

COMPAQ

Reference Guide

Compaq Armada 1100 Family of Personal Computers

- Controls and Indicators
- Maximizing Battery Life
- Computer Upgrades
- Diagnostics
- Troubleshooting





Notice

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Reference Guide

Compaq Armada 1100 Family of Personal Computers

Second Edition (November 1996)
First Edition (June 1996)
Part Number 262446-002

Compaq Computer Corporation

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Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

Airline Travel Notice

Use of electronic equipment aboard commercial aircraft is at the discretion of the airline.

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European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN55022 (CISPR 22)-Radio Frequency Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4)-Electromagnetic Immunity
- EN60950 (IEC950)-Product Safety

Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Japanese Notice

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Battery Notice



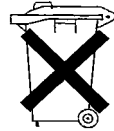
WARNING: This computer contains an internal lithium battery-powered real-time clock circuit. There is a risk of explosion and injury if the battery is incorrectly replaced or handled improperly. Do not attempt to recharge, disassemble, immerse in water, or dispose of it in fire. Replacement should be done by a Compaq authorized service provider using the Compaq spare part for this computer.



WARNING: The computer contains a nickel metal hydride battery pack. There is a risk of fire and chemical burn if the battery pack is handled improperly. Do not disassemble, crush, puncture, short external contacts, dispose of in water or fire, or expose it to temperatures higher than 60 degrees C.

In North America, dispose of nickel metal hydride batteries by taking advantage of the Compaq battery recycling program. You will be provided with a postage-paid battery pack mailer preaddressed to a reclamation facility where the metals are recycled.

In Europe, do not dispose of batteries with general household waste. Dispose of or recycle them by using the public collection system or returning them to Compaq, your authorized Compaq Partners, or their agents.



Energy Star Compliance

As an Energy Star Partner, Compaq Computer Corporation has determined that this product meets the Energy Star guidelines for energy efficiency. The Energy Star Computers Program was created by the EPA to promote energy efficiency and reduce air pollution through more energy-efficient equipment in homes, offices, and factories. Compaq products achieve this by reducing the power consumption when not being used. Using the power-saving features will reduce energy use and maximize battery life.

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Using This Guide

Purpose

This guide is a supplemental reference that takes you further than *Quick Setup* with general information about the computer, troubleshooting and diagnostics, and technical specifications.

Symbols and Conventions

The following format conventions distinguish elements of the text throughout this guide:

- Key names appear in a boldfaced type looking very much the way they appear on the keyboard. For example, **Home**, **End**, **Backspace**, **Tab**.
- When keys must be pressed at the same time, the action is represented by the key names and the plus (+) symbol. For example, **Ctrl+Alt+Delete** keys.
- The names of files are presented in uppercase italic type as shown here: *FILENAME*. The names of commands or directories are presented in uppercase type as shown here: **COMMAND** or **DIRECTORY**. Commands that are to be entered at the system prompt are shown on a separate line.
- When you need to type something without pressing the **Enter** key, you are directed to "type" the information.
- When you need to type information *and* press the **Enter** key, you are directed to "enter" the information.

.....

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



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



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

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.

Finding Information About Your Computer

In this chapter you will learn about the references that come with your computer and where to find them.

References are provided for you in two ways:

- As printed materials
- As online information accessible from the computer screen

NOTE: The printed and online references that come with the computer vary by model.

Printed and Online References

The following printed references come with your computer:

- *Quick Setup*
- *Reference Guide*
- *Introducing Microsoft Windows 95*
- *Safety & Comfort Guide*
- Warranty and service information
- Customer registration material

The following online references are preinstalled on your computer:

- *Compaq Reference Guide*
- Microsoft Windows 95
- *Safety & Comfort Guide*
- Compaq Dictionary

The online references installed on the computer include the user's guides, application help, software utilities help, and customer support information. Many are accessible from the Compaq Information Center folder, an icon on the desktop screen, which is also available from the Start menu. Others can be accessed from the application or utility screens.



CAUTION: Most online references are available only through the Windows interface. If you delete Windows, those references will also be deleted. Therefore, Compaq recommends that you not delete Windows software.

Ordering Backup Diskettes

Compaq recommends that you create a backup of the software preinstalled on the computer. Or, for an additional cost, you can order backup diskettes from Compaq for all software preinstalled on this computer.

To order backup diskettes, refer to the "Worldwide Telephone Numbers" listed in this chapter. If an order form is included with your computer, complete the form and return it. Or call one of the numbers listed on the order form.

IMPORTANT: Before calling Compaq to place your order, find the serial number on the bottom of your computer. This number is necessary for all backup diskette purchases.

Worldwide Telephone Numbers

Locate your geographical area from the following table and use one of the telephone numbers for Compaq assistance.

General Information Numbers—Product information, technical assistance, and the location of your nearest Compaq authorized dealer, reseller, or service provider.

Technical Support Numbers—Hardware technical support in analyzing system configuration and diagnostic problems or troubleshooting.

Customer Support Numbers—Information on service and support programs including warranty, product catalogs, and white papers.

PaqFax Numbers—Automatic facsimile response system for technical and product specific information that is transmitted to any fax machine. PaqFax is available 24 hours a day.

NOTE: Telephone numbers are subject to change without notice.

Worldwide Telephone Numbers

Location	Country Code	Telephone Number
Argentina		
General Information	+54	-1-796-1616
Technical Support	+54	-1-796-1717
Australia		
General Information		61-2-9911-1999
Technical Support		61-2-9911-1955
PaqFax		61-2-9911-1982
Austria		
General Information		0222/8 78-16 16
Technical Support		0222/8 78-16-16
Ordering Backup Software	+31	-55-38-43-39

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Belgium		
General Information	+32	-2-716-95-11
Compaq Care Center	+32	-2-716-96-96
Compaq Care Center Fax	+32	-2-716-95-85
General Fax	+32	-2-725-22-13
FaxPaq	+32	-2-716-96-99
QuickLine	+32	-2-716-95-92
Ordering Backup Software	+32	-2-716-96-78
Ordering Backup Software Fax	+32	-2-716-96-79
Brazil		
General Information		55-11-246-7866
Canada		
General Information		1-905-707-1715
Technical Support		1-800-OKCOMPAQ (1-800-652-6672)
Customer Support		1-800-263-5868
Ordering Backup Software		1-800-952-7689
Battery Pack Recycling		1-800-263-5868
Caribbean		
General Information		011-713-514-4220
Technical Support		011-713-518-2200
Chile		
General Information		56-2-274-1911
Technical Support		56-2-274-3007
China		
General Information		861-68313399
Technical Support		861-68346721
Colombia		
General Information		57-1-312-0201
Technical Support		57-1-345-0266

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Czech Republic		
General Information	+42	-2-232-8772
Technical Support	+42	-2-232-8772
Denmark		
General Information	+45	-45-90-45-90
Technical Support	+45	-45-90-45-45
Finland		
General Information	+358	-0-615-599
Technical Support		9800-206-720
QuickLine (BBS)	+358	-0-6155 9870
France		
General Information	+33	-1-41-33-41-33
Technical Support	+33	-1-41-33-44-55
Germany		
		(0,12 DM/2 sec. or 3,60 DM/min.)
Menu Selection		0190/88 80 80
Notebook Hotline		0190/88 80 82
		(0,48 DM/min.)
QuickLine		0180/5 21 21 18
FaxPaq		0180/5 21 21 19
Hong Kong		
General Information		852-28681382
Technical Support		852-90116633
PaqFax		852-28671648
Hungary		
General Information	+36	-1-201-8776
Technical Support	+36	-1-201-8776

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
India		
General Information		91-80-559-6023
PaqFax		91-80-559-8989
BBS		91-80-559-8900
Italy		
General Information	+39	-2-57-59-03-61
Technical Support	+39	-2-57-59-03-00
Customer Support	+39	-1-67-82-50-12
Japan		
General Information		0120-101-589
Technical Support		0120-101-589
Windows 95 Support		0120-505-589
Ordering Backup Software		0120-250-589
FaxStation		81-3-5402-0991
Korea		
General Information		82-2-3470-07001
Technical Support		82-2-523-3575 82-082-902-77774
Malaysia		
General Information		603-717-1188
Technical Support		603-718-1636
Mexico		
General Information		525-229-7900
Technical Support		525-229-7910
PaqFax		525-229-7920
Netherlands		
General Information		0182-565805
Customer Support		06-91681616 (Dfl. 0.75/min)
Fax		06-8991116 (Dfl. 0.40/min)
QuickLine Bulletin Board		0182-572366

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
New Zealand		
General Information		64-9-307-3969
Norway		
General Information	+47	-22-07-20-00
Technical Support	+47	-22-07-20-20
Poland		
General Information	+48	-2-630-3535
Technical Support	+48	-2-630-3535
Portugal		
General Information	+351	-1-4120132
Technical Support	+351	-1-4120132
Singapore		
General Information		65-753-6688
Customer Support Center		65-750-3030
PaqFax		65-750-4514
South Africa		
General Information		27-11-728-6999
Technical Support		27-11-728-6999
Spain		
General Information	+34	-1-640-1500
Technical Support	+34	-1-640-1302
Sweden		
General Information	+46	-8-703-5240
Technical Support	+46	-8-703-5240
PaqFax (hämtnfax)	+46	-8-703-5225
QuickLine (BBS)	+46	-8-703-5220

Continued

Worldwide Telephone Numbers *Continued*

Location	Country Code	Telephone Number
Switzerland		
Technical Support		157/64-00
QuickLine Bulletin Board		01/8 38-24 21
Ordering Backup Software		155/62-06
PaqFax		01/8 38-22 38
Taiwan		
General Information		886-2-7351000
Technical Support		886-2-3761170
BBS		886-2-3761175
Thailand		
General Information		62-2-679-6222
United Arab Emirates (Dubai)		
General Information	+97	14 -818100
United Kingdom		
General Information		0990-134456
FaxPaq		0181-332-3550
QuickLine Bulletin Board		0181-332-9499
United States		
General Information		1-713-514-6864
Technical Support		1-800-OKCOMPAQ (1-800-652-6672)
Customer Support		1-800-345-1518
PaqFax		1-800-345-1518, Option 1
Download Facility (modem access only)		1-713-518-1418
Ordering Backup Software		1-800-952-7689
Battery Pack Recycling		1-800-524-9859
Venezuela		
General Information		58-2-953-6944

Taking a Look at the Computer

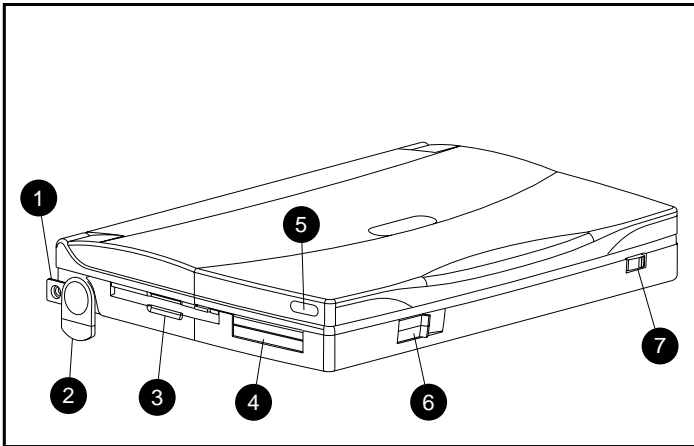
Your notebook computer is equipped with many components, including levers, buttons, indicators, and connectors. This chapter familiarizes you with the components on the computer and how to use them.

External devices such as a printer, serial device, monitor, keyboard, and mouse can be connected to your computer to enhance its functionality. The icons located on the rear of the computer help you identify these connectors. See Chapter 7, "Connecting External Equipment," for more details.

Illustrations and tables on the following pages identify the computer's primary components, including:

- Front and side components
- Keyboard components
- Status panel indicators
- Integrated trackball
- Rear components
- Bottom components

Front and Side Components

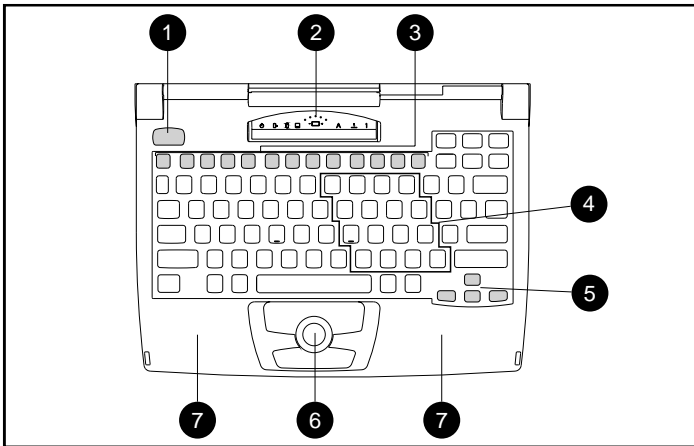


Front and Side Components

Front and Side of the Computer

Ref.	Component	Function
❶	Handle bracket (2)	Allows the handle to be attached NOTE: To attach the handle, move the tilt feet aside and rotate the concealed handle brackets toward the rear of the computer
❷	Keyboard tilt feet (2)	Tilt the keyboard 4 degrees
❸	Diskette drive	Internal drive for 3.5-inch diskettes
❹	PC Card slots	Accept one Type III, or two Type II, or two Type I PC Cards
❺	Display latches (2)	Open the computer
❻	PC Card release levers	Release PC Cards NOTE: Before releasing a card, click the PC Card indicator on the taskbar. Click Stop for the card you want to remove. When the system prompts you to remove the card, swing the top or bottom release lever to the left until the card ejects.
❼	Battery compartment button	Opens battery compartment

Keyboard Components

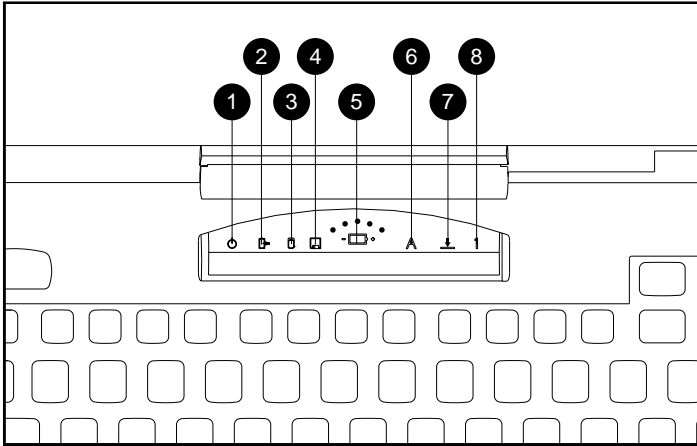


Keyboard

Keyboard Components

Ref	Component	Function
❶	Power button	When pressed the first time, turns on the computer. When pressed once after the computer is on, initiates Standby (Suspend). When pressed the second time, exits Standby. See Chapter 4, “Managing Power,” for details. NOTE: To turn off the computer, use Windows Shut Down from the Start menu. In case of a severe system lock-up, when the mouse doesn’t work and Ctrl+Alt+Del is not recognized by the unit, use Ctrl+Alt + the power button to shut down the unit.
❷	Status panel	Displays computer status indicators.
❸	Function keys F1–F12	Used for a specific functions in applications and operating systems.
❹	Embedded numeric keypad	Allows two operating modes, numeric (if Fn+NumLk key is on) and edit (if Fn+NumLk key is off).
❺	Cursor keys	Allows cursor to move up, down, right, left.
❻	Integrated trackball	Moves the pointer around the screen; functions as a mouse.
❼	Palm Rest (2)	Designed to rest the part of your palms closest to the wrist when you pause at the keyboard. Do not use the palm rest while you are typing.

Status Panel Indicators

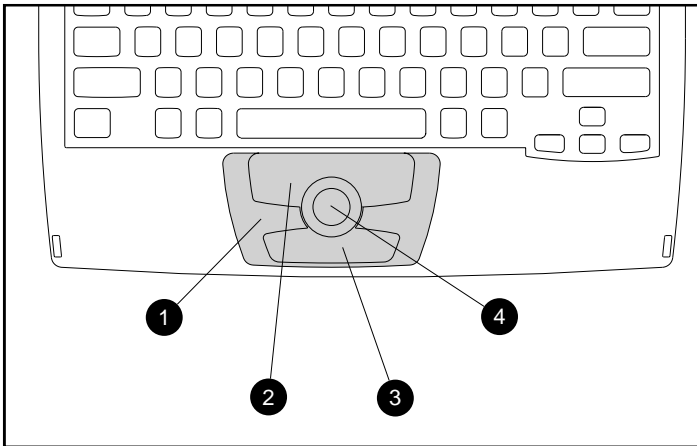


Status Panel Indicators

Status Panel Indicators

Ref.	Indicator	Function
❶	Power/ standby	Turns on when power to the computer is turned on. Blinks when computer is in Standby (Suspend). Turns off when computer is in Hibernation or powered off.
❷	Battery charge	Turns on when computer is turned on and when battery is fast charging. Blinks for low-battery condition. Turns off when battery pack is fully charged.
❸	Hard drive	Turns on when hard drive is being accessed.
❹	Diskette drive	Turns on when diskette drive is being accessed.
❺	Battery gauge	Shows voltage remaining in battery pack when running on battery power. Indicators do not represent equal quantities of time. Only one indicator is on at a time. Computer is in a low-battery condition when the indicator next to the - (minus) icon comes on.
❻	Caps Lock	Turns on when Caps Lock function is on.
❼	Scroll Lock	Turns on when the Scroll key is pressed.
❽	Num Lock	Turns on when the NumLk function is on.

Integrated Trackball



Integrated Trackball

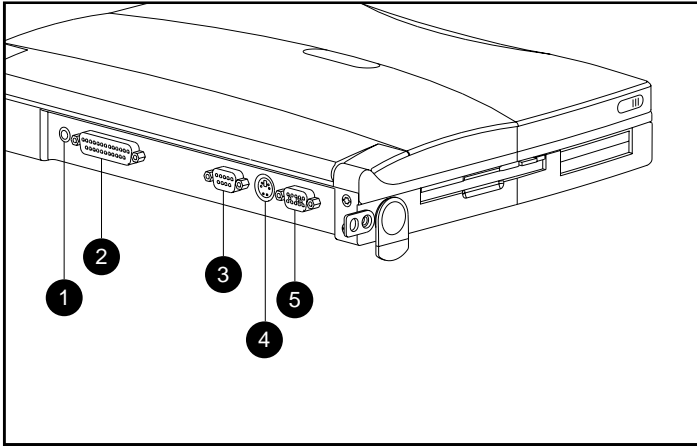
The integrated trackball eliminates the need to carry a mouse when traveling.

The trackball ❶ is designed to be used with either hand for cursor movement and button selection. The top button ❷ functions as a left mouse button, and the bottom button ❸ functions as a right mouse button. The ball ❹ controls the pointer when rolled with your thumb.

Button functions and other trackball features can be customized using the mouse utility located on the Control Panel. To access the mouse utility, click Start, click Settings, click Control Panel, then double-click the Mouse/Trackball icon. Refer to the online *Compaq Reference Guide* for more information.

NOTE: For information about cleaning the trackball, refer to Chapter 11, "Troubleshooting."

Rear Components



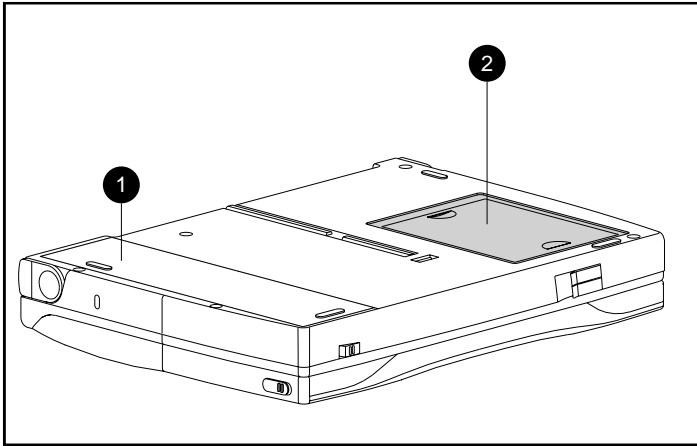
Rear Components

Components on the Rear of Computer

Ref.	Component	Function
❶	Power connector	Connects the AC Adapter cable.
❷	Parallel connector	Connects optional parallel devices, such as a printer.
❸	Serial connector	Connects optional serial devices, such as a mouse or CD-ROM drive.
❹	Keyboard/mouse connector	Connects an external keyboard, mouse, or other pointing device.
❺	External monitor connector	Connects an external monitor.

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Bottom Components



Bottom Components

Bottom Components

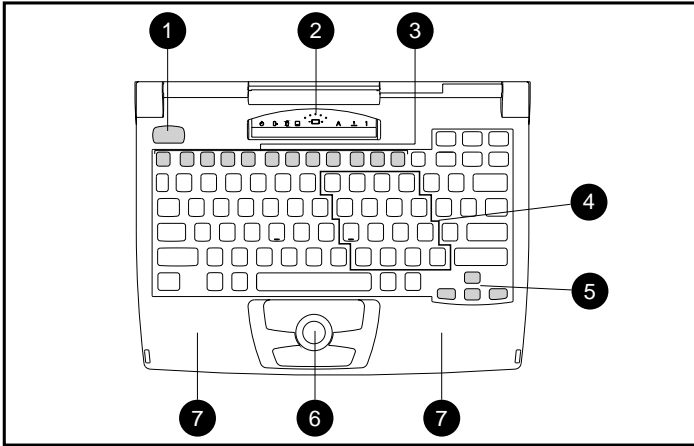
Ref	Component	Function
①	Battery compartment	Contains the battery pack.
②	Memory compartment	Contains the optional memory expansion board.

Using the Keyboard

Keyboard features on the computer are designed to enhance its functionality. This chapter familiarizes you with the parts of the keyboard and how to use the following features:

- Keyboard components
- Hotkeys
- Special function keys
- Embedded numeric keypad

Keyboard Components



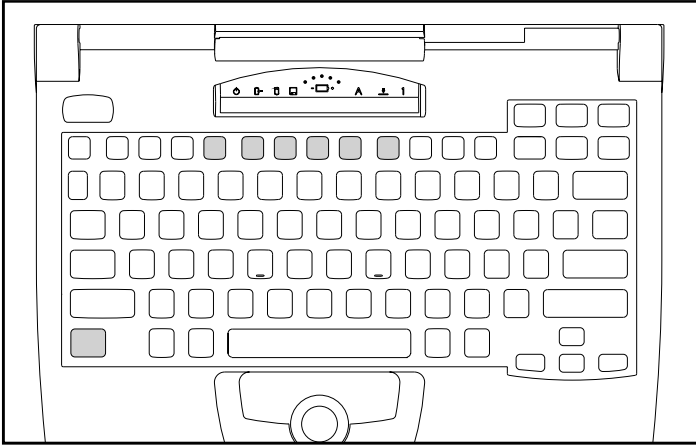
Keyboard

Keyboard Components

Ref	Component	Function
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❸	Function keys F1–12	Used for a specific function in applications and operating systems.
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❺	Cursor keys	Allows cursor to move up, down, right, left.
❻	Integrated trackball	Moves the pointer around the screen; functions as a mouse.
❼	Palm Rest (2)	Designed to rest the part of your palms closest to the wrist when you pause at the keyboard. Do not use the palm rest while you are typing.

Using the Hotkeys

The hotkey combinations (**Fn+F4** through **F9**) simplify special computer operations. These hotkeys *cannot* be accessed from an external keyboard.



Hotkeys

Hotkey Assignments and Functions

Feature	Hotkeys	Function
Switching to the External Monitor	Fn+F4	Toggles three ways between computer display, external monitor display, or both displays simultaneously.
System Beeps	Fn+F5	Turns on or off the system beeps, such as for Standby, low battery, and POST.

Continued

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Hotkey Functions and Assignments *Continued*

Feature	Hotkeys	Function
Quick Lock/ QuickBlank	Fn+F6	Initiates QuickLock, which disables the keyboard and mouse, and QuickBlank, which clears the screen. Enter power-on password to reactivate keyboard, mouse, and screen.
Battery Conservation Level	Fn+F7	Displays the battery conservation setting in a pop-up window. Use the left and right arrow keys to select a different setting. NOTE: See Chapter 4, "Managing Power," for more information.
Contrast Control	Fn+F8	Adjusts the display contrast. Press right arrow key to increase contrast; press left arrow key to decrease contrast. NOTE: On models with color TFT displays, contrast control is not applicable.
Brightness Control	Fn+F9	Adjusts the brightness. Press right arrow key to increase light intensity; press left arrow key to decrease light intensity.
Extended Text	Fn+T	Duplicates blank lines so text fills the screen; the size of the displayed characters doesn't change. NOTE: Extended text is supported only in text mode and only on the computer display, not on an external monitor.

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Customizing the Popup Window

Windows allows you to set the size and location of the popup window. To access this feature, double-click the Hotkey Popup icon in the Control Panel.

1. Click the option that sets the size/location of the popup window.
2. Make the desired changes.
3. Click OK to save your changes.

IMPORTANT: This popup window can be accessed only from within the applications that support the video popup mode. If a popup does not display correctly, exit the application and press the Hotkeys again to invoke the popup window.

Using the Special Function Keys

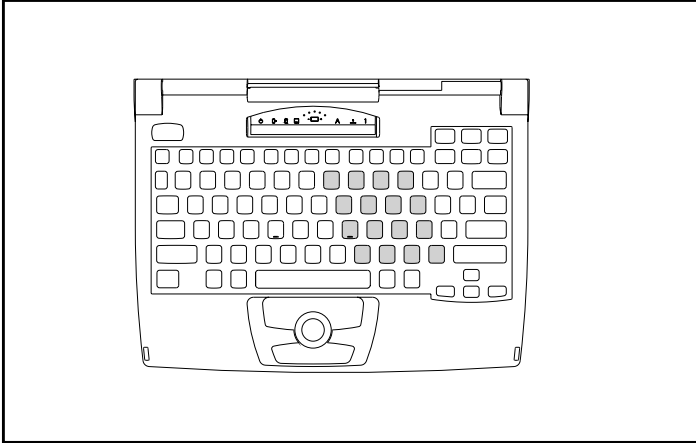
Some keys on the keyboard provide special functions, depending on the application you are using. These keys are described in the following table:

Special Function Keys	
Key	Function
Alt	Application dependent, used in combination with another key for a specific function. Check the application software documentation you are using.
Backspace	Moves the cursor left and deletes characters as it moves to the left.
Caps Lock	When the CapsLock indicator is on, capitalizes all letters typed.
Ctrl	Application dependent; used in combination with other keys for specific functions. Check the documentation for the application software you are using.
Esc	Often assigned a specific task by the application. Frequently used as an exit key.
F1–F12	Used for a specific function in applications and operating systems. Check the application software documentation you are using.
NumLk	Activate this function by pressing Fn+End/NumLk . When the NumLk indicator lights up, the embedded numeric keypad is activated. NOTE: To change keyclick volume, activate the numeric keypad. Then press Ctrl+Alt and the plus key (colon, semi-colon key) repeatedly to increase keyclick volume. Press Ctrl+Alt and the minus key (the letter "P") repeatedly to decrease keyclick volume. (Keyclick volume can be heard only in MS-DOS sessions.)
Pause	Temporarily suspends screen scrolling. Activate this function by pressing Fn+Pause .
PrtSc	Prints the information on the screen line-by-line to a local printer. Using this key will print only the information on the screen. Activate this function by pressing Fn+PrtSc .
Scroll	When the Scroll Lock indicator is on, prevents the screen from scrolling. Access this function by pressing Fn+Scroll .
Ctrl+Alt+Delete	Restarts the system after the computer has been turned on.
Ctrl+Alt + power button	Turns off the computer if the system locks up. NOTE: Shut Down on the Windows Start menu is the recommended way to turn off the computer.
Fn + power button	Initiates Hibernation.

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Using the Numeric Keypad

The embedded numeric keypad is a section of the keyboard that converts to a numeric keypad when the **NumLk** function is activated by pressing **Fn+NumLk**. Use this toggle key function to enable and disable the embedded numeric keypad.



Embedded Numeric Keypad

Managing Power

Your computer is equipped with power features that allow you to manage power usage, extend battery operating time, and conserve battery power. Most power settings are controlled in Power Properties, located in the Control Panel.

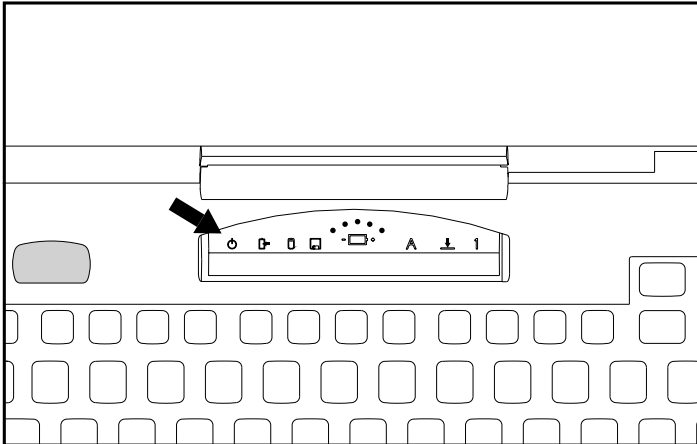
This chapter describes the following power management functions:

- Power button
- AC power
- Low-battery condition
- Battery power
- Power properties

Power Button

The power button performs the following functions:

- **Turns on the computer**—Press the power button once when the computer is off, in Standby (also called Suspend), or in Hibernation. When you turn on the computer, the power/standby indicator on the status panel lights up.



Power Button and Power/Standby Indicator Light

- **Initiates Standby (Suspend)**—Press the power button once when the computer is on.
NOTE: Suspend can also be accessed from the Start menu.
- **Initiates Hibernation**—Press **Fn +** power button.
- **Exits Standby or Hibernation**—Press the power button after the computer has entered Standby or Hibernation.

Standby (also called Suspend)

When you finish working, or if you want to pause in the middle of your applications, press the power button once to initiate Standby. This feature puts the computer to sleep (for up to 168 hours with a fully charged battery pack), uses very little power, and saves your place in your applications.

During Standby, most of the major components (hard drive, processor, and display) shut down after a period of inactivity. Press the power button once and the computer returns your work to the screen exactly where you left off.

How Standby is initiated

- Automatically when a pre-defined timeout has been reached. (You can set the Standby timeout period in Power Properties.)
- Manually at any time by pressing the power button.
- Manually at any time by clicking Suspend from the Start menu.

When Standby is initiated

- The computer beeps (once if system initiated; twice if user initiated).
- The screen goes blank.
- The power/standby indicator blinks.

When exiting Standby

- Press the power button once.
- The computer beeps once.
- The power/standby indicator turns on.
- The "instant-on" feature lets you pick up your work right where you left off. No information is lost.

IMPORTANT: The computer will not exit Standby (Suspend) if the battery is low or dead. In this case, install a fully charged battery pack or plug in an external power source. When a new power source is connected to the computer, press the power button to exit Standby and display your information on screen. (See "Resolving a Low-Battery Condition" in this chapter.)

Hibernation

Hibernation is a safeguard condition during which all the information in system memory is saved to the hard drive and power to the computer is turned off. When you resume work, your information is returned to the screen exactly where you left off. No information is lost.

Hibernation has the following benefits:

- Since the computer is turned off and there is no drain on the battery pack, your computer can remain in Hibernation for an unlimited time.
- You can manually save your place in any application or when making a presentation
- Information is automatically saved when the computer reaches a low-battery condition (*as long as Hibernation has not been turned off*).

How Hibernation is initiated

To save your place in your applications *and turn power off completely to your computer*, press **Fn +** the power button to initiate Hibernation.

System-initiated Hibernation occurs when the computer reaches a critical low-battery condition. To protect against loss of information, the computer automatically saves all information in system memory to the hard drive and then turns off. Press the power button once to resume work.

When exiting Hibernation

To resume work after Hibernation is initiated, do the following:

1. While the computer is still in Hibernation, install a fully charged battery pack or connect to an external power source.
2. Turn on the computer by pressing the power button.

The computer exits Hibernation. The information that was saved to the hard drive returns to the screen at the point where Hibernation was initiated.

NOTE: To stop the restoration of information, press **Fn+Ctrl+Break**.

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When to Turn Off the Computer

If you plan to store the computer for an extended period, turn off the computer and remove the battery pack. This reduces the battery pack's discharge rate and extends its life.

If you use the computer frequently, and you want "instant-on" convenience, *you do not have to turn off the computer*. Simply initiate Standby (Suspend) when you're not using it.

NOTE: The battery continues to drain while the computer is in Standby. If you want to charge a battery pack while you are not using the computer, connect the computer to external power and turn it off. The battery pack charges whether the computer is on or off.

To turn off the computer when in Windows applications, click Shut Down from the Start menu. When the power/standby indicator light goes off, the computer has been successfully shut down.

NOTE: In case of a severe system lock-up, when the mouse doesn't work and **Ctrl+Alt+Del** is not recognized by the unit, use **Ctrl+Alt +** the power button to shut down the unit. This method can also be used if you are working in DOS mode (an option chosen from the Shut Down menu). In this instance, Shut Down is not available because Windows isn't running.

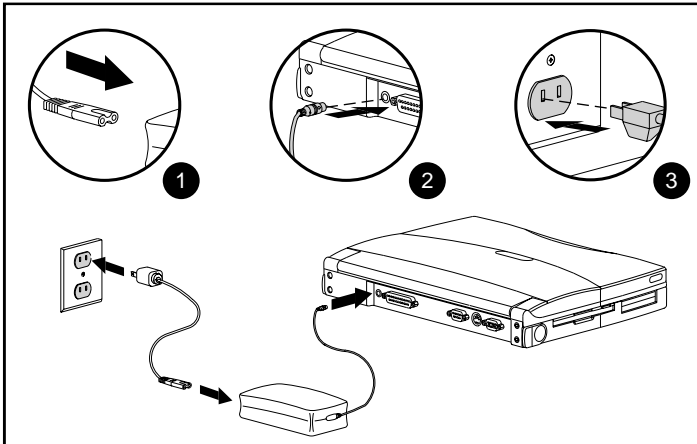
Using AC Power

The way you connect the AC Adapter to the computer depends on the type of adapter that came with your computer.

To connect the AC Adapter

Follow these steps to connect the AC Adapter:

1. Connect the power cord to the AC Adapter ❶.
2. Plug the AC Adapter cable ❷ into the computer.
3. Plug the power cord ❸ into an electrical outlet.
4. Turn on the computer.



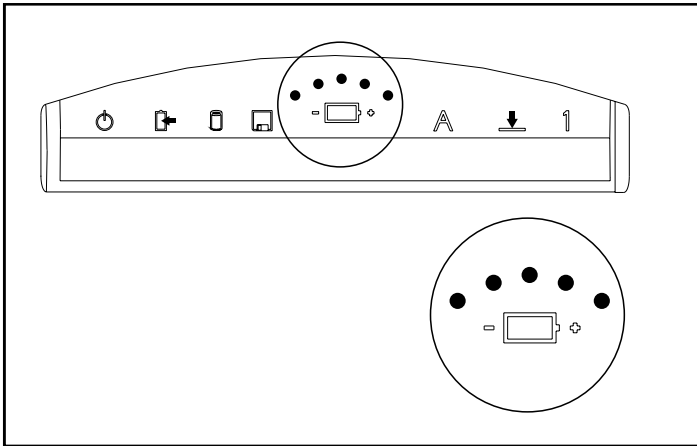
Connecting an AC Adapter with Power Cord to the Computer

Using Battery Power

Reading the Battery Gauge

The battery gauge, located on the status panel, has five indicator lights that represent the amount of power remaining in the battery pack.

The indicators do not represent equal amounts of time. Instead, one indicator at a time turns on to indicate how much battery power remains. The computer is fully charged when the indicator next to the plus (+) sign turns on. The computer is in a low-battery condition when the indicator next to the minus (-) sign turns on.



Battery Gauge

Resolving a Low-Battery Condition

When you operate the computer on battery power and the battery charge runs low, the computer beeps and the battery charge indicator on the status panel begins to blink. These signs indicate a low-battery condition. When this occurs, you need to stop work immediately and resolve the low-battery condition with external power or a new battery pack.

Resolving a low-battery condition with external power

If you are near a power source, connect the AC Adapter or Auto Adapter to the computer.

Resolving a low-battery condition with a charged battery pack

If a fully charged battery pack is available, do the following:

1. To avoid interrupting work, initiate Hibernation by pressing **Fn +** the power button. Hibernation is complete when the battery charge indicator and power/standby lights turn off.
2. Remove the discharged battery pack.
3. Insert a fully charged battery pack.
4. Exit Hibernation by pressing the power button once.

Resolving a low-battery condition when a battery pack is unavailable

If a fully charged battery pack is not available, do the following:

1. Save your information.
2. Exit your applications.
3. Turn off the computer by clicking Shut Down from the Start menu until external power or a fully charged battery pack is available.

Extending Battery Pack Operating Time

Battery pack operating time can be extended by following these guidelines:

- Select the high level of power conservation. See "Selecting a Battery Conservation Level" in this chapter.
- Initiate Standby or Hibernation or turn off the computer when not in use.
- Reduce the brightness of the display.
- Select a shorter screen save timeout.
- Avoid unnecessary fast charge cycles, which reduce the life of the battery.
- Keep a battery pack in the computer when using it with external power to supply it with a constant trickle (low-level) charge.
- Disconnect any external equipment without its own power source to avoid draining the battery pack.
- Exit modem programs when not in use.
- Remove the PC Card when not in use. These cards may drain the battery more quickly than expected, even if the computer is in standby. See Chapter 8, "Working with PCMCIA Devices," for more information about PC Cards.
- Store the battery pack in a cool, dry place when not in use. High temperatures cause a battery pack to reduce its life and lose its charge more quickly.

If you are storing the battery for less than one month, the recommended storage temperature is -4°F to 122°F (-20°C to 50°C); for no more than 3 months, the recommended temperature is -4°F to 104°F (-20°C to 40°C); for an unlimited time, the recommended temperature range is -4°F to 86°F (-20°C to 30°C).

- Use the AC Adapter whenever possible.

Removing the Battery Pack

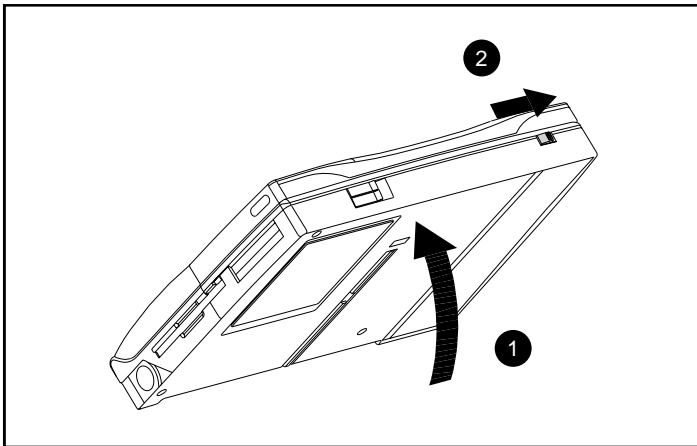
Before removing the battery pack, complete the following steps:

1. To prevent loss of data, save your work and exit all applications.
2. If the computer is on, initiate Hibernation by pressing **Fn +** the power button or turn it off by pressing Shut Down on the Windows Start menu.



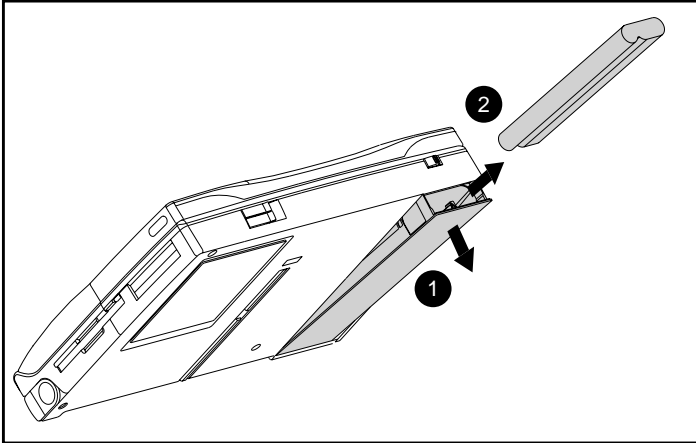
CAUTION: Failure to save your work and turn off power to the computer can lead to loss of data.

3. Lift up the front of the computer ❶. (The battery compartment is on the bottom of the computer.) Slide the battery release button to the right ❷ to open the battery compartment.



Opening the Battery Compartment

4. The battery compartment pops down ❶. Remove the battery pack ❷.



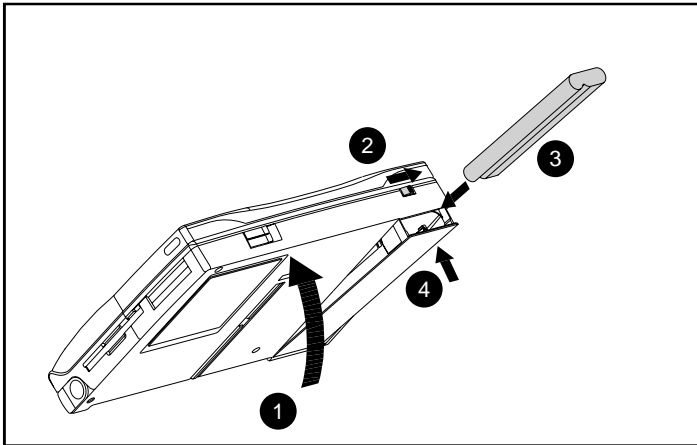
Removing the Battery Pack

NOTE: Battery packs should be recycled or disposed of according to local regulations.

Inserting the Battery Pack

To insert the battery pack, complete the following steps:

1. If the computer is on, turn it off by pressing Shut Down on the Windows Start menu, or initiate Hibernation by pressing **Fn +** the power button.
2. Lift up the front of the computer **1**. (The battery compartment is on the bottom of the computer.) Slide the battery release button to the right **2** to open the battery compartment.
3. Insert the battery pack, flat side up, into the battery compartment with the metal battery contacts facing the back of the battery compartment **3**.
4. Close the battery compartment **4**. Ensure that the compartment is fully closed and latched.



Installing the Battery Pack

5. Press the power button to turn the computer back on.

IMPORTANT: Use only the Compaq Extended Life NiMH (Nickel Metal Hydride) Battery Pack, which comes standard in the computer, or use the Duracell DR-31 NiMH Battery Pack with the computer.

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Charging the Battery Pack

Follow these steps to fully charge the battery pack:

1. Connect the AC Adapter to the computer and plug it into an electrical outlet.
2. Turn on the computer if you want to use it while the battery pack is charging.

When the battery charge indicator turns off, the battery pack is no longer being fast-charged. It takes about 1.5 hours to fast-charge the battery pack if the computer is turned off and longer if the computer is turned on.

NOTE: Battery packs should be recycled or disposed of according to local regulations.

Power Properties

Power Properties is a series of features that allows you to monitor how AC and battery power are used in your computer. It controls most of the computer components, including hard drive, processor, and display.

To conserve the battery, the computer can be preset to shut down power to a component after a specified period of inactivity (called a timeout). In addition to other features, Power Properties allows you to preset timeouts.

To get to Power Properties:

1. Click Start.
2. Click Settings.
3. Click Control Panel.
4. Double-click the Power icon.

Power Properties contains several tabs that allow you to view or set the following:

If you want to:	Click this tab:
Set battery conservation levels and enable/disable warning beeps.	Conservation Settings
Select power settings for PC Card slots	PC Card Power
Select Hibernation Settings	Hibernation
Enable and disable the AC Energy Saver and customize Energy Save monitor values	AC Energy

NOTE: To get to Standby (also called Suspend), click Suspend on the Windows Start menu.

Turning Hibernation Off or On

Hibernation is automatically turned on when you first set up your computer. If you want to turn off Hibernation, click the Hibernation tab in Power Properties. You can also turn it back on through the Hibernation tab. When you restart the computer, the system automatically allocates or updates your computer's disk space to adjust to the amount of current memory.



CAUTION: Turning off Hibernation is not recommended. If the computer reaches a low-battery condition, unsaved information is lost.

Setting a timeout

Timeouts are specified periods of system or component inactivity. Timeouts work with battery conservation to conserve power. When a timeout period has expired, battery conservation shuts down the system or components to save power.

For example, the hard disk idle default timeout is two minutes. Therefore, if an application does not access information on the hard disk for two minutes, the hard disk shuts down until it is accessed again.

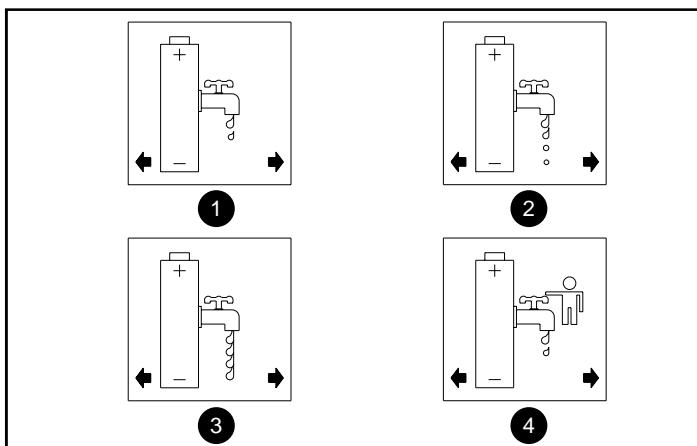
Timeouts are set through the Conservation Settings or Hibernation tabs in Power Properties. Use timeouts in the following ways:

1. Use a preset timeout provided with the medium (default) or high level of battery conservation.
2. Set your own timeouts through the custom level of battery conservation so that the computer works more efficiently with your applications.

Battery Conservation Levels

Selecting a Battery Conservation Level

To extend the life of your battery, customize your own level of battery conservation or click one of three preset conservation levels. Medium is the default setting.



- ❶ **High Conservation**—Saves the most battery power. This level supplies the most battery life from a single charge.
- ❷ **Medium Conservation**—Provides a balance between system performance and battery life. This is the default setting.
- ❸ **None (Drain)**—Turns off battery conservation and drains the battery pack. Hibernation will initiate and turn off the computer while the computer is in this mode. Before setting the None (Drain) level, disable Hibernation by clicking the Hibernation tab in Power Properties.
- ❹ **Custom**—Saves battery power according to your specifications. This setting remains in effect until you change it.

NOTE: High, Medium, or Custom conservation settings remain in effect until you change them. If the None (Drain) level is selected, it remains in effect until the computer is turned off or restarted. When the computer is turned on or restarted, the setting reverts to the default, Medium conservation.

Selecting a Battery Conservation Level with Hotkeys

You can also change the default levels of battery conservation by pressing **Fn+F7** to display a popup window indicating the current level. Use the left or right arrow keys to select a different level.

Using the AC Energy Saver

The AC Energy Saver feature allows the hard disk idle and screen save timeouts to initiate after a period of computer inactivity while the computer is connected to AC power. Enabling this feature saves money on your electric bill.

You can turn the Energy Saver feature on or off through the AC Energy Saver tab in Power Properties. The Energy Saver feature is supported in MS-DOS, Windows 3.1, and Windows 95 operating systems.

The Energy Saver feature is network compatible when using network PC Cards, when the PC Card power setting is set to the "on" position.

The Energy Saver feature, when used in conjunction with an external Energy Star compliant monitor, will support the power-down features of the monitor. Enabling the Energy Save Monitor feature allows the external monitor to go into low-power mode when the screen save timeout occurs.

To take advantage of this energy savings, the external monitor feature has been preset to power down after 10 minutes. This setting can be modified or disabled by accessing the Energy Saver menu.



CAUTION: Using the Energy Save Monitor feature with non-Energy Star compliant monitors may cause video distortion when the Screen Save timeout occurs.

Using Security

The security features installed on your computer allow you to customize the security measures you prefer. The computer provides security features to set passwords, QuickLock the pointing device and keyboard, and QuickBlank the screen.

This chapter describes how to set and modify the following security features:

- Passwords properties
- Power-on password
- Setup password
- Quick controls
- Cable lock

Setting Passwords Properties

The Passwords icon allows you to select various software security to protect your computer against unauthorized use. To ensure privacy and security, you can set or change passwords, disable the keyboard and pointing device, or blank the screen while you are away from your computer.

To get to the Passwords icon:

1. Click Start.
2. Click Settings.
3. Click Control Panel.
4. Double-click Passwords icon.

Passwords Properties lets you set the following:

If you want to:	Click this tab:
Set or delete the power-on password, QuickLock, and QuickBlank	Computer Security

Power-On Password

Power-on password is a security feature that prevents use of the computer when it is turned on until a secret word or code is entered. This prevents unauthorized access to your information.

Once you establish a power-on password, you must enter it each time you turn on the computer.

IMPORTANT: You cannot use the computer if you forget your power-on password. Therefore, Compaq recommends that you record your password and put it in a safe place.

Establishing a Power-On Password

To establish your power-on password, follow these steps:

1. Click the Computer Security tab in Passwords Properties.
2. Click the Set button.
3. Enter your new password twice, then click OK.

You may enter up to seven alphanumeric characters for the password. The next time you restart the computer, you will be prompted to enter your power-on password.

IMPORTANT: Type carefully, because the password does not display as you type it. The password is not case sensitive. However, you must use the same keys each time you enter the password. For example, the numbers at the top of the keyboard are not recognized as being the same as the numbers in the embedded numeric keypad.

Entering the Power-On Password

To enter a power-on password, follow these steps:

1. Turn on the computer.
2. When the power-on password prompt is displayed, type your power-on password carefully. (The prompt symbol is a key.) If you enter your password incorrectly, an incorrect password prompt (a key with an "X" over it) is displayed.
3. Try again to enter the password. After three unsuccessful attempts, you must turn the computer off and back on again before you can continue.

Deleting/Changing the Power-On Password

Once your power-on password has been established, you can delete or change it using your computer keyboard. Typically, the slash mark (/) is the key character used, but the syntax for deleting/changing the power-on password varies according to the keyboard purchased with your computer. Each computer keyboard is designed to meet specific country requirements. As a result, you may have to substitute another key character. Refer to the online Compaq *Reference Guide* for more information.

If You Forget Your Power-On Password

If you forget your power-on password, the computer must be disassembled and the memory cleared. Contact your Compaq authorized dealer, reseller, or service provider for assistance.

Establishing a Setup Password

A setup password allows you to protect your system configuration. Once this password is established, you cannot change the configuration until you enter the password. The setup password should be used by network administrators or anyone who needs to protect the system configuration from unauthorized use.

The setup password can only be set, changed, or deleted from the **F10 Setup** utility. To establish the setup password for the first time follow these steps:

1. Restart the computer by clicking Shut Down from the Windows Start menu.
2. When the Configuration and Diagnostics menu appears, click the Compaq Security option.
3. Click the Advanced option, then click the Password Protect Computer setup option.
4. In the window that appears, type the password in the New Password field. Type it again in the Retype Password field and exit the utility by clicking OK.

IMPORTANT: Type carefully, because the password does not display as you type.



CAUTION: If you forget your setup password, you will need to clear the password from memory before you can reconfigure the system. Call your Compaq authorized dealer, reseller, or service provider for assistance if needed.

Deleting/Changing a Setup Password

To delete/change a Setup Password, follow these steps:

1. Restart the computer by clicking Shut Down from the Windows Start menu.
2. When the cursor (a small white box) moves to the upper-right corner of the screen, press **F10**. The password prompt is displayed.

IMPORTANT: Type carefully, for security reasons, the characters you type do not appear on the screen.

To delete your password—enter your current password, followed by the appropriate syntax for your computer keyboard. For example, if you have a Belgian keyboard, type the following to delete the password:

current password=

To change your password—enter your current password, then enter the new password twice, typing the appropriate syntax for your computer keyboard between the passwords. For example, if you have a Belgian keyboard, you will type the following:
current password=new password=new password. The new password takes effect the next time you turn on the computer.

NOTE: The syntax for changing the password varies according to the keyboard purchased with your computer. Refer to the online *Compaq Reference Guide* to find the syntax for your computer.

Identifying Quick Controls

- **QuickLock**—Locks the keyboard and pointing device while the computer is running. It leaves your data on the screen, but prevents it from being accessed by the keyboard until a power-on password is entered.
- **QuickBlank**—Used in conjunction with QuickLock, clears the screen when the keyboard and pointing device are disabled.
- **QuickLock on Standby**—Locks the keyboard when the machine enters Standby (Suspend).

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Initiating Quick Controls

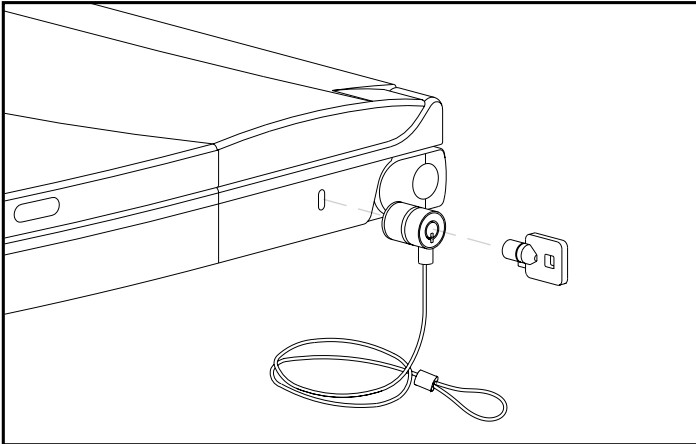
Quick Controls establish security measures when your computer is turned on but not in use. After setting the power-on password in Passwords Properties, Quick Controls can be initiated in two ways:

1. With **Fn+F6** hotkeys, which work only on the computer keyboard.
2. With the key combination **Ctrl+Alt+L**, which works on both the computer and external keyboards.

NOTE: To exit QuickLock/QuickBlank once it has been activated, enter your power-on password.

Using a Cable Lock

In order to secure your computer and prevent it from being stolen or accidentally disconnected, you may want to use a cable lock. A cable lock can be purchased from Kensington Microwave Limited and major dealers worldwide. Ask for the Kensington MicroSaver Security System Model 64068.



Using a Cable Lock

To attach the cable lock:

1. Loop the cable around a fixed object to which you want to secure the computer.
2. Insert the lock end of the cable through the loop end of the cable.
3. Insert the key into the lock and turn it.
4. Remove the key.

Upgrading the Computer

Upgrade components can increase the functionality and performance of your computer. Compaq upgrades are easy to install.

Contact your Compaq authorized reseller to determine which upgrades are available for your model computer. For detailed installation procedures, refer to the installation documentation included with the optional equipment or contact your Compaq authorized reseller.

- Installing software
- Adding memory



Installing Software

An application software program performs a specific task, such as database management, word processing, financial management, or graphic illustration.

Application software is different than system software or operating systems, which maintain and organize the system. Each application program usually includes its own installation program and documented installation procedures.

Before installation, read the documentation that came with the application to ensure that your computer meets the disk space, memory, operating system, and monitor requirements of the application.

Adding Memory

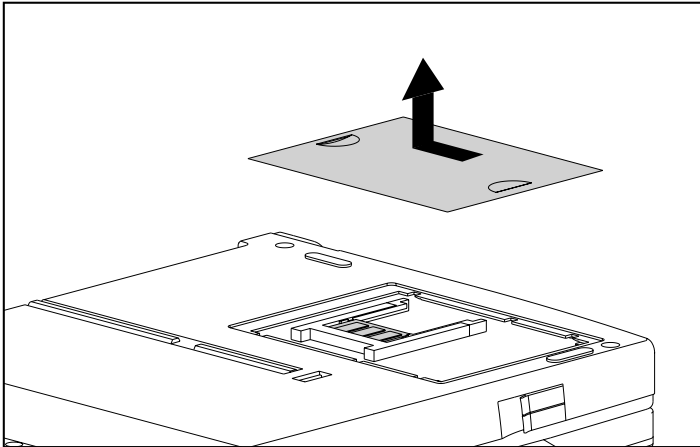
The computer comes standard with 8 or 16 megabytes of random access memory (RAM). Memory can be expanded with 8-, 16-, or 32-Megabyte Memory Expansion Boards.



CAUTION: Electrostatic discharge can damage electronic components. Before touching a memory expansion board, ensure that you are discharged of static electricity by touching a grounded metal object.

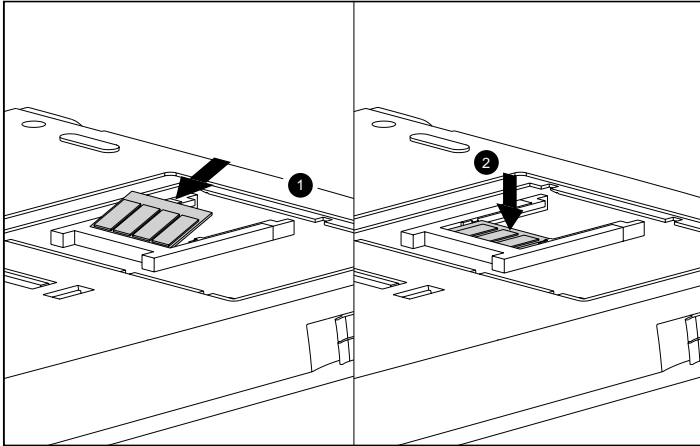
To install memory, follow these steps:

1. Turn the computer off by clicking Shut Down from the Windows Start menu. Remove all external devices, including the battery pack and the AC Adapter.
2. Close the computer and turn it over, bottom side up.
3. Slide open the memory compartment cover.
4. Lift and remove the cover from the computer base.



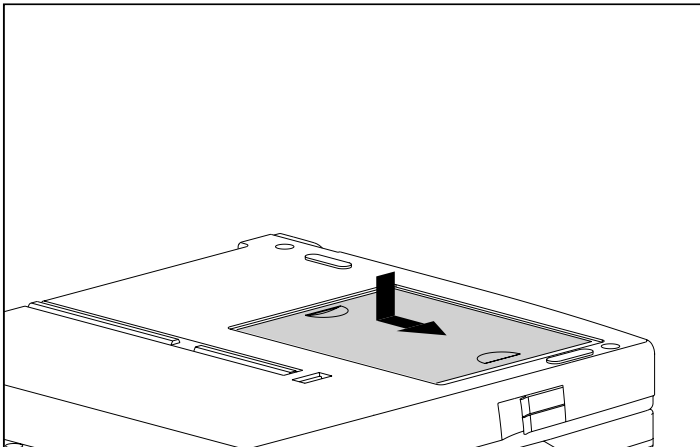
Upgrading Memory

5. Slide the memory boards into the memory slot ❶. The connector will snap into place when the board is correctly seated ❷.



Sliding Memory Boards Into Place

6. Replace the memory compartment cover.



Replacing the Memory Compartment Cover

-
7. Replace the battery pack.
 8. Connect the computer to electrical power and turn it on. The computer automatically recognizes the new memory and reconfigures the system.



CAUTION: The connectors on the memory expansion board are all similar in appearance but do not have the same number of connector pins. Be sure you match each connector to its corresponding system board connector. Incorrect insertion could result in damage to the memory expansion board or the system board.

Connecting External Equipment

This chapter familiarizes you with the procedures and utilities needed to connect external equipment to your computer, including:

- Device Manager utility
- Add New Hardware icon
- Printer
- AC Adapter
- Automobile Adapter
- External keyboard
- External monitor
- Mouse or external trackball

Device Manager Utility

Device Manager is the primary tool for viewing and manipulating your system configuration. It allows you to view your external equipment and internal devices, including keyboard, modem, disk drives, and monitor. To get to the Device Manager, click the Control Panel on the Start menu and double-click the System icon.

The Device Manager allows you to view and change your system configuration in the following ways:

If you want to:	Click this tab:
Look at system resources or print out a system summary.	View Devices by Type
Change drivers; install drivers; learn the status and compatibility of installed devices	View Devices by Connection

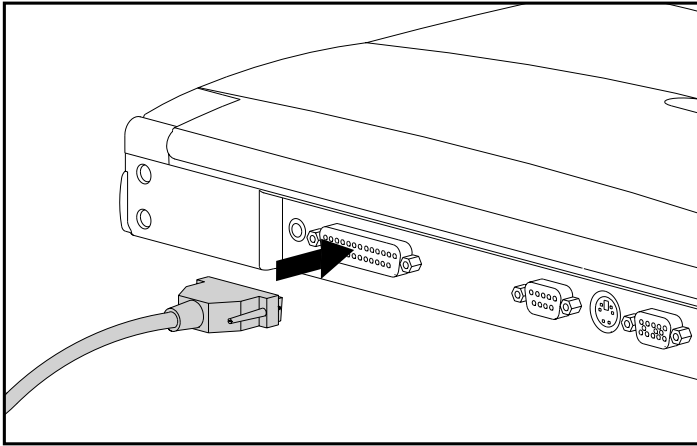
Add New Hardware Icon

Add New Hardware helps you install a new piece of hardware quickly. Also, it will automatically detect installed hardware. To get to Add New Hardware, go to the Control Panel, double-click the Add New Hardware icon, and follow the instructions on the screen.

Connecting a Printer

To connect a printer to your computer, follow these steps:

1. Shut down the computer and printer by pressing Shut Down on the Windows Start menu.
2. Plug the printer end of the printer signal cable into the printer.



Connecting a Printer to the Computer

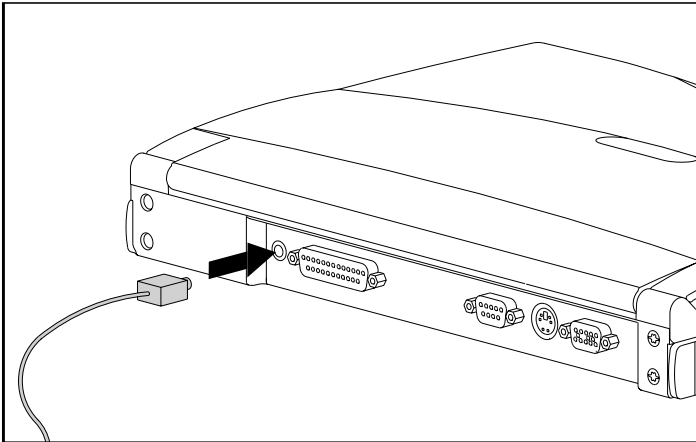
3. Plug the printer power cord into a properly grounded electrical outlet.
4. Turn on the printer.
5. Turn on the computer

NOTE: Before using the printer for the first time, consult the printer documentation and printer device driver configuration information and instructions.

Connecting the AC Adapter

To connect the AC Adapter cable to the computer:

1. Connect the AC Adapter cable to the AC power connector on the computer.
2. Plug the AC Adapter power cord into an electrical outlet that is easily accessible and located near the computer.
3. Turn on the computer.



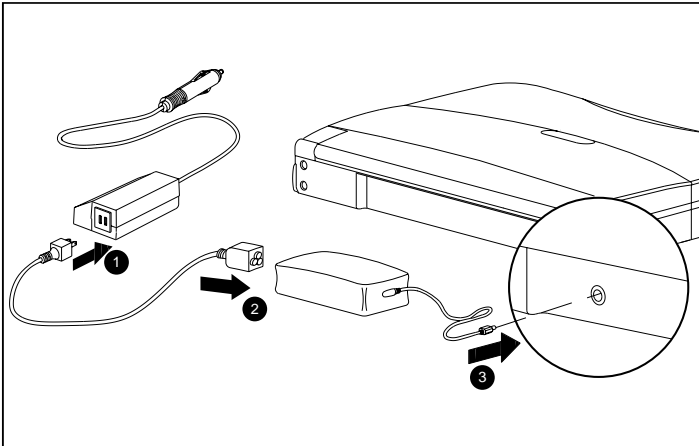
Connecting an AC Adapter to the Computer

NOTE: For more information on connecting the AC Adapter, see Chapter 4, "Managing Power."

Connecting the Automobile Adapter

To connect the Automobile Adapter to the computer:

1. Turn on the vehicle's engine
2. Plug one end of the power cord into the automobile adapter ❶ and the other end into the AC Adapter ❷.
3. Connect the AC Adapter cable ❸ to the power connector on the computer.
4. Insert the Automobile Adapter cable into the cigarette lighter socket.

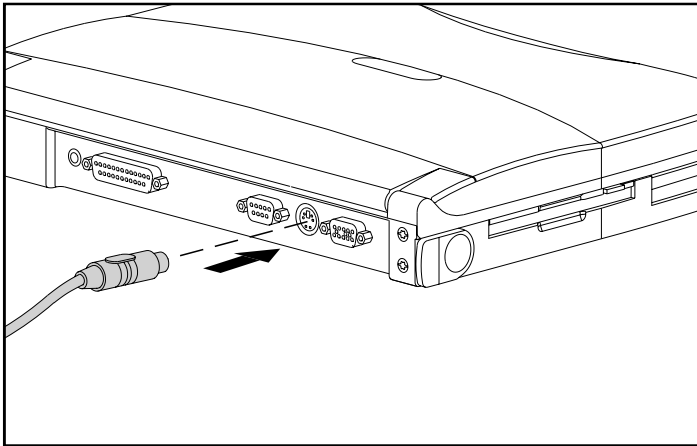


Connecting an Automobile Adapter to the Computer

Connecting an External Enhanced Keyboard

To connect an external enhanced keyboard, complete the following steps:

1. With the computer turned on, initiate Standby (Suspend) by pressing the power button on the computer.
2. Connect the keyboard cable to the keyboard connector on the computer.
3. Exit Standby by pressing the power button. The external keyboard will be enabled and the computer keyboard will be disabled.



Connecting an External Keyboard to the Computer

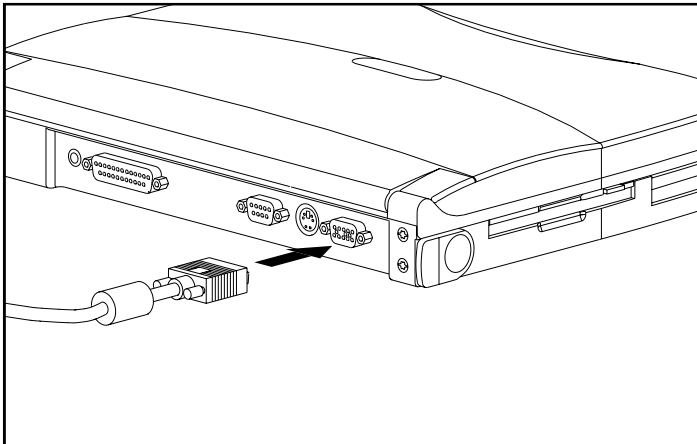
Connecting an External Monitor

An external VGA monitor can be connected to the computer.

To connect an external monitor to the computer, follow these steps:

1. With the computer turned on, initiate Standby (Suspend) by pressing the power button on the computer.
2. Turn off the monitor.
3. Plug the monitor signal cable into the VGA connector.
4. Plug the monitor power cord into a properly grounded electrical outlet.
5. Turn on the monitor, then exit Standby by pressing the power button.

NOTE: The computer supports advanced VGA (1024 × 768) resolution with 256 colors when the required Microsoft Windows device drivers are installed. The 132-bit column mode is supported only on external monitors that are capable of displaying advanced resolution. The driver and the utility that installs the driver are preinstalled on this computer. To adjust screen resolution, double-click the Display icon on the Control Panel on the Start menu, and click the Settings tab.



Connecting an External VGA Monitor to the Computer

Connecting a Mouse or External Trackball

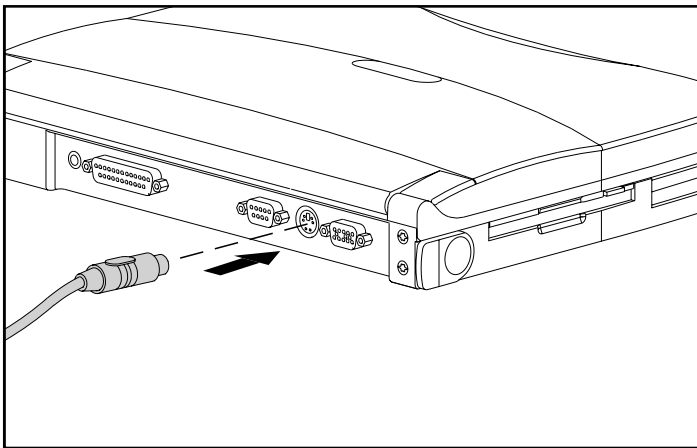


CAUTION: To prevent damage to the computer, place the computer in Standby (Suspend) before connecting or disconnecting the mouse.

To connect a mouse or trackball to the computer, follow these steps:

1. For a PS/2 mouse or trackball, with the computer turned on, initiate Standby (Suspend) by pressing the power button on the computer. To connect a serial mouse, turn off power to the computer.
2. Connect a serial mouse to the serial connector. Connect a PS/2 mouse or external trackball to the keyboard/mouse connector.
3. Exit Standby by pressing the power button.

NOTE: The integrated trackball is automatically disabled when a mouse or external trackball is connected to the computer and becomes active. Both the mouse and trackball need software device drivers to operate. The necessary drivers should be preinstalled with Microsoft Windows.



Connecting a PS/2 Mouse or Trackball to the Computer

Working with PCMCIA Devices

PC Card devices (also called PCMCIA Cards) are credit card-sized option cards that enhance the functionality of your computer. Examples of PC Cards include modems, network interface cards, memory storage cards, and hard drive storage cards.

This chapter provides an overview of PC Cards, including:

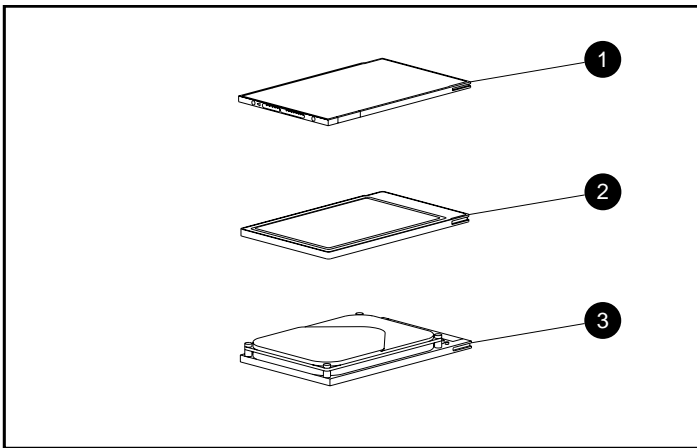
- Types of PC Cards
- Inserting a PC Card
- Removing a PC Card
- PC Card Software

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Types of PC Cards

Your computer is equipped with a versatile feature that allows you to connect portable external devices, such as modem, memory, or network PC Cards. PC Cards are available in various types, according to the thickness of the card:

- Type I 3.3 mm
- Type II 5.0 mm
- Type III 10.5 mm



Three Most Common Types of PC Cards

This computer has two PC Card slots that can accommodate one Type III, or two Type II, or two Type I PC Cards. A Type III PC Card fits only in the bottom slot, slot 1.

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IMPORTANT: Before buying a non-Compaq PC Card, be sure it conforms to standards set by the Personal Computer Memory Card International Association (PCMCIA). For a list of PC Cards supported on this computer, contact your Compaq authorized reseller or service provider.

Also, look for this Compaq PC Card Solution seal. Cards with this logo on their packaging and advertising are supported on most Compaq computers.



Compaq PC Card Solution Logo

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Inserting a PC Card

The computer does not need to be turned off or placed in Standby (Suspend) when inserting a PC Card.

To insert a PC Card, follow these steps:

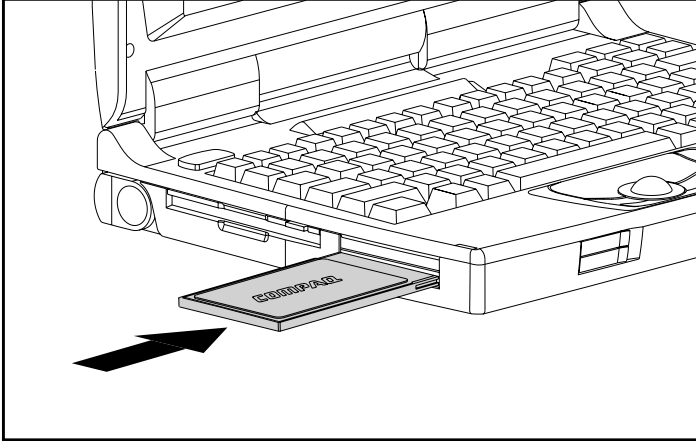
1. Insert the PC Card, label side up, and gently push the card into one of the available slots. Forcing a card into the slot can damage the connector pins.

IMPORTANT: A Type III card fits only in the bottom slot, slot 1.

2. In most cases, the computer automatically configures the card. For example, a modem PC Card is configured to a COM port, or a hard disk PC Card is assigned a drive letter. If the computer is turned off or in Standby (Suspend), the card will not be configured until the computer is turned back on.
3. When the card is inserted, a popup displays configuration information and options. The computer then beeps (low-high tone) to indicate that the card is configured and ready for use. Each subsequent time that card is inserted, you will hear beeps and see a popup, indicating that the card has configured.

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If the card does not go in easily, make sure you are inserting it label side up. The following illustration shows the correct way to insert the card.



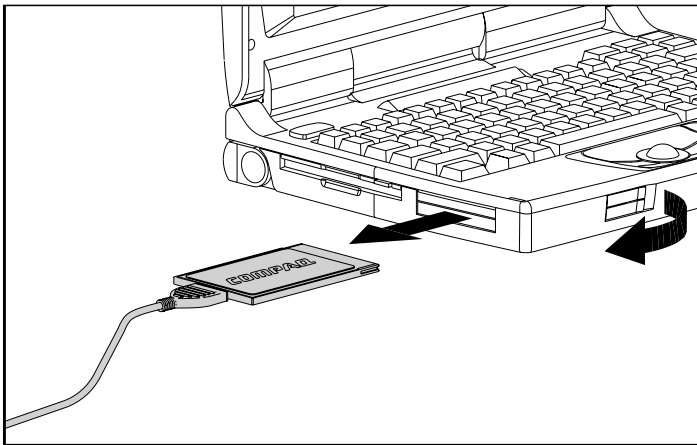
Inserting a PC Card

Removing a PC Card

The computer does not need to be turned off or placed in Standby (Suspend) to remove a PC Card. To remove a card:

1. Click the PC Card indicator on the taskbar and click "Stop" for the card you want to remove.
2. When the system prompts you to remove the card, swing the top or bottom release lever to the left until the card ejects. (The PC Card release levers are located on the front of the computer on the left side.)
3. Gently grasp the card and pull it out. The computer beeps (high-low tone) to indicate card removal.

NOTE: If the speakers are turned off, system beeps are not audible.



Removing a PC Card with Attached Cable

PC Card Software

To manage and configure PC Cards effectively, your computer provides PC Card software. This software includes drivers for the most popular PC Cards and other features designed to make PC Cards simple to use. For information about this software, refer to the online Compaq *Reference Guide*.

Caring for the Computer

This chapter provides Compaq recommended guidelines for taking care of your computer. These guidelines, aimed at improving your computer's longevity and reducing the risk of damage, include:

- Routine care
- Travel guidelines
- Shipping guidelines

Routine Care

You can keep the computer in good condition and working properly by following these guidelines:

- Operate the computer with a battery pack installed, even when you're using external power. This supplies the battery with a constant trickle charge and ensures a fully charged battery pack the next time you turn on the computer.
- Keep the computer away from excessive moisture and temperature extremes. Do not expose the computer to liquids or precipitation.
- Remove the battery pack from the computer if the computer will not be used for an extended period (more than two weeks). Store the battery pack in a cool, dry place when it is not in use.
- To prevent possible damage to the display, do not place anything on top of the computer when it is closed. Store the computer in the slipcase.
- Occasionally wipe the exterior of the computer and the screen with a soft, damp cloth moistened only with water.
- Avoid exposing the computer to direct sunlight or strong ultraviolet light for extended periods of time. Also avoid scratching the surface of the screen and banging it against hard objects.



CAUTION: Using soap or other cleaning products on the screen may discolor the finish and damage the screen. Do not spray liquid directly on the computer screen. Excess liquid may drip down inside the computer and cause damage to the components or result in electrical shock.

Travel Guidelines

For safety and convenience when traveling, follow these guidelines:

- Safeguard your data before you leave on a trip by backing it up onto diskettes or tape media.
- Take an extra backup copy of the data with you.
- Remove the diskette from the diskette drive.
- Disconnect the AC Adapter from the computer. Take the AC Adapter or an extra fully charged battery pack with you.
- Disconnect external equipment, including cables, from the computer.
- Hand-carry the computer in the slipcase. Do not check it with your luggage.

IMPORTANT: There are three types of airport security devices: X-ray machines (the device you set your bags on), magnetic detectors (the device you walk through), and security magnetic wands (the hand-held device used by security personnel). You can send your computer and diskettes through airport X-ray machines. However, Compaq recommends that you do not send your computer and diskettes through airport magnetic detectors or expose them to security magnetic wands.

- Check with the airline if you plan to use the computer on the plane. In-flight computer use is at the discretion of the airline.

Before traveling internationally with the computer:

- Check local customs regulations.
- In accordance with the guidelines outlined in Appendix D of this guide, purchase a power cord from a Compaq authorized dealer, reseller, or service provider in the country where you will be using the computer. These power cords are designed to meet the voltage and frequency requirements of each country.



Warning: To reduce the risk of electrical shock, fire or damage to the equipment, do not use the converter kits sold for appliances to power the computer.

- Make sure you have the correct modem for the country you'll be visiting. Telephone line standards and modem protocols differ from country to country.

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Shipping Guidelines

Should you need to ship the computer, follow these guidelines:

- Safeguard your data before shipping by backing it up onto diskettes or tape media. Be sure that diskettes or tapes are not exposed to electrical or magnetic impulses while stored or in transit.
- Remove the diskette from the diskette drive.
- Remove all PC Cards from the PC Card slots.
- Turn off the computer and external devices.
- Close the computer.
- Disconnect external equipment from the computer.
- Pack the computer and external devices in their original packing boxes or similar packaging with sufficient packing material to protect them.

Diagnostics

The configuration and diagnostic utilities described in this chapter should be used in the following instances:

- To change factory default settings and to set or change the system configuration, which is sometimes necessary when you add or remove optional equipment.
- When a system configuration error is detected during the Power-On Self-Test (POST).
- To determine information about the operating environment of the system.

Accessing Diagnostics

By pressing **F10**, the Configuration and Diagnostics menu can be accessed immediately after the computer has been turned on and the Power-On Self-Test (POST) has been completed. Because this menu is accessed before the operating system takes effect, it is available to all computer users, no matter which operating system they typically use (for example, MS-DOS, Windows, or OS/2).

Accessing Diagnostics from Windows

You can also access configuration and diagnostics information from the desktop by following these steps:

1. Click Start.
2. Click Settings.
3. Click Control Panel.
4. Double-click the Compaq Diagnostics for Windows icon.

Running Computer Checkup (TEST)

Computer Checkup (TEST)

is a utility that determines if the various computer devices are recognized by the system and functioning properly. Running Computer Checkup is optional but advisable after installing or connecting a new device

You can display, print, or save the information generated by Computer Checkup. Your Compaq authorized reseller or service provider may ask you to run this utility to assist in analyzing the system. This information allows the service provider to reproduce the same environment on another computer for testing.

It is also recommended that you run Computer Checkup and have the printed report available before placing a call to Compaq Customer Support.

To run Computer Checkup, follow these steps:

1. Connect the AC Adapter and use it with the computer during these procedures. A low-battery condition could initiate Standby (Suspend) and interrupt the program.
2. Turn on only the external devices that you want to test. Connect the printer if you want to use it to log error messages.
3. Turn on or restart the computer by pressing **Ctrl+Alt+Delete**.
4. As soon as the cursor is displayed in the upper-right corner of the screen, press **F10**.

IMPORTANT: The cursor is displayed on the screen for about two seconds. If you do not press **F10** during this time, you must restart the computer and try again.

5. If prompted, select a language.

The Configuration and Diagnostics menu is displayed.

6. Select Computer Checkup (TEST). A test option menu is displayed.
7. Select the View Device List option. A list of the installed Compaq devices is displayed.

8. Verify that Computer Checkup correctly detected the devices installed.

NOTE: Devices from other manufacturers may not be detected or may be reported inaccurately.

- If the list is correct, select OK. The test option menu is displayed again. Go to step 9.
 - If the list is incorrect, ensure that any new devices are installed properly. If you do not find an installation problem, call your Compaq authorized service provider.
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 are displayed when the testing is complete.
 - **Automatic Diagnostics**—Runs unattended, maximum testing of each device with minimal prompts. You can choose how many times to run the tests, to stop on errors, or to print or file a log of errors.
 - **Prompted Diagnostics**—Allows maximum control over the device testing process. You can choose attended or unattended testing, decide to stop on errors, or choose to print or file a log of errors.
10. Follow the instructions on the screen as the devices are tested. When the testing is complete, the test option menu is displayed again.
- NOTE:** When you run Computer Checkup, record any error message numbers and have them available when you contact your Compaq authorized reseller or service provider for assistance.
11. Exit to the Configuration and Diagnostics menu.

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Running the View System Information (Inspect Utility)

The View System Information (INSPECT) utility provides information about the system once it has been configured. This utility provides the following information about the system operating environment:

- Contents of the operating system startup files
- Current memory configuration
- ROM versions
- Type of processor
- Diskette and hard drives
- Active printer and communications interfaces
- Modem
- Video
- Windows *WIN.INI* file
- Windows *SYSTEM.INI* file

You can display, print, or save the information. Your Compaq authorized reseller or service provider may ask you to run this utility to assist in analyzing the system. This information allows the service provider to reproduce the same environment on another computer for testing. It is recommended that you run View System Information and have the printed results available before placing a call to Compaq Customer Support.

NOTE: This utility is not available from Windows. It must be accessed from the Configuration and Diagnostics menu. However, in Windows, the Compaq Diagnostics for Windows utility provides similar information about the computer. To run Compaq Diagnostics for Windows, click the Windows Start menu, then click Settings, then click Control Panel, then double-click the Compaq Diagnostics for Windows icon.

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To run View System Information (INSPECT), follow these steps:

1. Turn on or restart the computer by pressing the power button.
2. As soon as the cursor is displayed in the upper-right corner of the screen, press **F10**.

IMPORTANT: The cursor is displayed on the screen for about two seconds. If you do not press **F10** during this time, you must restart the computer and try again.

3. If prompted, select the desired language.

The Configuration and Diagnostics menu is displayed.

4. Select View System Information (INSPECT).

Troubleshooting

This chapter provides information on how to identify and correct some common hardware, memory, and software problems. It also explains several types of common messages that can be displayed on the screen. Troubleshooting information is provided on the following pages for:

- Battery
- Diskette/Diskette drive
- Hard drive
- Hardware installation
- Keyboard/Numeric keypad
- Memory
- Monitor
- PCMCIA (PC Card)
- Power
- Printer
- Display screen
- Software application
- Sound
- Trackball/Mouse

Checklist

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

- Is the computer connected to an external power source, or does it have a fully charged battery pack installed?
- Is the computer turned on and the power/standby indicator light on?
- Are all cables connected properly and securely?
- Have you installed printer drivers for each application?
- Did the diskette drive contain a non-bootable diskette when you turned on the computer?

If correcting the items on this checklist does not solve the problem, you may wish to run the Computer Checkup utility. Refer to Chapter 10, "Diagnostics."

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Interpreting Messages on the Screen

Many times a message or prompt is displayed on the screen. However, a message does not necessarily mean that an error condition exists. It may be nothing more than an information message about what the computer is doing or a prompt reminding you to enter information or press a key. The following list shows typical examples of information messages:

- A number might be displayed.

The number indicates the amount of memory in the computer.

- Backing up files to drive A:

This message indicates that MS-DOS is backing up a file to the diskette in drive A.

- Exit this utility.

This message prompts you to exit a utility by following the additional instructions on the screen.

- A:> or A:

This prompt indicates that you are working from drive A.

- C:> or C:

This prompt indicates that you are working from the hard drive.

For error messages during the Power-On Self-Test (POST), see Appendix B, "POST Error Messages."

Solving Minor Problems

While your computer is configured just for you, problems you encounter while working may not be unique. Eliminating the typical problems described in this section may save you time and money. If you have a problem with your computer, consider the causes and possible solutions outlined in the following tables.

If the problem appears related to a software application, also check the documentation provided with the software. You may discover something you can resolve easily yourself. If the condition persists, contact your Compaq authorized service provider or Compaq Customer Support.

Solving Battery Problems

Some common causes and solutions for battery problems are listed in the following table. The "Solving Power Problems" section in this chapter also may be helpful to you.

Battery Problems and Solutions		
Problem	Possible Cause	Solution
Computer won't turn on when battery pack is inserted and AC Adapter is unplugged.	Battery pack is discharged.	Connect the computer to an external power source and charge the battery pack. <hr/> Replace the battery pack with a fully charged battery pack.
Computer beeped and battery indicator is blinking.	Battery charge is low or computer has entered a low-battery condition.	Save any open files and do one of the following: <ul style="list-style-type: none">■ Connect the computer to an external power source, and then charge the battery pack.■ Initiate Hibernation (press Fn + power button) to halt the battery drain until you can find another power source or charge the battery pack.

Continued

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Battery Problems and Solutions *Continued*

Problem	Possible Cause	Solution
Battery charge indicator blinks for low-battery condition, but computer didn't beep.	Low-battery beeps are turned off.	Click the Conservation tab on the Power icon in the Control Panel and enable low-battery warning beeps.
	System beeps are off.	Press Fn+F5 to turn on the system beeps.
Battery charge indicator doesn't turn on.	Battery pack is already charged.	No action is necessary.
Battery charge indicator is on, but battery pack is not fast charging.	Battery pack was exposed to temperature extremes.	Allow time for the battery pack to return to room temperature.
Every time the computer is turned on, you have to set the date and time.	Real-time clock battery is at the end of its life.	Call your Compaq authorized service provider to replace the real-time clock battery.

Continued

Solving Diskette/Diskette Drive Problems

Some common causes and solutions for diskette/diskette drive problems are listed in the following table:

Diskette/Diskette Drive Problems and Solutions		
Problem	Possible Cause	Solution
Diskette drive indicator stays on.	Diskette is damaged.	Run ScanDisk on the diskette. Click Start, Programs, Accessories, System Tools, ScanDisk, and follow the directions.
	Diskette is incorrectly inserted.	Remove diskette and reinsert.
Diskette drive cannot write to a diskette.	Diskette is write-protected.	Disable the write-protect feature or use a diskette that is not write-protected.
	Computer is writing to the wrong drive.	Check the drive letter in the path statement.
	Not enough space is left on the diskette.	Use a larger diskette.
	Diskette drive has been disabled.	Enable diskette drive through the Device Manager in the Systems icon on the Control Panel or through F10 setup. See the online Compaq Reference Guide for more information.
	Diskette is not formatted.	Format the diskette.
Diskette drive cannot read a diskette.	Wrong type of diskette is being used.	Use the type of diskette required by the drive.
	Diskette has a bad sector.	Copy files to hard drive or another diskette. Reformat the bad diskette.
	Diskette has been disabled.	Enable diskette via the Device Manager in the Systems icon on the Control Panel or through F10 setup.
	Diskette is not formatted.	Format the diskette.

Solving Hard Drive Problems

Some common causes and solutions for hard drive problems are listed in the following table. Chapter 10, "Diagnostics," also may help you solve hard drive problems.



CAUTION: Remove or install the hard drive only when the computer is off, unplugged, and the battery pack is removed. Do not remove or install a hard drive while the computer is on, in Standby (Suspend), or in Hibernation.

Hard Drive Problems and Solutions

Problem	Possible Cause	Solution
Reading the hard drive takes an unusually long time after restarting the computer.	System entered Hibernation due to low-battery condition and is now exiting from it.	Give the system time to restore the previously saved data to its exact state before Hibernation.
Hard drive error occurs.	Hard drive has bad sectors or has failed.	Run ScanDisk utility; check the box "Automatically fix." Reformat the hard drive. Contact your Compaq authorized service provider.



CAUTION: You should maintain an up-to-date backup of your hard drive at all times in case of errors or failures.

Solving Hardware Installation Problems

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

Hardware Installation Problems and Solutions		
Problem	Possible Cause	Solution
New device is not recognized as part of the computer system.	Standby was not initiated before device was connected.	Initiate Standby, connect the device, and then exit Standby.
	The system did not automatically configure the new device.	Check the documentation that came with the new device to determine if any device drivers are necessary. If so, install the correct device drivers. To view the status, change drivers, or change the configuration, go to the Device Manager in the Systems icon on the Control Panel. Click the plus sign next to the type of hardware, then double-click the hardware to view the device configuration.
New device is not recognized as part of the computer system.	Cables of new external device are loose or power cables are unplugged.	Ensure that all cables are properly and securely connected.
	Power switch of new external device is not turned on.	Place the computer in Standby by pressing the power button. Turn on the new external device. Press the power button again to exit Standby. This enables the system to recognize the device.
New device is not recognized as part of the computer system.	Device is not seated properly.	Turn off the computer and reinsert the device.

Solving Keyboard and Embedded Numeric Keypad Problems

Some common causes and solutions for keyboard and embedded numeric keypad problems are listed in the following table.

NOTE: Consult the online Compaq *Reference Guide* or the *Keyboard Reference* on the use of the **NumLk** key and the embedded numeric keypad.

Solving Keyboard/Embedded Numeric Keypad Problems

Problem	Probable Cause	Solution
Embedded numeric keypad on the computer keyboard is disabled.	Num Lock function is not turned on.	Press Fn+NumLk to enable the Num Lock function and embedded numeric keypad. NOTE: Toggle Fn+NumLk to enable and disable.
External keyboard does not work.	Keyboard may not be securely connected or may be connected to the wrong external connector.	Ensure that the external keyboard is securely connected to the external keyboard connector.
Keyboard and mouse are locked.	You initiated QuickLock.	Enter your power-on password to exit QuickLock. NOTE: If NumLK is on (the embedded numeric keypad is active), hold down the Fn key while typing to enter a non-numeric password; pressing Fn temporarily toggles NumLk off. Press Fn+Shift to type any uppercase characters.

Solving Memory Problems

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

Memory Problems and Solutions		
Problem	Possible Cause	Solution
Memory count during Power-On Self-Test (POST) is incorrect.	Optional memory expansion board is installed incorrectly.	Ensure that the memory expansion board has been installed correctly.
"Out of Memory" message is displayed on the screen, or insufficient memory error occurs during operation.	System ran out of memory for the application.	Check the application documentation for memory requirements and add more memory if needed. Install additional memory.
	Too many terminate-and-stay resident (TSR) applications are running at the same time.	Disable any TSR applications you do not need.

Running the Monitor Self-Test

You can perform a "self-test" on an external VGA color or monochrome monitor by disconnecting the monitor from the computer. To do so, complete the following steps:

1. Turn off the monitor.
2. Turn off the computer.
3. Disconnect the monitor signal cable from the computer.
4. Turn on the monitor and allow it to warm up for one minute.
5. The screen should be white. A narrow black border may also appear on the left and right sides of the monitor screen. Either condition indicates that the monitor is working properly.

Solving PC Card Problems

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

PC Card Problems and Solutions		
Problem	Possible Cause	Solution
The computer does not beep when a PC Card is inserted.	Card is not inserted properly.	Ensure the card is inserted correctly. Remove and reinsert the card. Insert the card gently to avoid damaging the pins.
	Card or card driver is not compatible with your computer.	Refer to the documentation that came with your PC Card. Contact your Compaq authorized dealer, reseller, or service provider for a list of PC Cards supported by Compaq.
PC Card does not work.	Card is not fully inserted into the slot or is not inserted properly.	Ensure the card is inserted in the correct orientation, or remove and reinsert.

Continued

PC Card Problems and Solutions *Continued*

Problem	Possible Cause	Solution
Fax/modem PC Card does not work.	You are trying to access the card using the wrong COM port.	Right click My Computer on the Windows desktop. Left click Properties, then Device Manager, and double-click Port Settings to view the COM port settings.
	Telephone cord is not plugged in all the way.	Check and secure telephone cord connection.
Network PC Card does not work.	Network driver is not set up properly or resources are not available for this configuration.	Refer to the documentation that came with your network PC Card. Refer to the online Compaq <i>Reference Guide</i> .
Storage memory card does not work.	Card is not compatible.	Contact Compaq Customer Support or a Compaq authorized service provider for a list of PC Cards tested successfully in Compaq computers. Look for the Compaq PC Card Solution Logo on PC Cards.

Solving Power Problems

Some common causes and solutions for power problems are listed in the following table. The "Solving Battery Problems" section in this chapter also may be helpful.

Power Problems and Solutions		
Problem	Possible Cause	Solution
Computer won't turn on and battery pack is not inserted.	Computer is not connected to a power source.	Insert battery pack or connect to power cord or Automobile Adapter.
	Cables to the external power source are unplugged.	Ensure that cables connecting computer and external power source are plugged in properly.
Computer beeped and battery charge indicator is blinking.	Computer has entered a low-battery condition.	Immediately save any open files. Then do one of the following: <ul style="list-style-type: none">■ Connect the computer to an external power source to charge the battery pack.■ Initiate Hibernation to completely halt the drain on the battery until you can charge the battery pack or find another power source.
		Computer turned off while it was left unattended and power indicator is off.
	System initiated Hibernation due to user's power specifications.	Click the Hibernation tab on the Power icon to adjust settings.

Solving Printer Problems

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

Printer Problems and Solutions		
Problem	Possible Cause	Solution
Printer won't turn on.	The cables may not be connected properly, or the printer is unplugged.	Ensure that the cables are properly connected and that the AC Adapter is connected to the electrical outlet.
Printer won't print.	Printing device is not selected.	Select the printer in Windows Printer Setup.
	Printer is not turned on.	Turn on the printer.
	Printer is not online.	Set the printer to online.
	Printer driver for your application is not installed.	Double-click the Printers icon on the Control Panel on the Start menu. Double-click Add Printer and follow the instructions on the screen.
	Printer that is set up for a network is not connected to the network.	Connect the printer to the network.
	Printer cable is too long, unshielded, or defective.	Replace the cable.
Printer is offline.	Paper tray is empty.	Fill the paper tray with paper. Set the printer to online.
Printer prints garbled information.	Correct printer driver is not installed.	Double-click the Printers icon on the Control Panel on the Start menu. Follow the instructions on the screen.
	Cable is not connected properly.	Ensure that the printer cable is connected properly to the computer.

If you experience problems printing, run a printer self-test. Refer to the documentation provided with your printer for instructions. If the self-test fails, it is a printer-specific problem. The printing section of your application software documentation may also be helpful.

Solving Display Screen Problems

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

Display Screen Problems and Solutions		
Problem	Possible Cause	Solution
Characters are dim.	Brightness/Contrast controls not properly set.	Press hotkeys Fn+F9 to adjust brightness. On models with a passive matrix display, you can also press Fn+F8 to adjust contrast.
	Computer screen is in direct light.	Tilt display or move computer.
Screen is blank.	You may have a screen blanking utility installed.	Press any key and/or enter your password.
	If an STN display is used, brightness/contrast needs adjusting.	Use the hotkeys to adjust the brightness/contrast. NOTE: On models with color TFT displays, contrast is not applicable.
	Screen has overheated.	If computer is in direct sunlight, move it and allow it to cool off.
Screen is blank and the power/standby indicator is blinking.	System is in Standby (Suspend).	Press the power button to exit Standby.
	System is in Standby and QuickLock/QuickBlank has initiated.	Exit Standby and enter your power-on password.

Continued

Display Screen Problems and Solutions *Continued*

Problem	Possible Cause	Solution
Screen is blank, the power/standby indicator is blinking, and the battery charge indicator is blinking.	System has entered a low-battery condition.	<p>If available, immediately connect the computer to an external power source or replace the battery pack.</p> <p>If another power source is not immediately available and Hibernation is disabled, attempt to exit Standby (Suspend) and save any open files. However, the computer may not have enough power to do this.</p> <p>If Hibernation has not been disabled, you can let the computer initiate Hibernation. Do not interfere with the hibernation process. Once the computer has turned off, replace the battery pack or connect the computer to another power source. Then turn the computer back on.</p>
Computer screen is blank and the screen on an external monitor displays information.	External monitor was turned on before the computer was turned on.	Press the Fn+F4 hotkeys to display information on the computer display; press the hotkeys again to display information simultaneously.
Screen is blank and keyboard is locked.	QuickLock and QuickBlank were initiated.	Type your power-on password to unlock the keyboard and pointing device and return information to the screen.
Computer screen and external monitor won't display information simultaneously.	External monitor was connected after the computer was turned on.	<p>Turn the computer off and reconnect the external monitor. Turn the external monitor on, then turn the computer on.</p> <p>Press the Fn+F4 hotkeys to toggle through the three display options.</p>

NOTE: If you are using an external monitor and simultaneously displaying an image on the computer display and the external monitor, the image on the external monitor may not fill the screen.

Solving Software Application Problems

Most software application or installation problems occur because of one or more of the following conditions:

- Application was not installed correctly.
- Memory was not allocated correctly.
- Conflict exists between applications.

Software Application Problems and Solutions

Problem	Probable Cause	Solution
Cannot use an application.	The application has not been added to the PATH statement.	Using Windows Notepad, add the application directory with the full path name to the <i>AUTOEXEC.BAT</i> file.
Insufficient memory to run application.	System ran out of memory for the application.	Check the application documentation for memory requirements. Install additional memory.

Solving Sound Problems

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

Sound Problems and Solutions

Problem	Possible Cause	Solution
Computer beeps after you turn it on.	This is normal; it indicates successful completion of the POST.	No action is required.
Computer does not beep after the Power-On Self-Test (POST).	System beeps are turned off.	Use the Fn+F5 hotkeys and the arrow keys to turn on the system beeps.

Solving Trackball/Mouse Problems

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

Trackball/Mouse Problems and Solutions		
Problem	Possible Cause	Solution
External PS/2 trackball or mouse does not work.	Standby (Suspend) was not initiated before device was connected.	Initiate Standby (or shut down the computer). Connect the device. Exit Standby (or reboot).
External serial mouse does not work	The computer was not shut down before connecting the device.	Shut down the computer. Connect the device. Reboot.
	Incorrect or no device driver is installed.	To view the pointing device, access the Start menu via the keyboard by pressing Ctrl+Esc . Use the arrow keys to get to Settings, then Control Panel, and press Enter . Use arrow keys to select the System icon and press Enter . Use the arrow keys to access Device Manager. Use the Tab key to get to the computer icon and the arrow keys to select the mouse. Press the right arrow to access the hardware. Tab to the Properties button and press the Space bar. Use the right arrow to get to the Driver Tab and follow the instructions on the screen.
Integrated trackball does not work.	An external PS/2 mouse or other pointing device is connected to the computer, and the system disabled the integrated trackball.	Press the Power button to place the computer in Standby. Disconnect the mouse or other pointing device, then press the power button again to exit Standby.
	An external serial mouse or other pointing device is connected to the computer, and the system disabled the integrated trackball.	Press Shut Down on the Start menu to turn off the computer. Disconnect the mouse or other pointing device, then press the power button again to reboot.

Continued

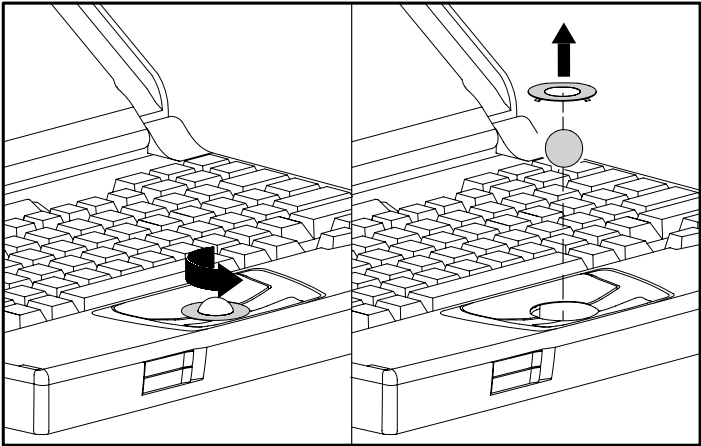
Trackball/Mouse Problems and Solutions *Continued*

Problem	Possible Cause	Solution
Device driver is loaded but trackball/mouse doesn't work.	Wrong mouse is selected.	To select the right mouse, access the Start menu via the keyboard by pressing Ctrl+Esc . Use the arrow keys to get to Settings, then Control Panel, and press Enter . Use arrow keys to select the System icon and press Enter . Use the arrow keys to access Device Manager. Use the Tab key to get to the computer icon and the down arrow key to select the mouse. Press the right arrow to access the hardware. Tab to the Properties button and press the Space bar. Use the right arrow to get to the Driver Tab. Tab to the Change Driver button, press the Space bar and follow the instructions on the screen.
Cursor skips or moves abnormally when using a trackball or mouse.	The trackball, rollers, and/or tracking post in the pointing device need cleaning.	Clean the trackball or mouse. Refer to "Cleaning the Trackball" in this chapter.

Cleaning the Trackball

Operate the trackball with clean hands. Under normal conditions, you only need to wipe the computer case and trackball with a dry soft cloth. If the cursor begins to skip or move abnormally when using the trackball, follow these steps to remove and clean it:

1. Turn off the computer by pressing Shut Down from the Start menu.
2. Remove the battery pack and disconnect the AC Adapter if it is plugged in.
3. Loosen the retaining ring ❶ by placing the trackball tool ❷ over the retaining ring and turning it about 20 degrees counterclockwise.



Removing the Trackball

4. Remove the retaining ring.
5. Remove the ball from the housing.
6. Gently clean the ball with tap water or isopropyl alcohol. When done, rinse it with water and dry it with a lint-free cloth.



CAUTION: To avoid damage to the trackball, do not use an abrasive cleaner on it.

7. Before replacing the ball, clean the trackball assembly. Refer to "Cleaning Inside the Trackball Assembly."

Cleaning Inside the Trackball Assembly

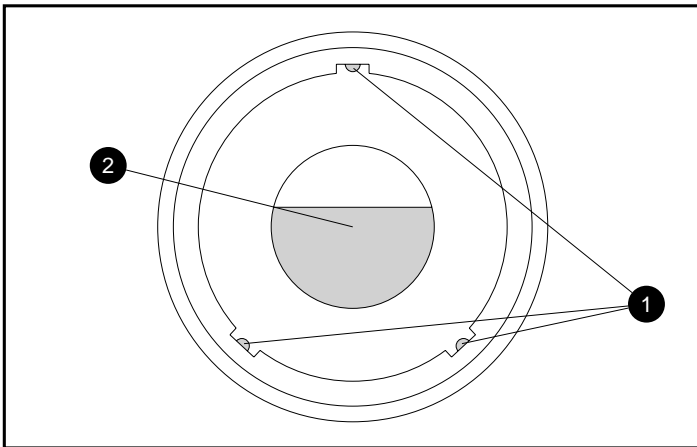
To remove dust and build-up on the inside surfaces of the trackball assembly:

1. Ensure that the computer is off, the battery pack is removed, the AC Adapter is disconnected, and the ball is removed.
2. Remove any large particles of debris that have fallen into the trackball housing.
3. Carefully wipe inside the cage to remove residue from the surfaces.



CAUTION: To avoid damage to the computer, do not use alcohol on the sensor window.

4. Clean the ball bearings ❶ by rubbing with a cotton swab. Do not attempt to remove the bearings. Do not use alcohol on the sensor window ❷. Instead, gently wipe the sensor window with a soft, dry, lint-free cloth until all debris is removed.



Optical Trackball

-
5. Allow the parts to air dry before reassembling.
 6. Replace the ball in the trackball cage.
 7. Replace the retaining ring by aligning the notches. Then use the trackball tool to turn the retaining ring clockwise until it snaps into place.
 8. Replace the battery pack and reconnect the AC Adapter if necessary.

Servicing the Computer

To get help from Compaq Customer Support or to find a Compaq authorized reseller or service provider location, call one of the numbers in the "Worldwide Telephone Numbers" in Chapter 1.

Your Compaq authorized reseller or service provider is available to answer your questions, install optional equipment, and service your computer.

If you take the computer in for service, remember to provide the power-on password or, if possible, disable the password in Passwords Properties prior to delivery to the service provider. Refer to the online Compaq *Reference Guide* for additional information.

Preparing for a Call to Customer Support

If you tried to solve the problem yourself and have not been successful, a call to Compaq Customer Support or a Compaq authorized reseller or service provider may be necessary. (To get help from Compaq Customer Support or to find a Compaq authorized reseller or service provider location, call one of the numbers in the "Worldwide Telephone Numbers" in Chapter 1.)

Before you place a call, run Compaq Diagnostics and print out the hard copy results for reference, if possible.

You should have the following information ready so that the customer support representative can provide you with the fastest possible solution when you call.

- Product name
- Product model number
- Product serial number (located on the bottom of the computer)
- Purchase date
- Conditions under which the problem occurred
- Any error messages that have occurred
- Hardware configuration
- Type of printer connected
- Hardware/software you are using
- Printed results from running Compaq Diagnostics

Specifications

This appendix provides physical and performance specifications for subassemblies of the computer:

- Computer
- Displays (Color STN and TFT)
- Diskette Drive
- Hard Drives
- AC Adapter
- Auto Adapter
- Battery Pack

Computer Models 1110, 1120, 1125, 1120T, 1130, 1130T 1135		
	U.S.	Metric
Dimensions		
10.4" Color STN	8.9" x 11.9" x 2.25"	22.61cm x 30.23 x 5.72cm
10.4" Color STN	8.9" x 11.9" x 2.25"	22.61cm x 30.23 x 5.72cm
10.4" Color TFT	8.9" x 11.9" x 2.25"	22.61cm x 30.23 x 5.72cm
Weight (w/o battery)		
10.4" Color STN	5.0 lbs	2.25 kg
10.4" Color STN	5.0 lbs	2.25 kg
10.4" Color TFT	5.0 lbs	2.25 kg
Weight (w/battery)		
10.4" Color STN	6.1 lbs	2.75 kg
10.4" Color STN	6.1 lbs	2.75 kg
10.4" Color TFT	6.1 lbs	2.75 kg
Stand-Alone (Battery)		
Power Requirements		
Nominal		
Operating Voltage	10.8 V	
Nominal Operating	12.0 W	
Peak Operating	15.0 W	
Environmental Requirements		
Temperatures		
Operating	50° to 95°F	10° to 35°C
Nonoperating	-4° to 140°F	-20° to 60°C
Relative Humidity		
Operating	10% to 90%	10% to 90%
Nonoperating	5% to 95%	5% to 95%

Color STN (10.4 in) Display		
Computer Models 1110, 1120, 1125, 1130, 1135		
	U.S.	Metric
Dimensions (display size)		
Height	6.3 in	16.0 cm
Width	8.4 in	21.3 cm
Number of Colors	256	
Color Palette	256 K	
Contrast Ratio	20:1	
Brightness	90 NIT	
Refresh Rate	60 Hz	
Pixel Resolution		
Pitch	0.33 x 0.33 mm	
Format (models 1130, 1135)	800 x 600	
Format (models 1110, 1120, 1125)	640 x 480	
Configuration	RGB Stripe	
Backlight	CCFT Edge-Lit at the Top	
Character Display	80 x 25	
Total Power Consumption	4 W (Maximum)	

**Color TFT (10.4 in) Display
Computer Models 1120T, 1130T**

	U.S.	Metric
Dimensions (display size)		
Height	6.3 in	16.0 cm
Width	8.4 in	21.3 cm
Number of Colors	256	
Color Palette	256 K	
Contrast Ratio	100:1	
Brightness	90 NIT	
Refresh Rate	60 Hz	
Pixel Resolution		
Pitch	0.33 x 0.33 mm	
Format (model 1130T)	800 x 600	
Format (model 1120T)	640 x 480	
Configuration	RGB Stripe	
Backlight	CCFT Edge-Lit at the Top	
Character Display	80 x 25	
Total Power Consumption	4 W (Maximum)	

Diskette Drive

Diskettes

Size	3.5 in (8.9 cm)
High Density (MB)	1.44
Low Density (KB)	720

Light Green

Height One-third

Bytes per Sector 512

Sectors per Track

High Density	18
Low Density	9

Tracks per Side

High Density	80
Low Density	80

Read/Write Heads 2

Average Access Time (ms)

Track-to-Track (high/low)	3/3
Average (high/low)	94/94
Settling Time (ms)	15
Latency Average (ms)	100

Hard Drives		
Model Standard Configurations	810 MB	1.08 GB
Formatted Capacity		
Per Drive)		
Physical	815.9 MB	1.088 GB
Logical	814.3	
Drive Type		
	65	65
Drive Size		
Inches	4.0 x 2.740 x .5	4.0 x 2.740 x .5
Centimeters	100 x 70 x 12.7	100 x 70 x 12.7
Transfer Rate		
Media (MB/s)	27.4 to 54	27.4 to 54
Interface (MB/s)	up to 16.7	16.6
Sector Interleave		
	1:1	1:1
Typical Seek Time (including settling)		
Single Track (ms)	4	4
Average (ms)	15	15
Full Stroke (ms)	24	24
Disk Rotational Speed (RPM)		
	3634	3634
Physical Configuration		
Cylinders	3915	3915
Data Heads	5	6
Sectors/Track	90-180	90-180
Bytes/Sector	512	512
Logical Configuration		
Cylinders	1581	2108
Data Heads	16	16
Sectors/Track	63	63
Bytes/Sector	512	512
Buffer Size (KB)		
	120	128

AC Adapter		
	U.S.	Metric
Dimensions	5.0 x 3.0 x 1.3 in.	12.7 x 7.6 x 3.3 cm
Power Supply Ratings		
Rated Voltage Range	100-120/220-240 V	
Rated Input Current	0.8/0.4 Amp	
Rated Input Frequency	50 - 60 Hz	
Maximum Output Voltage	16.5 V dc	
Maximum Output Current	2.6 Amp	
Maximum Output Power	27 W	

Automobile Adapter	
	U.S.
Rated Input Voltage	10 - 18 V dc
Rated Input Current	2.4 Amp
Maximum Output Voltage	17.5 V dc
Maximum Output Current	1.5 Amp
Maximum Output Power	19 W

Extended Life Nickel Metal Hydride Battery Pack

	U.S.	Metric
Dimensions		
Height	0.724 in	1.84 cm
Length	8.07 in	20.5 cm
Width	2.04 in	5.18 cm
Weight		
	1.09 lb	0.495 Kg
Energy		
Nominal Open Circuit Voltage	10.8 V dc	
Rated Capacity	2400 or 2800 mAh	
Standard Recharge Rate	27 W Maximum 7 W Minimum	
Environmental Requirements		
Operating temperatures	50°F to 95°F	10°C to 35°C
Storage temperatures		
No time limit	-4°F to 86°F	-20°C to 30°C
Not longer than 3 months	-4°F to 104°F	-20°C to 40°C
	-4°F to 122°F	-20°C to 50°C

POST Error Messages

The following table lists selected error codes that you may encounter during the Power-On Self-Test (POST). The POST occurs after you first turn on the computer. A successful POST is followed by one or two short beeps.

If one of the error codes listed below is displayed on the screen during POST, follow the instructions in the recommended action. If you receive an error code not listed here, contact your Compaq authorized service provider. You also may wish to run Computer Checkup; see Chapter 10, "Diagnostics," for information about this utility.

POST Error Codes			
Error Code	Beeps	Probable Cause	Action
162-System Options Error	2S	Configuration error	Run Computer Checkup (See Chapter 10.)
162-System Options Not Set	2S	Configuration incorrect	Run Computer Checkup (See Chapter 10.)
162-System Options Not Set (Run SETUP)	2S	CMOS reflects that an invalid configuration has been set	Run Computer Checkup (See Chapter 10.)
163-Time & Date Not Set	2S	Invalid time	Run Computer Checkup (See Chapter 10.)
164-Memory Increase Detected	2S	Discrepancy in the memory size found compared to the one stored in CMOS	No action is required

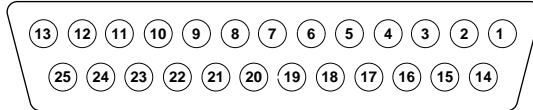
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Post Error Codes *Continued*

Error Code	Beeps	Probable Cause	Action
164-Memory Decrease Detected	2S	Discrepancy in the memory size found compared to the one stored in CMOS	If you removed a memory expansion board prior to turning on the computer, no action is required. Otherwise, contact a Compaq authorized service provider.
208-Invalid Memory Expansion Board	None	The memory expansion board is an invalid type	Replace memory expansion board.
605-Diskette Drive Error	None	Mismatch in drive type	Run Computer Checkup. (See Chapter 10.)
605-Diskette Drive Type Error (Run SETUP)	2S	Disk type does not match the drive	Run Computer Checkup. (See Chapter 10.)
1150-COMM Port Configuration Error	2S	Added or removed modem, or serial interface board	Run Computer Checkup. (See Chapter 10.)
Audible	1S	Power-on successful	None.
Audible	2S	Power-on successful	None.
(Resume= "F1" Key)	None	As indicated to continue	Press F1 key.

Connector Pin Assignments

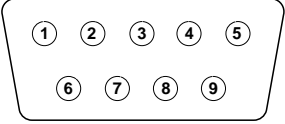
Parallel Connector



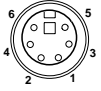
Pin	Signal
1	Strobe*
2	Data Bit 0
3	Data Bit 1
4	Data Bit 2
5	Data Bit 3
6	Data Bit 4
7	Data Bit 5
8	Data Bit 6
9	Data Bit 7
10	Acknowledge*
11	Busy
12	Paper Out
13	Select
14	Auto Linefeed*
15	Error*
16	Initialize Printer*
17	Select In*
18	Ground
19	Ground
20	Ground
21	Ground
22	Ground
23	Ground
24	Ground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

* = Active low

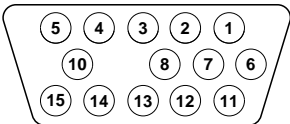
Serial Connector

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

Keyboard/Mouse Connector

Connector	Pin	Signal
	1	Data
	2	Reserved
	3	Ground
	4	+ 5V
	5	Clock
	6	Reserved

External VGA Monitor Connector

Connector	Pin	Signal
	1	Red Analog
	2	Green Analog
	3	Blue Analog
	4	Not Connected
	5	Ground
	6	Ground Analog
	7	Ground Analog
	8	Ground Analog
	9	Not Connected
	10	Ground
	11	Not Connected
	12	Not Connected
	13	Horizontal Synch
	14	Vertical Synch
	15	Not Connected

PC Card (PCMCIA) Connector

Pin	Signal	Pin	Signal
1	Ground	24	Address bit 5
2	Data bit 3	25	Address bit 4
3	Data bit 4	26	Address bit 3
4	Data bit 5	27	Address bit 2
5	Data bit 6	28	Address bit 1
6	Data bit 7	29	Address bit 0
7	Card enable 1	30	Data bit 0
8	Address bit 10	31	Data bit 1
9	Output enable	32	Data bit 2
10	Address bit 11	33	Write protect/IO Port is 16-bit
11	Address bit 9	34	Ground
12	Address bit 8	35	Ground
13	Address bit 13	36	Card detect 1
14	Address bit 14	37	Data bit 11
15	Program/Write enable	38	Data bit 12
16	Ready or busy/ Interrupt request	39	Data bit 13
17	Power	40	Data bit 14
18	Programming and peripheral supply 1	41	Data bit 15
19	Address bit 16	42	Card enable 2
20	Address bit 15	43	Refresh
21	Address bit 12	44	IO Read
22	Address bit 7	45	IO Write
23	Address bit 6	46	Address bit 17

Continued

PC Card (PCMCIA) Connector *Continued*

Pin	Signal	Pin	Signal
47	Address bit 18	58	Card reset
48	Address bit 19	59	Extend bus cycle
49	Address bit 20	60	Input port acknowledge
50	Address bit 21	61	Register select and IO enable
51	Power	62	Battery voltage detect 2/Audio digital waveform
52	Programming and peripheral supply 2	63	Battery voltage detect 1/Card status changed
53	Address bit 22	64	Data bit 8
54	Address bit 23	65	Data bit 9
55	Address bit 24	66	Data bit 10
56	Address bit 25	67	Card detect 2
57	Reserved	68	Ground

Power Cord Set Requirements

The wide-range input feature of your AC Adapter permits it to operate from any line voltage between 100 to 240 volts AC.

The power plug or power cord set (appliance coupler, flexible cord, and wall plug) you received with your AC Adapter meets the requirements for use in the country where you purchased your computer.

Power cord sets for use in other countries must meet the requirements of the country where you use the AC Adapter. For more information on power cord set requirements, contact your Compaq authorized dealer.

General Requirements

The requirements listed below are applicable to all countries:

1. The length of the power cord set must be at least 6.00 feet (1.8 m) and a maximum of 9.75 feet (3.0 m).
2. All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
3. The power cord set must have a minimum current capacity of 2.5A and a nominal voltage rating of 125 or 250 volts AC, as required by each country's power system.
4. The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C7 connector, for mating with appliance inlet on the AC Adapter.

Country-Specific Requirements

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

Notes:

1. Flexible cord must be <HAR> Type HO3VV-F, 2-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.
2. Flexible cord must be Type SPT-2 or equivalent, No. 18 AWG, 2-conductor. Wall plug must be a two-pole type with a NEMA 1-15P (15A, 125V) configuration.

-
3. Appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. Flexible cord must be Type VFF, VSF or VTF, 2-conductor, 0.75 mm² conductor size. Wall plug must be a two-pole type with a Japanese Industrial Standard C8303 (15A, 125V) configuration.

Regulatory Agency Identification Numbers

The following options have been evaluated for use with your computer. These Compaq approved options can be identified by their assigned series numbers that are listed below. To ensure continued reliable and safe operation of your computer, only these options should be used.

Regulatory Agency Identification Numbers	
Options	Series Numbers
Notebook CPUs	2860, 2860A, 2860B, 2860C, 2860D, 2860E, 2860F
Notebook CPU with Display Upgrade	2860A UD, 2860B UD
Extended Life NiMH Battery Pack	2831A
Automobile Adapter	2834
AC Adapter with Power Plug	2862, 2862B

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