Presario Series

Models: 1270, 1670, and 1675

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

Models and Features

Controls and Lights

Front Bezel Lights

Front Bezel
Buttons

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

Right Side

Components

Bottom of Unit

Rear Connectors

Power
Management
for Windows
98



<u>Click here</u> to download this Maintenance and Service Guide (MSG) to your hard drive.

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

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

For content comments or questions, contact the Editor.

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

Presario Series Models: 1270, 1670, and 1675

| <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>

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Maintenance and Service Guide

Compaq Presario Series Portable Computer

First Edition (March 1999) Compaq Computer Corporation

Presario Series
Models: 1270, 1670, and 1675

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

Preface

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

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

Symbols

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



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



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

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

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

Technician Notes



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

Serial Number

When requesting information or ordering spare parts, the computer serial number should be provided to Compaq. The serial number is located on the bottom of the computer.

Locating Additional Information

The following documentation is available to support this product:

- Compaq Presario Series Portable Computer documentation set
- Introducing Windows 98 Guide
- Service Training Guides
- Compaq Service Advisories and Bulletins
- Compaq QuickFind
- Compaq Service Quick Reference Guide

Presario Series

Models: 1270, 1670, and 1675

| <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>

Product Description

Models and Features

Controls and Lights

Front Bezel

Lights

Front Bezel

Buttons

Left Side Components

Right Side Components

Bottom of Unit

Rear

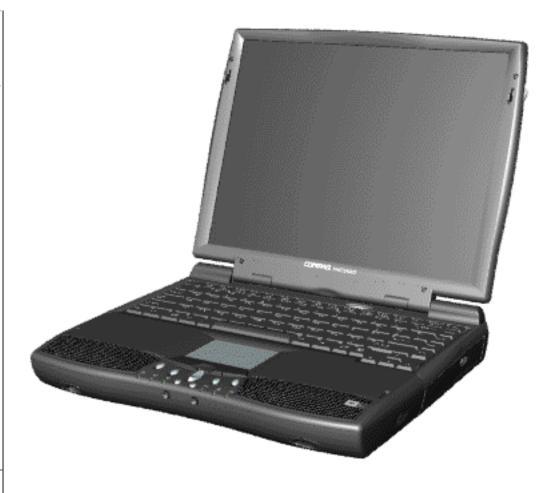
Connectors

<u>Power</u>

Management

for Windows

<u>98</u>



Compaq Presario Series **Portable** Computer is a continuation of the new generation of multimedia portable computers with an innovative integrated design, outstanding audio and video. advanced core features, and attractive styling. This full-function, AMD-K6 based portable computer allows full desktop functionality.

Presario Series

Models: 1270, 1670, and 1675

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

Troubleshooting

Preliminary
Steps

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 Compaq Presario Series Portable Computers. The basic steps in troubleshooting include:

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

When following the recommended actions in the Sections on POST and <u>Diagnostic Error Codes</u> 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 computer several times to verify that the problem is solved.

Presario Series

Models: 1270, 1670, and 1675

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

Illustrated Parts Catalog

System Unit

Boards

Display

Assembly

Mass Storage

Devices

Miscellaneous

Cable Kit

<u>Miscellaneous</u>

Hardware Kit

Miscellaneous

Plastics Kit

Miscellaneous

Parts

Documentation

and Software

This section provides an breakdown and identifies the spare parts ordering number associated with each item(s) for the Compaq Presario Series Portable Computers.

Presario Series Models: 1270, 1670, and 1675

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

Removal and Replacement Procedures

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

Serial Number Location

Disassembly Sequence

Electrostatic Discharge

Service

Considerations

Cables and

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

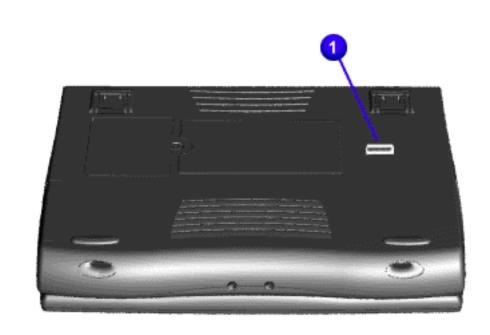
Fan Assembly

System Board

Dip Switch

Settings

Memory Module



Report the computer **1** serial number to Compag when requesting information or ordering spare parts.

 System DMA • System I/O Address System Memory Catalog Display Memory expansion • Diskette drive Hard drive • DVD or CD drive Battery pack

Maintenance & Service Guide Presario Series Models: 1270, 1670, and 1675

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

This chapter covers the following specifications of Compaq Presario Series Portable Computers:

• Computer models

• System Interrupts

Physical and Environmental

Maximum Operating Power

AC Power Requirements

Peak Operating Power

Operating Voltage **Operating Current** • Physical and environmental

Computer Specifications U.S. Metric Dimensions 5.0 cm 1.97 in Height 12.32 in 31.3 cm Depth 25.7 cm 10.12 in Width Weight 7.35 lbs 3.34 kgModel 1270 3.34 kg 7.35 lbs Model 1670 7.99 lbs 3.63 kg **Model 1675** Stand-Alone (Battery Pack) Power Li Ion Requirements W @ 14.8 VDC Nominal Operating Voltage

W @ 56.5 W

W @ 58.5 W

(Information not available)

Operating Frequency Maximum Transient Temperature 41° to 95 °F Operating Nonoperating -4° to 140 °F **Relative Humidity (Non-condensing)** Operating 10 to 90% Nonoperating (tw = 38.7° C max) 5 to 95% Altitude Operating 0 to 10,000 ft 0 to 30,000 ft Nonoperating

5° to 35 °C -20° to 60 °C 35°C to 90% 60°C to 95% 0 to 3.15 km 0 to 10.14 km 10 G, 11 ms, half sine 240 G, 2 ms, half sine Operating 0.55 G, 0.25 Oct/Min sweep rate 1.5 G, 0.25 Oct/Min sweep rate Nonoperating NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. Compaq Presario Series Portable Computers operate well within this range of temperatures.

System Interrupts

Programmable interrupt controller

Compaq Prosignia 56K-DF

Communications Port (COM1)

Standard 101/102-Key or Microsoft Natural Keyboard

ES1869 Plug and Play Audio Drive Standard Floppy Disk Controller

Printer Port (LPT1)

System CMOS / real-time clock

(free)

OPTi 82C861 PCI to USB Open Host Controller

IRQ Holder for PCI Steering

IRQ Holder for PCI Steering

IRQ Holder for PCI Steering

NeoMagic MagicGraph 128XD Texas Instruments PCI-1131 CardBus Controller

Texas Instruments PCI-1131 CardBus Controller

Synaptics PS/2 TouchPad

Numeric data processor

Primary IDE controller (dual fifo)

Opti Viper Max Dual PCI IDE Controller

Secondary IDE controller (dual fifo)

Opti Viper Max Dual PCI IDE Controller

(free)

System Function (Shipping Configuration)

Direct memory access controller

Motherboard resources

System timer

System speaker

System Memory Catalog

System Function

System board extension for PnP BIOS

NeoMagic MagicGraph 128XD

NeoMagic MagicGraph 128XD

NeoMagic MagicGraph 128XD

System board extension for PnP BIOS

System board extension for PnP BIOS

Texas Instruments PCI-1131 CardBus Controller

Texas Instruments PCI-1131 CardBus Controller

NeoMagic MagicGraph 128XD

NeoMagic MagicGraph 128XD

OPTi 82C861 PCI to USB Open Host Controller

NeoMagic MagicGraph 128XD

Motherboard resources

Metric

19.9 cm

25.7 cm

30.7 cm

Metric

Metric

21.42 cm

28.56 cm

35.8 cm

Total Memory

Total Memory

96-MB

128-MB

192-MB

4.3-GB

4.3-GB

65

8647

512

7944

15

63

512

2.5 ms

23 ms

4200 rpm

33.3 MB/s

1:1

Extra (CD+), CD-G, CD-RW

24× CD Drive

.6" / 15 mm

12 cm, 8 cm

+/-0.27 Vrms

1.2 mm

1.6 um

110 ms

none

128 KB

3600 KB/s

16.66 MB/sec

DVD-ROM, CD-ROM, CD-XA, CD-I, Photo CD,

Multisession, Audio, CD-R, CD-RW

150 KB/s

< 8 sec

< 4 sec

DVD Drive

DVD Drive

6" / 15mm

< 100 ms (CD)

0.74um (DVD)

.05" / 1.2cm

1.0 volts RMS

512 KB/s (CD)

< 5 sec

< 3 sec

Battery Pack

.81 in

3.05 in

5.69 in

0.85 Ib

3:00 hr

14.8 V

3.0 Ah

Modem

ITU v.90~6 standard

Bell 212A

V. 17

V.29

V.27Ter

Hayes AT

Class 1 Fax

V.42bis/MNP 5

Full ITU-T V.34 compliance

V. 21 (Group III Compatible)

6 Ft. RJ-11 telephone cable

44.4 Wh

32° F to 113 F

-4° F to 140° F

Full compliance with: V.21, V.22, V.22bis, V.23, V.32, V.32bis, Bell 103,

0 - 0.6 volts RMS

2705 KB/s (DVD)

Lithium Ion (Li ion) *

US

Metric

2.05 cm

7.75 cm

.39 kg

14.45 cm

0° to 45° C

-20° to 60° C

12,000 - 3,000 KB/s (CD)

< 150 ms (DVD)

4.7", 3.15" / 12cm, 8cm

512 KB

13 ms (read)

60.8 to 107.2 Mb/s

CD-DA, CD-ROM, CD-ROM XA, CD-1, Photo CD (multisession), Video CD, CD-R, CD-

240-250

64-MB

96-MB

160-MB

12.1" (Diagonal) TFT Display with LVDS

U.S.

7.83"

10.8"

12.1"

16 M

Internal

Typical 150: 1

Over $120 \text{ cd/m} \sim 3$

 $0.30 \times 0.30 \text{ mm}$

800 x 600

RGB Stripe

Edge Light

5.4 W (max)

(Information not available)

13.3" (Diagonal) TFT Display with LVDS

14.1" (Diagonal) TFT Display with LVDS

U.S.

8.43"

11.2"

14.1"

64 K

Internal

Typical 150: 1

1024 x 768

RGB Stripe

80 x 25

Memory Expansion for 350-MHz Processor

Memory Expansion for 380-MHz Processor

Diskette Drive

3.5 in

None

512

80

3 ms/6 ms

15 ms 100

2

Hard Drives

6.4-GB

6.4-GB

65

8647

512

15

63

512

2.5 ms

13 ms

23 ms

4200 rpm

33.3 MB/s

1:1

512 KB

60.8 to 107.2 Mb/s

CD Drive

13424

240-250

94 ms/174 ms

.5" / 1.27 cm

18 (1.44-MB) / 15 (1.2-MB)

80 (1.44-MB) / 80 (1.2-MB)

Expansion Board Memory

Expansion Board Memory

32-MB

64-MB

32-MB

64-MB

128-MB

128-MB

Edge Light

6.6 W (max)

Over $120 \text{ cd/m} \sim 3$

0.279 x 0.279 mm

U.S.

80 x 25, 80 x 50

Programmable interrupt controller

Standard 101/102-Key or Microsoft Natural Keyboard

Standard 101/102-Key or Microsoft Natural Keyboard

System CMOS/real time clock

Motherboard resources

Direct memory access controller **Motherboard resources**

Programmable interrupt controller

Direct memory access controller

Motherboard resources

Numeric data processor Opti Viper Max Dual PCI IDE Controller

Secondary IDE controller (dual fifo)

Opti Viper Max Dual PCI IDE Controller

System Function

ES1869 Plug and Play AudioDrive

ES1869 Plug and Play AudioDrive

Direct memory access controller

(free)

(free)

(free)

Standard Floppy Disk Controller

System DMA

System I/O Address

Timer Interrupt

Shock Operating Non operating Vibration

System Interrupts **Hardware IRQ System Function** IRQ0 IRQ1 IRQ2 IRQ3 IRQ4 IRQ5

Specifications

IRQ6 IRQ7 IRQ8

IRQ9 IRQ10 IRQ10 IRQ11 IRQ11 IRQ11 IRQ11 IRQ11

IRQ12

IRQ13

IRQ14

IRQ14

IRQ15

IRQ15

Hardware DMA

System DMA

1

3

4 5

6

7

I/O Address (Hex)

System I/O Address

x0000 - x000F

x0020 - x0021

x0022 - x0024

x0040 - x0043

x0060 - x0060

x0061 - x0061

x0064 - x0064

x0070 - x0071

x0080 - x0080

x0081 - x008F

x0092 - x0092

x00A0 - x00A1

x00C0 - x00DF

x00EC - x00EF

x00F0 - x00FF

x0170 - x0177

x0170 - x0177

x01F0 - x01F7

System Memory Catalog

Memory Address

x00000000 - x0009FFFF

x000A0000 - x000AFFFF

x000B0000 - x000BFFFF

x000C0000 - x000CBFFF

x000E0000 - x000FFFFF

x00100000 - x01FFFFF

x03000000 - x03000FFF

xFECFF000 - xFECFFFFF

Dimensions

Diagonal Size

Number of Colors

Contrast Ratio

Pixel Resolution

Character Display

Total Power Consumption

Brightness

Configuration

Backlight

Dimensions

Diagonal Size

Number of Colors

Pixel Resolution

Character Display

Total Power Consumption

Contrast Ratio

Configuration

Backlight

Dimensions

Diagonal Size

Number of Colors

Pixel Resolution

Character Display

Total Power Consumption

Contrast Ratio

Configuration

Backlight

Brightness

Pitch

Memory Expansion

32-MB

32-MB

32-MB

64-MB

64-MB

64-MB

Diskette Drive

Light

Height

Diskette Size

Bytes per Sector:

Sectors per Track

Tracks per Side

High Density Low Density

High Density

Access Times

Average (ms)

Hard Drive

Setting Time (ms)

Latency Average

Capacity Per Drive

Sectors per track

Sectors per track

Bytes per sector

Seek Times

Track to Track

Average Maximum

Sector Interleave

Applicable Disk

Disc Diameter

Disc Thickness

Access Time

Audio Output Level

Data Transfer Rate

(typical, including setting)

Track Pitch

Line out

Headphone

Cache Buffer

Startup Time

Applicable Disk

Access Time

Disc Thickness

Beam Divergence

Audio Output Level

Data Transfer Rate

(typical, including setting)

Track Pitch

Laser

Line out

Headphone

Cache Buffer

Startup Time

Battery Pack Operating Time

Environmental Requirements

Stop time

Battery Pack

Dimensions

Height

Length

Width

Weight

Energy

Voltage

Amp-hour capacity

Watt-hour capacity

Operating Temperature

Non-operating Temperature

Compliance

Data Compression

Fax Modulation

Command Set

Top of Page

Cable

Center Hole Diameter

(typical, including setting)

Stop time

Center Hole Diameter

(typical, including setting)

Rotational Speed

Transfer Rate

At interface

Buffer Size

DVD or **CD Drive**

Bytes per sector

Physical Configuration

Logical Configuration

(Typical, Including settling in ms)

Drive Type

Cylinders Heads

Cylinders

Heads

Media

Track-to-Track (high/low)

Number of Read/Write Heads

Low Density

System Memory

System Memory

Format

Mounting

Height

Width

Brightness

Pitch **Format**

Mounting

Height Width

Pitch

Format

Mounting

Height

Width

Display

x03001000 - x03001FFF

xFD000000 - xFDFFFFF

xFEA00000 - xFEBFFFFF

xFED00000 - xFEDFFFFF

xFFFC0000 - xFFFFFFF

Maintenance & Service Guide Presario Series

Models: 1270, 1670, and 1675

| <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>

Connector Pin Assignments

This appendix provides connector pin assignment tables for Compaq Presario Series Portable Computers. For more information on connectors, refer to the section on $\underline{\text{Rear Connectors}}$.

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

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

Serial Connector

Serial Connector		
Connector	Pin	Signal
(0000)	1	Carrier Detect
	2	Receive Data
	3	Transmit Data
	4	Data Terminal Ready
	5	Signal Ground
	6	Data Set Ready
	7	Ready to Send
	8	Clear to Send
	9	Ring Indicator
Key	yboard/Mo	ouse
Connector	Pin	Signal
	1	Data 1
	2	Data 2
	3	Ground
	4	+ 5 V
	5	Clock 1
	6	Clock 2

Connector	Pin	Signal
	Universal Seri	ial Bus
	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
	4	Not connected
	3	Blue Analog
	2	Green Analog
(00000) 000000	1	Red Analog

External VGA Monitor

Pin

Signal

Connector

Universal Serial Bus Connector

	3	Ground	
	4		
	Moder	n	
Connector	Pin	Signal	
	1	Unused	
Madam Cannastan	2	Unused	
Modem Connector	3	Tip	
	4	Ring	

5

6

2

+ 5V

Data -

Data +

Unused

Unused

Presario Series Models: 1270, 1670, and 1675

| <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> Pin Assignments | Battery Pack Operations

Battery Pack Operating Time

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

- Increase battery pack operating time
- Conditioning a battery pack
- Disposal 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 brightness
- Hard drive usage
- Changes in operating temperature
- Type and number of installed PC Cards

The power consumption requirements for PC Cards vary widely. Some cards drain the battery pack very rapidly.

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:

- Set the power conservation levels in the Power Management utility to **Maximum**.
- 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.

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 premature termination	2:00 hrs	
Li ion Battery Pack	4.5 hours premature termination	2:50 hrs	

Disposal of a Used Battery Pack

In the interest of safeguarding our environment. Compaq Computer Corporation recommends that nickel metal hydride (NiMH) and lithium ion (Li ion) 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 expose potentially harmful battery components.

Presario Series

Models: 1270, 1670, and 1675

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

Models and Features

Models and Features
Controls and Lights
Front Bezel Lights
Front Bezel Buttons
Left Side Components
Right Side Components
Bottom of Unit
Rear Connectors
Power Management
for Windows 98

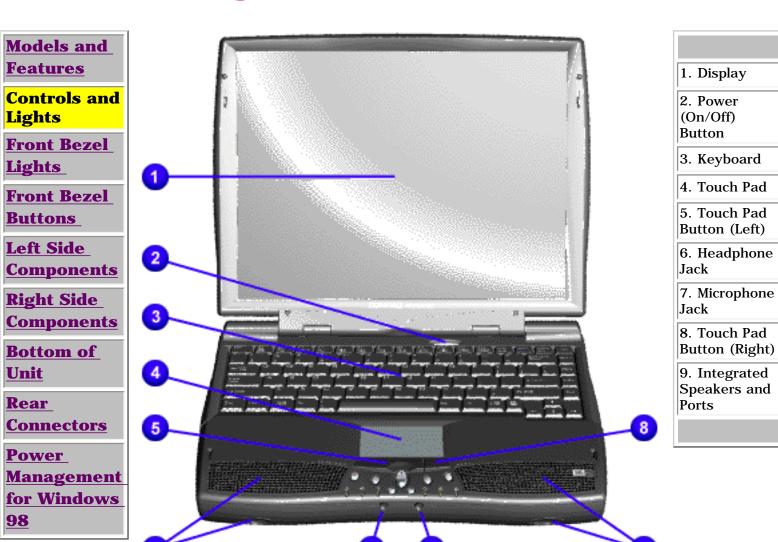
Compaq Presario Series Portable Computer Models				
	Model 1675	Model 1670		
Display	14. 1" TFT	13.3" TFT		
Processor	AMD-K6 380-Mhz MMX	AMD-K6 350-Mhz MMX		
Cache	1-MB	1-MB		
Hard Drive	6.4-GB	4.3-GB		
DVD or CD Drive	2x DVD	24x CD		
Modem	56.0 Kbps Data/Fax with PCI	56.0 Kbps Data/Fax with PCI		
System Memory	64-MB	64-MB		
	Model 1270			
	12. 1" TFT			
Processor	12. 1" TFT			
Processor Cache	12. 1" TFT AMD-K6 350-Mhz MMX			
Processor Cache Hard Drive	12. 1" TFT AMD-K6 350-Mhz MMX 512K			
Display Processor Cache Hard Drive CD Drive Modem	12. 1" TFT AMD-K6 350-Mhz MMX 512K 4.3-GB			

Presario Series

Models: 1270, 1670, and 1675

| <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>

Controls and Lights



Presario Series Models: 1270, 1670, and 1675

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

Front Bezel Lights

Models and

Features

Controls and

Lights

Front Bezel Lights

Front Bezel

Buttons

Left Side

Components

Right Side

Components

Bottom of

<u>Unit</u>

Rear

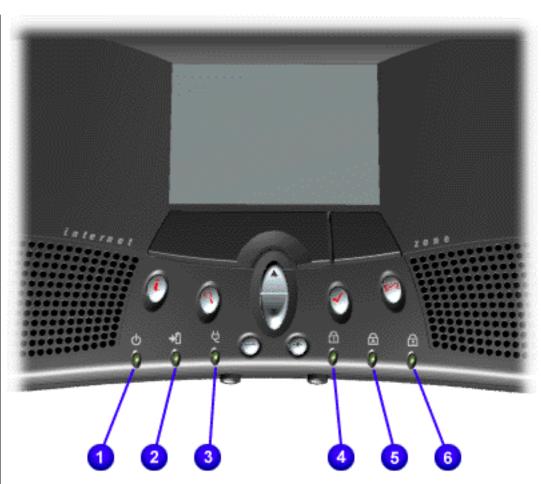
Connectors

Power

Management

for Windows

98



- 1. Power Light
- 2. Battery Charge Light
- 3. Power Cord Light
- 4. Num Lock Light
- 5. Cap Lock Light
- 6. Scroll Lock Light

Presario Series Models: 1270, 1670, and 1675

| <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>

Front Bezel Buttons

Models and Features

Controls and Lights

Front Bezel
Lights

Front Bezel
Buttons

Left Side

Components

Right Side Components

Bottom of Unit

<u>Rear</u>

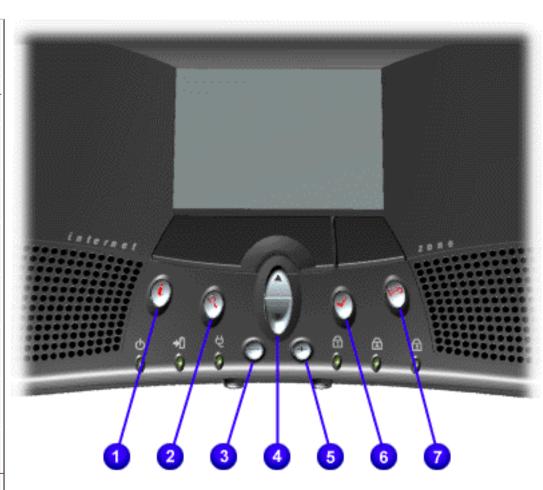
Connectors

Power

Management

for Windows

<u>98</u>



- 1. Instant Internet Access Button
- 2. Instant Search Button
- 3. Volume Down Button
- 4. Scroll Up/Down Button
- 5. Volume Up Button
- 6. Secure E-Commerce Button (or favorite Web site)
- 7. Instant E-Mail Button

Presario Series

Models: 1270, 1670, and 1675

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

Left Side Components

Models and Features

Controls and

<u>Lights</u>

Front Bezel
Lights

Front Bezel

Buttons

Left Side

Left Side Components

Right Side Components

Bottom of Unit

Rear

Connectors

Power

Management

for Windows

<u>98</u>



- 1. PC Card Eject Lever
- 2. PC Card Slot
- 3. Ethernet Connector Plug
- 4. Diskette Drive Slot
- 5. Diskette Eject Button

Presario Series

Models: 1270, 1670, and 1675

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

Right Side Components

Models and Features

Controls and Lights

Front Bezel

<u>Lights</u>

Front Bezel
Buttons

Left Side Components

Right Side Components

Bottom of Unit

Rear

Connectors

Power

Management

for Windows

98



- 1. Battery Compartment
- 2. DVD or CD Drive Manual Eject Hole
- 3. DVD or CD Drive Eject Button

Presario Series

Models: 1270, 1670, and 1675

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

Bottom of Unit

Models and Features

Controls and

Lights

Front Bezel

<u>Lights</u>

Front Bezel

Buttons

Left Side

Components

Right Side

Components

Bottom of Unit

Rear

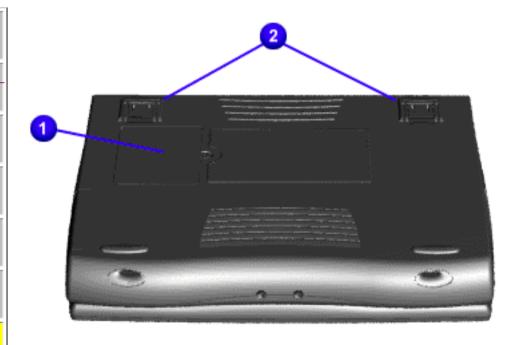
Connectors

Power

Management

for Windows

98



1. Memory Compartment Door

2. Stand Feet

Presario Series

Models: 1270, 1670, and 1675

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

Rear Connectors

Models and Features

Controls and Lights

Front Bezel
Lights

Front Bezel
Buttons

<u>Left Side</u>

<u>Components</u>

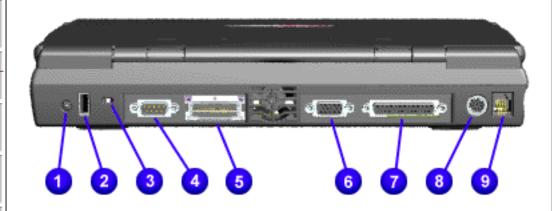
Right Side Components

Bottom of

Bottom of Unit

Rear Connectors

Power
Management
for Windows
98



- 1. AC Adapter
- 2. Universal Serial Bus
- 3. Security Slot
- 4. Serial Port
- 5. Port Replicator
- 6. External Monitor Port
- 7. Parallel Printer Port
- Keyboard/Mouse
- 9. Modem Jack

Maintenance & Service Guide Presario Series Models: 1270, 1670, and 1675

| Home Page | Notice | Preface | Product Description | Troubleshooting Illustrated Parts Catalog | Removal & Replacement Procedures | Specifications

Pin Assignments | Battery Pack Operations

Power Management for Windows 98

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

- Power Management Settings
- Sleep
- Hibernation
- Battery operating time
- Rebooting After a Lockup
- Servicing Your Computer Full Off Mode

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

Tab: **Power Schemes**:

Turn OFF Monitor

Tab: **ALARMS**::

Tab: **POWER METER**:

Tab: ADVANCED

Always on System Standby:

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**.

Each of these system components will go to sleep after the selected or default periods of inactivity. (The setting for hard

There are five categories of power management settings under the Control Panel. The default setting for each feature is listed below in the tables.

Power Management Properties

No Action

Running on Batteries

15 minutes

After 10 minutes After 10 minutes

Always on System Standby: After 15 minutes

Power Management Properties

Plugged in

After 15 minutes

Never

Low Battery Alarm: 10% 0% **Critical Battery Alarm**

Alarm Actions: X Display Message Notification **Text Action**

Default Default

Power Management Properties

Display Properties

Sleep

Tab: **Monitor**: Laptop Display (Maximum resolution according to unit display size)

You can select Sleep mode instead of turning off the computer when you have finished using it. This allows the computer to

computer into Off mode.

lose power while using the AC adapter.

computer will display a progress screen.

Manual keys

combination

- Fn+F4

<u>Time Out</u>

Sleep, Hibernation, and Off.

wake up faster than turning it completely off and saves power over the active (On) mode. Compaq Presario Series Notebook computers have two levels of sleep, Hibernation and Sleep.

Hibernation – by pushing the power button once your computer will perform a save to disk followed by a shut down of the

Sleep – is a low power mode, also referred to as Standby mode. While in Sleep mode, your computer will maintain system information and open files. Unsaved information will be lost if you turn off your system prior to system wake-up, or if you

CAUTION: While in Sleep mode, your computer will maintain system information and open files. Unsaved information will be lost if you turn off your system prior to system wake-up, or if you lose power while using the AC adapter.

the result of a low battery condition. As it enters Hibernation your computer will display a progress screen, as it

automatically saves the machine state before it shuts down and turns itself off. Your computer will automatically go 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



Sleep

Hibernation Mode Hibernation helps conserve battery life and protects your data. Hibernation can be a routine power saving event, or can be

Indicators Mode To Initiate To End

Flashing green

Power LED

Press any key

The following table shows the conditions and indicators for getting in and out of the various power management modes,

	Default 15 minutes. If on Battery power (system will not go to Sleep if on AC power)			
Hibernate	Manual - Press Power Button once Time Out Default If low battery or after 1 hour of sleep (system will not Hibernate if on AC power)	Press Power Button once	No Power LED, blank screen	
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	
If you need to install instructions above fo	ur Computer – Fu or replace components in your r properly putting the compu- struction on removing batter	our system, you m uter into Off mode,	ust turn the computer of	ff <i>completely</i> . Follow the and remove the battery <u>(see</u>

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 it with a

single press of the Power Button. If it still doesn't recover, press the Power Button and hold it for four seconds to shut it down, 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.

Battery operating time is affected by variables, such as the following:

Battery Operating Time

 Power conservation settings Hardware configuration

- Software applications Installed options
- Display brightness
- Hard drive usage
- Power button
- Type and number of installed PC Cards

Changes in operating temperature

For more information on increasing battery pack operating time, conditioning the battery pack, and disposing of a used battery pack, refer to the Battery Pack Operations.

Presario Series

Models: 1270, 1670, and 1675

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

Preliminary Steps

Before running POST, 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, clear the password.
- 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.



If the problem only occurs when an external device is connected to the computer, **IMPORTANT:** 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 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 the preliminary steps are completed, you are ready to run POST.

Maintenance & Service Guide Presario Series

Models: 1270, 1670, and 1675

| <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>

Power-On Self Test (POST)

Running POST

To run POST, complete the following steps:

Hard drive controller failure

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.

If the system is not functioning well enough to run POST, or if the display is 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-Syste	em 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.	
XX00	OYZZ 201-Memory Error	
Probable Cause	Recommended Action	
· ·	301-Keyboard Error	
Probable Cause	Recommended Action	
Keyboard failure	1. Ensure the keys are not depressed during POST.	
	2. Reconnect the keyboard with the computer off.	
	3. Replace the keyboard.	
304-Key	board 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.	
601-1	Diskette Controller Error	
Probable Cause	Recommended Action	
Mismatch in drive type or failure in the diskette controller	1. Run Computer Checkup (TEST).	
	2. Check and/or replace cables.	
	3. Replace the system board.	
609	5-Diskette Drive Error	
Probable Cause	Recommended Action	
Mismatch in drive type	Run Computer Setup.	
1780-Pr	imary Hard Drive 0 Failure	
Probable Cause	Recommended Action	
Disk 0 failed to respond	1. Run Computer Checkup (TEST).	
	2. Replace the hard drive.	
Hard drive format error	1. Run Computer Checkup (TEST).	
	2. Replace the hard drive.	
	2-Hard Drive Controller	
Probable Cause	Recommended Action	

1. Run Computer Setup.

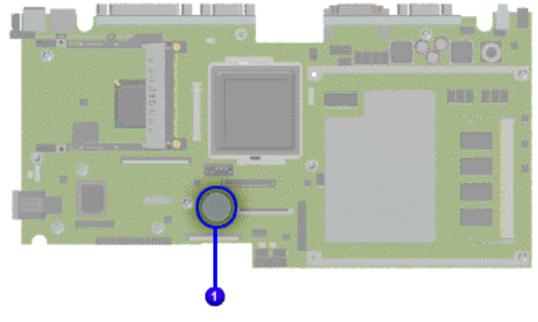
2. Replace the hard drive.

Presario Series

Models: 1270, 1670, and 1675

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

Clearing the Power-on Password



Clearing the power-on password requires removing all Setup attributes that are programmed in the CMOS. The 1 RTC battery 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 <u>Palmrest Cover</u> with Touch Pad.
- 5. Remove the <u>heatspreader</u>.
- 6. Remove the <u>keyboard</u>.
- 7. Remove RTC battery for 30 seconds and replace it .
- 8. Reassemble the computer.
- 9. Turn on the computer to verify that the power-on password has been cleared. If it has not been cleared, repeat Steps 1 through 9.

Presario Series Models : 1270, 1670, and 1675

| <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>

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:

- Computer Checkup (TEST)
- View System Information (INSPECT)
- 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 select to save the device list to a file and to print or to save the log of errors. Run the View System Information (INSPECT) utility and select to print or to save that information. Have the files or the printed information available when you call for support.

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

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

- 9. Select one of the following from the **Test Option** menu:
 - Quick Check Diagnostics. Runs a quick, general test on each device with a minimal number of prompts. If errors occur, they 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 complete, the **Test Option** menu appears.
- 11. Exit the **Test Option** menu.
- 12. Exit the **Diagnostics** menu.

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.
- O Trans on an area tout the commentant The commentant of

2. Insert the Compaq Diagnostics diskette in drive A.

- 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.
- 5. Select **View System Information (INSPECT)** from the **Diagnostics** menu.
- 6. Select the item you want to view from the following list:

System Memory ROM Audio

Keyboard Operating system

System ports System files
System storage Windows files

Graphics Windows in

w the instant

7. Follow the instructions on the screen to cycle through the screens, to return to the list and choose another item, or to print the information.

Presario Series
Models: 1270, 1670, and 1675

| <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>

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.
- **IMPORTANT:** Ensure that there is no diskette in the diskette drive and that there are no PC Cards in the PC slots.
- 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.

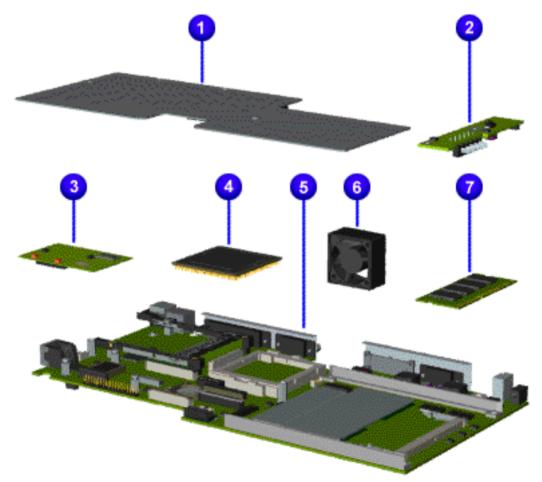
Presario Series

Models: 1270, 1670, and 1675

| <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>

Boards

System Unit
Boards
<u>Display</u> Assembly
Mass Storage Devices
Miscellaneous Cable Kit
Miscellaneous Hardware Kit
Miscellaneous Plastics Kit
Miscellaneous Parts
Documentation and Software



Description	Spare Part Number
1. Heatspreader	122702- 001
2. Voltage Convertor Board	352891- 001
3. Modem 56K Data/Fax w/o SRAM	400445- 001
4. Processor AMD P350- Mhz (Models: 1270 and 1670)	122698- 001
Processor AMD P380- Mhz (Model: 1675)	123923- 001
5. System Board (Models: 1670 and 1675) System	400440- 001
Board w/512K Cache (Model: 1270)	122697- 001
6 .Fan Assembly	400444- 001
7. System Memory 32-MB (Model: 1270) 64-MB	122699- 001
(Models: 1670 and 1675)	122700- 001

Presario Series

Models: 1270, 1670, and 1675

| <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>

	Sy	ystem	Unit
--	----	-------	------

Boards

Display Assembly

Mass Storage

Devices

Miscellaneous

Cable Kit

Miscellaneous

Hardware Kit

Miscellaneous

Plastics Kit

Miscellaneous

Parts

Documentation

and Software



Description	Spare Part Number
1. Display 14.1 TFT (Model: 1675)	118165- 001
2. Display 13.3 TFT w/LVDS (Model: 1670)	123924- 001
3. Display 12.1 TFT w/LVDS (Model: 1270)	387544- 001

Presario Series

Models: 1270, 1670, and 1675

| <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>

Mass Storage Devices

System Unit

Boards

Display Assembly

Mass Storage Devices

Miscellaneous

Cable Kit

Miscellaneous

Hardware Kit

Miscellaneous

Plastics Kit

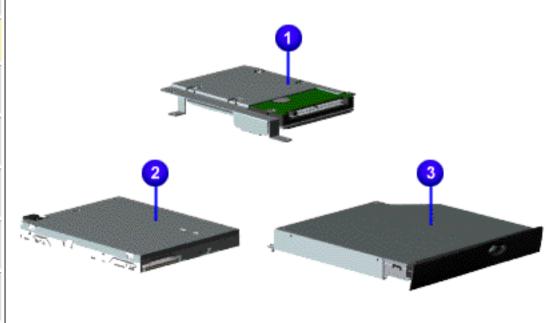
Miscellaneous

Parts

Documentation

and Software

Use the scroll down menu for the description and spare part number.



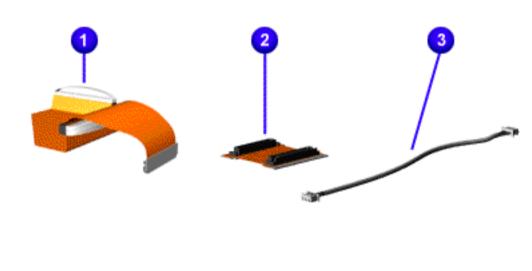
Presario Series

Models: 1270, 1670, and 1675

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

Miscellaneous Cables Kit

System Unit
Boards
<u>Display</u>
<u>Assembly</u>
Mass Storage
<u>Devices</u>
Miscellaneous
Cables Kit
<u>Miscellaneous</u>
Hardware Kit
Miscellaneous
Plastics Kit
Miscellaneous
<u>Parts</u>
Documentation
and Software



Miscellaneous Cable Kit Spare Part Number: 330946-001	
1. Hard	1
Drive	each
and	
Diskette	
Drive	
Cable	
2. CD or	1
DVD	each
Drive	
Cable	
3.	1
Modem	each
Cable	

Presario Series
Models: 1270, 1670, and 1675

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

Miscellaneous Hardware Kit

System Unit

Boards

Display

Assembly

Mass Storage

Devices

Miscellaneous

Cable Kit

Miscellaneous Hardware Kit

Miscellaneous

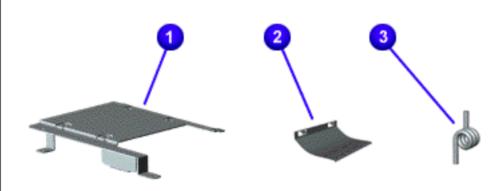
Plastics Kit

Miscellaneous

Parts

Documentation

and Software



Miscellaneous
Hardware Kit
Spare Part Number:
346853-001

Description	Quantity
1. Hard Drive Mounting Bracket	1 each
2. LCD Guide FPC	1 each
3. Spring Torsion PCMCIA	4 each

Presario Series

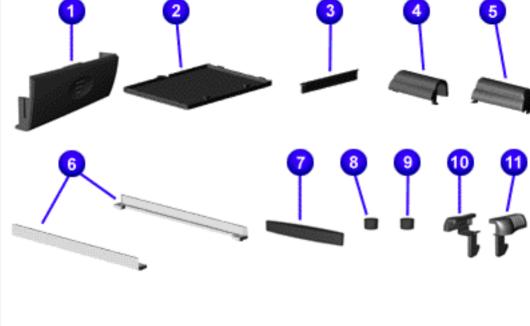
Models: 1270, 1670, and 1675

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

Miscellaneous Plastics Kit

System Unit Boards Display Assembly Mass Storage Devices Miscellaneous Cable Kit Miscellaneous Hardware Kit Miscellaneous Plastics Kit Miscellaneous Parts

Documentation and Software



Miscella	neous
Plastics	s Kit
Spare Part 3 330949	
Description	Quantity
1. Door, Battery Pack	1 each
2. Cover, Memory Module	1 each
3. Door, PCMCIA	1 each
4. Display Hinge Cover, (Left)	1 each
5. Display Hinge Cover, (Right)	1 each
6. CD Drive Guide	1 each
7. Rubber Plug (A)	4 each
8. Rubber Plug (B)	4 each
9. Rubber Foot	8 each
10. Latch (Right)	2 each
11. Latch (Left)	2 each

Presario Series

Models: 1270, 1670, and 1675

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

Miscellaneous Parts

System Unit

Boards

<u>Display</u> Assembly

Mass Storage

Devices

Miscellaneous

Cable Kit

<u>Miscellaneous</u>

Hardware Kit

Miscellaneous

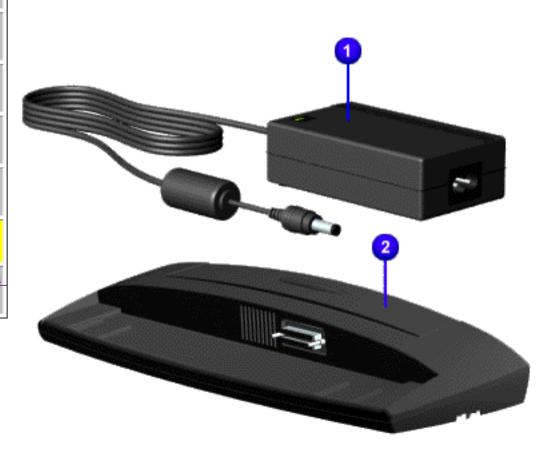
Plastics Kit

Miscellaneous Parts

Documentation

and Software

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



Miscella Par	
1. AC	298239-
Adapter	001
2. Port	102270-
Replicator	001

Presario Series
Models: 1270, 1670, and 1675

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

Documentation and Software

System Unit
Boards
<u>Display</u>
<u>Assembly</u>
Mass Storage
<u>Devices</u>
<u>Miscellaneous</u>
Cable Kit
<u>Miscellaneous</u>
Hardware Kit
<u>Miscellaneous</u>
Plastics Kit
Miscellaneous
Donto

Documentation and **Software**

Description	Spare Part Number
Quick Restore CD, Belgium Windows 98	Info. Not Available
France Windows 98	Info. Not Available
Germany Windows 98	Info. Not Available
Netherlands Windows 98	Info. Not Available
UK Windows 98	Info. Not Available

Quick Reference Guide	Info. Not Available
QuickFind for Windows, North America, Latin America, Asia Pacific	Info. Not Available
QuickFind for Windows, Europe, Middle East, Africa	Info. Not Available

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

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

Presario Series Models: 1270, 1670, and 1675

| <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>

Electrostatic Discharge

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

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

Generating Static

The table shows how different activities generate static electricity and at different electrostatic voltage levels.

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
NOTE: 700 volts can degrade a product.			

Presario Series
Models: 1270, 1670, and 1675

| <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>

Service Considerations

Listed below are some of the considerations that you should keep in mind during the disassembly and 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 all screws removed during disassembly be kept with the part that was removed, then returned to their proper locations.

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

Return to Removal & Replacement Procedures

Presario Series Models: 1270, 1670, and 1675

| <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>

Cables and Connectors

Most cables used throughout the unit are ribbon cables. Cables must be handled with extreme care to avoid damage. Apply only the tension required to seat or unseat the cables during insertion or removal from the connector. Handle 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.

Cables

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

- Always handle cables by their connectors.
- Avoid bending, twisting, or pulling on the cables.
- Apply minimum required force when seating or unseating the cables from their connectors.
- Place the cables in such a manner 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 **ZIF Connector**.

The ribbon cable position for the **4.3-GB and 6.4-GB hard drive**.

The ribbon cable position for the **CD or DVD drive.**

The ribbon cable position for the **diskette drive**.

The cable position for the **speaker assembly.**

Plastic Parts

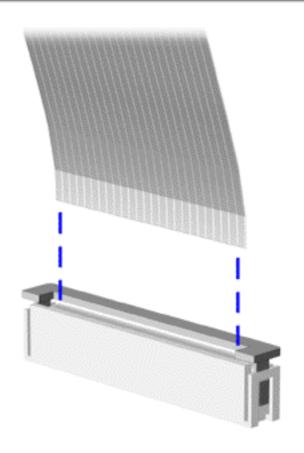
Plastic parts can be damaged by the use of excessive force during disassembly and reassembly. When handling the plastic parts, use care. Apply pressure only at the points designated in the maintenance instructions.

Return to Removal & Replacement Procedures

Presario Series

Models: 1270, 1670, and 1675

| <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>



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.



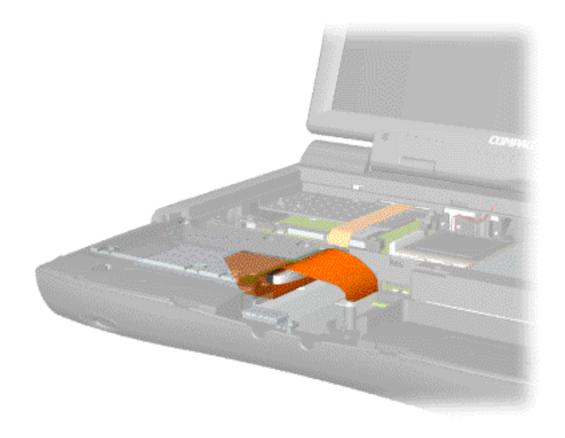
CAUTION: When servicing this computer, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the computer.

Back to **Cables and Connectors**.

Presario Series
Models: 1270, 1670, and 1675

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

The ribbon cable position for the 4.3-GB and 6.4-GB hard drive.

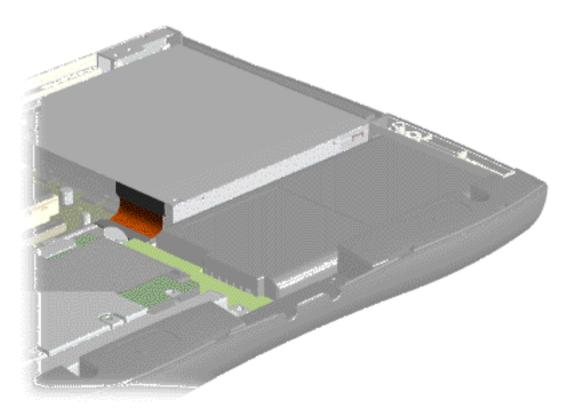


Presario Series

Models: 1270, 1670, and 1675

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

The ribbon cable position for the CD or DVD drive.



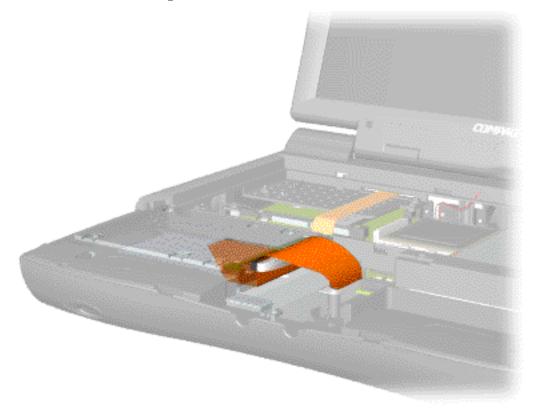
Back to Cables and Connectors.

Presario Series

Models: 1270, 1670, and 1675

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

The ribbon cable position for the diskette drive.



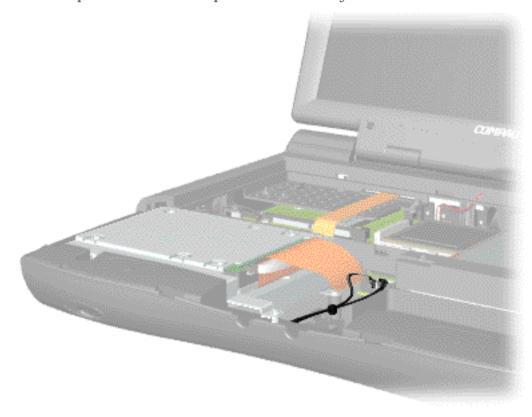
Back to Cables and Connectors.

Presario Series

Models: 1270, 1670, and 1675

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

The cable position for the speaker assembly.



Back to **Cables and Connectors**.

Presario Series

Models: 1270, 1670, and 1675

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

Removing the Battery Pack

Disassembly Sequence

Electrostatic

Discharge

<u>Service</u>

Considerations

Cables and

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

System Board

Dip Switch

Settings

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



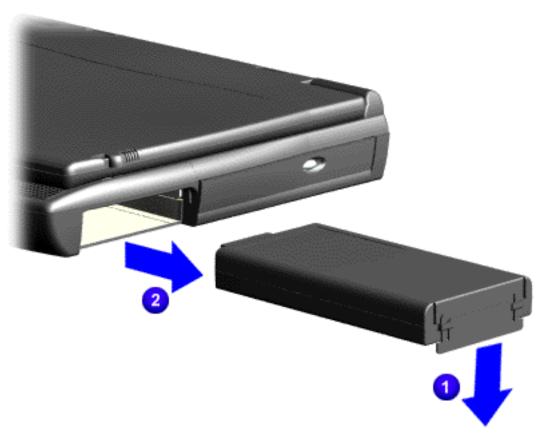
To remove the battery pack, complete the following steps:

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

Presario Series

Models: 1270, 1670, and 1675

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



2. Pull down on the battery pack tab and pull the battery pack from the chassis.

To replace the battery pack, reverse the previous procedures.

Presario Series

Models: 1270, 1670, and 1675

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

Removing the Palmrest Cover with Touch Pad

Disassembly Sequence

Electrostatic

Discharge

Service

Considerations

Cables and

Connectors

Preparing the

Computer for Disassembly

Battery Pack

Palmrest Cover with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

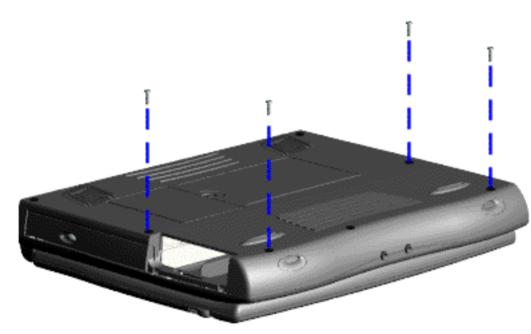
System Board

Dip Switch

Settings

Memory

Module



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.

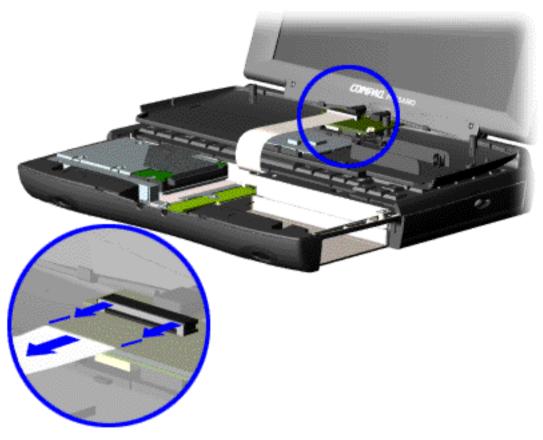
To remove the palmrest cover with touch pad, complete the following steps:

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

Presario Series

Models: 1270, 1670, and 1675

| <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>



- 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 LIF connector on the palmrest cover.



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

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



When replacing the palm rest cover ensure the cable is properly routed through the slot on the Upper CPU cover.

Presario Series

Models: 1270, 1670, and 1675

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

Removing the Keyboard

Disassembly Sequence

Electrostatic Discharge

Service Considerations

Cables and

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

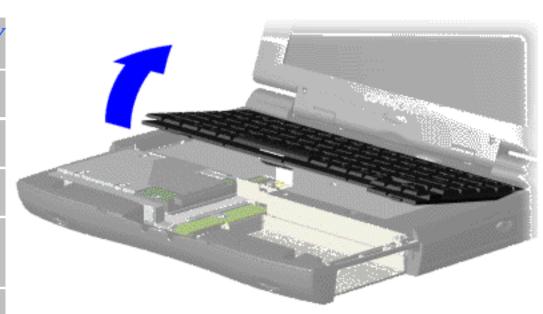
System Board

Dip Switch

Settings

Memory

Module



To remove the keyboard, complete the following steps:

- 1. Prepare the computer for disassembly.
- 2. Remove the palmrest cover with touch pad.
- 3. Gently lift and turn the keyboard over allowing it to rest on top of the palmrest cover with touchpad slot opening.
- 4. Remove the heatspreader.

Presario Series

Models: 1270, 1670, and 1675

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

Removing the Heatspreader

Disassembly Sequence

Electrostatic

Discharge

Service

Considerations

<u>Cables and</u>

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

<u>Modem</u>

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

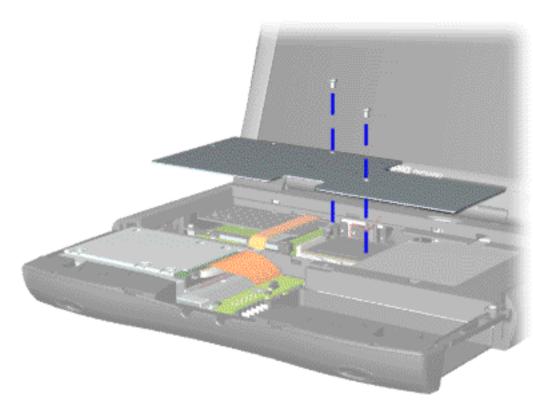
System Board

Dip Switch

Settings

<u>Memory</u>

Module



To remove the heatspreader, complete the following steps:

- 1. <u>Prepare</u>
 <u>the computer</u>
 <u>for</u>
 <u>disassembly</u>.
- 2. Remove the palmrest cover with touch pad.
- 3. Gently lift and turn the keyboard over allowing it to rest on top of the palmrest cover with touchpad slot opening.
- 4. Remove two screws from the heatspreader and lift out of the chassis.

To replace the heatspeader, reverse the previous procedures.

Presario Series

Models: 1270, 1670, and 1675

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

Removing the Processor

Disassembly Sequence

Electrostatic
Discharge

<u>Service</u>

Considerations

Cables and

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

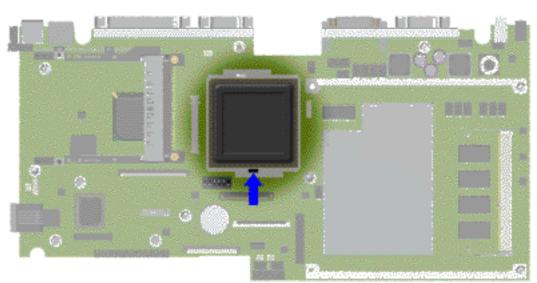
System Board

Dip Switch

Settings

Memory

<u>Module</u>



To remove the processor, complete the following steps:

- 1. <u>Prepare</u>
 <u>the computer</u>
 <u>for</u>
 disassembly.
- 2. Remove the palmrest cover with touch pad.
- 3. Remove the <u>keyboard</u>.
- 4. Remove the heatspreader.
- 5. Insert a small blade screw driver 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.

Presario Series

Models: 1270, 1670, and 1675

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

To replace the processor complete the following steps:



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

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



When installing the processor into the chassis slot, be sure that the hole pattern on the **NOTE:** 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 away from the display to lock the processor.

Presario Series Models: 1270, 1670, and 1675

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

Removing the 4.3-GB or 6.4-GB Hard Drive

Disassembly Sequence

Electrostatic Discharge

Service

Considerations

<u>Cables and</u>

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

<u>Keyboard</u>

<u>Heatspreader</u>

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

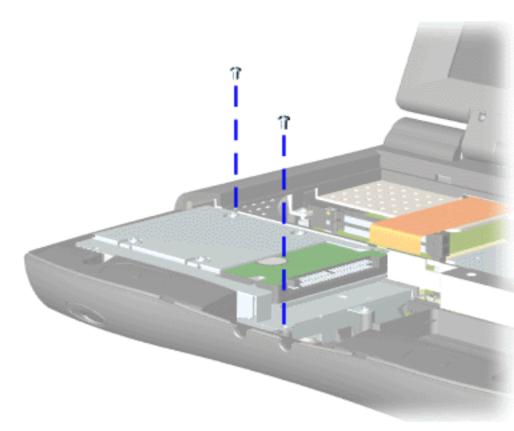
System Board

Dip Switch

Settings

<u>Memory</u>

Module



To remove the hard drive, complete the following steps:

1. Prepare the computer for disassembly.

2. Remove the palmrest cover with touch pad.

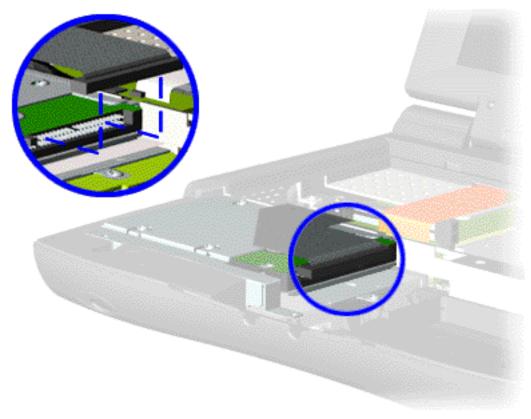
3. Remove the <u>keyboard</u>.

4. Remove two screws from the hard drive mounting bracket and lift out the hard drive with drive mounting bracket attached.

Presario Series

Models: 1270, 1670, and 1675

| <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>

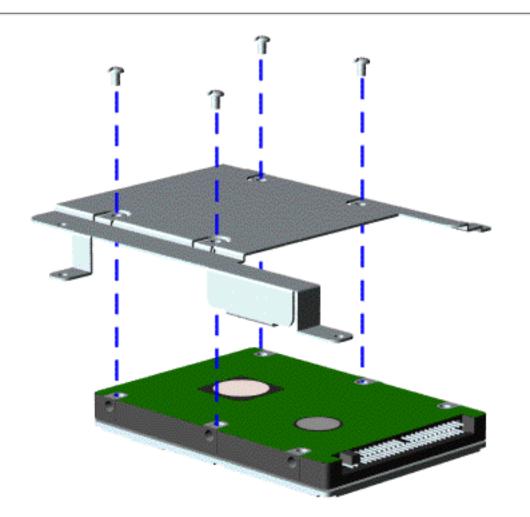


5. Disconnect the hard drive data cable from the hard drive and remove from the chassis.

Presario Series

Models: 1270, 1670, and 1675

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



To remove the hard drive mounting bracket, complete the following steps.

Remove four screws from the hard drive mounting bracket.

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

Presario Series

Models: 1270, 1670, and 1675

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

Removing the DVD or CD Drive

Disassembly Sequence

Electrostatic

Discharge

Service

Considerations

Cables and

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

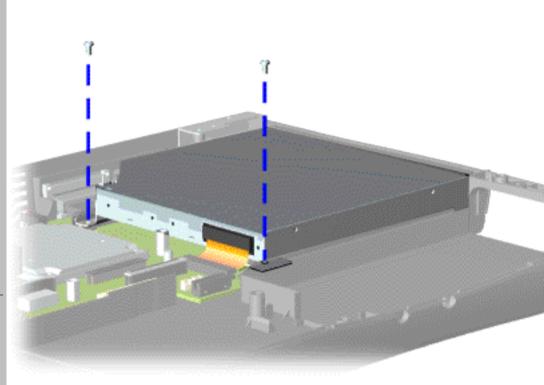
System Board

Dip Switch

Settings

Memory

Module



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

1. Prepare the computer for disassembly.

2. Remove the palmrest cover with touch pad.

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

4. Remove the heatspreader.

5. Remove two screws located at the back DVD or CD drive.

Presario Series

Models: 1270, 1670, and 1675

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

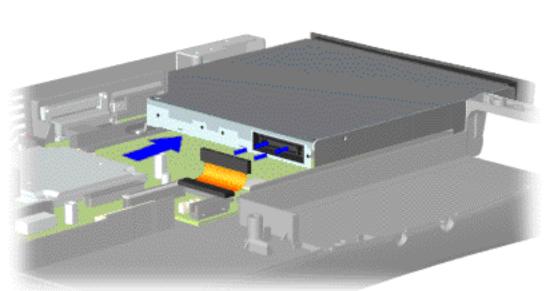


6. Remove two screws from the base enclosure which secures the DVD or CD drive to the chassis.

Presario Series

Models: 1270, 1670, and 1675

| <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>



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

To replace the DVD or CD drive, reverse the previous procedures.

Presario Series Models: 1270, 1670, and 1675

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

Removing the Battery Charger Board



Electrostatic Discharge

Service

Considerations

Cables and

Connectors

Preparing the

Computer for Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

<u>Heatspreader</u>

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

<u>Display</u>

Panel

<u>Assembly</u>

Upper CPU

Cover

<u>Speaker</u>

Assembly

Diskette Drive

Fan Assembly

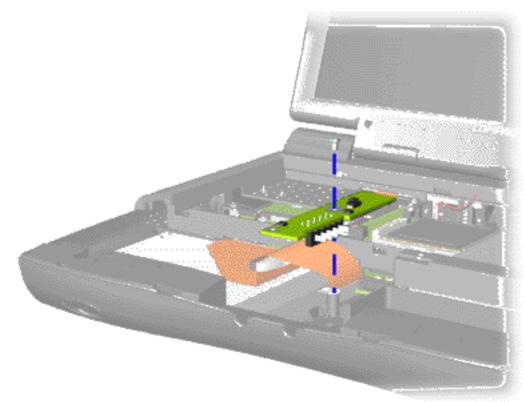
System Board

Dip Switch

Settings

<u>Memory</u>

Module



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

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

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

When

board.

replacing the battery charger board, ensure **NOTE:** the pins are aligned with the connector on the system

Presario Series

Models: 1270, 1670, and 1675

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

Removing the Modem

Disassembly Sequence

Electrostatic

<u>Discharge</u>

Service

Considerations

Cables and

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

<u>Heatspreader</u>

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

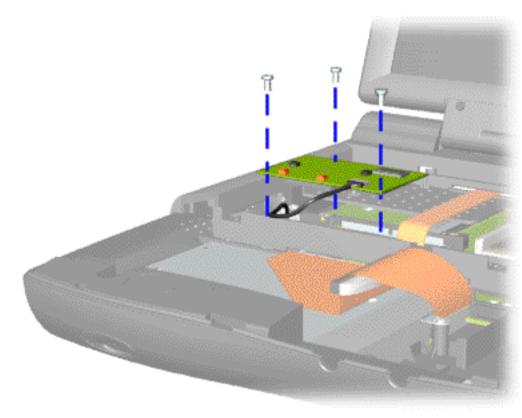
System Board

Dip Switch

<u>Settings</u>

Memory

Module



To remove the modem, complete the following steps:

1. Prepare the computer for disassembly.

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

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

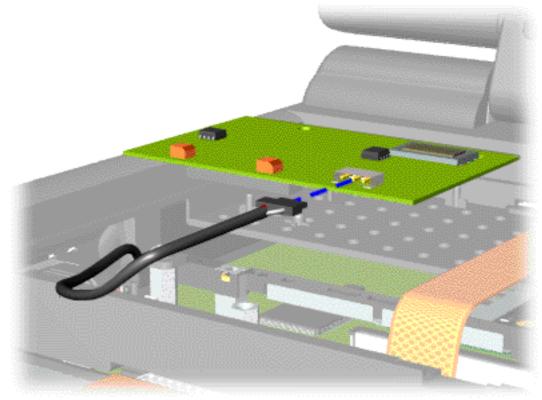
4. Remove the heatspreader.

5. Remove two screws securing modem and pull the modem off the connector on the system board.

Presario Series

Models: 1270, 1670, and 1675

| <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>



6. Disconnect the modem cable from the modem.

To replace the modem, reverse the previous procedures.

Presario Series Models: 1270, 1670, and 1675

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

Removing the Display Panel Assembly

Disassembly Sequence

Electrostatic
Discharge

Service

Considerations

<u>Cables and</u>

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

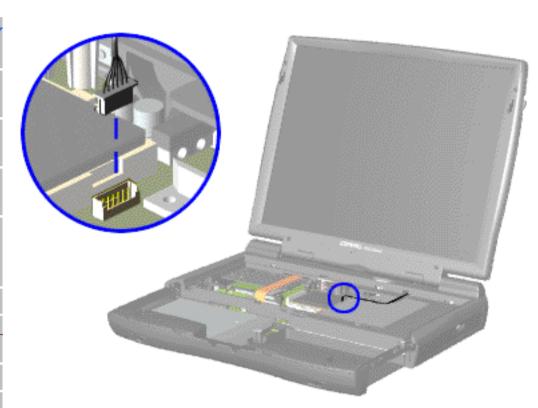
System Board

Dip Switch

Settings

Memory

Module



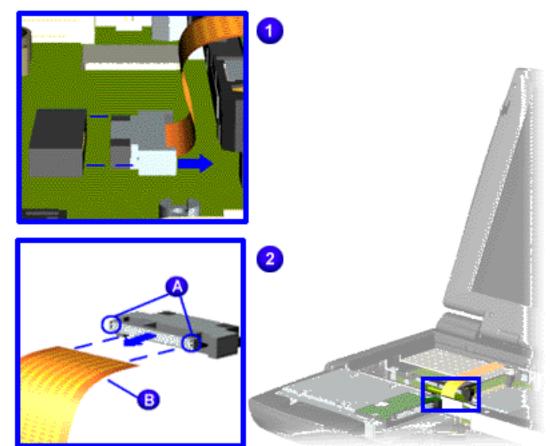
To remove the display panel assembly, complete the following steps:

- 1. <u>Prepare</u> the computer for disassembly.
- 2. Remove the <u>palmrest</u> cover with touch pad.
- 3. Remove the keyboard.
- 4. Remove the heatspreader.
- 5. Remove the modem.
- 6. Disconnect the backlight cable attached to the display panel assembly from the connector on the system board.

Presario Series

Models: 1270, 1670, and 1675

| <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>

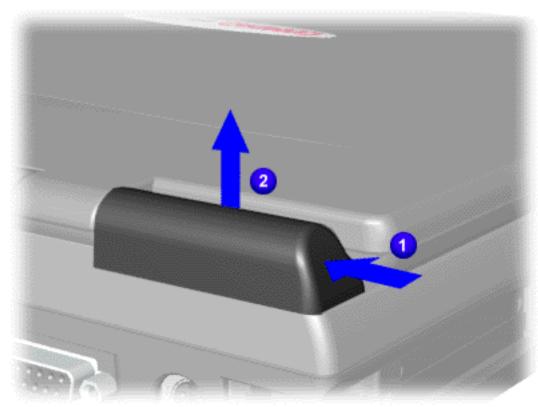


7. Disconnect the flex data cable attached to the display panel assembly from the Low Voltage Differential Signal (LVDS) connector the on the system board.

Presario Series

Models: 1270, 1670, and 1675

| <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>



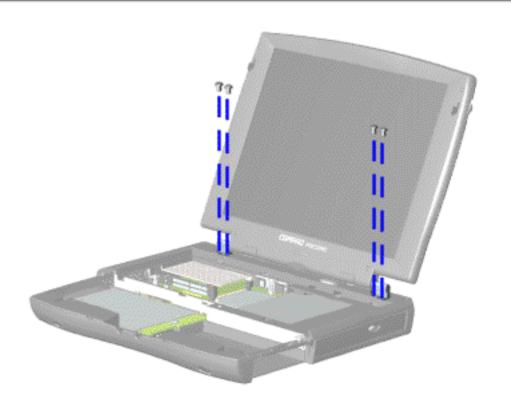
8. Close the display panel assembly and 1 push back on top of the hinge covers and 2 lift up from the bottom edge of the hinge covers to remove the covers off the chassis.



Presario Series

Models: 1270, 1670, and 1675

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

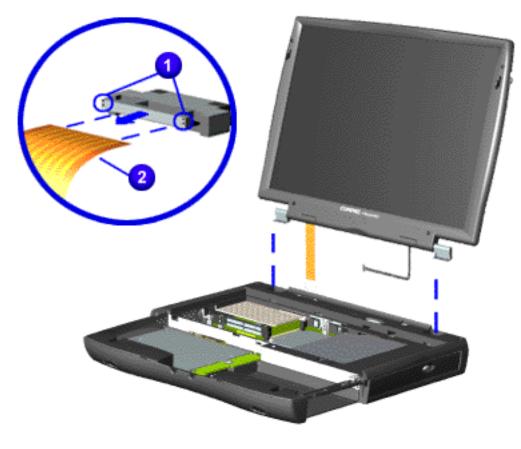


9. Support the back of the display panel assembly and remove two screws from each of the display panel hinges.

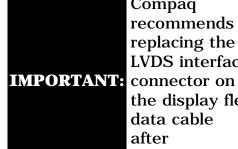
Presario Series

Models: 1270, 1670, and 1675

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



10. Remove the **1** connector on the end of the display flex data cable.



Compaq recommends replacing the LVDS interface the display flex data cable after removing.



CAUTION: The connector on the end of the flex cable must be removed before the cable can be routed through the slot on the Upper CPU cover.

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



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

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

Presario Series Models: 1270, 1670, and 1675

| Home Page | Notice | Preface | Product Description | Troubleshooting

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

Removing the Upper CPU Cover

Disassembly Sequence

Electrostatic
Discharge

Service

Considerations

Cables and Connectors

Preparing the

Computer for Disassembly

Battery Pack

Dattery Fack

Palmrest Cover with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

<u>CD Drive</u>

Battery

Charger Board

<u>Modem</u>

<u>Display</u>

Panel

Assembly

Upper CPU Cover

Speaker

Assembly

Diskette Drive

Fan Assembly

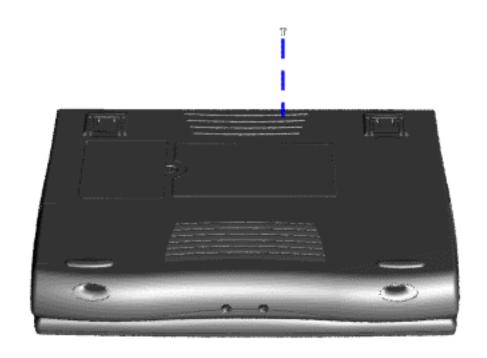
System Board

Dip Switch

Settings

<u>Memory</u>

Module



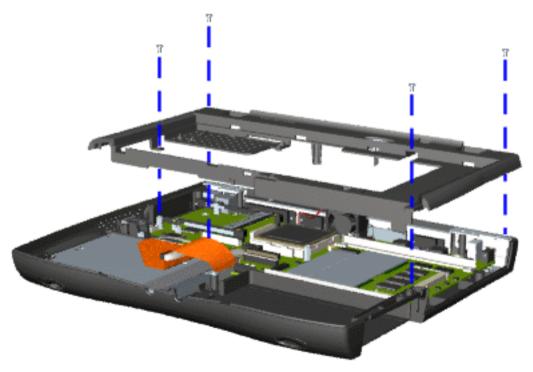
To remove the Upper CPU cover complete the following steps:

- 1. Prepare the computer for disassembly.
- 2. Remove the palmrest cover with touch pad.
- 3. Remove the keyboard.
- 4. Remove the <u>heatspreader</u>.
- 5. Remove the <u>hard</u> drive.
- 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.

Presario Series

Models: 1270, 1670, and 1675

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



- 8. Remove four screws located on the top of the Upper CPU cover.
- 9. Lift the Upper CPU cover off the snaps on the chassis which will disconnect the power switch from the connector on the system board.

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

Presario Series Models: 1270, 1670, and 1675

| <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>

Removing the Speaker Assembly



Discharge Service

Considerations

Cables and Connectors

Preparing the Computer for Disassembly

Battery Pack

Palmrest Cover with Touch Pad

Keyboard

<u>Heatspreader</u>

Processor

Hard Drive

DVD or CD Drive

Battery

Charger Board

Modem

<u>Display</u>

<u>Panel</u>

<u>Assembly</u>

<u>Upper CPU</u>

<u>Cover</u>

Speaker Assembly

Diskette Drive

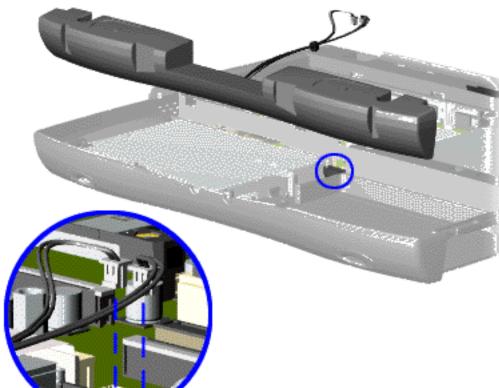
Fan Assembly

System Board

Dip Switch

Settings

Memory Module



To remove the speaker assembly, complete the following steps:

- 1. Prepare the <u>computer</u> <u>for</u> <u>disassembly</u>.
- 2. Remove the <u>palmrest</u> <u>cover with</u> <u>touch pad</u>.
- 3. Remove the keyboard.
- 4. Remove the heatspreader.
- 5. Remove the <u>hard</u> <u>drive</u>.
- 6. Remove the <u>display</u> panel assembly.
- 7. Remove the <u>Upper</u> CPU cover.
- 8. Remove the <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.

Presario Series
Models: 1270, 1670, and 1675

| <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>

Removing the Diskette Drive



Electrostatic
Discharge

<u>Service</u> Considerations

Cables and Connectors

Preparing the

Computer for Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

<u>Heatspreader</u>

Processor

Hard Drive

DVD or CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker Assembly

Diskette Drive

Fan Assembly

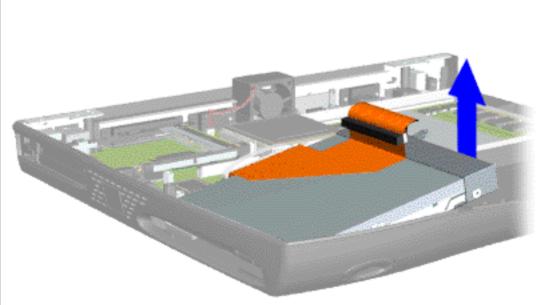
System Board

Dip Switch Settings

bettings

Memory

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 keyboard.
- 4. Remove the heatspreader.
- 5. Remove the hard drive.
- 6. Remove the display panel assembly.
- 7. Remove the Upper CPU cover.
- 8. Remove the screw from the diskette drive and lift up the diskette drive.
- 9. Disconnect the diskette drive data cable from the system board.

To replace the diskette drive, reverse the previous procedures.

Ensure
the
diskette
drive
eject
lever is
properly
inserted
in the
chassis
slot,
when
replacing
the

diskette drive.

Presario Series Models: 1270, 1670, and 1675

| <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>

Removing the Fan Assembly

Disassembly Sequence

Electrostatic

<u>Discharge</u>

Service

Considerations

<u>Cables and</u>

<u>Connectors</u>

Preparing the

Computer for Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

<u>DVD or</u> CD Drive

Battery

Charger Board

Modem

<u>Display</u>

<u>Panel</u>

Assembly

Upper CPU

Cover

Speaker Assembly

Diskette Drive

Fan Assembly

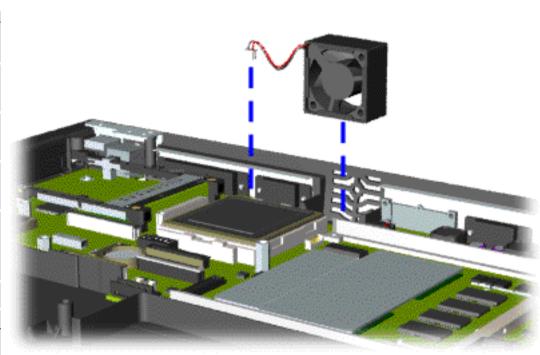
System Board

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 palmrest cover with touch pad.

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

4. Remove the heatspreader.

5. Remove the <u>display</u> panel assembly.

6. Remove the <u>hard</u> drive.

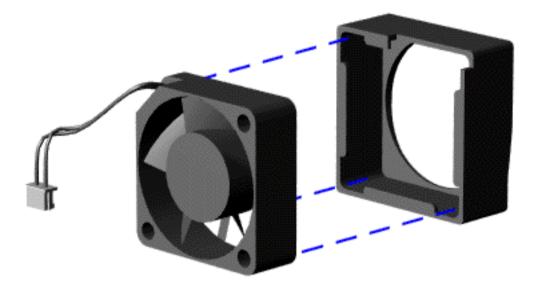
7. Remove the <u>Upper</u> <u>CPU cover</u>.

8. Lift the fan assembly from the chassis slot and disconnect the fan cable from the connector on the system board.

Presario Series

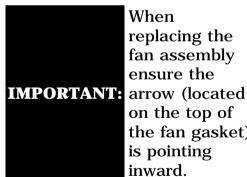
Models: 1270, 1670, and 1675

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



To remove the fan gasket, complete the following step:

Pull the gasket from the fan.



When replacing the fan assembly ensure the on the top of the fan gasket) is pointing inward.

To replace the fan assembly and gasket, reverse the previous procedures.

Presario Series Models: 1270, 1670, and 1675

| <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>

Removing the System Board

System Board

Dip Switch

Settings

<u>Memory</u> Module

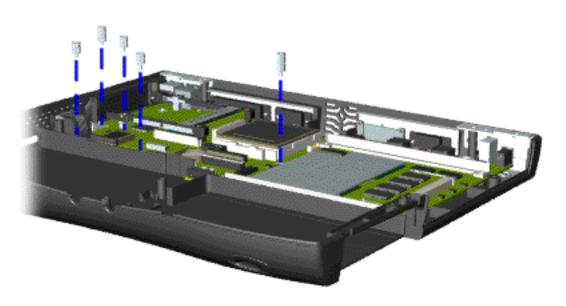
Disassembly	To remove the system board, complete the following steps:
Sequence	1. Prepare the computer for disassembly.
<u>Electrostatic</u> Discharge	2. Remove the palmrest cover with touch pad.
Service	
Considerations	3. Remove the <u>keyboard</u> .
Cables and	
Connectors	4. Remove the <u>heatspreader</u> .
<u>Preparing the</u> Computer for	
<u>Disassembly</u>	5. Remove the <u>processor</u> .
Battery Pack	6. Remove the modem.
Palmrest Cover	
with Touch Pad	7. Remove the <u>hard drive</u> .
<u>Keyboard</u>	8. Remove the display panel assembly.
<u>Heatspreader</u>	8. Remove the <u>display patier assembly</u> .
<u>Processor</u>	9. Remove the <u>Upper CPU Cover</u> .
<u>Hard Drive</u>	
DVD or CD Drive	10. Remove the <u>battery charger board</u> .
<u>Battery</u>	11. Remove the <u>diskette drive</u> .
Charger Board	
<u>Modem</u>	12. Remove the <u>CD or DVD drive</u> .
<u>Display</u>	
<u>Panel</u>	13. Remove the <u>fan assembly</u> .
<u>Assembly</u>	
<u>Upper CPU</u> Cover	IMPORTANT: When replacing the system board remove the memory module on the system board.
<u>Speaker</u>	14. Disconnect the speaker assembly cables.
Assembly Disk Assembly	
Diskette Drive	Next Step
Fan Assembly	

Presario Series

Models: 1270, 1670, and 1675

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

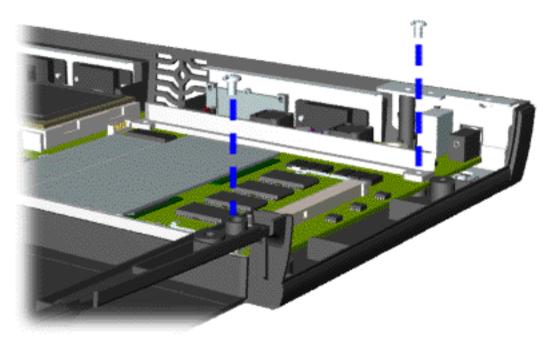
15. Remove five standoffs from the system board.



Presario Series

Models: 1270, 1670, and 1675

| <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>



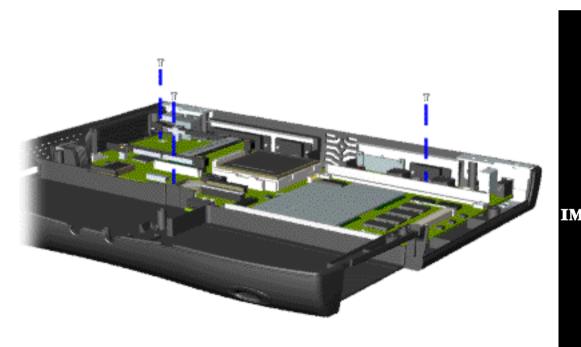
16. Remove two screws from the DVD or CD Drive mounting rails and remove the mounting rails from the system board.

Presario Series

Models: 1270, 1670, and 1675

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

17. Remove three screws from the system board.



The Ethernet

Connector Plug

must be

removed

before

removing the

system board.

After removing

the screws and

standoffs from

the system

board, remove

the Ethernet

Connector Plug

(located on the

left side of the

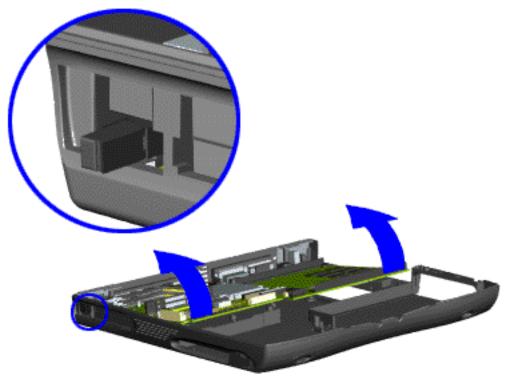
enclosure) by pushing it out from the inside of the chassis.

base

Presario Series

Models: 1270, 1670, and 1675

| <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>



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.

IMPORTANT: Remove all cables from the system board.

Dip Switch System Board Settings

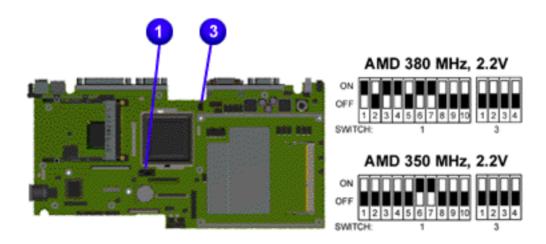
Presario Series
Models: 1270, 1670, and 1675

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

For Models: 1670 and 1675



CAUTION: Only change settings **1-5** on SW1 . Settings **6-10** vary by model and should not be changed when replacing the system board. Ensure the dip switch voltage settings (SW1 and SW3 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.

Presario Series

Models: 1270, 1670, and 1675

| <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>

Removing the Memory Module

Disassembly Sequence

Electrostatic
Discharge

Service

Considerations

Cables and

Connectors

Preparing the

Computer for

Disassembly

Battery Pack

Palmrest Cover

with Touch Pad

Keyboard

Heatspreader

Processor

Hard Drive

DVD or

CD Drive

Battery

Charger Board

Modem

Display

Panel

Assembly

Upper CPU

Cover

Speaker

Assembly

Diskette Drive

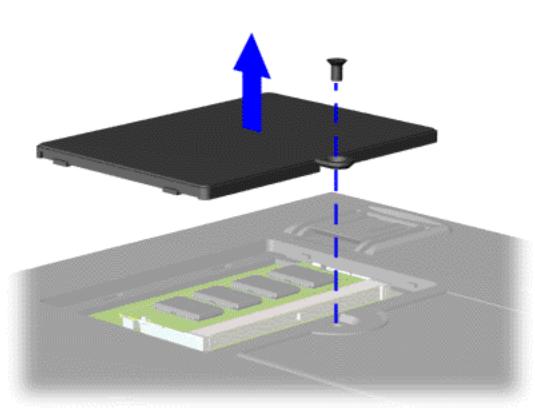
Fan Assembly

System Board

Dip Switch

Settings

<u>Memory</u> Module



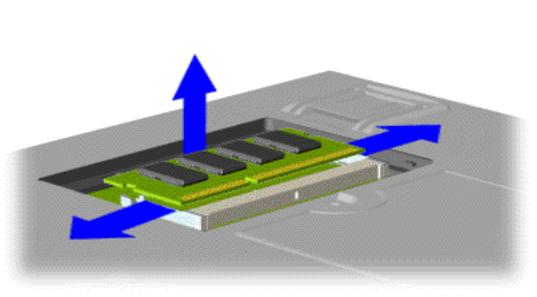
To remove the memory module, complete the following steps:

- 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.

Presario Series
5 · 1270 1670 and 1675

Models: 1270, 1670, and 1675

| <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>



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.