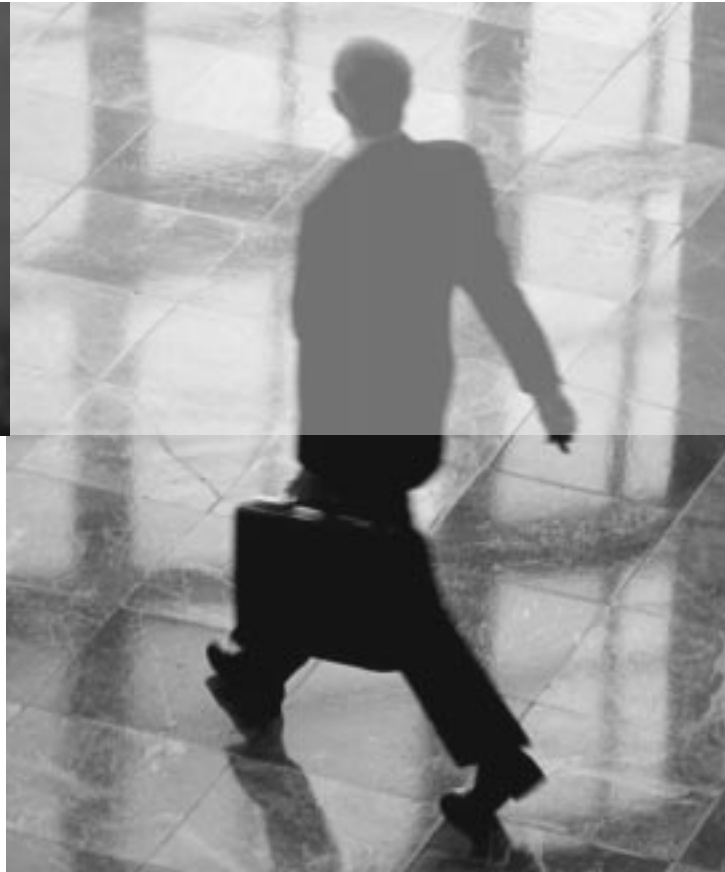# Compaq Armada M300 Series of Personal Computers

Reference Guide

**COMPAQ**

# DOCUMENTATION SURVEY

Thank you for choosing Compaq!

Please help us provide quality support information by completing and returning this postage-paid questionnaire.

1. Were you able to set up the computer using the setup poster?

   ❏ Yes  ❏ No   If not, at what point did you begin to have difficulty?

   _____

2. Was the *Quick Reference Guide* preinstalled on your computer easy to find?  ❏ Yes  ❏ No

   Is it easy to use?  ❏ Yes  ❏ No   If not, why?

   _____

3. What computer task(s) will you need the most help with?

   _____
   _____

4. If you need help with a computer task, where will you get it?

   _____
   _____

5. Which do you prefer?
   ❏ *Quick Reference Guide* preinstalled on computer
   ❏ Printed *Reference Guide* ❏ Both
   Why? _____

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6. In addition to a printed *Reference Guide,* how else would you prefer to receive your information?
   Rank 1 to 4 (1 is most preferred)

   _____   Preinstalled on computer
   _____   On CD-ROM
   _____   On Compaq web site
   _____   None of above

   Additional Documentation Comments: _____

   _____
   _____
   _____

   Note:  For comments not related to documentation, call
   1-800-345-1518 (U.S.) or 1-800-567-1616 (Canada).

   Name _____

   Occupation _____

   Company _____ Phone No. _____
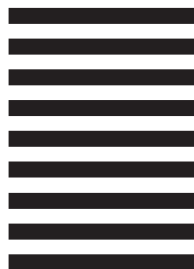
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# Compaq Armada M300 Series
Reference Guide

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## *About This Guide*

This guide is designed to be used as step-by-step instructions for installation, and as a reference for operation, troubleshooting, and future upgrades.

## Text Conventions

This document uses the following conventions to distinguish elements of text:

| | |
|---|---|
| **Keys** | Keys appear in boldface. A plus sign (+) between two keys indicates that they should be pressed simultaneously. |
| USER INPUT | User input appears in a different typeface and in uppercase. |
| *FILENAMES* | File names appear in uppercase italics. |
| Menu Options, Command Names, Dialog Box Names | These appear in initial capital letters. |
| COMMANDS, DIRECTORY NAMES, and DRIVE NAMES | These always appear in uppercase. |
| Type | When you are instructed *to type* information, type the information **without** pressing the **Enter** key. |
| Enter | When you are instructed *to enter* information, type the information and then press the **Enter** key. |

# Symbols in Text

These symbols may be found in the text of this guide.  They have the
following meanings.

**WARNING:**   Indicates that failure to follow directions in the warning
could result in bodily harm or loss of life.

**CAUTION:**   Indicates that failure to follow directions could result in
damage to equipment or loss of information.

**IMPORTANT:**   Presents clarifying information or specific instructions.

**NOTE**:   Presents commentary, sidelights, or additional information.

*Chapter 1*
# Getting Started

## Finding Information

- For setup instructions, refer to the setup card included with the computer.

- To access the online *Quick Reference* to the computer

    ❏ Select the *Armada Quick Reference* icon on the desktop, or

    ❏ Select Start→Compaq Information Center→*Armada Quick Reference.*

- To access additional information about the computer

    ❏ Select Start→Compaq Information Center.

    ❏ Go to the Compaq Internet site at http://www.compaq.com.

- To contact Compaq customer support, refer to Appendix A in this *Reference Guide.*

## Identifying Packing Box Contents

The contents of the packing box vary by geographic region and by the computer hardware configuration ordered.

The following picture and component list identify the standard components included with most computer models. As you unpack the box, make sure you have received all the standard and optional components you ordered.
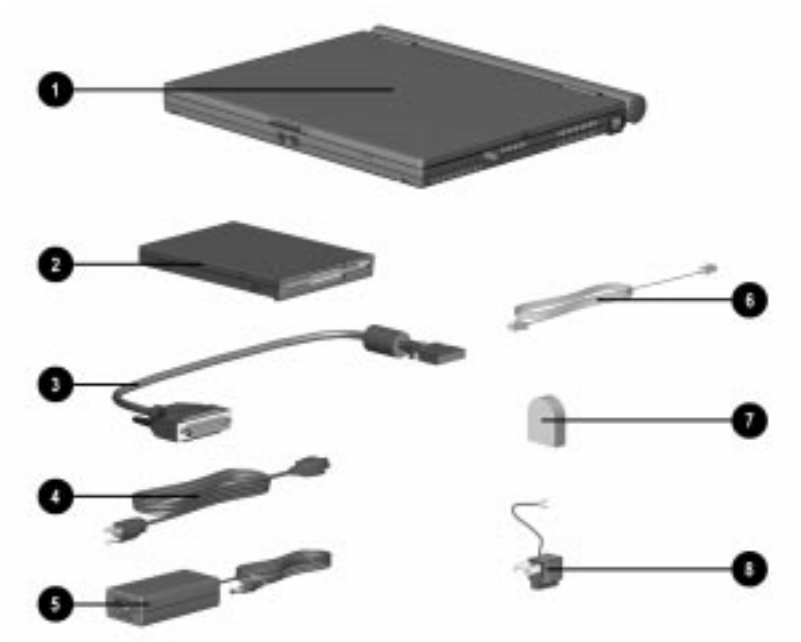
### Identifying Hardware Components

| | Component | Function |
|---|---|---|
| ❶ | Computer | Compaq Armada M300 Personal Computer. |
| ❷ | External diskette drive | Allows a diskette to be used with the computer. |
| ❸ | External diskette drive cable | Connects external diskette drive to the computer parallel port. |
| ❹ | Power cord | Connects AC Adapter to AC electrical outlet. |
| ❺ | AC Adapter | Converts AC power to DC power. |
| ❻ | Modem cable (internal modem models only) | Connects modem to RJ-11 telephone jack or to a country-specific adapter. |

*Continued*

**Identifying Hardware Components** *Continued*

| | | |
|---|---|---|
| ❼ | Country-specific modem adapter (provided with internal modem models by region as required) | Adapts modem cable for use with non-RJ-11 telephone jacks. |
| ❽ | 3-to-2-prong plug adapter (Japan only) | Adapts the power cord for use with a 2-prong electrical outlet. |
| | Hard drive (inserted in computer hard drive bay) | Primary hard drive when used in computer hard drive bay. |
| | Battery pack (installed on rear of computer) | Primary battery pack. **NOTE:** The battery pack can be charged and used as shipped, but battery charge displays will not be accurate until the battery pack is calibrated. |

## *Chapter 2*
## Taking a Look at the Computer

## Top Components
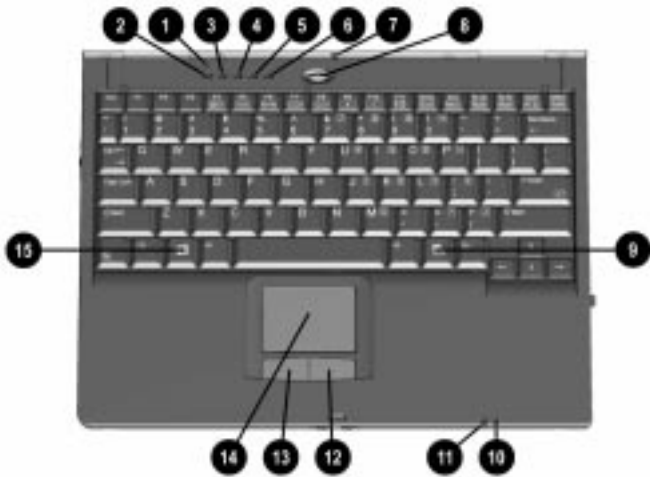


**Top Components**

| Component | Function |
|---|---|
| ❶ Display switch | Turns off the computer display if the computer is closed while on. |
| ❷ Scroll lock light | On: Scroll lock is on. |
| ❸ Caps lock light | On: Caps lock is on. |
| ❹ Num lock light | On: Num lock is on and the embedded numeric keypad is enabled. |
| ❺ Hard drive light | On: The primary hard drive is being accessed. |
| ❻ Diskette drive light | On: The external diskette drive is being accessed. |

*Continued*

**Top Components** *Continued*

| | | |
|---|---|---|
| ❼ | Internal microphone | Supports audio input when the display is open or closed. |
| ❽ | Suspend button** | Initiates and exits Suspend.* When pressed with the **Fn** key, initiates Hibernation. |
| ❾ | Windows application key | Displays shortcut menu for item beneath mouse cursor. |
| ❿ | Battery light | On: The battery pack is charging. |
| | | Blinking: The battery pack that is the only available power source has reached a low-battery condition. |
| ⓫ | Power/suspend light | On: Power is turned on. |
| | | Off: Power is turned off. |
| | | Blinking: Computer is in Suspend.* |
| | | **NOTE:** The power/suspend light also blinks if a battery pack that is the only source of power available to the computer reaches a critical low-battery condition while Hibernation is disabled. |
| ⓬ | Right-click button | Function like the right-click and right-click buttons of an external mouse. |
| ⓭ | Left-click button | Functions like the left-click button of an external mouse. |
| | | Used with the TouchPad, drags and highlights. |
| ⓮ | TouchPad | Moves the mouse cursor, selects, and activates. |
| ⓯ | Microsoft logo key | Displays Windows Start menu. |

*In Windows 98 the term *Standby* replaces the term *Suspend.*

**In Windows 98 the term *sleep button* replaces the term *suspend button.*

# Left Side Components



## Left Side Components

| Component | Function |
|---|---|
| ❶ RJ-45 jack* | Connects the network cable. **NOTE:** A network cable is included with network models. |
| ❷ Power connector | Connects the AC power adapter. |
| ❸ Power button | Turns the computer on or off or exits Suspend. |
| ❹ Vents | Cools internal components. |
| ❺ Security cable slot | Attaches an optional security cable to the computer. |
| ❻ Hard drive bay | Holds primary hard drive. |

> ⚠ **\*WARNING:** To reduce the risk of electric shock, fire, or damage to the equipment, do not plug a telephone cable into the Ethernet RJ-45 jack.

# Right Side Components
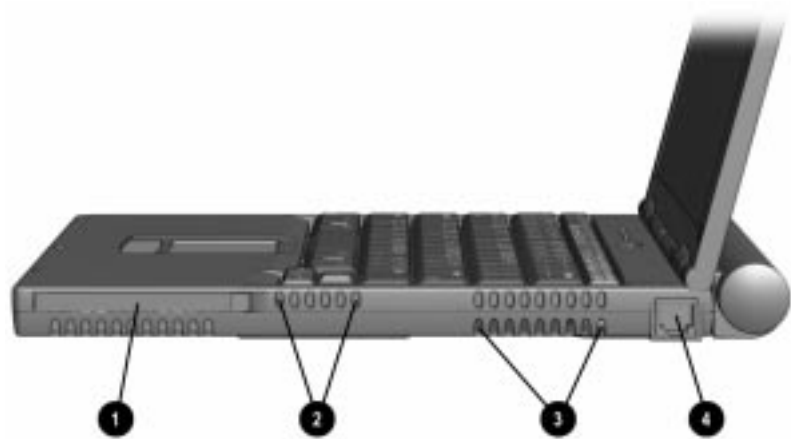
## Right Side Components

| Component | Function |
|---|---|
| ❶ PC Card slot | Supports 32-bit (CardBus) and 16-bit PC Cards. |
| ❷ Air intake vents | Cool internal components. |
| ❸ Air exhaust vents | Cool internal components. |
| ❹ RJ-11 jack (internal modem models only) | Connects the modem cable to an internal modem. **NOTE:** A modem cable is included with internal modem models. |

# Front Components



## Front Components

| Component | Function |
| --- | --- |
| ❶ Display release latch | Opens the computer. |
| ❷ Stereo speaker/headphone jack | Connects stereo speakers, headphones, or headset audio. |
| ❸ Microphone jack | Connects a single sound channel microphone. |
| ❹ Power/suspend light | On: Power is turned on. |
| | Off: Power is turned off. |
| | Blinking: Computer is in Suspend. |
| | **NOTE:** The power/suspend light also blinks if a battery pack that is the only source of power available to the computer reaches a critical low-battery condition while Hibernation is disabled. |

*Continued*

**Front Components**   *Continued*

❺    Battery light

On: A battery pack is charging.

Blinking: A battery pack that is the only available power source has reached a low-battery condition.

# Rear Components
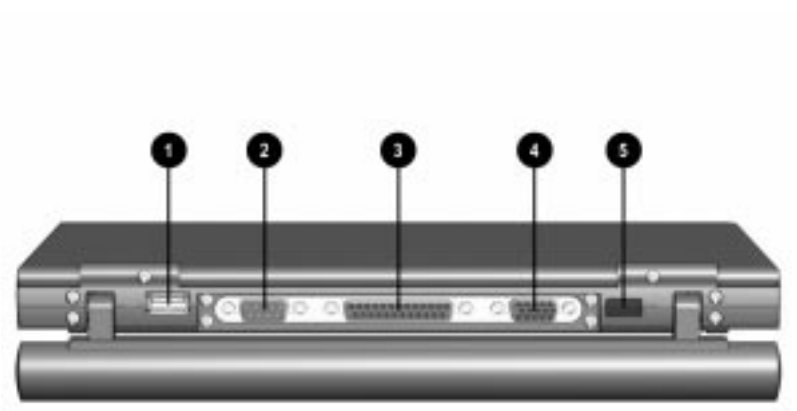


## Rear Components

| Component | Function |
|---|---|
| ❶ USB connector | Connects USB devices. |
| ❷ Serial connector | Connects a serial device. |
| ❸ Parallel connector | Connects a parallel device. |
| ❹ External monitor connector | Connects an external monitor, overhead projector, or TV adapter. |
| ❺ Infrared port | Links to another IrDA-compliant device for wireless communication. |

# Bottom Components
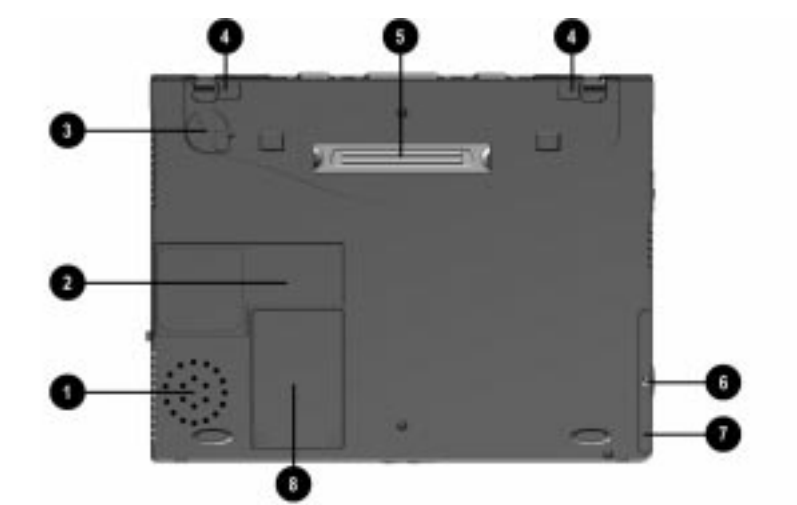


## Bottom Components

| | Component | Function |
|---|---|---|
| ❶ | Speaker | Produces sound. |
| ❷ | Serial number | Identifies computer; needed when you call Compaq customer support. |
| ❸ | Real-time clock battery | Provides battery power to automatically display the date and time. |
| ❹ | Battery latches | Release the primary battery pack. |
| ❺ | 220-pin docking connector | Connects the computer to a docking base. |
| ❻ | Hard drive security screw | Secures hard drive in computer hard drive bay. |
| ❼ | Hard drive release latch | Releases a hard drive from the hard drive bay. |
| ❽ | Modem compartment | Provides access to the internal modem (modem models only). |

# External Diskette Drive

The computer comes with an external diskette drive which can be used with floppy diskettes.

> △ **CAUTION:**    Electrostatic discharge can damage electronic components. Before touching the diskette drive, ensure that you are discharged of static electricity by touching a grounded metal object.

**IMPORTANT:**    If you are using Windows 95, Windows 98, or Windows NT 4.0 preinstalled by Compaq, you do not need to turn off the computer before connecting or disconnecting the external diskette drive to the computer. If you installed Windows 95, Windows 98, or Windows NT 4.0 that you purchased separately, you must obtain additional software from Compaq to support connecting or disconnecting the drive while the computer is on or in Suspend (Standby). For more information about the software, refer to the Compaq Internet site at http://www.compaq.com.

## Connecting the Diskette Drive

To connect the external diskette drive to the computer:

1.    Attach the small end of the drive cable to the external diskette drive ❶.

2.    Attach the large end of the drive cable to the parallel port on the rear of the computer ❷.

### Disconnecting the Diskette Drive

To disconnect the external diskette drive from the computer:

1. Remove the diskette from the diskette drive.

2. Unscrew the small end of the drive cable from the external diskette drive ❶.

3. Unscrew the large end of the drive cable from the parallel port on the rear of the computer ❷.

## Versatile Battery Pack

The primary battery pack is a multifunctional feature of the computer. In addition to providing portable power, it

■ Creates a comfortable tilt for working at the keyboard. Fold the battery pack back and under the computer.

■ Provides a cover for the rear connectors. Place the battery pack in a straight position while the computer is lying flat.

## *Chapter 3*
# Using the Keyboard

## Using the Pointing Device

The built-in TouchPad functions with any software that supports a Microsoft-compatible mouse.

**NOTE:** If you are using software that does not support a Microsoft-compatible mouse, select Advanced→Device Options in Computer Setup, then select the Disable Multiple Pointing Devices check box. For more information on running Computer Setup, please refer to Chapter 14.

### Identifying Keyboard Components

❶ TouchPad                                    ❸ Right-click button

❷ Left-click button
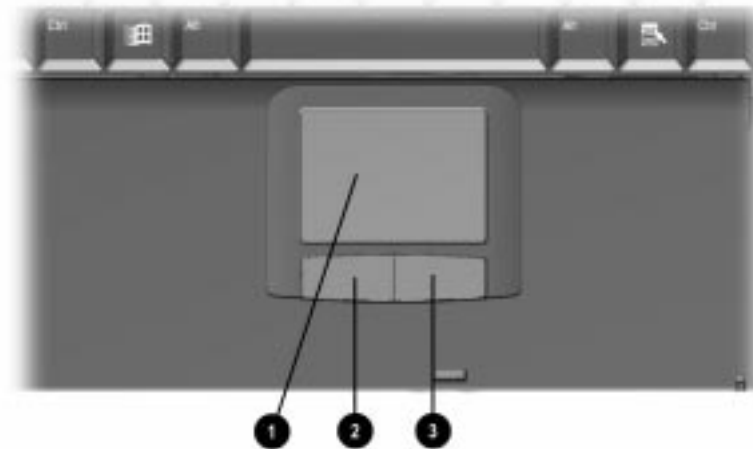
## Navigating with the TouchPad

### TouchPad Procedures

| Task | Procedure |
|---|---|
| Move the mouse pointer | Move your finger directionally across the TouchPad surface. |
| Increase or decrease cursor speed | Increase or decrease finger speed across the TouchPad surface. |
| Right-, left-, or double-click | Press the right- or left-click button as you would the corresponding click button on an external mouse. |
| Highlight an item* | Press down on the TouchPad as you move the mouse pointer over the item. |
| Select text or an object* | Position the mouse pointer over the highlighted text or object, then quickly tap the TouchPad once. |
| Activate a selection* | Position the mouse pointer over the selection, then quickly tap the TouchPad twice.<br>**NOTE:** To select and activate a preference, first tap the preference once to select it, then tap the preference twice to activate it. |
| Select, then drag and drop an item* | Press down on the TouchPad as you move the mouse pointer over the item, then drag the item to the new location. To drop the item, release the pressure. |

*To perform this task exactly as you would with an external mouse, use the left-click button like an external mouse left-click button.

### Setting TouchPad Preferences

To access all TouchPad features and settings including mouse trails, cursor speed, double-click pace, and Windows 98 single-click mode, select Start→ Settings→Control Panel→Mouse.

## Using Hotkeys

Hotkeys are preset combinations of the **Fn** key ❷ plus a second key that take you to frequently used system functions. The icons on the function keys **(F1-F10)** ❶ represent these functions.

■ **To use hotkeys on an external keyboard** which does not have an **Fn** key, press the **Scroll Lock** key twice, then the second key only of the hotkeys combination. For example, to use the **Fn+F3** hotkeys, press **Scroll Lock+Scroll Lock+F3**.

 **NOTE:** The **Fn+F6** (Initiate Quick Controls) hotkeys cannot be used on an external keyboard connected through a USB connector.

■ **To close a window opened with hotkeys,** use standard Windows procedures or press the hotkeys again.

| Hotkeys Quick Reference | |
|---|---|
| **Task** | **Hotkeys** |
| Switch the display and image. | **Fn+F4** |
| Adjust system volume. | **Fn+F5** |
| Initiate Quick Controls. | **Fn+F6** |
| Set a power conservation level. | **Fn+F7** |
| View battery charge status. | **Fn+F8** |
| Adjust screen brightness. | **Fn+F10** |
| Display system information. | **Fn+Esc** |
| Stretch text. | **Fn+T** |

## Switching the Display and Image

**In Windows 95 or Windows NT 4.0** toggle **Fn+F4** to switch the image among the computer display, an external display, and simultaneous display. The external display can be connected through the external monitor connector.

**In Windows 98** toggle **Fn+F4** to switch the image between the computer display and an external display that is connected through the external monitor connector.

■ When MultiMonitor is enabled, press **Fn+F4** to turn off the external display and disable MultiMonitor.

■ When MultiMonitor is disabled, toggle **Fn+F4** to switch the image among the computer display, the external display, and simultaneous display.

## Adjusting System Volume

■ To adjust system volume with an onscreen slide button or with the keyboard arrow keys, press **Fn+F5**.

■ To mute or restore volume
  ❑ Press **Fn+F5+M**
    or
  ❑ Press **Fn+F5**, then select or clear the Mute checkbox.

## Initiating Quick Controls

Quick Controls security features disable the keyboard and pointing device and clear the screen. Before you can use Quick Controls, you must set a power-on password and enable Quick Control preferences. For instructions, refer to Chapter 11.

■  To initiate Quick Controls manually, press **Fn+F6**.

■  To exit Quick Controls, enter your power-on password.

The **Fn+F6** hotkeys cannot be used on an external keyboard connected through a USB connector on the computer or an optional docking base.

## Setting a Power Conservation Level

**In Windows 98** press **Fn+F7** to open the Power Schemes window.

**In Windows 95 or Windows NT 4.0** press **Fn+F7** to open the Battery Conservation Settings window.

■  To select a preset battery conservation level, choose among
  ❑  High—Maximizes running time from a single charge.
  ❑  Medium—Balances system performance with running time.
  ❑  None (Drain)—Runs the computer at full power.

■  For information about the Custom level, refer to "Using Power Preferences" in Chapter 4.

## Viewing Battery Charge Status

Press **Fn+F8** to view the status of all installed battery packs. Battery packs are listed by location.

■  To display the location of a listed battery pack, select the corresponding battery icon.

■  A lightening bolt icon beside a battery icon indicates that the battery pack in that location is charging.

## Adjusting Screen Brightness

Press **Fn+F10** to adjust the brightness of the computer screen with an onscreen slide button or with the arrow keys.

## Displaying System Information

Press **Fn+Esc** to display information about system hardware components and software version numbers.

**NOTE**: The number beside System BIOS is the version number of your system ROM.

## Stretching Text

When the computer is running MS-DOS under Windows and the desktop area resolution is set lower than the display resolution, press **Fn+T** to toggle the image between Text Stretch, which stretches the text to fill more of the screen, and Regular. Text Stretch is the default. While Regular is selected, a graphics accelerator cannot be enabled.

## Enabling the Eurocurrency Symbol

Your computer can generate the Eurocurrency symbol when pressing the **Alt Gr+4**, **5**, **e**, or **u** key combinations. The key combination for your computer is dependent on the keyboard for your country and the keyboard language settings in the operating system. On keyboards without the **Alt Gr** (alternate graphics) key, use the **Alt** key to the right of the spacebar.

# Using the Embedded Numeric Keypad

## Toggling the Keypad On and Off

■ To convert the embedded numeric keypad section ❶ of the computer keyboard to a numeric keypad, press **Fn+Num Lk** ❷.

❏ When the embedded numeric keypad is enabled, the characters upper-right on the keypad keys are active and the Num Lk light ❸ is on.

❏ To disable the embedded numeric keypad, toggle **Fn+Num Lk**.

■ The embedded numeric keypad cannot be enabled while an optional external keyboard or numeric keypad is connected to the computer.



## Operating the Keypad Keys as Standard Keys

To use the embedded numeric keypad keys as standard keyboard keys while the keypad is enabled:

■ Press and hold **Fn** to type in lowercase.

■ Press and hold **Fn+Shift** to type in uppercase.

## Enabling the Keypad at Startup

To set the computer to start up with the embedded numeric keypad enabled:

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears in the upper-right corner of the screen.

   ❑ To change the language, press **F2**.

   ❑ For navigation instructions, press **F1**.

2. Select Advanced→Device Options, then press **Enter**.

3. Toggle the field beside Num Lock State at Boot to On, then press **F10**.

4. To save your preferences, close Computer Setup, and restart the computer, select File→Save Changes and Exit, then press **Enter**.

5. When you are prompted to confirm your action, press **F10**.

To disable the embedded numeric keypad at start up, repeat the above procedure with the Num Lock State at Boot field toggled Off.

**NOTE:** The embedded numeric keypad can be enabled or disabled with **Fn+Num Lk** in either startup state.

*Chapter 4*
# Managing Power

## Selecting a Power Source

⚠ **WARNING:**   To reduce the risk of personal injury, electric shock, fire, or damage to the equipment:

■  Do not disable the power cord grounding plug. The grounding plug is an important safety feature.

■  Plug the equipment into a grounded (earthed) electrical outlet that is easily accessible at all times.

■  Disconnect power from the equipment by unplugging the power cord from the electrical outlet.

■  Do not place anything on power cords or cables. Arrange them so that no one may accidentally step on or trip over them.

■  Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.

### Selecting a Power Source

| Task | Recommended Power Source |
|---|---|
| Work within installed software applications | ■  Charged battery pack inserted into the computer<br><br>or<br><br>■  External power supplied through<br>❑   AC Adapter<br>❑   Optional docking base<br>❑   Optional Automobile Power Adapter/Charger or<br>❑   Optional Aircraft Power Adapter |

*Continued*

**Selecting a Power Source** *Continued*

| | |
|---|---|
| Charge a battery pack in the computer | External power supplied through |
| | ■ AC Adapter |
| | ■ Optional docking base |
| | ■ Optional Automobile Power Adapter/Charger |
| Calibrate a battery pack | External power supplied through |
| | ■ AC Adapter |
| | ■ Optional docking base |
| Modify system software | External power supplied through the AC Adapter |

# Beginning, Leaving, or Resuming Your Work

You will observe the power button ❶, Suspend button ❷, **Fn** key ❸, and the power/suspend light as you turn the computer on or off or place it in **Suspend (Standby)** or **Hibernation.**

■ **Suspend,** called **Standby** in Windows 98, is an energy-saving feature that reduces power to system components that are not being used. When the computer is in Suspend (Standby), your work is saved in random access memory (RAM) and the screen is cleared.

■ **Hibernation** is an energy-saving feature that saves all information in RAM to a hibernation file on the hard drive, then shuts down the computer.
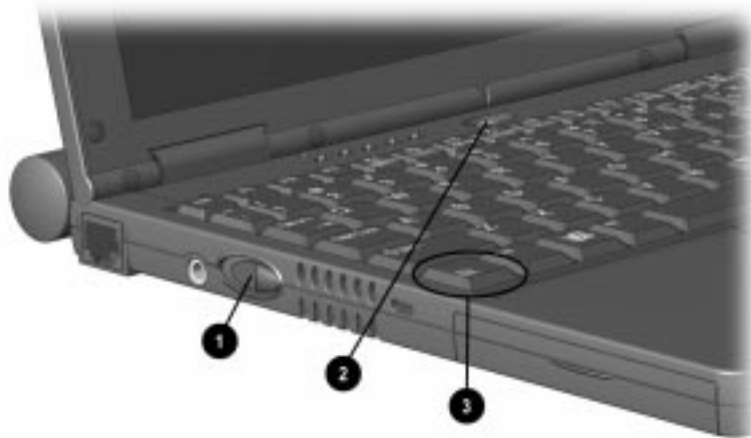


If you are leaving your work, consider:

**If you plan to resume shortly**—Initiating Suspend (Standby) clears the screen, uses less power than leaving the computer on, and your work returns instantly to the screen when you press the suspend button. A fully charged battery pack can support Suspend (Standby) for up to a week, but frequent charging and discharging may shorten battery pack life.

**If the computer will be disconnected from external power for more than two weeks**—To extend the useful life of the battery pack, shut down the computer, then remove the battery pack and store it in a cool, dry place.

**If you plan to resume within two weeks**—Initiating Hibernation clears the screen, saves your work to the hard drive, and uses less power than Suspend (Standby). A fully charged battery pack supports Hibernation indefinitely.

### Beginning, Leaving, or Resuming Your Work

| Task | Procedure | Result |
|---|---|---|
| Turn the computer on | Press power button. | Power/suspend* light turns on. <br><br> Operating system loads. |
| Turn the computer off | Click Start→Shut Down. | Power/suspend* light turns off. <br><br> Operating system closes and turns off all power. <br><br> Computer turns off. |
| Initiate Suspend* | ■ Press suspend button.** <br><br> or <br><br> ■ Select Standby (Windows 98 only) on the Shut Down menu. | Power/suspend* light blinks. <br><br> System beeps twice. <br><br> Screen clears. |
| Exit Suspend* | ■ Press suspend button.** <br><br> or <br><br> ■ Press power button. | Power/suspend* light turns on. <br><br> System beeps once. <br><br> Your work returns to the screen. |

*In Windows 98 the term *Standby* replaces the term *Suspend.*

**In Windows 98 the term *sleep button* replaces the term *suspend button.*

**Beginning, Leaving, or Resuming Your Work** *Continued*

| | | |
|---|---|---|
| Initiate Hibernation | Press **Fn** + suspend button.** | Power/suspend* light turns off. |
| | | System beeps twice. |
| | | Screen clears. |
| Restore from Hibernation | Press power button. | Power/suspend* light turns on. |
| | | System beeps once. |
| | | Your work returns to the screen. |

*In Windows 98 the term *Standby* replaces the term *Suspend.*

**In Windows 98 the term *sleep button* replaces the term *suspend button.*

# Managing Low-Battery Conditions

## Identifying Low-Battery Conditions

■ When a battery pack that is the only source of power available to the computer reaches a low-battery condition

❑ The system beeps 5 times.

❑ The battery light ❶ blinks.

■ If the low-battery condition is not resolved, the computer will enter a *critical* low-battery condition. In a *critical* low-battery condition,

❑ **If Hibernation is enabled and the computer is on or in Suspend (Standby)**—The computer beeps twice, then initiates Hibernation. Hibernation is enabled by default.

❑ **If Hibernation is disabled and the computer is on or in Suspend (Standby)**—The computer beeps twice, and the power/suspend light ❷ blinks. The computer remains *briefly* in Suspend (Standby), then shuts down and your unsaved work is lost.

## Resolving Low-Battery Conditions

■ **If external power is available, do one of the following—**

   ❏ Connect the computer to an electrical outlet with the AC Adapter.

   ❏ Dock the computer and mobile expansion unit in a docking base that is connected to external power.

   ❏ Plug an optional Automobile Power Adapter/Charger into the power connector on the computer and into a vehicle cigarette lighter receptacle.

   ❏ Plug an optional Aircraft Power Adapter into the power connector on the computer and into the in-seat power supply available on some commercial aircraft.

   **NOTE:** An optional Aircraft Power Adapter can be used to run the computer but cannot be used to charge a battery pack.

■ **If a charged battery pack is available—**Save your work, shut down the computer, then remove the discharged battery pack and insert a charged battery pack.

■ **If neither external power nor a charged battery pack is available—**

❏ Press **Fn +** suspend button to initiate Hibernation

or

❏ Save your work, then shut down the computer.

## Restoring from Hibernation After Resolving a Critical Low-Battery Condition

Press the power button. If the computer does not have enough power to restore your work,

1. Press **Ctrl+Alt+Del** to abort the restoration.

2. Attach a charged battery pack or connect the computer to external power.

3. Press the power button.

# Charging a Battery Pack

When a battery pack is installed in the computer or an optional Battery Charger or docking base, the battery pack is charged whenever external power is available.

> **NOTE:** Charging may be delayed if a battery pack is new, has not been used for 2 weeks or more, or is much warmer or cooler than a comfortable room temperature.

■ **If you are charging the battery pack in the computer—**

❏ External power can be supplied to the computer from an external power source.

> **NOTE:** An optional Aircraft Power Adapter cannot be used to charge a battery pack.

❏ The battery light, shown below, turns on while the battery pack is charging and turns off when the battery pack is fully charged.



■ **To increase the accuracy of all battery charge displays**—

❏ Allow a battery pack to discharge to the low-battery level through normal use before charging it.

❏ When you charge a battery pack, charge it fully.

❏ Before charging a new battery pack or a battery pack that has not been used for 2 weeks or more, calibrate the new battery pack or check the calibration on the unused battery pack.

# Monitoring the Charge in a Battery Pack

**NOTE:** The references in Windows 98 battery charge displays to a "standard APM battery pack" apply to all battery packs that can be used in the computer.

## Using the Battery Charge Level Lights

The battery quick check feature enables you to monitor the charge in the primary battery pack.

■   To display the percent of a full charge remaining in a battery pack, press the button on the battery pack.

■   Each battery charge level light represents a percentage of a full charge. For example, when all lights are on, the battery pack is fully charged.

## Using the Battery Status Tab

To access the Battery Status tab, select Start→Settings→Control Panel→power icon (named Power, Power Management, or Compaq Power, depending on your operating system)→Battery Status tab.

■   To display the location of a listed battery, select the corresponding battery icon.

■   A lightning bolt icon beside a battery icon indicates that the battery pack in that location is charging.

## Using the Battery Meter or Power Meter Icon

The battery meter icon, called the power meter icon in Windows 98, indicates whether the computer is running on external power or on a full, half-full, or nearly discharged battery pack.

To display the battery meter icon in the taskbar

■   **In Windows 95** select Start→ Settings→Control Panel→Power→Battery Status tab, then select the Show Battery Meter on the Taskbar check box.

■   **In Windows 98** select Start→ Settings→Control Panel→Power Management→Power Meter tab, then select the Show Power Meter on the Taskbar check box.

■   **In Windows NT 4.0** the battery meter icon displays in the taskbar by default. In addition, you can select Start→Settings→Control Panel→Compaq Power→Battery Status tab.

When the battery meter or power meter icon is displayed in the taskbar, the icon can also be used as follows.

**In Windows 95 and Windows 98**—

| Task | Procedure |
| --- | --- |
| View the total battery power remaining in the system. | Rest the cursor over the icon. |
| Enable/disable an on-screen critical low-battery warning. | Left-click the icon, select or clear the Enable Low Battery Warning check box, then select OK. |
| Access the Power tab in the Power Properties window. | Right-click the icon, select Adjust Power Properties, then press **Enter.** |
| Open battery meter in a popup window. | Double-click the icon. |
| Display charge information as a percent of a full charge or as the run time remaining. | Left-click the icon, then select your preference in the popup window. |

**In Windows NT 4.0**—

| Task | Procedure |
| --- | --- |
| View the total battery power remaining in the system. | Rest the cursor over the icon. |
| Open the Compaq Power Properties window. | Double-click or right-click the icon. |

## Using the Power or Power Meter Tab

The power tab, called the power meter tab in Windows 98, is available in Windows 95 and Windows 98.

■   To access the tab

❑   **In Windows 95** select Start➔Settings➔Control Panel➔ Power➔Power tab.

❑   **In Windows 98** select Start→Settings→Control Panel→ Power Management→Power Meter tab.

■   To view the combined percent of total power remaining in all battery packs in the system, clear the Show the Status of All Batteries check box.

■   To view the percent of total power remaining in each battery pack in the system, select the Show the Status of All Batteries check box.

# Calibrating a Battery Pack

Calibration increases the accuracy of all battery charge displays.

The calibration utility supports all battery packs that can be used in the computer.

Use the calibration utility both to check the calibration of a battery pack and to calibrate or recalibrate a battery pack.

■   A battery pack cannot be calibrated unless the utility reports that it needs calibration.

❑   A new battery pack can be charged, then used to run the computer before the battery pack is calibrated. However, the amount of charge in the new battery pack cannot be reported accurately until the new battery pack has been calibrated.

❑   Check the calibration of a used battery pack periodically and whenever battery charge displays seem inaccurate.

■   While a battery pack is being calibrated, it is fully charged, then fully discharged.

❑   A battery calibration icon in the taskbar displays an Up arrow during the charge phase and a Down arrow during the discharge phase.

❑   A calibration cannot resume if the calibration is stopped or if the computer is shut down during a calibration. An interrupted calibration must be restarted.

❑   After calibration, a battery pack must be charged before it can be used to run the computer.

■  The calibration utility calibrates one battery pack at a time and can run in the background as you use the computer or overnight.

<table>
<tr><td>⚠</td><td>**CAUTION:**  To prevent loss of work, ensure that the computer remains connected to AC power throughout a calibration.</td></tr>
</table>

## Running a Calibration

1. **To check the calibration of a battery pack—**Attach the battery pack to the computer or insert a battery pack into the MultiBay of the mobile expansion unit. If you insert the battery pack into the expasnion unit's MultiBay, connect the computer and expansion unit system to external power.

   **To calibrate a battery pack—**Attach the battery pack to the computer. Then connect the computer to external power with the AC Adapter or dock the computer and mobile expansion unit in a docking base that is connected to external power

2. Access the Battery Calibration tab.

   ■  **In Windows 95** select Start→Settings→Control Panel→Power→Battery Calibration tab.

   ■  **In Windows 98** select Start→Settings→Control Panel→Power Management→Battery Calibration tab.

   ■  **In Windows NT 4.0** select Start→Settings→Control Panel→Compaq Power→Battery Calibration tab.

3. View the calibration reports in the Status column. The battery numbers in the Battery column correspond to the following locations:

| Battery Number | Battery Pack Location |
|---|---|
| 1 | Computer battery bay |
| 2 | Mobile expansion unit MultiBay |

4. Select any location number with "Needs calibration" beside it in the Status column.

5. Select the Start Calibration button.

## Stopping a Calibration

Shut down the computer or select the Stop Calibration button on the Battery Calibration tab. The Stop Calibration button is visible only during a calibration.

# Changing the Primary Battery Pack

The primary battery pack is the battery pack attached to the computer.

**NOTE:** For information on using a battery pack in the mobile expansion unit MultiBay, refer to Chapter 6.

**CAUTION:** If the computer is on, you must initiate Hibernation or shut down power before removing or installing the battery pack. Failure to do so will result in loss of information.

**WARNING:** To reduce the risk of personal injury or damage to the battery pack, do not crush, puncture, or incinerate the battery pack or short the metal contacts. Do not attempt to open or service the battery pack.

## Removing the Primary Battery Pack

1.  If the computer is on, save your work and initiate Hibernation or shut down the computer.

2.  Turn the computer bottom side up and tilt the battery pack so it lies flat (covering all ports on the rear of the computer).

3.  Slide in the two battery latches toward each other.
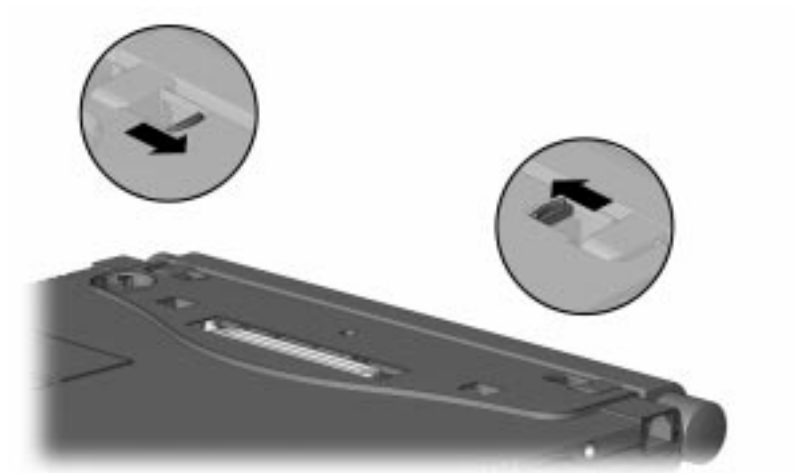
4. Rotate the battery pack 90 degrees ❶, and lift up the battery pack from the computer ❷.
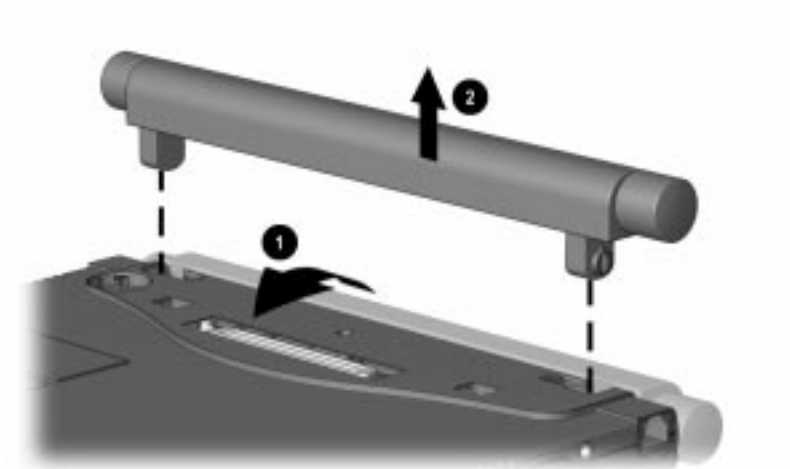


## Installing the Primary Battery Pack

1. If the computer is on, save your work and initiate Hibernation or shut down the computer.

2. Turn the computer bottom side up.

3. Slide in the two battery latches toward each other.
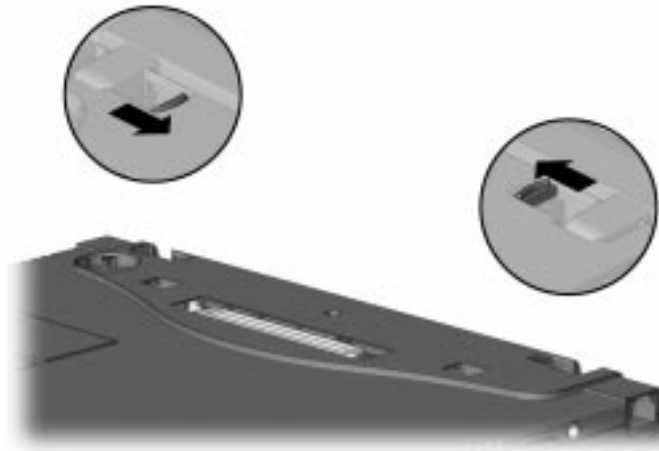
4. Push the battery pack onto the computer until the contacts connect ❶, and rotate the battery pack 90 degrees toward the back of the computer ❷.

5. Slide the two battery latches out (away from each other) ❸.
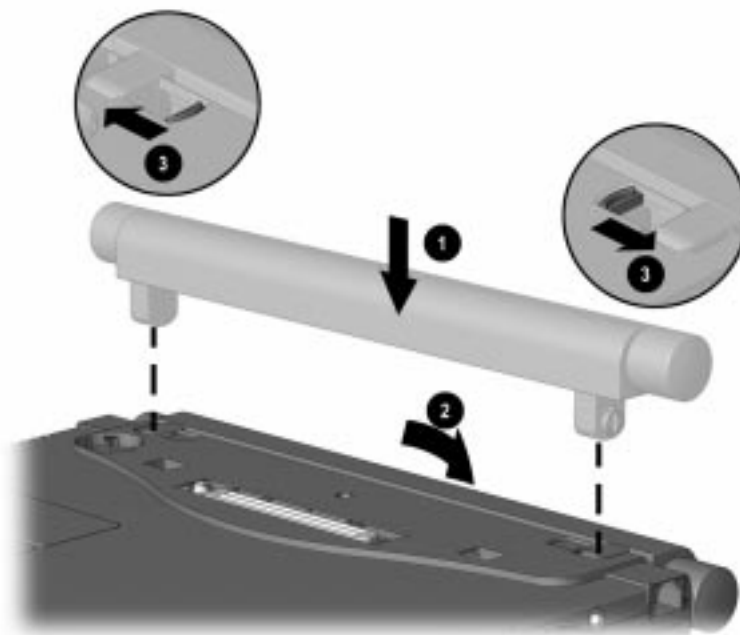


## Storing the Battery Pack

<table>
<tr><td>△</td><td><b>CAUTION:</b>  To prevent damage to a battery pack, do not expose it to high temperatures for extended periods of time.</td></tr>
</table>

If the computer will be unused and unplugged from an external power source for more than two weeks, remove and store the battery pack(s).

Proper storage procedures reduce the self-discharge rate of a battery pack. Store a battery pack in a cool, dry place within the following temperature ranges.

**Recommended Battery Pack Storage Temperatures**

| Storage Time | Temperature Range °F | Temperature Range °C |
|---|---|---|
| Less than 1 month | 32°–122° | 0°–50° |
| No more than 3 months | 32°–104° | 0°–40° |
| Unlimited | 32°– 86° | 0°–30° |

# Using Power Preferences

You can increase, decrease, and allocate the power used by the computer by setting power preferences.

■ Increasing power increases performance, while decreasing power conserves energy and extends the running time from a battery pack.

■ By decreasing power to unused components and functions, you can allocate more power to the components and functions that you are using.

Many power preferences are **timeout** settings.

■ A timeout is the period of inactivity before the system initiates a power change or reduces power to a component. For example, the computer is preset to initiate Suspend (Standby) after a period of inactivity. The time interval between when you stop using the computer and the onset of computer-initiated Suspend (Standby) is a Suspend (Standby) timeout.

■ Depending on your operating system, you can set timeouts that are specific to various conditions, components, or procedures as well as specify the duration of those timeouts.

For additional power options, refer to your operating system documentation. For a summary of battery conservation settings that extend the running time from a single charge, refer to "Conserving Battery Power" later in this chapter.

The following tables list power procedures that are not described in your operating system documentation.

## Setting Power Preferences in Windows 95 or Windows NT 4.0

**Setting Power Preferences in Windows 95 or Windows NT 4.0**

| Preferences | Procedure from Control Panel |
|---|---|
| Select a preset level of power use that applies whenever the computer is running on a battery pack.<br><br>**NOTE:** A battery conservation level can also be displayed and selected with the **Fn+F7** hotkeys. | Select Power (or Compaq Power in Windows NT)➔Battery Conservation Settings tab, then select a conservation level:<br><br>■ High provides maximum battery conservation.<br><br>■ Medium balances battery conservation and system performance.<br><br>■ None (drain) results in maximum battery drain because battery conservation is turned off. Recommended only for discharging the battery pack. |
| Create a level of power use that applies settings for the following whenever the computer is running on a battery pack:<br><br>■ Suspend timeout<br>■ System idle timeout<br>■ Processor speed<br>■ Screen brightness | Select Power (or Compaq Power in Windows NT)➔Battery Conservation Settings tab. Select Custom, then enter your preferences.<br><br>**NOTE:** Although a battery conservation level can be displayed and selected with the **Fn+F7** hotkeys, Custom level preferences must be entered on the Battery Conservation Settings tab. |

*Continued*

**Setting Power Preferences in Windows 95 or Windows NT 4.0**  *Continued*

| | |
|---|---|
| In Windows NT, create a general level of power use that applies whenever the computer is running on external AC power. You can enter settings for<br><br>■  Screen save timeout<br>■  Hard drive timeout<br>■  Energy-saving monitor timeout | 1.  Select Compaq Power→AC Energy Saver tab.<br><br>2.  Select the AC Energy Saver On button.<br><br>3.  To set a screen save timeout, select a timeout in the Screen Save drop-down list.<br><br>4.  To set a hard drive timeout, select a timeout in the Hard Disk Idle drop-down list.<br><br>5.  To enable an external monitor to enter a low-power mode following a screen save timeout, select the Energy Save Monitor check box.<br><br>**NOTE:** You will not be logged off a network when the monitor enters low-power mode. |
| Enable/disable low-battery warning beeps. | Select Power (or Compaq Power in Windows NT)→Battery Conservation Settings tab, then select the On or Off button. |
| Set Hibernation timeout. | Select Power (or Compaq Power in Windows NT)→Hibernation tab, then select a timeout from the Timeout drop-down list.<br><br>**NOTE:** This setting does not affect system-initiated Hibernation during a critical low-battery condition. |
| Exit Suspend after a user-selected timeout. | Select Power (or Compaq Power in Windows NT)→Resume Timer tab. Select the Enabled check box, then select a date from the Date drop-down list and a time from the Time drop-down list. |

*Continued*

**Setting Power Preferences in Windows 95 or Windows NT 4.0**   *Continued*

| | |
|---|---|
| Set computer to initiate Hibernation rather than Suspend. | Select Power (or Compaq Power in Windows NT)→Hibernation tab, then select Standby in the Timeout drop-down list. |
| In Windows 95, turn off power to an optional PC Card modem. | Select Power→PC Card Modems tab, then select Turn Off Power to PC Card Modem When Not in Use check box. |
| Change location of Hibernation file. | Select Power (or Compaq Power in Windows NT)→Hibernation tab, then select the new location from the Drive for Hibernation File drop-down list. |
| Enable/Disable Hibernation. | Select Power (or Compaq Power in Windows NT)→Hibernation tab, then select the On or Off button. |
| | **CAUTION:** If the computer reaches a critical low-battery condition while Hibernation is turned off, unsaved work can be lost. |

## Setting Power Preferences in Windows 98

**To access most power settings**—Select Start→ Settings→Control Panel→Power Management.  For information about setting all Power Management settings except the following, refer to your Windows98 documentation.

**To enable or disable hibernation**—Select the hibernation tab, then select the on or off button.

**To set a screen brightness level that applies when the computer is running on a battery pack**—Select Power Management→Battery Conservation Settings tab, then select a percent from the Brightness drop-down list.

**If you are accustomed to running Windows 95 or Windows NT 4.0 on a Compaq portable computer**—You will find most of the power options you formerly accessed in Power Properties in the Windows 98 Power Management Properties window. However, in windows 98

■ Processor speed is managed by the operating system.

■ The easiest way to turn off power to a PC Card is to remove the PC Card.

■ The **Fn+F7** hotkeys open the Power Schemes window.

■ The preferences you formerly set on the Resume Timer tab can be set at Start→Programs→Accessories→System Tools→Scheduled Tasks.

## Turning Auto Insert Notification On or Off

When using the computer with the mobile expansion unit, auto insert notification runs a CD-ROM or DVD-ROM on insertion in the expansion unit MultiBay, but drains power and prevents system-initiated Suspend (Standby). To turn off auto insert notification:

■ **In Windows 95 or Windows 98** select Start→Settings→ Control Panel→System→Device Manager→CD-ROM→ Properties. Clear the CD-ROM Auto Insert Notification check box.

■ **In Windows NT 4.0** select Start→Settings→Control Panel→Compaq Power→Battery Conservation Settings tab. Clear the CD-ROM Auto Insert Notification check box.

To turn on auto insert notification, access the CD-ROM Auto Insert Notification check box as instructed above, then select the check box.

# Conserving Battery Power

## Battery Power Conservation Checklist

■ Exit modem applications and turn off local area network (LAN) connections when you are not using them.

■ Disconnect external equipment you are not using that is not connected to an external power source.

- If you leave your work, initiate Suspend (Standby) or Hibernation or shut down the computer.

- Remove PC Cards you are not using.

- Use the **Fn+F10** hotkeys to quickly raise and lower display brightness as you work.

- Run the computer on external power while formatting a diskette.

- When using the computer with the mobile expansion unit and a CD-ROM or DVD-ROM drive is in the system, select Start→Settings→Control Panel→System→Device Manager→CD-ROM properties, then clear the CD-ROM Auto Insert Notification check box.

## Conserving Battery Power in Windows 95

- Select Start→Settings→Control Panel→Power. Then:

  - On the Battery Conservation Settings tab, select the High or Custom battery conservation level. If Custom is selected, enter lower settings.

  - On the Disk Drives tab, set a low When Powered by Batteries timeout for the disk drive.

  - If you are using a PC Card modem, select the PC Card Modems tab, then click the Turn Off PC Card Modems When Not in Use check box.

- If Infrared Monitor is enabled, select Start→Settings→Control Panel→Infrared→Options tab, then clear the Search for and Provide Status for Devices in range check box.

> **IMPORTANT:** You cannot establish an infrared link while this check box is cleared. For more information about infrared, refer to Chapter 10.

## Conserving Battery Power in Windows 98

- Select Start→Settings→Control Panel→Power Management→Power Schemes tab, then create a power scheme that conserves battery power.

- Select Start→Settings→Control Panel→Power Management→Battery Conservation Settings. Then select a low screen brightness.

■ Choose the Infrared icon in the task bar, select the Options tab, then clear the Search for and Provide Status for Devices in Range check box.

> **IMPORTANT:**   You cannot establish an infrared link while this check box is cleared. For more information about infrared, refer to Chapter 10.

## Conserving Battery Power in Windows NT 4.0

Select the Start button→Settings→Control Panel→Compaq Power→Battery Conservation Settings tab, then select the High or Custom conservation level. If Custom is selected, enter lower settings.

## *Chapter 5*
# Upgrading Your Computer

## Memory

### Managing Random Access Memory (RAM)

To view the amount of existing random access memory (RAM) in the system

■ **In Windows 95 or Windows 98** select Start→ Settings→Control Panel→Compaq Diagnostics.

■ **In Windows NT 4.0** select Start→Programs→ Administrative Tools→Compaq Diagnostics.

You can increase RAM with optional memory expansion boards. For ordering information, go to the Compaq Internet site at http://www.compaq.com or refer to Appendix A to contact a Compaq authorized dealer, reseller, or service provider.

When RAM increases, the hard drive space reserved for the hibernation file also increases. Windows 98 manages this increase. If the computer is running Windows 95 or Windows NT 4.0 and you experience problems with Hibernation after increasing RAM, verify that your hard drive has enough free space for the larger hibernation file.

■ To view the amount of space required by a hibernation file

❏ **In Windows 95 or Windows 98** select Start→Settings→Control Panel→Power→Hibernation tab.

❏ **In Windows NT 4.0** select Start→Settings→Control Panel→Compaq Power→Hibernation tab.

■ To view the amount of free space on your hard drive, select My Computer→right-click your hard drive→Properties.

## Removing or Inserting a
## Memory Expansion Board

⚠ **WARNING:** The memory compartment and the real time clock battery compartment are the only user-accessible internal compartments on the computer. All other areas that require a tool to access should be opened only by a Compaq authorized service provider.

⚠ **WARNING:** Failure to unplug the power cord and remove the battery pack before installing a memory expansion board can damage the equipment and expose you to the risk of electrical shock.

△ **CAUTION:** Electrostatic discharge (ESD) can damage electronic components. Before beginning this procedure, ensure that you are properly grounded. For more information, refer to Appendix C, "Electrostatic Discharge."

**NOTE:** There is only one memory expansion slot in the computer. Before upgrading memory, you must remove the memory board that came with the computer.

1. Shut down the computer.

   **NOTE:** To ensure that the computer is not in hibernation, turn the computer on, then shut it down.

2. Disconnect all external devices connected to the computer.

3. Disconnect the AC Adapter and remove the battery pack from the computer.

4. Gently press down on each of the three tabs along the top edge of the keyboard ❶, then lift along the top edge to raise the keyboard at a 45-degree angle from the computer ❷.
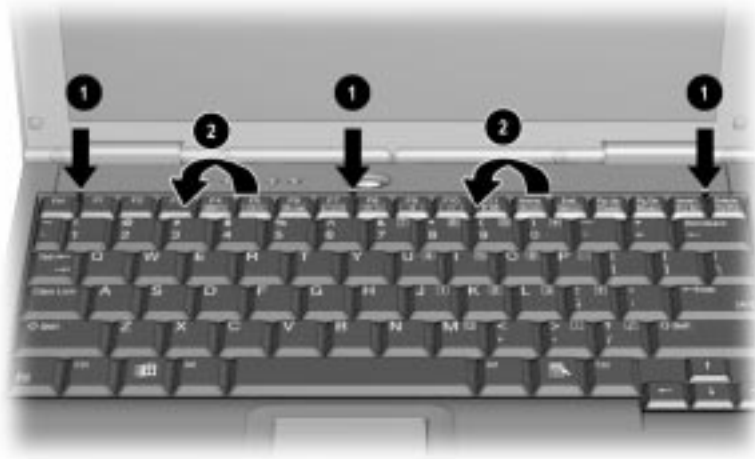


5. If applicable, turn back the memory insulator.

6. To remove the memory board, pull away the plastic retention clips on each side of the memory expansion board ❶. The memory expansion board tilts upward.

7. Lift the edge of the memory expansion board and slide it gently out of the memory expansion slot at a 45-degree angle ❷.
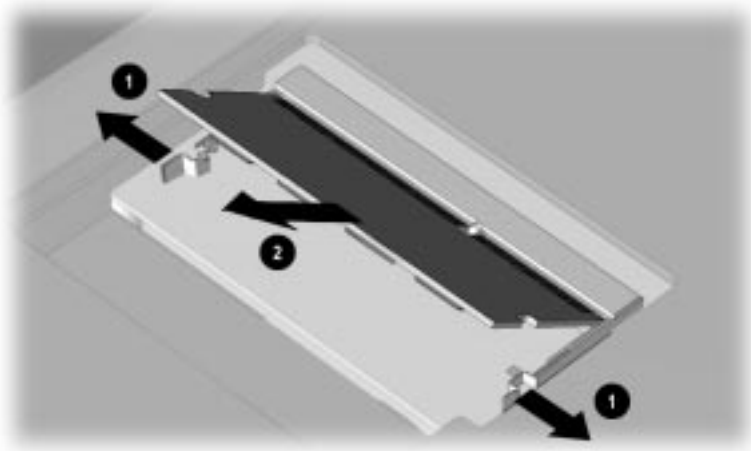


8. Place the removed memory expansion board in an electrostatic-safe container.

9. To add a memory board, insert the memory expansion board into the empty memory expansion slot at a 45-degree angle ❶. Then slide it gently into place until it is seated while tilted.

   **NOTE:** All memory expansion boards supported by the computer are keyed (notched) to ensure correct positioning.

10. Push the memory expansion board down until the plastic retention clips ❷ snap into place.
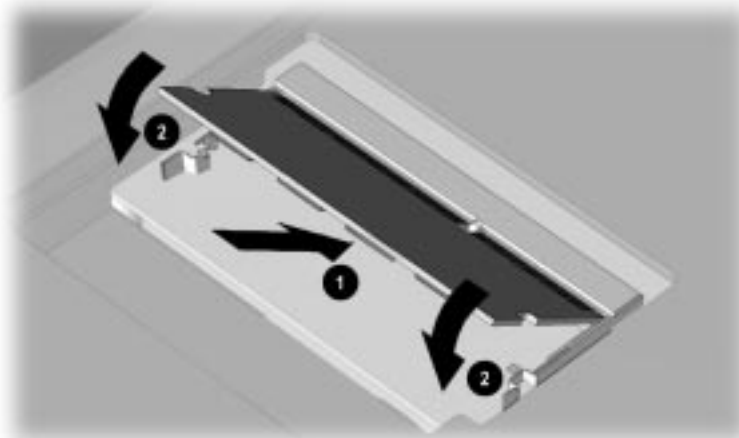


11. Replace the memory insulator, if applicable.

12. Replace the keyboard by gently pressing down on the top of the keyboard until it clicks into place.

# Hard Drives

△ **CAUTION:** To prevent damage to the computer and drive and loss of information, turn off the computer before removing or inserting the hard drive. Do not remove or insert the drive while the computer is turned on, in Suspend (Standby), or in Hibernation.

Electrostatic discharge can damage electronic components. Before touching the hard drive, ensure that you are discharged of static electricity by touching a grounded metal object.

**NOTE:** The primary hard drive cannot be used in the mobile expansion unit MultiBay. For information on using hard drives in the mobile expansion unit MultiBay, refer to Chapter 6.

## Removing the Primary Hard Drive

1. If the computer is on, save your work and shut down the computer.

   **NOTE:** To ensure that the computer is not in hibernation, turn the computer on, then shut it down.

2. Turn the computer bottom side up, and remove the hard drive screw❶.

3. Pull up on the drive's front bezel❷, and slide the hard drive from the bay ❸.



## Inserting the Primary Hard Drive

1. If the computer is on, save your work and shut down the computer.

   **NOTE:** If you are unsure whether the computer is off or in Hibernation, turn the computer on by pressing the power button, then shut it down.

2. Turn the computer bottom side up.

3. Slide the hard drive into the bay until the connector is seated ❶, then push the drive's front bezel down to secure the drive❷.

4. Insert the hard drive screw into the computer ❸.

# Caring for Drives

<div>

⚠ **CAUTION:**   To prevent loss of work and/or damage to the computer or a drive:

- Shut down the computer before removing or inserting a hard drive. Do not remove or insert a hard drive while the computer is on, in Suspend (Standby), or in Hibernation. If you are not certain whether the computer is off or in Hibernation, turn the computer on, then shut it down.
- Before handling a drive, ensure that you are discharged of static electricity. While handling a drive, avoid touching the connector. For more information about preventing electrostatic damage, refer to Appendix C.
- Before traveling with, shipping, storing, or removing a drive other than a hard drive, make sure that no media, such as a diskette or CD-ROM, is in the drive and that the media tray is closed.
- Handle a drive carefully; do not drop it.
- Do not use excessive force when inserting a drive.
- Avoid exposing a hard drive to liquids, temperature extremes, or products that have magnetic fields such as monitors or speakers.
- If a drive must be mailed, place the drive in a bubble-pack mailer or other suitable protective packaging and label the package "Fragile: Handle With Care."

</div>

## Changing the Startup Sequence with MultiBoot

When the computer is attached to the mobile expansion unit and more than one drive is in the system, the computer selects the drive to start from by searching for, first, a bootable CD-ROM or DVD-ROM; second, a bootable diskette; and third, a bootable hard drive.

**NOTE:**   A bootable device contains files needed by the computer to start up and operate properly.

The computer can start from

■ Any bootable hard drive in the computer or diskette in the external diskette drive.

■ Any bootable diskette (but not a SuperDisk LS-120 drive diskette) or hard drive in a docking base.

■ Any bootable CD-ROM or DVD-ROM in a docking base.

By default, Phoenix MultiBoot is disabled and the computer selects the startup drive by searching these locations in this sequence:

| | | | |
|---|---|---|---|
| 1. | External diskette drive | 3. | Mobile expansion unit diskette drive bay |
| 2. | Computer hard drive bay | 4. | Mobile expansion unit MultiBay |

To enable MultiBoot and change the sequence of the computer drive bay locations that the computer searches during startup:

1. Restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

   ■ To change the language, press **F2**.

   ■ For navigation instructions, press **F1**.

2. Select Advanced→Boot Options, then press **Enter**.

3. Toggle the MultiBoot field to Enable.

4. Toggle the Boot Order fields to the boot sequence you prefer.

5. To save your preferences and exit Boot Options, press **F10**.

6. To confirm saving your changes close Computer Setup, and restart the computer, select File→Save Changes and Exit, then press **F10**.

When the computer restarts and searches for a startup drive, it considers only the first drive of each type. For example, in the default boot order, the computer will not start from a bootable diskette in the diskette drive bay of the mobile expansion unit if a non-bootable diskette is in the external diskette drive connected to the computer.

> **IMPORTANT:**    Changing the boot order also changes the logical drive
> designations. For example, if you start up from a hard drive in the mobile
> expnasion base MultiBay, it becomes drive C and a hard drive in the primary
> hard drive bay becomes drive D. Starting up from a network card does not
> affect logical drive designations.

# Docking Devices

The mobile expansion unit is available on select models and can be purchased
as an upgrade for other models.

In addition to the mobile expansion unit, the computer can also be used with
other compatible Compaq docking devices. The computer must be docked in the
mobile expansion unit before docking the entire system to a docking device. For
more information on the individual docking solutions, contact your local
authorized Compaq reseller or provider.

*Chapter 6*
# Mobile Expansion Unit
# (available on select models)

## Connecting the Computer

To connect the computer to the mobile expansion unit:

1.  Close computer display

2.  Align the tabs in front of the computer with the computer tabs on the mobile expansion unit ❶. Lower the computer onto the expansion connector ❷ and snap into place.

   **NOTE:** Firmly press down on the rear of the computer to ensure the computer and the mobile expansion unit are connected.

3. Slide the display latch ❶ to open the computer ❷.
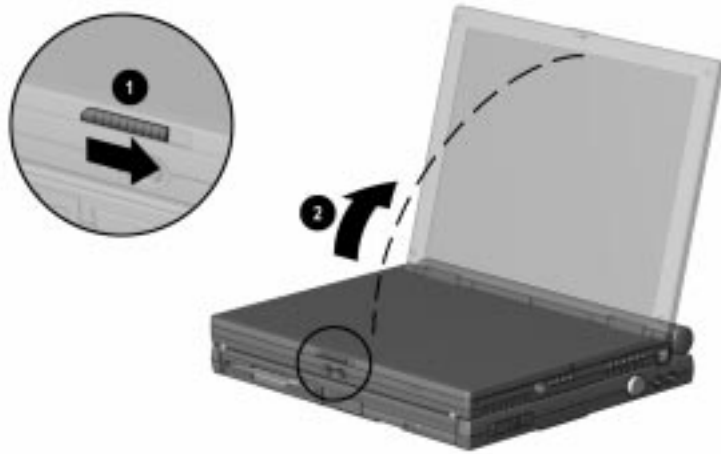


## Disconnecting the Computer

To disconnect the computer from the mobile expansion unit, follow these steps:

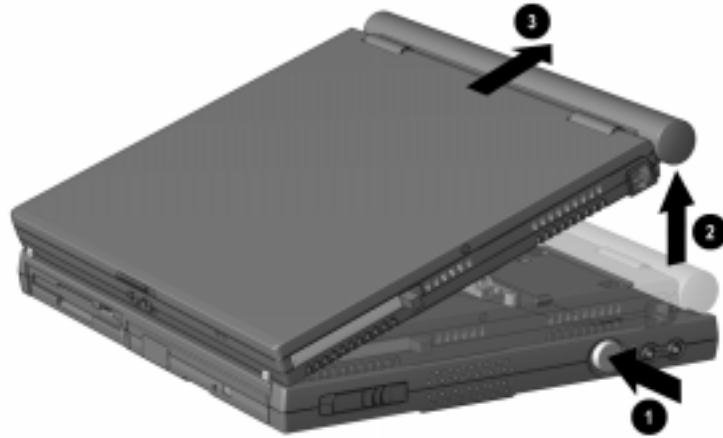1. Close the computer display.

2. On the mobile expansion unit, press the docking release button ❶ to release the expansion unit from the computer ❷.

3. Lift the rear end of the computer to disconnect it from the computer expansion connector ❷.

4. Pull the computer away from the mobile expansion unit tabs ❸.

## Docking and Undocking to a Compatible Docking Device

Your computer must be attached to the mobile expansion unit before the system can be docked to another docking device. Docking the system to the docking device provides a permanent desktop workstation. Consult the docking device installation and operations guide or your Compaq authorized dealer for more information about docking and undocking.

# Turning Equipment On and Off

When the computer and mobile expansion unit are connected, turn the equipment on and off using the power button on the computer.

If the computer and the mobile expansion unit are docked to a docking device, follow the instructions in the docking device guide for turning equipment on and off.

# Connecting the AC Adapter

⚠ **WARNING:**   To reduce the risk of personal injury, electric shock, fire, or damage to your equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the equipment into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Disconnect power from the equipment by unplugging the power cord from the electrical outlet.
- Do not place anything on power cords or cables. Arrange them so that no one can accidentally step on or trip over them. Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.

⚠ **WARNING:**   To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

To connect the AC Adapter, do the following:

1.  Connect the AC adapter to the power connector on the left side of the mobile expansion unit ❶.

2.  Connect the AC power cord to the adapter ❷.

3.  Plug the power cord into an electrical outlet ❸.

# Connecting External Devices

To connect devices to the mobile expansion unit:

1.  Turn off power to the computer, expansion unit, and all devices.

2.  Connect external devices to the rear connectors on the expansion unit and turn on power to all devices.

    **NOTE:** To complete the device connections, some manufacturers require you to install a software driver. Refer to the documentation included with the device for details.

# Operating External Devices

To ensure that devices connected to the expansion base are activated, follow the guidelines below.

■　When adding a device to or removing a device from the expansion unit, turn off power to the computer, expansion unit, and applicable devices before connecting or disconnecting the computer.

■　When the computer is connected to the mobile expansion unit, be sure all attached devices are turned on, then turn on power to the computer.

# Drive Devices

The mobile expansion unit supports a second hard drive, CD-ROM drive, DVD-ROM drive, LS-120 drive, or extra battery pack in the MultiBay on the front right side of the unit. In addition, it supports a diskette drive in the Diskette Drive Bay on the front left side of the unit.

> **CAUTION:**　Electrostatic discharge can damage electronic components. Before touching a MultiBay device or diskette drive, ensure that you are discharged of static electricity by touching a grounded metal object.

**IMPORTANT:**　If you are using Windows 95, Windows 98, or Windows NT 4.0 preinstalled by Compaq, you do not need to turn off the computer before removing a diskette drive, CD-ROM drive, DVD-ROM drive, LS-120 drive, hard drive, or battery pack from the mobile expansion unit. If you installed Windows 95, Windows 98, or Windows NT 4.0 that you purchased separately, you must obtain additional software from Compaq to support removing these drives while the computer is on or in Suspend (Standby). For more information about the software, refer to the Compaq Internet site at http://www.compaq.com.

## Drives Support

|  | Drives Support | |
| --- | --- | --- |
| **Bay Device** | **Bay Location** | **Insert/Remove Drive While Computer Is** |
| Hard Drive | Computer hard drive bay or Mobile expansion unit MultiBay | Off<br><br>On, Suspend, or Off |
| Diskette Drive | External diskette drive or Mobile expansion unit diskette drive bay | On, Suspend, or Off |
| CD-ROM Drive | Mobile expansion unit MultiBay | On, Suspend, or Off |
| DVD-ROM Drive | Mobile expansion unit MultiBay | On, Suspend, or Off |
| SuperDisk LS-120 Drive | Mobile expansion unit MultiBay | On, Suspend, or Off |
| Extra Battery Pack | Mobile expansion unit MultiBay | On, Suspend, or Off |

## Removing a MultiBay Device

To remove a device from the MultiBay in the mobile expansion unit:

1. If the MultiBay device is a drive, remove any DVD, CD, or diskette disc from it.

2. Slide forward the MultiBay release latch ❶ on the right side of the mobile expansion unit.

3. Pull the MultiBay device from the MultiBay ❷.



## Inserting a MultiBay Device

To insert a device into the MultiBay in the mobile expansion unit, be sure the drive connector is facing in, then slide the MultiBay device into the MultiBay until the connector is seated.

## Removing the Diskette Drive from the Diskette Drive Bay

To remove the diskette drive from the Diskette Drive Bay in the mobile expansion unit:

1. Remove the diskette from the diskette drive.

2. Slide forward the diskette drive release latch ❶.

3. Slide the diskette drive from the bay ❷.

## Inserting the Diskette Drive into the Diskette Drive Bay

To insert the diskette drive into the Diskette Drive Bay in the mobile expansion unit:

1.  Remove the drive connector cord from the external diskette drive that came with the computer.

2.  With the drive connector facing in, slide the diskette drive into the Diskette Drive Bay until the connector is seated.

*Chapter 7*
# Using an Internal Modem
# (available on select models)

## Connecting the Modem Cable

The Compaq internal modem must be connected to a standard (analog) telephone line.

> **IMPORTANT:** Immediately disconnect an accidental connection to a digital line, such as an office PBX line.

1. Plug either end of the modem cable included with the computer into the RJ-11 jack on the computer ❶.

2. If you are connecting the cable to a telephone jack that is not an RJ-11 jack, plug the country-specific modem adapter, included with the computer, into the telephone jack.

3. Plug the other end of the modem cable into the country-specific modem adapter or into the RJ-11 telephone jack ❷.

# Selecting Communications Software

You can operate the modem with preinstalled or optional software. To use preinstalled modem software, select Start→Programs. Then,

■ **In Windows 95** select Accessories→Fax→Compose New Fax.

■ **In Windows 98 or Windows NT 4.0** select RingCentral Fax.

# Configuring the Modem

The settings you may be required to enter vary among communications software applications. As you enter these settings, the following information may be helpful.

## Recommended Settings

■ Model—

❏ Select Start→Settings→Control Panel→Modem

or

❏ Enter the initialization string AT&F1&D2&C1E0V1S0=0.

**NOTE:** Newer initialization strings may be available from the Compaq Internet site at http://www.compaq.com.

■ **COM port settings**—Refer to Appendix D.

■ **Fax class**—Select 1.

■ **Parity**—Select NONE.

■ **Word length**—Select 8.

■ **Stop bits**—Select 1.

■ **Hardware flow control**—Select RTS/CTS.

■ **Speed**—Select the highest transmission speed or baud rate.

❏ The maximum connection speed is determined by the speed of the slowest modem on the connection. The internal modem negotiates the fastest speed possible with the remote modem.

❑   The internal modem supports

— Standard analog modem communication protocols (for speeds up to 33.6 Kbps).

— ITU-compatible V.90 and 56K protocols (for higher speeds).

❑   The V.90 protocols allow faster downloads only from V.90 K56flex–compliant digital sources. Maximum achievable download transmission rates are currently unknown, may not reach 56Kbps, and will vary with line conditions.

## Using Modem Commands and Dial Modifiers

You can configure most communications software without the use of AT commands or dial modifiers.

■   If you prefer to configure the modem using AT commands, select Start➔Programs➔Accessories➔HyperTerminal.

■   To access an AT command set including dial modifiers and instructions, go to the Compaq Internet site at http://www.compaq.com/support/portables.

## Setting Modem Preferences

The following preference is in addition to those described in your modem communication software documentation.

**In Windows 95 only**—To set the computer to turn on when the modem receives a telephone call, select Start➔Settings➔Control Panel➔Power➔Power tab➔Advanced button, then select the Wake Up the Computer When the Phone Rings check box.

# Using the Modem

The internal modem supports all operations described in most communications software documentation.

If you are using a fax application, the following supplementary information may be helpful.

- **Fax speed**—Fax communication software enables the modem to send and receive faxes at 14,400 bps.

- **Installing and loading fax communication software**—

  - ❑ Install no more than one fax application. If more than one fax application is installed, conflicts may occur because all fax applications use similar files.

  - ❑ When some fax applications are loaded, their fax drivers may disrupt other modem functions. If you experience problems with the modem after installing your fax application, the drive may need to be unloaded from memory. Refer to the fax application documentation for information about unloading the driver.

- **Sending a Fax—**

  - ❑ Opening the fax application loads the application fax driver and prepares the modem to send the fax.

  - ❑ If you prepare the fax in another application, you may need to select your fax driver from within the Print Setup menu of that application.

- **Receiving a Fax**—For the modem to receive a fax, a fax driver must be loaded and the fax application must be open.

  - ❑ If you have enabled auto receive within your fax application, opening the application loads the fax driver and prepares the modem to receive a fax.

  - ❑ If you are using a Windows fax application, you can receive a fax while using another application by opening, then minimizing, the Windows fax application.

# Using the Modem
# While Traveling Internationally

## Using a Country-Specific Modem Adapter

Telephone jacks vary by country. The modem cable included with the computer plugs directly into an RJ-11 telephone jack. To plug the modem cable into a different type of telephone jack, you must use a country-specific modem cable adapter. A cable adapter is provided with the computer. To obtain a different country-specific adapter(s) required for your itinerary, refer to Appendix A to contact a Compaq-authorized dealer, reseller or service provider.

To connect the modem using a country-specific modem adapter:

1. Plug either end of the modem cable included with the computer into the RJ-11 jack on the computer ❶.

2. Plug the country-specific modem adapter into the telephone jack ❷.

3. Plug the modem cable into the country-specific modem adapter ❸.
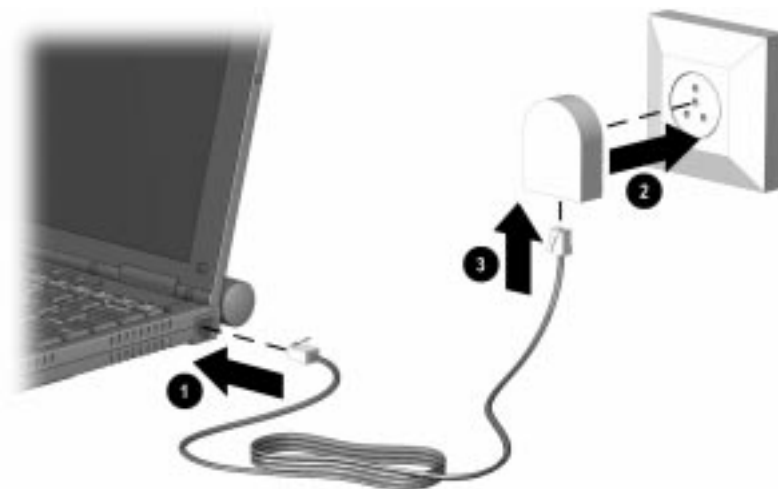
## Selecting a Country-Specific Modem Configuration

First, determine which type of modem is installed in your computer. To do so, select Start→Settings→Control Panel→Modem. If the label "3Com" is at the end of the modem name, use the instructions for internal modems by 3Com below. If that label is not there, use the instructions for all other internal modems below.

■   **3Com internal modems**—select Start→Programs→Compaq internal modem→WorldPort→General tab, then select the country in which you will be using the modem.

■   **All other internal modems**—select Start→Settings→Control Panel→Modem→Dialing Properties, then select the country where you will be using the modem.

## Travel Connection Checklist

If you experience connection problems while using the modem outside your home country, the following suggestions may help.

■   **Check the telephone line type**—The modem requires an analog, not a digital, telephone line. A telephone line described as a data line, fax machine line, modem line, or standard telephone line is probably an analog line.

■   **Check for pulse or tone dialing**—Dial a few digits on the telephone and listen for clicks (pulses) or tones. Then make sure your communication software is set to the corresponding dialing mode (pulse or tone).

■   **Check the telephone number you are dialing and the response of the remote modem**—Dial the telephone number on the telephone, wait for the remote modem to answer, then hang up.

■ **Set the modem to ignore dial tones**—If the modem receives a dial tone it does not recognize, it will not dial and will display a No Dial Tone error message. To set the modem to ignore all dial tones before dialing:

1. Select Start→Settings→Control Panel→Modems.

2. Select your modem, then select Properties→Connections tab, then clear the Wait for Dial Tone Before Dialing check box.

NOTE: If you have a 3Com modem (see "Selecting a Country-Specific Modem Configuration," above) and continue to receive the No Dial Tone error message after clearing the checkbox, select Start→ Programs→Compaq Modem→WorldPort. Select USA, then again clear the Wait for Dial Tone Before Dialing check box.

*Chapter 8*
# Using PC Cards

A PC Card is a credit card–sized accessory designed to conform to the standard specifications of the Personal Computer Memory Card International Association (PCMCIA). The computer supports both 32-bit CardBus cards and 16-bit PC Cards.

## Configuring a PC Card

> △ **CAUTION:** If you install card and socket services or enablers provided by a PC Card manufacturer, you may not be able to use other PC Cards. If you are instructed by PC Card documentation to install device drivers
>
> ■ Install only the device drivers for your operating system.
> ■ Do not install card services, socket services, or enablers.

■ **In Windows 95 or Windows 98** the operating system configures plug and play PC Cards.

■ **In Windows NT 4.0 with CardWare provided by Compaq** you can configure a PC Card in the CardWare window:

❏ First, insert the PC Card as instructed later in this chapter.

❏ Then, open the CardWare window by selecting Start→Programs→CardWare.

❏ For additional instructions, refer to the Help program within CardWare.

## Inserting or Removing a PC Card

■ **In Windows 95 or Windows 98—**

❏ If you insert a PC Card while the computer is on, the computer beeps twice when the card is ready for use.

❏ If you remove a PC Card while the computer is on, the computer beeps twice when the card is removed.

❑ When a PC Card is in the system, the PC Card icon displays on the taskbar.

■ **In Windows NT 4.0 with CardWare provided by Compaq—**

❑ If you insert a PC Card while the computer is on, the computer beeps three times when the card is recognized.

❑ If you remove a PC Card while the computer is on, the computer beeps three times when the card is removed.

❑ The PC Card icon displays in the taskbar whether or not a PC Card is in the system.

## Inserting a PC Card

> ⚠ **CAUTION:** To prevent damage to the connectors, use minimal pressure as you insert a PC Card into the PC Card slot.

1. With the connector facing the computer and the label facing up, push the PC Card through the PC Card doors, aligning the card on the two guide rails within the PC Card slot.

2. Gently push the card into the slot until the card is seated.
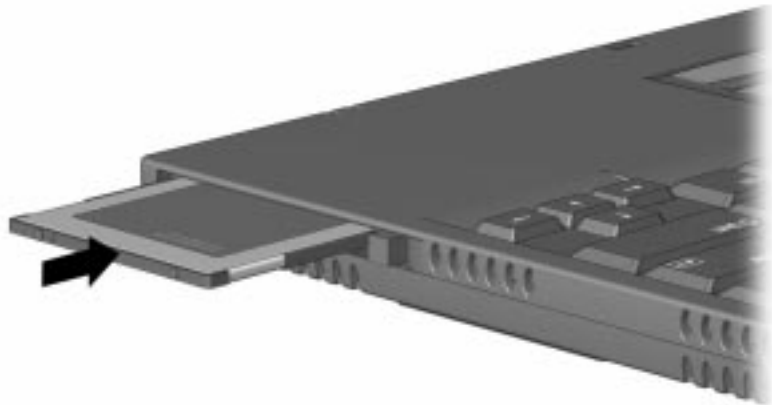
3. **In Windows NT 4.0 with CardWare provided by Compaq only**—
   Restart the computer if you are instructed to do so by the PC Card
   documentation or an on-screen prompt.

■ If you are inserting a LAN, SCSI, or multifunction PC Card, you must
   restart the computer.

■ If you are inserting a modem, ATA, flash, or SRAM PC Card, it is
   usually not necessary to restart the computer.

## Removing a PC Card

■ First, prepare the system for the removal:

> △ **CAUTION:** If the computer is on and running Windows 95,
> failure to stop a PC Card before removing it may cause loss of
> data.

❏ **In Windows 95 or Windows 98**—If the computer is on, stop the
   PC Card before you remove it. To stop a PC Card, select the PC
   Card icon in the taskbar, then select the PC Card you want to stop.
   A message displays when the PC Card can be safely removed.

❏ **In Windows NT 4.0 with CardWare provided by Compaq
   only**—If the computer is on, you must shut it down before removing
   some PC Cards. Refer to the PC Card documentation for removal
   requirements.

   **Note:** You must shut down the computer before removing a LAN, SCSI, or
   multifunction PC Card. It is usually not necessary to shut down the
   computer before removing a modem, ATA, flash, or SRAM card.

■ Second, remove the PC Card:

1. Push the PC Card eject button ❶.

2. Gently grasp the card and pull it out ❷.
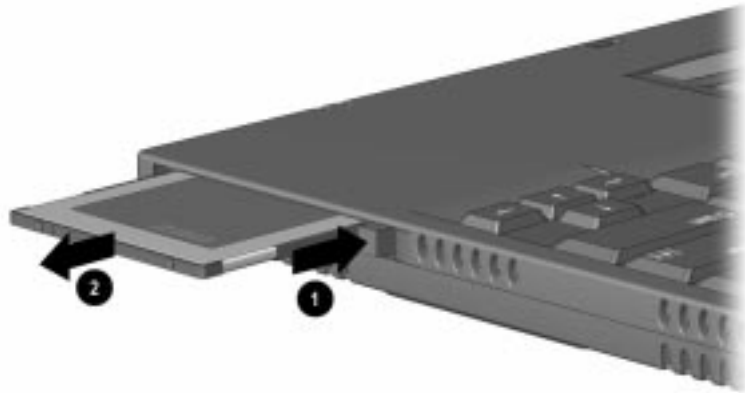
*Chapter 9*
## Using Audio Features

## Using the Internal Microphone
## and Stereo Speakers

■ The microphone ❶ has a standard sensitivity of -50 dB and supports audio input when the display is open or closed.

■  The speaker ❷ provides audio playback for multimedia applications.
    When the computer is docked in the mobile expansion unit,
    these speakers are disabled and system sound plays through the mobile
    expansion unit's bassspeakers.
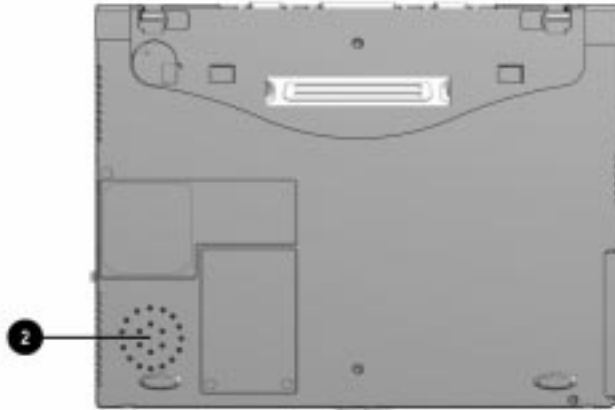
# Connecting an External Audio Device

⚠ **CAUTION:** To prevent possible damage to an external device, do not plug a single-sound channel (monaural) connector into the stereo speaker/headphone jack.

## Selecting an Audio Connector

| To Connect This Device | | Use This Jack |
|---|---|---|
| Stereo speakers, headphones, or headset | ❶ | Stereo speaker/headphone jack |
| Single sound channel microphone | ❷ | Microphone jack |
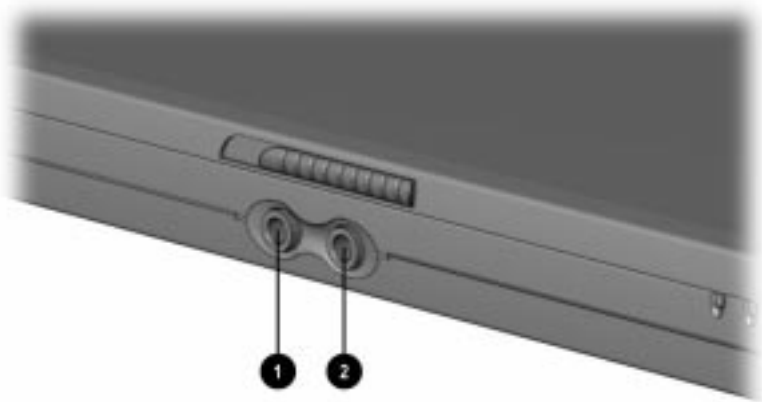
## Connecting a Device to the Microphone Jack

The microphone jack supports a single sound channel (monaural) microphone with a 3.5-mm plug. A powered, single sound channel, electret condenser microphone is recommended.

■ If you use a stereo microphone, only the left channel will be recorded.

■ If you use a dynamic microphone, the recommended sensitivity will not be achieved.

When an external microphone is connected to the computer, the computer microphone is disabled.

## Connecting a Device to the Stereo Speaker/Headphone Jack

⚠ **WARNING:** To reduce the risk of personal injury, turn down the volume control before putting on headphones.

■ Use only a 3.5-mm stereo plug. For best sound quality,

❑ Headphones should be 32 ohms.

❑ External speakers should be at least 8 ohms.

■ Connecting an external audio device to the stereo speaker/ headphone jack disables the computer speaker.

# Adjusting Volume

## Adjusting System Volume

■ **Using the Fn+F5 hotkeys**—

❏ To raise or lower volume, press **Fn+F5**, then move the onscreen slide button or press a keyboard arrow key.

❏ To mute or restore volume, press **Fn+F5+M** or press **Fn+F5**, then select or clear the Mute check box.



■ **Using the Windows Volume Control window—**

❏ Double-click the volume icon in the taskbar, then enter your preferences.

❏ To activate the Windows Volume Control window while it is open but inactive, press the **Fn+F5** hotkeys.

**NOTE:** Volume can also be adjusted within some applications.

## *Chapter 10*
# Using the Infrared Port

## Communicating with Infrared

■   If the computer is running Windows 98 or a preinstalled Windows 95
    operating system, the computer is IrDA-compliant (4Mbps standard) and
    can communicate with any another infrared-equipped device that is also
    IrDA-compliant.

■   Infrared communication is supported by Windows 95 and Windows 98.
    To operate infrared on computers running Windows NT 4.0, you will
    need to purchase optional third-party software.
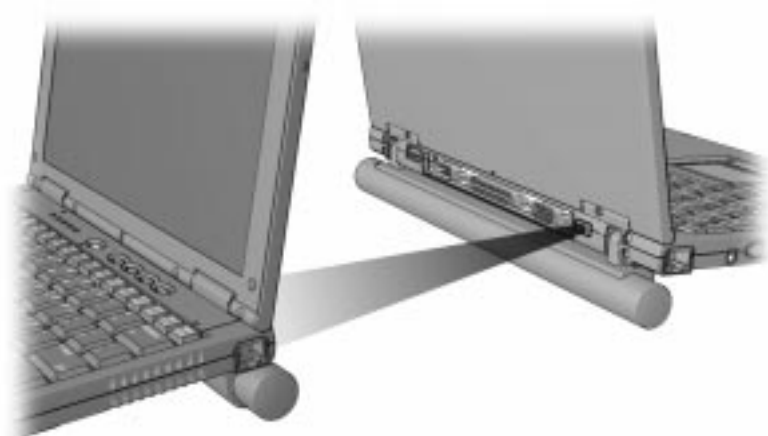


**NOTE:**   The infrared port supports both low speed connections up to
115 kilobits per second (Kbps) and high speed connections up to 4 megabits
per second (Mbps). Infrared performance may vary depending on performance
of infrared peripherals, distance between infrared devices, and applications
used.

# Configuring the Infrared Port

As you set up your infrared software, the following information may be helpful.

■ The infrared port default settings are: Port, COM3; address, 3; Interrupt Request (IRQ), 3.

■ If you use Direct Cable Connection and the utility asks you to choose a port for the infrared connection, you can select Serial Cable on COM5 or, if the computer is running a preinstalled Windows 95 or Windows 98 operating system, Parallel Cable on LPT3.

# Enabling the Infrared Port

**In Windows 95** the infrared port must be enabled each time the computer is turned on or restarted. To enable the infrared port, select Start→Settings→Control Panel→Infrared.

**In Windows 98** the infrared port is enabled by default each time the computer starts up.

■ When the infrared port is enabled, the infrared icon appears on the taskbar and Infrared Monitor search is enabled by default.

■ While the Infrared Monitor search is enabled

   ❏ You can establish an infrared link.

   ❏ The system cannot initiate Suspend (Standby). User-initiated Suspend (Standby) is not affected.

■ When the Infrared Monitor search is disabled

   ❏ Power is conserved.

   ❏ You cannot establish an infrared link.

   ❏ The system can initiate Suspend (Standby).

■ To enable or disable Infrared Monitor search

1. Open the Infrared Monitor dialog box by selecting the Infrared icon in the taskbar➔Options tab.

❑ To enable Infrared Monitor search, select the Search For and Provide Status for Devices in Range check box.

❑ To disable Infrared Monitor search, clear the check box.

2. Select OK to save your preference and close the Options dialog box.

## *Chapter 11*
# Securing the Computer

## Security Features Quick Reference

| Security Features Quick Reference | |
|---|---|
| **To Protect Against This Risk** | **Use This Security Feature** |
| Unauthorized use of the computer | Power-on password, with or without Quick Controls |
| Unauthorized access to the Computer Setup utility | Setup password |
| Unauthorized access to the contents of a hard drive | DriveLock |
| Unauthorized use of a drive or port | Device disabling |
| Unauthorized access to the computer hard drive bay compartment | Hard drive security screw |
| Unauthorized removal of the computer | Security cable slot |

## If You Forget a Password

■ If you forget a power-on or setup password, refer to "Worldwide Telephone Numbers" in Appendix A to contact a Compaq authorized service provider.

■ If you forget both the user and master DriveLock passwords, the hard drive is permanently unusable.

■ If you forget a DriveLock user password but know the DriveLock master password, you can remove DriveLock protection from the drive. For instructions, refer to "Using DriveLock" in this chapter.

# Using a Power-On Password

A power-on password

- Prevents unauthorized use of the computer. Once set, it must be entered each time the computer is turned on or restored from Hibernation.

- Enables you to use Quick Controls.

- Can be up to seven alphanumeric characters, is not case sensitive, and can be the same as any other seven-character password.

- Must be set and entered with the same keys. For example, a password set with keyboard number keys will not be recognized if you enter it with embedded keypad number keys.

## Setting, Changing, or Deleting a Power-On Password

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

    - To change the language, press **F2**.

    - For navigation instructions, press **F1**.

2. Select Security→Power-on Password, then press **Enter**. Then,

    - **To set a power-on password**—Type the password in the New Password field, then in the Verify New Password field, press **F10**.

    - **To change a power-on password**—Type the current password in the Old Password field, then type the new password in the New Password and Verify New Password fields, then press **F10**.

    - **To delete a power-on password**—Type the current password in the old Password field, then press **F10**.

3. To save your preferences, close Computer Setup, and restart the computer, select File→Save Changes and Exit, then press **Enter**.

4. When you are prompted to confirm your action, press **F10**.

NOTE: You can also set, change, or delete the Power-On Password from the Windows Control Panel. Refer to the online *Armada Quick Reference* for procedures.

### Entering a Power-On Password

At the power-on password prompt, type the password using the same keys you used to set the password, then press **Enter**. After three unsuccessful attempts to enter the password correctly, you must restart the computer to try again.

## Using Quick Controls

When a power-on password is set, the following Quick Control preferences are available:

■ **QuickLock** disables your keyboard and pointing device.

■ **QuickLock on Suspend** sets the computer to initiate QuickLock whenever the computer enters Suspend (Standby).

■ **Lock keyboard and mouse at power-on** sets the computer to initiate QuickLock each time the computer is turned on or restarted.

■ **QuickBlank** clears the screen whenever QuickLock initiates.

NOTE: Quick Controls cannot be used on an external keyboard connected through a USB connector.

### Setting, Changing, or Deleting Quick Control Preferences

NOTE: Disabling QuickLock does not remove a power-on password.

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

■ To change the language, press **F2**.

■ For navigation instructions, press **F1**.

2.   Select Security→Password Options. Enter your preferences, then press **F10**.

   **NOTE:**   Password Options is not selectable unless a power-on password is set.

3.   To save your preferences, close Computer Setup, and restart the computer, select File→Save Changes and Exit, then press **Enter**.

4.   When you are prompted to confirm your action, press **F10**.

   **NOTE:**   You can also set, change, or delete Quick Controls from the Windows Control Panel. Refer to the online *Armada Quick Reference* for procedures.

## Initiating QuickLock Manually

Press the **Fn+F6** hotkeys or press **Ctrl+Alt+L**.

## Exiting QuickLock

Type the power-on password using the same keys you used to set the password, then press **Enter**.

# Using a Setup Password

A setup password

■   Protects the configuration settings and the system identification information in Computer Setup by preventing unauthorized access to the utility. Once set, it must be entered each time you access Computer Setup.

■   Can be up to seven (7) alphanumeric characters, is not case sensitive, and can be the same as any other seven-character password.

■   Must be set and entered with the same keys. For example, a password set with keyboard number keys will not be recognized if you enter it with embedded keypad number keys.

## Setting, Changing, or Deleting
## a Setup Password

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

   ■ To change the language, press **F2**.

   ■ For navigation instructions, press **F1**.

2. Select Security→Setup password, then press **Enter**. Then,

   ■ **To set a setup password**—Type the password in the New Password field, then in the Verify New Password field, then press **F10**.

   ■ **To change a setup password**—Type the current password in the Old Password field, then type the new password in the New Password and Verify New Password fields, then press **F10**.

   ■ **To delete a setup password**—Type the current password in the old Password field, then press **F10**.

3. To save your preferences, close Computer Setup, and restart the computer, select File→Save Changes and Exit, then press **Enter**.

4. When you are prompted to confirm your action, press **F10**.

## Entering a Setup Password

When prompted for the setup password, type the password using the same keys you used to set the password, then press **Enter**.

After three unsuccessful attempts to enter the setup password correctly, you must restart the computer and press **F10** at the blinking cursor to try again.

# Using DriveLock

> △ **CAUTION:** If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

■ DriveLock prevents unauthorized access to the contents of a hard drive. Once DriveLock protection is applied to a drive

❑ A password must be entered to access the drive.

❑ The drive can be accessed only when it is inserted in the computer hard drive bay.

■ DriveLock involves two passwords, a user password and a master password.

❑ A hard drive protected by DriveLock can be accessed with either the user or the master password.

❑ DriveLock protection can be removed from a hard drive only with the master password.

❑ The owner of the user password should be the day-to-day user of the protected hard drive.

❑ The owner of the master password may be a system administrator or the day-to-day user.

■ The user and master password can be the same. A user or master password that is seven characters or less can be the same as any other password.

**NOTE:** When the computer is starting up from a hard drive protected with DriveLock, you will not be prompted for a power-on password if you enter a user or master password that is the same as the power-on password.

■ A user or master password

❑ Can be up to 32 alphanumeric characters and is not case sensitive.

❑ Must be set and entered with the same keys. For example, a password set with keyboard number keys will not be recognized if entered with embedded keypad number keys.

■ You can delete a user or master password only by removing DriveLock protection from the drive.

## Protecting a Hard Drive with DriveLock

> **CAUTION:** If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

1. Ensure that the hard drive is inserted into the computer hard drive bay.

2. Turn on the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

   ■ To change the language, press **F2**.

   ■ For navigation instructions, press **F1**.

   **NOTE:** If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.

3. Select Security→DriveLock passwords, then press **Enter**.

4. Select the location of the hard drive, then press **F10**.

5. Toggle the Protection field to Enable.

6. Read the Warning. To continue, press **F10**.

7. Type a user password in the New Password field and in the Verify New Password field, then press **F10**.

8. Type a master password in the New password field and in the Verify New Password field, then press **F10**.

9. To confirm DriveLock protection on the drive you have selected, type DriveLock in the confirmation field, then press **F10**.

10. To save your DriveLock settings, then close Computer Setup and restart the computer, select File→Save Changes and Exit, then press **Enter**.

11. When you are prompted to confirm your action, press **F10**.

## Accessing a Protected Hard Drive

1.  Ensure that the drive is inserted into the computer hard drive bay.

2.  When prompted for a DriveLock password, type either the user or the master password, using the same keys you used to set the password, then press **Enter**. After two attempts to enter the password correctly, you must restart the computer to try again.

## Changing a DriveLock Password or Removing DriveLock Protection from a Drive

> $\triangle$ **CAUTION:** If you forget both the DriveLock user password and the DriveLock master password, the protected hard drive is permanently unusable.

1.  Ensure that the protected hard drive is inserted into the computer.

2.  Turn on the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

    ■ To change the language, press **F2**.

    ■ For navigation instructions, press **F1**.

    **NOTE:** If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.

3.  Select Security→DriveLock passwords, then press **Enter**.

4.  Select the location of the hard drive, then press **F10**.

    ■ **To change a user or master password**—In the field beside the password you want to change, type the current password in the Old Password field, type the new password in the New Password and Verify New Password fields, then press **F10**.

    ■ **To remove DriveLock protection from the drive**—Toggle the protection field to disable and press **F10**. Then type your master password in the Old Password field and press **F10**.

5.  To save your changes, exit Computer Setup, and restart the computer, select File→Save Changes and Exit.

6.  When you are prompted to confirm your action, press **F10**.

# Disabling a Device

To allow limited use of the computer by another user, you can disable most drives and ports.

■ **In Windows 95 or Windows 98—**although devices and functions can be enabled or disabled from either Device Manager or Computer Setup, Compaq recommends that you use Device Manager.

  ❑ To access Device Manager, select Start➔Settings➔Control Panel➔System➔Device Manager.

  ❑ If you cannot access Device Manager because your operating system is not working or will not load, you may be able to use Computer Setup as described below.

■ **In Windows NT 4.0—**as a security measure, a device or function that is disabled in Computer Setup cannot be enabled from within Windows NT 4.0.

  ❑ To enable or disable a device or function in Computer Setup, follow the instructions below.

  ❑ To enable or disable a device or function from within Windows NT 4.0, select Start➔Settings➔Control Panel➔ System➔Devices.

■ **To enable or disable a device in Computer Setup—**

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

  ❑ To change the language, press **F2**.

  ❑ For navigation instructions, press **F1**.

2. Select Security➔Device Security, enter your preferences, then press **F10**.

   **NOTE:** Settings for a DVD-ROM drive can be entered in the CD-ROM field.

3. To save your preferences, close Computer Setup, and restart the computer, select File➔Save Changes and Exit, then press **Enter**.

4. When you are prompted to confirm your action, press **F10**.

## Securing the Computer Hard Drive in the Bay

1.  Turn the computer bottom side up and place the computer on a flat surface.

2.  Insert the hard drive screw, securing the hard drive in the computer hard drive bay.

## Connecting an Optional Cable Lock

Loop the cable around a secure object, then pull the lock through the cable loop and insert the cable lock into the security cable slot. When the cable lock is installed, the primary hard drive cannot be removed from the hard drive bay.
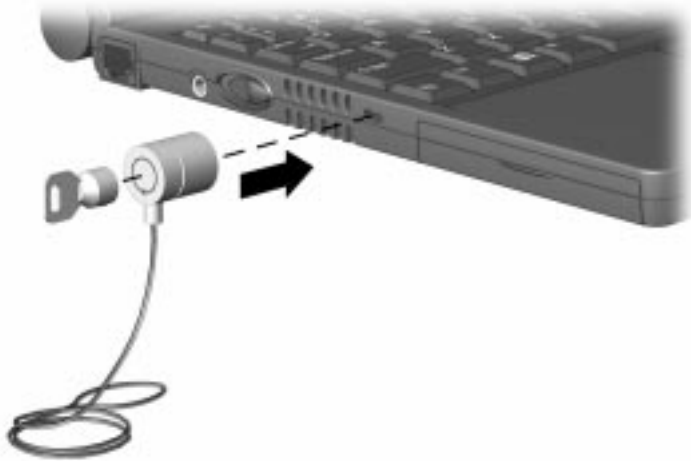
## *Chapter 12*
# Intelligent Manageability

## Finding Intelligent Manageability Help

Intelligent Manageability comprises software tools that can help you and/or your Information Services department track, troubleshoot, protect, and maintain the system.

Intelligent Manageability uses such tools as Insight Management Agents, Compaq Diagnostics for Windows, and Computer Setup to facilitate the following:

■ **Asset Management**—Provides detailed configuration and diagnostic information.

■ **Fault Management**—Prevents, predicts, and alerts to impending hardware problems.

■ **Security Management**—Protects against unauthorized access to your work, system information, and components.

■ **Configuration Management**—Provides the latest drivers, utilities, and other software. Web Agent, for example, enables you and your Information Services department to view computer configuration information using Web technology. To access this feature, select Start→Compaq Information Center→Insight Web Management.

To learn more about Insight Management Agents and access instructions for using them, select Start→Compaq Information Center→Intelligent Manageability.

# Using Fault Management Alerts

## Identifying a Fault Management Alert

The computer is preset to monitor certain hardware components. If problems are found, the following alerts may display.

■ **Hard drive alert**—Warns up to 72 hours in advance of impending hard drive problems; can initiate an optional software backup.

■ **System temperature alert**—Prevents critical overheating. As the system temperature rises, this feature first adjusts fan and CPU (central processing unit) speed, then displays an alert, then shuts down the system if necessary.

■ **Battery fault alerts**—Report charging problems and battery pack failure.

■ **Monitor alert**—Diagnoses and displays external monitor operational problems.

■ **Memory alert**—Reports memory expansion board configuration changes when a memory expansion board is removed, added, or reconfigured. The report includes both the previous and current configurations.

## Setting Fault Management Alert Preferences

All alerts can be displayed on-screen whether or not the computer is connected to the network. When the computer is connected to the network, all alerts except a battery charge fault alert are reported to the network console.

Alert preferences are set in the Alert Properties window.

■ To access Alert Properties, select the Intelligent Manageability icon on the taskbar.

■ For Help, select the Help button in Alert Properties.

■ For information about setting alerts in a networked environment, select Start→Compaq Information Center→ Intelligent Manageability, then search for Configuring Compaq Insight Management Agents.

*Chapter 13*
# Maintenance, Shipping, and Travel

## Updating the System

### Obtaining Customized Update Information with Info Messenger

You can set up a customized search of the Compaq Internet site for new information about the software, firmware, and hardware in your system by registering with Compaq Info Messenger.

■ To access Compaq Info Messenger, go to the Compaq Internet site at http://www.compaq.com, then select Info Messenger.

■ To register, follow the instructions on the Info Messenger page. When your registration is complete, you can

❏ Run your customized search whenever you prefer from the Info Messenger page.

❏ Set Info Messenger to send you the information by email as it becomes available.

### Obtaining Software Updates and Enhancements by Subscription

You can subscribe to the *Compaq Support Software CD* that contains the latest available device drivers, system ROMs, and utilities, as well as detailed software support information and instructions. For ordering, cost, and language information, refer to "Worldwide Telephone Numbers" in Appendix A to contact a Compaq authorized dealer, reseller, or service provider. Ordering information is also available at the Compaq Internet site at http://www.compaq.com.

## Obtaining Software Updates from the Compaq Internet Site

You can obtain all Compaq system software and firmware, with download and installation instructions, from the Compaq Internet site at http://www.compaq.com.

**NOTE:** Most software available at the Compaq Internet site is packaged in a compressed file called a *SoftPaq.* A compressed file containing a system read only memory (ROM) is called a *ROMPaq.*

## Updating the System ROM

■ Compaq recommends that you

❏ Install each system read only memory (ROM) update for your computer model as it becomes available.

❏ Confer with your Information Services department before updating your system ROM if your system is connected to a network.

■ Updating your system ROM will not affect your system software settings.

### Displaying the Version of the Installed System ROM

To display the ROM version number in Computer Setup:

1. Turn on or restart the computer, then press **F10** when the blinking cursor appears upper-right on the screen.

2. To change the language, press **F2**.

3. To view the version number of the installed system ROM, select File→System Information.

4. To close Computer Setup and restart the computer, select File→Save Changes and Exit or File→Ignore Changes and Exit.

## Obtaining a System ROM

You can obtain the latest system ROM for the computer at no charge by mail or from the Internet.

■  To order a system ROM, refer to "Worldwide Telephone Numbers" in Appendix A to contact a Compaq authorized dealer, reseller, or service provider.

■  To download a system ROM from the Compaq Internet site:

1.  Obtain a formatted 1.44-megabyte diskette.

2.  Go to the Downloadables area at http://www.compaq.com.

3.  Find the system ROMPaq for your computer model.

4.  Follow the instructions on (or linked to) the ROMPaq download page to download the ROMPaq and copy it onto the diskette.

5.  Remove the diskette from the diskette drive.

## Installing a System ROM from a Diskette

1.  Shut down the computer.

2.  Connect the External Diskette Drive. Refer to Chapter 2 for instructions.

3.  Connect the computer to an electrical outlet with the power cord.

> **CAUTION:**   The system ROM will not install properly if the computer is docked or running on battery power. During the installation, do not shut down or unplug the computer.

4.  Insert the diskette containing the system ROM into the diskette drive.

5.  Turn on the computer, then follow the on-screen instructions.

6.  When the installation is complete, remove the diskette, then shut down the computer.

# Reinstalling Software

The Quick Restore package included with the computer contains the software preinstalled in the computer and instructions for restoring it. To order Quick Restore software on diskettes, contact your local Compaq technical support. Refer to Appendix A for the telephone number of Compaq technical support in your region.

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**CAUTION:** To prevent file corruption and ensure that the correct drivers install:

- Meet these two requirements before you begin to reinstall system software:
    - ❑ The computer must be plugged into an electrical outlet with the power cord.
    - ❑ The computer must not be docked in a docking base.
- During the restoration:
    - ❑ Do not shut down or unplug the computer.
    - ❑ Do not remove or insert a drive.

---

# Replacing the Lithium Real-time Clock Battery

When your computer no longer automatically displays the correct date and time, it may mean the battery providing power to the real-time clock needs to be replaced. Battery life is usually about five to ten years under normal use. Contact your authorized Compaq service provider for a replacement battery.

To replace the real-time clock (RTC) battery:

---

**WARNING:** The real-time clock battery compartment and the memory compartment are the only user-accessible internal compartments on the computer. All other areas that require a tool to access should be opened only by a Compaq authorized service provider.

---

1. Turn off the computer.

2. Unplug the AC Adapter and disconnect any external devices.

3. Turn the computer bottom side up.

4. Remove the RTC battery cover (refer to "Bottom Components" in Chapter 2).

5. Lift the RTC battery from the compartment, and use tweezers to gently disconnect the connector.

6. Insert the new RTC battery plug into the keyed connector.

7. Position the RTC battery inside the compartment so that the wires are underneath the battery disc.

8. Replace the battery cover and turn the computer top side up.

9. Reconnect the AC Adapter and any external devices.

10. Turn on the computer, then run Computer Setup to reconfigure the system (refer to Chapter 14, "Configuration and Diagnostic Utilities").

To dispose of the old RTC battery, consult the Battery Notice in Appendix B.

## Caring for the Computer

**WARNING:** To reduce the risk of electric shock or damage to internal components, do not allow liquids to drip into the computer keyboard.

**CAUTION:** To prevent possible damage to the display, do not place anything on top of the computer when it is closed.

**CAUTION:** Soap or other cleaning products can damage the screen and discolor the plastic.

■ Keep the computer away from excessive moisture and temperature extremes. Do not expose the computer to liquids or precipitation.

■ Avoid exposing the computer to direct sunlight or strong ultraviolet light for extended periods of time.

■ If the computer will not be used for a week or more, shut down the computer.

■ If the computer will be disconnected from an external power source for more than two weeks:

1. Shut down the computer.

2. Remove all battery packs and store them in a cool, dry place.

■ As needed, clean the screen and exposed computer surfaces with a soft cloth moistened only with water. Do not spray liquids directly on the computer.

## Preparing the Computer for Shipping or Travel

1. Back up your information.

2. Remove all CD-ROMs, DVD-ROMs, diskettes, or PC Cards.

3. Shut down the computer.

4. If the computer will be disconnected from external power source for more than two weeks, remove all battery packs and store them in a cool, dry place.

5. Turn off, then disconnect all external devices.

6. If you are shipping the computer, place it in the original packing box or similar protective packaging, then label the package "Fragile: Handle With Care."

## Traveling with the Computer

■ Take along a backup of your information. Do not pack the backup with the computer.

■ Hand carry the computer. Do not check it with your luggage.

■ Do not expose the computer or diskettes to a magnetic security detector.

❏ The security device that examines carry-ons placed on a conveyer belt uses x-rays and is safe for the computer and diskettes.

❑ The walk-through security device and the handheld security wands are magnetic and may damage the computer or diskettes.

■ If you plan to use the computer during a flight, check in advance with the airline: in-flight computer use is at the discretion of the airline.

■ If you expect to encounter climatic extremes, review the "Operating Environment" section in Appendix D.

■ If you are traveling internationally, consult with a Compaq authorized dealer, reseller, or service provider about power cord and adapter requirements for each location in which you plan to use the computer. (Voltage, frequency, and plug configurations vary.) To contact a Compaq authorized dealer, reseller, or service provider near you, refer to "Worldwide Telephone Numbers" in Appendix A.

⚠ **WARNING:** To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

■ If you are traveling internationally, consult with a Compaq authorized dealer, reseller, or service provider about the necessity of a country-specific modem adapter and where you can purchase one.

■ Check the computer-related Customs regulations for each country on your itinerary.

## *Chapter 14*
# Configuration and Diagnostic Utilities

## Selecting Computer Setup or Compaq Diagnostics for Windows

■ The computer features two system management utilities.

❏ **Computer Setup** is a system information and configuration utility that can be used even when your operating system is not working or will not load. It includes custom settings that are not available in Windows.

❏ **Compaq Diagnostics for Windows** is a system information and diagnostic utility that is used within your Windows operating system.

■ **To test system components**—Use Compaq Diagnostics for Windows.

■ **To display system information**—Use Compaq Diagnostics for Windows whenever possible.

■ **To configure a device**—

❏ **In Windows 95 or Windows 98** use Compaq Diagnostics for Windows to configure a device that is not configured by the operating system.

NOTE: It is not necessary to configure a device connected to a USB connector on the computer or an optional docking base.

❏ **In Windows NT 4.0** use Computer Setup.

# Using Computer Setup

All information and settings in Computer Setup are accessed from the File, Security, or Advanced menus. The items on each of these menus are described in this section.

1. Turn on or restart the computer. When the blinking cursor appears upper-right on the screen, press **F10**.

   ■ To change the language, press **F2**.

   ■ To view navigation information, press **F1**.

   ■ To return to the Computer Setup menu from anywhere in Computer Setup, press **Esc**.

2. Select the File, Security, or Advanced menu.

3. To close Computer Setup and restart the computer

   ■ Select File→Save Changes and Exit, then press **Enter**.

   or

   ■ Select File→Ignore Changes and Exit, then press **Enter**.

4. When you are prompted to confirm your action, press **F10**.

## Selecting from the File Menu

| Selecting from the File Menu | |
| --- | --- |
| **Begin here** | **To do this** |
| System information | ■ View identification information about the computer, a docking base, and battery packs. |
| | ■ View specification information about the processor, memory and cache size, and system ROM. |

*Continued*

**Selecting from the File Menu**  *Continued*

| | |
|---|---|
| Save to floppy | Save system configuration to a formatted 720K or larger diskette. |
| Restore from floppy | Restore system configuration from a diskette. |
| Restore defaults | Replace configuration settings in Computer Setup with factory default settings. (Identification information is retained.) |
| Ignore changes and exit | Cancel changes entered during the current Computer Setup session, then exit and restart the computer. |
| Save changes and exit | Save changes entered during the current Computer Setup session, then exit and restart the computer. |

## Selecting from the Security Menu

### Selecting from the Security Menu

| Begin here | To do this |
|---|---|
| Setup password* | Enter, change, or delete a setup password. |
| Power-On password* | Enter, change, or delete a power-on password. |
| DriveLock passwords* | Enable/disable DriveLock; change a DriveLock User or Master password. |

*Continued*

**Selecting from the Security Menu** *Continued*

| | |
|---|---|
| Password options* <br><br>**NOTE:** Password options is selectable only when a power-on password is set. | Enable/disable <br><br>■ QuickLock <br>■ QuickLock on Suspend <br>■ QuickBlank <br>■ Lock keyboard and mouse at power-on <br><br>**NOTE:** To enable QuickLock on Suspend or QuickBlank, you must first enable QuickLock. |
| Device security* | Enable/disable <br><br>■ Ports or diskette drives. <br>■ Diskette write. <br>■ CD-ROM or diskette startup. <br><br>**NOTE:** Settings for a DVD-ROM can be entered in the CD-ROM field. |
| System IDs | Enter identification numbers for the computer, a docking base, and battery packs. |

*For more information about passwords, QuickLock, DriveLock, and disabling devices, refer to Chapter 11.

## Selecting from the Advanced Menu

| Selecting from the Advanced Menu | |
|---|---|
| **Begin here** | **To do this** |
| Language (or press **F2**) | Change the Computer Setup language. |
| Boot Options | Enable/disable |
| | ■ QuickBoot, which starts the computer more quickly by eliminating some startup tests. (If you suspect a memory failure and want to test memory automatically during startup, you may want to disable QuickBoot.) |
| | ■ MultiBoot, which enables you to set a startup sequence that can include any drives and PCI network adapters in the system. For instructions, refer to "Changing the Startup Sequence with MultiBoot" in Chapter 5. |

*Continued*

**Selecting from the Advanced Menu** *Continued*

| | |
|---|---|
| Device Options | ■ Enable/disable the embedded numeric keypad at startup. |
| | ■ Enable multiple standard pointing devices at startup, or disable this feature so the computer supports only a single (usually non-standard) pointing device at startup. |
| | ■ Enable/disable USB legacy support for one USB mouse and one USB keyboard. (When USB legacy support is enabled, the keyboard and mouse work without a loaded USB driver.) |
| | ■ Set an optional external monitor or overhead projector connected to a video card in a docking base as the primary device. (When the computer display is set as secondary, the computer must be shut down before undocking.) |
| | ■ Change the parallel port mode from EPP (default) to standard, bidirectional, EPP, or ECP. |

# Using Compaq Diagnostics for Windows

■ When you access Compaq Diagnostics for Windows, a scan of all system components appears on the screen before the Compaq Diagnostics window opens.

■ You can display more or less information from anywhere within Compaq Diagnostics for Windows by selecting Level on the menu bar.

■ Compaq Diagnostics for Windows are designed to test Compaq components. If non-Compaq components are tested, the results may be inconclusive.

## Displaying System Information

1.  Access Compaq Diagnostics for Windows.

    ■  **In Windows 95 or Windows 98** select Start➔ Settings➔Control Panel➔Compaq Diagnostics.

    ■  **In Windows NT 4.0** select Start➔Programs➔ Administrative Tools➔Compaq Diagnostics.

2.  Select Categories, then select a category from the drop-down list.

    ■  To save the information, select File➔Save As.

    ■  To print the information, select File➔Print.

3.  To close Compaq Diagnostics for Windows, select File➔Exit.

## Running a Diagnostic Test

1.  Access Compaq Diagnostics for Windows.

    ■  **In Windows 95 or Windows 98** select Start➔ Settings➔Control Panel➔Compaq Diagnostics.

    ■  **In Windows NT 4.0,** select Start➔Programs➔ Administrative Tools➔Compaq Diagnostics.

2.  Select the Test tab.

3.  In the scroll box, select the category or device you want to test.

4.  Select a test type.

    ■  **Quick Test**—Runs a quick, general test on each device in a selected category.

    ■  **Complete Test**—Performs maximum testing on each device in a selected category.

    ■  **Custom Test**—Performs maximum testing on a selected device.

        ❑  To run all tests listed beneath your selection, select the Check All button.

        ❑  To run only the tests you select, select the Uncheck All button, then select the check box beside each test you want to run.

5. Select a test mode.

   ■ **Interactive Mode**—Provides maximum control over the testing process. You determine whether the test was passed or failed and may be prompted to insert or remove devices.

   ■ **Unattended Mode**—Does not display prompts. If errors are found, they are displayed when testing is complete.

6. Select the Begin Testing button.

7. Access the test information. To view test information, select a report.

   ■ **Status tab**—Summary of the tests run, passed, and failed during the current testing session.

   ■ **Log tab**—Lists tests run on the computer, the numbers of times each test has run, the number of errors found on each test, and the total run time of each test.

   ■ **Error tab**—Lists all errors found on the computer with their error codes.

8. To save

   ■ **Test information**—Select the Save button on the Log tab.

   ■ **Error report**s—Select the Save button on the Error tab.

9. To close Compaq Diagnostics for Windows, select File→Exit.

## *Chapter 15*
# Troubleshooting

Problems that occur while using the computer may originate in the computer, the operating system, a software application, or an optional docking base or external device.

■ For problems that may not originate in the computer, refer to your operating system, docking base, software application, or external device documentation.

■ For problems that may originate in the computer or system software, refer in this chapter

❑ First, to the "Quick Solutions Checklist."

❑ Then, to the troubleshooting tables.

■ If the problem persists, refer to

❑ Chapter 14, for information about checking configurations and running diagnostic tests.

❑ Appendix A, for information about using the Compaq Support Forum or contacting a Compaq authorized dealer, reseller, or service provider.

> **IMPORTANT:** If you take the computer to a Compaq authorized dealer, reseller, or service provider for service, provide all necessary passwords.

## Quick Solutions Checklist

> **NOTE**: To reset a locked system, press and hold the suspend button while pressing the power button.

■ Is adequate power available to the computer?

❑ If the computer is connected to an electrical outlet

–Are all power cord or external AC Adapter connections secure?

–Is the electrical outlet providing a standard power supply?

❏ If the computer is running on a battery pack, is the battery pack in the computer fully charged?

■ Is the system turned on?

■ Is the **latest available** system ROM installed?

**NOTE:** For instructions, refer to "Updating the System ROM" in Chapter 13.

■ If the problem relates to an external device

❏ Is the device securely connected to the appropriate connector?

❏ Is the device receiving reliable electrical power?

❏ Is the device turned on?

❏ Are all necessary device drivers installed and loaded?

## Solving Audio Problems

### Solving Audio Problems

| Problem | Possible Cause | Solution |
|---------|----------------|----------|
| System warnings or alerts are not audible. | Volume is muted. | To increase volume, press the **Fn+F5** hotkeys, then adjust the volume. |
| | The system warning or alert is disabled. | To enable low battery and critical low battery warnings, refer to Chapter 4, "Managing Power." |
| | | To enable Intelligent Manageability fault management alerts, refer to "Using Fault Management Alerts" in Chapter 12. |
| Internal speakers produce no sound. | Volume is muted or turned down. | Press the **Fn+F5** hotkeys, then adjust the volume. |
| | | Adjust the volume in Multimedia or in the software application. |

*Continued*

**Solving Audio Problems**   *Continued*

|  |  |  |
|---|---|---|
|  | External speakers, headphones, or a headset is connected to the computer. | Use the external speakers, headphones, or headset.<br><br>To use the internal speakers, disconnect the external speakers, headphones, or headset. |
| External speakers, headphones, or a headset produces no sound. | Volume is muted or turned down. | Press the **Fn+F5** hotkeys, then adjust the volume.<br><br>Adjust the volume in Multimedia or in the software application. |
|  | Sound source is not selected in Multimedia. | Select the sound source in Multimedia. |
| External microphone does not work. | The recording source is not selected in Multimedia. | Select the recording source in Multimedia. |
|  | The recording level volume needs adjusting. | Adjust the recording level volume in Multimedia. |

# Solving Battery Problems

### Solving Battery Problems

| Problem | Possible Cause | Solution |
|---|---|---|
| Computer beeps 5 times and the battery light is blinking. | Battery charge is low, and the computer has entered a low-battery condition. | ■ Connect the computer to external power.<br>or<br>■ Replace the battery pack with a fully charged battery pack.<br>or<br>■ Shut down the computer or press **Fn** + the suspend button to initiate Hibernation. |
| System beeps twice and initiates Hibernation. | Computer has entered a critical low-battery condition while Hibernation is enabled. | Connect the system to external power or install a fully charged battery pack, then slide the power switch to restore from Hibernation. |
| System beeps twice and the power/suspend light is blinking. | Computer has entered a critical low-battery condition while Hibernation is disabled. | To prevent loss of unsaved work, immediately connect the system to external power or install a fully charged battery pack. |
| Low-battery warnings or alerts are not audible. | Volume is muted or turned down. | Press the **Fn+F5** hotkeys, then adjust the volume. |

*Continued*

**Solving Battery Problems**   *Continued*

| | | |
|---|---|---|
| | The warning or alert is disabled. | To enable low battery and critical low battery warnings, refer to "Using Power Preferences" in Chapter 4. |
| | | To enable Intelligent Manageability fault management alerts, refer to "Using Fault Management Alerts" in Chapter 12. |
| Battery pack is warm after charging. | Warming occurs during charging. | No action is required. |
| Computer shut down and work in memory was lost when a battery pack that was the only power source available to the system was replaced. | The computer was not turned off before replacing the battery pack. | Restore power, then turn on the computer with the power switch. |
| Date and time must be reset each time the computer is turned on. | The real-time clock battery has reached the end of its useful life. | Restore power, then turn on the computer with the power switch. |
| | | Replace the real-time clock battery. Refer to Chapter 13 for procedures. |
| Battery light does not turn on to indicate that battery pack is charging; battery pack does not charge. | The battery pack has reached the end of its useful life. | Replace the battery pack. |
| | Battery pack was exposed to temperature extremes. | Allow time for the battery pack to reach room temperature. |
| | Battery pack is already fully charged. | No action is necessary. |

**Solving Battery Problems**   *Continued*

| | | |
|---|---|---|
| Battery charge does not last as long as expected. | Battery conservation settings, practices, and procedures are not being used. | Refer to "Conserving Battery Power" in Chapter 4. |
| | Battery pack has partially self-discharged. | Refer to "Storing a Battery Pack" in Chapter 4. |
| | Battery pack is being exposed to temperature extremes. | Keep battery pack within the recommended operating or storage temperature ranges.<br><br>Refer to Appendix D for operating ranges<br>or to "Storing a Battery Pack" in Chapter 4 for storage ranges. |
| Battery charge displays do not accurately report the charge remaining in a battery pack. | The battery pack requires recalibration. | Refer to "Calibrating a Battery Pack" in Chapter 4. |
| | The battery pack has reached the end of its useful life. | Replace the battery pack. |

# Solving Drive Problems

## Solving Hard Drive Problems

| | Solving Hard Drive Problems | |
|---|---|---|
| **Problem** | **Possible Cause** | **Solution** |
| System does not recognize a hard drive. | The drive is not seated properly. | Remove, then reinsert the drive. |
| | The drive is damaged. | Run scandisk on the drive. |
| | The drive was inserted while the system was on or in Suspend (Standby) or in Hibernation. | Shut down the computer before inserting or removing a hard drive. |
| System cannot start up from a hard drive. | The drive does not have the necessary files to start up and operate the computer. | Start up from the hard drive supplied with the computer or install startup software on the additional drive. |
| Hard drive cannot be accessed. | DriveLock protection is enabled on the drive. | Enter DriveLock User or Master password or remove DriveLock protection from the drive. |
| DriveLock settings cannot be accessed in Computer Setup. | The DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer. | Turn the computer off, then on, then press **F10** when the blinking cursor appears upper-right on the screen. |

## Solving CD-ROM and DVD-ROM Drive Problems

**Solving CD-ROM Drive and DVD-ROM Drive Problems**

| Problem | Possible Cause | Solution |
|---|---|---|
| System does not recognize a CD-ROM drive or DVD-ROM drive. | The drive is not seated properly. | Remove, then reinsert the drive. |
| | System software does not support the drive. | Install appropriate drivers and/or system ROM upgrade. |
| | The drive is damaged. | To verify that the problem is with the drive, try using another drive in the same bay. |
| | The computer is running a retail version of the operating system, and the drive was inserted while the system was on or in Suspend (Standby) or Hibernation. | 1. Shut down the computer<br>2. Reinsert the drive<br>3. Turn on the computer. |
| CD-ROM drive or DVD-ROM drive cannot read a CD-ROM or DVD-ROM. | The CD-ROM or DVD-ROM is upside down. | Turn over the CD-ROM or DVD-ROM. |

*Continued*

**Solving CD-ROM Drive and DVD-ROM Drive Problems** *Continued*

| | | |
|---|---|---|
| System cannot start up from a CD-ROM. | A bootable CD-ROM is not in the CD-ROM drive. | Verify that a CD-ROM with the necessary system files is in the drive. |
| | CD-ROM boot ability is disabled. | Enable CD-ROM boot ability. |
| System does not initiate Suspend (Standby) while a CD-ROM or DVD-ROM is in the system. | The system cannot initiate Suspend (Standby) while auto insert notification is turned on. | Turn off auto insert notification. Refer to Chapter 4 for procedures. |

## Solving Diskette and SuperDisk LS-120 Drive Problems

**Solving Diskette and SuperDisk LS-120 Drive Problems**

| Problem | Possible Cause | Solution |
|---|---|---|
| System does not recognize a diskette or SuperDisk LS-120 drive. | The drive is not seated properly. | Remove, then reinsert the drive. |
| | The drive may be damaged. | To verify that the problem is with the drive, try using another removable drive in the same bay. |
| | The computer is running a retail version of the operating system, and the drive was inserted while the system was on, in Suspend (Standby), or in Hibernation. | 1. Shut down the computer<br>2. Reinsert the drive<br>3. Turn on the computer. |
| Diskette drive or SuperDisk LS-120 drive cannot read or write to a diskette. | Diskette is not compatible with the drive. | Refer to your drive documentation for information about compatible diskettes.<br><br>Format the diskette. |
| | Diskette is not formatted. | |
| | Diskette drive is disabled. | Enable the diskette drive; see Chapter 11. |
| | Diskette is write-protected. | Disable the write-protection or use another diskette that is not write-protected. |

*Continued*

**Solving Diskette and SuperDisk LS-120 Drive Problems** *Continued*

| | | |
|---|---|---|
| System cannot start up from a diskette drive. | A bootable diskette is not in the drive. | Verify that a diskette with the necessary system files is in the drive. |
| | Diskette boot ability is disabled. | Enable the diskette boot; see Chapter 11. |

# Solving Infrared Problems

**Solving Infrared Problems**

| Problem | Possible Cause | Solution |
|---|---|---|
| Cannot link with another infrared-equipped computer or device. | Computer is running Windows NT 4.0. | Windows NT 4.0 does not support infrared communication. |
| | Appropriate software is not running on both devices. | Install the appropriate software on the second device and start the program on both devices. |
| | Infrared port on computer is disabled. | To enable the infrared port, Select Start→Settings→ Control Panel→Infrared. |
| | Infrared Monitor search is disabled. | To enable Infrared Monitor search: 1. Select the Infrared icon in the taskbar→Options tab. 2. Select the Search For and Provide Status for Devices in Range check box. |
| | Target device is not IrDA-compliant. | Check documentation of target device and make recommended changes. |

**Solving Infrared Problems** *Continued*

|  | Interrupt request (IRQ) conflict. | Check IRQ assignments for conflicts, then reassign if necessary. |
|  |  | See Appendix C for IRQ port information. |
|  | Baud rate, # bits, stop byte, or parity conflict. | Select the same baud rate, # bits, stop byte, and parity setting for both devices.* |
|  | A physical condition exists that affects the connection. | Refer to "Data transmission problem" in this table. |
| System does not initiate Suspend while infrared port is enabled. | The system cannot initiate Suspend while Infrared Monitor search is enabled. | To disable Infrared Monitor search, select Start→ Settings→Control Panel→ Infrared→Options tab, then remove the check from the Search for and Provide Status for Devices in Range check box. |
| Data transmission problem. | Direct sunlight, energy-saving fluorescent light, or flashing incandescent light is close to the infrared connections. | Remove the interfering light source(s). Move the infrared ports closer together. Select a slower fixed baud rate for both devices.* |
|  | Interference from other infrared-equipped devices. | Keep infrared-equipped remote control units, such as wireless headphones, pointed away from the infrared connection. |
|  | Dirty infrared lens. | Clean the lens with a lint-free cloth. |
|  | Distance. | Verify that the infrared ports are not more than 1.5 feet (0.5 meter) apart. |

*Continued*

**Solving Infrared Problems** *Continued*

| | | |
|---|---|---|
| | Movement. | Do not move either unit during data transmission. |
| | Orientation. | Adjust the infrared ports so that they point within 15 degrees of each other. |
| | Physical obstruction. | Remove any objects between the two infrared ports that could be interfering with the line-of-sight data transmission. |

*For instructions, refer to your infrared communications software documentation.

# Solving Keyboard and Pointing Device Problems

**Solving Keyboard and Pointing Device Problems**

| Problem | Possible Cause | Solution |
|---|---|---|
| Some keys type numbers instead of letters and num lock light is on. | The embedded numeric keypad is enabled. | Toggle **Fn+Num Lk** to disable the embedded numeric keypad. |
| Embedded numeric keypad does not work. | The embedded numeric keypad is not enabled. | Toggle **Fn+Num Lk** to enable the embedded numeric keypad. |
| Hotkeys do not work on external keyboard. | Hotkeys commands are implemented differently on an external keyboard. | To enter a hotkeys command on an external keyboard, rapidly press the **Scroll Lock** key twice, then immediately press the second key only of the hotkeys combination.<br><br>**NOTE:** The **Fn+F6** hotkeys cannot be used on an external keyboard connected by USB. |
| Keyboard and pointing device are locked. | QuickLock is initiated. | To exit QuickLock, enter the power-on password. |
| External mouse does not work. | The external mouse is not Microsoft-compatible. | In Computer Setup, select Advanced→Device Options, then select the Disable Multiple Pointing Devices check box. |

# Solving Memory Problems

## Solving Memory Problems

| Problem | Possible Cause | Solution |
|---------|----------------|----------|
| Memory count during Power-On Self-Test (POST) is incorrect. | Memory expansion board is installed incorrectly. | Remove, then reinstall memory expansion board as instructed in Chapter 5. |
| Computer beeps four times when turned on, power/suspend light is on, but screen is blank. | Memory expansion board is installed incorrectly. | Remove, then reinstall memory expansion board as instructed in Chapter 5. |
|  | Memory expansion board or memory circuitry has failed. | Contact your Compaq authorized service provider. |
| Hibernation does not work normally after increasing RAM with a memory expansion board. | The hard drive does not have enough space for the larger hibernation file. | Refer to "Managing Random Access Memory (RAM)" in Chapter 5. |

# Solving Modem Problems

If you are troubleshooting a modem PC Card problem, refer also to "Solving PC Card Problems" in this chapter.

## Solving Modem Problems

| Problem | Possible Cause | Solution |
|---------|----------------|----------|
| ERROR message. | Typing error. | If you are typing from the command line in terminal mode, verify, then retype the command. |

*Continued*

**Solving Modem Problems** *Continued*

| | | |
|---|---|---|
| Excessive line current sensed message. | Modem is connected to a digital line. | Connect the modem to a standard analog telephone line, then reestablish the connection. |
| No dial tone, with or without NO DIAL TONE message. | You are not in your home country and the modem does not recognize the local dial tone. | Refer to the "Travel Connection Checklist" in Chapter 7.<br><br>At the command line in terminal mode, type **ATX3DT.** |
| | Telephone service is not connected to the telephone wall jack. | Connect a telephone to the wall jack. If you do not hear a dial tone, contact your telephone service provider. |
| | A shared telephone line is in use. | Make sure another telephone or modem is not using the telephone line. |
| | Modem is connected to a digital line, such as an office PBX line. | Connect the modem to a standard analog telephone line, then reestablish the connection. |
| | Speaker Control AT Command (ATM) is set to 0. | 1. At the command line in terminal mode, type **ATM1,** then press **Enter**.<br>2. Type **ATH1** and listen for the sound of the dial tone. |
| | The modem or modem COM port is disabled. | Refer to "Disabling a Device" in Chapter 11. |

*Continued*

**Solving Modem Problems** *Continued*

| | | |
|---|---|---|
| | The modem is not responding to commands from the computer keyboard. | 1. At the command line in terminal mode, type **AT**, then press **Enter**.<br>■ If the modem displays OK, the modem and computer are working together.<br>■ If the modem displays ERROR, or does not respond, restart the computer and repeat steps 1 and 2.<br>2. Type **ATDT** and listen for a dial tone.<br>3. Press any key to hang up the modem. |
| Modem sounds are not audible. | Modem speaker is turned off. | At the command line in terminal mode, type **ATM1**. |
| | System sound is muted or turned down. | Press the **Fn+F5** hotkeys, then adjust the volume. |
| Modem does not dial correctly. | Call Waiting may be interfering. | Disable Call Waiting before dialing.<br>■ For information about disabling Call Waiting, consult your operating system documentation.<br>■ To obtain the disable call waiting code for your dialing area, consult your local telephone service provider. |
| Clicking sound and modem does not connect. | The modem is connected to a digital line.<br>**NOTE:** The EXCESS LINE CURRENT SENSED message does not display if the current is under 100mA. | Connect the modem to a standard analog telephone line, then reestablish the connection. |

*Continued*

**Solving Modem Problems** *Continued*

| | | |
|---|---|---|
| Modem does not connect. | The error correction feature of your modem software is interfering. | Disable error correction (&K0) and data compression (&M0) using AT commands.<br><br>**NOTE:** To access AT commands and instructions for using them, select Start→Compaq Information Center→*Modem Commands.* |
| Modem does not connect at highest speed. | Line conditions in your area or in the area you are calling may not support the highest connect speeds. | Have your telephone line checked by your local telephone service provider.<br><br>Try dialing an alternate telephone number for the service you are using. |
| | Another device on your telephone line may be causing interference. | Hang up an extension telephone and disconnect any other devices that may be using the same telephone line, then redial. |
| | The telephone line does not support 56K implementation. | The 56K protocol requires that the telephone line contain no more than one analog-to-digital conversion.<br><br>Try connecting from an alternate site. |
| | There is noise on the telephone line. | Use another telephone line. |
| | The 56K protocol of an internal modem will fall back to lower speeds if the telephone line is too noisy for a high-speed connection. | Change the Hang-up Delay S Register: At the command line in terminal mode, type **ATS10=150,** then press **Enter**.<br>**NOTE:** This command causes the modem to take longer to disconnect even if there is no noise on the line. |

*Continued*

**Solving Modem Problems** *Continued*

| | | |
|---|---|---|
| Fax transmissions do not work. | Another communications software application is open. | Close the other communications application. |
| | Modem is receiving inadequate power. | Connect the computer to external power<br><br>or<br><br>If the computer must run from a battery pack,<br><br>■ Make sure the battery pack is fully charged.<br>■ Clear all power conservation selections. |
| | The wrong printer driver is selected. | Verify that you have selected the correct printer driver. |
| Characters are garbled/transfer rates are slow. | There is noise in the telephone line. | Request a telephone line filter from your local telephone service provider. |
| | Settings on the sending and receiving modem do not match. | Use the same parity, modem speed, word length, and stop bits settings on both modems. |
| | The error correction feature of your modem software is interfering. | Disable error correction (&K0) and data compression (&M0) using AT commands.<br><br>**NOTE:** To access AT commands and instructions for using them, select Start→Compaq Information Center→*Modem Commands.* |

*Continued*

**Solving Modem Problems** *Continued*

| | | |
|---|---|---|
| Modem loses connection. | Call Waiting may be interfering with the connection. | Disable Call Waiting before dialing. |
| | | For information about disabling Call Waiting, consult your operating system documentation. |
| | | To obtain the disable call waiting code for your dialing area, consult your local telephone service provider. |
| | Another device on your telephone line may be causing interference. | Hang up an extension telephone and disconnect any other devices that may be using the same telephone line, then redial. |
| | Hibernation was initiated; the computer reached a low-battery or critical low-battery condition. | 1. Restore power, if necessary.<br>2. Slide the power switch to exit Hibernation, if necessary.<br>3. Restart the communications software application. |
| | Your service provider may have an inactivity timeout. | Ask your service provider if idle time on the line terminates the connection. |

# Solving PC Card Problems

## Solving PC Card Problems

| Problem | Possible Cause | Solution |
|---|---|---|
| Computer does not beep when PC Card is inserted, but PC Card works. | Volume is muted. | Press the **Fn+F5** hotkeys, then adjust the volume. |
| | PC Card sound effects have been disabled. | **In Windows 95 or Windows 98** refer to your operating system documentation. |
| | **NOTE:** PC Card sound effects are enabled by default in your operating system. | **In Windows NT 4.0 with CardWare provided by Compaq** select Start→Programs→ CardWare. |
| Computer does not beep when PC Card is inserted, and PC Card does not work. | PC Card is upside down. | Remove the PC Card, then reinsert it with the label side up. |
| Computer beeps once when PC Card is inserted, and PC Card does not work. | The PC Card is recognized, but not properly configured. | For configuration instructions, refer to Chapter 8 and to the PC Card documentation. |
| Computer beeps twice when a storage PC Card is inserted, but the PC Card does not work. | You are trying to access a storage PC Card using the wrong drive letter. | Verify or change the drive letter assignment. For instructions, refer to your operating system documentation. |
| | The PC Card is not formatted. | To format a memory PC Card, run MCFORMAT in MS-DOS mode. |
| | | To format an ATA PC Card, run ATAINIT, then run MCFORMAT in MS-DOS mode. |

# Solving Power Problems

If the problem occurs while the computer is running on a battery pack, refer also to "Solving Battery Pack Problems."

**Solving Power Problems**

| Problem | Possible Cause | Solution |
| --- | --- | --- |
| Computer will not turn on when connected to external power if battery pack is in the computer. | Battery pack may be defective. | Remove or replace the battery pack. |
| Computer turned off while it was left unattended and power/suspend light is off. | System initiated a Hibernation timeout. | To restore from Hibernation, slide the power switch.<br><br>To change a Hibernation timeout setting, refer to "Using Power Preferences" in Chapter 4. |
| Computer turned off while it was left unattended and will not turn on. | System initiated Hibernation and/or shut down because of a critical low-battery condition. | 1. To restore power, replace the battery pack with a charged battery pack or connect to an external power source.*<br>2. To restore from Hibernation, slide the power switch. |
| Computer unexpectedly initiated Suspend (Standby), or turned off when it was docked. | The maximum operating temperature was exceeded. | Move the computer to a cooler environment and allow it to return to a comfortable room temperature.<br><br>Make sure the vents and exhaust fan are not obstructed. |
| Computer beeps twice when you press **Fn** + suspend button. | Hibernation is turned off. | To turn on Hibernation, refer "Using Power Preferences" in Chapter 4. |

*Continued*

**Solving Power Problems** *Continued*

| | | |
|---|---|---|
| System does not initiate Suspend. | The system cannot initiate Suspend while Infrared Monitor search is enabled. | To disable Infrared Monitor search, select the Infrared icon in the taskbar→Options tab, then clear the Search For and Provide Status for Devices in Range check box. |
| | The system cannot initiate Suspend (Standby) while a CD-ROM or DVD-ROM is in the system and auto insert notification is turned on. | Remove the CD-ROM or DVD-ROM.<br><br>To turn off auto insert notification, refer to Chapter 4. |

*External power supplied through an optional Aircraft Power Adapter can be used to run the computer, but not to charge a battery pack.

# Solving Screen Problems

| Solving Screen Problems | | |
|---|---|---|
| **Problem** | **Possible Cause** | **Solution** |
| Characters on computer display are dim. | Computer is in direct light.<br><br>Screen brightness is set low. | Move the computer or tilt the display.<br><br>To access screen brightness adjustments, press the **Fn+F10** hotkeys.<br><br>**NOTE:** For more information about setting screen brightness, refer to "Using Power Preferences" in Chapter 4. |
| Screen is blank. | QuickBlank is enabled. | Enter the power-on password. |
| | Suspend (Standby) is initiated. | Press the suspend button. |
| | Hibernation is initiated. | Slide the power switch. |
| | Computer is off. | Slide the power switch. |

# Solving USB Problems

| **Solving USB Problems** | | |
|---|---|---|
| **Problem** | **Possible Cause** | **Solution** |
| External device connected to the USB connector does not work. | The computer is running Windows NT 4.0. | When the computer is running Windows NT 4.0, only two tiers are supported by the USB connector. These tiers can include no more than two hubs on the first tier and no more than one keyboard and one pointing device on the first or second tier. |
| External device connected to the USB connector does not work during startup (before Windows 95 or Windows 98 loads). | During startup, only two tiers are supported by the USB connector. These tiers can include no more than two hubs on the first tier and no more than one keyboard and one pointing device on the first or second tier. | Use the external device only after Windows 95 or Windows 98 has loaded. Reduce the number of connected external USB devices to no more than two hubs on the first tier, and no more than one keyboard and one pointing device on the first or second tier. |
| A New Hardware Found message displays although the external device was previously recognized. | The device was previously connected to a USB connector on a docking base. | No action is required. Connect the external device to the same USB connector each time. |

*Continued*

**Solving USB Problems** *Continued*

| | | |
|---|---|---|
| External devices in the sixth tier do not work. | Windows 95 and Windows 98 support up to five tiers. | Replace some hubs in the first five tiers with hubs containing additional sockets, then connect the devices in the sixth tier to the new hubs. |
| | | Connect some external USB devices to other connectors. |
| External devices in lower tiers do not work. | An unpowered hub is connected to another unpowered hub. | Use only powered hubs. |
| | | Make sure that all unpowered hubs are preceded by powered hubs in the USB chain. |

## *Appendix A*
# Compaq Customer Support

## Using the Worldwide Web

Support services are available on the Internet through the Compaq Support Forum. You can either browse the postings as a guest, or register as a user and submit your own questions. Compaq responds to questions within one business day.

You can go directly to the Compaq Support Forum at http://forum.compaq.com or access it from within the Compaq Internet site at http://www.compaq.com.

## Preparing to Call Technical Support

If you cannot solve a problem using the troubleshooting tips in Chapter 15 or the Compaq Support Forum, you may need to call technical support.

To receive the fastest possible solution, have the following information available when you call.

■ The computer.

■ Serial number and model description on the bottom of the computer.

■ Purchase date on invoice.

■ Conditions under which the problem occurred.

■ Error messages that have displayed.

■ Type of printer connected.

■ Operating system version number and registration number.

To view these numbers, select Start→Settings→
Control Panel→System→General tab.

■ System ROM version number and Computer Setup version number. To
view these version numbers,

1. Turn on or restart the computer.

2. When the blinking cursor appears upper-right on the screen, press
**F10**.

3. Select File→System Information.

■ Printed or saved configuration and diagnostics information.

To obtain, print, or save configuration and diagnostic information, refer to
Chapter 14.

> **IMPORTANT:** If you take the computer to a Compaq authorized dealer,
> reseller, or service provider for service, provide all necessary passwords.

# Worldwide Telephone Numbers

Locate your country and the type of assistance that you need in the following table.

■ Use the phone numbers for "Eastern Europe, Middle East, and Africa" for countries in those regions that are not listed individually.

■ Before you call for technical assistance, refer to "Using the Worldwide Web" and "Preparing to Call Technical Support" earlier in this section.

**NOTE**: Telephone numbers are subject to change without notice.

### Worldwide Telephone Numbers

| Location | Country Code | Telephone Number |
|----------|:---:|---|
| **Argentina** | | |
| General Information | +54 | 1 704 3800 |
| Technical Support | +54 | 38 1 704 00 |
| Fax | +54 | 1 704 3809 |
| **Australia** | | |
| General Information | +61 | 2 9911 1999 |
| Customer Support | +61 | 1 300 368 369 |
| Technical Support | +61 | 2 9911 1955 |
| FaxPaq/PaqFax | +61 | 2 9911 1982 |
| **Austria** | | |
| General Information | +43 | 1 7956 7700 |
| Technical Support | +43 | 1 7956 7700 |
| Fax | +43 | 1 7956 7999 |

\* Indicates domestic numbers not available internationally.

*Continued*

**Worldwide Telephone Numbers** *Continued*

| | | |
|---|---|---|
| **Belgium** | | |
| General Information | +32 | 2/713 13 00 |
| Technical Support* | | 0900 102 01 |
| | | (6.05BEF/18s) |
| Fax | +32 | 2/713 14 44 |
| QuickLine BBS | +32 | 2/716 95 92 |
| **Brazil** | | |
| General Information | +55 | (11) 5188 4600 |
| **Canada** | | |
| General Information | | 1 905 707 1715 |
| Product Information* | | 1 800 567 1616 |
| Technical Support* | | 1 800 OKCOMPAQ (1 800 652 6672) |
| Customer Support* | | 1 800 263 5868 |
| Order Software Backup* | | 1 800 952 7689 |
| Battery Pack Recycling* | | 1 800 263 5868 |
| **Caribbean** | | |
| Technical Support | | 1 281 518 2200 |
| **Chile** | | |
| General Information | +56 | 2 200 8100 |
| Technical Support | +56 | 2 225 9490 |
| **China** | | |
| General Information | +86 | 10 6831 3399 |
| Technical Support | +86 | 10 6834 6721 |
| Customer Response Center | +86 | 10 6834 6738 |
| BBS | +86 | 10 6834 6709 |
| FaxPaq/PaqFax | +86 | 10 6834 6724 |
| Verification Center | +86 | 10 6834 6739 |
| Management Service Center | +86 | 10 6831 3399 ext. 5873 |

* Indicates domestic numbers not available internationally.

*Continued*

**Worldwide Telephone Numbers** *Continued*

| | | |
|---|---|---|
| **Colombia** | | |
| General Information | +57 | 1 312 0201 |
| Technical Support | +57 | 1 523 1800 |
| **Czech Republic** | | |
| General Information | +420 | 2 22 187 111 |
| Technical Support | +420 | 2 22 187 111 |
| **Denmark** | | |
| General Information | +45 | 45 90 45 90 |
| Technical Support | +45 | 45 90 45 45 |
| QuickLine BBS | +45 | 45 90 45 50 |
| **Eastern Europe, The Middle East and Africa** | | |
| Technical Support and General Information | +353 | 1 402 6833 |
| Fax | +353 | 1 402 6855 |
| **Ecuador** | | |
| General Information | +59 | 3 225 4343 |
| **Finland** | | |
| General Information | +358 | 0204 121 |
| Technical Support* | | 0203 206 720 |
| **France** | | |
| General Information* | | 0803 804 805 (0,99 FTTC/mn) |
| Technical Support* | | 0803 813 823 (0,99 FTTC/mn) |
| QuickLine BBS (RTC Standard) | +33 | 0141 33 44 50 |
| QuickLine BBS (RNIS) | +33 | 0141 33 42 25 |

\* Indicates domestic numbers not available internationally.

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**Worldwide Telephone Numbers** *Continued*

| | | |
|---|---|---|
| **Germany** | | |
| General Information* | | 0180/3 22 12 21 (0,18 DM/min.) |
| General Information Fax* | | 0180/3 22 12 20 (0,18 DM/min.) |
| All Products Fax* | | 0180/5 21 21 17 (0,24 DM/min.) |
| Portables Hotline* | | 0180/5 21 21 11 (0,24 DM/min.) |
| **Greece** | | |
| General Information | +30 | 1 6141371 |
| Fax | +30 | 1 6141370 |
| **Hong Kong** | | |
| General Information | +852 | 28681600 |
| Technical Support | +852 | 90116633 |
| FaxPaq/PaqFax | +852 | 28671648 |
| **Hungary** | | |
| General Information | +36 | 1 457 3650 |
| Technical Support | +36 | 1 457 3680 |
| Email | | Info.hu@compaq.com |
| **India** | | |
| General Information | +91 | 80 559 6023 |
| FaxPaq/PaqFax | +91 | 80 559 8989 |
| BBS | +91 | 80 559 8900 |
| **Ireland** | | |
| General Information* | | 01800 409 454 |

* Indicates domestic numbers not available internationally.

*Continued*

**Worldwide Telephone Numbers** *Continued*

| | | |
|---|---|---|
| **Israel** | | |
| General Information | +972 | 3 6363 444 |
| Fax | +972 | 3 639 6601 |
| Technical Support | +353 | 1 402 6833 |
| **Italy** | | |
| General Information* | | 0 800 859 030 |
| Technical Support | +39 | 2 69633281 |
| QuickLine BBS | +39 | 2 89200222 |
| Fax | +39 | 2 69633282 |
| **Japan** | | |
| General Information* | | 0120 101 589 |
| Technical Support* | | 0120 101 589 |
| Windows 95 Support* | | 0210 505 589 |
| Ordering Software Backup* | | 0120 250 589 |
| **Korea** | | |
| Product Information | +82 | 2 3470 0700 |
| Technical Support | +82 | 2 523 3575 |
| Customer Support* | | 080 902 7777 |
| **Luxembourg** | | |
| General Information | +352 | 49 13 02 |
| Technical Support* | | (12,5FLUX/min) |
| Fax | +352 | 089 89 232 |
| QuickLine BBS | +32 | 49 14 40 |
| | | 2 716 95 92 |

* Indicates domestic numbers not available internationally.

**Worldwide Telephone Numbers** *Continued*

| | | |
|---|---|---|
| **Malaysia** | | |
| General Information | +60 | 3 754 1122 |
| Customer Response Center | +60 | 3 754 1155 |
| **Mexico** | | |
| General Information | +52 | 5 229 7900 |
| Technical Support | +52 | 5 262 7180 |
| FaxPaq/PaqFax | +52 | 5 229 7920 |
| **Netherlands** | | |
| General Information | +31 | 182 565 805 |
| Technical Support* | | 0900 1681616 (Dfl. 0.75/min) |
| Fax* | | 0900 8991116 (Dfl. 0.40/min) |
| **New Zealand** | | |
| General Information | +64 | 9 307 3969 |
| Technical Support | +64 | 9 379 4646 |
| Customer Support Center | +64 | 9 379 7001 |
| **Norway** | | |
| General Information | +47 | 22 07 20 20 |
| Technical Support | +47 | 22 07 20 20 |
| Fax | +47 | 22 07 20 21 |
| **Peru** | | |
| General Information | +51 | 1 222 5012 |
| **Poland** | | |
| General Information | +48 | 22 630 3535 |
| Technical Support | +48 | 22 630 3535 |

* Indicates domestic numbers not available internationally.

*Continued*

**Worldwide Telephone Numbers** *Continued*

| | | |
|---|---|---|
| **Portugal** | | |
| General Information | +351 | 1 412 8400 |
| Technical Support | +351 | 1 412 8460 |
| Technical Support | +351 | 1 412 8417 |
| Fax | +351 | 1 412 0654 |
| **Russia** | | |
| General Information | +7 | 96 967 1700 |
| Technical Support | +7 | 96 967 1700 |
| **Singapore** | | |
| General Information | +65 | 750 3030 |
| Customer Service | +65 | 750 3030 |
| FaxPaq/PaqFax | +65 | 750 4514 |
| **South Africa** | | |
| General Information | +27 | 11 356 4444 |
| Technical Support | +27 | 11 356 4444 |
| Fax | +27 | 11 483 3411 |
| **Spain** | | |
| General Information | +34 | 902 10 14 14 |
| Technical Support | +34 | 902-20-24-00 |
| Fax | +34 | |
| **Sweden** | | |
| General Information | +46 | 200-27 00 10 |
| Technical Support* | +46 | 8-730 01 50 (75 SK per call) |
| Fax | +46 | 8-730 01 62 |
| **Switzerland** | | |
| InfoLine* | | 0844 844 111 |
| Technical Support (German) | +41 | 01/838 22 22 |
| Technical Support (French) | +41 | 01/838 22 23 |

* Indicates domestic numbers not available internationally.

*Continued*

**Worldwide Telephone Numbers** *Continued*

| | | |
|---|---|---|
| **Taiwan** | | |
| General Information | +886 | 2 735 1000 |
| Technical Support | +886 | 2 376 1170 |
| **Thailand** | | |
| General Information | +66 | 2 679 6222 |
| **Turkey** | | |
| General Information | +90 | (0216) 3102020 |
| Fax | +90 | (0216) 3918428 |
| **United Arab Emirates (Dubai)** | | |
| General Information | +97 | 14 818 100 |
| **United Kingdom** | | |
| General Information* | | 0845 270 4000 |
| General Information | +44 | 141 270 4000 |
| FaxPaq/PaqFax | +44 | 181 332 3550 |
| QuickLine BBS | +44 | 181 332 9499 |
| **United States** | | |
| Product Information* | | 1 800 345 1518 |
| Technical Support* | | 1 800 OKCOMPAQ (1 800 652 6672) |
| FaxPaq/PaqFax* | | 1 800 345 1518, Option 1 |
| Download Facility* (modem access only) | | |
| Ordering Software Backup* | | 1 281 518 1418 |
| Battery Pack Recycling* | | 1 800 952 7689 |
| | | 1 800 524 9859 |
| **Venezuela** | | |
| General Information | +58 | 2 953 0854 |
| Technical Support | +58 | 2 953 9705 |

* Indicates domestic numbers not available internationally.

## *Appendix B*
# Regulatory Notices

Throughout these regulatory notices, Compaq products are referred to by their regulatory agency series numbers.

## Regulatory Agency Series Numbers

Regulatory agencies worldwide use agency series numbers for product identification. Each approved product displays the assigned agency series number. To ensure continued safe and reliable operation, the products listed below should be used only with the Compaq PP1000 agency series of computers.

| Product | Agency Series Number |
|---|---|
| ■ Armada Personal Computer | PP2050 |
| ■ Mobile expansion unit | PP2055 |
| ■ Docking stations | PP1005, PP1006, & PP1007 |
| ■ AC Adapter | PPP003 |
| ■ Battery packs | PP2051A, PP2051B |
| ■ MultiBay battery pack | PP1001A |
| ■ Battery charger | PP1003 |
| ■ Automobile Adapter | Part Number 401043 |
| ■ External Diskette Drive | PP2056 |

# Telecom Network Approvals

The telecommunications device in your computer is approved for connection to the telephone network in the countries whose approval markings are indicated on the product label. Additional country approvals may be found on the Compaq web site. To view these approvals, visit www.compaq.com and perform a site search for the words "telecom network approvals." If a selection is available for your product, you may view and print the approval marks or numbers.

# 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 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.

## Declaration of Conformity for Products Marked with the FCC Logo (United States only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions about your product, write to

Compaq Computer Corporation
P. O. Box 692000, Mail Stop 530113
Houston TX 77269-2000

or call 1-800-OKCOMPAQ (1-800-652-6672)

For questions about this FCC declaration, write to

Compaq Computer Corporation
P. O. Box 692000, Mail Stop 510101
Houston TX 77269-2000

or call 281-514-3333

To identify your product, refer to the part, series, or model number found on the product.

# 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

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準
に基づくクラスB情報技術装置です。この装置は、家庭環境で使用すること
を目的としていますが、この装置がラジオやテレビジョン受信機に近接して
使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

## Airline Travel Notice

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

## Energy Star® Compliance

The Compaq PP2050 agency series of computers are compliant with the U.S.
Environmental Protection Agency (EPA) Energy Star® Computers Program 2.0.
The EPA Energy Star® logo does not imply endorsement by the EPA. As an
Energy Star® Partner, Compaq Computer Corporation has determined the
product meets the Energy Star® guidelines for energy efficiency.

## Power Cords

If you were not provided with a power cord for your computer or for an AC
power accessory intended for use with your computer, you should purchase a
power cord that is approved for use in your country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the diameter of the wire must be a minimum of 0.75 mm²/18AWG, and the length of the cord must be between 5 feet (1.5 m) and 6½ feet (2 m). If you have questions about the type of power cord to use, contact your Compaq authorized service provider.

A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it. Particular attention should be paid to the plug, electrical outlet, and the point where the cord exits from the product.

# Battery Notice

⚠ **WARNING:**  This computer contains a lithium-ion 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 in water or fire, or expose it to temperatures higher than 60ºC (140ºF). Replace only with the Compaq battery pack for this computer.
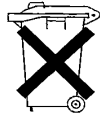
In North America, dispose of nickel metal hydride or lithium-ion batteries by taking advantage of the Compaq battery recycling program. You will be provided with a postage-paid battery pack mailer preaddressed to a reclamation facility where the metals are recycled. Call the telephone number listed for your location in Appendix A for more information.

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.

# Laser Safety

All Compaq systems equipped with laser products comply with appropriate safety standards, including IEC 825. With specific regard to the laser, the equipment complies with laser product performance standards set by government agencies for Class 1 laser products. It does not emit hazardous light; the beam is totally enclosed during all modes of customer operation and maintenance.

## CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.

> ⚠ **WARNING:** Use of controls or adjustments or performance of procedures other than those specified herein or in the laser product installation guide may result in hazardous radiation exposure.

**CLASS 1 LASER PRODUCT**

This system is classified as a Class 1 laser product. This label appears on the laser product.

### Laser Information

| | |
|---|---|
| Laser Type: | Semiconductor GaAlAs |
| Wave Length: | 780 ± 35 nm |
| Divergence Angle: | 53.5° ± 1.5° |
| Output Power: | Less than 0.2mW or 10,869 W·m$^{-2}$sr$^{-1}$ |

*Continued*

**Laser Information**   *Continued*

| | |
|---|---|
| Polarization: | Circular |
| Numerical Aperture: | $0.45 \pm 0.04$ |

Only authorized technicians trained by Compaq should attempt to repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module level repair. Because of the complexity of the individual boards and subassemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard.

# European Union Notice

Products with the CE marking comply with Telecommunication Terminal Equipment and Satellite Earth Station Equipment (TTE & SES) Directive (98/13/EC), the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the European Community.

Compliance with these directives implies conformity to the following European Norms or Regulations (in brackets are the equivalent international standards and regulations):

■   EN55022 (CISPR 22)—Electromagnetic Interference

■   EN50082-1 (IEC801-2, IEC801-3, IEC801-4)—Electromagnetic Immunity

■   EN60950 (IEC950)—Product Safety

■   CTR21 (ETSI TBR21)—Attachment requirements for connection to the analogue PSTNs of terminal equipment

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier in the first instance.

The equipment is designed to work with all EU telephone networks. However, the equipment may have interworking difficulties for some connections on the EU public networks. Dialling by loop disconnect pulses is not intended to be used on the PSTN. This feature is only supported in consideration of PBX or other equipment which requires pulse dialling.

Network compatibility is dependent on software switch settings which are set automatically by the country selection. The user should contact the equipment supplier in case of difficulty in network settings.

Use the Country Select Software supplied with the product to configure your modem for the country in which you are currently located. Selecting a country other than the one in which you are currently located may cause your modem to be configured in a way that violates the telecommunication regulations/laws of that country. In addition, your modem may not function properly if the correct country selection is not made.

# Safety Precautions for Modems

Always follow these basic safety precautions when using a modem or telephone that is *not* cordless.

---

⚠ **WARNING:** When using this device, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.
- Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use this product to report a gas leak in the vicinity of the leak.
- Always disconnect the modem cable before opening the equipment enclosure or touching an uninsulated modem cable, jack, or internal components.
- If this product was not provided with a telephone line cord, use only No. 26 AWG or larger telecommunication line cord in order to reduce the risk of fire.

SAVE THESE INSTRUCTIONS.

---

# U.S. Regulations Governing
# the Use of Modems

This equipment complies with Part 68 of the FCC rules. Located on the bottom of the computer is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. Upon request, you must provide this information to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most areas (but not all), the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your telephone line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

The REN for this device does not exceed 1.0.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

An FCC-compliant, 6-position (RJ11C), modular plug telephone cable is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible 6-position modular jack which is FCC Part 68-compliant.

If you experience trouble with this telephone equipment, contact your local telephone company for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

For the Compaq Customer Support Center and your nearest Compaq Authorized reseller in North America, call 1-800-345-1518 or write:

Compaq Customer Support Center
P.O. Box 692000
Houston, Texas 77269-2000

## Telephone Consumer Protection Act of 1991

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page, or on the first page of the transmission, the date and time it is sent and an identification of the business, or entity, or individual sending the message and the telephone number of the sending machine or such business, or entity, or individual.

## Canadian Regulations Governing the Use of Modems

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

An Industry Canada-compliant, 6-position (CA11A), modular plug telephone cable is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible 6-position modular jack which is FCC Part 68 / Industry Canada-compliant.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

> △ **CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or an electrician.

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices, subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed **5**.

The Ringer Equivalence Number (REN) for this device does not exceed 1.0.

For the location of the authorized Canadian maintenance facility nearest you, call 1-800-OKCOMPAQ or contact:

Compaq Canada, Inc.
45 Vogell Road
Richmond Hill, Ontario L4B 3P6

# New Zealand Modem Statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment is not capable, under all operating conditions, of correct operation at the higher speeds for which it is designed. Telecom will accept no responsibility should difficulties arise in such circumstances.

This device is equipped with pulse dialling while the Telecom standard is DTMF tone dialling. There is no guarantee that Telecom lines will always continue to support pulse dialling.

Use of pulse dialling, when this equipment is connected to the same line as other equipment, may give rise to bell tinkle or noise and may also cause a false answer condition. Should such problems occur, the user should not contact the Telecom Faults Service.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom's Specifications:

a)  There shall be no more than 10 call attempts to the same number within any 30-minute period for any single manual call initiation, and

b)  The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

Where automatic calls are made to different numbers, the equipment shall go on-hook for a period of not less than 5 seconds between the end of one attempt and the beginning of the attempt.

The equipment shall be set to ensure that calls are answered between 3 and 30 seconds of receipt of ringing (S0 set between 2 and 10). This ensures:

a)  A person calling your modem will hear a short burst of ringing before the modem answers. This confirms that the call has been successfully switched through the network.

b)  Caller identification (which occurs between the first and second ring cadences) is not destroyed.

This equipment does not fully meet Telecom's impedance requirements. Performance limitations may occur when used in conjunction with some parts of the network. Telecom will accept no responsibility should difficulties arise in such circumstances.

This equipment should not be used under any circumstances which may constitute a nuisance to other Telecom customers.

This equipment shall not be set to make automatic calls to the Telecom '111' Emergency Service.

# Macrovision Corporation Notice

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

# *Appendix C*
# Electrostatic Discharge

A discharge of static electricity from fingers or other electrostatic conductors may damage electronic components. Before handling electrostatic-sensitive components, discharge static electricity by one of the methods described in this appendix.

## Preventing Electrostatic Discharge

### When Handling Drives

■  Before handling a drive, discharge static electricity by touching the unpainted metal surface or lug nuts on the connectors on the back of the computer.

■  Avoid touching connector pins on the computer, a drive, or a drive adapter.

### When Installing Internal Components

■  Keep components in their electrostatic-safe containers until you are ready to install them.

■  Have everything needed for the installation within reach so that you do not have to leave the area after beginning installation.

■  Use nonmagnetic tools.

■  Before touching an electronic component, discharge static electricity by one of the grounding methods described later in this appendix. If you must leave the area during installation, remember to reground yourself before resuming installation.

■  Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.

■  If you remove a component, place it in an electrostatic-safe container.

## Grounding Methods

If installation instructions direct you to unplug the computer or an optional docking base, unplug it *after* being properly grounded and *before* removing the cover. Use one or more of the following grounding methods.

■   Touch the unpainted metal surface or lug nuts on the connectors on the back of the computer or docking base. Avoid touching connector pins.

■   Touch an exterior unpainted metal surface of equipment that is connected to an electrical outlet by a grounding plug.

■   Use a wrist strap connected by a ground cord to the computer chassis. Wrist straps are flexible grounding straps with a minimum of 1 megohm ± 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.

NOTE:   If you need more information about static electricity or assistance with product installation, contact your Compaq authorized dealer, reseller, or service provider.

# *Appendix D*
# Specifications

## Computer Dimensions

| Computer Dimensions | | |
|---|---|---|
| Dimension | U.S. | Metric |
| Height | 0.88 in | 22.5 mm |
| Width | 10.4 in | 266 mm |
| Depth | 8.9 in | 228 mm |

## Operating Environment

| Operating Environment | | |
|---|---|---|
| Factor | U.S. | Metric |
| **Temperature** | | |
| Operating | 50° to 95°F | 10° to 35°C |
| Nonoperating | −4° to 140°F | −20° to 60°C |
| **Relative humidity (noncondensing)** | | |
| Operating | 10 to 90% | 10 to 90% |
| Nonoperating | 5 to 95% | 5 to 95% |

*Continued*

**Operating Environment**  *Continued*

| Maximum altitude (unpressurized) | | |
|---|---|---|
| Operating | 10,000 ft | 3,048 m |
| Nonoperating | 30,000 ft | 9,144 m |

# Rated Input Power

**Rated Input Power**

| Input Power | Rating |
|---|---|
| Operating voltage | 100–120/220–240 VAC RMS |
| Operating current | 1.2/0.6 A RMS |
| Operating frequency range | 50–60 Hz AC |
| When powered by a DC source | 18.5V MAX |

**NOTE:** This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 Vrms.

# Port and COM Port Settings

**Port and COM Port Settings**

| Port | Port | Address | IRQ | DMA |
|---|---|---|---|---|
| Serial port | | 3F8h - 3FFh | 4 | |
| USB connector | | 2400-241Fh | 11 | |
| Parallel port | | 378  - 3FFh | 7 | 3 |
| Serial I/O connector | COM1 | 3F8h - 3FFh | 4 | |

**Port and COM Port Settings** *Continued*

| | | | | |
|---|---|---|---|---|
| Infrared port | COM3 | 3E8h - 3Efh | 3 | 5 |
| Internal modem | COM2 | 2F8h - 2FFh | 11 | 3 |

**NOTE:** If the computer is running Windows NT 4.0, the internal modem can also be set at COM4 and can also use IRQ 5 or 10.

# Modem Specifications

## Modem Specifications

| **Temperatures** | | |
|---|---|---|
| Operating | 32° to 167°F  (0° to 75°C) | |
| Storage | –40° to 167°F (–40° to 75°C) | |
| **Relative Humidity (non-condensing)** | | |
| Operating | –10 to 90% (–10 to 90%) | |
| Storage | –5 to 95%@102°F (–5 to 95%@ 39°C) | |
| **Interfaces** | Communications connector | Standard RJ-11 telephone connector |
| | Telephone, central office network | Internal DAA |
| **Power Requirements** | +3.3 volts +/–5%, +3.3 vaux +/–5%, +5 volts +/–5% | |

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