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# HP OmniBook 4150

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## Reference Guide

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**Mobile Computing Division**  
**19310 Pruneridge Ave.**  
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## Introducing the OmniBook

Introducing the OmniBook  
**Getting More Information**

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## Getting More Information

Congratulations! Your OmniBook sets a new standard in personal computing. Although it's compact and easy to carry, the OmniBook is infused with the quality and attention to detail that are the hallmark of Hewlett-Packard.

The OmniBook *Quick Start* sheet shows how to get your OmniBook up and running quickly. This manual shows how to set up and operate the OmniBook, and it also shows what to do if you run into trouble.

This table lists other sources of supplementary information about OmniBook products.

Source	Description and Location
User's Handbook	This printed manual introduces the OmniBook and shows you the OmniBook basics. It also contains setup instructions, basic operation, troubleshooting, and warranty information.
Online Reference Guide	The full <i>Reference Guide</i> is shipped on the OmniBook hard drive. This manual provides a complete source for operating and maintaining the OmniBook. Look in the OmniBook Library group.
Online OmniBook Notes	For late-breaking information available after the manuals were completed, see OmniBook Notes in the online OmniBook Library.
Microsoft Windows manual	This is shipped with your OmniBook and contains information about using the standard features of the version of Microsoft Windows shipped with your computer.
OmniBook website	<a href="http://www.hp.com/omnibook">http://www.hp.com/omnibook</a> . <a href="http://www.europe.hp.com/omnibook">http://www.europe.hp.com/omnibook</a> (European mirror).
HP Customer Care website	<a href="http://www.hp.com/cposupport/eschome.html">http://www.hp.com/cposupport/eschome.html</a> .
Corporate Evaluator's Guide	This provides information about installing alternate operating systems, as well as how to configure the OmniBook in a corporate, networked environment. Located at the OmniBook website.

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## Taking Inventory

The HP OmniBook 4150 represents a category of HP notebook computers featuring the latest mobile technologies available. It uses high-speed Intel processors, large TFT displays, and high-capacity hard drives.

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### Included in the OmniBook box

- HP OmniBook 4150.
- Floppy disk drive.
- CD-ROM or DVD drive.
- AC adapter and power cord.
- Lithium-ion battery.
- The OmniBook *User's Handbook*.
- Quick Start sheet.
- OmniBook *Recovery CD*. Includes Windows recovery and operating system drivers.
- Microsoft Windows manual.

Introducing the OmniBook  
**Taking Inventory**

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## To buy OmniBook accessories

Buy OmniBook accessories online! For the latest accessories and options, visit us at <http://www.hp.com/omnibook> As new accessories become available, you'll find them listed here.

At the time of this printing, HP offers a variety of docking solutions, plug-in modules, and other accessories, including the following:

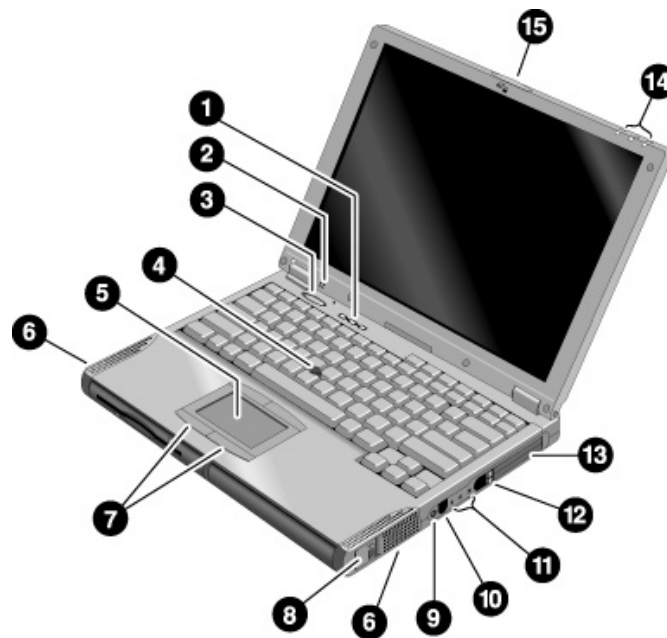
- Docking system and monitor stand.
- Mini dock.
- Port replicator.
- Floppy disk drive.
- External floppy disk drive cable.
- CD-ROM drive.
- LS-120 drive.
- DVD drive.
- Replacement hard disk drive.
- Second hard disk drive.
- Lithium-ion battery.
- External battery charger.
- PC Cards.
- Smart Card security system.
- Auto / airline adapter.
- AC adapter.

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## OmniBook Features

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### OmniBook—Front View

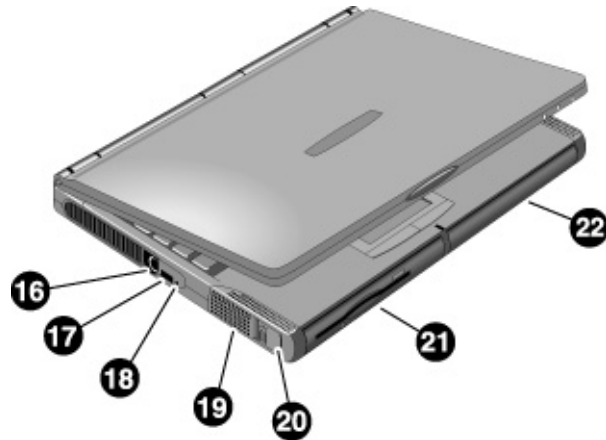


1. Keyboard status lights (left to right: caps lock, keypad lock, num lock).
2. Built-in microphone.
3. Blue power button. Turns the OmniBook on and off.
4. Pointing stick (pointing device).
5. Touch pad (pointing device).
6. Built-in speakers
7. Click buttons (two above and two below touch pad).
8. Main battery release latch.
9. Mute button.
10. AC adapter jack.
11. Audio jacks (left to right): audio line-in, external microphone, audio line-out.
12. PC Card eject buttons (upper and lower PC Card slots).
13. PC Card and CardBus slots (upper and lower). Accepts two Type-II cards or one Type-III card.
14. Main status lights (left to right): power state, hard disk activity, charging status.
15. Latch to open and close the OmniBook.

Introducing the OmniBook  
**OmniBook Features**

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OmniBook—Side View

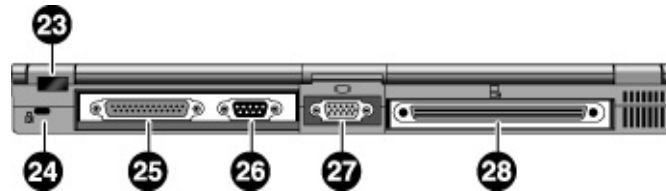


- 16. PS/2 keyboard or PS/2 mouse port (supports Y adapter).
- 17. Universal serial bus port (USB). Windows NT 4.0 does not support USB.
- 18. System-off button (to shut down the OmniBook).
- 19. Built-in speakers.

- 20. Module release latch.
- 21. Plug-in module bay. Can contain a CD-ROM drive, floppy disk drive, LS-120 drive, DVD drive, second hard disk drive, or a second battery.
- 22. Battery bay.

---

## OmniBook—Back View



23. Infrared port. Windows NT 4.0 does not support infrared communication.
24. Kensington lock slot (security connector)
25. Parallel port (LPT1). Use this port for a parallel printer, other parallel device, or to connect the floppy disk drive externally.

26. Serial port (COM1). Use this port for a serial mouse, a modem, a serial printer, or other serial device.
27. External monitor port.
28. Docking port.

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## Setting Up for the First Time

When you set up the OmniBook for the first time, you'll need to install and charge the battery, connect the ac adapter, turn on the OmniBook, and go through the Windows setup program.

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### To set up the OmniBook and Windows

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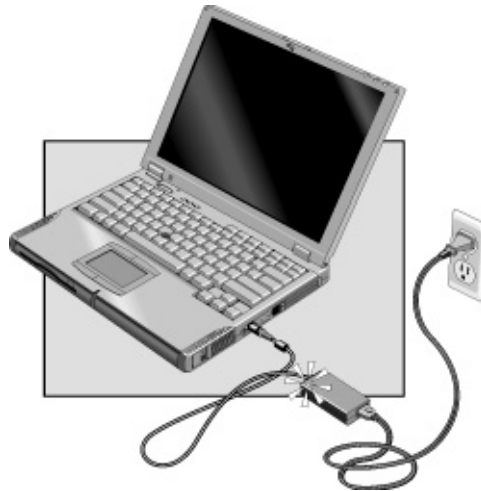
**CAUTION**

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**Use only the HP adapter model F1454A (or other approved adapter) with this product. Using any other ac adapter could damage the OmniBook and may void your warranty. Refer to the warranty statement for your product.**

1. If present, remove the "weight-saving" module by sliding the release latch forward, then pushing it back as far as it will go. With the latch open, insert the OmniBook's main battery.
2. Plug in the ac adapter.
3. Connect the ac adapter to the OmniBook's right side, as shown. The OmniBook battery starts charging.

Let the battery charge a full 24 hours to completely charge the internal clock battery. Otherwise, the OmniBook may not keep the correct date and time.



4. Press the blue power button.

5. The Windows Setup program starts automatically. Follow the instructions as they appear on the screen.
6. During setup, you may be prompted to enter the Product Key or Product ID (printed on the Certificate of Authenticity on the Microsoft Windows manual or attached to the bottom of the computer).
7. If you are prompted to set up a user account and password, you can either set up the account or press ESC to skip this step.

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**Windows NT 4.0**

For Windows NT, Card Executive provides support for PC Cards, and Advanced Power Management provides power management. If a PC Card icon and a Power icon are displayed in the taskbar, these utilities are already installed. If these icons are not present, see “To install Card Executive for Windows NT 4.0” on page 75 and “To install APM for Windows NT 4.0” on page 51. You should install Card Executive *before* you install networking support.

For Windows NT, the NT administrator password is initially blank. For system security, you should change the NT administrator password in the Windows NT User Manager.

For Windows NT, the keyboard locale is initially set to match the Windows NT language. For example, French Windows NT uses a French keyboard. If your OmniBook has a different keyboard, such as French-Canadian, you should use Keyboard Control Panel to change the locale and layout under Input Locales.

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**Year 2000**

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## Operating the OmniBook

## Starting and Stopping the OmniBook

You can easily start and stop your OmniBook using the blue power button. However, at certain times, you may want to use other methods for starting and stopping your OmniBook—depending on power considerations, types of active connections, and start-up time.

### To start and stop the OmniBook

When you	The OmniBook enters	To turn on again
Press Fn+S.* –or– allow time-out.	<b>Standby Mode</b> Saves minimal power. Turns off the display only. Restarts quickly. Maintains network connections.	Press any key or move a pointing device to display your current session (“Instant-On”).
Press blue power button –or– click Start, Suspend.** –or– allow time-out.	<b>Suspend Mode</b> Saves significant power. Turns off the display. Saves current session to RAM. Restarts quickly. May restore network connections.***	Press the blue power button to display your current session (“Instant-On”).
Press Fn+F12 –or– allow time-out.	<b>Hibernate Mode</b> Saves maximum power. Saves current session to disk, shuts down. May restore network connections.***	Press the blue power button to restart and restore your previous session.
Click Start, Shut Down (recommended) –or– Press and hold the blue power button until the display shuts down.	<b>Off Mode</b> Saves maximum power. Turns off without saving current session. At startup, resets everything, starts a new session, and restores network connections.	Press the blue power button to restart with a new session.

\* Windows NT and Windows 95 only. In Windows 98, press Fn+S to suspend. Not supported in Windows 2000.

\*\* Windows 95 only. In Windows 98 and Windows 2000, click Start, Shutdown, Standby to suspend.

\*\*\* A plug-and-play operating system, such as Windows 95, Windows 98, or Windows 2000, can restore network connections when you turn on the OmniBook. For Windows NT 4.0 or a different operating system, you may have to reset the OmniBook or restart the operating system to restore them.

---

## To reset the OmniBook

If Windows or the OmniBook stops responding, you can reset the OmniBook and restart Windows.

1. If possible, shut down Windows.
2. Press and hold the blue power button until the display shuts down.

–or, if this fails–

Insert a pen or straightened paper clip into the recess on the left side of the OmniBook, as shown.

3. After the computer shuts down, press the blue power button to turn it on.



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### Hint

To boot from a CD-ROM or DVD drive in the module bay, press ESC two times during reboot when you see the HP logo. Then select the CD-ROM/DVD drive as the temporary boot device.

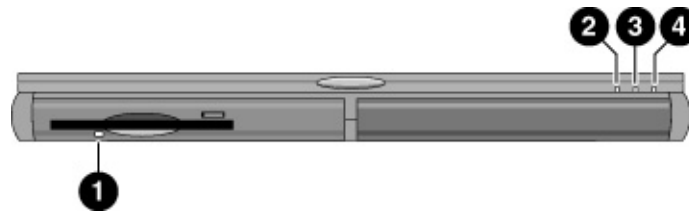
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## Checking the Status of the OmniBook

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### To check power status and drive activity

The OmniBook has status lights that report power status and drive activity. When the floppy disk drive is installed in the module bay, the following lights are present on the front of the OmniBook and the module bay.

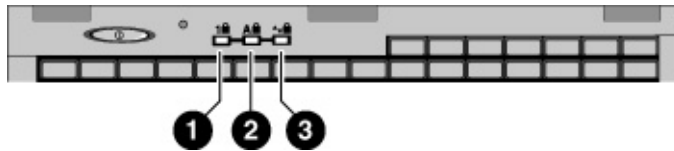


1. Floppy disk drive light.
  - Green light. The OmniBook is accessing the floppy disk drive.
2. Power status light.
  - Green light. OmniBook is on.
  - Amber light. OmniBook is in Standby or Suspend mode.
  - No light. OmniBook is in Off or Hibernate mode.
  - Green and amber light. OmniBook failed when resuming. Reset the OmniBook.
3. Drive activity light.
  - Green light. OmniBook is accessing the hard disk drive or a drive in the module bay.
4. Charging status light.
  - Green light. The ac adapter is connected and battery is full or has stopped charging.
  - Blinking green light. The ac adapter is connected and battery is charging.
  - No light. The ac adapter is not connected or the battery is not installed.

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## To check the keyboard status

The keyboard status lights, located above the keyboard, indicate the states of the keyboard locks.

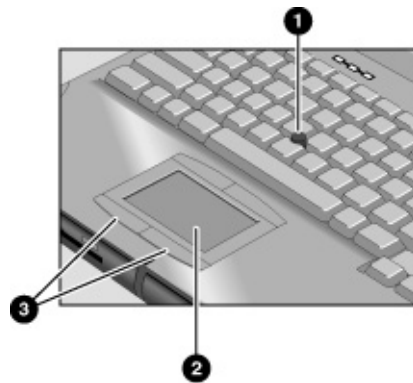


1. **Caps Lock.** Caps Lock is active.
2. **Keypad Lock.** The embedded keypad is active (Fn+F8). Num Lock must also be on for the numeric keys—otherwise, cursor control is active.
3. **Num Lock.** Num Lock is active. (The Keypad Lock must also be on to use the embedded keypad.)

---

## Using the OmniBook Pointing Devices

Two pointing devices (pointing stick and touch pad) are built into your OmniBook.



1. Pointing stick (pressure-sensitive pointing device).
2. Touch pad (touch-sensitive pointing device).
3. Click buttons (two above and two below the touch pad).

Both pointing devices use these click buttons, which work like the left and right buttons on a standard mouse. What the buttons do depends on the software being used.

---

## To use the built-in pointing devices

1. Place your hands in the typing position.
2. **Pointing stick.** With your index finger, press the pointing stick in the direction you want the pointer to move. Pressing away from you moves the pointer up the screen; pressing toward you moves the pointer down the screen.  
**Touch pad.** Move a thumb or finger across the touch pad in the direction you want the pointer to move.
3. Use the left and right click buttons, which function like the left and right buttons on a mouse, to make your selection.
  - To open an application, move the pointer over the icon, then press the left button twice rapidly.
  - To make menu selections, move the pointer to the item and press the left button once.
  - To open the shortcut menu for an item, move the pointer over the item and click the right button.
  - To drag an item, move the pointer over the item. Press *and hold* the left button while you move the pointer to the new location. Release the button.

The default pointing device driver (PS/2 TrackPoint) supports the enhanced features of the pointing stick and the *basic* features of the touch pad.

You can customize the OmniBook to support enhanced touch pad features (see the next topic). If you do this, keep in mind that you are selecting enhanced features for the touch pad only. *You cannot activate enhanced features for both simultaneously.*

---

### Windows 2000

Under Windows 2000, enhanced features for the pointing stick and touch pad are not available at this time. Check the Customer Care website (<http://www.hp.com/cposupport/eschome.html>) for PS/2 TrackPoint and touch pad device drivers for Windows 2000. The default pointing device driver is the standard PS/2 Compatible Mouse driver. To disable either pointing device, see “To run the BIOS Setup utility” on page 86.

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## To activate full touch pad capabilities

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### Windows 2000

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Under Windows 2000, full touch pad capabilities are not available at this time.

The built-in pointing stick driver supports only basic touch pad features. To activate full touch pad capabilities, you have to

- Remove the pointing stick driver and select a new mouse driver.
- Disable the pointing stick.
- Install touch pad support.

#### **Remove the pointing stick driver and select a new mouse driver**

1. From the Start menu, click Settings, Control Panel.
2. Double-click Add/Remove Programs and remove IBM TrackPoint Support.
3. From Control Panel, open Mouse, General and click Change.

–or–

In Windows 98, from Control Panel, open System, Device Manager, Mouse, IBM PS/2 TrackPoint, Driver, click Update Driver, and select the option to display a list of drivers.

4. Select Show All to see a complete list of devices.
5. Under Manufacturers, click Standard Mouse Types.
6. Under Models, change the mouse type to Standard PS/2 Port Mouse, then continue.
7. Click Yes to any questions.

#### **Disable the pointing stick**

1. From the Start menu, shut down, then restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. Select the System Devices menu.
4. Highlight Internal Pointing Devices and select Touch Pad.
5. Press F10 to save and exit.

#### **Install touch pad support**

- Run C:\Omnibook\Drivers\Touchpad\Setup.exe or Install.exe.

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## To activate full pointing stick capabilities

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### Windows 2000

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Under Windows 2000, full pointing stick capabilities are not available at this time.

If you have activated full touch pad capabilities, you can use this procedure to switch back to full pointing stick capabilities.

#### **Remove the touch pad driver**

- From Control Panel, click Add/Remove Program and remove touch pad.

#### **Enable the pointing stick**

1. From the Start menu, shut down, then restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. Select the System Devices menu.
4. Highlight Internal Pointing Devices and select Pointing Stick. (Choose Both if you want basic touch pad features available.)
5. Press F10 to save and exit.

#### **Install pointing stick support**

- From Control Panel, open Mouse, General and click Change. Click Have Disk, point to the directory listed below, and select IBM PS/2 TrackPoint.

–or–

In Windows 98, from Control Panel, open System, Device Manager, Mouse, Standard PS/2 Port Mouse, Driver, click Update Driver, and select the option to display a list of drivers. Click Have Disk, point to the directory listed below, and select IBM PS/2 TrackPoint.

c:\Omnibook\Drivers\Trackpnt

## To configure pointing devices

- To customize the operation of all pointing devices (pointing stick, touch pad, and external PS/2 or serial mouse), in Control Panel open Mouse. You can change left and right button actions, double-click speed, pointer speed and trail, and more.
- To customize special pointing stick features, click the pointing stick icon on the taskbar or open TrackPoint in Control Panel. This is not yet available under Windows 2000.

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## Using the OmniBook Display

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### To adjust the display brightness

The OmniBook uses special key combinations, called hot keys, to control brightness.

- Press Fn+F1 to decrease the brightness.
- Press Fn+F2 to increase the brightness.

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**Hint**

To maximize your battery operating time, set the brightness to the lowest comfortable setting, so that the internal light uses less power.

---

### To extend the life of the display

Observe the following guidelines to maximize the life of the backlight in the OmniBook display.

- Set the brightness to the lowest comfortable setting (Fn+F1). If you are using an external keyboard, Fn = left CTRL + left ALT.
- When working at your desk, connect an external monitor and turn off the internal display (Fn+F5).
- Avoid using a screen saver or other software that prevents the OmniBook from changing to Suspend or Standby mode after a time-out period. If you use a screen saver in Windows 95, 98, or 2000, enable the option to shut off the display after a time delay.
- Do not disable Suspend or Standby time-outs.
- If you are using ac power and have no external monitor attached, change to suspend or standby when not in use.

---

## To suspend the OmniBook when closing the display

By default, the OmniBook display turns off when you close the display lid. You can change this setting to suspend the OmniBook when you close the display lid.

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### Windows 2000

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Under Windows 2000, to set the action for closing the display, open Control Panel, open Power Options, and on the Advanced tab, select an option for closing the lid. None means that the display will turn off when you close the lid.

1. Close all applications, then shut down Windows and restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. From the Power menu, choose Lid Switch Mode.
4. Choose one of the following options:

**Turn off LCD.** Closing the lid turns off the display (default). Open the lid to turn on the display again.

**Suspend.** Closing the lid suspends the OmniBook. Press the blue power button to resume again.

5. Press F10 to save and exit the BIOS Setup utility.

---

## Adjusting the Audio System

The OmniBook supports Sound Blaster Pro-compatible sound and the Microsoft Windows Sound System.

---

### To adjust the volume

#### **On the Keyboard**

- To increase the volume, press Fn+UP-ARROW.
- To decrease the volume, press Fn+DOWN-ARROW.
- To temporarily silence the speaker without changing the volume setting, press the mute button on the right side of the OmniBook.

#### **In Windows**

- Click the speaker symbol in the taskbar.
- Drag the volume control bar up or down to adjust the volume.
- To temporarily silence the speaker without changing the volume setting, click Mute.

---

## Using the OmniBook Keyboard

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### WARNING

**Improper use of keyboards and other input devices has been associated with ergonomic injury. For information about reducing your risk, see *Working in Comfort* in the online OmniBook Library, or visit our ergonomics website, <http://www.hp.com/ergo>.**

**If you are using your portable computer as your primary computer, or using it for extended periods, you should use it with a full-size keyboard, monitor, and mouse. This can reduce the risk of ergonomic injury. See *Working in Comfort* in the online OmniBook Library.**

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### To use the Fn hot keys



The combination of the Fn key plus another key creates a *hot key*—a shortcut key sequence—for various system controls. The OmniBook keyboard shows the Fn *hot keys* labeled in gray. If you are using an external keyboard, the Fn key = left CTRL + left ALT.

These keys	Do this
Fn + F1	Decreases the display's brightness.
Fn + F2	Increases the display's brightness.
Fn + F5	Switches among the built-in display, an external display, and simultaneous displays.
Fn + F8	Toggles the built-in keypad on and off. Does not affect an external keyboard. If Num Lock is on, then the numeric functions are active; otherwise, cursor control is active.
Fn + F12	Enters Hibernate mode.
Fn + S	Enters Standby mode in Windows 95 and Windows NT. Enters Suspend mode in Windows 98. Not supported in Windows 2000.
Fn + R	Enters Suspend mode. Not supported in Windows 2000.
Fn + ScrLk	Toggles Scroll Lock on and off.
Fn + UP ARROW	Increases the volume.
Fn + DOWN ARROW	Decrease the volume.

---

## To use the Windows keys

There are two Windows keys on the keyboard.

The one next to the Fn key brings up the Windows Start menu.



The one at the top center of the keyboard brings up the shortcut menu for the current application. This is the same menu that appears when you click the right mouse button while pointing at the application.



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## To use the embedded keypad

When the embedded keypad on the OmniBook's built-in keyboard is active, two options are possible.

**Num Lock on** Keys change to the numeric or arithmetic designations printed in light gray on the keyboard.

**Num Lock off** Keys change to cursor control keys.

1. Press NmLk to turn Num Lock on or off.
2. Press Fn+F8 to turn on the embedded keypad.

–or–

To temporarily turn on the embedded keypad, hold Fn while typing a key.

## To use the ALT GR key

Non-U.S. keyboards have an ALT GR key to the right of the spacebar. This is a shift key providing access to certain keyboard characters.

- For a character in the lower-right corner of a key, press and hold ALT GR to type the character.



1. Shift.
2. Unshifted.
3. ALT GR.

For example, to type the euro currency symbol, hold ALT GR and press the marked key—or you can turn on Num Lock and the embedded keypad, then hold ALT and type 0128 on the embedded keypad.

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## Working in Comfort

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### WARNING

**Improper use of keyboards and other input devices has been associated with ergonomic injury. For more information about reducing your risk, visit our ergonomics website at [www.hp.com/ergo](http://www.hp.com/ergo).**

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Thank you for selecting HP computing equipment. To optimize your comfort and productivity, it is important that you set up your work area correctly and use your HP equipment properly. With that in mind, we have developed some set-up and use recommendations for you to follow based on established ergonomic principles.

Improper and prolonged use of keyboards and input devices are among those tasks that have been associated with repetitive strain injury (RSI) to soft tissues in the hands and arms. If you experience discomfort or pain while using any computing equipment, discontinue use immediately and consult your physician as soon as possible.

In addition to the information on RSI given in this chapter, you may also consult the online version of Working in Comfort preloaded on the hard disk of the your HP OmniBook, or visit HP's Working in Comfort website.

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## About Repetitive Strain Injury

Because your comfort and safety are our primary concern, we strongly recommend that you use HP computing equipment in accordance with established ergonomic principles and recommendations.

Scientific literature suggests that there may be a relationship between injury to soft tissues—especially in the hands and arms—and prolonged, improper use of keyboards or other equipment requiring repeated motions of the hands and forearms.

This literature also suggests that there are many other risk factors that may increase the chance of such injury, commonly called Repetitive Strain Injury.

### **What is RSI?**

Repetitive Strain Injury (RSI—also known as cumulative trauma disorder or repetitive motion injury) is a type of injury where soft tissues in the body, such as muscles, nerves, or tendons, become irritated or inflamed.

## Operating the OmniBook **Working in Comfort**

RSI has been a reported problem for those who perform repetitive tasks such as assembly line work, meatpacking, sewing, playing musical instruments, and computer work.

RSI also has been observed in those who frequently engage in activities such as carpentry, knitting, housework, gardening, tennis, windsurfing and lifting children.

### **What causes RSI?**

The specific causes of RSI have not been established. Nevertheless, the incidence of RSI has been associated with a variety of risk factors, including:

- Too many uninterrupted repetitions of an activity or motion.
- Performing an activity in an awkward or unnatural posture.
- Maintaining static posture for prolonged periods.
- Failing to take frequent short breaks.
- Other environmental and psychosocial factors.

In addition, there have been reports associating the occurrence of RSI with the use of computer keyboards, mice, and other input devices. Also, certain medical conditions, such as rheumatoid arthritis, obesity and diabetes, may predispose some people to this type of injury.

### **What can I do to avoid RSI?**

Some people who use computers may experience physical discomfort during their use. This discomfort may be a symptom of a repetitive strain injury.

Properly setting up and using computing equipment can help to minimize your chances of experiencing this discomfort. Well-designed and properly adjusted equipment alone may not be sufficient to eliminate all potential problems.

Maintaining good posture and positioning when working on computers also has a significant bearing on your comfort.

### **What if I experience discomfort?**

If you are experiencing any discomfort, seek professional medical advice immediately. Typically, the earlier a problem is diagnosed and treated, the easier it is to resolve.

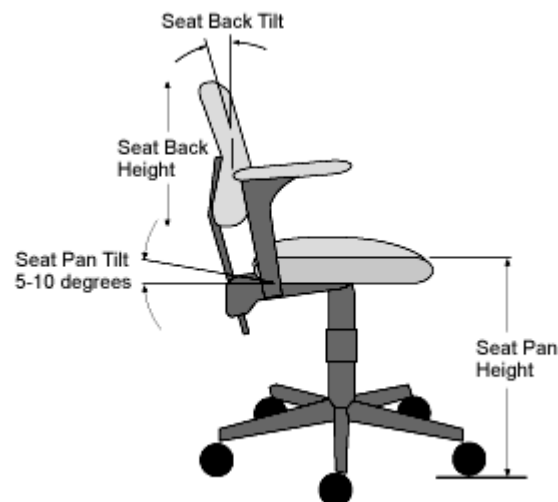
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## Preparing Your Work Environment

When using HP computing equipment, it is important that your work environment contribute to your comfort and productivity.

### Your Chair

It's very important that your chair provides a comfortable sitting position and offers the following features:



- **A stable base, such as five legs with casters.** Make sure the casters are designed for the type of floor you have in your workspace, whether it is bare or carpeted.
- **A height- and tilt-adjustment feature.** It should be easy to adjust your chair height from 40 cm to 52 cm (15.5 inches to 20.5 inches) as measured from the top of the seat pan to the floor. If you are much taller or shorter than average, you may need a chair that can be adjusted beyond this range. Adjust your chair so that the work surface or keyboard tray is at elbow height and your feet are flat on the floor with your knees slightly bent below your hips. Ideally, the seat pan should be able to tilt both forward (minimum of 5 degrees) and backward (minimum of 10 degrees). If the chair has an adjustable seat pan, inclining the seat slightly forward will transfer some of the pressure from the spine to the thighs and feet. This will relieve pressure on your back.

## Operating the OmniBook Working in Comfort

- **A curved seat edge.** The front of the seat should be curved and finished in a “waterfall” edge.
- **An adjustable back support** in both height and forward and backward tilt. It is important that the backrest correctly supports the lower part, or lumbar curve, of the back.
- **A freely rotating swivel** so you can move easily from side-to-side.
- **Fully adjustable and padded armrests.** The chair arms should not interfere with adjusting the chair or moving it close to your work surface.

### Your Work Surface

Ideally, you should be able to adjust the height of your work surface.

A simple way to ensure your work surface is at the correct height is to first adjust the height of the seat-pan of your chair. With your chair properly adjusted and your feet firmly on the floor, adjust the work surface height until your forearms are parallel to the floor when you have your fingers on the keyboard or other input device.

### Your Work Posture

Sitting in one position for long periods can be uncomfortable. To minimize the potential for physical discomfort or injury, it’s important that you maintain proper posture.



- **Back:** While sitting at your work surface, make sure your back is supported by the chair’s backrest in an erect position or angled slightly backwards.
- **Arms:** Your arms should be relaxed and loose, elbows close to your sides, with forearms and hands approximately parallel to the floor.

- **Wrists:** Your wrists should be as straight as possible while using the keyboard, mouse or trackball. They should not be bent sideways, or more than 10 degrees up or down.
- **Legs:** Your thighs should be horizontal or angled slightly downward. Your lower legs should be near a right angle to your thighs. Your feet should rest flat on the floor. If necessary, use a footrest, but double check that you have your seat height adjusted correctly before getting a footrest.
- **Head:** Your head should be upright or tilted slightly forward. Avoid working with your head or trunk twisted.
- **Overall:** Change your position frequently and take regular breaks to avoid fatigue.

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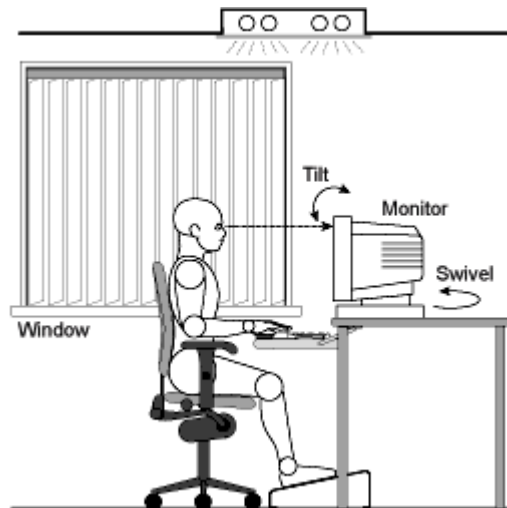
## Setting Up Your HP Computing Equipment

Make sure that all the elements of your HP computer system—monitor, document holder, keyboard, mice and other input devices, and headphones and speakers—are optimally arranged and adjusted to meet your personal requirements. The recommendations that follow will help you achieve this.

### **Your HP Monitor**

It is important that your monitor screen be clean and positioned correctly to improve readability and help you work comfortably. Glare, high contrast, reflections, dirt and dust will interfere with what you see on the screen. The recommendations that follow can help you achieve a comfortable arrangement.

## Operating the OmniBook Working in Comfort



- The top of your monitor screen should be at or slightly below eye level. Most HP monitors come with a tilt-and-swivel feature that makes it easy to adjust the screen position.
- To avoid obscuring your view, the screen should be positioned perpendicular to your line of sight; that is, straight on.
- To avoid glare or reflection, try to position the monitor so the screen is at a right angle to your window rather than in front of it. If reflection or glare persists, tilting the screen forward may help.
- Maintain a comfortable viewing distance to the screen. Most people prefer a viewing distance of approximately 46 to 76 cm (18 to 30 inches), depending on monitor size. Character size and the amount of space available on the work surface can affect this distance.
- Text should be easy to read. To help ease eyestrain, adjust text attributes such as character size, spacing, and color. In addition, you will need to use the controls provided with your monitor to adjust the visual settings so that contrast and brightness levels are comfortable for you. High contrast and low brightness is usually the preferable combination.
- The monitor should be free from flicker. If the image on your screen is not stable, the monitor may require repair or adjustment.
- When possible, use a program that has a simple user interface, such as easily identifiable icons and pull-down menus. Also, screen information should be displayed in a structured and well-organized way.

### Monitor Use Specifications

- When viewing your monitor, your head should not be tilted more than 15 degrees forward.
- You should not have to look up more than 5 degrees above horizontal or down more than 30 degrees below horizontal for normal work tasks, such as typing or reading.

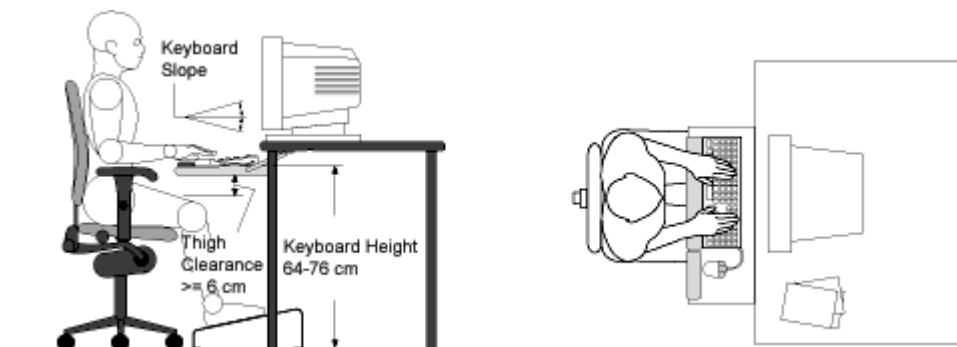
### Document Holders

When keying in data from a hard-copy document, placing it in a document holder rather than on a flat surface will make it easier to read. The following recommendations should be observed when using a document holder:

- The document holder should be at approximately the same height and distance from your eyes as the screen, and as close to the monitor as possible to prevent neck twisting. Some users prefer a document holder mounted to the monitor while others prefer the document holder positioned between the screen and keyboard.
- If the primary task is to view documents rather than using the monitor, the document holder may be placed directly in front of the keyboard with the monitor slightly to the side.
- To help reduce stress on your neck and prevent eye fatigue, try to minimize the movement of your head and eyes while using a document holder.

### Your HP Keyboard

The proper positioning and use of your HP keyboard is important when using HP computing equipment. Be sure to observe the following recommendations to optimize your comfort and safety:



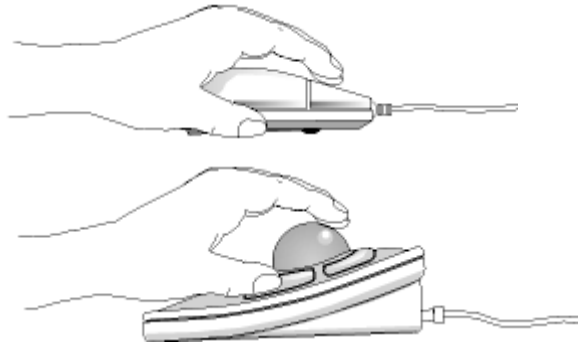
## Operating the OmniBook

### Working in Comfort

- We recommend you place your keyboard in front of the screen or document holder, whichever is viewed the most. Your HP keyboard has long cables so you can place it in the position that is most comfortable for you while you are using your system.
- Because HP keyboards vary in depth, you'll want to be sure that your work surface or keyboard tray has sufficient room to accommodate your model. The keyboard tray should be wide enough to hold both the keyboard and mouse or trackball: 66 to 71 cm (26 to 28 inches).
- Your HP keyboard may have a kickstand that can be opened or closed to raise or lower the keyboard angle. If you are in the correct sitting position with your elbows at about the same level as the work surface, you may not need to use it. However, if your elbows are below the work surface, you may wish to use the kickstand to raise the back of the keyboard.
- An adjustable keyboard tray may be useful if you cannot adjust your chair or work surface to the proper height for typing. It should adjust in height from 64 to 76 cm (25 to 30 inches) above the floor and tilt forward and backward to help you find the most comfortable position. Note that research has shown that there may be less muscle tension in shoulders and forearms with the keyboard tilted away from you.
- When using your HP keyboard, remember it takes very little pressure or force from your fingers to activate the keys. Improper typing style—the use of too much force—can place unnecessary stress on the tendons and muscles in your hands, wrists, and forearms.
- Make sure that your hands are in a neutral position when you use your keyboard. This means that your forearms, wrists, and hands should be in a straight line.
- The keyboard has a low profile to help prevent excessive bending of your wrists while typing. Literature suggests that you should not bend your wrists sideways or more than 10 degrees up or down. Keep your wrists straight by moving your entire hand and forearm over to use the function keys or numeric keypad.
- You may use a palm rest to help keep your hands and wrists in a comfortable and neutral position when you are not typing. Some HP keyboards come with an integrated palm rest. If you use a palm rest, see that it is rounded and padded, and flush in height with the front edge of the keyboard. Note that your palms—not your wrists—should rest on the palm rest. If you don't have a palm rest, try not to rest your wrists on a sharp edge, such as a work surface edge.

### Mice and Other Input Devices

Various aspects of using mice and other input devices may increase your risk of discomfort or injury. If you connect an external mouse to your OmniBook, observing the following recommendations may reduce that risk.



- As with the keyboard, try to keep your hand, wrist, and forearm in a neutral position while using your mouse or other input device.
- When using a stylus or light pen with a graphics tablet, don't grip the stylus tightly. Keep your hand and fingers relaxed and try to maintain a neutral posture in your hand, wrist and forearm.
- If you use your thumb to rotate the ball on a trackball or spaceball, keep it in a relaxed, natural shape, and maintain a neutral posture in your hand, wrist, and forearm.
- Hold the mouse gently by draping your fingers over it. Keep your hand relaxed and fingers loose. Do not grip the mouse tightly.
- It takes very little pressure or force from your fingers to activate the buttons or scroll wheel on your mouse, scrolling mouse, trackball, or other input device. Using too much force can place unnecessary stress on the tendons and muscles in your hands, wrists, and forearms.
- If you are using a scrolling mouse, be sure to keep your fingers and hand in a relaxed, neutral position when activating the scroll wheel. Also, this type of mouse features software that can minimize the number of mouse movements or button clicks.
- When using a mouse, trackball, stylus and graphics tablet, or other input device, position it as close to the keyboard as possible, and keep it at the same level so you do not have to stretch while using it.
- Use a good quality mouse pad to enable the mouse to work most effectively and reduce unnecessary hand and wrist movements.
- Be sure to keep your mouse and trackball clean. Regular removal of accumulated dust and dirt helps ensure proper tracking and reduces unnecessary hand and wrist motions.

## Operating the OmniBook Working in Comfort

### Headphones and Speakers

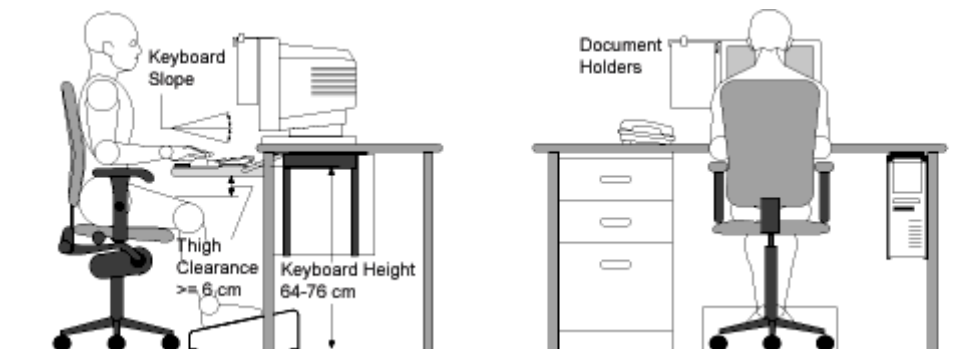
Listening to loud sounds for prolonged periods may permanently damage your hearing. To avoid discomfort from unexpected noise, always turn down the volume before connecting headphones or speakers to your HP equipment.

When you put on the headphones, slowly increase the volume until you find a comfortable listening level, then leave the volume control in that position.

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## Comfort and Safety Checklist

These recommendations are drawn from the latest available international ergonomic standards and recommendations, including ISO 9241 and ANSI/HFS 100-1988.



### General

- **Work Surface Height:** Adjust either your seat height, work surface, or both, to position the work surface at approximately elbow height.
- **Work Surface Arrangement:** Make sure frequently used equipment is within easy reach. For example, if you are primarily using the keyboard, place it directly in front of you, not to the side. If you are primarily using the mouse, place it in front of your hand or arm. If you are using both a mouse and keyboard, place them both at the same work surface height and close together. If a palm rest is used, the height should be flush with the front edge of the keyboard. Other items, such as your telephone or notepad, also should be considered.
- **Monitor:** Place your monitor so that the top of the screen is at, or slightly below, eye level (up to 15 degrees).

- **Head:** Do not tilt your head forward by more than 15 degrees, and try not to turn your head toward the side.
- **Back:** While sitting at your work surface, make sure your back is supported by the chair's backrest in an erect position or angled slightly backwards.
- **Arms:** Make sure your arms and elbows are relaxed and loose, with your upper arm perpendicular to the floor or slightly forward. Keep your forearms and hands approximately parallel with the floor with elbows bent between 70 and 115 degrees. Keep your elbows close to your sides (less than 20 degrees away from your body).
- **Legs:** Your thighs should be horizontal or angled slightly downward. Your lower legs should be near a right angle to your thighs. Make sure there is sufficient room under the work surface for your legs.
- **Feet:** If after adjusting your chair you cannot rest your feet comfortably on the floor, use a footrest, preferably one that can be adjusted in height and angle.

#### **Overall**

- Look away from the screen from time-to-time to help reduce eyestrain. Focus on distant objects briefly, and blink periodically to lubricate your eyes. You also should have your eyes checked on a regular basis and ensure your eyeglass prescription is suitable for working on a monitor screen.
- Remember to occasionally shift position and move your body. Keeping your body in one position for long periods is unnatural and stressful. When prolonged work is required, take frequent short breaks. As a rule of thumb, a five- or ten-minute break every hour is a good idea. Short, frequent breaks are more beneficial than longer less frequent breaks. Data show that people who work for long periods of time without a break may be more prone to injury.
- Changing tasks frequently will help prevent muscle stiffness. Examples: alternating between keyboarding, reading, writing, filing, and moving around in your work environment, helps you maintain a relaxed posture. Occasionally stretch the muscles in your hands, arms, shoulders, neck, and back. You should stretch at least as often as you take brief task breaks—at least once every hour.
- Discomfort may be alleviated by using alternative ergonomic designs and accessories such as ergonomically personalized chairs, palm rests, keyboard trays, alternative input devices, prescription eyeglasses, anti-glare screens, and more. Seek additional information from the sources available to you, including your employer, doctor, local office supply store, and the information sources listed in the online version of Working in Comfort, which is preloaded on the hard disk of your HP computing equipment.

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## Your HP OmniBook Computer

You can use your HP OmniBook computer virtually anywhere, anytime. The following recommendations should help you work more comfortably.

Note that if you are using your portable computer as your primary computer, or using it for extended periods, you should use it with a full-size keyboard, monitor and mouse. This will give your portable computer the adjustability and comfort features of a desktop unit. HP port replicators offer quick, easy connections to these devices. More information on how to prepare your workspace environment and set up your HP equipment is available in other sections of Working in Comfort, which is preloaded on the hard disk of your HP computing equipment.

### **Preparing Your Mobile Work Environment**

- Use a chair that provides good support for your lower back. If an adjustable chair is not available, you can use a pillow or rolled-up towel to provide lower back support.
- Try to keep your thighs parallel to the floor and your feet flat on the floor. In a mobile environment, you can do this by using a phone book or briefcase to support your feet.
- Adjust the height of either your work surface or chair to keep your arms in a neutral position. Your arms should be relaxed and loose, elbows at your sides, with the forearms and hands parallel with the floor.
- Position your notebook computer display to minimize glare and reflection. For example, on an airplane, lower the window shade, or in a hotel room, draw the curtains. You also should maintain a comfortable viewing distance, approximately 40 to 60 cm (16 to 24 inches). Adjust the angle of your display to help keep your head angled slightly downward in a comfortable position.

### **Using Your Mobile Computer**

- Position the computer so your wrists and hands are in a neutral position. Your wrists should be as straight as possible and should not have to bend sideways or more than 10 degrees up or down. If your notebook computer does not have a built-in palm rest, you can use a rolled-up towel.
- Try to type as lightly as possible. The notebook keyboard requires little force to activate.

- Take frequent, short rest breaks. This is especially important in a mobile computing environment.
- Portable computers weigh between approximately 1.4 and 3.7 kilos (3 and 8 pounds). When traveling, be sure to carry your computer properly to minimize strain on your body. Shift the bag containing your notebook equipment frequently between your left and right hands and shoulders.

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## Taking Care of Your OmniBook

### **Protect your OmniBook from damage**

- Observe the temperature limits and other specifications listed in “Hardware Specifications” on page 126. Do not use the OmniBook outside in the rain or snow (inclement weather).
- Make sure there is adequate ventilation around the OmniBook. Suspend or shut down the OmniBook before putting it in a carrying case or other enclosed space.
- Do not pick up or carry the OmniBook by the display.
- You can clean the OmniBook with a soft cloth dampened either in clean water or in water containing a mild detergent. Do not use an excessively wet cloth nor allow water inside the case. Do not use any abrasive cleaners, especially on the display. Do not apply any cleaner directly to the display. Instead, apply the cleaner to a soft cloth and then gently wipe the display. You can clean the keyboard with a vacuum cleaner to remove accumulated dust.

### **Protect your hard disk drive from damage**

- Avoid bumps or jolts.
- Suspend or shut down the OmniBook before transporting it. This turns off the hard drive. A drop of a few inches onto a rigid surface while the hard drive is operating could cause loss of data or damage to the drive.
- Carry the OmniBook in a padded case to protect against bumps and jolts.
- Set down the OmniBook gently. Take precautions against accidental bumps.
- Do not operate the OmniBook while traveling over bumpy terrain.

### **Protect your work**

- Back up your work regularly. Copy files to floppy, tape, or network drives.
- Use a virus scanning program, preferably one that will run automatically, to check the integrity of your files and operating system on a periodic basis. See “To install the VirusScan utility” on page 94.
- Periodically check your hard disk using standard Windows disk-maintenance utilities.

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## Managing Battery Power

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## How Power is Managed

The OmniBook conserves power by using software that controls battery charging and power drain.

**If you're using Windows 95 or Windows 98**, Advanced Power Management (APM) is preinstalled on the OmniBook.

**If you're using Windows NT 4.0**, look for a Power icon in the taskbar. If the icon is present, APM is installed. If not, see "To install APM for Windows NT 4.0" on page 51.

**If you're using Windows 2000**, power management is built into Windows.

The OmniBook provides several safeguards so you won't be surprised by a dead-battery condition, including the following:

- The status lights on the battery show the remaining battery charge.
- Built-in warnings are displayed for low-battery conditions.
- The OmniBook automatically turns off when the battery charge gets too low—your session continues when you start recharging the battery or insert a fresh battery.

Data on any of the drives is not affected by a low battery—unless the battery runs down completely while writing data to the drive, or if the battery in a PC RAM card is also low.

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## Monitoring Battery Power

The primary source of power for the OmniBook is its rechargeable battery pack. You can use the ac adapter to recharge the battery—or to run on ac power to preserve the battery.

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### **Important**

Running external connections is a power-intensive operation that significantly shortens the length of a battery session. Whenever possible, connect the ac adapter when using external connections.

In addition to the replaceable battery, there is a permanent, internal backup battery, which recharges whenever the OmniBook is on or connected to ac. It maintains certain internal settings, such as the clock.

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### To install APM for Windows NT 4.0

If a Power icon (battery or power plug) is present in the taskbar, APM is installed. If the icon is not present, you can install APM using the steps below.

The Advanced Power Management (APM) driver for Windows NT 4.0 is located on the OmniBook's hard disk drive. You set up APM from the Windows Start menu. (The APM driver is also located on the *Recovery CD* in \OmniBook\Drivers\NT4 or Apm.)

Phoenix APM adds the following capabilities to the OmniBook:

- Improved battery life under Windows NT 4.0.
- PC Card power management.
- Convenient user control and monitoring of power settings and status.

1. To install APM, click Start, Programs, OmniBook, Phoenix Advanced Power Management, Setup.
2. Follow the setup instructions on the screen.

You can download the Phoenix APM documentation from the following website:  
<http://www.phoenix.com>.

## To check the battery status

### From the Windows Taskbar

- Move the pointer onto the power icon at the right end of the taskbar. If you are using Windows NT 4.0, you'll need to install Advanced Power Management to display the power icon (see "To install APM for Windows NT 4.0" on page 51). The approximate battery charge is displayed as a percentage or in hours.
- Double-click the power icon on the taskbar to open the Battery Meter window.

### From Windows Control Panel

- Click My Computer, Control Panel, Power. This provides access to all options associated with reporting of power information by Windows.

### On the Battery

1. Remove the battery from the OmniBook (see "To replace the battery" on page 54).
2. Press the pad on the back of the battery.

The number of lights that turn on indicates the charge—each light represents 20% of a full charge.

---

## To respond to a low-battery warning

When battery power is critically low, you are alerted by one or more of the following:

- The computer emits a warning beep. This reminds you to save your work.
- If the OmniBook has been off, you will not be able to turn it on.

The OmniBook automatically hibernates to preserve your current session. However, unsaved data could be affected if the battery runs down completely while writing data to the drive. You won't be able to restart until you restore power by one of the following actions:

- Plug in the ac adapter.  
–or–  
Replace the main battery with one that is charged.  
–or–  
Install a charged second battery in the plug-in module bay.

---

## To recharge a battery

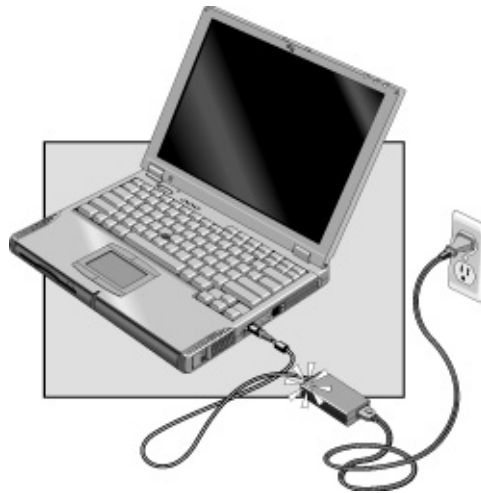
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### CAUTION

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**The ac adapter is normally warm to the touch whenever it's plugged into an ac outlet. The OmniBook is normally warm while it's charging. Don't charge it in a briefcase or other confined space as this may cause the battery to overheat.**

1. Connect the power cord to the ac adapter, then plug the cord into an ac outlet. The indicator light on the ac adapter shines when the adapter is on. If the ac adapter does not light, make sure that cord is not damaged.
2. Connect the ac adapter to the OmniBook's right side, as shown.



### Charging time

Charging the battery takes about 2 hours to fully charge.

### Battery life

When the computer is in use, typical battery life can last up to 3-4 hours or more, depending on your level of use, your power management settings, and your computer model.

### Optimum Charging

To get the longest battery operating time, wait to recharge until the battery is below 50% charged, then continue charging until the battery is fully charged. The battery charging light stops blinking only when the battery is actually full. You can continue working while the battery is charging.

## Managing Battery Power

### Monitoring Battery Power

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### To replace the battery

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**CAUTION**

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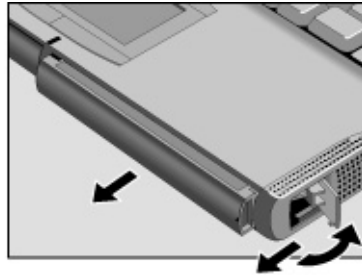
**If you have any unsaved data, it (and your current work session) will be lost when you remove the battery unless the computer is connected to ac power. Also, you should wait at least 3 seconds after inserting the battery before you unplug the ac adapter.**

1. **Important.** Save your work.
2. Plug in the ac adapter.

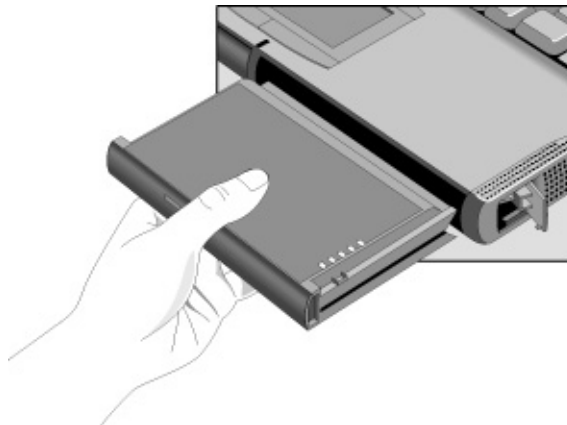
–or–

From the Start menu, shut down the OmniBook.

3. Slide the battery bay release latch forward as far as it will go.
4. Gently pull the release latch back until the battery pops out.



5. Grasp the underside of the battery firmly and pull out.



6. With the latch in the open position, slide the charged battery into the OmniBook until it is flush with the unit.
7. Close the battery bay release latch.

---

**WARNING**

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**Do not mutilate, puncture, or dispose of batteries in fire. A battery can burst or explode, releasing hazardous chemicals. A rechargeable battery must be recycled or disposed of properly. For more information about battery safety, see “Battery Safety” on page 133.**

---

### To install a second battery

The OmniBook’s plug-in module bay accepts a second battery. See “Using Plug-In Modules” on page 62 for information about installing plug-in modules.

## Conserving Battery Power

The OmniBook uses to conserve battery power. You can manage this software to optimize your battery operating time. If you're using Windows 95 or Windows 98, Advanced Power Management (APM) is preinstalled on the OmniBook. If you're using Windows NT 4.0, make sure APM is installed (see "To install APM for Windows NT 4.0" on page 51). If you're using Windows 2000, power management is built into Windows.

---

### To save battery power

Follow these suggestions to conserve battery power.

- Plug in the ac adapter, especially while using the floppy disk drive, the CD-ROM drive, or any external connections.
- Put the OmniBook in Suspend mode whenever you are not using it for a short while: press the blue power button for approximately 1 second or click Start, Suspend (Windows 95) or Start, Shut Down, Standby (Windows 98 and 2000).
- Put the OmniBook in Hibernate mode whenever you want to save your current session, but will not be using the computer for several hours or more (Fn+F12).
- Shut down the OmniBook whenever you will not be using it for several hours or more. Click Start, Shut Down. The current session is *not* saved.
- Press Fn+F1 to turn the brightness of the display down to the lowest comfortable level. This reduces the backlight power and extends the life of your OmniBook display.
- Set the automatic time-out settings to emphasize saving power (see "To set power time-outs" on page 57). For a model with a dual-speed processor, use the lower speed on battery power (see "To control the processor speed" on page 58). The default settings conserve battery power.
- If you work with an application that uses the serial port or a PC Card, exit the application when you are done using it.
- If you have an I/O PC Card—that is, a PC Card having an external connection, such as a modem or network card—remove it when you are not using it. Some I/O cards use significant power, even while they're inactive.

---

## To set power time-outs

### Windows 95, 98, and NT

The BIOS Setup utility includes settings for automatic time-outs at specified periods of inactivity. There are four different time-outs for different levels of power and conservation.

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**Note**

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For Windows 98, power options you set in Power Management Control Panel override corresponding settings in BIOS Setup.

1. From the Start menu, shut down then restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility. Active keys are described along the bottom of the screen. (The pointing devices are not active in the BIOS Setup utility.) Help information for the highlighted item appears in the right-hand sidebar in the display.
3. Select the Power menu.
4. Select Power Management Mode. (Press the spacebar, F5, or F6 to pick an option *other than* Disabled.)

**Maximum Power Savings:** The time-out settings are defined for best power savings (relatively short time-outs).

**Maximum Performance:** The time-out settings are set for fast performance with some power conservation (relatively long time-outs).

**Customized:** You determine each setting for Smart CPU Mode, Standby Time-out, Suspend Time-out, Hibernate Time-out, and Hard Disk Time-out. For definitions of these power modes, see “To start and stop the OmniBook” on page 20.

5. Optional. Choose a setting for Time-Out On AC. If you want the time-outs to occur even when the OmniBook is connected to ac power, choose Enabled. To prevent time-outs while the OmniBook is plugged in, choose Disabled (default setting).
6. Press F10 to save and exit the BIOS Setup utility.

### Windows 2000

Power Options Properties includes settings for automatic time-outs at specified periods of inactivity. Time-outs set in BIOS setup are ignored.

1. From the Control Panel, open Power Options.
2. Follow the instructions on the Power Schemes tab. We recommend that you avoid setting the Hibernate time-outs to Never.

## To control the processor speed

If your OmniBook contains a high-speed Pentium III processor with Intel SpeedStep Technology, you can change settings that control the processor speed. If the taskbar contains an Intel SpeedStep Technology icon, your computer has this feature.

With the default settings, the processor speed changes automatically according to the power source (ac adapter or battery). The lower speed uses power more efficiently and is normally used when the computer is running on battery power.

### **Automatic Speed Changes**

- If you reboot the computer with the ac adapter plugged in, the processor starts at high speed. If the computer is on battery power, the processor starts at low speed.
- If you unplug the ac adapter while the computer is running or suspended, the processor changes to low speed.
- If you plug in the ac adapter while the computer is running or suspended, the processor changes to high speed.

### **Changing Speed Settings**

- To set the speed used by the processor at boot, or to disable the dual-speed feature, change the Intel SpeedStep Technology setting in BIOS Setup in the Power menu—see “Power Menu” on page 90.
- To set the speed used by the processor while Windows is running, double-click the Intel SpeedStep Technology icon in the taskbar or use the Control Panel Power icon.

---

## To get the most from your battery

The following are some further suggestions for the best management of your OmniBook batteries.

- Do not leave batteries unused for long periods of time. If you have more than one, rotate them.
- If you normally use ac power, make a practice of at least once a week using the battery as your power source.
- Unplug the ac adapter when the computer is not in use.
- To preserve the life of your battery, be sure to charge the battery regularly.
- For long-term storage, the battery must be charged at 20-50% to save capacity loss by self-discharge and to avoid deterioration of battery performance. Storage in a 100% charged condition can cause higher self-discharge and deterioration of discharge capacity—even after recharging—compared to storage in a 20-50% charged condition.



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## Expanding the OmniBook

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## Using Plug-In Modules

You can use any compatible plug-in module with the OmniBook module bay, such as those listed below.

- DVD drive module.
- LS-120 SuperDisk drive module.
- Floppy drive module.

You can also attach the floppy disk drive to the parallel port with the optional floppy drive cable. You can then use the module bay for a different plug-in module.

- 24X CD-ROM drive module.
- Second battery.

---

### **CAUTION**

**Do not remove a plug-in module without first notifying Windows. If you do not take proper action, you could lose data.**

---

### To install hot-swap support

For Windows 95 or Windows 98, if a plug-in module icon is present in the taskbar, Agaté Tioman “hot-swap” software is installed. If the icon is not present, you can install it using the steps below.

The Agaté Tioman hot-swap software lets you disconnect most modules in the plug-in bay without shutting down the computer and rebooting. (This software does not support Windows NT.)

- Click Start, Programs, Agaté Tioman for HP, Setup, then follow the onscreen instructions.

---

## To replace a plug-in module

For Windows 95 or Windows 98, if Agaté Tioman hot-swap software is installed, a plug-in module icon appears at the right end of the taskbar. This software lets you disconnect most plug-in modules without shutting down the computer. For a hard drive module, you must shut down the computer.

Windows 2000 displays the Unplug or Eject Hardware icon at the right end of the taskbar when a drive module is present.

---

### CAUTION

**If you are connecting or disconnecting a CD-ROM drive, DVD drive, or any other type of drive, you must use the icon in the taskbar or shut down the computer—otherwise, you could lose data.**

**Do not touch the metallic pins in OmniBook connectors, module connectors, or cable connectors. Static electricity can damage internal components.**

1. Close all files that are open from the plug-in module.
2. For Windows 95 or 98, if the plug-in module icon is present in the taskbar, right-click the icon, then click Remove Device. When prompted to remove the module, click OK. (You do not have to do this if the bay is empty or contains a battery.)  
–or–  
For Windows 2000, left-click the Unplug or Eject Hardware icon on the taskbar, and select the module you want to remove. When prompted to remove the module, click OK. (You do not have to do this if the bay is empty or contains a battery.)  
–or–  
For any version of Windows, including Windows NT, click Start, Shut Down to shut down the computer. (You must do this if you are removing or inserting a hard disk drive in the module bay.)

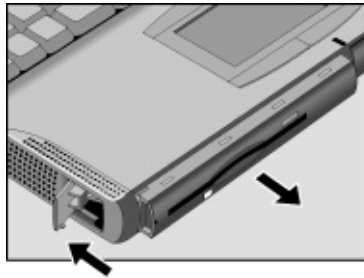
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### Note

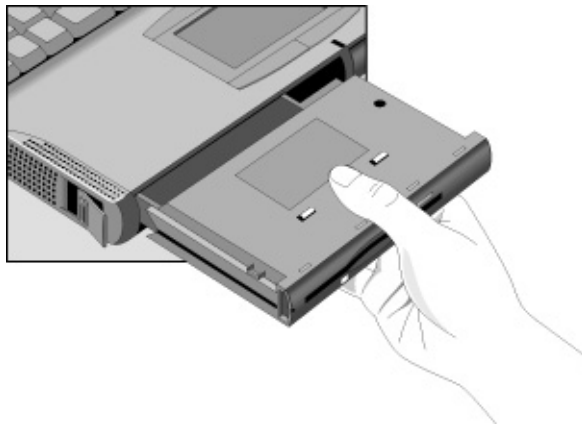
If you're removing or inserting a battery, you do not have to do step 2.

## Expanding the OmniBook Using Plug-In Modules

3. Slide the module release latch forward as far as it will go.
4. Gently move the release latch back until the module pops out.



5. Grasp the underside of the module firmly, and pull out.



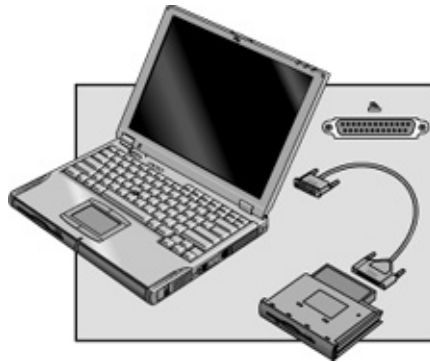
6. With the latch in the open position, slide the new plug-in module into the OmniBook until flush with the unit.
7. Close the module release latch.

---

## To connect the floppy disk drive to the parallel port

If you have a CD-ROM drive or other module in the module bay, you can connect the floppy disk drive to the parallel port.

1. Buy a floppy drive cable, HP accessory F1473A.
2. Connect the cable directly to the floppy drive and to the OmniBook parallel port.



Before disconnecting the floppy disk drive, use the icon in the taskbar to stop the drive, or shutdown the computer—see “To replace a plug-in module” on page 63.

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## To insert or remove a CD

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### CAUTION

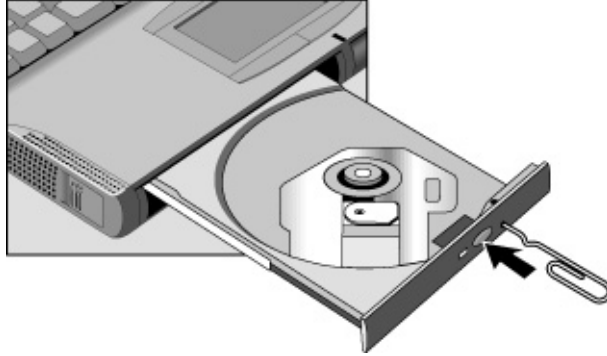
---

**Do not insert or remove a CD while the OmniBook is actively reading data. Otherwise, the OmniBook could stop responding and you could lose data.**

1. Press the button on the face of the CD-ROM or DVD drive. If you are using this drive for the first time, be sure to remove the cardboard packing insert.
2. Place the CD into the drive (label facing up) and gently press down to seat the CD on the spindle.  
–or–  
Remove the CD.

## Expanding the OmniBook Using Plug-In Modules

- Slide the CD-ROM tray back into the module to close it.



If you lose power to the OmniBook, or if you have removed the CD-ROM or DVD module from the OmniBook, you can manually open the drive to remove a CD.

- Insert a straightened paper clip into the recessed hole on the front of the drive, as shown above.

---

### Note

For Windows 95, 98, and NT, your OmniBook has been configured at the factory to disable CD Auto Insert notification. This allows your system to suspend on time-out. However, you may notice that Windows 95 or Windows 98 may not automatically detect the insertion of a CD. For Windows 2000, your OmniBook has been configured to enable CD Auto Insert notification. This does not affect time-outs.

---

## To play DVD movies

If your OmniBook came with a DVD drive, you can install DVD player software that lets you play DVD movies. Do the following to install the play software.

- Run Setup on the software CD.

---

## Connecting External Devices

You can expand the OmniBook's capabilities by connecting other devices.

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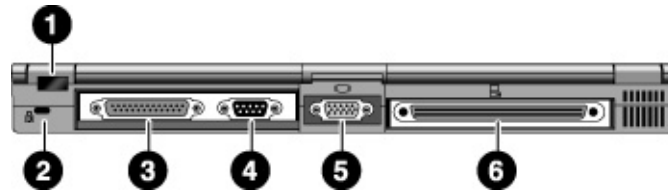
### Note

Before you connect any device, check the documentation that came with the equipment to see if you need to make any settings or adjustments to the equipment before using it. This might include setting switches to configure the equipment so that it will operate properly with the OmniBook and the software you plan to use.

---

### To identify connectors for external devices

The following picture describes the available connectors for external devices. Refer to it, if necessary, when following the procedures in this section.



1. Infrared port. Use this port for wireless data transmission between the OmniBook and another computer or a printer with an infrared port. In Windows 95, you must install infrared drivers.
2. Kensington lock slot (security connector).
3. Parallel port (LPT1). Use this port for a parallel printer, other parallel device, or to connect the floppy disk drive externally.
4. Serial port (COM1). Use this port for a serial mouse, a modem, a serial printer, or other serial device.
5. External monitor port.
6. Docking port (for the port replicator or docking system).

These additional connectors are available on the left side of the computer:

- Universal Serial Bus (USB) port.
- PS/2 port. Use this to connect a keyboard or an external PS/2 mouse.

## To connect an external monitor

You can connect a VGA, SVGA, XGA, or SXGA monitor to your OmniBook—or UXGA for a computer with “4150 B” after the serial number. The OmniBook’s internal display supports standard XGA mode (1024 by 768 pixels).

1. Press the blue power button for one second to suspend the OmniBook.
2. Connect the monitor cable to the monitor, then to the monitor port on the back of the OmniBook.
3. Connect the monitor to a power source and turn it on.
4. Press the blue power button to turn on the OmniBook.
5. If the external monitor has a different resolution from the internal display, adjust the display properties (My Computer, Control Panel, Display, Settings).

---

## To enable the built-in and external displays

- For a temporary change, press Fn+F5 to cycle through the display options (Internal, External, Both).
- For a permanent change in which display is active, change the Video Display Device setting in the BIOS Setup utility (see below).
- For a display connected to a video adapter in a docking system, the docking display is automatically selected when it is detected. To change this behavior, change the Primary Video Adapter setting in the BIOS Setup utility (see below).

To change BIOS display settings, see the next topic.

---

## To change display settings in the BIOS Setup utility

1. From the Start menu, shut down, then restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. From the Main menu, use the down arrow to highlight Video Display Device.
4. Press ENTER to view choices.

5. Select Auto (to automatically detect and select the external display) or Both (to select both displays).
6. Similarly, highlight Primary Video Adapter. Select Auto (to automatically switch to an external video adapter in a docking system) or Internal (to reserve the external display for special use, such as multiple displays in Windows 98).
7. Press F10 to save settings and exit Setup.

---

## To use an external monitor

- If you attach an external monitor to the OmniBook, you can press Fn+F5 to switch between the internal OmniBook display and the external monitor. The internal display supports settings up to 1024 × 768 resolution and 16M colors (24- or 32-bit). You can change display settings using Control Panel Display or right-clicking the desktop and clicking Properties.
- If you need to use both displays at the same time, you can press Fn+F5 again to show the same image on both displays. However, by default, the image is limited by the internal display to 1024 × 768 pixels, so at a higher resolution you see only part of the desktop on both displays. This doesn't happen if you use only the external monitor. If you need to increase the refresh rate on the external monitor, you can switch to only the external monitor or you can make the internal or external display a "secondary" display—you make this setting on the Display tab (in Windows 98 or 2000, you have to click Advanced on the Settings tab first).
- In Windows 98, you can enable the Extended Desktop (dual displays), which spreads the desktop across two displays. To do this, right-click display 2 on the Settings tab and select Enable. You can set different resolutions and numbers of colors for each display. However, using the Extended Desktop requires video memory to be shared. For this reason, higher resolutions and higher numbers of colors may cause unexpected behavior on the displays. We recommend starting with 1024 × 768 resolution on the external display and 64K colors (16-bit) on both displays. You can try higher settings to see whether they work for your applications. In addition, certain operations such as playing DVDs and running 3D graphics require extra video memory, so you may have to use lower display settings.

See OmniBook Notes in the online OmniBook Library for any last-minute information about display operation.

## To connect an external keyboard or PS/2 mouse

The 6-pin PS/2 port allows you to attach an external keyboard or a PS/2-compatible mouse to the OmniBook. While an external PS/2 mouse is connected, the built-in pointing devices are normally disabled.

- Plug the mouse or keyboard PS/2 cable into the PS/2 port on the OmniBook.
- To connect both a mouse and keyboard, use the HP F1469A Y adapter.
- To connect a device that has a PC-type jack, first connect its cable to an adapter cable with a PS/2 jack.

---

### Hint

To use hot keys from an external keyboard, substitute left CTRL + left ALT for the OmniBook Fn key. For example, to access Fn+F2, press left CTRL + left ALT + F2. If this does not work, check that the setting for External Fn Key is enabled in the System Devices menu of the BIOS Setup utility. See “To run the BIOS Setup utility” on page 86.

The built-in pointing device must be disabled for special mouse features to work. In the BIOS Setup utility, check that the PS/2 Pointing Devices option is set to Auto in the System Devices menu.

---

## To connect a printer

The parallel port uses a standard 25-pin connector, most commonly used for connecting a printer. These include dot-matrix, ink-jet, and laser printers. The parallel port supports both EPP and ECP capabilities (if selected in BIOS Setup).

The OmniBook has one parallel port. Its address and properties can be set in the BIOS Setup utility.

- Connect the parallel printer cable or other parallel cable to the parallel port.
- 

## To connect a serial device

The OmniBook’s serial port uses a standard 9-pin serial port. Serial connections typically are to external modems and fax modems. The OmniBook has one serial port. Its address can be set in the BIOS Setup utility.

- Connect the serial cable to the serial port.
-

---

## To connect a serial mouse

### **For Windows 95, 98, and NT**

1. Connect the serial cable to the serial port.
2. From the Start menu, click Settings, Control Panel.
3. Double-click Mouse, then click General.
4. Click Change and then select Show All Devices.
5. Under Manufacturers, click Standard Mouse Types.
6. Under Models, change the mouse type to Standard Serial Mouse, then click OK.

### **For Windows 2000**

1. Connect the serial cable to the serial port.
2. Press the blue power button to suspend the OmniBook, then press it again to turn the OmniBook back on. Wait several seconds for Windows to find the new device.

---

## To connect USB devices

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**Note**

Windows NT 4.0 does not support universal serial bus (USB) devices.

Universal serial bus (USB) provides a bidirectional serial interface for adding peripheral devices such as game controllers, serial and parallel ports, and scanners on a single bus. The OmniBook provides one USB port; the OmniBook docking products provide two USB ports.

- Attach the USB cable to the USB port. Windows 95, Windows 98, and Windows 2000 automatically recognize the USB device. Some USB devices can be connected to the OmniBook in series with other USB devices—this is called a “daisy-chain” connection.

---

**Note**

If you have problems making this connection, contact the vendor of the peripheral device, as well as the OmniBook website, for the latest versions of the USB drivers. The USB technology is dynamic and continues to develop.

If the device is not recognized, you may need to install a driver. Contact your device vendor.

## Expanding the OmniBook Connecting External Devices

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### To connect audio devices

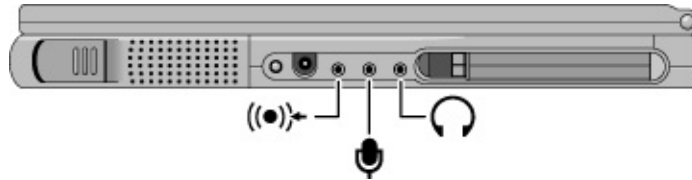
There is a built-in microphone located at the bottom of the OmniBook display. You can use it to record voice, sound, and music. You can also plug in a stereo input source, (such as a CD player), an external microphone, and external speakers or headphones.

---

#### CAUTION

**The audio jacks are three-terminal stereo jacks. They are not compatible with two-terminal mono plugs. Connecting a mono plug into the speaker-out jack may damage the OmniBook.**

- Attach the audio cable to the corresponding audio port.



- When you plug a device into the microphone-in port, the built-in microphone automatically turns off.
- When you plug a device into the speaker-out port, the built-in speaker automatically turns off.

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#### WARNING

**Do not leave your headphones plugged in when rebooting the OmniBook as the PC speaker can be loud.**

---

### To make an infrared connection

---

#### Note

Windows NT 4.0 does not support infrared communication.

By default, the infrared port is not enabled.

**For Windows 95.** Enable the infrared port in the BIOS Setup utility and then install the infrared driver. When you enable the infrared port in BIOS setup, disable ECP for the parallel port because they use the same resources. For more information, refer to the Readme file located in \OmniBook\Drivers\Irda.

**For Windows 98 and Windows 2000.** Enable the infrared port in the BIOS Setup utility. When you enable the infrared port in BIOS setup, disable ECP for the parallel port because they use the same resources. Reboot the OmniBook. The infrared drivers install

automatically on Windows 98 and 2000 during reboot. For more information, refer to the Readme file located in \OmniBook\Drivers.

The OmniBook has an infrared port—located on the back of the OmniBook—which provides wireless, serial communication between the OmniBook and other infrared devices such as printers or other OmniBooks.

- Line up the OmniBook's infrared port and the other infrared port in as straight a line as possible. The two ports should be no more than 1 meter apart, with no obstructions in between. Noise from nearby equipment can cause transmission errors.
- To check the status of communications, go to Start, Settings, Control Panel, Infrared Monitor (or Wireless Link in Windows 2000).
- Disable infrared communications when you aren't using it, especially before suspending or docking. To do this, close applications that are using infrared, close folders on an infrared link, then disable infrared in Infrared Monitor (or Wireless Link in Windows 2000).

#### **Printing to an Infrared Printer**

- Install your printer and assign it to the OmniBook's infrared port. You can then print from your applications as you would to any other printer. Be sure the OmniBook and printer infrared ports are properly aligned.

#### **Transferring Files with an Infrared Connection**

To transfer files in Windows 95 or Windows 98, use the built-in Direct Cable Connection software. You need to install it first.

1. From Control Panel, click Add/Remove Programs.
2. Click Windows Setup, Communications, and select Direct Cable Connection.

See the Windows online help for instructions about how to use Direct Cable Connection (Windows 95 or 98) or Wireless Link (Windows 2000).

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## Using PC Cards

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### To insert and remove a PC Card

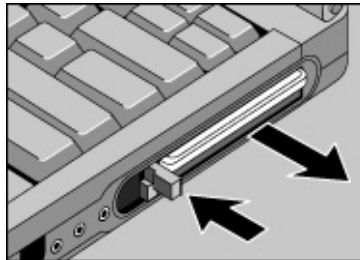
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**Note**

Windows NT 4.0 does not support zoomed video. If you are using Windows NT 4.0, make sure Card Executive is installed (see “To install Card Executive for Windows NT” on page 75).

The OmniBook PC Card slots are available for storing data and expanding the communication capabilities of the OmniBook. The OmniBook supports standard Type I, II, and III PC Cards (PCMCIA and CardBus). You can use two Type I or II cards or one Type III card. The lower slot supports Zoomed Video, which allows high-quality multimedia presentations.

1. Hold the card with its face up and its connector holes toward the card slot.
2. Slide the PC Card into the slot until it is flush with the OmniBook.
3. Before removing the card, click the PC Card or Eject Hardware icon in the taskbar, then click Stop (for Windows 95, 98, and 2000 only). This protects your data and avoids unexpected problems. You can restart the card by removing it, then reinserting.
4. To remove the card, flip out the hinged eject button next to the PC Card. Push the button to pop out the card, then fold the button closed.



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## To find tested PC Cards

For the latest information about compatible cards, visit our website at <http://www.hp.com/omnibook> and check the Accessories section. Or contact Hewlett-Packard as described in “Support Assistance” on page 120.

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## To install Card Executive for Windows NT 4.0

If a PC Card icon is present in the taskbar, Card Executive is installed. If the icon is not present, you can install Card Executive using the steps below.

To take advantage of Card Executive’s plug-and-play for PC network cards, you must install Card Executive before installing Windows NT networking. Card Executive is located on the OmniBook’s hard disk drive.

You set up Card Executive from the Windows Start menu. (The driver is also located on the *Recovery CD* in `OmniBook\Drivers\NT4` or `Pccard`.)

Card Executive adds the following capabilities to your OmniBook:

- Plug and Play for PC Cards using standard Windows NT drivers.
- Plug and Play for supported network PC Cards.
- Automatic configuration of PC Cards using advanced “Wizard” technology to allocate system resources.
- Suspend/Resume functions and simplified administration of PC Cards when integrated with Phoenix Card Executive.

1. Click Start, Programs, OmniBook, Phoenix Card Executive, Setup.
2. Follow the setup instructions on the screen.

You can download the Phoenix Card Executive documentation from the following website: <http://www.phoenix.com>.

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## Using Docking Products

A docking product provides external connections for the OmniBook that you can leave in place whenever you remove the OmniBook from your desk. Instead of disconnecting and reconnecting peripheral devices, simply undock and dock the OmniBook.

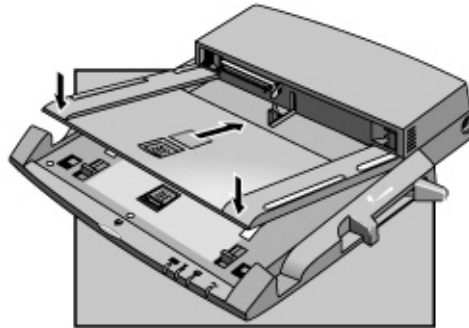
For more information about using docking products, see the *User's Guide* that shipped with your dock.

---

### To install a docking tray

Your dock requires a tray that accommodates your specific OmniBook model. Install this tray prior to connecting the OmniBook to the dock.

1. Select the tray labeled for the OmniBook 4100 series.
2. Slide the rear of the tray into the dock as shown on the dock label.
3. Push down firmly on both sides of the tray until it snaps into place.



To remove a tray from the dock, pull the latch (at the center front of the dock) towards you until the tray pops free.

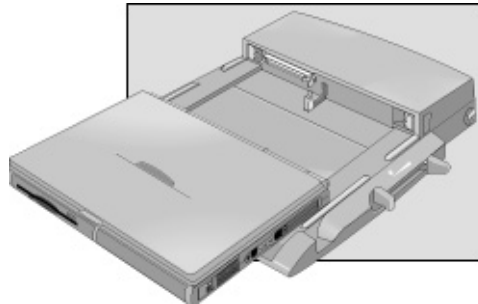
---

## To dock the OmniBook

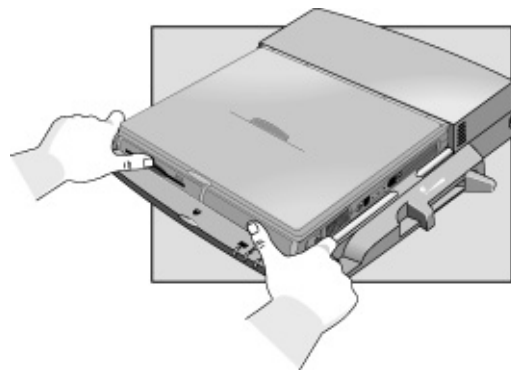
1. From the Start menu, shut down the OmniBook.

If you have a plug-and-play operating system, such as Windows 95, Windows 98, or Windows 2000, you do not need to turn off the OmniBook before inserting into the dock.

2. Connect power to the dock—the type of connection depends on the dock. See the manual that came with the dock.
3. Place the OmniBook on the dock platform, with the rear of the computer facing the dock's docking connector. *Make sure the OmniBook's lower PC Card eject button is in.*



4. Position your fingers on the platform grips as shown below. Use your thumbs to push the computer into the dock until the computer slides into place.

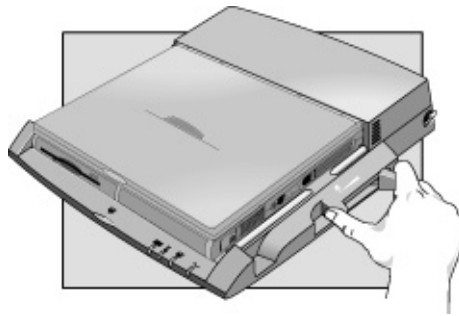


## Expanding the OmniBook Using Docking Products

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### To undock the OmniBook

1. If you're using Windows NT, click Start, Shut Down.
2. Press the undock button on the front of the dock and wait for the undock light to blink. Then position your thumb as shown and pull the release lever forward.



3. Remove the OmniBook from the dock.

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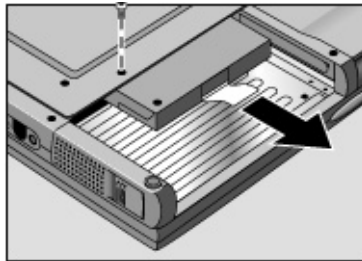
## Installing a Hard Disk Drive

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### To replace the hard disk drive

You'll need a small Phillips screwdriver for this procedure.

1. Unplug the ac adapter, if present, and remove the battery.
2. Turn the unit bottom side up and remove the hard drive screw.
3. Pull out the hard drive by its plastic tab.



---

#### **Important**

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If you are installing a new hard disk drive, you should create a Hibernate partition on the drive before loading any software. See “To recover the factory installation of Windows” on page 116.

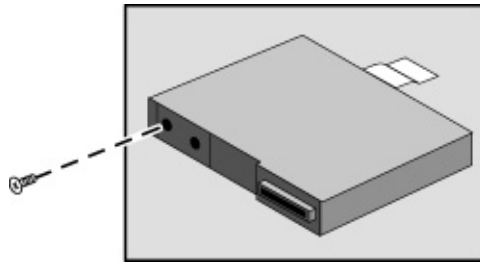
## Expanding the OmniBook Installing a Hard Disk Drive

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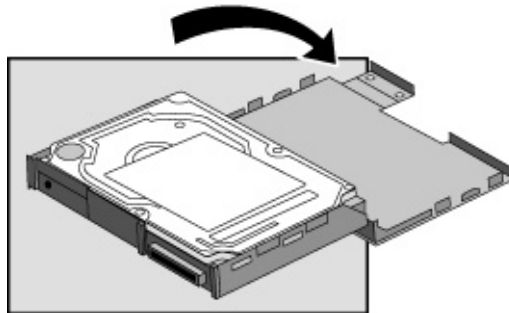
### To replace the hard disk drive holder

If you are installing a new hard drive that does not have a cover, you can remove the cover parts from the old hard drive. You'll need a small Phillips screwdriver for this procedure.

1. Remove the screw from the case, then pry open the flap. If necessary, use a flat-blade screwdriver.

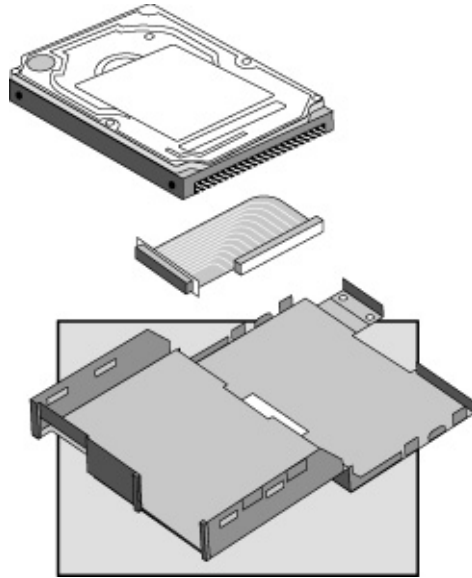


2. Use a flat-blade screwdriver to pry open the snaps at the ends of the case, then open the connector-side of the case.



3. Pry out the corner next to the connector, then lift out the connector and hard drive together.

4. Carefully pry the connector off the end of the hard disk drive. Work alternately at each end so that the connector slides off evenly.



---

**CAUTION**

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**If a rubber spacer is present inside the case, be sure to install it if the new hard disk drive is the same thickness as the old one.**

---

## Installing a RAM Expansion Module

The OmniBook has no memory (RAM) built in but has two slots for installing RAM modules. One slot contains a RAM module installed at the factory. You can use both slots to expand your RAM.

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### To install a RAM expansion module

You'll need a small Phillips screwdriver for these steps.

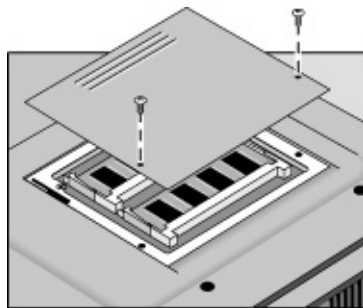
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#### CAUTION

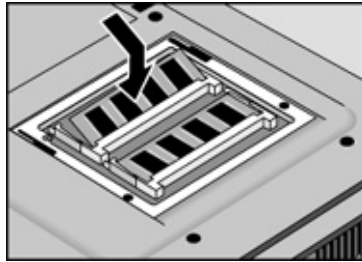
**Your OmniBook's computer chips are extremely static-sensitive. Static electricity can permanently damage computer chips. Handle the RAM module only by its edges. Before installing the memory module, discharge your body's static electricity by touching the metal shielding around the connectors on the rear of the OmniBook.**

**For a model with "4150 B" after the serial number, you *must* use only PC-100 type RAM modules—other RAM modules will not function.**

1. From the Start menu, shut down the OmniBook.
2. **Important.** Unplug the ac adapter, if present, and remove the battery. (Remove a second battery if one is installed.)
3. Turn the unit bottom side up, then remove the two screws from the RAM cover and remove the cover.



4. Insert the RAM board into the connector at about a 30° angle until it is fully inserted. Then press down at both sides until both latches snap closed.



5. Replace the door.
6. Insert the battery.

---

## To remove a RAM expansion module

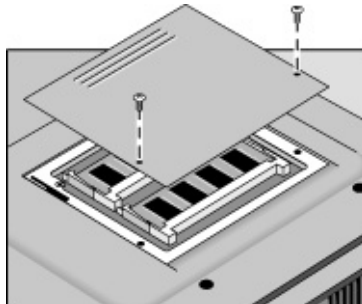
You may want to remove a RAM module so you can install a larger one. You'll need a small Phillips screwdriver for these steps.

---

### CAUTION

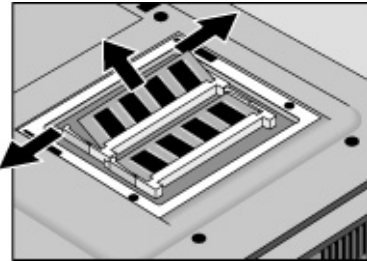
**Your OmniBook's computer chips are extremely static-sensitive. Static electricity can permanently damage computer chips. Handle the RAM module only by its edges. Before installing the memory module, discharge your body's static electricity by touching the metal shielding around the connectors on the rear of the OmniBook.**

1. From the Start menu, shut down the OmniBook.
2. **Important.** Unplug the ac adapter, if present, and remove the battery. (Remove a second battery if one is installed.)
3. Turn the unit bottom side up, then remove the two screws from the RAM cover and remove the cover.



## Expanding the OmniBook Installing a RAM Expansion Module

4. Release the two latches at the sides of the RAM board, so the free edge of the board pops up.



5. Pull the board out of the connector.
6. Replace the door.
7. Insert the battery.

---

## Configuring the OmniBook

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## Using BIOS Setup

The BIOS (Basic Input and Output System) Setup utility is a menu-driven utility that enables you to make changes to the system configuration and tailor the operation of your OmniBook to your individual work needs.

The settings made in the BIOS Setup utility generally control the hardware and consequently have a fundamental effect on how the OmniBook operates.

This section describes the BIOS Setup utility menus and options in detail.

---

### To run the BIOS Setup utility

1. Close all applications, then shut down Windows and restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. The pointing devices are not active in the BIOS Setup utility. Press the RIGHT and LEFT arrow keys to move among menus. Press the DOWN and UP arrow keys to move among parameters in a menu. Press F5 or F6 to move through values for the current parameter or press ENTER to change a setting. See the tables below for more information.
4. After you select the options you want, press F10 or use the Exit menu to exit the BIOS Setup utility.
5. If the settings cause a conflict between devices during reboot, the system prompts you to run BIOS Setup, and the conflicting settings are marked.

The following tables describe BIOS settings for BIOS version 3.05. If your BIOS is a different version, some settings may differ from those shown.

**Main Menu**

<b>Setting</b>	<b>Description</b>	<b>Default</b>
Language	Sets the language for this utility and for BIOS messages.	English
BIOS Revision	Shows the current BIOS version.	Detected automatically.
System Time	Sets the time using 24-hour format. Values set take effect immediately.	
System Date	Sets the date using dd/mm/yy format (except English, which is mm/dd/yy format).	
Floppy Drive	Sets the floppy drive type.	Floppy disk drive type detected and set automatically.
Internal Hard Disk	Sets the hard disk drive type and various parameters.	Hard disk drive detected and set automatically.
Quiet Boot	When enabled, hides summary of power-on self-test and messages during boot.	Enabled
Video Display Device	Sets whether the built-in display automatically switches to an external display, if one is detected.	Auto
Video Expansion	When enabled, the video image covers the entire display in lower resolution modes (VGA). When disabled, the video image is centered in the display.	Disabled
Primary Video Adapter	Sets whether the internal (built-in) video adapter automatically switches to an external video adapter connected to the docking system, if one is detected.	Auto
System Memory	Shows the system memory size.	640KB
Extended Memory	Shows the extended memory size.	Detected automatically.
CPU Serial Number	For a processor with a serial number, makes the processor serial number available to software.	Disabled

**Configuring the OmniBook  
Using BIOS Setup**

**System Devices Menu**

<b>Setting</b>	<b>Description</b>	<b>Default</b>
PS/2 Pointing Devices	Disables the internal pointing devices when an external PS/2 mouse is connected. This is required for the scroll wheel on a PS/2 mouse to function.	Auto
Internal Pointing Devices	Enables one or both built-in PS/2 devices.	Both
External Fn Key	Sets whether left CTRL + left ALT on an external keyboard is interpreted as the Fn key.	Enabled
IDE Controller	Enables the primary (hard drive) and secondary (optional CD-ROM drive) controllers.	Both
FDD Controller	Enables the floppy drive.	Enabled
Serial Port	Sets how the serial port is configured by the BIOS (specified or automatic).	Enabled
Base I/O address	Sets the I/O address and interrupt.	3F8h, IRQ4
Infrared Port	Sets how the infrared port is configured by the BIOS (specified or automatic).	Disabled
Mode	Sets the hardware to support SIR (Standard IR), ASK IR (amplitude shift keyed IR), or FIR (Fast IR) infrared communications. (Driver installation required for Windows 95.)	SIR
Base I/O address	Sets the I/O address and interrupt.	2F8h, IRQ3
DMA channel	For Fast Ir mode, sets the DMA channel.	DMA3
Parallel Port	Sets how parallel port is configured by the BIOS (specified or automatic).	Enabled
Mode	Sets the port to normal, bidirectional, EPP, or ECP.	ECP
Base I/O address	Sets the I/O address.	378h
Interrupt	Sets the interrupt.	IRQ7
DMA channel	For ECP mode, sets the DMA channel.	DMA3

**Security Menu**

<b>Setting</b>	<b>Description</b>	<b>Default</b>
User Password Is	Shows if a user password is set.	Clear
Administrator Password Is	Shows if an administrator password is set.	Clear
Set User Password	Press ENTER to set, change, or clear user password. Password length can be no longer than 8 characters, 0-9, A-Z, and cannot include special or accented characters.	
Set Administrator Password	Press ENTER to set, change, or clear administrator password. This password protects BIOS Setup settings. Password length can be no longer than 8 characters, 0-9, A-Z, and cannot include special or accented characters.	
Boot	Sets whether a user password is required when the computer boots.	Enabled
Resume*	Sets whether a user password is required when resuming from a suspended state. This setting is ignored under Windows 2000.	Enabled
Undock*	Sets whether a user password is required when undocking the OmniBook. This setting is ignored under Windows 2000.	Disabled
Internal Hard Disk Drive Lock*	Encodes the current user password (or administrator password if that is the only password set) on the hard disk drive.	Disabled
Removable Device Boot	Sets whether the floppy drive or other removable device is a boot device.	Enabled
* Resume, Undock, and Internal Hard Disk Drive Lock options are available only if Boot option is enabled.		

## Configuring the OmniBook Using BIOS Setup

### Power Menu

If you're using Windows 98 in its standard power mode, power options you set in Power Management Control Panel override corresponding settings in the Power menu.

If you're using Windows 2000, only the settings marked with \* are used, and other settings in the Power menu are ignored.

Setting	Description	Default
Intel SpeedStep Technology*	For a dual-speed processor, sets the speed used by the processor at boot, depending on the power source at boot. A separate Control Panel power setting controls speed changes after boot.	Auto
Power Management Mode	Disables time-outs, selects a combination of time-outs, or allows customized time-outs.	Max Power Savings
Smart CPU Mode	Enables automatic CPU power savings when running on battery power. Absence of keyboard, mouse, and hard disk activity could cause slower CPU response. For a model without "4150 B" after the serial number, this should normally be Off to avoid interfering with time sensitive operations—and this setting applies to both battery and ac power.	On ("4150 B") Off (non "4150 B")
Standby Time-out	Sets the period of inactivity after which the computer goes from On to Standby power mode.	2 minutes
Suspend Time-out	Sets the period of inactivity after which the computer goes from Standby to Suspend power mode. (Skips Standby mode if that time-out is disabled.)	4 minutes
Hibernate Time-out	Sets whether the computer goes from Suspend to Hibernate power mode after the indicated period of inactivity. (Skips Suspend mode if that time-out is disabled.)	4 hours
Hard Disk Time-out	Sets the period of hard disk inactivity after which the hard disk stops spinning. Also affects a hard disk drive in the plug-in module bay.	2 minutes
Time-out on AC	Sets whether power management time-outs occur while the ac adapter is connected.	Disabled
Power Button Mode	Sets the action of the blue power button when pressed for less than 4 seconds.	Suspend
Lid Switch Mode	Sets the action when the OmniBook lid closes.	Turn off LCD
Resume on Serial Ring	Sets whether the system resumes from Suspend if a ring signal is received.	Enabled

Resume on Time of Day	Sets whether the system resumes from Suspend at a defined time of day.	Disabled
Resume Time	Sets the 24-hour time when the system resumes from Suspend if enabled.	
Auto Suspend on Undock*	Sets whether the OmniBook suspends after undocking.	When Lid Closed
Auto Turn-on on Dock*	Sets whether the OmniBook turns on after docking.	Enabled
* For Windows 2000, only these settings are used. Other settings in this menu are ignored.		

### Boot Menu

Setting	Description	Default
+Removable Device +Hard Disk CD-ROM/DVD Drive	Shows the order of boot devices. Move the entries to change the order. If the computer has more than one device in one of the "+" categories, you can select the one that's scanned.	1. Removable Device 2. Hard Disk 3. CD-ROM/DVD drive

### Exit Menu

Setting	Description	Default
Save Changes and Exit	Saves Setup changes, exits, and reboots.	
Discard Changes and Exit	Discards Setup changes since last save, exits, and reboots. Does not affect Security, date, or time changes.	
Get Default Values	Restores default settings, stays in Setup. Does not affect Security, date, or time changes.	
Load Previous Values	Discards Setup changes since last save, stays in Setup. Does not affect Security, date, or time changes.	
Save Changes	Saves Setup changes, and stays in Setup. Security settings are saved when changed.	

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## Using TopTools

HP TopTools is for network managers and administrators with responsibilities for computer system management. It offers configuration and security options that allow you to check what hardware and software components are installed on your computer and how well they are working.

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### Windows 2000

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TopTools is not available at this time under Windows 2000. Check the Customer Care website (<http://www.hp.com/cposupport/eschome.html>) for HP TopTools for Windows 2000.

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## To install TopTools

The TopTools package is included with the OmniBook, but you must install it before you can use it. *On Windows NT systems, you will need administrator privileges to install TopTools software.* TopTools is not available at this time for Windows 2000.

1. Start Windows, if it is not already running.
2. Click Start, Programs, HP TopTools for Notebooks (or HP DMI), Setup.

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## To run TopTools

TopTools may be run locally on a PC or remotely by a network administrator. TopTools is not available at this time for Windows 2000.

- To run TopTools locally, click Start, Programs, HP TopTools for Notebooks (or HP DMI), HP TopTools.

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## To get more information about TopTools

For information on manageable HP PCs, HP TopTools, and how they lower PC operating costs, see the HP website at <http://www.hp.com/toptools>.

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## Configuring Security Options

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### To set or change an OmniBook password

The OmniBook provides two levels of password protection—user password protection and administrator password protection. *You cannot set the user password until you set an administrator password.*

If password protection is set, then you will be prompted to enter a password whenever you reset or turn on the computer (depending on your setting). You cannot use the computer until you enter the correct password.

To set, change, or delete password protection for this OmniBook, use the BIOS Setup utility.

1. From the Start menu, shut down, then restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. Select the Security menu.
4. Select Set Administrator Password, then press ENTER.
5. Type the new password, then press ENTER. Password length can be no longer than 8 characters, 0-9, A-Z, and cannot include special or accented characters. Passwords are not case-sensitive.
6. Type the password again to confirm, then press ENTER.
7. Under Password Required To, choose when the password will be required.

**Boot.** Requires a password when booting the OmniBook. This option enables the next two options.

**Resume.** Requires a password when resuming from Suspend.

**Undock.** Requires a password when undocking the OmniBook.

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#### Windows 2000

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Windows 2000 controls resume and undock security, so both the Resume and Undock options are normally ignored. The Undock option is used, though, when the OmniBook is turned off.

8. If desired, repeat this procedure for Set User Password.

## Configuring the OmniBook Configuring Security Options

9. Press F10 to Save and Exit the BIOS Setup utility.

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**Note**

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If you forget a password, call Customer Support at the number listed in “Support Assistance” on page 120 to determine the proper removal procedure.

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### To delete an OmniBook password

If you delete an administrator password, the OmniBook automatically deletes the user password as well.

1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. Select the Security menu.
  4. Select Set Administrator Password, then press ENTER.
  5. Type the current password, then press ENTER.
  6. Press ENTER at the Enter New Password prompt.
  7. Press ENTER at the Confirm New Password prompt.
  8. Press Continue.
  9. Press F10 to Save and Exit the BIOS Setup utility.
- 

### To install the VirusScan utility

The OmniBook comes equipped with VirusScan. Before you can use VirusScan, you need to install it.

1. From the Start menu, click Programs, VirusScan, Setup.
2. Follow the instructions as they appear on the screen.

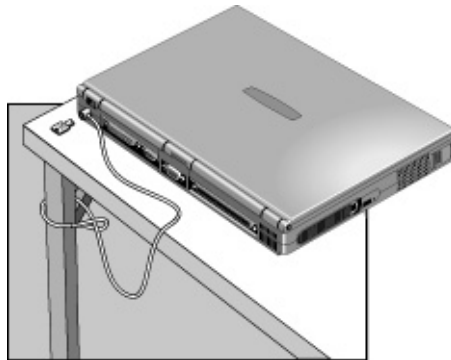
Once installed, you can get detailed online instructions under VirusScan Help. (Click Start, VirusScan, VirusScan Help.)

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## To attach a security cable

Your OmniBook has two built-in connectors that allow you to secure the OmniBook with a cable. The Kensington MicroSaver lock system works with these connectors and is available at many computer stores.

1. Wrap the cable around a stationary object, such as a table leg.
2. Loop the cable to create a slip knot around the stationary object—make sure it can't slip off.
3. Insert the lock into one of the OmniBook security connectors and release the key. Store the key in a safe place away from the OmniBook.



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## To set PC identification

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### **Windows 2000**

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You cannot set PC identification under Windows 2000 because TopTools is not available at this time.

You must have administrator password authority to set a PC identification number.

1. If you have not already installed HP TopTools, do so now (see “To install TopTools” on page 92).
2. Click Start, Programs, HP TopTools for Notebooks (or HP DMI), HP TopTools.
3. Click Security.
4. Type your administrator password, then press ENTER.
5. Click Settings and Actions.

## Configuring the OmniBook Configuring Security Options

6. In the “Tattooing String” box, type the unique set of characters which will identify your PC. You can type up to 80 characters including spaces and special characters. Do not press ENTER when typing. The string wraps automatically.

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### To enable hard disk drive lock

Hard disk drive lock helps you keep your information secure. *Hard disk drive lock does not protect a second hard disk drive installed in the module bay.*

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#### CAUTION

**When you enable hard disk drive lock, the current user password (or administrator password if that is the only password set) is encoded on the hard disk drive.**

***If you move the hard disk drive to another OmniBook, you can't access the drive until you set the user (or administrator) password to match the drive's password. After you match the drive's password, you can change the OmniBook (and drive) password. If you forget the password, you cannot recover your data.***

1. From the Start menu, shut down, then restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. From the Security menu, enable Password Required To Boot.
4. From the Security menu, enable Hard Disk Drive Lock.
5. Press F10 to save and exit the BIOS Setup utility.

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## Troubleshooting

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## Solving Problems

If your OmniBook has a problem, find the symptom below that matches your situation. Try the suggestions one at a time.

Here are some other sources of information:

- Click Start, Help and use the Windows Troubleshooters.
- See the Microsoft Windows manual shipped with the OmniBook.
- For information about system addresses, interrupts, or memory, see “Software System Resources” on page 129.
- Find technical tips and software updates for the OmniBook at the HP Customer Care website (<http://www.hp.com/cposupport/eschome.html>).
- Test your OmniBook by running the DiagTools test program. See “To run the diagnostic test” on page 113.
- Contact your dealer or Hewlett-Packard—see “Support Assistance” on page 120. Please have your OmniBook with you.

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### Note

For Windows NT, if you install new services, hardware devices, or applications, you must reinstall the Service Pack from the Recovery CD—see OmniBook Notes in the online OmniBook Library. This ensures that the Service Pack components work properly. It will not write over any applications, settings, or drivers you have installed.

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## Accessory Problems

### **If a port on a dock isn't working**

- Check that ac power is connected to the dock.
- Try using the corresponding OmniBook port, while undocked.
- Make sure the OmniBook is fully inserted in the dock.
- See the manual for the dock.

### **If you can't boot from a CD in a CD-ROM drive**

- Make sure the CD is a bootable CD, such as the OmniBook *Recovery CD*.

- Make sure you are using a plug-in OmniBook CD-ROM or DVD drive in the module bay. You cannot boot from an external CD-ROM drive, which you can connect to the OmniBook via a PC Card SCSI connection.
- Press ESC twice during bootup to see if the CD-ROM drive is the first boot device.
- Make sure the CD-ROM drive is seated correctly—remove and reinsert.
- If you always want to boot from a CD, check the boot order in BIOS Setup.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. Open the Boot menu. The default boot order is  
Removable Device  
Hard Disk  
CD-ROM/DVD Drive
  4. If CD-ROM/DVD drive is not option 1, use the arrow keys to select it.
  5. Press F6 to move up (or F5 to move down) in the list.
  6. Press F10 to Save and Exit the BIOS Setup utility.

#### **If a DVD drive locks up the computer in Windows 98**

If you're using Windows 98, you may not be able to use a DVD drive with the Agaté Tioman hot-swap software.

- Check the HP Customer Care website (<http://www.hp.com/cposupport/eschome.html>) for updated hot-swap software for Windows 98.
- Try uninstalling the Agaté Tioman software. You'll have to shut down the computer every time you swap modules or the module bay.

---

## Audio Problems

### **If sound is not audible**

- Double-click the speaker icon on the taskbar to ensure that Mute is not checked, or press the Mute button on the right side of the computer to mute or un-mute sound.
- Press Fn+UP-ARROW to increase the volume.

## Troubleshooting

### Solving Problems

- For a model without “4150” after the serial number, check settings in BIOS Setup.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. From the System Devices menu, check that Audio is enabled.

#### **If you hear a loud high-pitched whine (feedback) from the speakers**

- Try reducing the Master volume (Start, Programs, Accessories, Multimedia or Entertainment, Volume Control).
- Avoid using both the built-in microphone and the built-in speaker at the same time. For example, use an external microphone or external headphones.

#### **If sound doesn't record**

- For a model without “4150” after the serial number, check settings in BIOS Setup.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. From the System Devices menu, check that Audio is enabled.
- Check software controls for recording sound (Start, Programs, Accessories, Multimedia or Entertainment, Sound Recorder).

#### **If sound doesn't play from a CD-ROM drive in a docking system**

- Enable the Aux B channel in Volume Control. To do this, double-click the speaker icon in the taskbar, then click Options, Properties. Display the controls for Aux B, then clear the Mute setting.

---

## Display Problems

#### **If the OmniBook is on, but the screen is blank**

- Press the space bar or move the pointer to see if the computer is in Standby mode.
- Press Fn+F1 or Fn+F2 to adjust the display brightness. If you are using an external keyboard, Fn=left CTRL + left ALT.
- Press Fn+F5 in case the internal display was disabled. (Do this three times to return to the state you started from.)

- If the OmniBook is cold, allow it to warm up.

**If the screen is difficult to read**

- Check whether the display resolution is set to its default setting, 1024 × 768 (XGA). Check this in Start, Settings, Control Panel, Display, Settings.
- Check brightness (press Fn+F2 to increase brightness).

**If an external monitor doesn't work**

- Check the connections.
- Press Fn+F5 in case the external monitor was disabled. (Do this three times to return to the state you started from.)
- The external monitor may not be detected. In the BIOS Setup utility, try setting Video Display Device to Both in the Main menu. See “To run the BIOS Setup utility” on page 86.
- If the monitor is connected to a video adapter in a docking system, in BIOS Setup make sure the Primary Video Adapter is set to Auto in the Main menu.

**If the image on an external monitor or projector is unstable**

- Press Fn+F5 to turn off the built-in display. (Do this three times to return to the state you started from.)
- Change the display properties of the OmniBook display to match the resolution of the monitor or projector. In Control Panel, open Display, Settings and change the Desktop Area or Screen Area setting.
- Use a monitor or projector that matches the resolution of the OmniBook display.

**If multiple display support doesn't work in Windows 98**

In Windows 98, the computer supports multiple independent displays using the built-in display and an external monitor connected to the monitor port. You can also add an independent display using a video adapter in a docking system.

- Check the monitor connections.
- If the monitor is connected to the OmniBook monitor port, you might have to reduce the resolution and number of colors for the built-in display to make more memory available for the external monitor. See “To use an external monitor” on page 69.
- If the monitor is connected to a video adapter in a docking system, in BIOS Setup make sure the Primary Video Adapter is set to Internal in the Main menu. See “To run the BIOS Setup utility” on page 86.

## Troubleshooting Solving Problems

- See Windows 98 Help for information about setting up and using multiple displays.

---

### Hard Disk Drive Problems

#### **If the OmniBook's hard drive doesn't spin**

- Check the power source.
- Remove and reinsert the hard drive. See "To replace the hard disk drive" on page 79.

#### **If the hard disk makes buzzing or whining noise**

- Back up the drive immediately.
- Check for alternate noise sources, such as the fan or a PC Card drive.

#### **If files are corrupted**

- Run the VirusScan program. See "To install the VirusScan utility" on page 94.
- For Windows 95 or Windows 98, you can run the Scandisk surface scan to check the platter. (This is not available in Windows NT 4.0). From the Start menu, click Programs, Accessories, System Tools, Scandisk.
- For Windows 2000, open My Computer, select the disk you want to scan, click File, Properties, and use the Tools tab.
- For Windows NT 4.0, right click on the drive, then click Properties, Tools, Error Checking.
- If necessary, you can format the hard disk and reinstall the original factory software. See "To recover the factory installation of Windows" on page 116.

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### Keyboard and Pointing Device Problems

#### **If the pointer is difficult to control**

- To customize all pointing devices, use the Mouse icon in Control Panel.
- To customize the operation of the pointing stick, use the pointing stick icon available on the taskbar (or in the Windows Control panel) to access TrackPoint Properties. This is not yet available in Windows 2000.

### **If the touch pad or pointing stick doesn't work**

- Do not move the pointer while the OmniBook is resuming from Suspend or rebooting. If you moved the pointer, try pressing a key on the keyboard. You may have to suspend and resume using the power button, or you may have to shut down and restart Windows.
- Make sure the touch pad or pointing stick is enabled in the BIOS Setup utility.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. From the System Devices menu, check Internal Pointing Devices.
  4. Select the desired pointing device or both devices.
  5. Press F10 to Save and Exit the BIOS Setup utility.
- Reset the OmniBook. See “To reset the OmniBook” on page 21.

### **If the embedded numeric keypad doesn't work**

- Make sure the embedded Keypad Lock (Fn+F8) is on—or that you press and hold the Fn key to temporarily access the embedded keypad.
- To type numbers, make sure Num Lock is on.

### **If a special feature on the PS/2 mouse doesn't work**

- The built-in pointing devices must be disabled for special mouse features to work. In the BIOS Setup utility, check that the PS/2 Pointing Devices option is set to Auto in the System Devices menu. See “To run the BIOS Setup utility” on page 86.
- Press the blue power button to suspend the OmniBook, then press it again to resume.
- Make sure you installed any drivers shipped with the mouse.

### **If left CTRL + left ALT doesn't work on an external keyboard**

- Left CTRL + left ALT should work like the Fn key on an external keyboard. In BIOS Setup, check that External Fn Key is enabled in the System Devices menu. See “To run the BIOS Setup utility” on page 86.

### **If you can't type the euro symbol**

- Hold ALT GR when you press the marked key.

## Troubleshooting Solving Problems

- The euro symbol is not on the U.S. English keyboard. Make sure the embedded keypad is active (Fn+F8) and Num Lock is on, then hold ALT while typing 0128 on the numeric keypad.
- For Windows NT, if you select a different keyboard layout in Control Panel, you must reinstall the euro software. In Explorer, double-click `\Omnibook\Drivers\Euro\Nt4_euro.exe` on drive C or on the *Recovery CD*.
- Support for the euro symbol requires software available from Microsoft. This software is installed in the factory software, but may not be included with retail Windows.

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## Infrared Problems

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### Hint

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Windows NT 4.0 does not support infrared communication.

#### **If you have problems with infrared communications**

- Windows NT 4.0 does not support infrared devices.
- Make sure the infrared light path is not blocked. The infrared port is located on the back of the computer.
- Line up the OmniBook's infrared port and the other infrared port in as straight a line as possible. The two ports should be no more than 1 meter apart, with no obstructions in between. Noise from nearby equipment can cause transmission errors.
- Check settings in BIOS Setup utility.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. From the System Devices menu, check that Infrared Port is enabled and the desired mode is selected.
  4. Press F10 to Save and Exit the BIOS Setup utility.
- For infrared communications under Windows 95, you must install an infrared driver that matches the mode selected in BIOS Setup. For details, refer to the driver's Readme file located in `\Omnibook\Drivers`.
- Check that only one application is using the infrared port.
- Standard IrDA and fast-IrDA are incompatible (they use different drivers).
- For fast-IrDA, check for DMA conflict with ECP parallel port.

- Remove any PC Cards. An infrared IRQ conflict is possible if two PC Cards are present at the same time.

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## Memory Problems

### **If a message says you are out of memory**

- If you're using Windows 95, Windows 98, or Windows NT, click Start, Help and use the Memory Troubleshooter.
- If you are having memory problems running MS-DOS programs, in Windows click Start, Help and use the MS-DOS Troubleshooter.
- Not all 3rd party memory cards have been tested with the OmniBook. Please check the OmniBook website (<http://www.hp.com/omnibook>) for a list of approved and tested memory cards.

### **If memory doesn't increase after adding RAM**

- Use the correct type of memory (RAM) modules for your computer. For a model with "4150 B" after the serial number, use only PC-100 modules.

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## PC Card (PCMCIA) Problems

### **If the OmniBook doesn't recognize a PC Card**

- For Windows NT, make sure Card Executive is installed. See "To install Card Executive for Windows NT" on page 75.
- Remove and reinsert the PC Card.
- Insert the PC Card in a different slot.
- Press the blue power button to suspend the OmniBook, then press it again to resume.
- If the card requires an IRQ, check that there is one available. If necessary, set the IRQ to an unused value manually.

If you're using Windows 95 or Windows 98, look in Device Manager under Properties, Interrupt Request (IRQ).

If you're using Windows NT, click Start, Programs, Administrative Tools, Windows NT Diagnostics.

## Troubleshooting

### Solving Problems

- Check the HP Customer Care website (<http://www.hp.com/cposupport/eschome.html>) for information about installing certain PC Cards.
- Reboot the OmniBook.
- Zoomed Video is supported in the lower card slot only.
- Windows NT does not support Zoomed Video.
- Try the card in another computer.
- Not all 3rd party PC cards have been tested with the OmniBook. Please check the OmniBook website (<http://www.hp.com/omnibook>) for a list of approved and tested PC Cards.
- For a Xircom CE2 (IIps) LAN card, certain of these cards conflict with the game port device in Windows 2000. Contact Xircom to see if your card is one of these.
- When using a PC card in a docking system, insert or remove the card while the system is turned on.

#### **If an I/O card stops communicating properly**

- It may have been reset if the OmniBook suspended or turned off. Exit and restart the application.
- Check settings in Control Panel (and in Windows NT Diagnostics).

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## Performance Problems

#### **If the OmniBook gets hot**

- It is normal for the computer to get warm.
- Make sure the air vents on the back and side are clear.
- DOS games and other programs that drive CPU usage toward 100% can contribute to a temperature increase.

#### **If the OmniBook pauses or runs sluggishly**

- Press CTRL+ALT+DEL to see if an application is not responding.
- Reboot the OmniBook.
- Delete temporary and unneeded files.

- This may be normal Windows behavior. Background processing can affect response time.
- Certain background operations (such as VirusScan) can affect performance while they're running.
- Some file browsers may be unresponsive while they're processing a graphic image or waiting for broken network connections to time out.
- Install additional memory if Windows is spending a lot of time swapping to disk.
- Check amount of available free disk space.
- Check the BIOS Setup settings.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. From the Power menu, set the Power Management Mode to Max. Performance.
  4. Press F10 to Save and Exit the BIOS Setup utility.

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## Power and Battery Problems

### **If the OmniBook turns off immediately after it turns on**

- Battery power is probably extremely low. Plug in the ac adapter or insert a charged battery.

### **If the OmniBook keeps beeping**

- The OmniBook beeps for 15 seconds when the battery is low. Save your work, quit immediately, and insert a charged battery or plug in the ac adapter.

### **If the OmniBook has a short operating time**

- Try conserving power using any of the suggestions listed under "To save battery power" on page 56.
- If you are running any applications with an automatic save feature, such as MS Word for Windows, disable this feature.
- If the operating time has gotten shorter and the battery is more than a year or two old, you may need to replace the battery.
- Turn down the display brightness (Fn+F1).

## Troubleshooting

### Solving Problems

- Heavy modem use can affect battery operating time.
- For Windows 95, 98, and NT, check the Power Management settings in BIOS Setup.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. From the Power menu, make sure the Power Management Mode is set to Maximum Power Savings.
  4. Press F10 to Save and Exit the BIOS Setup utility.
- For Windows 2000, check the settings in Control Panel, Power Options, on the Power Schemes tab.

#### **If the battery doesn't charge**

- Make sure the ac adapter is plugged into the power source.
- If you're using a power strip, remove the ac adapter from the power strip and plug it directly into a wall outlet.
- Check that the light on the ac adapter is on.
- Check that the battery is fully installed and locked in place.
- Turn off the OmniBook, then remove the battery and check that the battery contacts are clean.
- Check that the ac adapter cables are fully plugged in.
- Move the OmniBook away from any nearby heat source. Unplug the ac adapter and allow the battery to cool down. An elevated battery temperature prevents charging.
- If available, try another battery and ac adapter.

#### **If the second battery doesn't charge**

- The OmniBook's second battery doesn't charge until the main battery is fully charged.
- Make sure the ac adapter is plugged into the power source.
- Check that the light on the ac adapter is on.
- Check that the second battery module is fully installed and locked in place.

#### **If the OmniBook stops responding**

- Press CTRL+ALT+DEL and end an application that is not responding.

- Press the blue power button to suspend the OmniBook. Then press the blue button again to turn the OmniBook back on.
- If nothing happens, insert a straightened paper clip into the system-off button on the left side of the OmniBook. Then press the blue power button to turn on the OmniBook.

**If the OmniBook doesn't suspend as expected**

- If you have a connection to another computer, the OmniBook doesn't suspend if the connection is actively in use.
- If the OmniBook is performing an operation, it normally waits for the operation to finish.
- For Windows 95, 98, or NT, if a CD-ROM drive is present, make sure auto insert notification is disabled. This is the default factory setting. (This is not required for Windows 2000.)

In Windows 95 or Windows 98, view the CD-ROM drive properties in Device Manager.

If retail Windows NT 4.0 is installed, you must edit the Registry to change this setting:

**CAUTION:** Incorrect editing of the Registry can make the system unbootable.

1. Log in as administrator.
2. Click Start, Run, type REGEDIT, and click OK.
3. Select HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Services\Cdrom.
4. Double-click AutoRun, change the value from 1 to 0, and click OK.
5. Exit the Registry Editor, then shut down and restart Windows.

**If the OmniBook doesn't automatically hibernate as expected**

- For Windows NT, certain point-enabled PC Cards and possibly other cards may prevent automatic hibernation when battery power is low. This may cause a drained battery and data loss. When leaving the computer unattended, either connect the ac adapter or shut down the computer.
- For Windows 2000, check to see that hibernate support is enabled. From Control Panel, open Power Options, and then click the Hibernate tab.

Also, check the Power Schemes tab. Make sure the Hibernate time-outs for both ac power and battery power are not set to Never.

## Troubleshooting Solving Problems

### **If the battery doesn't finish charging in an external charger**

- If you charge the battery in an HP external battery charger, the battery is finished charging when the charger's orange light turns off. It doesn't matter whether the green light turns on or stays off—the battery will be at least 90% full.

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## Printing Problems

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### **Hint**

For most printing problems, click Start, Help and use the Print Troubleshooter. If you're using Windows 2000, click Start, Help, Troubleshooting, and Print.

### **If a serial or parallel printer doesn't print**

- Check that you are using a proper cable or cable adapter, and that the printer is turned on.
- Check for paper in the printer or other printer errors.
- Make sure the printer cable is secure at both ends.

### **If an infrared printer doesn't print**

- Windows NT 4.0 does not support infrared devices.
- Make sure the infrared light path is not blocked.
- Check for paper in the printer or other printer errors.
- Make sure Windows is running—infrared printing is supported only while Windows is running.
- In BIOS Setup the infrared port must be enabled and the mode selected. The mode must match the driver. In Windows 95, an infrared driver must be installed. For details, refer to the driver's Readme file located in \Omnibook\Drivers.
- Click Start, Help and use the Print Troubleshooter. If you're using Windows 2000, click Start, Help, Troubleshooting, and Print.
- See "Infrared Problems" on page 104.

### **If the left edge of printed output is missing**

- If the printer you are using is a 600-dpi (dots per inch) printer, try selecting a compatible printer driver for a 300-dpi printer. For example, for a 600-dpi HP LaserJet printer, try using the HP LaserJet IIIsi driver (300-dpi). Certain applications may not work properly with 600-dpi printers.

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## Serial, Parallel, and USB Problems

### **If the serial mouse doesn't work**

- First, make certain you followed the manufacturer's installation instructions completely and have installed the mouse properly.
- Check that the cable is properly connected.
- Check settings in Control Panel (and in Windows NT Diagnostics).
- Make sure the serial port is working—see the next heading.

### **If the serial or parallel port is not working**

- Check that the cable is properly connected.
- Check settings in Control Panel (and in Windows NT Diagnostics).
- Check settings in BIOS Setup.
  1. From the Start menu, shut down, then restart the OmniBook.
  2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
  3. From the System Devices menu, check that Parallel and Serial are enabled.

### **If a serial modem doesn't work properly**

- Click Start, Help and use the Modem Troubleshooter. If you're using Windows 2000, click Start, Help, Troubleshooting, and Modem.
- Check that the cables are properly connected.
- Check settings in Control Panel (and in Windows NT Diagnostics).
- Make sure the serial port is working—see the previous heading.

### **If the USB port is not working**

- Windows NT 4.0 does not support USB devices.
- Check settings in Control Panel.
- Contact the vendor of the peripheral device, as well as the OmniBook website, for the latest versions of the USB drivers.

## Startup Problems

### **If the OmniBook doesn't respond at turn-on**

- Connect the ac adapter.
- Press blue power button to try turning on the unit.
- Reset the OmniBook. See “To reset the OmniBook” on page 21.
- If you get no response, remove the battery and ac adapter—then plug in the ac adapter and try resetting. If you still get no response, the unit requires service.

### **If the OmniBook doesn't boot from battery power**

- Make sure the battery is properly inserted.
- Remove the battery and check its charge level by pressing the pad on the back of the battery. The lights show the charge level.
- Check battery contacts. If available, try another battery.

### **If the OmniBook doesn't boot from the floppy disk drive**

After checking all connections, check the boot order and setup in BIOS Setup utility.

1. From the Start menu, shut down, then restart the OmniBook.
2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
3. Open the Boot menu. The default boot order is  
Removable Device  
Hard Disk  
CD-ROM/DVD Drive
4. If Removable Device is not option 1, use the arrow keys to select Removable Device.
5. Press F6 to move up (or F5 to move down) in the list.
6. If an LS-120 drive is also installed, expand the Removable Device category and move the floppy drive to the first position.
7. In the Security menu, make sure the Floppy Boot setting is Enabled.
8. Press F10 to Save and Exit the BIOS Setup utility.

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## Testing the Operation

The DiagTools hardware diagnostic program provides two levels of testing:

- Automated testing using the basic hardware test.
- Advanced testing using the individual hardware tests.

The tests are designed to run after the system reboots. This ensures that the computer will be in a predictable state, so the diagnostic program can properly test the hardware components. The tests are non-destructive and are intended to preserve the state of the computer. The OmniBook reboots when you exit the program so drivers can be loaded.

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### To run the diagnostic test

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#### Note

If the computer does not display the F10 diagnostics prompt while rebooting, you must run the diagnostics from a diagnostic floppy disk. See “To create a diagnostic floppy disk” on page 114.

1. Reboot the OmniBook. When you see the HP logo and the F10 prompt, press F10 to start the diagnostic test.
2. Go through the first several screens.
3. When the hardware detection finishes, check the list of detected hardware.

---

#### Hint

If a device is not detected or fails its test below, it may be configured incorrectly in the BIOS Setup utility. You can confirm the problem by running BIOS Setup and checking the settings. See “To run the BIOS Setup utility” on page 86.

4. **Run the basic test.** Press F2 to start the basic hardware test.
5. If you intend to exit without running the advanced tests, press F4 to save system and test information in the Support Ticket log file, HPSUPPT.TXT. Then press F3 to exit.
6. **Optional: Run the advanced tests.** Press F2 to open the advanced test screen.

## Troubleshooting

### Testing the Operation

7. Select and run the appropriate tests. Tests are not listed if no such hardware is detected. Press the following keys to run tests:

ENTER	Runs the highlighted test.
F5 or SPACE	Marks or unmarks the highlighted test.
F6	Marks or unmarks all tests in the current menu.
F7	Marks or unmarks all tests in all menus.
F10	Runs all marked tests.

8. When you are finished running tests, press ESC to exit the advanced tests.
9. **Optional: Save the Support Ticket.** Press F4 to save system and test information in the Support Ticket log file, HPSUPPT.TXT.
10. **Exit.** Press F3 to exit and reboot.
11. **Optional: Check the log.** The log file contains a list of all test results and errors. Run C:\Dmi\Hpdiags\Hpsuppt.exe to retrieve the log file to this directory and open it in Notepad. (If Hpsuppt.exe is not on your hard disk, you can download it from the OmniBook website.)

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## To create a diagnostic floppy disk

If your computer doesn't support running the diagnostics by pressing F10 during reboot, you can run the diagnostics by booting from a diagnostic floppy disk.

After inserting a formatted floppy disk in the floppy drive, do one of the following to create a diagnostic floppy disk:

- Check the C:\Dmi\Hpdiags directory. If **diaginst** is in this directory, double-click it.  
–or–  
If HP TopTools is installed, check the DiagTools page to see if it can create the disk.
- On any computer with World Wide Web access, download the diagnostic software package from the HP Customer Care website (<http://www.hp.com/cposupport/eschome.html>), and follow the instructions.

To run the diagnostics from the floppy disk, insert the disk in the floppy drive and reboot the OmniBook. If you create a Support Ticket, it is saved on the diagnostic floppy disk. Remove the floppy disk just before you exit the diagnostics program.

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## Recovering Software

You can use the OmniBook *Recovery CD* to reinstall the original factory software on your hard disk drive.

If you need to configure a custom system, you can get OmniBook-specific drivers from these locations:

- On the *Recovery CD* ROM, under \Omnibook\Drivers.
- On the OmniBook hard drive under C:\Omnibook\Drivers.
- On the HP Customer Care website at <http://www.hp.com/cposupport/eschome.html>. This website contains the latest updates of software drivers.

Detailed instructions for installing the drivers are contained in the Drivers\Readme file.

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**Note**

You'll find drivers for the operating system that was shipped with your OmniBook on the hard drive and on the *Recovery CD*. If you want drivers for a different operating system, see the HP Customer Care website.

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## To recover the factory installation of Windows

Use the *Recovery CD* to reinstall the original factory software on the hard disk. You use the same process to create a larger Hibernate/diagnostics partition on your hard disk or to create a Hibernate partition on a new hard disk.

---

### CAUTION

**This procedure will format the hard disk drive. After the hard disk drive is formatted, you'll need to reinstall any applications. Reformatting the hard disk drive will erase all data on the disk.**

**Do not interrupt the following process or unplug the ac adapter until the process is complete.**

1. **Important.** Back up all data from your hard disk. The following steps delete all data from the disk.
2. Plug in the ac adapter.
3. Insert the *Recovery CD* in the CD-ROM drive.
4. Shut down and restart the computer—when you see the HP logo, press ESC two times.
5. Select the CD-ROM drive as the boot device.
6. When the Recovery CD dialog box appears, follow the displayed instructions. If prompted, accept the recommended partition size. If you install the factory software, the recovery process can take up to 10 minutes.

If you want to create the Hibernate/diagnostics partition without installing the factory software, click Advanced and select the option to not install the operating system. If you intend to install Windows NT, you should choose the FAT16 option or the Hibernate-only option.

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### Note

If, instead, you see an MS-DOS menu of options, select “Recover...” to create the Hibernate partition and install the factory software, which can take up to 60 minutes. Or select “Create Hibernate Partition” to not install the software. Accept the recommended partition size.

7. When prompted to reboot the computer, press CTRL+ALT+DEL and follow any displayed instructions.

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## To update the OmniBook BIOS

OmniBook BIOS updates are available from the HP Customer Care website at <http://www.hp.com/cposupport/eschome.html>. You may receive a BIOS update on a floppy disk or on a CD.

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### CAUTION

**Because a BIOS update replaces the previous version, it is very important you follow these instructions exactly. Otherwise, the OmniBook may be damaged. The BIOS update process resets the configuration settings in the BIOS Setup utility except for the PC Identification and Password.**

1. From the Start menu, shut down the OmniBook.
2. Connect the ac adapter to the OmniBook.
3. Remove any PC Cards and, if docked, undock the OmniBook.
4. Insert the BIOS Update disk or CD in the appropriate drive.
5. Press the blue power button.
6. When prompted, choose the correct language.
7. Follow the onscreen instructions. This starts a process that takes approximately 1 minute. *Once it begins, do not interrupt the update process.*

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## To replace a damaged *Recovery CD*

If you lose or damage the *Recovery CD*, take your OmniBook and Certificate of Authenticity to an HP Service Center to be replaced. If you mail your OmniBook for this service, you *must* provide a photocopy of the Certificate of Authenticity along with payment.



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## Support and Service

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## Getting HP OmniBook Assistance

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### Support Assistance

If you need assistance with your HP OmniBook or accessory, use any of the following support services:

Provider Type	Type of Assistance
1. Electronic Support Services (see below)	HP self-help tools, information and software. Approved and Tested Solutions.
2. Customer Support Centers (see below)	Email and telephone support assistance. In and out of warranty repair processes.
3. HP-authorized resellers	Local support assistance. Referral to Customer Support Center or HP-approved support provider.

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### Electronic Support Services

- **HP OmniBook World Wide Web:** Download technical information, drivers and software from the web at <http://www.hp.com/omnibook>.
- **HP PC & Peripheral Self-Help and Direct-Help Tools:** Visit the web <http://www.hp.com/cpsa-support/guide/home.html>.

**Choose Self-Help Tools** to use a number of services that offer information and software that will help you make the most of your HP products:

- Bulletin Boards.
- Commercial Online Services.
- CD-ROM Subscriptions.
- Service Parts Information.

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## Repair Assistance

**Warranty.** You must contact one of the participating support providers listed in item 3 in “Support Assistance” above, or an HP Service Center to receive warranty service. The support provider will help qualify your unit for warranty repair based on the warranty applicable to your unit and original purchase date, and will provide you with repair processes in your area. Warranty service includes the cost of shipping, handling, duties, taxes, freight or fees to or from the service location.

**Out of Warranty.** Contact one of the support providers listed in items 2 or 3 in “Support Assistance” above, or an HP Service Center. The support provider will provide you with repair charges and processes in your area.

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## Customer Support Centers

HP Customer Support Centers, will assist you for free (you are responsible for the telephone charges) during the term of the warranty.

**During the free assistance period, HP will assist with questions about:**

- Included applications and operating systems.
- HP-described operation environments and conditions.
- HP accessories, HP upgrades, and basic operation and troubleshooting.

**HP will not be able to help with questions about:**

- Non-HP hardware, software, operating systems, or usage not intended for or included (by HP) with the product.
- How to repair the product yourself.
- Product development, custom installations.
- Consulting.

Support and Service  
**Getting HP OmniBook Assistance**

To contact the Customer Support Center by email, visit the HP Customer Care website at <http://www.hp.com/cposupport/eschome.html>.

For the latest list of phone numbers, see the OmniBook website under Support, <http://www.hp.com/omnibook>.

<p><b>North America</b> United States: (970) 635-1000 Canada (English): (970) 635-1000 Canada (French): (800) 387-3867 Mexico: 326 4600, Guadalejara 669 9500, Monterrey 378 4240</p> <p><b>Central/South America</b> Argentina: 541781 4061 69 Brazil: 5511 709 1444 Venezuela: 58 2 239 5664</p> <p><b>Europe</b> Austria (German): 0660.6386 Belgium (Dutch): 02.626.8806 Belgium (French): 02.626.8807 Czech Republic: 42 2 471 7321 Denmark (Danish/Swedish): 3929.4099 Finland (Swedish/English): 0203.47.288 France (French): 01.43.62.34.34 Germany (German): 0180.52.58.143 Greece: 301 689 6411 Hungary: 36(1) 252 4505 Netherlands (Dutch): 020.606.8751 Ireland (English): 01.662.5525 Italy (Italian): 02.264.10350 Norway (Norwegian/Swedish): 22.11.6299 Poland 4822 37 50 65 Portugal: 01.441.7199</p>	<p>Russia 7095 797 3500 Spain (Spanish): 902.321.123 Sweden (Swedish): 08.619.2170 Switzerland (German/French): 0848.80.11.11 Turkey: 90 212 224 59 25 UK (English): 0171.512.52.02 English (non-UK): 44 171 512 52 02</p> <p><b>Asia and Australia</b> Australia: 03.9272.8000 China: 010 6505 3888 Hong Kong: 800 967-729 India: 011 682 6035 Indonesia: 021 350 3408 Japan: 03 3235 8333 Korea: Seoul 02.3270.0700, outside Seoul 080 999-0700 Malaysia: Penang 1300 88 0028, outside Penang 03 295 2566 New Zealand: 0800 445 543 Philippines: 02 867 3551 Singapore: 65 272 5300 Taiwan: 02 717 0055 Thailand: 02 661 4011 Vietnam: 08823 4530</p> <p><b>Africa/Middle East</b> 41 22 780 71 11</p>
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## Hewlett-Packard Limited Warranty Statement

1. HP warrants to you, the end-user customer, that HP hardware, accessories and supplies will be free from defects in materials and workmanship after the date of purchase, for the period specified in the Warranty Duration sheet included with your OmniBook. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or equivalent in performance to new.
2. HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified in the Warranty Duration sheet included with your OmniBook, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software which does not execute its programming instructions due to such defects.
3. HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.
4. HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.
5. Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.
6. TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country to country, state to state, or province to province.
7. TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES.

Support and Service  
**Hewlett-Packard Limited Warranty Statement**

EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

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## Specifications and Regulatory Information

Specifications and Regulatory Information  
**Hardware Specifications**

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## Hardware Specifications

In a continuing effort to improve our products, the specifications shown below are subject to change. For the latest specifications, see the OmniBook website, <http://www.hp.com/omnibook>.

<b>Physical Attributes</b>	Size: 330.5mm×256.9mm×35-36.5mm (13.0"×10.1"×1.3-1.4"). Weight: 2.9 kg (6.4 lb).
<b>Processor and Bus Architecture</b>	300-MHz Intel Mobile Pentium II processor with 512-KB pipeline-burst-synchronous L2 cache. –or– 400-, 366- or 300-MHz Intel Mobile Pentium II processor with 256-KB four-way set-associative L2 cache. –or– 650/500-, 500-, or 450-MHz Intel Mobile Pentium III processor with 256-KB four-way set-associative L2 cache. 1.6-V core, 2.5-V external, low-power processor. 32-KB (16-KB instruction, 16-KB data) L1 cache. 32-bit PCI bus.
<b>Graphics</b>	14.1- or 13.3-inch XGA active-matrix (TFT) display (1024 × 768 × 16M colors). Zoomed Video support for lower PC Card slot. <b>Models without "4150" after serial number</b> 256-bit NeoMagic MagicGraph graphics accelerator with 2.5-MB video RAM, 1x AGP graphics capability. <b>Models with "4150 B" after serial number</b> ATI Mobility-M or -M1 graphics accelerator with 4- or 8-MB video RAM, 2x AGP graphics capability.
<b>Power</b>	Rechargeable 9-cell lithium ion battery with LED charge-level gauge (10.8 Vdc). Battery life (one battery): up to 3-4 hours typical (varies with type of usage and model). Fast battery recharge: 80% in 1.5 hour, 100% in 2 hours. Low-battery warning. Suspend/resume capability. 60-watt ac adapter: 100 to 240 Vac (50 to 60 Hz) input, 19 Vdc, 3.16 A output.
<b>Mass Storage</b>	12-, 10-, 6-, or 4-GB removable hard drive. 1.44-MB floppy drive module. CD-ROM or DVD drive module. <b>Optional</b> LS-120 storage module. Second hard disk drive module.

<b>RAM</b>	64 or 128 MB RAM in first RAM slot. Two slots for RAM expansion up to 256 MB (using 128-MB modules). 66-MHz RAM bus, or 100-Mhz RAM bus for models with "4150 B" after serial number.
<b>Audio System</b>	16-bit Sound Blaster Pro-compatible stereo sound. Stereo sound via two built-in speakers. 3D-enhanced PCI bus audio with Zoomed Video support. Built-in microphone. Line-in, headphone-out, and microphone-in.
<b>Keyboard and Pointing Device</b>	87/88-key touch-type QWERTY keyboard with 101/102 key emulation. Embedded numeric keypad. 12 function (Fn) keys. Two pointing devices: pointing stick (TrackPoint technology licensed from IBM) and touch pad.
<b>Input/Output</b>	Universal serial bus (USB). 9-pin, 115,200-bps serial (16550 UART). 25-pin bi-directional ECP/EPP parallel. Video-out. (Resolution up to 1280×1024×256 colors, or up to 1600×1200×64K or 16M colors for models with "4150 B" after serial number. Refresh rate 60 to 85 Hz.) Dual display. PS/2 keyboard/mouse. 4-Mbps IrDA-compliant infrared port.
<b>Expandability</b>	One Type III or two Type II 16-/32-bit PC Card slots (3.3- and 5-V support). CardBus enabled. External plug-in module bay for accessory modules. Optional port replicator, mini dock, and docking system.
<b>Software</b>	Microsoft Windows 95/98, Windows NT 4.0, or Windows 2000. Windows 95/98/2000-compatible Plug-and-Play. Windows NT 4.0 and PC Card Plug-and-Play. Advanced Power Management (APM). DMI with HP TopTools. Adobe Acrobat Reader. Agaté Tioman for HP (Hot Swap). DiagTools. VirusScan. Online <i>Reference Guide</i> . OmniBook <i>Recovery CD</i> included. Centralized worldwide BIOS and driver update service.
<b>Security Features</b>	User and administrator passwords. System, hard drive, and docking passwords. PC identification displayed at boot. DMI-accessible electronic serial number. Kensington MicroSaver lock slot.

Specifications and Regulatory Information  
**Hardware Specifications**

<b>Environmental Limits</b>	Operating temperature: 5 to 35 °C (41 to 95 °F). Operating humidity: 20 to 90 percent RH (5 to 35 °C). Storage temperature: -20 to 50 °C (-4 to 122 °F).
<b>Major ICs</b>	<b>Models without “4150” after serial number</b> CPU: Intel Mobile Pentium II or Pentium III processor. South Bridge: PIIX4E. Video: NeoMagic MagicGraph NM2200 (NMG5). Audio: NeoMagic MagicGraph NM2200 (NMG5) and NeoMagic Audio NMA2. CardBus: TI PCI 1220A. Keyboard controller: National PC87570. Super I/O: SMC 769. <b>Models with “4150 B” after serial number</b> CPU: Intel Mobile Pentium II processor. South Bridge: PIIX4M. Video: ATI Mobility-M or -M1. Audio: ESS ES1978 Maestro-2E and ESS ES1921. CardBus: TI PCI 1225. Keyboard controller: National PC87570. Super I/O: SMC 869.

## Software System Resources

The tables in this section show typical default resource usage as set up by the OmniBook BIOS. Plug-and-play operating systems, drivers, and BIOS Setup settings may change some of the entries.

To see other, non-default possibilities, refer to the BIOS Setup utility, which lists port and audio device configurations in the Input/Output menu.

To check system resources, use Windows Device Manager (Windows 95, 98, or 2000) or Windows NT Diagnostics (Windows NT).

### System Interrupts

0	System timer
1	Keyboard
2	Cascade IRQ 9
3	Free (or COM2 infrared port, if enabled)
4	COM1 (serial port)
5	Audio
6	Floppy drive
7	LPT1 (ECP parallel port)
8	Real-time clock
9	Video Controller (unmarked models*) Free ("4150 B" models*)
10	USB and CardBus - assigned by Windows driver Video Controller ("4150 B" models*)
11	Free
12	Pointing device
13	Numeric data processor
14	Internal hard disk (primary IDE controller)
15	Internal CD-ROM drive (secondary IDE controller)

\* Unmarked models have no "4150" after the serial number, "4150 B" models have "4150 B" after the serial number.

Specifications and Regulatory Information  
**Software System Resources**

**System Memory**

00000 - 9FFFF	System memory
C0000 - CBFFF C0000 - CFFFF	Video BIOS (unmarked models***) Video BIOS ("4150 B" models***)
CC000 - DBFFF* D0000 - DBFFF*	Free** (unmarked models***) Free** ("4150 B" models***)
DC000*- FFFFF	System BIOS

\* Approximate boundary.

\*\* Valid uses for memory addresses CC000-DBFFF or D0000-DBFFF:  
 Upper memory blocks (UMBs).  
 PC card memory windows.

\*\*\* Unmarked models have no "4150" after the serial number, "4150 B" models have "4150 B" after the serial number.

**System Input/Output Addresses (100-3FF)**

120-127	Audio (only models without "4150" after serial number)
170-177	Internal CD-ROM drive (secondary IDE controller)
1F0-1F7	Internal hard disk (primary IDE controller)
220-22F	Audio
376	Internal CD-ROM drive (secondary IDE controller)
378-37F	LPT1 (printer port)
388-38B	Audio
3B0-3BB	Video adapter
3C0-3DF	Video adapter
3E0-3E1	PCMCIA controller
3F0-3F5	Floppy controller
3F6	Internal hard disk (primary IDE controller)
3F7	Floppy controller
3F8-3FF	COM1 (serial port)

**DMA Channels**

0	Sound Record (unmarked models*) Free ("4150 B" models*)
1	Sound playback
2	Floppy drive
3	LPT1 (ECP parallel port)
4	Cascade
5	Free
6	Free
7	Free

\* Unmarked models have no "4150" after the serial number, "4150 B" models have "4150 B" after the serial number.

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## Safety Information

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### Power Cords

The power cord supplied with the OmniBook ac adapter should match the plug and voltage requirements for your local area. Regulatory approval for the ac adapter has been obtained using the power cord for the local area. However, if you travel to a different area and need to connect to a different outlet or voltage, you should use one of the power cords listed below. To purchase a power cord (including one for a country not listed below) or a replacement ac adapter (HP part number F1454A), contact your local Hewlett-Packard dealer or Sales and Service office.

<b>Country</b>	<b>Rated Voltage and Current</b>	<b>HP Part Number</b>
Canada Mexico Philippines Taiwan United States	125 Vac (3 A)	8120-6313
East and West Europe Egypt Saudi Arabia	250 Vac (2.5 A)	8120-6314
Hong Kong Singapore United Kingdom	250 Vac (2.5 A)	8120-8699
Australia New Zealand	250 Vac (2.5 A)	8120-6312
Japan	125 Vac (3 A)	8120-6316
India South Africa	250 Vac (2.5 A)	8120-6317
Argentina	250 Vac (2.5 A)	8120-8367
Chile	250 Vac (2.5 A)	8120-8452
People's Republic of China	250 Vac (2.5 A)	8120-8373

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## Ergonomics

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### WARNING

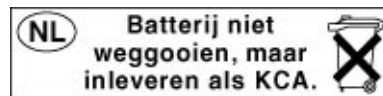
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**Improper use of keyboards and other input devices has been associated with ergonomic injury. For information about reducing your risk, see Working in Comfort in the online OmniBook Library, or visit our ergonomics website, <http://www.hp.com/ergo>.**

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## Battery Safety

- To avoid risk of fire, burns, or damage to your battery pack, do not allow a metal object to touch the battery contacts.
- The battery pack is suitable for use only with compatible OmniBook models. Check “Support Assistance” on page 120 for your local HP contact.
- Do not disassemble the battery. There are no serviceable parts inside. Do not dispose of the battery pack in fire or water.
- Handle a damaged or leaking battery with extreme care. If you come in contact with the electrolyte, wash the exposed area with soap and water. If it contacts the eye, flush the eye with water for 15 minutes and seek medical attention.
- Do not expose the battery pack to high storage temperatures (above 60 °C, 140 °F).
- When the battery is not in use, store it in the battery pouch provided.
- When discarding a battery pack, contact your local waste disposal provider regarding local restrictions on the disposal or recycling of batteries.
- To obtain a replacement battery, contact your local dealer or HP sales office.
- Do not charge the battery pack if the ambient temperature exceeds 45 °C (113 °F).



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## Laser Safety

The CD-ROM and DVD drives used with the OmniBook are certified as a Class 1 laser devices according to the U.S. Department of Health and Human Services (DHHS)

## Specifications and Regulatory Information

### Safety Information

Radiation Performance Standard and International Standards IEC 825 / IEC 825-1 (EN60825 / EN60825-1). These devices are not considered harmful, but the following precautions are recommended:

- Ensure proper use by reading and following the instructions carefully.
- If the unit requires service, contact an authorized HP service center—see “Support Assistance” on page 120.
- Do not attempt to make any adjustment of the unit.
- Avoid direct exposure to the laser beam—do not open the unit.

CLASS 1 LASER PRODUCT  
LASER KLASSE 1

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## LED Safety

The infrared port located on the back of the OmniBook is classified as a Class 1 LED (light-emitting diode) device according to International Standard IEC 825-1 (EN60825-1). This device is not considered harmful, but the following precautions are recommended:

- If the unit requires service, contact an authorized HP service center—see “Support Assistance” on page 120.
- Do not attempt to make any adjustment of the unit.
- Avoid direct eye exposure to the infrared LED beam. Be aware that the beam is invisible light and cannot be seen.
- Do not attempt to view the infrared LED beam with any type of optical device.

CLASS 1 LED PRODUCT  
LEDSCHÜTZKLASSE 1 PRODUKT

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## Regulatory Information

This section presents information that shows how the OmniBook complies with regulations in certain regions. Any modifications to the OmniBook not expressly approved by Hewlett-Packard could void the authority to operate the OmniBook in these regions.

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### U.S.A.

The OmniBook generates and uses radio frequency energy and may interfere with radio and television reception. The OmniBook complies with the limits for a Class B computing device as specified in Part 15 of FCC Rules, which provide reasonable protection against such interference in a residential installation. In the unlikely event that there is interference to radio or television reception (which can be determined by removing the unit's batteries and ac adapter), try the following:

- Reorienting or relocating the receiving antenna.
- Relocating the OmniBook with respect to the receiver.
- Connecting the OmniBook ac adapter to another power outlet.

#### **Connections to Peripheral Devices**

To maintain compliance with FCC Rules and Regulations, use properly shielded cables with this device.

For more information, consult your dealer, an experienced radio/television technician, or the following booklet, prepared by the Federal Communications Commission: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock Number 004-000-00345-4. At the first printing of this manual, the telephone number was (202) 512-1800.

## Specifications and Regulatory Information

### Regulatory Information

#### Declaration of Conformity

**Responsible Party:** Hewlett-Packard Company  
Manager of Corporate Product Regulations  
3000 Hanover Street  
Palo Alto, CA 94304  
(415) 857-1501

declares that the product(s)

**Trade name:** Hewlett-Packard Company

**Product name:** HP OmniBook 4150

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.

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### Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

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### Japan

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。

取り扱い説明書に従って正しい取り扱いをして下さい。

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## International

Products sold internationally by Hewlett-Packard and its authorized dealers meet the specifications listed below.

### **Declaration of Conformity (according to ISO/IEC Guide 22 and EN 45014)**

<b>Address:</b>	Hewlett-Packard Company Mobile Computing Division 19310 Pruneridge Ave. Cupertino, CA 95014  declares that the following product
<b>Product name:</b>	HP OmniBook 4150
<b>Options:</b>	All  conforms to the following product specifications
<b>Safety:</b>	IEC 950:1991+A1,A2,A3,A4 / EN 60950 (1992)+A1,A2,A3,A4,A11 GB4943-1995 IEC 825-1:1993 / EN 60825-1:1994, Class 1
<b>EMC:</b>	CISPR 22:1993+A1,A2 / EN 55022 (1994)+A1,A2: Class B [1 ] GB9254-1988 EN 50082-1:1992 IEC 801-2:1991 / prEN 55024-2 (1992): 4kV CD, 8kV AD IEC 801-3:1984 / prEN 55024-3 (1991): 3V/m IEC 801-4:1988 / prEN 55024-4 (1992): 0.5 kV signal lines, 1.0kV power lines FCC Title 47 CFR, Part 15 Class B Ansi C63.4:1992 AS/NZS 3548:1995 Rules and Regulations of Class B
<b>Supplementary Information:</b>	The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC and carries the CE mark accordingly.  This device complies with Part 15 of 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.  The HP F1454A ac adapter used with this product is designed to operate on all power systems, other than IT power systems.

[1] The product was tested in a typical configuration with Hewlett-Packard personal computer peripherals.

Quality Department,  
Hewlett-Packard Company  
Mobile Computing Division



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