HP Notebook PC

Startup Guide

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Important Safety Information

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord to connect a modem to the telephone wall jack.

When using your computer with a telephone connection, always follow basic safety precautions to reduce the risk of fire, electric shock, and injury to persons:

- Do not use this product with a telephone connection near water (for example, near a bathtub, sink, swimming pool, or in a wet basement).

- Avoid using a telephone connection (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lighting.

- Do not use a telephone connection to report a gas leak in the vicinity of the leak.

- Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

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Support Policy for Support Pack of Operating Systems. HP provides end user support for HP PCs that use Microsoft Operating Systems, including its latest service packs. This support will be available within 30 days of the software being released.

Edition History

Edition 4 . . . . August 2001

♻ This manual is printed on recycled paper.

Contents

Getting Started with Your HP Notebook

Taking Inventory

Congratulations! Your notebook computer sets a new standard in personal computing. Although compact and easy to carry, your computer is made with the quality and attention to detail that are the hallmark of Hewlett-Packard.

Your computer has several features that make it convenient to use:

- Two buttons provide convenient options for starting and stopping the computer.

- Volume controls are located within easy reach on the computer's right side, and the audio-off button and light let you cut off all sound quickly when needed.

- All cable connectors are near the back of the computer, keeping cables away from your working area.

This manual shows how to set up and operate your computer, as well as what to do if you run into trouble.

What's in the Box?

Your HP notebook computer is shipped with these items:

- Main battery (installed).

- Floppy disk drive module.

- Floppy disk drive USB cable (models without expansion base only).

- AC adapter and power cord.

- *Quick Start* sheet.

- *Startup Guide*.

- *Recovery CD*, for restoring Windows and all software included with your computer.

- Microsoft Windows manual.

- Multimedia expansion base and plug-in drive module (certain models only).

- Phone cord (modem models only).

In addition, your HP notebook includes preinstalled software. (The exact software installed depends on your particular notebook model.)

To find more information

The following table lists other sources of information about your computer and related products.

Source	Description and Location
Startup Guide	This printed manual introduces your computer. It also contains setup instructions, basic operation guidelines, troubleshooting information, and warranty information.
Online *Reference Guide*	The full *Reference Guide* is shipped on the computer's hard drive, and provides a complete source for operating and maintaining the computer. Look in the online HP Library, or on the *Recovery CD* in \hp\Library. For Windows XP, the HP Library is in the Help and Support Center.
Online HP Notes	For late-breaking information available after the manuals were completed, see the HP Notes in the online HP Library, or on the *Recovery CD* in \hp\Library.
Microsoft Windows manual	This is shipped with your computer and contains information about using the version of Microsoft Windows shipped with your computer.
HP Notebook Web Site	www.hp.com/notebooks. www.europe.hp.com/notebooks (European mirror).
HP Customer Care Web Site	www.hp.com/go/support.
Corporate Evaluator's Guide	This provides information about installing alternate operating systems, as well as how to configure your notebook computer in a corporate, networked environment. Located at the HP Notebook web site.

Identifying Parts of the Computer

Front View
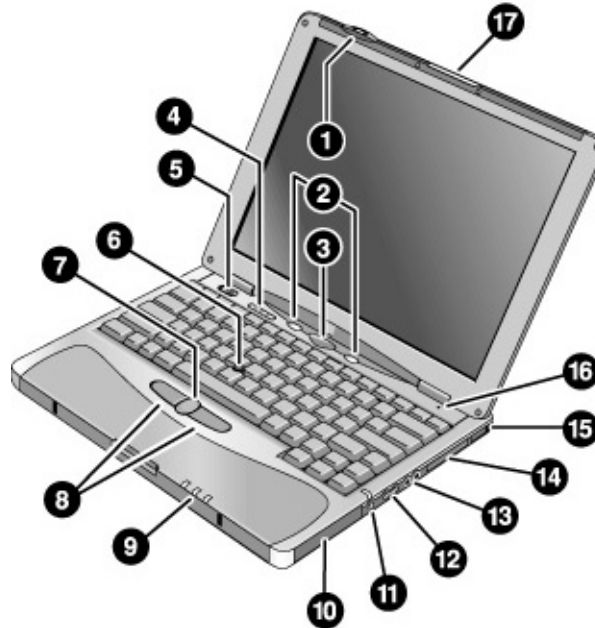
1. Wireless on-off button and indicator light (on certain models).
2. Left and right One-Touch buttons (programmable).
3. Sleep button. Suspends and resumes operation.
4. Keyboard status lights: Caps Lock, Num Lock, Keypad Lock, Scroll Lock.
5. Power slide button. Turns the computer on and off.
6. Pointing stick (pointing device).
7. Scroll button.
8. Left and right click buttons.

9. Main status lights: power mode, hard disk activity, main battery charge.
10. Hard disk drive.
11. Audio-off button and audio-off light.
12. Volume control.
13. Audio jacks: audio out (headphones), external microphone.
14. PC Card slot.
15. PC Card eject button.
16. Built-in microphone.
17. Latch for opening the computer.

Back View
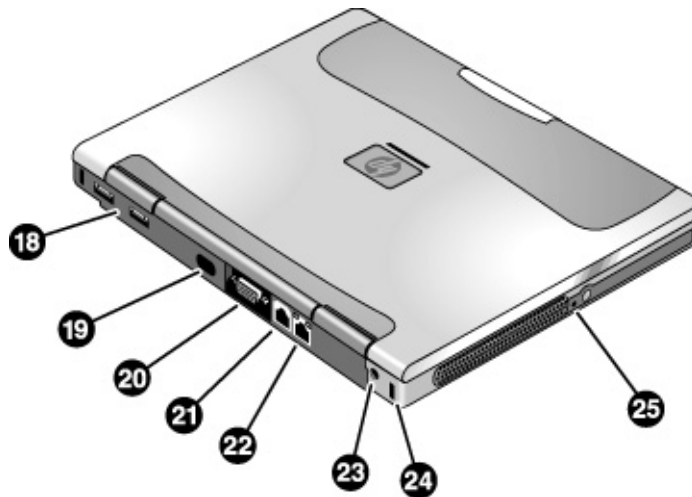
18. Universal serial bus ports (USB).
19. Infrared port (on certain models).
20. External monitor port.
21. Modem port (on certain models).

22. LAN port (on certain models).
23. AC adapter jack.
24. Kensington lock slot (security connector).
25. System-off switch.

Bottom View

26. Hard disk drive retaining screw.

27. RAM cover.

28. Docking port.

29. Main battery.

30. Main battery latch.

Status Lights

The main status lights report power and battery status and drive activity.
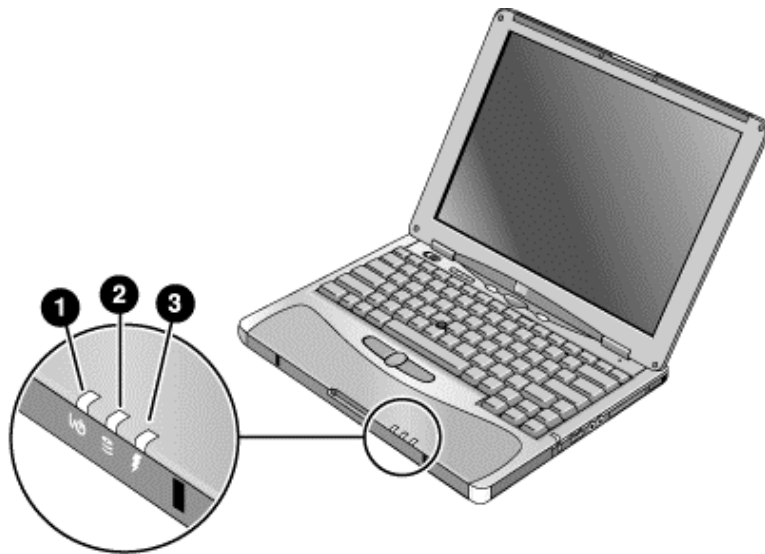
1. **Power mode**.

   - On: the computer is on (even if the display is off).

   - Blinking: the computer is in Standby mode. (Steady amber light on some models.)

   - Off: the computer is off or in Hibernate mode.

2. **Hard disk drive activity**.

   - Blue: the computer is accessing the hard disk drive.

3. **Main battery charge status**.

   - Green: the AC adapter is connected and the battery is fully charged.

   - Amber: the AC adapter is connected and the battery is charging.

   - Blinking: the AC adapter is connected and the battery is missing or has a fault. (Steady red light on some models.)

   - Off: the AC adapter is not connected.

The keyboard status lights, located above the keyboard, indicate the states of the keyboard locks.
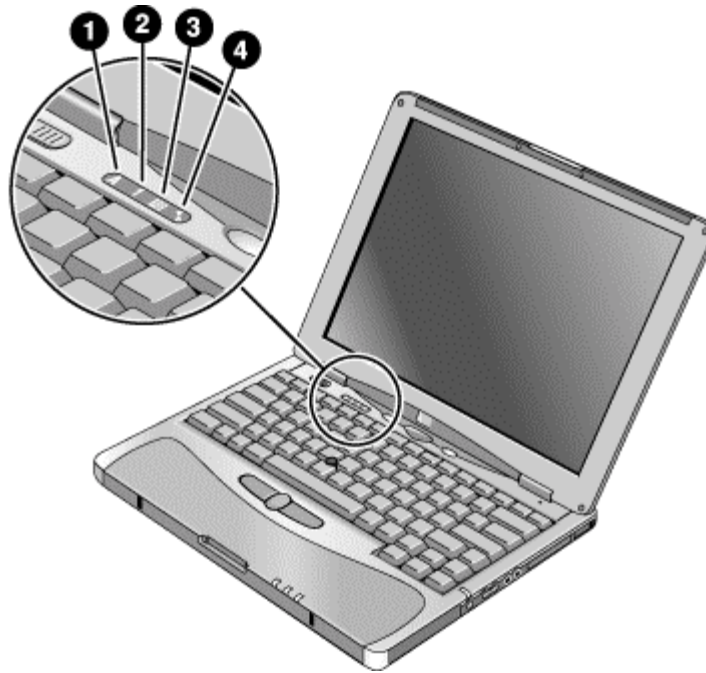
1. **Caps Lock**. Caps Lock is active.

2. **Num Lock**. Num Lock is active (Fn+F9). (The Keypad Lock must also be on to use the embedded keypad.)

3. **Keypad Lock**. The embedded keypad is active (Fn+F8). Num Lock must also be on for the numeric keys—otherwise, cursor control is active (as marked on an external keyboard).

4. **Scroll Lock**. Scroll Lock is active (Fn+F10).

Expansion Base – Front
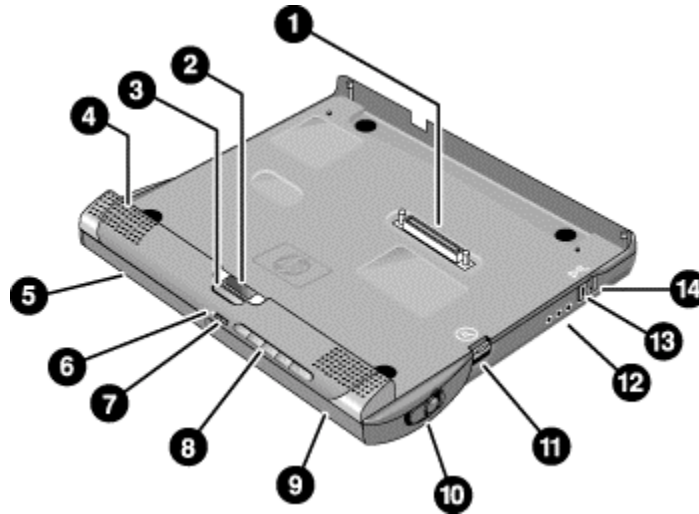
1. Docking connector.

2. Status panel.

3. Status panel button.

4. Speaker (one on each side).

5. Left plug-in module bay. Can contain a CD-ROM or DVD drive, floppy disk drive, secondary battery, or other plug-in module.

6. CD status light.

7. CD player power button.

8. CD player controls: previous track, play/pause, stop, next track, volume.

9. Right plug-in module bay. Used with CD player controls. Can contain any plug-in module.

10. Module eject latch.

11. Undock switch.

12. Audio jacks: audio out (headphones), external microphone, audio in.

13. Kensington lock slot (security connector).

14. Emergency undock latch.

Expansion Base – Back
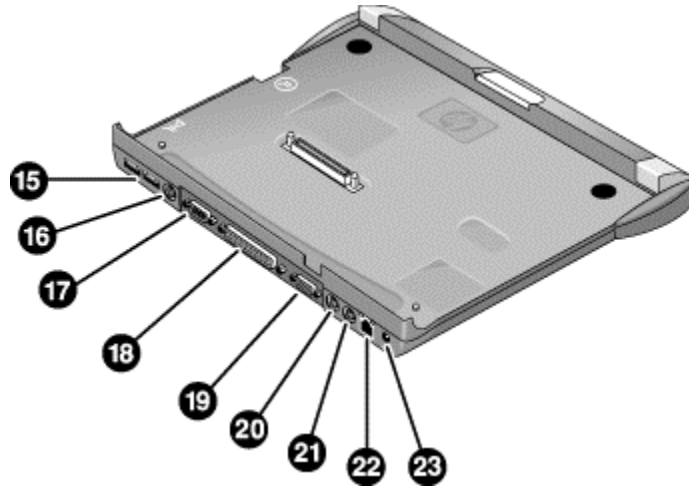
15. Universal serial bus ports (USB).

16. S-video (TV out) port.

17. Serial port (COM1).

18. Parallel port (LPT1). Use this port for a parallel printer or other parallel device.

19. External monitor port.

20. PS/2 mouse port.

21. PS/2 keyboard port.

22. LAN port (works only if the computer has a built-in LAN port).

23. AC adapter jack.

Setting Up Your Computer

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 HP Library, or visit our ergonomics web site, www.hp.com/ergo. For a summary about working with a notebook computer, see "Working in Comfort with a Notebook PC" on page 33.**
	If you are using your notebook 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 HP Library.

When you set up your computer for the first time, you'll need to install and charge the battery, connect the AC adapter, turn on the computer, and run the Windows setup program.

Step 1: Install the battery

WARNING	**Do not mutilate or puncture batteries. Do not dispose of batteries in fire, or they can burst or explode, releasing hazardous chemicals. Rechargeable batteries must be recycled or disposed of properly.**

Your computer is shipped with the battery installed. If the battery has been removed, you should install it:

1. Turn the computer upside down.

2. Insert the front end of the battery into the battery compartment on the bottom of the computer, then press the back end in until it clicks into place.
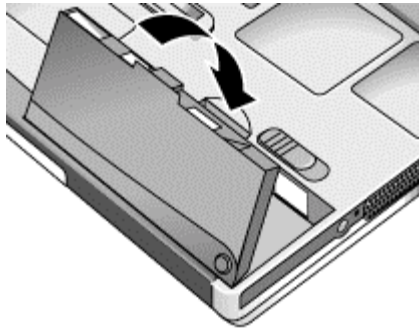
To remove the battery

1. Do one of the following:

   - Plug in the AC adapter.

   - Press the blue sleep button to put the computer into Standby mode. While the computer is in this mode, you must insert the replacement battery within two minutes of removing the discharged battery.

   - Shut down the computer or put it into Hibernate mode.

2. Slide the battery's release latch, then lift the battery out of its compartment.
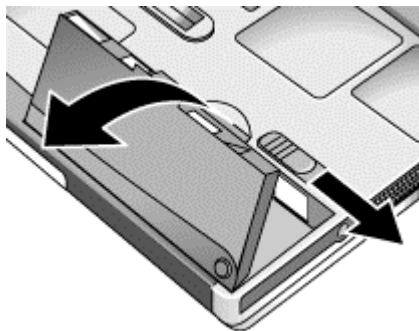
Step 2: Connect AC power

CAUTION

Use only the HP AC adapter included with your computer (or other approved adapter). Using any other AC adapter could damage the computer and may void your warranty (see the warranty statement in this manual).

Important

If you have an expansion base, do *not* dock your computer in it until after the computer boots up for the first time.

- Plug in the AC adapter, and connect it to the AC adapter jack on the back of the computer. The computer's battery then starts charging.
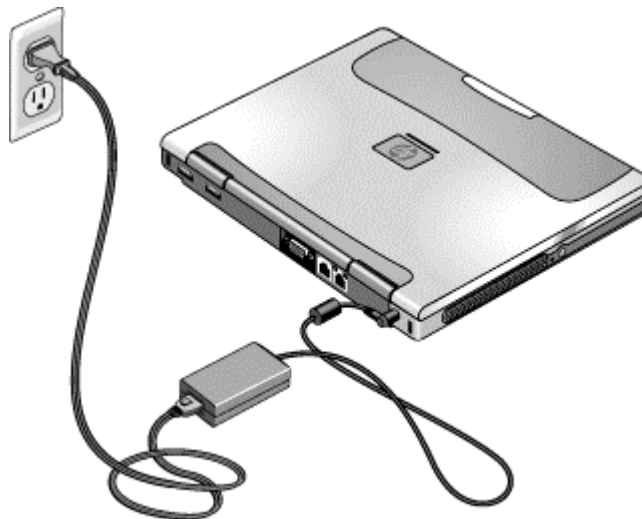
While the battery is charging, you can continue with step 3.

Step 3: Connect a phone line

If your computer does not include a built-in modem, you can skip this step. Also, if you prefer, you can instead connect to a PC Card modem or an external modem.

1. Make sure the telephone line is an analog line, sometimes called a data line. (You must not use a digital line.)

2. Connect the telephone cord to the built-in modem.
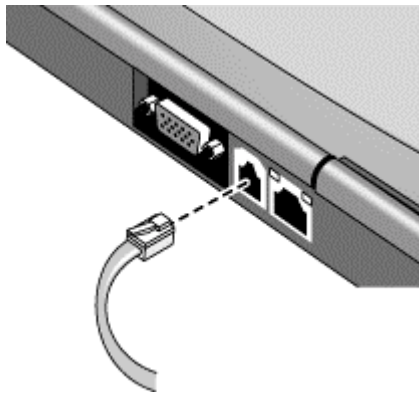
3. Plug the other end of the phone cord into a telephone jack. If the plug on the phone cord doesn't fit the jack, you may need to use an adapter.

For details about using the modem, including AT commands, see the online *Reference Guide*.

Step 4: Turn on the computer

- Press the blue sleep button above the keyboard. The computer then boots up, and Windows starts automatically.
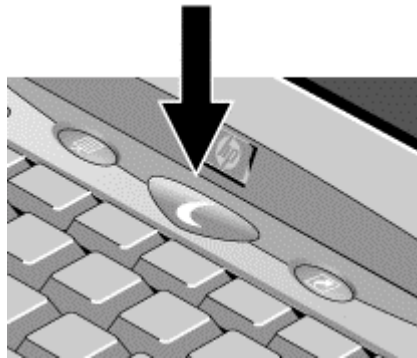
Hint

If your computer does not turn on when operating on battery power, the battery may be out of power. Plug in the AC adapter and press the blue sleep button again. Leave the AC adapter plugged in for at least an hour.

Step 5: Set up Windows

Your computer has Microsoft Windows preinstalled on its hard disk drive. The first time you turn on your computer, the Windows Setup program runs automatically so you can customize your setup.

1. Follow the Setup program's instructions as they appear on the screen. If the program prompts you to enter the Product ID code, you will find this code on the bottom of the computer.

2. If your computer has a modem, check the modem's country or region settings:

   - **Windows 98:** click Start, Settings, Control Panel, double-click Modems, then click Dialing Properties.

   - **Windows 2000:** click Start, Settings, Control Panel, double-click Phone and Modem Options, then click Edit on the Dialing Rules tab.

   - **Windows XP:** click Start, Control Panel, Printers and Other Hardware, Phone and Modem Options, then click Edit on the Dialing Rules tab.

Step 6: Register your notebook

Be sure to register your computer. Registering is free and fast, and ensures you will receive quicker, more personalized support. The information you provide during registration allows us to provide you with better products and services.

Registering your computer does the following:

- Records your ownership of the computer with Hewlett-Packard and provides access to service, support, and information.

- Records your ownership of the Windows 98 or XP operating system with Microsoft. If you have Windows 2000, please contact Microsoft separately to register the operating system.

You can register while setting up Windows, or later in any of three ways: by modem, by phone, or by fax. For some countries and models, an HP notebook registration icon is available on the desktop.

By modem

If your computer does not have a built-in modem, you can register after you set up a PC Card modem or an external modem—or you can register by phone or fax.

- If you are not prompted to register, you can click the Register button in the welcome screen. Make sure the phone line is connected to the modem port and follow the onscreen instructions.

If you choose not to register right away, you can do so by modem later by double-clicking the Registration icon on the desktop (if available). Make sure the phone line is connected and follow the onscreen instructions. The icon disappears after you register.

By phone

You can register by calling your HP Customer Care Center. See "To contact HP for support or service" on page 65 for the phone number.

By fax

If you have a printer connected to your computer, you can print a registration form and fax it to HP. Double-click the HP Notebook Registration icon on the desktop (if available), and print the registration form. You will find the fax number on the form.

What to do next

Here are a few things you may want to try at this point:

- If you're not familiar with the version of Windows installed on your computer, click Start, Help (Windows 98 or 2000) or Start, Tour Windows XP, or check the Windows manual to discover what's new.

- If your computer shipment includes an expansion base and CD-ROM drive or similar drive, insert the drive in the right module bay—see "To replace a plug-in module" on page 46 for details. Then turn on the computer and insert it into the expansion base— see "To dock the computer" on page 40 for details.

- If your expansion base includes a DVD drive or CD-RW drive, you also received special software for the drive—find the software CD in the box. Click Start, Programs (Windows 98 or 2000) or Start, All Programs, Multimedia (Windows XP)—if the software isn't listed, install it by inserting the CD in the drive. Follow the instructions displayed—run Setup on the CD if it doesn't run automatically.

See the online *Reference Guide* to learn more about using and maintaining your computer—click Start, Programs, HP Library (Windows 98 or 2000) or Start, Help and Support, HP Library (Windows XP).

To connect to the Internet

If your computer has a modem (built-in, PC Card, or external), LAN port, or wireless LAN, you can use it to connect to the Internet. For details, see "Modem and Network Connections" in the online *Reference Guide*—click Start, Programs, HP Library (Windows 98 or 2000) or Start, Help and Support, HP Library (Windows XP).

To connect the floppy disk drive

If you don't have an expansion base, you can connect the floppy disk drive to a USB port.

• Connect the F2101A USB floppy cable directly to the floppy drive and to the USB port.

If you have an expansion base, you can insert the floppy drive in a module bay—see "To replace a plug-in module" on page 46.

You cannot use the USB floppy cable to connect any other type of drive module, such as a CD-ROM or DVD drive. The USB floppy cable is for floppy drives only.

Basic Operation

Operating Your Computer

You can start and stop your computer using its blue sleep button. However, at certain times you may want to use other methods to start or stop the computer—depending on power considerations, types of active connections, and start-up time.

For information on caring for and protecting your computer, see "Operating Your Computer" in the online *Reference Guide*.

To turn the computer on and off

Power mode	To enter this mode
On mode Power mode status light is green.	Press the blue sleep button.
Standby mode Saves significant power. Turns off the display and other components. Maintains current session in RAM. Restarts quickly. Restores network connections. Power mode status light is amber.	Press blue sleep button –or– click Start, Shut Down, Standby (Windows 98 or 2000) –or– click Start, Turn Off Computer, Stand By (Windows XP) –or– allow timeout.
Hibernate mode Saves maximum power. Saves current session to disk, then shuts down. Restores network connections. Power mode status light is off.	Press Fn+F12 –or– click Start, Hibernate (Windows 98) –or– click Start, Shut Down, Hibernate (Windows 2000) –or– allow timeout.
Shut down (off) Saves maximum power. Turns off without saving current session. At startup, resets everything, starts a new session, and restores network connections. Power mode status light is off.	Click Start, Shut Down, Shut down (Windows 98 or 2000) –or– click Start, Turn Off Computer, Turn Off (Windows XP) –or– slide the power button (only if the Start menu procedure doesn't work).
To turn on: press the blue sleep button to restart, or to resume your session from Standby or Hibernate mode.	

You can also customize the way these power modes work. See the chapter titled "Batteries and Power Management" in the online *Reference Guide*.

To reset the computer

Occasionally, you may find that Windows or the computer has stopped responding, and will not let you turn the computer off. If this happens, try the following in the order listed.

- If possible, shut down Windows:

  Windows 98 or 2000: press CTRL+ALT+DEL, click Shut Down, and press the blue sleep button to restart.

  Windows XP: press CTRL+ALT+DEL, then click Shut Down, Restart.

  –or, if this fails–

- Slide and hold the power button for 4 seconds, until the display shuts down, then press the blue sleep button to restart.

  –or, if this fails–

- Insert a straightened paper clip into the system-off switch on the left side of the computer, then press the blue sleep button to restart.
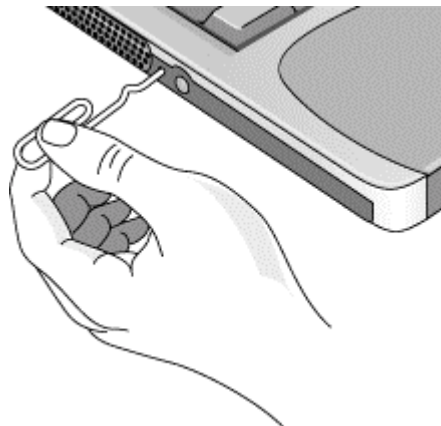
To reset an expansion base—and the computer, if docked—insert a straightened paper clip into the reset hole on the bottom of the expansion base. You can also reset the expansion base by undocking the computer and removing all AC and battery power from the base.

To change the boot device

The computer normally boots from its internal hard disk. You can also boot the computer from a floppy disk drive connected to a USB port, an external drive in an expansion base module bay, or an internal network interface card (NIC).

1. Click Start, Shut Down (or Turn Off Computer), Restart.

2. When the HP logo appears, press ESC to display the Boot menu.

3. Use the arrow keys to select the boot device, and press ENTER.

If you want to boot from a specific device whenever it is present, change the boot order using the BIOS Setup utility—see "To run the BIOS Setup utility" on page 60.

To use the pointing stick

Your computer includes a built-in pointing stick and click and scroll buttons.
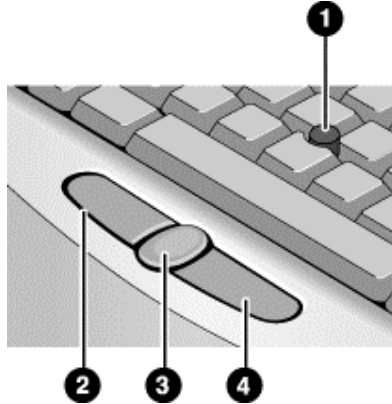
1. Pointing stick (pressure-sensitive pointing device).

2. Left click button—works like the left button on a standard mouse.

3. Scroll button—works with the pointing stick to scroll the contents of a window.

4. Right click button—works like the right button on a standard mouse.

You can use Mouse in Control Panel to customize the operation of your computer's pointing stick: you can change the left, right, and scroll button actions, double-click speed, pointer speed, and more.

Moving and selecting

1. Place your hands in a normal typing position.

2. With your index finger, press the pointing stick 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 and double-click the left button.

    - To make menu selections, move the pointer to the menu item and click the left button.

    - 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. Then press *and hold* the left button while you move the pointer to the new location, and release the button.

Scrolling with the scroll button

- Hold down the scroll button and press the pointing stick. The contents of the window then scroll in that direction.

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. To use a hot key, press *and hold* Fn, press the appropriate second key, then release both keys.

This hot key	Does this
Fn+F1	Decreases the display brightness.
Fn+F2	Increases the display brightness.
Fn+F5	Toggles among the built-in display, an external display, and simultaneous display on both. Does not affect a TV connected to the expansion base S-video port.
Fn+F7	Audio mute.
Fn+F8	Toggles the built-in keypad on and off. Does not affect an external keyboard. If Num Lock is on, the numeric functions are active; otherwise, cursor control is active (as marked on an external keyboard).
Fn+F9	Toggles Num Lock on and off.
Fn+F10	Toggles Scroll Lock on and off.
Fn+F11	Pause.
Fn+F12	Enters Hibernate mode.
Fn+HOME	Print screen.

External PS/2 keyboards support only Fn+F5, Fn+F7, and Fn+F12. To use these, press and hold left CTRL+left ALT, press the appropriate second key, then release both keys. A USB keyboard does not support Fn hot keys.

Working in Comfort with a Notebook PC

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 web site at www.hp.com/ergo—or see Working in Comfort in the online HP Library.

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

Note

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. The multimedia expansion base offers quick, easy connections to these devices. More information on how to prepare your workspace environment and set up your HP equipment is available in *Working in Comfort*, which is preloaded on the hard disk in the HP Library and available on the *Recovery CD* in \hp\Library—as well as at www.hp.com/ergo.

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.

Batteries and Power Management

Using Battery Power

For information about how your computer regulates its power consumption, and how you can manually reduce power consumption and extend the life of the computer's battery, see the chapter titled "Batteries and Power Management" in the online *Reference Guide*.

To check battery status

The computer contains one battery: the main battery. An expansion base can contain one or two secondary batteries in the module bays.

From the battery charge light

The main battery charge light on the front of the computer shows whether the computer's main battery is charging or fully charged—see "Status Lights" on page 15.

From the Windows taskbar

The Windows taskbar can display a power icon that provides detailed battery status information (see Windows help for details). The icon looks like a battery when AC is not connected.

- Place the pointer over the power icon to display the remaining charge of all batteries combined. This value is shown as either a percentage of charge remaining, or as time remaining.

- Double-click the power icon to open the Power Meter window.

From the Windows Control Panel

- **Windows 98 or 2000:** click Start, Settings, Control Panel, then double-click Power. This shows the status of each battery, and provides access to all of Windows' power-information options.

- **Windows XP:** click Start, Control Panel, Performance and Maintenance, Power Options, then click the Power Meter tab to see battery status. The Alarms and Advanced tabs provide additional Windows' power-information options.

From the expansion base status panel

- Press the status panel button several times to display the percent charge remaining for each secondary battery.

On the battery

1. Remove the battery from the computer (see "Step 1: Install the battery" on page 19) or from the expansion base.

2. Press the contact pad on the back of the battery. The number of lights that turn on indicates the remaining charge (each light represents 20% of a full charge).

To respond to a low-battery warning

The computer automatically alerts you when the battery power drops to a critically low level. If you do not restore power within a short time, the computer then goes into Hibernate mode.

Once the computer enters Hibernate mode in this way, you won't be able to turn it on again until you restore power by doing one of the following:

- Replace the battery with a charged one. See "Step 1: Install the battery" on page 19.

- Plug in the AC adapter.

- Install a charged secondary battery in one of the expansion base's plug-in module bays.

Note
If you plug in the AC adapter, you can continue to work while your battery recharges.

To recharge the battery

CAUTION

The AC adapter is normally warm whenever plugged into an AC outlet. The computer is normally warm while recharging. Don't recharge the computer in a briefcase or other confined space, or its battery could overheat.

- To recharge the main battery, plug the AC adapter into the computer, or dock the computer and plug the AC adapter into the dock.

- To recharge a secondary battery, plug the AC adapter into the expansion base and insert the battery.

Batteries charge in this order: main battery, secondary battery in the left module bay, secondary battery in the right module bay.

To get the longest operating time, wait until the battery's charge is below 50% before recharging, then charge it fully (100%). Charging can take up to approximately 2 hours. You can continue working while the battery charges.

A fully charged battery can operate the computer for up to approximately 4 hours, depending on your computer's model, power management settings, and level of use.

Add-On Devices

Using an Expansion Base

The multimedia expansion base enhances your computer's capabilities as a portable computer system. It provides space for additional drives and batteries, as well as expanded multimedia performance.

The expansion base also makes your computer more convenient for desktop use. By making a single connection—docking your computer into the base—you get easy access to these devices:

- Printer or other parallel device.

- Universal serial bus (USB) devices.

- External keyboard and mouse.

- External monitor and television.

- Local area network (LAN) if your computer includes a LAN port.

- Audio devices such as external speakers, headphones, or stereo inputs.

- Plug-in modules.

For information about connecting your modem or LAN (depending on the model) or about connecting PC Cards or external devices, see the online *Reference Guide*. See the same online manual for modem AT commands.
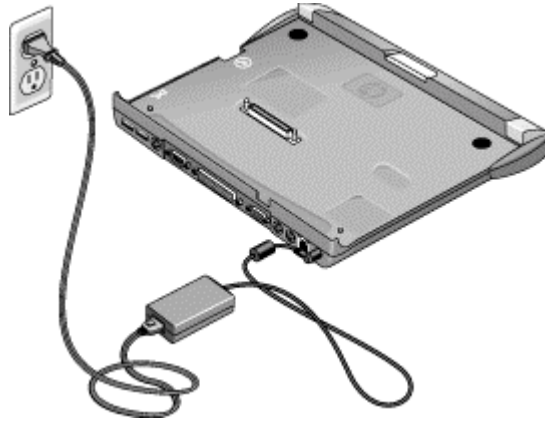
To dock the computer

1. For desktop use, plug the AC adapter into the expansion base.

   For portable use, you can use power from the computer's battery or from a secondary plug-in battery module in the expansion base.
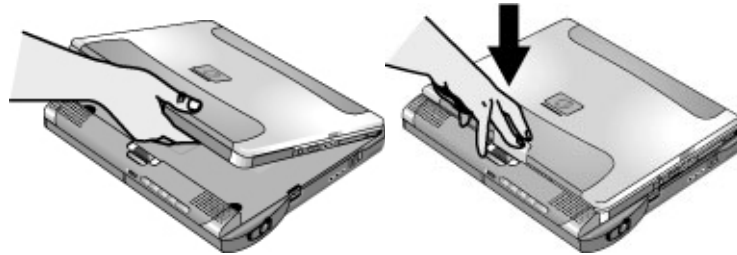
Note   Use the AC adapter that comes with your computer.

2. Insert the back of the computer into the expansion base so it's held by the hooks at the back corners. Then lower the front end into the base. Press firmly near the center-front until it latches into the base.

   If the computer doesn't latch, plug in the AC adapter.

You can dock or undock the computer in any power state: on, off, Standby mode, or Hibernate mode. Make sure, however, that the computer is not entering or resuming from Standby or Hibernate mode when you dock or undock, or the computer could lock up.

By default, the computer automatically turns on when you dock it. (You can change this setting using BIOS Setup—see "To run the BIOS Setup utility" on page 60.)

The first time you dock, the computer automatically configures itself to operate with the expansion base.

After the computer docks, the blue sleep button on the left side of the expansion base operates the same way as the blue sleep button on the computer.

If you have trouble inserting the computer or the docking latches stick, use the emergency undock latch, or press and hold the undock switch for 5 seconds to release the latches.

To undock the computer

1. **Important:** close any files that reside on network drives or module drives in the expansion base.

2. Press the undock switch on the right side of the expansion base.

   –or–

   Click Start, Eject PC.
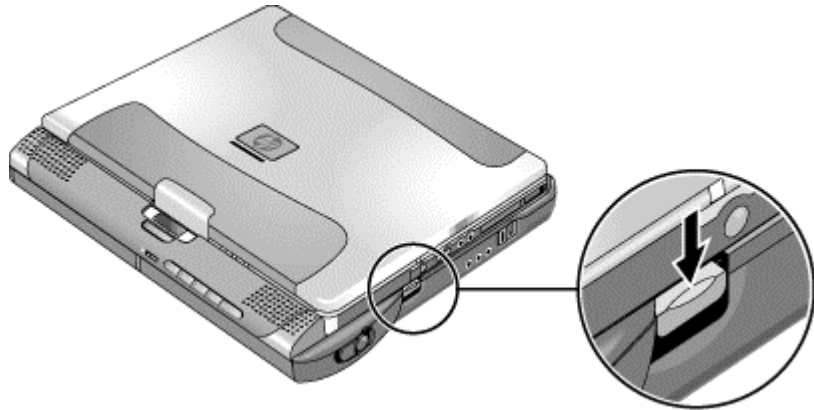
You can use the undock switch when the computer is on, off, or in Standby or Hibernate mode.

When undocking the computer, you may need to wait 10 seconds or more for the computer to undock—the computer may not respond while it is updating its configuration.

Using the emergency undock latch

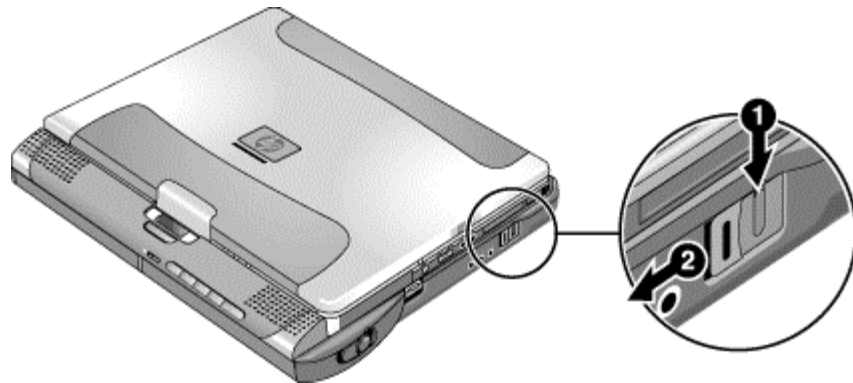If you cannot undock the computer using the undock switch or the Start menu, use the emergency undock latch on the right side of the expansion base.

1. If a security cable is attached to the expansion base, remove it.

2. Slide the button down, then move the entire latch forward to undock the computer.

To play audio CDs

The multimedia buttons on the front of the expansion base control the CD-ROM or DVD drive in the right module bay. Power is provided by the computer battery, the AC adapter, or a secondary battery in the left module bay.

- If the computer is docked and turned on, use the multimedia buttons to control the Windows player.

- If the computer is off, in Standby or Hibernate mode, or not docked, you can still play audio CDs. Slide the multimedia power switch to the left to activate the player (without turning on the computer), then use the multimedia buttons to control play.

- To load or eject a CD, press the eject button on the drive, or press the Stop button on the expansion base if the computer is off, in Standby or Hibernate mode, or undocked.
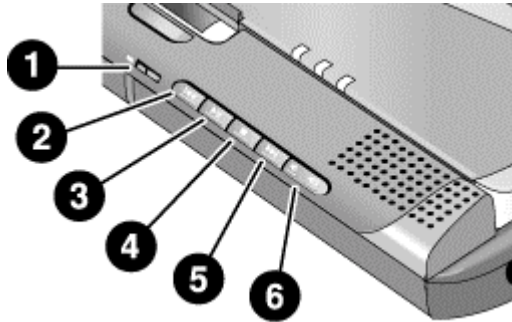
1. Multimedia power switch (and indicator light)—turns the CD player on and off. Works only when the computer is turned off, in Standby or Hibernate mode, or not docked.

2. Previous track.

3. Play/Pause.

4. Stop (when computer is on), or Stop/Eject (when computer is off, in Standby or Hibernate mode, or not docked).

5. Next track.

6. Volume.

To use the status panel

The expansion base's status panel can show the time and date, the docking status, the status of the CD player built into the expansion base, and the status of secondary batteries in the expansion base.

- Press the status panel button several times to display the information you want. The first press turns on the backlight. Subsequent presses cycle through the available information in the following order:

  - Time.

  - Date.

  - CD player status (if CD player is running).

  - Audio volume (if CD player is running).

  - Percent charge remaining for the battery in the left bay (if present).

  - Percent charge remaining for the battery in the right bay (if present).

AC power, battery indicators, and docking status are always shown.
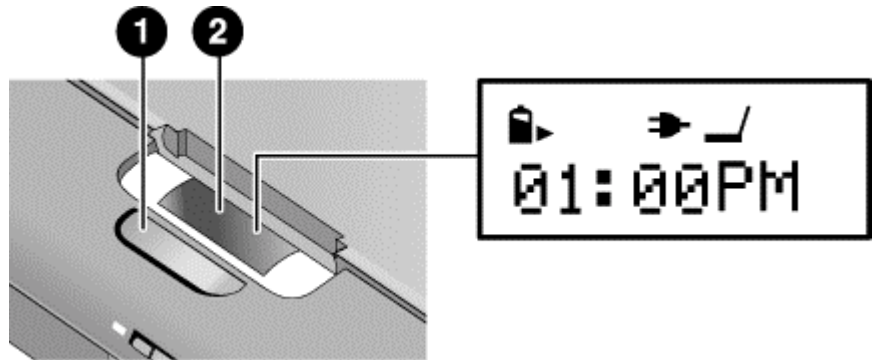
1. Status panel button.

2. Status panel.

For more information about the status panel, see "To use the status panel" in the online *Reference Guide*.

Using Plug-In Modules

You can use any compatible plug-in module with the multimedia expansion base's module bays, such as:

- CD-ROM, DVD, or similar drive.

- Zip drive.

- Second hard drive.

- Floppy disk drive.

- Secondary battery.

CAUTION   **Never install or remove a plug-in module without first notifying Windows, or you could lose data. See "To replace a plug-in module" on page 46.**

To install hot-swap support (Windows 98)

If your computer uses Windows 98, it also includes the BayManager "hot-swap" software that lets you disconnect most modules from a plug-in bay in the expansion base without needing to shut down and reboot the computer.

If a plug-in module icon is displayed in the taskbar, BayManager is already installed. If the icon is not present, you can install the software as follows:

- Click Start, Programs, Softex BayManager, Setup, then follow the onscreen instructions.

To replace a plug-in module

Windows 98 uses "hot-swap" software to let you remove or replace most plug-in modules without shutting down the computer. Before replacing a hard drive module, however, you must first shut down the computer.

When a drive module is present, Windows 2000 displays the Unplug or Eject Hardware icon—and Windows XP displays the Safely Remove Hardware icon—at the right end of the taskbar.

CAUTION

Before disconnecting a CD-ROM drive, DVD drive, or any other type of drive, you must either stop the drive using the icon in the taskbar or shut down the computer—otherwise, you could lose data.

Exception: for Windows 98, you MUST shut down the computer before connecting or disconnecting a hard disk drive.

Handle and store modules carefully. Do not drop it or apply excessive pressure to its surfaces—this could damage its internal mechanisms. Do not touch the metallic pins on the computer connectors, module connectors, or cable connectors. Static electricity can damage internal components.

1. Close any open files that reside on the plug-in module.

2. **Windows 98:** if the BayManager icon is present in the taskbar, right-click the icon, then click Remove/Swap Bay Device. When prompted, remove the module (if present). Don't click OK until you've inserted the desired module, if any (see step 6).

   Windows 2000 or XP: left-click the Unplug or Eject Hardware or Safely Remove Hardware icon on the taskbar, and select the module you want to remove. When prompted to remove the module, click OK. (You don't have to do this if the bay is empty or contains a battery.)

   –or–

   For any system: shut off the computer. Click Start, Shut Down, Shut down (Windows 98 or 2000) or Start, Turn Off Computer, Turn Off (Windows XP).
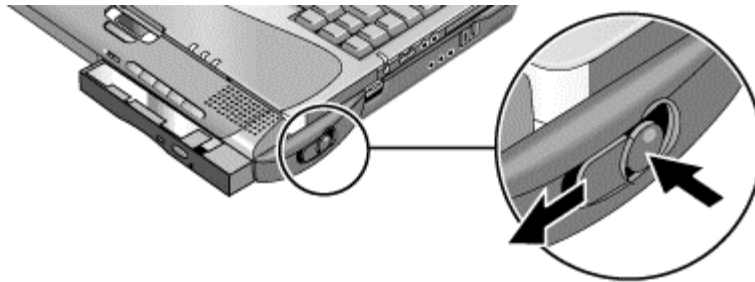
   Important: for Windows 98, you must shut off the computer if you are removing or inserting a hard disk drive in the module bay.

   –or–

   For any system: undock the computer.

3. Press the button on the module release latch, and slide the latch toward the front of the expansion base.

4. Grasp the module and pull it out.
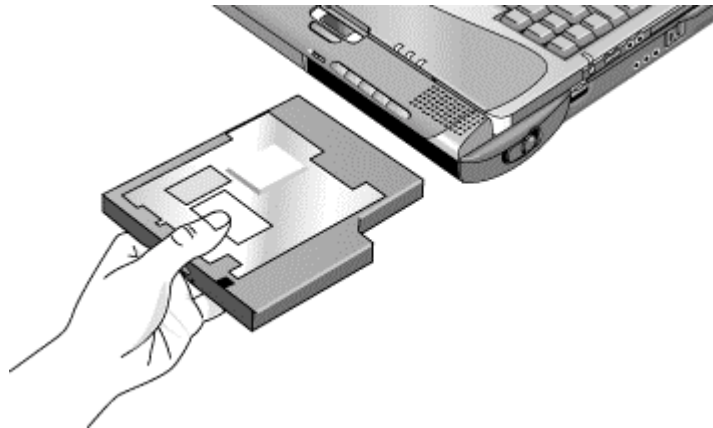
5. Slide the new plug-in module into the computer until it clicks into place.

6. For Windows 98, click OK to close the BayManager window.

If needed, you can connect the floppy disk drive to the USB port on the computer or expansion base—see "To connect the floppy disk drive" on page 26.

Installing Additional RAM

Your computer has no memory (RAM) built in, but has two slots for RAM modules: the system RAM slot beneath the keyboard (which contains a module installed at the factory), and an expansion slot on the bottom of the unit. You can use both of these slots to expand your unit's RAM. Use HP PC-100 or higher SDRAM only.

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

To install a RAM expansion module

To increase your computer's RAM, you can install a RAM module in the expansion slot on the bottom of the computer.

CAUTION

Your computer's chips are extremely sensitive to static electricity, and can be permanently damaged by it. 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 computer.

1. Click Start, Shut Down, Shut down (Windows 98 or 2000) or Start, Turn Off Computer, Turn Off (Windows XP).

2. **Important:** unplug the AC adapter, if present, and remove the battery.

3. From the bottom of the computer, remove the screw holding the RAM cover, and remove the cover.

4. Carefully insert the edge of the RAM module into the connector at about a 30° angle until it is fully seated. Then press down on both sides until the latches snap closed.
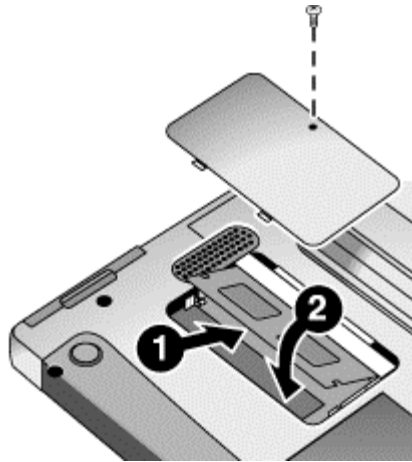
5. Replace the cover.

6. Insert the battery.

Note

Windows 98 only: if you increase your computer's memory to more than 512 MB, the computer will not be able to hibernate unless you also increase the size of the Utility partition on the hard disk—see "To recover the factory installation of your hard disk" on page 61.

To remove the RAM module, release the two latches at the sides of the module.

You can also replace the system RAM module beneath the keyboard—see "Installing Additional RAM" in the online *Reference Guide*.

Replacing the Hard Disk Drive

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 retaining screw.

3. Carefully pull the hard drive out of the computer.
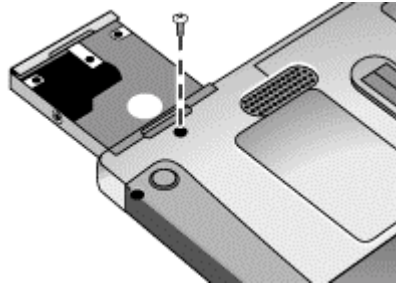
4. Gently slide the new drive into the hard drive compartment. Press firmly to make sure the connector seats properly.

5. Reinstall the hard drive retaining screw.

Important

If you are installing a new hard disk drive, you should create a Utility partition on the drive before loading any software. See "To recover the factory installation of your hard disk" on page 61.

To install the holder on a new hard disk drive or prepare a new hard disk for use, see "Replacing the Hard Disk Drive" in the online *Reference Guide*.

Troubleshooting and Maintenance

Troubleshooting Your Computer

This section contains solutions to a few basic problems you might experience while using your computer. Try the solutions one at a time, in the order in which they are presented.

Here are some other sources of information for troubleshooting:

- See the troubleshooting chapter in the online *Reference Guide* for a more complete list of troubleshooting suggestions.

- Open the HP web-based troubleshooting tool: double-click the HP Instant Support icon on the Windows desktop (Windows 98 or 2000), or click Start, Help and Support, HP Instant Support (Windows XP). Search or browse the troubleshooting database for the information related to your problem.

- Click Start, Help (Windows 98 or 2000) or Start, Help and Support, Fixing a Problem (Windows XP), and use the Windows troubleshooters.

- See the Microsoft Windows manual shipped with the computer.

- For updated information, see the HP Notes in the online HP Library or on the *Recovery CD* in \hp\Library.

- Find technical tips and software updates for the computer at the HP Customer Care web site (www.hp.com/go/support).

- Test your computer by running the e-Diagtools test program—see "Testing the Hardware" on page 58.

- Contact your dealer or Hewlett-Packard—see "To contact HP for support or service" on page 65. Please have your computer with you when you call.

Display problems

If the computer is on, but the screen is blank

- Move the mouse or pointing stick. This will wake the display if it is off.

- Try pressing Fn+F2 to increase the display brightness.

- Press Fn+F5 in case the internal display was disabled. (Do this three times to return to the state you started from.)

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

If the screen is difficult to read

- Try setting the display resolution to its default setting of 1024×768: click Start, Settings, Control Panel, double-click Display, then click Settings (Windows 98 or 2000), or click Start, Control Panel, Appearance and Themes, Display, Settings (Windows XP).

Hard disk drive problems

If the computer's hard drive doesn't spin

- Make sure the computer has power. If necessary, connect the AC adapter, and make sure it is fully plugged into a power source and into the rear of the computer.

- Remove and reinsert the hard drive—see "To replace the hard disk drive" on page 51.

Keyboard and pointing device problems

If the pointer is difficult to control

- Adjust the pointer controls: click Start, Settings, Control Panel, then double-click Mouse (Windows 98 or 2000), or click Start, Control Panel, Printers and Other Hardware, Mouse (Windows XP).

If the pointing stick doesn't work

- Don't move the pointing stick while the computer is rebooting or resuming from Standby mode. If this happens, try the following:

  - Press a key on the keyboard to restore normal operation.

  - Suspend and resume operation using the blue sleep button.

- If an external mouse is connected, the pointing stick is normally disabled. You can change this setting with the BIOS Setup utility—see "To run the BIOS Setup utility" on page 60.

- Restart the computer: click Start, Shut Down (or Turn Off Computer), Restart.

Performance problems

For best performance with Windows 2000 or XP, your computer should have at least 96 to 128 MB of memory (RAM).

If the computer stops responding

- Press CTRL+ALT+DEL to end the application that is not responding.

- Slide and hold the power button for at least four seconds to turn off and reset the computer. Then press the blue sleep button to turn the computer back on.

- If nothing happens, insert a straightened paper clip into the system-off switch on the computer's left side. Then press the blue sleep button to turn the computer back on.

- If the computer is docked, reset the expansion base—see "To reset the computer" on page 29.

Power and battery problems

If the computer turns off immediately after it turns on

- Battery power is probably extremely low. Plug in the AC adapter, insert a charged battery (if undocked), or plug in a secondary battery (if docked).

If the computer keeps beeping

- The computer beeps repeatedly or displays a warning when battery power is low. Save your work, shut down the computer immediately, and insert a charged battery or plug in the AC adapter.

If the main battery doesn't charge

- Make sure the AC adapter is fully plugged into the power source and the computer or expansion base, and that the light on the adapter is on.

- If you're using a power strip, remove the AC adapter from the power strip and plug it directly into a wall outlet.

- Make sure the battery is fully installed and locked in place.

- Move the computer away from any nearby heat source. Unplug the AC adapter and allow the battery to cool down. If the battery gets too hot, it will not charge properly.

- If available, try another battery and AC adapter.

Startup Problems

If the computer doesn't respond when you turn it on

- Connect the AC adapter.

- Try turning on the unit by pressing the blue sleep button.

- Reset the computer by inserting a straightened paper clip into the system-off switch on the left side of the computer. Then turn it on by pressing the blue sleep button.

- Don't touch the pointing stick while booting or resuming.

- If the computer still doesn't respond, remove the battery and AC adapter, remove any PC Card, and undock the computer if docked. Then plug the AC adapter in, reset the computer using the system-off switch, and turn it on by pressing the blue sleep button.

If the computer won't boot from battery power

- Make sure the battery is properly inserted and fully charged. Check the battery's charge by removing it and pressing the pad on the back of the battery. The lights show the charge level.

- If you have a secondary battery, install it in the expansion base, dock the computer, and try starting the computer.

- If available, try another battery.

Testing the Hardware

The e-Diagtools hardware diagnostic program included with your computer provides two levels of testing:

- Automated testing using its basic hardware test.

- Advanced testing using 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 computer reboots when you exit the program so drivers can be loaded.

To run the e-Diagtools diagnostic test

1. Click Start, Shut Down (or Turn Off Computer), Restart.

2. When the HP logo appears, press F10 to start the diagnostic test.

3. When the menu appears, press ENTER to run e-Diagtools.

   The first time you run the program, you will be prompted to select the language for the program.

4. Follow the prompts to run e-Diagtools.

5. When the Configuration Description appears, check the list of detected hardware.

Hint

If a device is not detected or fails its test, it might be configured incorrectly in the BIOS Setup utility. You can confirm this by running BIOS Setup and checking the settings. See "To run the BIOS Setup utility" on page 60.

6. **Run the basic test**. Press F2 to start the basic hardware test. The results appear when the test is complete.

7. If you intend to exit without running the advanced tests, press F4 to view the Support Ticket. Press F3 to exit e-Diagtools.

8. **Optional: run the advanced tests**. Press F2 to open the advanced test screen.

9. Select and run the appropriate tests. Tests are listed only for detected hardware. 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.

10. **Save the Support Ticket.** Press T to update and display a Support Ticket containing system and test information.

11. When you are finished running tests, press ESC to exit the advanced tests.

12. Optional: to save the Support Ticket to a floppy disk, press F7 then ALT+C.

13. **Exit.** Press F3 and then any key to exit and reboot.

14. **Optional: open the Support Ticket.** In Windows, click Start, Programs (or All Programs), HP e-Diagtools, e-Diagtools for Windows.

15. Click View to display the Support Ticket.

16. To add information about your problem, click Comments and type the information, then click OK.

    To save or print the Support Ticket, click Save As or Print.

    To e-mail the Support Ticket to your support agent, click e-Mail. The first time you make an e-mail connection from this program, click Change Settings in the Connect window and enter the settings recommended by your support agent.

e-Diagtools for Windows can also update the version of e-Diagtools on your computer's hard disk. In e-Diagtools for Windows, use the e-Diagtools menu.

If you have trouble running e-Diagtools diagnostics from the hard disk, you can also run it from the *Recovery CD*. Boot from the CD and select the diagnostics option.

Configuring the Computer

To run the BIOS Setup utility

The BIOS (Basic Input and Output System) Setup utility enables you to make changes to the computer's system configuration, and to tailor the operation of your computer to your individual work needs.

The settings made in BIOS Setup generally control the computer's hardware, and so greatly affect how the computer operates.

1. Click Start, Shut Down (or Turn Off Computer), Restart.

2. When the HP logo appears, press F2 to enter BIOS Setup.

3. The pointing devices are not active in BIOS Setup, so you will need to use the keyboard to navigate:

   - Press the LEFT and RIGHT arrow keys to move among menus.

   - Press the UP and DOWN 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.

4. After you select the options you want, press F10 or use the Exit menu to exit BIOS Setup.

5. If the settings cause a conflict between devices during reboot, the system prompts you to run BIOS Setup, and marks the conflicting settings.

For a complete list of BIOS Setup menus, settings, and options, see the online *Reference Guide*.

Reinstalling and Updating Software

You can use the *Recovery CD* to recover the original factory software for your computer.

The *Recovery CD* also provides Windows drivers specific to your computer to configure a custom system. You can find drivers in these locations:

- On your computer's hard drive under C:\hp\Drivers.

- On the *Recovery CD* under \hp\Drivers.

- On the HP Customer Care web site (www.hp.com/go/support). This web site contains the latest updates of software drivers for different operating systems.

To recover the factory installation of your hard disk

You can use the *Recovery CD* to reinstall the original factory software on your computer's hard disk. You can also use the same process to create a larger Utility partition on your hard disk, or to create a Utility partition on a new hard disk. The hidden Utility partition contains the e-Diagtools diagnostic tests and stores hibernation data for Windows 98 and other operating systems that don't provide hibernation.

CAUTION

This procedure formats the computer's hard disk drive and erases all data on the disk. After the hard disk is formatted, you'll need to reinstall your applications.

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/DVD drive in the expansion base. If the computer is turned off, insert a straightened paper clip into the hole on the front of the drive to open the drive.

   –or–

   If you have a PC Card or parallel port CD-ROM drive, connect it and insert the *Recovery CD*. Also connect the floppy drive and insert the Support Utility disk—see "To create a Support Utility disk" on page 62.

4. Turn on or restart the computer. If the computer is running, click Start, Shut Down (or Turn Off Computer), Restart.

5. When you see the HP logo, press ESC to select the boot device:

   - If you're using a CD-ROM drive in the expansion base, select the CD-ROM drive as the boot device.

   - If you're using a PC Card or parallel port CD-ROM drive, select the floppy drive ("Removable device") 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 15 minutes.

   If you want to create the Utility partition without installing the factory software, click Advanced and select not to install the operating system.

7. **Important:** when prompted to reboot the computer, first undock it and *remove it from the expansion base* if it is docked, then press CTRL+ALT+DEL and follow any instructions that appear.

To create a Support Utility disk

If you want to use the *Recovery CD* in a PC Card CD-ROM drive or parallel port CD-ROM drive, you'll need a Support Utility disk to recover the factory software.

1. Insert a formatted floppy disk in the floppy drive.

2. Run **makesupp.bat** from the \hp\Bootdisk directory on the *Recovery CD*.

3. Copy the MS-DOS device drivers from the installation software provided with the CD-ROM drive to the Support Utility disk into the A:\Tools directory.

4. In the CONFIG.SYS file on the Support Utility disk, enable or disable the appropriate drivers for your CD-ROM drive:

   - **For a PC Card drive:** REM the line containing the HP driver (OAKCDROM), and insert the command to run the point enabler for the card.

   - **For a parallel drive:** REM the line containing the HP driver (OAKCDROM).

5. Add the **device=*driver*** statements to the CONFIG.SYS file on the Support Utility disk. Insert the device statements immediately following the USERCD remark.

HP Support and Service

Getting Assistance for Your Computer

To get help from the web

HP has several web sites on the Internet dedicated to providing information to HP notebook computer users. The following sites are especially useful for helping you get support for your computer:

- **HP Customer Care web site.** Get e-mail and telephone support information, technical information, and software updates.

  www.hp.com/go/support

- **HP Notebook Computer web site.** Get the latest information about technical support, plus information about warranty and support programs.

  www.hp.com/notebooks

To contact HP for support or service

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

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

- Applications and operating systems included with your computer.

- 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 or custom installations.

- Consulting.

To contact the HP Customer Care Center by e-mail, visit the HP Customer Care web site (www.hp.com/go/support) under "Contact HP".

To call the Customer Care Center, check the HP Customer Care web site (www.hp.com/go/support) under "Contact HP" for the most complete and current list of phone numbers. If your HP notebook product is not normally sold by HP in the country of use, you must call a Customer Care Center that supports your notebook model. Currently, service and support assistance is provided only in the following countries:

Pavilion models

United States only: (208) 323-2551.

Omnibook 500

See the following table.

North America
United States: (970) 635-1000
Canada: (905) 206-4663
Mexico:
   Mexico City: 52-58-9922
   Outside Mexico City: 01-800-472 6684
   Guadalajara: 669-9500
   Monterrey: 378-4240

South America
Argentina:
   From Argentina: 0810-555-5520
   Outside Argentina: 5411-4778-8380
Brazil:
   São Paulo: (11) 3747-7799
   Outside São Paulo: 0800-157751
Venezuela: 0800-157751

Europe
Austria: +43-(0)7114-20-1080
Belgium:
   Dutch: 32-(0)2-626-8806
   French: 32-(0)2-626-8807
Czech Republic: 42-(0)2-6130-7310
Denmark: +45-39-29-4099
Finland: 358-(0)203-47-288
France: +33 (0)1-43-62-34-34
Germany: +49-(0)180-52-58-143
Greece: +30-(0)1-619-64-11
Hungary: +36-(0)1-382-1111
Ireland: +353-(0)1-662-5525
Italy: +39-02-264-10350
Netherlands: +31-(0)20-606-8751
Norway: +47-22-11-6299
Poland: +48-22-519-06-00
Portugal: +351-21-317-6333

Russian Federation:
   Moscow: +7-095-797-3520
   St. Petersburg: +7-812-346-7997
Spain: +34-902-321-123
Sweden: +46-(0)8-619-2170
Switzerland: +41-(0)848-80-11-11
Turkey: +90-216-579-71-71
Ukraine: +7-380-44-490-3520
United Kingdom: +44-(0)207-512-52-02
English (international): +44-(0)171-512-52-02

Asia and Australia
Australia: 61-3-8877-8000
Hong Kong: 852-800-96-7729
India: 91-11-682-6035
Indonesia: 62-21-350-3408
Japan: 81-3-3335-8333
Korea:
   Seoul: 82-2-3270-0700
   Outside Seoul: 080 999-0700
Malaysia:
   Penang: 60-3-295-2566
   Outside Penang: 03-295-2566
New Zealand: 64-9-356-6640
People's Republic of China: 800-810-5959
Philippines: 63-2-867-3551
Singapore: 65-272-5300
Taiwan: 886-2-2717-0055
Thailand: 66-2-661-4000
Vietnam: 84-8-823-4530

Africa/Middle East
Dubai: +971-(0)4-8839-292
Israel: +972-(0)9-952-4848
Africa:
   RSA: 086-000-1030
   Outside RSA: +27-(0)11-258-9301

For best service, make sure you have as much of the following available when you call.

- Your computer's model and serial number.

- Your computer's operating system.

- Any messages displayed when the problem occurred.

- Were there any changes to the computer, software, related hardware, or accessories before this occurred? Can the problem be re-created?

To receive repair service

If the HP notebook product is not normally sold by HP in the country of use, it must be returned for service to a country in which it is sold and supported.

If your computer is under warranty. To receive warranty repair service, contact an HP-authorized reseller, or contact the HP Customer Care Center—see "To contact HP for support or service" on page 65. The support technician 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. Warranty service may include the cost of shipping, handling, duties, taxes, freight, or fees to or from the service location.

If your computer is no longer under warranty. Contact an HP-authorized reseller or the HP Customer Care Center— see "To contact HP for support or service" on page 65. The support provider will let you know about repair charges and processes.

To prepare your computer for shipment

See "To receive repair service" above to determine if your computer must be sent in for service. If so, prepare your computer for shipment as follows.

1. **Important:** back up your hard disk drive. The hard disk may need to be replaced or reformatted while your computer is being repaired.

2. Hewlett-Packard cannot guarantee the return of removable components. Please remove the following prior to sending your computer in for service:

   • PC Cards.

   • AC adapter and power cord.

   • Any removable media, such as CDs, DVDs, or floppy disks.

   • Any hardware not involved in the problem and not requested for repair.

3. When sending your computer to Hewlett-Packard, please use the original product packaging or other substantial packaging in order to avoid damage to the unit in transit.

Note   If the hard disk drive is defective, you will receive a replacement drive that is either unformatted or loaded with software for verification. You should restore the computer's original software using your *Recovery CD* (see "To recover the factory installation of your hard disk" on page 61) or other recovery method.

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 HP notebook computer. 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 computer, 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's limited warranty is valid in any country or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country for which it was never intended to function for legal or regulatory reasons.

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. 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.

Reference Information

Hardware Specifications

Because we are constantly improving our products, the specifications shown below are subject to change. For the latest specifications, see the HP Notebook web site (www.hp.com/notebooks).

Physical Attributes	**Computer:** Size: 278 × 222 × 25 mm (10.9 × 8.7 × 1.0 in). Weight: 1.5 kg (3.4 lb) minimum, depending on model. Magnesium casing with rubberized grip surfaces. **Computer docked in expansion base:** Size: 298 × 257 × 45 mm (11.7 × 10.1 × 1.8 in). Weight: 2.4 kg (5.4 lb) minimum, depending on model.
Processor and Bus Architecture	600- to 750-MHz Intel Mobile Pentium III processor with Speed Step technology with 256-KB four-way set-associative L2 cache. –or– 500- to 600-MHz Intel Celeron processor with 128-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.
Graphics	12.1-inch XGA active-matrix (TFT) display (1024 × 768 × 16M colors). External monitors up to 1600 × 1200 × 64K or 16M colors, and at least 75 Hz refresh rate. Zoomed Video support for PC Card slot. 3D and OpenGL graphics support. **Celeron models:** ATI Mobility M graphics accelerator with 4-MB display RAM, 2x AGP graphics capability. **Pentium III models:** ATI Mobility M1 graphics accelerator with 8-MB display RAM, 2x AGP graphics capability.
Power	Rechargeable lithium-ion battery (11.1 or 14.8 Vdc) with LED charge-level gauge. Battery life (one battery): up to 4 hours typical (varies with model and usage). Fast battery recharge: approximately 2 hours. Low-battery warning. Suspend/resume capability. Universal AC adapter: 100–240 Vac (50/60 Hz) input, 19 Vdc output, 60-65 W. Optional secondary battery available for expansion base module bays.

Mass Storage	**Computer:** 7.5- to 30-GB removable hard disk drive. 1.44-MB floppy drive module. **Expansion base:** Two bays for plug-in drive modules. Optional drive modules available.
RAM	Two slots for SDRAM expansion (SODIMM, PC-100) up to 512 MB. 64 or 128 MB RAM installed in system RAM slot under keyboard. 100-MHz RAM bus.
Audio System	**Computer:** Built-in speaker. 3D-enhanced PCI bus audio with Zoomed Video support. Built-in microphone. Separate audio-off button with indicator light. Headphone-out and microphone-in. **Expansion base:** CD player (can play with or without computer docked). Stereo sound via three built-in speakers. Analog pass-through from the computer. Headphone-out, microphone-in, and audio line-in.
Keyboard and Pointing Devices	84/85/87-key touch-type QWERTY keyboard with 101/102 key emulation. Embedded numeric keypad. 12 function (Fn) keys. 2 user-programmable One-Touch buttons. Pointing stick (TrackPoint technology licensed from IBM). Left and right click buttons, center scroll button.
LAN (3Com)	Ethernet 10Base-T (10 Mbps) and 100Base-TX (100 Mbps) support. Supports wake-on-LAN, fast IP, DMI, dRMON. MBA (Managed Boot Agent) support for PXE/BINL, BOOTP, NCP/IPX, DHCP.
Modem (3Com, US Robotics)	Data speed: 56 Kbps (V.90) maximum. Fax speed: 14.4 Kbps, Class 1 and 2. Modulation: V.21, V.22, V.22bis, V.23, V.32, V.32bis, V.34, V.90, X2, Bell 103, Bell 212A. Synchronous transfer: V.80. Compression: V.42bis, MNP5. Error correction: V.42, MNP2-4. Fax: Group 3 fax, Class 1. V.17, V.27ter, V.29, V.21 channel 2. Local modem adapter provided for non-U.S. regions.

802.11 Wireless LAN	Radio: IEEE 802.11b, WECA Wi-Fi compliant, direct sequence spread spectrum. Operating frequency: 2.5-GHz ISM band, exact frequencies and channels depend on country. Raw data rate: 1, 2, 5.5, or 11 Mbps. Transmitter output: 15 dBm typical (approx. 30 mW), 16 dBm max (approx. 40 mW). Receiver sensitivity: –84 dBm typical. Range: up to 100 m (300 ft) or more, depending on environment and conditions. On-off button with power indicator. USB interface.
Input/Output	**Computer:** 2 universal serial bus (USB) ports. 15-pin VGA video-out with DDC support. Dual display. 4-Mbps IrDA-compliant infrared port. **Expansion base:** 2 universal serial bus (USB) ports. 9-pin, 115,200-bps serial (16550 UART). 25-pin bi-directional ECP/EPP parallel. 15-pin VGA video-out with DDC support. S-video (TV out). Dual display. PS/2 keyboard and PS/2 mouse.
Expandability	**Computer:** One Type II 16-/32-bit PC Card slot (3.3- and 5-V support). CardBus enabled, Zoomed Video support. **Expansion base:** Two plug-in module bays for accessory modules.
Security Features	User and administrator passwords. System, hard drive, and docking passwords. PC identification displayed at boot. DMI-accessible electronic serial number. Kensington MicroSaver lock slot.
Environmental Limits	Operating temperature: 5 to 35 °C (41 to 95 °F). Operating humidity: 20 to 90 percent RH (5 to 35 °C). Operating altitude: up to 3000 m (10,000 ft) at 25 °C (77 °F). Storage temperature: –20 to 50 °C (–4 to 122 °F).

Major ICs	**Computer:** CPU: Intel Mobile Pentium III or Celeron processor. South Bridge: PIIX4M. Display controller: ATI Mobility M or M1. Audio controller: ESS Maestro-3 and ESS ES1921. CardBus controller: TI PCI 1410. Keyboard/embedded controller: National NS87570. Super I/O: National NS97338. **Expansion base:** Embedded controller: National NS87570. PCI IDE controller: CMD PCI-648. Audio controller: OZ163.

Safety Information

Power Cords

The power cord supplied with the computer's 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 or 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, contact your local Hewlett-Packard dealer or Sales office. For any power cord with a fused plug, if you have to replace the fuse, be sure to install an approved fuse.

Country	Rated Voltage and Current	HP Part Number
Canada Mexico Philippines Taiwan United States	125 Vac (3 A)	8120-6313
Europe Egypt Israel 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	250 Vac (2.5 A)	8121-0702
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

Ergonomics

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 HP Library, or visit our ergonomics web site, www.hp.com/ergo.

Battery Safety

Note

The following batteries are compatible only with HP Omnibook Series computers:
– HP F2098 (main battery)
– HP F2014 (secondary battery)
– Sanyo 4UF103450P-QC-3

- To avoid risk of fire, burns, or damage to your battery pack, do not allow any metal object to touch the battery contacts.

- 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 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).

- Replace only with the same or equivalent type battery pack recommended by the manufacturer.

NL — Batterij niet weggooien, maar inleveren als KCA.
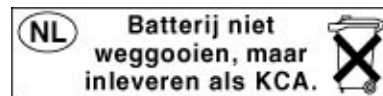
Laser Safety

The CD-ROM and DVD drives used with the computer are certified as a Class 1 laser devices according to the U.S. Department of Health and Human Services (DHHS) 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 "To contact HP for support or service" on page 65.

- 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

LED Safety

The infrared port located on the right side of the computer 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 "To contact HP for support or service" on page 65.

- 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

Exposure to Radio Frequency Radiation

The radiated output power of the IEEE 802.11 internal wireless radio is far below the FCC radio frequency exposure limits. Nevertheless, the wireless radio shall be used in such a manner that the potential for human contact during normal operation is minimized.

The internal wireless radio operates within guidelines found in radio frequency safety standards and recommendations, which reflect the consensus of the scientific community. HP therefore believes the internal wireless radio is safe for use by consumers. The level of emitted energy emitted is far less than the electromagnetic energy emitted by wireless devices such as mobile phones. However, the use of wireless radios may be restricted in some situations or environments, such as aboard airplanes. If you are unsure of restrictions, you are encouraged to ask for authorization before turning on the wireless radio.

Regulatory Information

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

U.S.A.

This computer has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This computer generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this computer does cause harmful 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 computer with respect to the receiver.

- Connecting the computer's 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.

Declaration of Conformity (U.S.A.)

Responsible Party:	Hewlett-Packard Company Manager of Corporate Product Regulations 3000 Hanover Street Palo Alto, CA 94304 +1 (650) 857-1501 declares that the product(s)
Trade name:	Hewlett-Packard Company
Product name:	HP Omnibook 500, Pavilion ZU1xxx (where x is any digit 0–9), and F2096 expansion base

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.

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. The internal wireless radio complies with RSS 210 of Industry Canada.

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. Le composant RF interne est conforme à la norme CNR-210 d'Industrie Canada. L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes : (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit étre prét à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

European Union

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the public switched telephone network (PSTN) and to a radio-frequency wireless network. However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point.

In event of problems, you should contact your equipment supplier in the first instance.

This equipment has been designed to work in all of the countries of the European Economic Area (Public Switched Telephone Networks). Network compatibility is dependent on internal software settings. Contact your equipment supplier if it is necessary to use the equipment on a different telephone network. For further product support, contact Hewlett-Packard—see "To contact HP for support or service" on page 65.

Belgium: For outdoor usage only channels 10 (2457 MHz) and 11 (2462 MHz) is allowed. For private usage outside buildings across public grounds over less than 300m, no special registration with IBPT/BIPT is required. Registration to IBPT/BIPT is required for private usage outside buildings across public grounds over more than 300m. An IBPT/BIPT license is required for public usage outside building. For registration and license please contact IBPT/BIPT.

France: Restricted frequency band: only channels 10 and 11 (2457 MHz and 2462 MHz respectively) may be used in France. License required for every installation, indoor and outdoor installations. Please contact ART for the procedure to follow. Use with outdoor installations not allowed.

Germany: License required for outdoor installations. Check with reseller for procedure to follow.

Netherlands: License required for outdoor installations. Check with reseller for procedure to follow.

Italy: License required for indoor use. Use with outdoor installations not allowed.

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。

Japan Telecommunications Approval

JATE approval number: A99-0700JP, A99-0976JP.

Name of Equipment: 3CN3AX556, 3CN3BM1556B.

Russia

Продукт сертифицирован в системе ГОСТ Р

Модем сертифицирован в системе ЭЛЕКТРОСВ

International

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

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

Manufacturer's Name:	Hewlett-Packard Company, Mobile Computing Division
Manufacturer's Address:	19310 Pruneridge Ave., Cupertino, CA 95014, U.S.A.

declares that the following product

Product Name:	HP notebook PC
Model Numbers:	Omnibook 500 and Pavilion ZU1xxx (where x is any digit 0–9)
Product Options:	All, including options for analog modem (3Com/USR) and radio link

conforms to the following product specifications

Safety:	IEC 60950: 1991 +A1,A2,A3,A4 / EN 60950: 1992 +A1,A2,A3,A4,A11 IEC 60825-1: 1993 +A1 / EN 60825-1: 1994 +A11 Class 1 LED GB4943-1995
EMC:	CISPR 22: 1997 / EN 55022: 1998, Class B [1] CISPR 24: 1997 / EN 55024: 1998 IEC 61000-3-2: 1995 / EN 61000-3-2:1995 +A1: 1998 +A2: 1998 IEC 61000-3-3: 1994 / EN 61000-3-3:1995 GB9254-1998 FCC Title 47 CFR, Part 15 Class B/ANSI C63.4: 1992 AS/NZS 3548: 1995 Rules and Regulations of Class B
Telecom:	TBR 21: 1998, EG 201 121: 1998
Radio: **Equipment Class 2**	ETS 300-826 General EMC requirements for Radio equipment ETS 300-328 Technical requirements for Radio equipment Notified Body Number: 0682 Notified Body Address: CETECOM ICT Services GmbH, Untertuerkheimer Str. 6-10, D-66117 Saarbruecken
Supplementary Information:	The product herewith complies with the requirements of the R&TTE Directive 1999/5/EC and carries the CE marking accordingly. [1] The product was tested in a typical configuration with Hewlett-Packard Personal Computer peripherals. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The HP F1454A and F1781A ac/dc adapter used with this product is designed to operate on all power systems, other than IT power systems.

Corvallis, OR, April 11, 2001

CE

Jerry Erickson, R&D Product Execution Manger

European Contact for regulatory topics only: Hewlett Packard GmbH, HQ-TRE, Herrenberger Strasse 130, 71034 Boeblingen, Germany. Fax: +49 7031 143143.
USA Contact: Hewlett Packard Co., Corporate Product Regulations Manager, 3000 Hanover Street, Palo Alto, CA 94304, U.S.A. Phone: +1 (650) 857-1501.

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

Manufacturer's Name:	Hewlett-Packard Company
Manufacturer's Address:	Mobile Computing Division
	19310 Pruneridge Ave.
	Cupertino, CA 95014, U.S.A.

declares that the following product

Product Name:	Expansion base
Model Numbers:	F2096
Product Options:	All

conforms to the following product specifications

Safety:	IEC 950: 1991 +A1,A2,A3,A4 / EN 60950: 1992 +A1,A2,A3,A4,A11
	GB4943-1995
EMC:	CISPR 22: 1997 / EN 55022: 1998, Class B [1]
	CISPR 24: 1997 / EN 55024: 1998
	IEC 61000-3-2: 1995 / EN 61000-3-2:1995 +A1: 1998 +A2: 1998
	IEC 61000-3-3: 1994 / EN 61000-3-3:1995
	GB9254-1998
	FCC Title 47 CFR, Part 15 Class B/ANSI C63.4: 1992
	AS/NZS 3548: 1995 Rules and Regulations of Class B
Supplementary Information:	The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC, amended by 92/31/EEC & 93/68/EEC, and carries the CE marking accordingly.
	[1] The product was tested in a typical configuration with Hewlett-Packard Personal Computer peripherals.
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	The HP F1454A and F1781A ac/dc adapter used with this product is designed to operate on all power systems, other than IT power systems.

Corvallis, OR, April 12, 2001

CE

Jerry Erickson, R&D Product Execution Manger

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Index