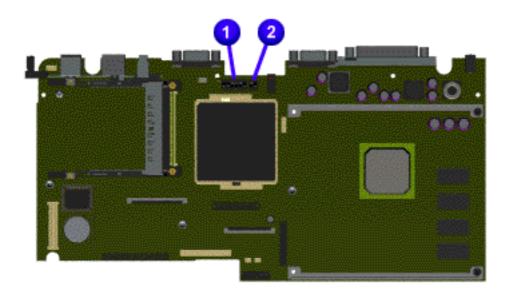
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CAUTION: When replacing the system board, ensure the dip switch voltage settings on the system board are correct for the computer model and processor voltage marked on the processor chip. If the system board dip switch voltage settings are not correct, damage may occur to the computer and/or system board.

NOTE:

The black area on the dip switch indicates the position of the switch.





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Removing the Hard Drive

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Charger

<u>Board</u>

Modem

Display Panel

<u>Assembly</u>

Upper CPU

Cover

<u>Speaker</u>

Assembly

Diskette

Drive

Fan Assembly

System

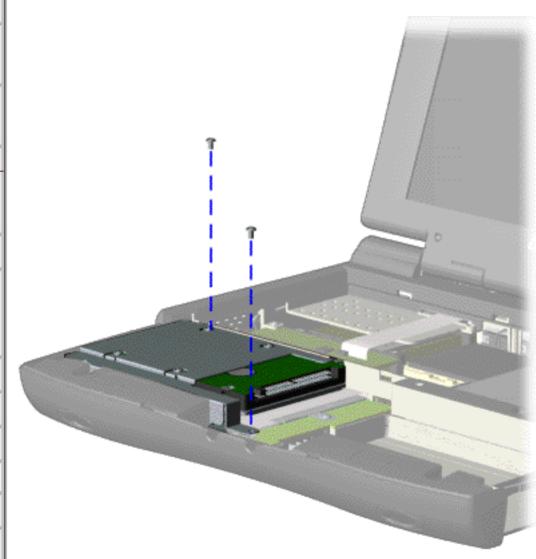
Board

Dip Switch

Settings

<u>Memory</u>

Module

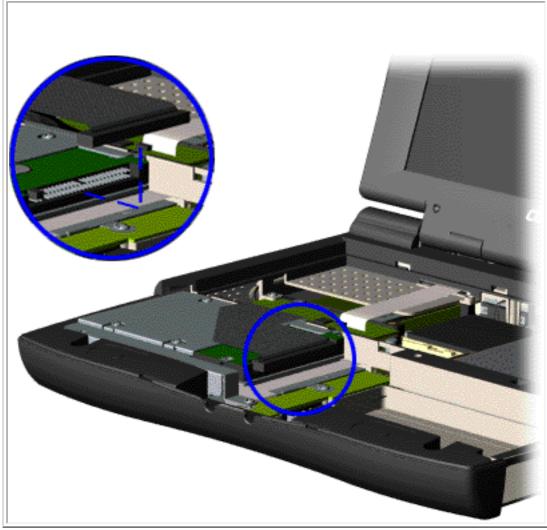


To remove the hard drive, complete the following steps:

- 1. Prepare the <u>computer</u> <u>for</u> <u>disassembly</u>.
- 2. Remove the palmrest cover with touch pad.
- 3. Remove the keyboard.
- 4. Remove two screws from the hard drive mounting bracket and lift up the hard drive.

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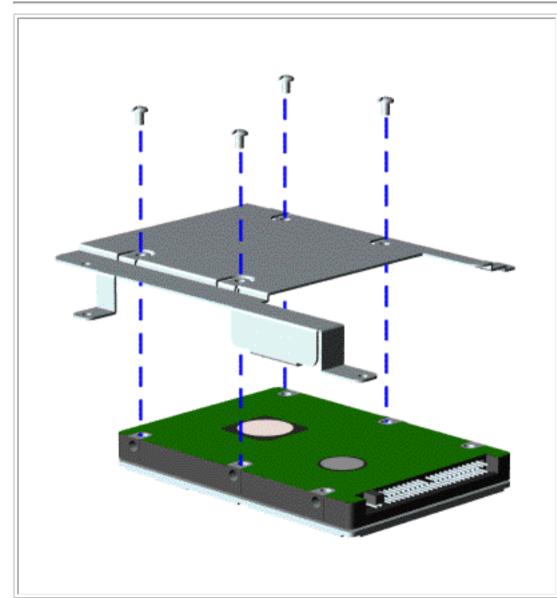
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5. Disconnect the hard drive data cable from the hard drive and remove from the chassis.

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To remove the hard drive mounting bracket, remove four screws from the mounting bracket as shown in the illustration.

To replace the hard drive and hard drive mounting bracket, reverse the previous procedures.

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Board

Modem

Display Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette

Drive

Fan Assembly

System

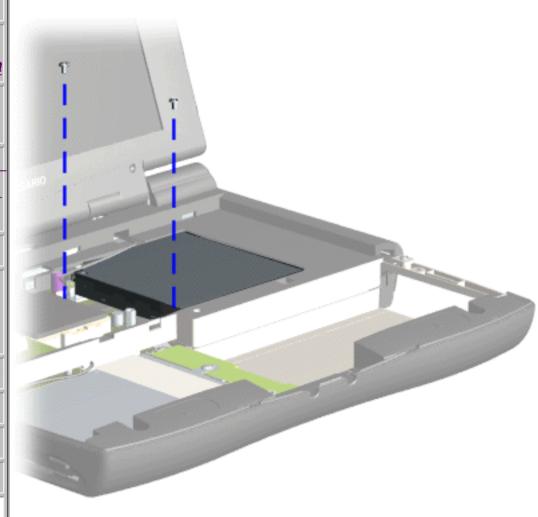
Board

Dip Switch

Settings

Memory

Module



To remove the CD drive, complete the following steps:

- 1. Prepare the <u>computer</u> for <u>disassembly</u>.
- 2. Remove the <u>palmrest</u> cover with touch pad.
- 3. Remove the <u>heatspreader</u>.
- 4. Remove the keyboard.
- 5. Remove the two screws located at the back of the CD drive.

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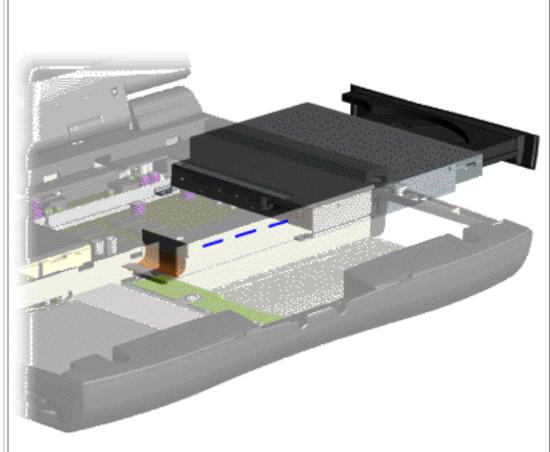
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6. Remove the two screws on the bottom of the unit that secure the CD bracket to the system board.

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7. Disconnect the CD drive cable from the CD drive and remove the CD drive from the chassis.

To replace the CD drive, reverse the previous procedures.

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Removing the Battery Charger Board

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Heatspreader

Keyboard

Processor

Hard Drives

CD Drive

Battery Charger Board

Modem

Display Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

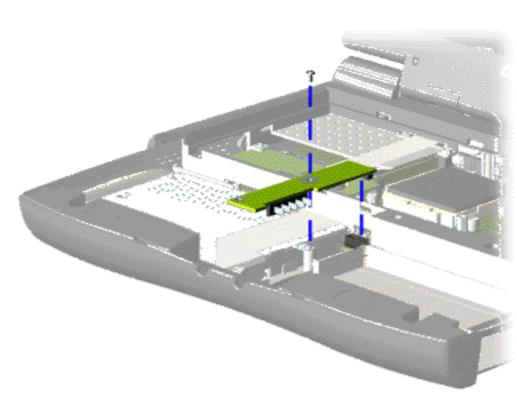
System Board

Dip Switch

Settings

Memory

Module



To remove the battery charger board, complete the following steps:

- 1. Prepare the computer for disassembly.
- 2. Remove the palmrest cover with touch pad.
- 3. Remove the hard drive.
- 4. Remove one screw from the battery charger board, unplug the board from the connector on the system board, and lift the battery charger board out of the chassis.

To replace the battery charger board, reverse the previous procedures.

When replacing the battery charger board, ensure **NOTE:** that the pins are aligned with the connector

> on the system board.

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Processor

Hard Drives

CD Drive

Battery

Charger Board

Modem

Display Panel

<u>Assembly</u>

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

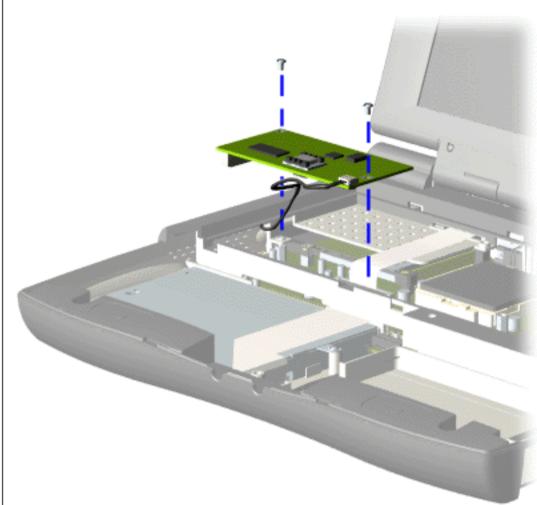
System Board

Dip Switch

Settings

<u>Memory</u>

Module

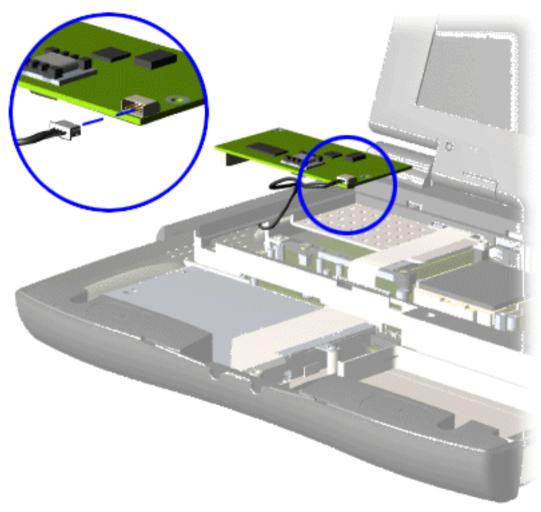


To remove the modem, complete the following steps:

- 1. Prepare the <u>computer</u> for <u>disassembly</u>.
- 2. Remove the palmrest cover with touch pad.
- 3. Remove the heatspreader.
- 4. Remove the keyboard.
- 5. Remove two screws securing modem and pull the modem off the connector on the system board.

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6. Disconnect the modem cable from the modem.

To replace the modem, reverse the previous procedures.

Presario 1200 Series Model: 1245

| Home Page | Notice | Preface | Product Description | Troubleshooting **Illustrated Parts Catalog | Removal & Replacement Procedures | Specifications Pin Assignments | Battery Pack Operations**

Removing the Display Panel Assembly

Electrostatic

Discharge

Service

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Computer for

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Cover with

Touch Pad

Heatspreader

Keyboard

Processor

Hard Drives

CD Drive

Battery

Charger Board

Modem

Display Panel **Assembly**

Upper CPU Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

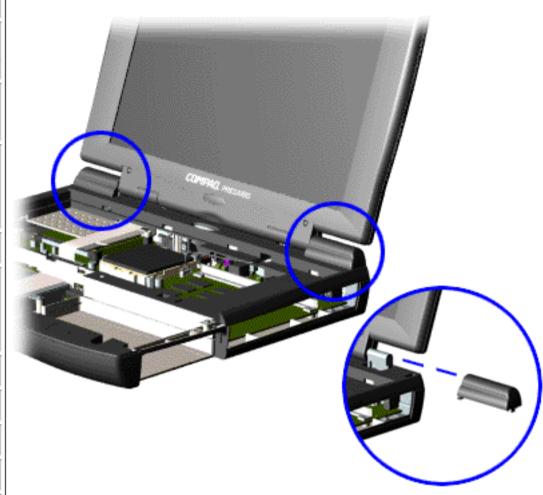
System Board

Dip Switch

Settings

Memory

Module



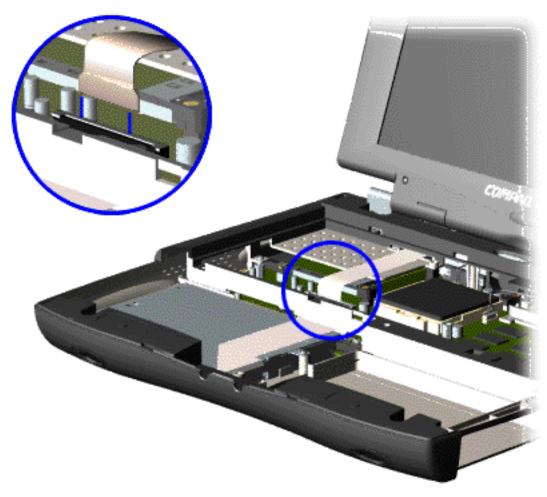
To remove the display panel assembly, complete the following steps:

- 1. Prepare the computer for disassembly.
- 2. Remove the palmrest cover with touch pad.
- 3. Remove the heatspreader.
- 4. Remove the keyboard.
- 5. Remove the modem.
- 6. Pull up the hinge covers and lift the covers off the chassis.



Presario 1200 Series Model: 1245

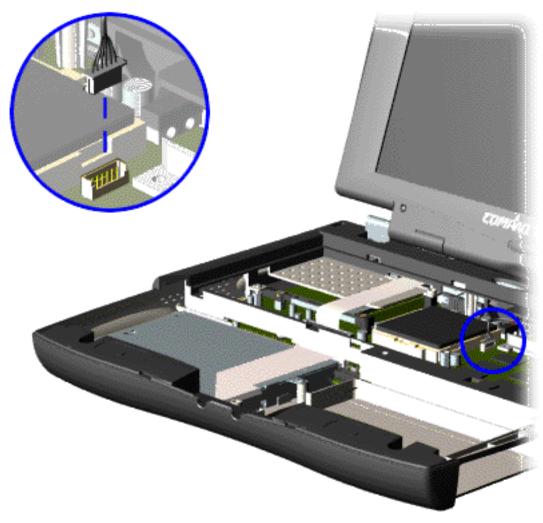
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7. Disconnect the flex cable attached to the display panel assembly from the ZIF connector on the system board.

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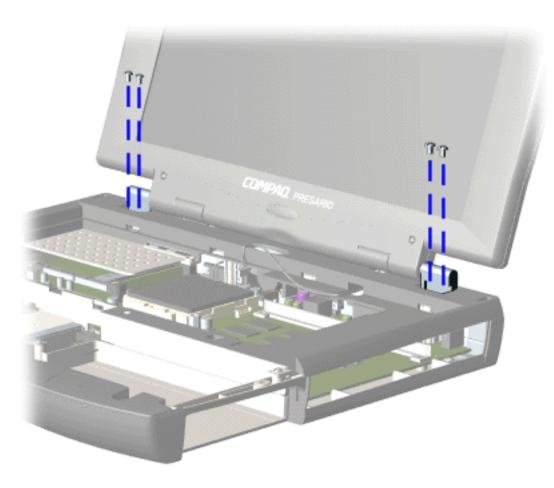
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8. Disconnect the backlight cable attached to the display panel assembly from the connector on the system board.

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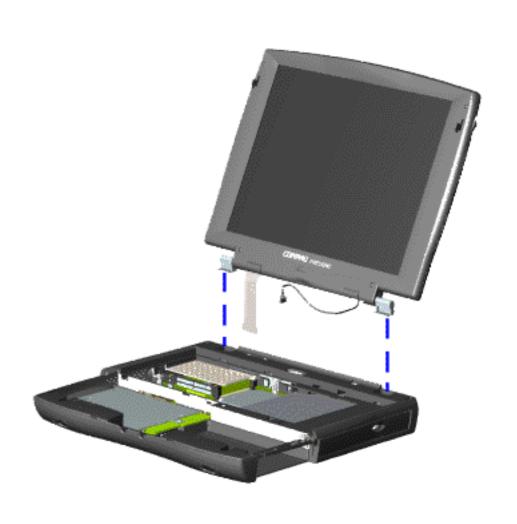
| <u>Home Page</u> | <u>Notice</u> | <u>Preface</u> | <u>Product Description</u> | <u>Troubleshooting</u> <u>Illustrated Parts Catalog</u> | <u>Removal & Replacement Procedures</u> | <u>Specifications</u> <u>Pin Assignments</u> | <u>Battery Pack Operations</u>



9. Support the back of the display panel assembly and remove two screws from each of the display panel hinges.

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10. Gently pull the flex cable attached to the display panel assembly through the slot on the Upper CPU cover and remove the display panel assembly with flex and backlight cable attached.

To replace the display panel assembly, reverse the previous procedures.

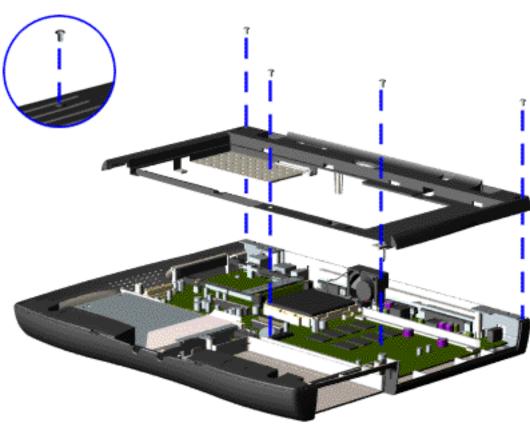
NOTE:

When removing the display panel assembly, observe the display panel assembly flex cable routing and position.

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Removing the Upper CPU Cover



To remove the Upper CPU cover complete the following steps:

- 1. Prepare the <u>computer</u> for <u>disassembly</u>.
- 2. Remove the <u>palmrest</u> cover with touch pad.
- 3. Remove the <u>heatspreader</u>.
- 4. Remove the <u>keyboard</u>.
- 5. Remove the <u>hard</u> <u>drive</u>.
- 6. Remove the <u>display</u> panel assembly.
- 7. Remove the screw located under the bottom of the unit (rear) which secures the Upper CPU cover to the chassis and remove four screws located on the top.
- 8. Lift the Upper CPU cover off the snaps on the chassis. This disconnects the power switch from the connector on the system board.

To replace the Upper CPU cover, reverse the previous procedures.

Electrostatic Discharge

<u>Service</u> <u>Considerations</u>

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<u>Heatspreader</u>

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CD Drive

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<u>Modem</u>

<u>Display Panel</u> <u>Assembly</u>

Upper CPU Cover

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Removing the Speaker Assembly



<u>Considerations</u>

<u>Cables and</u> <u>Connectors</u>

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<u>Modem</u>

<u>Display Panel</u> <u>Assembly</u>

<u>Upper CPU</u> <u>Cover</u>

Speaker Assembly

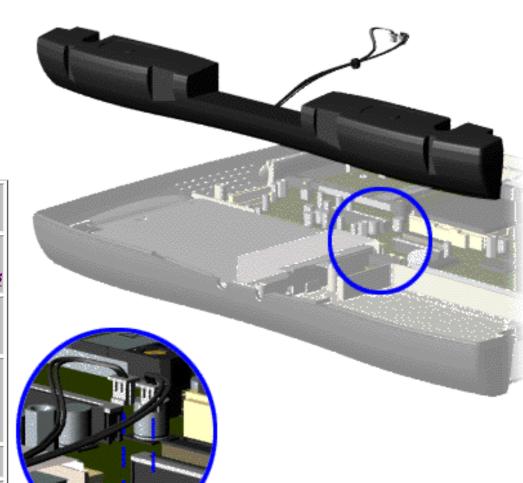
<u>Diskette Drive</u>

Fan Assembly

System Board

<u>Dip Switch</u> <u>Settings</u>

<u>Memory</u> **Module**



To remove the speaker assembly, complete the following steps:

- 1. Prepare the <u>computer</u> for <u>disassembly</u>.
- 2. Remove the <u>palmrest</u> cover with touch pad.
- 3. Remove the <u>heatspreader</u>.
- 4. Remove the <u>keyboard</u>.
- 5. Remove the <u>hard</u> drive.
- 6. Remove the <u>display</u> panel assembly.
- 7. Remove the <u>Upper</u> CPU cover.
- 8. Remove the <u>battery</u> <u>charger</u> board.
- 9. Disconnect the speaker cables from the system board and remove the speaker assembly from the chassis.

To replace the speaker assembly, reverse the previous procedures.

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Display Panel

Assembly

Upper CPU

Cover

Speaker **Assembly**

Diskette **Drive**

Fan Assembly

System

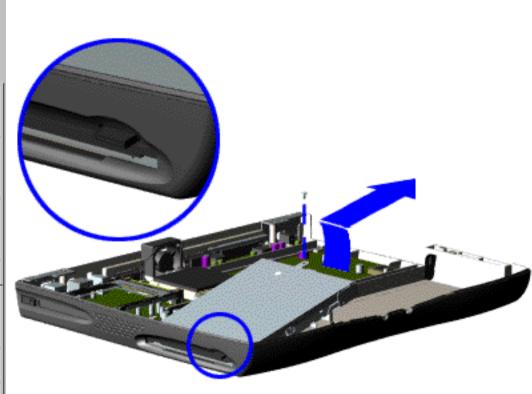
Board

Dip Switch

Settings

<u>Memory</u>

Module



To remove the diskette drive, complete the following steps:

- 1. Prepare the computer for disassembly.
- 2. Remove the palmrest cover with touch pad.
- 3. Remove the heatspreader.
- 4. Remove the keyboard.
- 5. Remove the hard drive.
- 6. Remove the display panel assembly.
- 7. Remove the Upper CPU cover.
- 8. Remove battery charger board.
- 9. Remove the diskette drive.

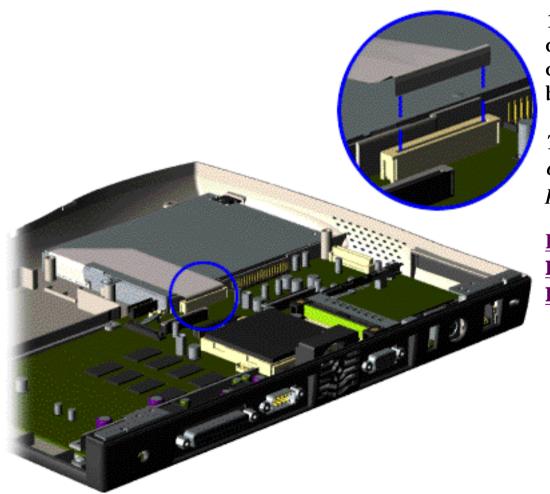
Next Step

When replacing the diskette drive, ensure that the diskette **NOTE:** drive eject lever is properly inserted in the chassis

slot.

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10. Disconnect the diskette drive data cable from the system board.

To replace the diskette drive, reverse the previous procedures.

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Pin Assignments | **Battery Pack Operations**

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<u>Speaker</u> Assembly

Diskette Drive

Fan Assembly

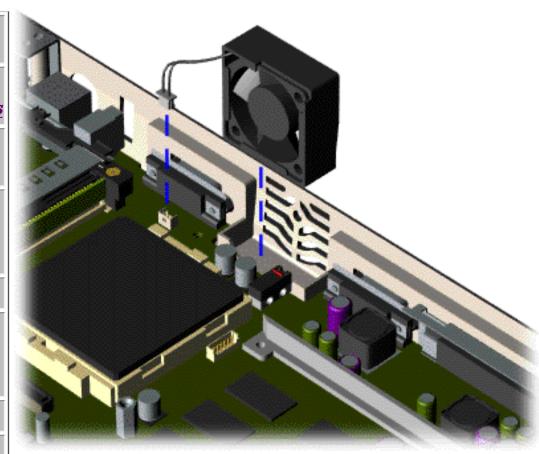
System Board

Dip Switch

Settings

<u>Memory</u>

Module

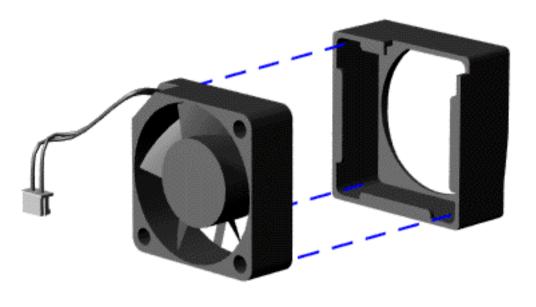


To remove the fan assembly, complete the following steps:

- 1. Prepare the <u>computer</u> <u>for</u> <u>disassembly</u>.
- 2. Remove the <u>palmrest</u> cover with touch pad.
- 3. Remove the heatspreader.
- 4. Remove the keyboard.
- 5. Remove the <u>display</u> panel assembly.
- 6. Remove the <u>hard</u> drive.
- 7. Remove the <u>Upper</u> <u>CPU cover</u>.
- 8. Lift the fan assembly from the chassis slot and disconnect the fan cable from the connector on the system board.

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To remove the fan gasket, complete the following step:

Pull the gasket from the fan.

To replace the fan assembly, reverse the previous procedure.



When replacing the fan, ensure that the fan is blowing into the computer. (The vendor label on the fan should be facing in, toward the processor).



To replace the fan with gasket attached, place the fan assembly at a 15° angle and push forward.

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<u>Heatspreader</u>

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Processor

Hard Drives

<u>CD Drive</u>

<u>Battery</u> <u>Charger Board</u>

<u>Modem</u>

<u>Display Panel</u> <u>Assembly</u>

<u>Upper CPU</u> <u>Cover</u>

<u>Speaker</u> <u>Assembly</u>

<u>Diskette Drive</u>

Fan Assembly

System Board

<u>Dip Switch</u> <u>Settings</u>

Memory Module To remove the system board, complete the following steps:

1. Prepare the <u>computer for</u> <u>disassembly</u>.

2. Remove the <u>palmrest cover with</u> touch pad.

3. Remove the <u>heatspreader</u>.

4. Remove the <u>keyboard</u>.

5. Remove the processor.

6. Remove the modem.

7. Remove the hard drive.

8. Remove the display panel assembly.

9. Remove the <u>Upper CPU Cover</u>.

10. Remove the battery charger board.

11. Remove the <u>diskette drive</u>.

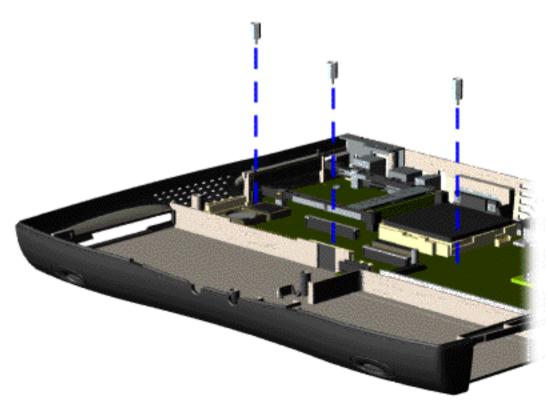
12. Remove the <u>CD drive</u>.

13. Remove the fan.

14. Disconnect the <u>speaker assembly</u> cables.

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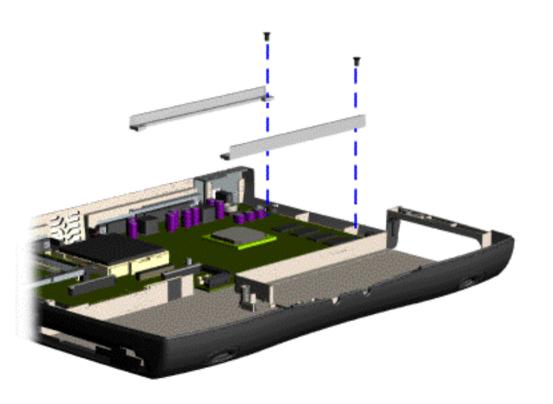
| <u>Home Page</u> | <u>Notice</u> | <u>Preface</u> | <u>Product Description</u> | <u>Troubleshooting</u> <u>Illustrated Parts Catalog</u> | <u>Removal & Replacement Procedures</u> | <u>Specifications</u> <u>Pin Assignments</u> | <u>Battery Pack Operations</u>



15. Remove three standoffs from the system board.

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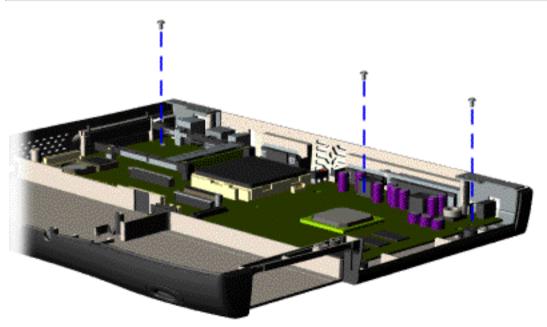
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16. Remove two screws from the CD Drive mounting rails and remove the mounting rails from the system board.

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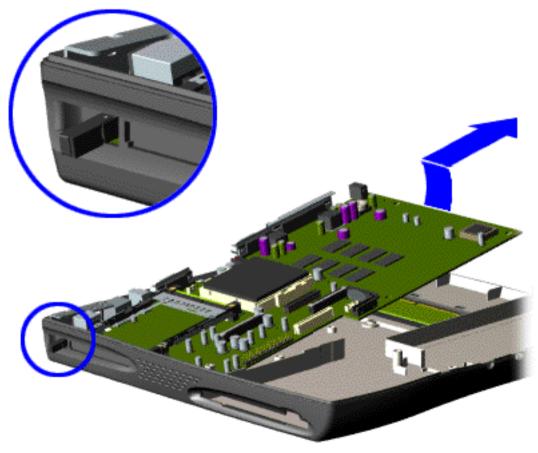
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17. Remove three screws from the system board.

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18. Pull the PCMCIA eject lever out (straight), lift up the right side of the system board and pull forward to remove the system board from the chassis.

To replace the system board, reverse the previous procedures.



Remove all cables from the system board.

Dip Switch System Board Settings

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Upper CPU

Cover

Speaker

<u>Assembly</u>

Diskette Drive

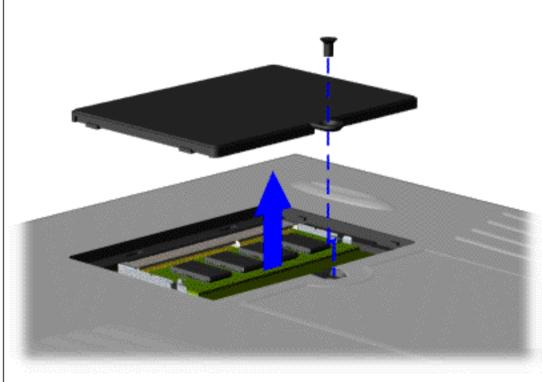
Fan Assembly

System Board

Dip Switch

Settings

Memory Module

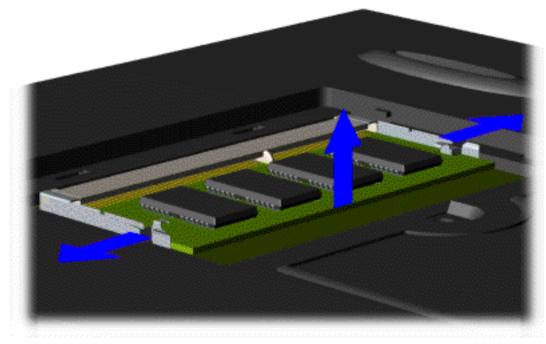


To remove the memory module, complete the following steps:

- 1. Prepare the computer for disassembly.
- 2. Close the computer and turn the computer upside down.
- 3. Remove the screw from the memory module door, and slide the memory module door to the right.

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4. Pull side levers to release the memory module and unplug the memory module from the system board.

To replace the memory module, reverse the previous procedures.

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Specifications

This chapter covers the following specifications for the Model 1245 Portable Computer:

System interrupts

Memory Expansion

System DMA

Battery Pack

System I/O Address

System memory Catalog

<u>Diskette Drive</u>

Hard Drive

Physical & environmental

CD Drive

Display

Physical and Environmental

iter Specifications	
U.S.	Metric
1.97 in 12.20 in 10.08 in	4.95 cm 31.00 cm 25.60 cm
6.88 lb	3.34 kg
NiMH	
W @ 9.6 V W @ 9.6 V W @ 9.6 V	
100-240 V 0.8/0.4 A RM 47-63 Hz Meets IEC 801-4 and 1kV for 50 n	IEC801-5
50° to 95 °F	10° to 35 °C
-4° to 140 °F	-20° to 60 °C
10 to 90%	35°C to 90%
5 to 95%	60°C to 95%
0 to 10,000 ft	0 to 3.15 km
0 to 30,000 ft	0 to 9.14 km
10 G, 11 ms, half sine	
240 G, 2 ms, half sine	
0.5 G	
1.5 G	
	1.97 in 12.20 in 10.08 in 6.88 lb NiMH W @ 9.6 V W @ 9.6 V W @ 9.6 V W @ 9.6 V 100-240 V 0.8/0.4 A RM 47-63 Hz Meets IEC 801-4 and 1kV for 50 n 50° to 95 °F -4° to 140 °F 10 to 90% 5 to 95% 0 to 10,000 ft 0 to 30,000 ft 10 G, 11 ms, half sine 240 G, 2 ms, half sine 0.5 G

NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. The Compaq Presario Model 1245 Portable Computer operates well within this range of temperatures.

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Specifications

System Interrupts

	System Interrupts
Hardware IRQ	System Function
IRQ00	Timer Interrupt
IRQ01	Standard 101/102-Key or Microsoft Natural Keyboard
IRQ02	Programmable interrupt controller
IRQ03	Compaq Presario 56K-DF
IRQ04	Communications Port (COM1)
IRQ05	ES1869 Plug and Play AudioDrive
IRQ06	Standard Floppy Disk Controller
IRQ07	Printer Port (LPT1)
IRQ08	System CMOS/real time clock
IRQ09	(free)
IRQ10	OPTi 82C861 PCI to USB Open Host Controller
IRQ11	IRQ Holder for PCI Steering
IRQ11	NeoMagic MagicGraph 128XD
IRQ12	Synaptics PS/2 TouchPad
IRQ13	Numeric data processor
IRQ14	Primary IDE controller (dual fifo)
IRQ14	Opti Viper Max Dual PCI IDE Controller
IRQ15	Secondary IDE controller (dual fifo)
IRQ15	Opti Viper Max Dual PCI IDE Controller

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Specifications

System DMA

System DMA	
Hardware DMA	System Function
0	ES1869 Plug and Play AudioDrive
1	ES1869 Plug and Play AudioDrive
2	Standard Floppy Disk Controller
3	(free)
4	Direct memory access controller
5	(free)
6	(free)
7	(free)

Return to the index list of <u>Specifications</u>.

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Specifications

System 1

System I/O Address		
I/O Address (Hex)	System Function (Shipping Configuration)	
0000H - 000FH	Direct memory access controller	
0020H - 0021H	Programmable interrupt controller	
0022H - 0024H	Motherboard resources	
0040H - 0043H	System timer	
0060Н - 0060Н	Standard 101/102-Key or Microsoft Natural Keyboard	
0061H - 0061H	System speaker	
0064H - 0064H	Standard 101/102-Key or Microsoft Natural Keyboard	
0070H - 0071H	System CMOS/real time clock	
0080Н - 0080Н	Motherboard resources	
0081H - 008FH	Direct memory access controller	
0092H - 0092H	Motherboard resources	
00A0H - 00A1H	Programmable interrupt controller	
00C0H - 00DFH	Direct memory access controller	
00ECH - 00EFH	Motherboard resources	
00F0H - 00FFH	Numeric data processor	
0170Н - 0177Н	Opti Viper Max Dual PCI IDE Controller	
0170H - 0177H	Secondary IDE controller (dua fifo)	
01F0H - 01F7H	Opti Viper Max Dual PCI IDE Controller	
01F0H - 01F7H	Primary IDE controller (dual fifo)	
0220H - 022FH	ES1869 Plug and Play AudioDrive	
02F8H - 02FFH	Compaq Presario 56K-DF	
0330Н - 0331Н	ES1869 Plug and Play AudioDrive	
0370Н - 0371Н	Motherboard resources	
0376Н - 0376Н	Opti Viper Max Dual PCI IDE Controller	
0376Н - 0376Н	Secondary IDE controller (du fifo)	
0378H - 037FH	Printer Port (LPT1)	
0388H - 038BH	ES1869 Plug and Play AudioDrive	
03B0H - 03BBH	NeoMagic MagicGraph 128XI	
03C0H - 03DFH	NeoMagic MagicGraph 128XI	
03F0H - 03F5H	Standard Floppy Disk Controller	
03F6H - 03F6H	Opti Viper Max Dual PCI IDE Controller	
03F6H - 03F6H	Primary IDE controller (dual fifo)	
03F7H - 03F7H	Standard Floppy Disk Controller	
03F8H - 03FFH	Communications Port (COM1	
040BH - 040BH	Motherboard resources	
0480H - 048FH	Motherboard resources	
04D6H - 04D6H	Motherboard resources	
0800H - 0807H	ES1869 Control Interface	
OCF8H - OCFFH	PCI bus	
FCF0H - FCF7H	Primary IDE Controller (dual fifo)	
FCFOH - FCFFH	Opti Viper Max Dual PCI IDE Controller	
	Cocondony IDE Controllor	

Secondary IDE Controller FCF8H - FCFFH (dual fifo)

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Specifications

System Memory Catalog

System Memory Catalog	
Memory Address	System Function
00000000Н - 00000000Н	Texas Instruments PCI-1131 Card Bus Controller
0000000H - 0009FFFFH	System board extension for PnP BIOS
000A0000H - 000AFFFFH	NeoMagic MagicGraph 128XD
000B0000H - 000BFFFFH	NeoMagic MagicGraph 128XD
000C0000H - 000CBFFFH	NeoMagic MagicGraph 128XD
000E0000H - 000FFFFFH	System board extension for PnP BIOS
00100000H - 01FFFFFFH	System board extension for PnP BIOS
FD000000H - FDFFFFFFH	NeoMagic MagicGraph 128XD
FEA00000H - FEBFFFFFH	NeoMagic MagicGraph 128XD
FECFF000H - FECFFFFH	OPTi 82C861 PCI to USB Open Host Controller
FED00000H - FEDFFFFFH	NeoMagic MagicGraph 128XD
FFFC0000H - FFFFFFFH	Motherboard resources

Return to the index list of **Specifications**.

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Specifications

Display

12.1" (Diagonal) HPA Display		
	U.S.	Metric
Active Area Height Width	9.56" 7.17"	245 mm 183.8 mm
Overall Dimensions Width Height Depth	7.9" 10.7" .31"	202.5 mm 275.0 mm 8.0 mm
Weight	18.2 oz.	520 g
Contrast Ratio	40:1	40:1
Brightness	70 nits. Avg.	70 nits. Avg.
Total Power Consumption	4.0 - 4.5 W (max)	4.0 - 4.5 W (max)

Return to the index list of **Specifications**.

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Specifications

Memory Expansion

	Memory Expansion	
System Memory	Expansion Board Memory	Total Memory
32-MB	16-MB	48-MB
32-MB	32-MB	64-MB
32-MB	64-MB	96-MB
32-MB	128-MB	160-MB

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Specifications

Battery Pack

Battery Pack		
Nickel Metal Hydride (NiMH)		
Dimensions		
Height	0.8 in (20.3 mm)	
Length	5.7 in (145 mm)	
Width	3.1 in (78.7 mm)	
Weight	1.01 lb (458.1 g)	
Energy	9.6 V	
Nominal Open Circuit Voltage	3.8 Ah	
Capacity Power	36.5 Wh	
Environmental Requirements	000 F (0 F00 C)	
Operating Temperature	32° F (0-50° C)	
Non-operating Temperature	-20° C -60° C	
Charging Temperature	5° C-45° C	

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Specifications

Diskette Drive

Diskette Drive	
Capacity per Diskette (High/Low)	1,474 KB / 738 KB
Diskette Size	2HD / 2DD
Number of LED Indicators (Read/Write)	NONE
Number of Drives Supported	ONE
Drive Rotation (rpm)	300
Transfer Rate (Kbps)	500 / 250
Bytes per Sector	512
Sectors per Track (High/Low)	18 / 9
Tracks per Disk (High/Low)	160
Access Times:	
Track-to-Track (ms)	3
Average (ms)	94
Setting Time (ms)	15 (Max)
Latency Average (ms)	100
Cylinders (High/Low)	80
Number of Read/Write Heads	2

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Specifications

Hard Drives

Hard Drives	
3.2 GB	
2.5"	
7470	
4	
512	
12	
33.3 MB/S	

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Specifications

CD Drive

24× CD Drive	
Dimensions	128 x 12.7 x 129 mm
Weight	0.5 lbs
Rotational Speed	5120 rpm
Typical Transfer Rate Sustained Data Transfer Rate	3600 KB/s
Access Time Average Random Access Time	110 ms
Spin Up time	2.7 s
Data Buffer Capacity	128 KB

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Connector Pin Assignments

This appendix provides connector pin assignment tables for Compaq Presario 1200 Series Portable Computers. For more information on connectors, refer to the section on Rear Connectors.

NOTE: The signals in all tables of this appendix are considered active high unless otherwise indicated by an asterisk (*).

• Parallel Connector

Click on a link:

- Serial Connector

• <u>Keyboard/Mouse</u>

- External VGA Monitor
- Modem

• **Universal Serial Bus**

Parallel Connector

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

Connector	Pin	Signal
	1	Carrier Detect
	2	Receive Data
1 2 3 4 5	3	Transmit Data
6789	4	Data Terminal Ready
	5	Signal Ground
	6	Data Set Ready
	7	Ready to Send
	8	Clear to Send
	9	Ring Indicator

Serial Connector

Data 1 Data 2 2

Pin

Connector

Connector

Return to the top.

Keyboard/Mouse

Signal

Signal

Red Analog

Green Analog

6 5 4 Vov. 3	3	Ground	
L Key	4	+ 5 V	
	5	Clock 1	
	6	Clock 2	
Return <u>to the top</u> .			
External VGA Monitor			

3 Blue Analog

Pin

1

2

	1	+ 5V		
Connector	Pin	Signal		
Universal Serial Bus				
Return to the top.				
	15	DDC2B Clock		
	14	Vertical Sync		
	13	Horizontal Sync		
	12	DDC2B Data		
	11	Monitor Detect		
	10	Ground		
	9	Not connected		
	8	Ground Analog		
	7	Ground Analog		
	6	Ground Analog		
	5	Ground		
(15) (14) (13) (12) (11)	4	Not connected		

Data + 3 Ground

2

Data -

Unused

Unused

	4	- Carouna		
Return <u>to the top</u> .				
	Modem			
Connector	Pin	Signal		
1 ² 3 ⁴ 5 ⁶	1	Unused		
	2	Unused		
	3	Tip		
	4	Ring		

5

6

<u>Illustrated Parts Catalog | Removal & Replacement Procedures | Specifications</u> <u>Pin Assignments | Battery Pack Operations</u>

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Battery Pack Operating Time

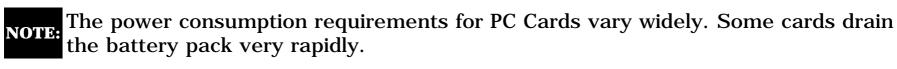
This appendix covers the following information concerning battery pack operating time:

- Increasing battery pack operating time
- Conditioning a battery pack
- Disposing of a used battery pack

Increasing Battery Pack Operating Time

Battery pack operating time differs depending on several variables. To avoid unnecessary replacement, consider the following variables when determining how long a charged battery pack should last:

- Power management settings
- Hardware configuration
- Software applications
- Installed options
- Display brightnessHard drive usage
- Changes in operating temperature
- Type and number of installed PC Cards



Battery pack operating time can be increased by as much as 50 percent by controlling the energy required by the computer and the energy stored in the battery pack.

Minimizing the Energy Required

To minimize the energy required by the computer, follow these steps:

- 1. Set the power conservation levels in the Power Management utility to **Maximum**.
- 2. Customize the timeout value to work more efficiently with the applications. The amount of battery life depends on the values selected.

Maximizing the Energy Stored

To maximize the energy stored in the battery pack, follow these guidelines:

- Condition the battery pack at least every 30 days to improve overall battery performance.
- Keep a battery pack in the computer when using it with AC power to supply the battery pack with a constant trickle charge.
- Store the battery pack in a cool, dry place when not in use.

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Conditioning a Battery Pack



CAUTION: To avoid a loss of data, ensure that all data is saved before discharging a battery pack.

To condition a battery pack, complete the following steps:

- 1. Plug in the AC adapter and allow the battery to charge until the LED light on the display stops blinking. Your battery gauge may read 100 percent for a period of time before LED light on the display stops blinking. Do not unplug the AC adapter until the arrow disappears.
- 2. Unplug the AC adapter and allow the battery to drain until the computer reaches hibernation and turns itself off. **Do not plug in the AC adapter during this process or you will need to restart with Step No. 1.** You may use the computer while the battery is draining.
- 3. Your battery is re-conditioned.
- 4. Plug in the AC adapter and begin using the computer.

The table below shows the approximate battery pack charge times.

Approximate Battery Charge Time		
Computer	On Line	Off Line
NiMH Battery Pack	4.0 hours	2:00 hrs

Disposing of a Used Battery Pack

In the interest of safeguarding our environment, Compaq Computer Corporation recommends that nickel metal hydride (NiMH) battery packs be recycled. Battery packs should be handled in accordance with country, state, province, or local regulations.



CAUTION: Never attempt to open or service a battery pack. Opening a battery pack not only damages the pack and makes it unusable, but also exposes potentially harmful battery components.

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Troubleshooting

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Clearing the Power-On Password

Power-On Self Test (POST)

Compaq Diagnostics

Diagnostic Error Codes

Troubleshooting

Without Diagnostics

Solving Minor Problems

Contacting Compaq

Support

This section covers troubleshooting information for the Compag Presario Model 1245 Portable Computer. The basic steps in troubleshooting include:

- 1. Follow the **Preliminary** Steps.
- 2. Run the Power-On Self-Test (POST).
- 3. If you are unable to run POST or if POST displays an error message, follow the recommended actions described in the diagnostic tables.

When following the recommended actions in the Sections on **POST** and Diagnostic Error Codes, perform them in the order listed. Rerun **POST** after each recommended action until the problem is solved and no error message occurs. Once the problem is solved, do not complete the remaining recommended actions.



If the problem is intermittent, check the NOTE: computer several times to verify that the problem is solved.

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Preliminary Steps

Before running <u>POST</u>, complete the following preliminary steps:

- 1. If a power-on password has been established, type the password and press the **Enter** key. If the password is not known, <u>clear the password</u>.
- 2. Run Computer Checkup.
- 3. Turn off the computer and its external devices.
- 4. Disconnect any external devices that you do not want to test. Do not disconnect the printer if you want to test it or use it to log error messages.

IMPORTANT:

If the problem only occurs when an external device is connected to the computer, the problem may be related to the external device or its cable. Verify this by running POST with and without the external device connected.

- 5. Install loopback plugs in the serial and parallel connectors if you would like to test these ports.
- 6. Ensure that the hard drive is installed in the computer.
- 7. Ensure that the battery pack is inserted in the computer and the computer is connected to an external AC power source.

When these preliminary steps are completed, you are ready to run <u>POST</u>.

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Power-On Self Test (POST)

Running POST

Mismatch in drive type

Disk 0 failed to respond

Hard drive format error

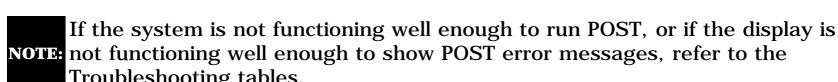
Hard drive controller failure

Probable Cause

Probable Cause

To run POST, complete the following steps:

- Turn off the computer; then, turn on the computer.
- If POST does not detect any errors, the computer will not beep. This indicates successful completion of POST test. POST has run successfully and boots from the hard drive (or from a bootable diskette if one is installed in the diskette drive).
- If POST detects errors, the errors are indicated by screen and/or audible messages. Refer to "Power-On Self-Test (POST) Codes" in the tables for a list of POST codes and their relevant descriptions.



NOTE: not functioning well enough to show POST error messages, refer to the Troubleshooting tables.

Power-On Self-Test Messages

102-System Board Failure			
Probable Cause	Recommended Action		
DMA, timers, etc.	Replace the system board.		
162-System O	162-System Options Not Set		
Probable Cause	Recommended Action		
Configuration incorrect	Run Computer Setup.		
CMOS reflects that an invalid configuration has been set.	Run Computer Setup.		
RAM failure	1. Replace the memory modules.		
	2. Replace the system board.		
Memory test data error	1. Replace the memory modules.		
	2. Replace the system board.		
XX000YZZ RAM failure	Replace the system board.		

Memory test data error	1. Replace the memory modules.		
	2. Replace the system board.		
XX000YZZ RAM failure	Replace the system board.		
VV000V77 901	Momony Emon		
	-Memory Error		
Probable Cause	Recommended Action		
RAM failure	1. Replace the memory modules.		
	2. Replace the system board.		
Memory test data error	1. Replace the memory modules.		
	2. Replace the system board.		
XXOOOYZZ Ram failure	Replace the system board.		
301-Keyboard Error			
Probable Cause	Recommended Action		
Keyboard failure	1. Ensure that keys are not depressed during POST.		
	2. Reconnect the keyboard with the computer off.		
	3. Replace the keyboard.		
304-Keyboard or	System Unit Error		
Probable Cause	Recommended Action		
Keyboard or system board error	1. Replace the keyboard.		
	2. Replace the TouchPad or mouse.		
	3. Replace the system board.		
601-Diskette (3. Replace the system board. Controller Error		
601-Diskette (Probable Cause			
	Controller Error		
Probable Cause Mismatch in drive type or failure in the	Controller Error Recommended Action		
Probable Cause Mismatch in drive type or failure in the diskette controller	Controller Error Recommended Action 1. Run Computer Checkup (TEST). 2. Check and/or replace cables. 3. Replace the system board.		
Probable Cause Mismatch in drive type or failure in the diskette controller	Controller Error Recommended Action 1. Run Computer Checkup (TEST). 2. Check and/or replace cables.		
Probable Cause Mismatch in drive type or failure in the diskette controller	Controller Error Recommended Action 1. Run Computer Checkup (TEST). 2. Check and/or replace cables. 3. Replace the system board.		

Run Computer Setup.

Recommended Action

2. Replace the hard drive.

2. Replace the hard drive.

Recommended Action

1. Run Computer Setup.

2. Replace the hard drive.

1. Run Computer Checkup (TEST).

1. Run Computer Checkup (TEST).

1780-Primary Hard Drive 0 Failure

1782-Hard Drive Controller

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Compaq Diagnostics

Compaq Diagnostics is installed on the hard drive of the computer. Run the Diagnostics utilities when you want to view or test system information and if you have installed or connected devices. If you run Compaq Diagnostics from a diskette, ensure that it is version 10.11 or later.

The Diagnostics menu includes the following utilities:

- Perform Computer Checkup (TEST)
 View System Information (INSPECT)
- <u>View System Information (INSPECT)</u>
- Prepare Computer for a Compaq Service Call (RemotePaq)

If you have a problem you cannot solve, run the Diagnostics utilities before you call for support. Run Computer Checkup and save the device list to a file and to print, or save the error log. Run the View System Information (INSPECT) utility and print or save that information. Have the files or the printed information available when you call for support.

Perform Computer Checkup (TEST)

Computer Checkup (TEST) determines whether the various computer components and devices are recognized by the system and are functioning properly. You can display, print, or save the information generated by Computer Checkup.

Follow these steps to run Computer Checkup:

- 1. Plug the computer into an external power source. (A low battery condition could interrupt the program.)
- 2. Turn on the external devices that you want to test. Connect the printer if you want to print a log of error messages.
- 3. Insert the Compaq Diagnostics diskette in drive A.
- 4. Turn on or restart the computer. The computer starts from drive A, and the **Diagnostics Welcome** screen appears.
- 5. Press **Enter** to continue. The **Diagnostics** menu appears.
- 6. Select Computer Checkup from the **Diagnostics** menu. A **Test Option** menu appears.
- 7. Select **View the Device List** from the **Test Option** menu. A list of the installed Compaq devices appears.
- appears.

8. If the list of installed devices is correct, select **OK**. The **Test Option** menu

NOTE: If the list is incorrect, ensure that any new devices are installed properly.

Quick Check Diagnostics. Runs a quick, general test on each device with a

9. Select one of the following from the **Test Option** menu:

- minimal number of prompts. If errors occur, they display when the testing is complete. You cannot print or save the error messages.
 Automatic Diagnostics. Runs unattended, maximum testing of each device with
- minimal prompts. You can choose how many times to run the tests, to stop on errors, or to print or save a log of errors.
 Prompted Diagnostics. Allows maximum control over testing the devices. You

can choose attended or unattended testing, decide to stop on errors, or choose

- to print or save a log of errors.

 10. Follow the instructions on the screen as the devices are tested. When testing is
- 12. Exit the **Diagnostics** menu.

11. Exit the **Test Option** menu.

complete, the **Test Option** menu appears.

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View System Information (INSPECT)

The View System Information (INSPECT) utility provides information about the computer and installed or connected devices. You can display, print, or save the

information.

Follow these steps to run View System Information (INSPECT) from the Compaq Diagnostics diskette:

1. Turn on the external devices that you want to test. Connect the printer if you want to print the information.

- 3. Turn on or restart the computer. The computer starts from drive A, and the **Diagnostics Welcome** screen appears.
- 4. Press **Enter** to continue. The Diagnostics menu appears.

2. Insert the Compaq Diagnostics diskette in drive A.

- 5. Select **View System Information (INSPECT)** from the **Diagnostics** menu.
- System Memory
 ROM Audio

list and choose another item, or to print the information.

6. Select the item you want to view from the following list:

KeyboardOperating systemSystem portsSystem filesSystem storageWindows files

Graphics Windows mes

Return to top of this page

or to <u>Preliminary steps</u> page.

7. Follow the instructions on the screen to cycle through the screens, to return to the

or to the <u>Troubleshooting</u> index page.

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Contacting Compaq Support

Obtain the following information before contacting Compaq Reseller Support:

- Product name
- Product serial number
- Purchase date
- Conditions under which the problem occurred
- Any error messages that have occurred
- Hardware configuration
- Type of printer connected
- Hardware/software being used
- Printed result of Computer Checkup (TEST)
- Printed copies of CONFIG.SYS and AUTOEXEC.BAT files, if possible

Shipping Preparation

To ship the computer, complete the following steps:

- 1. Back up the critical hard drive files. Ensure that backup tapes/diskette are not exposed to electrical or magnetic fields while stored in transit.
- 2. Turn off the computer and external devices.
- 3. Disconnect the external devices from their power sources, then from the computer.

Ensure that there is no diskette in the diskette drive, no PC Cards in the PC slots, and no CD in the CD-ROM drive.

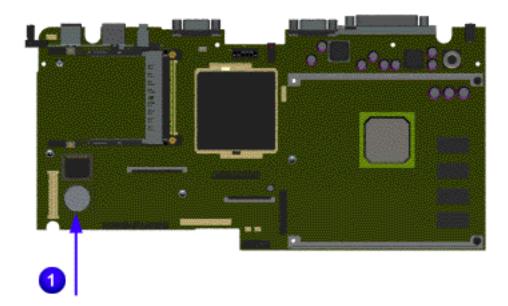
- 4. Close the display and all exterior doors of the computer.
- 5. Pack the computer with sufficient packing material to protect it. Use the original packing box or similar packaging.

Return to Compaq Diagnostics page or Troubleshooting Index page.

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Clearing the Power-on Password



Clearing the power-on password requires removing all Setup attributes that are programmed in the CMOS. The RTC battery 1 is located on the system board.

If the password is not known, clear it by performing the following steps:

- 1. Turn off the computer.
- 2. Disconnect the power cord.
- 3. Remove the <u>battery pack</u>.
- 4. Remove the Palmrest Cover with Touch Pad.
- 5. Move the <u>keyboard</u> to allow access to the heatspreader.
- 6. Remove the <u>heatspreader</u>.
- 7. Remove the modem.
- 8. Remove the RTC battery for 30 seconds and replace it.
- 9. Reassemble the computer by reversing the previous steps.
- 10. Turn on the computer to verify that the poweron password has been cleared. If it has not been cleared, repeat Steps 1 through 10.

Return to preliminary steps page.

or

The following tables list error codes, a description of the error condition, and the action required to resolve the error condition. **IMPORTANT:** Retest the system after completing each step. If the problem has been resolved, do not proceed with the remaining steps. For the removal and replacement of a particular subassembly, see **Removal and Replacement** Procedures. Select error codes by number or type:

Diagnostic error codes occur if the system recognizes a problem while running the Compaq

Diagnostic program. These error codes help identify possibly defective subassemblies.

Maintenance & Service Guide Presario 1200 Series **Models: 1245**

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Diagnostic Error Codes

1101

1701 through 1736

501 through 516

2402 through 2456

2458 through 2480

3206

8601 through 8602

3301 through 6623

Description

Error Code

101-xx CPU test failed

105-xx Port 61 error

107-xx CMOS RAM test failed

109-xx CMOS clock test failed

114-01 Speaker test failed

108-xx CMOS interrupt test failed

113-xx Protected mode test failed

200-xx Memory machine ID test failed

203-xx Write/Read test failed

211-xx Random pattern test failed

215-xx Random address test failed

301-xx Failed Selftest/Interface Test

304-xx Failed Keyboard Repeat Test

401-xx Printer failed or not connected

403-xx Printer pattern test failed

Diskette ID drive types test

603-xx Diskette write, read, compare test failed

604-xx Diskette random read test failed

609-xx Diskette reset controller test failed

698-xx Diskette drive speed not within limits

Diskette drive/media ID error

610-xx Diskette change line test failed

Serial port test failed

Hard drive format test failed

Hard drive read test failed

Hard drive write/read/compare test failed

Hard drive random seek test failed

Hard drive recalibration test failed

Hard drive format bad track test failed

Hard drive reset controller test failed

Hard drive park head test failed

Hard drive head select test failed

Hard drive power mode test failed

Network preparation test failed

Drive monitoring test failed

501-xx Video controller test failed

502-xx Video memory test failed 503-xx Video attribute test failed

test failed

test failed

failed

failed

504-xx Video character set test failed

507-xx Video 40×25 mode test failed

510-xx Video 640×200 mode test failed

512-xx Video gray scale test failed

514-xx Video white screen test failed

516-xx Video noise pattern test failed

Video memory test failed

Video attribute test failed

Video character set test failed

Video 80×25 mode 9×14 character cell

Video 80×25 mode 8×8 character cell

Video 320×200 mode color set 0 test

Video 320×200 mode color set 1 test

Video screen memory page test failed

Video 640 × 200 mode test failed

Video gray scale test failed

Video white screen test failed

Video noise pattern test failed

ECG/VGC memory test failed

ECG/VGC ROM checksum test failed

ECG/VGC 640 × 200 graphics mode test

 $|ECG/VGC|640 \times 350|16|color set|test$

ECG/VGC 640 × 350 64 color set test

ECG/VGC monochrome text mode test

640 × 480 graphics test failure

Advanced VGA 256 Color

Advanced VGA BitBLT test

Advanced VGA data path test

Advanced VGA LineDraw test

Audio System Internal Error

Mouse test failed

Interface test failed

CD drive read test failed

CD drive seek test failed

ID test failed

Read test failed

Controller test failed

Random read test failed

Advanced VGA BitBLT test

Advanced VGA DAC test

ECG/VGC monochrome graphics mode test

 320×200 graphics (256 color mode) test

Advanced VGA Controller test failed

132-column Advanced VGA test failed

511-xx Video screen memory page test failed

Video 80×25 mode 9×14 character cell

Video 80×25 mode 8×8 character cell

Video 320×200 mode color set 0 test

Video 320×200 mode color set 1 test

Hard drive ECC* test failed

Hard drive conditional format test failed

Hard drive controller test failed

Hard drive ready test failed

302-xx Failed Individual Key Test

204-xx Address test failed

214-xx Noise test failed

300-xx Failed ID Test

402-xx Failed Port Test

600-xx

699-xx

1101-XX

1701-

1702-

XX

1703-

1704-XX

1705-XX

1706-

1707-XX

1708-XX

1709-XX1710-

XX

1716-XX

1717-XX

1719-XX

1724-XX

1736-

505-xx

506-xx

508-xx

509-xx

2402-

XX

2403-

XX

2404-XX

2405-

XX

2406-

2408-

XX

2409-

XX

XX

2411-XX2412-

XX

2414-XX

2416-XX

2418-XX2419-

XX

2421-

2422-

2423-

2424-

XX

2425-

XX2431-

XX2432-

XX

2448-

XX

2451-

2456-

2458-

2468-

XX

2477-XX

2478-XX

2480-XX

3206-

XX

8601-XX

8602-XX

3301-XX

3305-XX

6600-

XX

6605-

XX

6608-

XX

6623-XX

failed

failed

failed

failed

failure

test failed

test failed

test failed

failed

failed

failed

601-xx Diskette format failed

602-xx Diskette read test failed

605-xx Diskette ID media failed

606-xx Diskette speed test failed

697-xx Diskette type error

202-xx | Memory system ROM checksum failed

102-xx Coprocessor or Weitek Error

103-xx DMA page registers test failed

104-xx | Interrupt controller master test failed

110-xx Programmable timer load data test failed

106-xx Keyboard controller self-test failed

300 through 304 Memory Test Keyboard Test 401 through 403 600 through 699 Parallel Printer Test

•		
101 through 114		
200 through 215	Processor Test	
200 through 204	Mamany Toot	

Processor Test Error Codes

Memory Test Error Codes

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Keyboard Test Error Codes

Parallel Printer Test Error Codes

Return to the top.

Diskette Drive Test

retest.

Utilities.

Diskette Drive Test

Serial Test

Hard Drive Test

Video Test

Audio Test

Touch Pad Pointing Device Test

CD Test

Replace the processor and retest.

Recommended Action

1. Run the Configuration and Diagnostics

2. Replace the processor board and retest.

Replace the system board and retest.

1. Check system configuration.

2. Verify cable connections to speaker.

3. Replace the system board and retest.

2. Replace the system board and retest.

1. Remove the memory module and retest.

1. Flash the system ROM and retest.

2. Install a new memory module and

1. Check the keyboard connection. If disconnected, turn off the computer and

2. Replace the keyboard and retest.

3. Replace the system board and retest.

3. Install the loop-back connector and

4. Check port and IRQ configuration.

5. Replace the system board and retest.

1. Replace the diskette media and retest.

2. Check and/or replace the diskette power

3. Replace the diskette drive and retest.

4. Replace the system board and retest.

2. Run the Configuration and Diagnostics

2. Replace the system board and retest.

1. Run the Configuration and Diagnostics

2. Verify that all secondary drives have

3. Replace the hard drive and retest.

4. Replace the system board and retest.

The following apply to error codes 501-xx

1. Disconnect external monitor and test

2. Replace the display assembly and retest.

3. Replace the system board and retest.

The following steps apply to error codes

1. Run the Configuration and Diagnostics

2. Replace the display assembly and retest.

3. Replace the system board and retest.

1. Run the Configuration and Diagnostics

2. Disconnect external monitor and test

3. Replace the display assembly and retest.

4. Replace the system board and retest.

The following step applies to error codes

Replace the system board and retest.

Replace the system board and retest.

1. Replace the TouchPad and retest.

1. Replace the CD and retest.

properly installed.

2. Replace the system board and retest.

2. Verify that the speakers are connected.

3. Verify that drivers are loaded and

4. Replace the CD drive and retest.

5. Replace the system board and retest.

2458-xx through 2480-xx:

Return to the top.

Audio Test Error Codes

TouchPad/Pointing Device Interface Test Error Codes

CD Drive Test Error Codes

Return to the top.

or return to the Troubleshooting index page.

with internal LCD display.

2402-xx through 2456-xx:

Utilities.

Utilities.

through 516-xx:

with internal LCD display.

and signal cables and retest.

1. Replace media.

1. Check port configuration.

Utilities and verify drive type.

secondary drive capability.

Utilities.

Return to the top.

Serial Test Error Codes

Hard Drive Test Error Codes

* ECC = Error Correction Code

Return to the top.

Video Test Error Codes

connect the keyboard.

1. Connect the printer.

retest.

2. Check power to the printer.

Presario 1200 Series Model: 1245

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| <u>Pin Assignments</u> | <u>Battery Pack Operations</u>

Troubleshooting Without Diagnostics

This section provides information about how to identify and correct some common hardware, memory, and software problems. It also explains several types of common messages that may be displayed on the screen. The following pages contain troubleshooting information on:

AudioMemoryBattery/Battery gaugePC CardCD drivePowerDiskette/Diskette drivePrinterDisplayTouch Pad

Hard drive Keyboard/Numeric keypad

Hardware Installation

Since symptoms can be similar, carefully match the symptoms of the computer malfunction against the problem description in the Troubleshooting tables to avoid a misdiagnosis.



WARNING: To avoid a potential shock hazard during troubleshooting procedures, disconnect all power sources before removing the keyboard cover or the display bezel.

Before Replacing Parts

Verify that cables are connected properly to the suspected defective parts.

- Run Computer Setup after connecting external devices.
- Verify that all required device drivers are installed.
- Verify that all required changes have been made to the *CONFIG.SYS* file.
- Verify that all required changes have been made to the *AUTOEXEC.BAT* file.
- Verify that all printer drivers have been installed for each application.

Return to the <u>Troubleshooting</u> index page.

 Audio Problems Battery Pack and Battery Gauge Problems CD Drive Problems Diskette and Diskette Drive Problems Display Problems **Hard Drive Problems**

Maintenance & Service Guide Presario 1200 Series Model: 1245

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Some minor problems and possible solutions are outlined in the following tables. If the problem appears related to a software application, check the documentation provided with the software.

Battery pack is discharged.

Battery charge is low.

Volume is turned down too low.

Battery pack is already charged.

Battery pack is at end of its life.

Battery is being exposed to high

temperatures or extremely cold

Battery has partially self-discharged.

Power management is disabled.

An external device or PC Card is

Normal warming has occurred due to

Power management is turned off or

An external device or PC Card is

Battery pack has partially self-

Battery pack is being exposed to high

Solving CD Drive Problems

Compact disc is upside down or is

Some common causes and solutions for diskette and diskette drive problems are listed in the

Probable Cause

Solving Diskette and Diskette Drive Problems

Diskette is write-protected.

Computer is writing to

Not enough space is left

Drive error has occurred.

Diskette is not formatted.

The wrong type of diskette is

Diskette has a bad sector.

Drive error has occurred.

Diskette is not formatted.

Bootable diskette is not in

Diskette Boot has incorrect

setting in Computer Setup.

This section lists some common causes and solutions for computer display and external monitor

The display should be white. A narrow black border may also appear on the left and right sides of

Solving Display Problems

Control for brightness or

Computer screen is in direct

Screen save was initiated by

System is in Suspend mode.

Power Management due to

lack of user activity.

Display function was

resolution on external

Defective inverter board.

Defective display cable.

Defective display panel.

Defective system board.

Defective system board.

Defective inverter board.

Defective display cable.

Defective system board.

Defective inverter board.

Defective display cable.

Defective system board.

** This problem indicates that the backlight or its power circuitry has failed. Since you cannot observe the POST result on the display panel when the backlight is not functioning, connect the unit to an external monitor before powering the unit up. If an external monitor is not available, verify that POST completes by opening and closing the display, listening for the

Probable Cause

connections

Improper display cable

Defective display cable.

Defective inverter board.

Defective system board.

Defective display panel.

To perform a "self-test" on an external VGA color or monochrome monitor, note the following: The screen should

CAUTION: To prevent loss of information, always maintain an up-to-date backup of your hard drive at all

Solving Hard Drive Problems

System entered Hibernation due to

low battery condition and is now

Hard drive has bad sectors or has

Hard drive is not seated properly.

Some common causes and solutions for hardware installation problems are listed in the following

Solving Hardware Installation Problems

power cables are unplugged.

Power switch of new external

Device is not seated properly.

device is not turned on.

Some common causes and solutions for keyboard/numeric keypad problems are listed in the

Probable Cause

Some common causes and solutions for memory problems are listed in the following table.

Probable Cause

is incompatible with

System ran out of

and stay-resident)

Memory count during Power-On Self-Optional memory expansion

Solving Memory Problems

card is installed incorrectly,

the computer, or is defective.

memory for the application.

Too many TSR (terminate-

applications are running.

enabled.

Solving Keyboard/Numeric Keypad Problems

Num Lock function is not

External numeric keypad is

connected to the computer.

Probable Cause

device are loose, or

NOTE: be white. A narrow black border may also appear on the left and right sides of the display. Either of these displays

displays.

Common characteristic of STN

contrast)

single or double beep, and watching for the LEDs to turn on at the front of the computer.

System may have a TFT display

Improper display-cable connections.

(which is always at maximum

monitor.

600.

Backlight (brightness) cannot be adjusted with Improper display cable connections.

connections

switched to the external

Using 1024×768 or higher

monitor and have toggled

which supports up to $800 \times$

Improper backlight or display cable

back to internal display,

Display has overheated.

Probable Cause

set properly.

You can perform a monitor self-test on an external VGA color or monochrome monitor by

disconnecting the monitor from the computer. To do so, complete the following steps:

3. Disconnect the monitor signal cable from the computer.

4. Turn on the monitor and allow it to warm up for one minute.

the display. Either of these displays indicates that the monitor is working properly.

light.

the wrong drive.

on the diskette.

being used.

drive A.

improperly inserted in the CD drive.

CD is CD Plus or Pregap/Track 0 type.

temperatures or extremely cold

draining the battery.

draining the battery.

charging.

discharged.

temperatures.

Some common causes and solutions for CD drive problems are listed in the following table.

Solving Diskette and Diskette Drive Problems

Probable Cause

Battery pack was exposed to

temperature extremes.

temperatures.

Solution(s)

Solution(s)

pack.

broken.

No action is required.

Connect the computer to an external

power source and charge the battery

Replace the battery pack with a fully

Check the battery connectors on the system board to verify that they are evenly spaced and are not bent or

Immediately save any open file(s).

• Connect the computer to an

external power source to charge

• Turn off the computer or initiate Hibernation until you can find another power source or charge

Then do any one of the following:

the battery pack.

the battery pack.

Allow time for the battery pack to

Keep the battery pack within the

(-20° C to 30° C). Recharge the

Recharge the battery. Discharge the battery completely and then recharge

Set a power management level in

Turn off or disconnect external devices

Enable power management in Computer

Turn off or disconnect external devices

Condition the battery pack by fully

charging, fully discharging, then fully

To maintain the charge, leave battery

If the computer is disconnected from external power for more than two

weeks, remove battery packs from the computer to reduce the discharge rate.

packs in the computer when it is connected to external power.

Keep the battery pack within the

Operating: 50° F to 104° F

Recharge the battery pack.

Open the CD loading tray, lay the

Cannot read these type CDs in 24x.

Disable the diskette's write-

Check the drive letter in the

Run Computer Checkup from

protect feature or use a diskette that is not write-

compact disc in it (label side up), then

Storage: -4° F to 86° F

(10° C to 40° C)

(-20° C to 30° C)

Solution(s)

close the tray.

Remove the CD.

Solution(s)

protected.

diskette.

floppy.

diskette.

drive A.

path statement.

Use another diskette.

the Compaq Diagnostics

Format the diskette. At

the system prompt, enter

Use the type of diskette

Copy files to hard drive or

required by the drive.

FORMAT A:

another diskette. Reformat bad

Run Computer Checkup from

Format the diskette. At the

Put the bootable diskette in

Run Computer Setup and set

diskette as first to boot.

Solution(s)

Fn + F8.

Fn + F6.

computer.

Touch Pad.

to cool off.

Touch Pad.

contrast (if applicable) is not display by using **Fn** + **F7** or

Adjust the Brightness of the

Adjust the Contrast of the

Tilt display or move

display by using $\mathbf{Fn} + \mathbf{F5}$ or

Press any key or touch the

sunlight, move it and allow it

Press any key or touch the

If computer is in direct

Use $\mathbf{Fn} + \mathbf{F3}$ to switch

between **LCD** or **CRT**.

Restart the computer.

Replace the display assembly.

Replace the display assembly.

Replace the display assembly.

Replace the display assembly.

1. Reseat the display cable to the

2. Replace the display assembly.

Replace the display assembly.

Replace the display assembly.

1. Reseat the display cable to the

2. Replace the display assembly.

Replace the display assembly.

Replace the display assembly.

Reseat the display cable to the following

until the problem is solved:

Replace the display assembly.

Replace the display assembly.

Replace the system board.

using $\mathbf{Fn} + \mathbf{F5}$ or $\mathbf{Fn} + \mathbf{F6}$.

Replace the display assembly.

Solution(s)

before Hibernation.

Solutions(s)

connected.

system.

Run Computer Checkup.

Give the system time to restore the

Turn off and unplug the computer, remove the battery pack, and remove

and then reinstall the hard drive.

Ensure that all cables are

Turn off the computer, turn on

the external device, then turn on the computer to integrate the device with the computer

Turn off the computer and

reinsert the device.

Solution(s)

turns on.

computer.

Solution(s)

Press the **Shift+NumLk** keys

to enable the Num Lock

function and embedded

Disconnect the external

numeric keypad from the

Ensure that the optional

installed correctly.

Check the application

requirements.

not need.

documentation for memory

Install additional memory.

Remove from memory any

TSR applications that you do

memory expansion card is

numeric keypad. The Num

Lock icon on the status panel

properly and securely

previously saved data to its exact state

1. Change the background colors.

2. Adjust the Contrast of the display by

Replace the system board.

Replace the system board.

No adjustment is possible.

Replace the system board.

Replace the system board.

system board.

system board.

Solution(s)

1. System board

2. Display assembly

FORMAT A:

the Compaq Diagnostics

system prompt, enter

recommended temperature ranges.

recommended operating temperature

range 50° F to 104° F (10° C to 40° C)

or recommended storage range -4° F to

return to room temperature.

Adjust the volume.

No action is necessary.

Replace battery pack.

86° F

battery pack.

Computer Setup.

Properties.

recharging it.

when not using them.

No action is required.

when not using them.

Setup and in Windows Power

Replace the RTC battery.

charged battery pack.

 Hardware Installation Problems Keyboard/Numeric Keypad Problems

Memory Problems

The following problems and possible solutions are addressed:

Solving Audio Problems Some common audio problems and solutions are listed in the following table. **Solving Audio Problems**

Problem Probable Cause This is typical; it indicates successful Computer does not beep after the Power-On Self-Test (POST). completion of the Power-On Self-Test (POST).

Solving Minor Problems

Solving Battery Pack and Battery Gauge Problems

Some common causes and solutions for battery pack problems are listed in the following table. The "Solving Power Problems" section in this chapter may also be applicable. **Solving Battery Pack and Battery Gauge Problems Problem Probable Cause**

Computer won't turn on when battery pack is inserted and power cord is unplugged. Computer is beeping and battery LED icon is blinking.

Computer battery LED icon (front on

Battery LED icon doesn't light and

battery pack won't fast charge.

time you turn on the computer.

expected.

charging.

Problem

following table.

Problem

diskette.

diskette.

problems.

Problem

Screen is dim.

Screen is blank.

present.

powered up. * *

is powered up. **

Fn + F7 or Fn + F8.

Fn + F5 or Fn + F6.

Problem

display.

Problem

table.

Problem

following table.

Embedded numeric keypad on

Embedded numeric keypad is

disabled and Num Lock function is

Solving Memory Problems

Test (POST) is incorrect.

"Out of Memory" message is

insufficient memory error occurs

Solving Minor Problems (continued)

or return to the <u>Troubleshooting</u> index page.

displayed on the screen or

during operation.

computer keyboard is disabled.

Problem

on.

Problem

This display panel has a continuous pattern

across it (e.g., a "jailbars" pattern), has a

single color on it, or has garbled graphics across the entire panel. This failure is for

Ghost bars extending from graphics on the

A single line, a small group of lines, or a block

Solving Hard Drive Problems

Reading hard drive takes an unusually

part of the computer system.

Hard drive error occurs.

Hard drive does not work.

long time after restarting the computer.

indicates that the monitor is working properly.

times, in case of errors or failures.

Solving Hardware Installation Problems

A new device is not recognized as ||Cable(s) of new external

Solving Keyboard/Numeric Keypad Problems

Some common causes and solutions for hard drive problems are listed in the following table.

Probable Cause

exiting from it.

failed.

appears on the display panel. This failure occurs in only a section of the display panel.

patterns across the entire panel

(not just on one section).

Contrast cannot be adjusted with

Display is blank and the Power icon

is flashing, or the Suspend icon is

Internal display is blank and the

screen on an external monitor

Internal display flashes or has

connected to external monitor.

The light tubes on the edge of the display

The light tubes on the edge of the display

panel do not light up at all and Power-On Self-Test (POST) does not complete when the unit

Test (POST) completes when the unit is

panel do not light up at all and Power-On Self-

garbled characters when computer is

displays information.

time.

Battery charge does not last as long as

Battery pack is warm to the touch after

Battery pack operating time is far less

Solving CD Drive Problems

CD drive cannot read a compact disc.

Diskette drive cannot write to a

Diskette drive cannot read a

Cannot boot from diskette.

Solving Display Problems

1. Turn off the monitor.

2. Turn off the computer.

than the documented average operating disabled.

the unit) blinks to indicate low battery condition, but computer does not beep.

You have to set the date and time every RTC battery is dead.

| Home Page | Notice | Preface | Product Description | Troubleshooting **Illustrated Parts Catalog | Removal & Replacement Procedures | Specifications Pin Assignments** | **Battery Pack Operations**

Solving PC Card Problems

Solving PC Card Problems

Some common causes and solutions for PC Card problems are listed in the following table.

Problem	Probable Cause	Solution(s)
When turned on, the	Card is not inserted properly.	Ensure that the card is
computer does not beep when a PC Card is inserted.	PC Card beeps are disabled.	inserted in the correct orientation.
		Double-click the PC Card icc in the Control Panel; click the Global Settings tab; then, enable PC Card sound effect
	Speaker is turned off or volume is turned down.	Press volume buttons to turn the speaker on; then, increase the volume.
	PC Card drivers are not installed.	Double click the Add New Hardware icon in the Control Panel for installation instructions.
		If PC Card or drivers are not compatible with Windows, install drivers and use the PC Card in MS-DOS mode.
	Card or card driver is not supported.	Contact your Compaq- authorized service provider for a list of PC Cards tested successfully in Compaq PC Card platforms.
PC Card modem, fax, or network card does not work.	Card is not fully inserted into the slot or is not inserted properly.	Ensure that the card is inserted in the correct orientation.
	Telephone cord is not plugged in all the way.	Check and secure telephone connection.
	Necessary drivers are not installed (turned on).	Install drivers.
PC Card modem or fax card does not work.	You are trying to access the card using the wrong COM port.	See <u>Specifications</u> to verify COM port.
	The card conflicts with a serial device.	See <u>Specifications</u> to verify address.
	The card is not supported.	Use supported cards only.
Modem network PC Card does not work.	Network driver is not installed or is not set up properly.	Install driver.
	Telephone cord is not properly connected.	Verify telephone connection
Memory or storage card does not work.	SRAM and flash memory cards require that the memory card driver be loaded (turned on).	Install driver.
	Flash memory cards require the that the Microsoft FlashFile System be loaded.	
	Hard drives on flash mass storage cards require that the PC Card ATA driver be loaded.	
	You are trying to access the hard drive card using the wrong drive letter.	Double-click My Computer to verify the drive letter assigned to the card.
	The card is not supported.	Contact your Compaq authorized service provider for a list of PC Cards tested successfully in Compaq PC Card platforms.

Computer won't turn on and

battery pack is not inserted.

Problem

Computer turned off while it	3	Replace the system board.
was left unattended and the power icon is off.	System initiated Hibernation due to a critical low-battery condition.	Replace the battery pack with a fully charged battery pack or connect the computer to an external power source. Then turn on the computer.
	System initiated Hibernation after a preset timeout.	Turn on the computer.
	ın a printer self-test. Refer to the docume	
you experience problems printing, ru	in a printer self-test. Refer to the docume printer-specific problem. Also refer to the Solving Printer Problems	
you experience problems printing, ru structions. If the self-test fails, it is a	printer-specific problem. Also refer to the	

Solving Power Problems

Computer is not connected to

Power cords to the external

Power adapter is defective.

power source are unplugged.

Probable Cause

a power source.

Solution(s)

restart.

Insert battery or connect an

connecting the computer and the external power source are

external power source.

Ensure that power cords

Replace AC Adapter and

plugged in properly.

electrical outlet.

Printer is not turned on or is off Turn the printer on and set it to

on line.

Solving Touch Pad/Pointing Device Problems

Printer will not print.

The device drivers for your Refer to the printer documentation to install the application are not installed. correct printer driver.

line.

		· ·
	Printer that is set up for a network is not connected to the network.	Connect the printer to the network.
	Printer cable is too long, unshielded, or defective.	Replace the cable.
	Paper tray is empty.	Fill the paper tray with paper and set the printer to online.
Printer prints garbled information.	Correct printer drivers are not installed.	Refer to the printer documentation to install the correct printer driver.
	Cable is not connected properly.	Ensure that the printer signal cable is properly connected to the computer.
	Cable is defective.	Replace the printer cable and retest.

Some common causes and soluti following table.	ons for Touch Pad/pointing device	e problems are listed in the		
Solving	Solving Touch Pad/Pointing Device Problems			
Problem	Cause	Solution(s)		
Touch Pad or mouse does not work.	Incorrect or no device driver is installed.	Install the device driver and add to the AUTOEXEC.BAT file or CONFIG.SYS file.		
	The device driver is not installed in Windows.	Install the Touch Pad/mouse driver in Windows.		
External mouse does not work.	Mouse is not securely connected or is connected to an incorrect external connector.	Ensure that the mouse is securely connected to the appropriate external connector.		
Touch Pad or mouse does not work even though the device is enabled in Windows.	Mouse is not enabled.	Enter MOUSE at the system prompt to activate the mouse device driver.		
		Add a line in the AUTOEXEC.BAT file to automatically activate the mouse device driver each time computer is turned on or restarted.		
	Cable not properly seated in Touch Pad board.	Reseat cable.		
	Defective Touch Pad board.	Replace Touch Pad board.		
	Defective system board.	Replace system board.		
	Device driver is not correctly installed in Windows.	Install the appropriate device driver in Windows.		
Cursor skips or moves abnormally when using the Touch Pad.	The Touch Pad needs to be cleaned.	Clean the Touch Pad with a cloth dampened with alcohol or an ammonia-based glass cleaner. Wipe up liquid with a dry cloth.		