HP OmniBook 6000

Corporate Evaluator's Guide

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Edition History

This manual is printed on recycled paper.

Contents

Introducing the Notebook Computer

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:

- The display is brighter than those on previous HP notebook computers.

- 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?

- HP OmniBook 6000 PC.

- Main battery (installed).

- CD-ROM or DVD drive module (installed).

- Floppy disk drive module.

- External floppy disk drive cable.

- 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.

- Mediamatics CD (for models with a DVD drive).

Software bundled on your computer

Your computer includes the following software.

Software	Function
HP TopTools	Allows network managers and administrators to check the hardware and software on your computer and how well they are working.
Agaté Tioman Hot-Swap	Lets you swap most modules in the plug-in bay without needing to shut down and reboot the computer (Windows 95 and 98 only).
QuickLink	Permits fax transfer to fax machines and fax software, and permits data transfer. (Windows 98 only)
HP e-center	Provides easy access to e-pages and e-services—including backup, e-mail, and fax transfer (North America English only).
VirusScan	Protects your computer from potentially harmful files.
Adobe Acrobat Reader	Allows you to read documents in Acrobat format frequently used on the Internet.
HP DiagTools	Provides hardware diagnostic tests.
Mediamatics DVD Express CD	Controls DVD play (for models with a DVD drive).

To buy accessories

You can buy accessories for your computer online. For the latest accessories and options, visit the HP Notebook Web site (www.hp.com/notebooks).

HP currently offers docking solutions, plug-in modules, and other accessories, such as the following:

- ac adapter.

- Floppy disk drive module.

- External floppy disk drive cable.

- Plug-in modules, such as CD-ROM drive, DVD drive, CD read/write drive, Zip drive, LS-120 drive, second hard disk drive.

- Replacement hard disk drive module.

- Main battery.

- Secondary battery.

- Weight-saving module, for module bay to reduce travel weight.

- External battery charger.

- Docking bay adapter.

To find more information

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

Source	Description and Location
Startup Guide	The *Startup Guide* 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 HP Library group, or on the *Recovery CD* in \hp\Library.
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
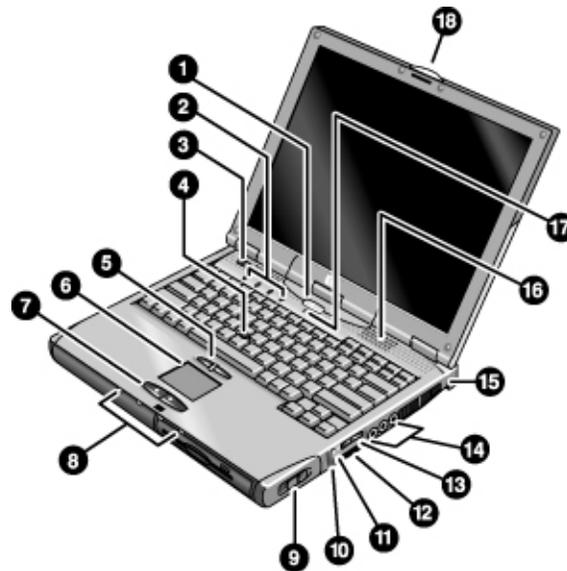
1. Sleep button. Suspends and resumes operation.
2. Keyboard status lights (left to right: Caps Lock, Num Lock, Keypad Lock, Scroll Lock).
3. Power slide button. Turns the computer on and off.
4. Pointing stick (pointing device).
5. Click buttons and scroll button.
6. Touch pad (pointing device).
7. Click buttons.
8. Main status lights (left to right): power state, hard disk activity, charging status for main battery, and charging status for secondary battery.
9. Module eject latch.

10. System-off switch.
11. Audio-off button and audio-off light.
12. Infrared port (below the volume control).
13. Volume control.
14. Audio jacks (left to right): audio out (headphones), external microphone, audio in.
15. Kensington lock slot (security connector).
16. Built-in speakers (one on each side).
17. Built-in microphone.
18. Latch for opening the computer.

Bottom View
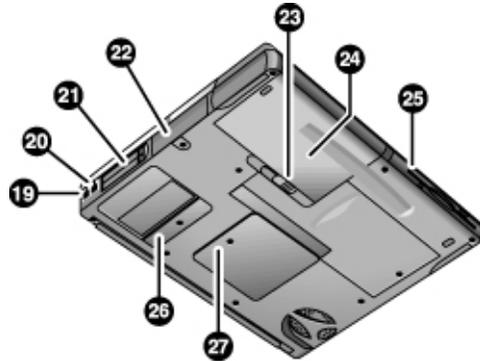
19. Modem port (on certain models).

20. LAN port (on certain models).

21. PC Card and CardBus slots (upper and lower).

22. Hard disk drive.

23. Main battery latch.

24. Main battery.

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

26. Mini-PCI cover (no user parts inside).

27. RAM cover.

Back View
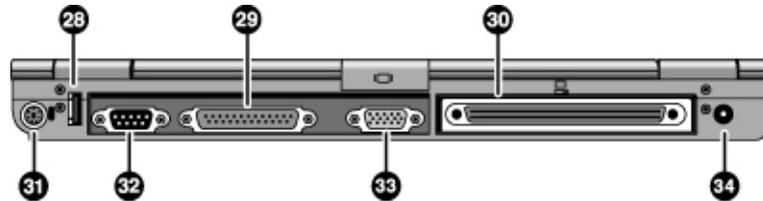
28. Universal serial bus port (USB).
29. Parallel port (LPT1). Use this port for a parallel printer or other parallel device, or to connect the floppy disk drive externally.
30. Docking port.
31. PS/2 keyboard or PS/2 mouse port (supports Y adapter).

32. Serial port (COM1). Use this port for a serial mouse, modem, printer, or other serial device.
33. External monitor port.
34. ac adapter jack.

Status Lights

The computer includes a number of status lights that report power and battery status, drive activity, and keyboard functions such as caps lock and num lock.

The following diagram shows the status lights on the front of the computer.
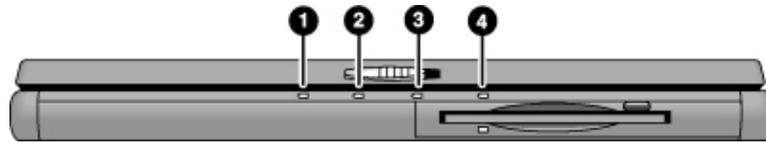
1. **Power status**.

    - Green: computer is on or in Display-off mode (Windows 98 and 2000).

    - Amber: computer is in Standby mode or Display-off mode (Windows 95).

    - No light: computer is off or in Hibernate mode.

    - Red light: computer failed when resuming, and must be reset.

2. **Hard disk drive activity**.

    - Green: computer is accessing the hard disk drive.

3. **Main battery status**.

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

    - Amber: The ac adapter is connected and the battery is charging.

    - Red. The ac adapter is connected and the battery is missing or has a fault.

    - Off: The ac adapter is not connected.

4. **Secondary battery status**.

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

    - Amber: The ac adapter is connected and the battery is charging.

    - Red. The battery has a fault.

    - Off: The ac adapter is not connected, a secondary battery is not installed, or the battery is not charging.

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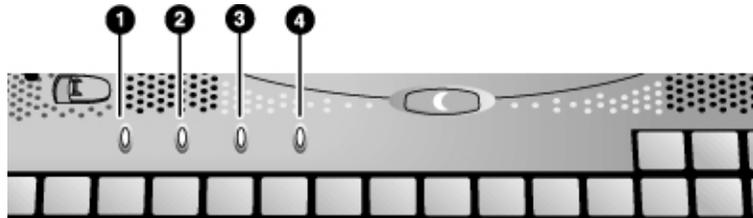
1. **Caps Lock**. Caps Lock is active.

2. **Num Lock**. Num Lock is active. (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.

4. **Scroll Lock**. Scroll Lock is active.

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 34.**
	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 (rounded) end of the battery into the battery compartment on the bottom of the computer, and lower the back end in until it clicks into place.
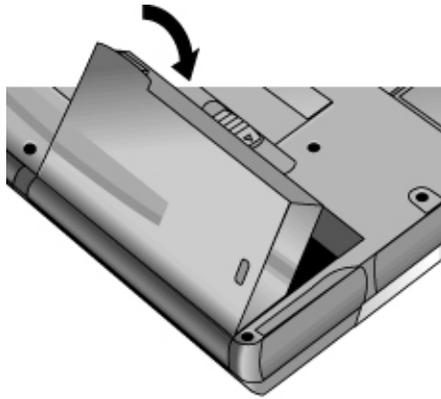
To remove the battery

- 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).

- 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.
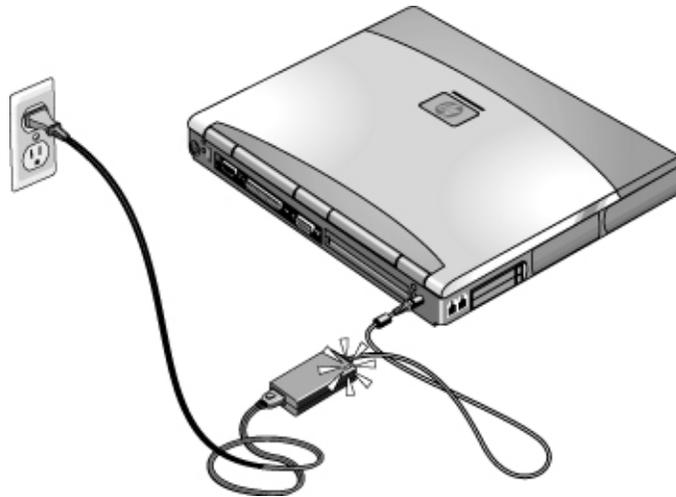
While the battery is charging, you can continue with step 3.

Step 3 – Turn on the computer

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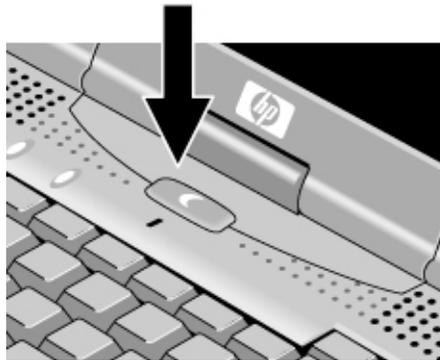
Hint

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 4 – Set up Windows

Your notebook computer has Microsoft Windows 95, 98, or 2000 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.

• 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.

Year 2000

Hewlett-Packard makes no representation or warranty about the Year 2000 readiness of non-HP products, including preinstalled operating systems or application software. You should contact the software manufacturer directly to determine if you need to do anything else to ensure compliance.

Microsoft has indicated that many of its operating system software products and applications require customer installation of software patches for Year 2000 compliance, and may require additional patches in the future. The need for such patches most likely applies to the operating system software and any Microsoft applications shipped with this product. You are urged to contact Microsoft at www.microsoft.com/y2k, at 1-888-MSFTY2K (U.S. and Canada only), or at your local Microsoft office.

Using Your Computer

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.

To start and stop the computer

Power mode	To enter this mode	To turn on again
Display-off mode Saves minimal power. Turns off the display and hard disk. Restarts quickly. Maintains network connections.	Allow timeout.	Press any key or move a pointing device to restore the display ("Instant-On").
Standby mode Saves significant power. Turns off the display and other components. Maintains current session in RAM. Restarts quickly. Restores network connections.	Press blue sleep button –or– click Start, Suspend (Windows 95) or Start, Shutdown, Standby (Windows 98 and 2000) –or– allow timeout.	Press the blue sleep button to display your current session ("Instant-On").
Hibernate mode Saves maximum power. Saves current session to disk, then shuts down. Restores network connections.	Press Fn+F12 –or– Click Start, Shut Down, Hibernate (Windows 2000) –or– allow timeout.	Press the blue sleep button to restart and restore your previous session.
Shut down (off) Saves maximum power. Turns off without saving current session. At startup, resets everything, starts a new session, and restores network connections.	Click Start, Shut Down (recommended) –or– slide the power button.	Press the blue sleep button to restart with a new session.

You can also customize the way these power modes work. See "How the computer manages power automatically" on page 44.

Hint

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

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.

1. If possible, shut down Windows: press CTRL+ALT+DEL, then click Shut Down.

2. 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 right side of the computer, then press the blue sleep button to restart.
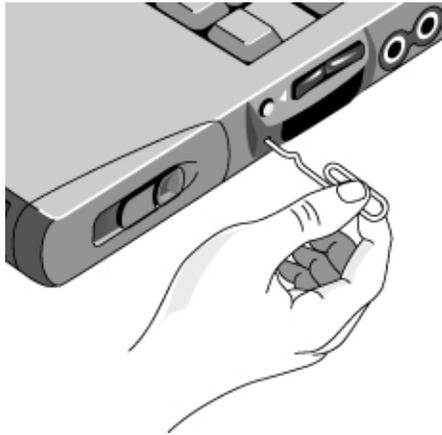
To use the pointing devices

Your computer includes two built-in pointing devices: the pointing stick and touch pad.

1. Pointing stick (pressure-sensitive pointing device).

2. Click buttons and scroll button. The click buttons work like the left and right buttons on a standard mouse. The scroll button works with the pointing stick to scroll the contents of a window.

3. Touch pad (touch-sensitive pointing device).

4. Click buttons. These also work like the left and right buttons on a standard mouse.

Moving and selecting

1. Place your hands in a normal typing position.

2. **Pointing stick.** With your index finger, press the pointing stick in the direction you want the pointer to move.

    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 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 move the pointer using the pointing stick. The contents of the window scroll in the direction you move the pointer.

To configure the pointing devices

You can customize the operation of your computer's pointing devices (pointing stick, touch pad, and external PS/2 or serial mouse). You can change the left, right, and scroll button actions, double-click speed, pointer speed, and more. For details, click Help in the Mouse window.

- Double-click the touch pad icon in the task bar.

  –or–

  Click Start, Settings, Control Panel, then double-click Mouse.

To disable one pointing device

If you prefer to use only one of your computer's built-in pointing devices, you can disable the other. For example, if you notice that your hand inadvertently contacts the touch pad and moves the cursor while you're typing, consider disabling the touch pad.

1. Click Start, Settings, Control Panel, then double-click Mouse.

   –or–

   Double-click the touch pad icon in the taskbar.

2. Click the Touch tab, and select the device you want to disable from the pull-down menu.

3. Select Disable This Device near the bottom of the window.

4. Click OK.

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.
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, then the numeric functions are active; otherwise, cursor control is active.
Fn+F12	Enters Hibernate mode.
Fn+NumLock	Toggles Scroll Lock on and off.
Fn+UP ARROW	Increases sound volume.
Fn+DOWN ARROW	Decreases sound volume.

External 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.

To use the Windows and Applications keys

The Windows key brings up the Windows Start menu. This is the same as clicking the Start button on the taskbar.

The Applications key brings up the shortcut menu for the current application. This is the same menu that appears when you right-click while pointing at the application.

This key combination	Does this
Windows key+E	Runs Windows Explorer
Windows key+F1	Runs Windows Help
Windows key+F	Runs Windows Find: File or Folders… dialog box
Windows key+M	Minimizes all displayed windows
Shift+Windows key+M	Returns all minimized windows to original size
Windows key+R	Runs the Windows Run dialog box

To use the embedded keypad

Your computer's built-in keyboard includes an embedded keypad you can use to type numbers and arithmetic operators. The keys in this keypad are marked using light gold characters.

- Press Fn+F8 to turn on the embedded keypad.

- Hold Fn while typing a key to turn the embedded keypad on temporarily.

When the embedded keypad is active, you can use Num Lock to change how the keypad functions:

- Num Lock on: The keys enter the numbers and arithmetic operator printed in light gold on the keyboard.

- Num Lock off: The keys act as cursor control keys.

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 that provides access to certain special keyboard characters.

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

1. Shifted.
2. Unshifted.
3. ALT GR.

To adjust the display

Changing the brightness

- Press Fn+F1 to decrease the display's brightness.

- Press Fn+F2 to increase the display's brightness.

Hint

To maximize your battery operating time, set the brightness to the lowest level you can view comfortably.

Changing display settings

You can customize a number of display settings for your computer, such as color depth and screen area.

1. Click Start, Settings, Control Panel, then double-click Display.

2. Click the Settings tab, then make the settings you want.

Using an external monitor

If you want, you can attach an external monitor to your notebook computer. See "To use an external monitor" on page 71.

To adjust the volume

From the keyboard

- To increase the volume, press the rear half of the volume control on the right side of the computer.

  –or–

  Press Fn+UP ARROW.

- To decrease the volume, press the front half of the volume control.

  –or–

  Press Fn+DOWN ARROW.

- To toggle the standard mute function, press Fn+F7.

With the audio-off button

Your computer includes an audio-off button you can use to temporarily disconnect the speakers without changing the volume or mute settings. This feature is handy when you want to block all speaker output regardless of what your computer is doing.

- To toggle the speaker connection on and off, press the audio-off button on the right side of the computer. The audio-off light turns on when the speakers are disconnected.

In Windows

1. Click the Volume icon in the taskbar.

2. Drag the volume control bar up or down to adjust the volume.

3. To temporarily silence the speakers without changing the volume setting, click Mute.

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. HP docking accessories 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 *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.

Taking Care of Your Computer

Use the following recommendations to maintain your computer during everyday use and prevent potential physical damage or data loss.

To protect your hard disk drive

Hard disk drives, as well as other internal components, are not indestructible and can be damaged by inappropriate handling and operation.

- Avoid bumps or jolts.

- Do not operate the computer while traveling over bumpy terrain.

- Suspend or shut down the computer 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 destroy data or damage the drive.

- Carry the computer in a padded case to protect against bumps and jolts.

- Set down the computer gently.

To take care of your computer

- Provide adequate ventilation around the computer. Always set the computer on a flat surface, so that air can flow freely around and underneath it.

- Always shut down the computer or put it in Hibernate mode before putting it in a carrying case or other enclosed space.

- Do not pick up or carry the computer by its display.

- Observe the temperature limits and other specifications listed in "Hardware Specifications" on page 182. Do not use the computer outside in the rain or snow (inclement weather).

To safeguard your data

- Do not use a pointing device or activate any other device that interrupts operation while the system is starting or stopping.

- Back up your work regularly. Copy files to floppy, tape, or network drives.

- Use a virus-scanning program (such as the VirusScan program included with your computer) to check the integrity of your files and operating system. Since new viruses appear frequently, you will also want to update the program's virus definitions from time to time; updates are on the Web at www.networkassociates.com.

- Check your disk using the scandisk utility.

To extend the life of the display

- Set the display brightness to the lowest comfortable level (Fn+F1).

- When working at your desk, connect an external monitor and turn off the internal display (Fn+F5).

- If you are not using an external monitor, set the Turn off monitor timeouts (for both ac and battery operation) to the shortest comfortable interval.

- Avoid using a screen saver or other software that prevents the computer from changing to Display-off or Standby mode after a timeout 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 Display-off or Standby timeouts.

- If you are using ac power and have no external monitor attached, put the computer in Display-off or Standby mode when not in use.

To get the most from your batteries

- Do not leave batteries unused for long periods. If you have more than one, rotate them.

- If you normally use ac power, make a practice of using the battery as your power source at least once a week.

- Unplug the ac adapter when the computer is not in use.

- To preserve the life of a battery, be sure to charge it regularly.

- For long-term storage, the battery must be charged 20–50% to minimize capacity loss by self-discharge and to avoid deterioration of performance. Storing a fully charged battery can cause higher self-discharge and reduce its discharge capacity—even after recharging—as compared to a battery stored when charged 20–50%.

To clean your computer

- You can clean the computer with a soft cloth dampened with clean water or with water containing a mild detergent. Do not use an excessively wet cloth, and take care to keep water out of the case.

- Do not use 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.

Securing Your Computer

To set up password protection

You can protect your computer from access by another user when you set up password protection, which is available through Windows 98 and 2000 and through the BIOS Setup utility. For complete protection in Windows 98 or 2000, set passwords in both places.

To cancel password protection, set an empty password.

BIOS Setup Utility (Windows 95, 98, or 2000)

1. Click Start, Shut Down, Restart.

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

3. From the Security menu, enter or modify the Administrator Password or User Password as needed. See "Security Menu" on page 83.

4. Press F10 to save and exit BIOS Setup.

Windows 98

1. Click Start, Settings, Control Panel, then double-click Passwords.

2. Click the Change Passwords tab, then click Change Windows Password and set a password.

3. Click Start, Settings, Control Panel, then double-click Power Management.

4. On the Advanced tab, select the option to prompt for a password when the computer leaves Standby mode.

Windows 2000

1. Click Start, Settings, Control Panel, then double-click Users and Passwords.

2. Click the Users tab, and create or modify a user name and password as needed. See Windows Help for details.

3. Click Start, Settings, Control Panel, then double-click Power Options.

4. On the Advanced tab, select the option to prompt for a password when the computer leaves Standby mode.

To attach a security cable

Your computer includes a built-in connector you can use to secure the computer with a cable and a lock (such as the Kensington MicroSaver lock system, available at many computer stores).

1. Wrap the cable around a secure object, such as a table leg.

2. Loop the cable to create a slip knot around the stationary object, and make sure it can't slip off.

3. Insert the lock into the security connector on the right side of the computer and release the key. Store the key in a safe place away from the computer.

To use the VirusScan utility

Virus-protection software can help protect the integrity of your data. This is especially important if you use the Web.

Your computer comes equipped with VirusScan. Before you can use VirusScan, you need to install it.

1. Click Start, Programs, VirusScan, Setup.

2. Follow the instructions as they appear on the screen.

Once installed, you can get detailed instructions from VirusScan's online Help.

To set PC identification

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 set up TopTools" on page 86.

2. Click Start, Programs, HP TopTools for Notebooks, HP TopTools.

3. Click Security, then type your administrator password and press ENTER.

4. Click Settings and Actions.

5. In the "Tattooing String" box, type a unique set of characters that 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.

To lock the hard disk drive

The computer enables you to lock its internal hard disk drive to help keep your information secure. *Hard disk drive lock does not protect a second hard disk drive installed in the module bay.*

CAUTION

When you enable hard disk drive lock, the current BIOS 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 computer, 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 computer (and drive) password. If you forget the password, you cannot recover your data.**

1. Click Start, Shut Down, Restart.

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

3. From the Security menu, enable Password Required to Boot.

4. From the Security menu, enable Internal hard disk drive lock.

5. Press F10 to save and exit BIOS Setup.

Traveling with Your Computer

Managing Power Consumption

When you're running your computer on battery power, you will want to maximize operating time without compromising performance. Your computer is designed to help you reduce power consumption and extend battery life without needing to turn it off.

- During idle periods, the computer automatically enters power-saving modes after specified timeout periods. You can adjust these timeouts to suit your working habits.

- You can manually send the computer into a power-saving mode at any time by pressing the appropriate key—see "To manage power manually" on page 47.

How the computer manages power automatically

Your computer automatically enters Hibernate mode, Standby mode, and Display-off mode, and turns off the hard disk based on values set in the Power Management Properties window (Windows 98 and 2000) or the BIOS Setup utility (Windows 95).

Automatic action	Occurs after…	To resume…
Turns off hard disk. Turns off the hard disk drive. This is usually set to occur shortly after the display is turned off.	The hard disk is not accessed for the specified interval.	Begin using the computer: the hard disk turns on when needed.
Enters Display-off mode. Turns off the display and hard disk to conserve battery power and extend the life of the display.	No keyboard, pointing device, or other input activity occurs for the specified interval.	Press any key or move a pointing device to return to your current session.
Enters Standby mode. Maintains your current session in RAM, and turns off the display and other components to conserve battery power.	No pointing devices are used, no disk drive is accessed, and no port (serial, parallel, or IR) is active for the specified interval.	Press the blue sleep button to return to your current session.
Enters Hibernate mode. Saves your current session to the hard disk, then turns off the computer.	No pointing devices are used, no disk drive is accessed, and no port (serial, parallel, or IR) is active for the specified interval.	Press the blue sleep button to restore your previous session.
Lowers CPU speed (SpeedStep only). Switches to the lower CPU speed to use power more efficiently. See below.	The ac adapter is unplugged.	Plug in the ac adapter.

For Windows 98 and 2000, message box appears 15 seconds before the computer enters Standby mode. This allows you to stop the process and save your work if you have not recently done so.

CAUTION	**Make a habit of saving your work before allowing your computer to enter Standby mode. If power is interrupted while the computer is in Standby mode, any information that was not saved will be lost.**

The computer can also enter Hibernate mode if battery power reaches a critically low level. (See "To respond to a low-battery warning" on page 50.) If this happens, you will find on resuming that all your data has been saved, but some functions may be disabled. To resume normal operation, restore power by connecting an ac adapter or installing a charged battery, then shut the computer off and restart it.

Changing timeout settings and creating power schemes

You can adjust the periods of non-use after which your computer automatically shuts down components or enters a power-saving mode. You can also save these settings as a power scheme.

- Windows 95:

    1. Click Start, Shut Down, Restart.

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

    3. In the Power menu, enter the timeout values you want—see "Power Menu" on page 84.

    4. Press F10 to save and exit BIOS Setup.

- Windows 98 and 2000:

    1. Click Start, Settings, Control Panel, then double-click Power.

    2. Click the Power Schemes tab, and enter the settings you want. If you don't want a particular timeout to occur, set the value to Never. See Windows Help for details.

        If you want to save the settings as a power scheme, click Save As and enter a name for the scheme.

    For Windows 98, change the Hibernate timeout in BIOS Setup—see "To run the BIOS Setup utility" on page 80.

CAUTION	**For Windows 2000, do not disable Hibernate support in the Power settings, or you will lose any unsaved data if the computer's battery runs down completely.**

Managing CPU power (SpeedStep)

If your computer's taskbar contains an Intel SpeedStep Technology icon, then your computer contains a dual-speed processor with Intel SpeedStep Technology. This feature enables the processor to automatically switch to a lower, power-saving speed when the computer is running on the battery.

- If you reboot the computer with the ac adapter plugged in, the processor starts at its high speed. If you reboot the computer on battery power, the processor starts at its low speed.

- If you unplug the ac adapter while the computer is running or in Standby mode, the processor changes to low speed.

- If you plug in the ac adapter while the computer is running or in Standby mode, the processor changes to high speed.

You can also customize SpeedStep to best suit your working environment.

- To set the speed used by the processor at boot, change the Intel SpeedStep Mode setting in the BIOS Setup Power menu—see "To run the BIOS Setup utility" on page 80.

- To set the speed used by the processor when Windows is running, double-click the Intel SpeedStep Technology icon in the taskbar.

To manage power manually

In addition to allowing the computer to enter its power-saving modes automatically, you can also put it into any of the following three modes whenever you need to.

Power mode	Does this…	Use when…	To enter this mode…
Standby	Maintains your current session in RAM, and turns off the display and other components.	You will be away from your computer for a short time.	Press blue sleep button –or– click Start, Suspend (Windows 95) or Start, Shutdown, Standby (Windows 98 and 2000).
Hibernate	Saves the current session to disk, then shuts down. Provides maximum power savings while still allowing you to recover the current session.	You will be away from your computer for several hours, but want to continue your session.	Press Fn+F12 –or– click Start, Shut Down, Hibernate (Windows 2000).
Off	Turns off your computer, providing maximum power savings. The current session will not be saved, and any unsaved data will be lost.	You're done with your work.	Click Start, Shut Down (recommended) –or– slide the power button.

To suspend the computer when closing the display

By default, the computer display turns off when you close the display lid. If you prefer, you can instead set the computer so that closing the lid suspends the computer to Standby mode.

Windows 2000

1. Click Start, Settings, Control Panel, then double-click Power Options.

2. Click the Advanced tab, then select an option for closing the lid. None means that the computer enters Display-off mode when you close the lid.

Windows 95 or 98

1. Click Start, Shut Down, Restart.

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

3. From the Power menu, choose Lid Switch Mode.

4. Choose Suspend. Closing the lid will then suspend the computer to Standby mode.

5. Press F10 to save and exit BIOS Setup.

Using Battery Power

To check battery status

From the battery status lights

Your computer has two battery status lights, one for the main battery and one for the optional secondary battery in the module bay—see "Status Lights" on page 18.

From the Windows taskbar

The Windows taskbar includes a power icon that provides detailed battery status information. The icon looks like a battery when ac is not connected.

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

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

From the Windows Control Panel

- Click Start, Settings, Control Panel, then double-click Power. This provides access to all of Windows' power-information options.

On the battery

1. Remove the battery from the computer—see "Step 1 – Install the battery" on page 20.

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. The computer first emits a high-pitched beep. Then, if you do not restore power within a short time, the computer goes into Hibernate mode.

Once the computer enters Hibernate mode, 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 20.

- Plug in the ac adapter. See "Step 2 – Connect ac power" on page 22.

- Install a charged secondary battery in the plug-in module bay. See "To install a secondary battery" on page 50.

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

To install a secondary battery

You can install a secondary battery in your computer's plug-in module bay. See "Using Plug-In Modules" on page 54 for information about installing plug-in modules.

To maximize battery operating time

Follow these suggestions to make your battery's power last as long as possible.

- Plug in the ac adapter, especially while using a drive in the module bay or any external connections such as a PC Card or a modem.

- Set the display brightness to the lowest comfortable level (Fn+F1).

- Put the computer in Standby mode whenever you are not using it for a short while: press the blue sleep button for approximately one second or click Start, Suspend (Windows 95) or Start, Shut Down, Standby (Windows 98 and 2000).

- Put the computer in Hibernate mode whenever you want to save your current session, but will not be using the computer for several hours: press Fn+F12.

- Set the automatic timeout settings to emphasize saving power. If your computer has a dual-speed processor, use the lower speed on battery power (the default settings conserve battery power). See "How the computer manages power automatically" on page 44.

- If you have an I/O PC Card—that is, a PC Card having an external connection, such as a network card—remove it when you're not using it. Some I/O cards use significant power even while they're inactive.

- If you work with an application that uses the serial port or an I/O PC Card, exit the application when you finish using it.

- Install a secondary battery—see "To install a secondary battery" on page 50.

- If your main battery is rated at 11.1 volts (check its label), purchase a replacement main battery, which is rated at 14.8 volts.

Making Connections

Using Plug-In Modules

You can use any compatible plug-in module with your computer's module bay, such as:

- CD-ROM or DVD drive.

- LS-120 or Zip drive.

- CD read/write drive.

- Second hard drive.

- Floppy disk drive.

    You can also attach the floppy disk drive to your computer's parallel port using the external floppy drive cable.

- Secondary battery.

CAUTION	**Never remove a plug-in module without first notifying Windows—see "To replace a plug-in module" on page 55. Otherwise, you could lose data.**

To install hot-swap support

If your computer uses Windows 95 or 98, it also includes the Agaté Tioman "hot-swap" software that lets you disconnect most modules from the computer's plug-in bay without needing to shut down and reboot the computer.

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

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

To replace a plug-in module

Windows 95 and 98 use the Agaté Tioman hot-swap software to let you disconnect most plug-in modules without shutting down the computer. Before replacing a hard drive module, however, you must first 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

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

Exception: for Windows 95 or 98, you must shut down the computer before connecting or disconnecting a hard disk drive.

Handle and store a module carefully when it's out of the computer. 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's 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. **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 don't have to do this if the bay is empty or contains a battery.)

   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 don't have to do this if the bay is empty or contains a battery.)

   –or–

   For any system: Click Start, Shut Down, Shut down. For Windows 95 or 98, you *must* do this if you are removing or inserting a hard disk drive in the module bay.

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

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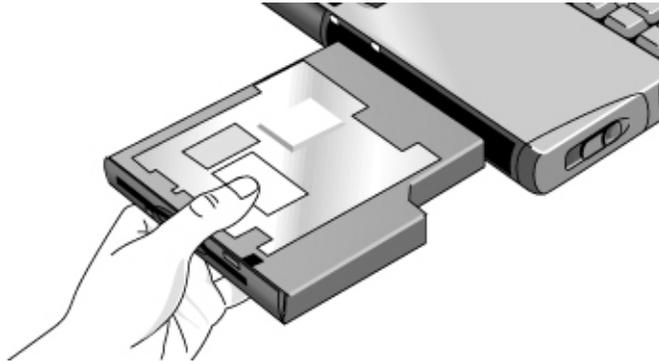
5. Slide the new plug-in module into the computer until it clicks into place.

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. See the next topic.

To connect the floppy disk drive to the parallel port

If you prefer, you can connect the floppy disk drive to your computer's parallel port using the external floppy drive cable.

- Connect the cable directly to the floppy drive and to the computer parallel port.

Before disconnecting the floppy disk drive, use the icon in the taskbar to stop the drive, or else shut down the computer. See "To replace a plug-in module" on page 55.

To insert or remove a CD or DVD

CAUTION

Do not insert or remove a CD while the computer is reading it. Otherwise, the computer 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 it on the spindle.

   –or–

   Remove the CD.

3. Slide the tray back into the module to close it.
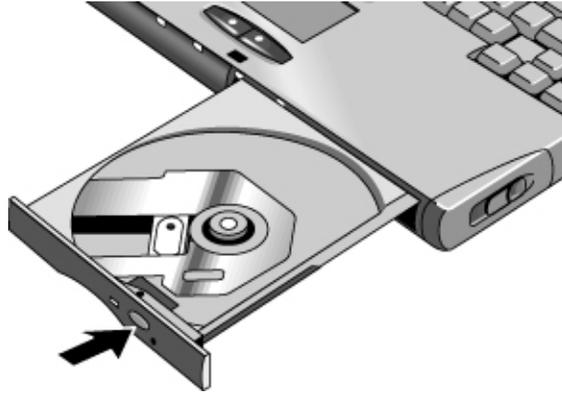
If your computer loses power, or if you have removed the CD-ROM or DVD module from the computer, you can manually open the drive to remove a CD.

• Insert a straightened paper clip into the recessed hole on the front of the drive.

Note

Windows 95: Your computer 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 may not automatically detect the insertion of a CD.

Windows 98 and 2000: Your computer has been configured to enable CD Auto Insert notification. This does not affect time-outs.

To play DVD movies

If your computer came with a DVD drive, you can install DVD player software that lets you play DVD movies.

• Run Setup on the Mediamatics CD to install the player software.

Using the Modem

If your computer has a modem port, you can connect your modem to a telephone line and communicate with other computers throughout the world. You can explore the Internet, send and receive e-mail messages, and use your PC to send and receive faxes. Your computer contains several software programs that work with your modem:

- Internet Explorer, for browsing the World Wide Web

- Outlook Express, for sending and receiving e-mail messages

- Windows 95 or 2000 fax software, or QuickLink with Windows 98, for sending and receiving faxes

- HP e-center, which links to a Web site that allows you to receive faxes at your existing e-mail address (North America English only)

The modem is a high-speed 56-Kbps modem. It allows you to connect to any Internet Service Provider (ISP) or modem network that has V.90 interoperable modems. Check with your ISP for a list of telephone numbers that support V.90.

Note that the maximum speed for faxing is 14.4 Kbps. Even though the modem is capable of downloading at 56 Kbps, your ISP or modem network may not operate at this speed or support this technology. Please check with your service provider for information on its capabilities. Furthermore, download transmission rates depend on the condition of the telephone line.

To connect the modem

1. Check that the telephone line is an analog line, sometimes called a data line. It should have 2, 3, or 4 wires. (You must not use a PBX or digital line.)

2. Connect a telephone cord with an RJ-11 plug to the built-in modem. If the plug on the phone cord doesn't fit the modem jack, you may need to buy an adapter.

Special restrictions in certain countries

*   In France, if you want to access the MiniTel system, you need MiniTel emulator software. If your computer was purchased in France, it includes the TimTel Light software. If your computer does not include TimTel Light, you must purchase emulator software separately.

*   The pulse dialing feature may be disabled in certain countries, possibly because Loop Disconnect is not certified there. If pulse dialing is disabled, you should use tone dialing connections only.

To connect to the Internet

Before you can connect to the Internet, you need to set up an account with an Internet Service Provider (ISP). Check in your area for providers. After registering with an ISP, follow these steps.

1. Double-click the Internet Explorer icon on the desktop. For your first connection, you'll be prompted for information about your connection.

2. Click the Connect button in the Dial-up Connection window.

When you are successfully connected to the Internet, you'll see a connect icon (two connected computers) in the taskbar. You are now ready to explore the Internet! To go to a specific Web site, enter the address (for example, http://www.hp.com) in the browser's Address field. To search for information on the Web, you can use the browser's Search tool and enter the word or phrase you are looking for.

To disconnect from the Internet

You remain connected to the Internet until you shut down the computer, disconnect the phone line from the computer, or give a command to hang up the connection.

- Double-click the connect icon in the taskbar, and click Disconnect.

To dial in to a network

You can use the modem to dial in to a LAN (local area network) that supports dial-in connections. This gives you access to network resources from a remote location.

- See Windows Help for information about setting up and using dial-in network connections—click Start, Help.

To change your modem settings

The modem is already set up to be compatible with telephone systems and modems in most areas. However, in some situations, you may have to change modem settings to match local conditions. If you have questions about local requirements, contact your telephone company.

- **Control Panel.** Open Modems (Windows 95 or 98) or Phone And Modem Options Windows 2000) in Control Panel to change many modem settings.

  For Windows 95 or 98, on the General tab click Properties to set connection speeds or special dialing options.

  For Windows 2000, on the Modems tab click Properties to set connection speeds, or on the Dialing Rules tab click Edit to set dialing options.

- **Communications software.** Many communications applications provide options for controlling modem settings. See the help for your software.

- **AT commands.** You can control many aspects of modem operation using modem AT commands. AT commands are special strings of characters sent to the modem to set up specific conditions. Those command strings normally start with "AT". For a list of AT commands for the built-in modem, see "Modem Reference Information" on page 185.

  For Windows 95 or 98, open Modems in Control Panel. On the General tab, click Properties, then on the Connections tab click Advanced. You can type AT commands in the space for extra settings.

  For Windows 2000, open Phone And Modem Options in Control Panel. On the Modems tab, click Properties. You can type AT commands on the Advanced tab in the space for extra settings.

For example, to force a built-in Ambit modem to connect with the V.34 modulation, you can use the +MS command as shown in table of AT commands—type AT+MS=11 in the space for extra settings.

To send and receive e-mail

Sending and receiving e-mail requires an e-mail account with an Internet Service Provider or with your company's communications system. If you are using AOL, e-mail services are part of your AOL service. For another ISP, you can use Outlook Express (included with your computer) or an e-mail system of your choice. This topic includes instructions for using Outlook Express.

To start Outlook Express

1. Click Start, Programs, Outlook Express, or double-click Outlook Express on the desktop.

2. If you are not currently connected to the Internet, the Dial-up Connection window appears. Choose Connect to connect to the Internet.

To send an e-mail message

1. In Outlook Express, click the New Mail tool on the toolbar.

2. Fill in the information in the New Message window.

3. When you're finished, click the Send button.

To receive e-mail messages

1. In Outlook Express, click the Send/Recv tool on the toolbar to have Outlook deliver new messages.

2. Click the Inbox folder to view the list of messages. Unread messages appear bold on the screen.

3. To view a message, click it once. (Or double-click to view the message in its own window.)

To send and receive faxes (Windows 95)

Sending and receiving faxes requires just a telephone connection—you don't need an Internet connection. You can use the modem and fax software to send and receive faxes on your computer. Fax software is built into Windows 95.

To send a fax

1. Double-click the Inbox icon on the desktop. If this is the first time you're opening the Inbox, follow the instructions to set up Microsoft Exchange and Microsoft Fax.

2. Click Compose, New Fax. Follow the instructions to create and send the fax.

If instead you want to send a document as a fax, open the document in its application window, then open the Print dialog box. Change the selected printer to Microsoft Fax, then print it.

To receive faxes

Faxes are automatically received when the Inbox is open or minimized.

1. Double-click the Inbox icon on the desktop to open the Inbox.

2. Click the fax icon in the taskbar, then click Answer Now.

To send and receive faxes (Windows 98)

Sending and receiving faxes requires just a telephone connection—you don't need an Internet connection. You can use the modem and fax software to send and receive faxes on your computer. QuickLink fax software is included with Windows 98 on the hard disk.

To start QuickLink

- Click Start, Programs, QuickLink, QuickLink.

The first time you start QuickLink, the Setup Wizard steps you through the process of setting options and customizing the program for your personal use. Follow the onscreen instructions. If you're unsure which setting to choose, accept the default choice.

To send a fax

1. In QuickLink, click the QuickFax tool on the main toolbar.

2. Enter the fax number and the recipient's name and company.

3. Type the message body in the QuickFax Note area.

4. Click Send Fax.

If instead you want to send a document as a fax, open the document in its application window, then open the Print dialog box. Change the selected printer to QuickLink, then print it.

To receive faxes

Faxes are automatically received when QuickLink is running in an open or minimized window. New faxes are indicated in the status box in the QuickLink window. To receive a fax manually, follow these steps.

1. When a fax call is coming in, click Start on the menu bar.

2. Click Manual Fax Receive.

To view and print a fax

1. In QuickLink, click the Fax Viewer tool on the toolbar.

2. Click Yes to view the fax now.

3. Click the printer icon to print the fax.

To send and receive faxes (Windows 2000)

Sending and receiving faxes requires just a telephone connection—you don't need an Internet connection. You can use the modem and fax software to send and receive faxes on your computer. Fax software is built into Windows 2000.

To set up for faxing

1. Click Start, Settings, Control Panel, Fax. Enter your fax information.

2. On the Advanced Options tab, add a fax printer.

   If you do not want to receive faxes, stop here.

3. On the Advanced Options tab, open the Fax Service Management window.

4. In the list under Fax, click Devices, then right-click the modem and click Properties.

5. On the General tab, enable the modem to receive faxes.

6. On the Received Faxes tab, select the option to save faxes in a folder.

To send a fax

- Click Start, Programs, Accessories, Communications, Fax, Send Cover Page Fax. Follow the instructions to create and send the fax.

If instead you want to send a document as a fax, open the document in its application window, then open the Print dialog box. Change the selected printer to the fax printer, then print it.

To receive, view, and print faxes

If you enabled the modem to receive faxes, they are automatically received.

1. Click Start, Programs, Accessories, Communications, Fax, My Faxes.

2. In the Received Faxes folder, double-click the fax.

3. To print, click File, Print.

Connecting to a LAN

If your computer model has a LAN port, you can use it to connect to a local area network (LAN). This gives you access to network resources, such as printers and file servers on your corporate network, and possibly to the Internet.

To connect to a LAN

1. Check that the existing LAN supports Ethernet 10Base-T (10 Mbps) or 100Base-TX (100 Mbps) connections.

2. Plug the LAN cable (not supplied) into the built-in LAN port. The cable must have an RJ-45 connector.
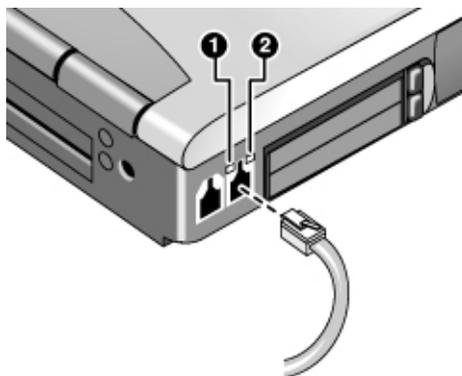
3. Windows 2000 automatically detects and sets up a LAN connection.

   For Windows 95 or 98, open Network in Control Panel to set up support for a LAN connection on your network. For example, you can add the Microsoft TCP/IP protocol.

See Windows Help for information about setting up and using LAN connections—click Start, Help. Contact your network administrator for network information.

Two lights next to the LAN port indicate the status of the connection (see the figure above):

1. The yellow light indicates network activity.

2. The green light indicates that a link is established to the network.

Connecting PC Cards

The computer's PC Card slots are available for storing data and expanding the communication capabilities of the computer. The computer supports standard Type I, II, and III PC Cards (PCMCIA and CardBus), and can hold two Type I or II cards or one Type III card.

The lower slot supports Zoomed Video, which allows a zoomed video card to show high-quality multimedia presentations.

To insert or remove a PC Card

Inserting a PC Card

1. Hold the PC Card with its face up and its connector holes toward the card slot.

2. Slide the PC Card all the way into the slot, until its outer edge is flush with the casing of the computer.
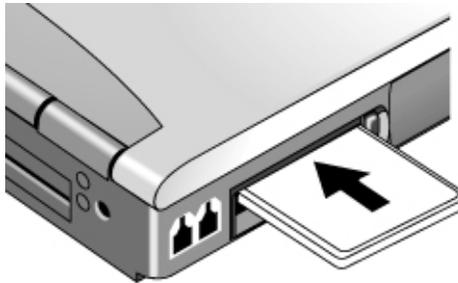
Removing a PC Card

CAUTION

Before removing a PC Card, you must either use the PC Card or Eject Hardware icon in the taskbar or shut down the computer. Otherwise, you could lose data.

1. Before removing the card, click the PC Card or Eject Hardware icon in the taskbar, then click Stop. This protects your data and helps avoid unexpected problems.

   If needed, you can restart the card by removing and then reinserting it.

2. Press the eject button to pop the button out, then press it in to eject the PC Card.
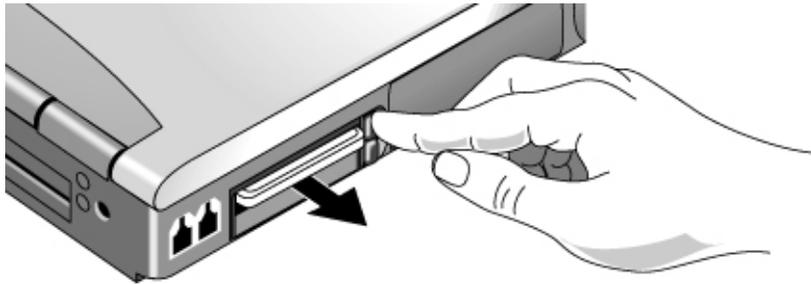
Finding tested PC Cards

For the current listing of PC Cards that have been tested and approved for use with your computer, visit the Accessories section of the HP Notebook Web site (www.hp.com/notebooks).

Connecting External Devices

To identify connectors for external devices

The diagram below shows your computer's connectors for external devices.
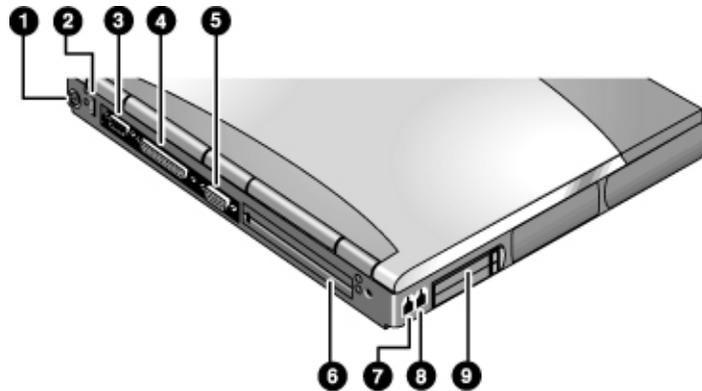
1. PS/2 keyboard or PS/2 mouse port (supports Y adapter).

2. Universal serial bus (USB) port.

3. Serial port (COM1).

4. Parallel port (LPT1). Use this port for a parallel printer or other parallel device, or to connect the floppy disk drive externally.

5. External monitor port.

6. Docking port.

7. Modem port (on certain models).

8. LAN port (on certain models).

9. PC Card and CardBus slots (upper and lower). See "Connecting PC Cards" on page 68.

The computer also includes an infrared port and audio ports on its right side.

Note

Before you connect any device, check its documentation 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 your computer and the software you plan to use.

To use an external monitor

Connecting an external monitor

1. Click Start, Shut Down, Shut down.

2. Connect the monitor cable from the monitor to the VGA port on the rear of the computer.

3. Connect the monitor to a power source and turn it on.

4. Press the blue sleep button to turn on the computer.

Switching the display to the external monitor

- Press Fn+F5 (or CTRL+ALT+F5 on an external keyboard) to cycle through the display options: notebook display, external monitor, both.

- If you need to use both displays at once, press Fn+F5 repeatedly until the image shows on both displays. However, by default, the image is limited by the internal display to 1024×768 pixels, so at a higher resolution you will 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 make the internal or external display a "secondary" display—you make this setting on the Display tab (in Windows 98 or 2000, click Advanced on the Settings tab first).

Adjusting monitor resolution and other settings

1. Click Start, Settings, Control Panel, then double-click Display.

2. On the Settings tab, adjust the Screen area. Other settings are also available.

The internal display supports settings of up to 1024×768 resolution with 16M colors (24-or 32-bit).

For a high-resolution external monitor, the computer supports 1280×1024 resolution with 16M colors (24-bit for Celeron models, 32-bit for Pentium models) at 85 Hz max. refresh rate. It supports 1600×1200 resolution with 64K colors for Celeron models and 16M colors (24-bit) for Pentium models at 60 Hz max. refresh rate.

Using dual display mode (Windows 98 and 2000)

You can extend your desktop by connecting an external monitor to your computer.

1. Click Start, Settings, Control Panel.

2. Double-click Display and click the Settings tab.

3. **Windows 98**: Right-click display 2, and select Enabled.

   Windows 2000: Click display 2, then select the Extend checkbox.

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.

Changing display actions

You can use the BIOS Setup utility to change certain display behaviors, such as stretching the image to fill the screen at lower resolutions. See "To run the BIOS Setup utility" on page 80.

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 BIOS Setup.

To connect a printer or other parallel device

The computer's parallel port uses a standard 25-pin connector, most commonly used for connecting dot-matrix, ink-jet, and laser printers. You can also use it to connect a parallel Zip drive.

- Connect the cable from the parallel printer or other parallel device to the computer's parallel port.

To connect an external keyboard or PS/2 mouse

Your computer's 6-pin PS/2 port allows you to attach an external keyboard or a PS/2–compatible mouse to the computer. The pointing stick and touch pad are normally disabled while an external PS/2 mouse is connected.

- Plug the mouse or keyboard PS/2 cable into the computer's PS/2 port.

- To connect a mouse and keyboard at the same time, use the HP F1469A Y adapter.

- To connect a device that has a PC-type jack, connect its cable to an adapter cable that has a PS/2 jack.

Note   To use hot keys from an external keyboard, substitute left CTRL+left ALT for the computer Fn key. For example, to access Fn+F12, press left CTRL+left ALT+F12. Only Fn+F5, Fn+F7, and Fn+F12 are supported on an external keyboard.

To connect a USB device

Your computer's universal serial bus (USB) provides a bi-directional serial interface for adding peripheral devices such as game controllers, serial and parallel ports, and scanners on a single bus.

- Attach the device's USB cable to the computer's USB port. Windows automatically recognizes the USB device. Some USB devices can be connected to the computer in series—this is called a daisy-chain connection.

Note   If you have problems making this connection, contact the device manufacturer and the HP Customer Care Web site (www.hp.com/go/support) for the latest version of the driver for the device.

To connect a serial device

The computer includes a standard 9-pin serial port that you can use to connect devices such as external modems and fax modems. If needed, you can set the serial port's address in the BIOS Setup utility.

- Connect the device's serial cable to the computer's serial port.

To connect an audio device

Your computer includes a built-in microphone (just in front of the blue sleep button) that you can use to record voice, sound, and music. You can also plug in a stereo input source (such as a CD player), an external microphone, 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 on the computer.
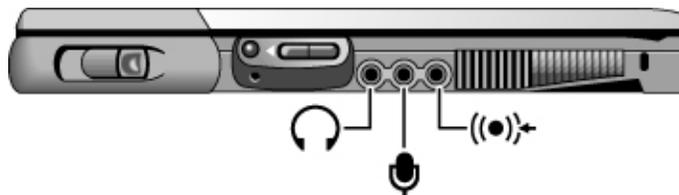
Note

When you plug a device into the external microphone port, the built-in microphone automatically turns off. When you plug a device into the audio out port, the built-in speakers automatically turn off.

To make an infrared connection

Your computer includes an infrared port—located below the volume control on the right side of the computer—which provides wireless, serial communication between the computer and other infrared devices such as printers or other computers.

By default, the infrared port is not enabled, so you must enable it before you can use it.

- **Windows 95**: Enable the infrared port in the BIOS Setup utility, then install the infrared driver. For more information, see the Readme file located in C:\hp\Drivers.

- **Windows 98 and Windows 2000**: Enable the infrared port in the BIOS Setup utility (the computer reboots automatically when you save and exit). The infrared drivers then install automatically on Windows 98 and 2000 during reboot. For more information, see the Readme file located in C:\hp\Drivers.

Using the infrared port

- Make sure the infrared ports of your computer and the other device lie 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, click Start, Settings, Control Panel, then double-click Infrared (Windows 95 and 98) or Wireless Link (Windows 2000).

- Disable infrared communication when you aren't using it, and especially before suspending or docking:

  1. Close any applications that are using infrared, and any folders on an infrared link.

  2. Click Start, Settings, Control Panel.

  3. **Windows 95 or 98**: Double-click Infrared and disable communications.

     Windows 2000: Double-click Wireless Link and disable the hardware.

Printing to an infrared printer

- Install your printer and assign it to the computer's infrared port. You can then print from your applications as you would to any other printer.

Transferring files through an infrared connection

You can use your computer's infrared port to transfer files. In Windows 2000, you can use Wireless Link. In Windows 95 or Windows 98, you can using the built-in Direct

Cable Connection software. For Windows 98, you will first need to install the software as follows:

1. Click Start, Settings, Control Panel, then double-click Add/Remove Programs.

2. Click Windows Setup, double-click Communications, and select the Direct Cable Connection checkbox.

See the Windows online help for instructions on using Direct Cable Connection or Wireless Link.

To connect to a docking product

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

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

Installing a docking tray

Your dock requires a tray that accommodates your specific computer model. Install this tray prior to connecting the computer to the dock. If you don't have a tray labeled for the OmniBook 6000, you'll need to purchase HP accessory F2012A.

1. Slide the rear of the tray into the dock as shown on the dock label.

2. Push down firmly on both sides of the tray until it snaps into place.
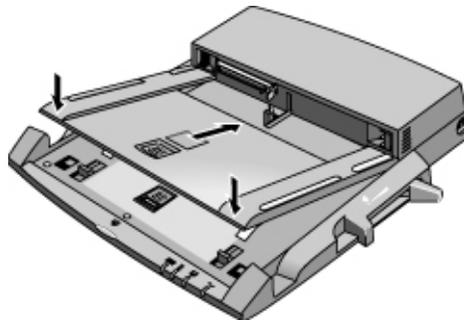
To remove a tray from the dock, pull the latch (at the center front of the dock) towards you until the tray pops free.

Docking the computer

The computer can be on, suspended, or off when docking.

1. Connect power to the dock—the type of connection depends on the dock. See the manual that came with the dock.

2. Place the computer on the dock platform, with the rear of the computer facing the dock's docking connector. *Make sure the computer's PC Card eject buttons are in*.
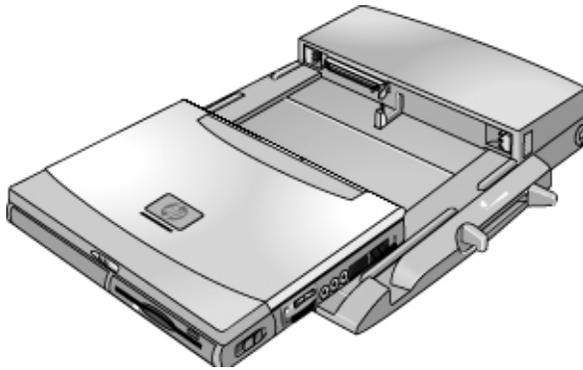
3. Position your fingers on the platform grips as shown below. Use your thumbs to push the computer into the dock until the computer slides into place.
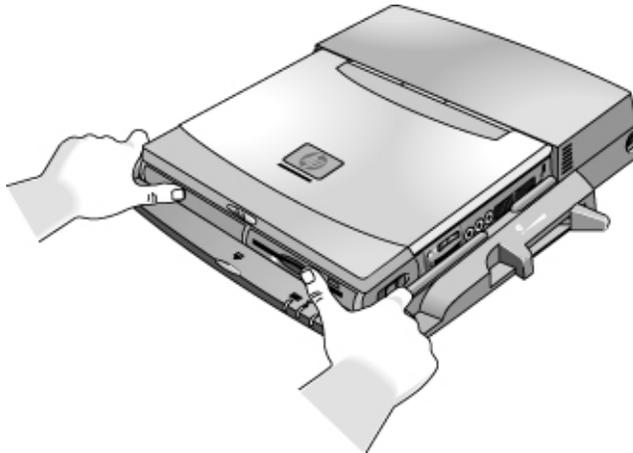
Undocking the computer

1. 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.
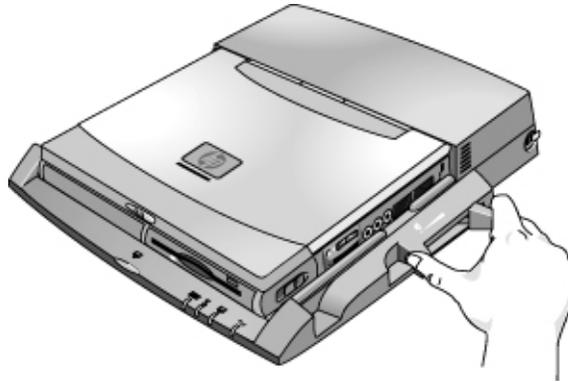
2. Remove the computer from the dock.

Configuring and Expanding Your Computer

Using 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.

To run the BIOS Setup utility

1. Click Start, Shut Down, 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.

The following tables describe BIOS settings for BIOS version 1.00. If your BIOS is a different version, some settings may differ from those shown.

Main Menu

Setting	Description	Default
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 uses 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. When disabled, the video image is centered in the display.	Disabled
Primary Video Adapter	Sets whether the computer automatically switches to an external video adapter connected to the docking system, if one is detected.	Auto
System Memory	Shows the system memory size.	640 KB
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

System Devices Menu

Setting	Description	Default
PS/2 Pointing Devices	Disables the internal pointing devices when an external PS/2 mouse is connected.	Auto
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 (module bay device) controllers.	Both
FDD Controller	Enables the floppy drive.	Enabled
Serial port	Sets whether the serial port is active, and whether it is configured automatically or by the user.	Enabled
Base I/O address	Sets the I/O address and interrupt.	3F8h, IRQ4
IrDA port	Sets whether the infrared port is active, and whether it is configured automatically or by the user.	Disabled
Mode	Sets the hardware to support FIR (Fast IR) or SIR (Standard IR) infrared communications. (Driver installation required for Windows 95.)	FIR
Base I/O address	Sets the I/O address and interrupt.	2F8h, IRQ3
DMA channel	Sets the DMA channel for Fast IR (FIR) mode.	DMA0
Parallel Port	Sets whether the parallel port is configured by the user or the BIOS or OS (automatically), or not at all.	Enabled
Mode	Sets the port to output only, bi-directional, EPP, or ECP.	ECP
Base I/O address	Sets the I/O address.	378h
Interrupt	Sets the interrupt.	IRQ7
DMA channel	Sets the DMA channel for ECP mode.	DMA3

Security Menu

Setting	Description	Default
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 the user password. The password can have no more than 8 characters (0–9, A–Z), and cannot include special or accented characters.	Enter
Set Administrator Password	Press ENTER to set, change, or clear the administrator password, which protects BIOS Setup settings. The password can have no more than 8 characters (0–9, A–Z), and cannot include special or accented characters.	Enter
Boot	Sets whether a user password is required when the computer boots. Requires the administrator password for changes.	Enabled
Resume*	Sets whether a user password is required when resuming from Standby or Hibernate mode. Requires the administrator password for changes. (Windows 95 and 98 only.)	Enabled
Undock*	Sets whether a user password is required when undocking the computer. Requires the administrator password for changes. (Windows 95 and 98 only.)	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 computer will attempt to boot from a floppy drive or other removable device.	Enabled
* Resume, Undock, and Internal hard disk drive lock options are available only if the Boot option is enabled.		

Power Menu

Windows 2000 uses only the settings marked with *. Windows 98 uses only the settings marked with * or **. All other settings in the Power menu are ignored.

Setting	Description	Default
Intel SpeedStep Mode*	Sets the speed used by a dual-speed processor at boot, depending on the available power source. A separate Control Panel power setting controls speed changes after boot.	Automatic
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.	On
Display-off Time-out	Sets the period of inactivity after which the computer enters Display-off power mode.	2 minutes
Suspend Time-out	Sets the period of inactivity after which the computer goes from Display-off to Standby power mode. (Skips Display-off mode if that time-out is disabled.)	4 minutes
Hibernate Time-out**	Sets whether the computer goes from Standby to Hibernate power mode after the indicated period of inactivity. (Skips Standby mode if the suspend time-out is disabled.)	4 hours
Hard Disk Time-out	Sets the period of hard disk inactivity after which the internal hard disk (and any hard disk drive in the plug-in module bay) stops spinning.	2 minutes
Time-out on AC	Sets whether power management time-outs occur while the ac adapter is connected.	Disabled
Lid Switch Mode	Sets the action that occurs if the computer's lid is closed.	Turn off LCD
Resume On Serial Ring	Sets whether the system resumes if it received a ring signal.	Enabled
Resume On Time of Day	Sets whether the system resumes at a defined time of day.	Disabled
Resume Time	Sets the 24-hour time when the system resumes from if Resume On Time of Day is enabled.	
Auto Suspend on Undock*	Sets whether the computer suspends to Standby power mode after undocking.	When Lid Closed
Auto Turn-On on Dock*	Sets whether the computer turns on after docking.	Enabled
* Windows 98 and 2000 use these settings. ** Windows 98 uses this additional setting.		

Boot Menu

Setting	Description	Default
+Removable Device +Hard Disk CD-ROM/DVD Drive MBA UNDI	Shows the order of boot devices, with "+" indicating a device category. Move the entries to change the order. If the computer has more than one device in a category, you can select the one scanned. MBA UNDI (Managed Boot Agent) appears in the list only if a built-in LAN is present—it provides diskless boot from a network server.	1. Removable Device 2. Hard Disk 3. CD-ROM/DVD drive 4. MBA UNDI

Exit Menu

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

Using TopTools

HP TopTools is for network managers and administrators who are responsible for managing computer systems. It offers configuration and security options that allow you to check which hardware and software components are installed on your computer and how well they are working.

To set up TopTools

The TopTools package is included with your computer, but you'll need to install it before you can use it.

Windows 2000

If TopTools is not already on your computer, download it from the HP Customer Care Web site (www.hp.com/go/support).

1. Click Start, Programs, HP TopTools for Notebooks, Setup.

2. Follow the instructions that appear on the screen.

TopTools can be run locally on an individual computer, or remotely by a network administrator.

- To run TopTools locally, click Start, Programs, HP TopTools for Notebooks, HP TopTools.

For information on manageable HP computers, HP TopTools, and how they lower PC operating costs, see the HP Web site at www.hp.com/toptools.

Installing a RAM Expansion Module

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

To install a RAM expansion module

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

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.

2. **Important**: Unplug the ac adapter, if present, and remove the battery. Remove the secondary battery if one is installed.

3. Turn the unit bottom-side up, remove the screw holding 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.
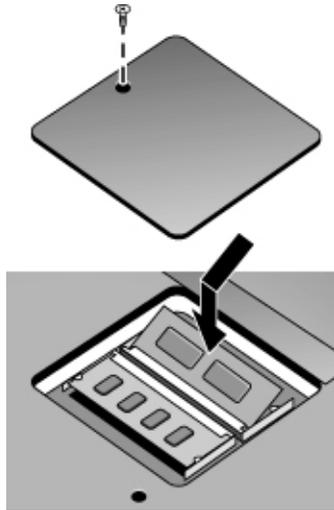
5. Replace the cover.

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 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.

2. **Important**: Unplug the ac adapter, if present, and remove the battery. Remove the secondary battery if one is installed.

3. Turn the unit bottom-side up, remove the screw holding the RAM cover, and remove the cover.

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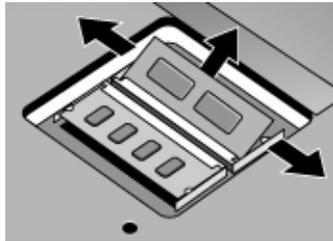
5. Pull the board out of the connector.

6. Replace the cover.

7. Insert the battery.

Replacing a 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 you're using one, and remove the battery.

2. Turn the unit bottom side up and remove both hard drive screws.

3. Raise the cover on the end of the drive so that its retainer tab is free of the computer casing, then gently pull the hard drive out of the computer.
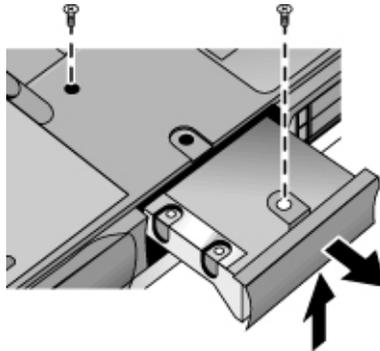
4. Gently slide the new drive into the hard drive compartment. Press firmly to make sure the connector seats properly.

5. Slide the cover down into place (so the retainer tab engages the casing), and reinstall both hard drive screws.

Important

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 your hard disk" on page 171.

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 all six screws from the holder and drive case, then lift the drive out of the holder.

2. Notice that the hard drive has a pin connector attachment at one end. Carefully remove this connector from the end of the drive. Work alternately at each end so that the connector slides off evenly without bending the connector pins.
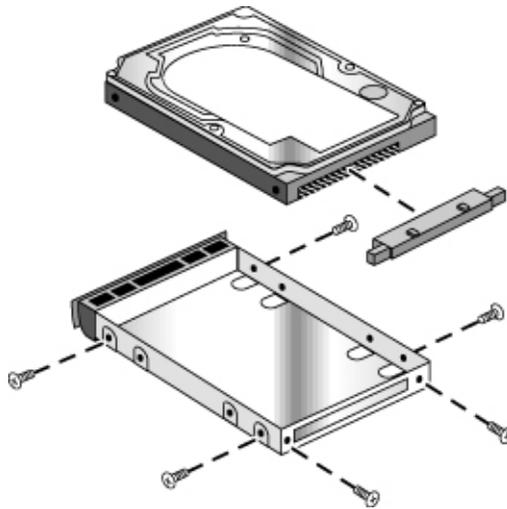
3. Carefully put the pin connector attachment back onto the pins on the end of the new hard drive. Work alternately at each end so that the connector slides on evenly without bending the connector pins.

4. Insert the connector through the end of the holder, and lower the drive into the holder.

5. Reinstall all six screws into the holder and drive case. The thinner screws go nearest the connector.

To prepare a new hard disk drive

When you install a new hard disk drive, you also need to prepare it to be able to work with your computer.

- If you want to restore the Windows software and operating system that were originally installed on your computer, you can do so using the *Recovery CD* that also came with your computer. See "To recover the factory installation of your hard disk" on page 171.

- If you want to use the hard disk with other than the original software and operating system, prepare the hard disk as described in the *Corporate Evaluator's Guide*, available at the HP Customer Care Web site (www.hp.com/go/support).

Using Windows 2000

Installing Windows 2000

Windows 2000 comes factory installed on your HP Notebook. The following procedure installs a retail version of Windows 2000 and configures the appropriate device drivers.

This section describes how to:

- Prepare for software installation.

- Install retail Windows 2000.

- Install video support.

- Install audio support.

- Install pointing device support.

- Install the Hewlett-Packard Configuration Interface (HPCI).

- Install Intel® SpeedStep technology applet.

- Configure power management.

To prepare for software installation

To install Windows 2000, you must have the following:

- HP Notebook with floppy drive and cable, and internal CD-ROM/DVD drive.

- Windows 2000 CD.

- Blank, formatted floppy disk.

- HP Notebook drivers for Windows 2000.

    Location: On the Product Recovery CD in \HP\DRIVERS\W2K, or they can be downloaded from www.hp.com/go/support.

It is recommended you repartition your hard disk before installing Windows 2000. Follow the instructions below to repartition your hard disk.

Note   Windows 2000 natively supports Hibernation. The HP Hibernation partition that is created using the Windows 2000 Recovery CD is only 8MB and contains the HP DiagTools 2.3. This software allows you to run diagnostics by simply pressing F10 during the boot process. This partition is not necessary for Windows 2000.

1. Connect the ac adapter to the Notebook.

2. Insert the CD-ROM/DVD Drive in the Notebook.

3. Insert the bootable Recovery CD into the CD-ROM/DVD drive.

4. Reboot, press ESC twice when you see the HP Notebook logo.

5. Select the "CD-ROM/DVD Drive" as the boot device.

6. Click 2 Continue.

7. Click 2 Advanced.

8. Select your desired Hibernate Partition Size.

9. Check "Do not load operating system".

10. Select "Hibernate partition only".

11. Click 1 Continue.

12. Click Ok.

To install Windows 2000

1. Insert the HP Notebook CD-ROM drive in the HP Notebook or external module bay.

2. Insert the Windows 2000 CD in the CD-ROM drive.

3. Reboot, press ESC twice when you see the HP Notebook logo.

4. Select the CD-ROM/DVD as the boot device.

5. When prompted, press any key to boot from the CD.

6. Press enter to continue.

7. At the Welcome Screen, press Enter to begin.

8. Read the Windows 2000 Licensing Agreement. Press Page Down until you reach the end of the document. Press F8 to agree.

9. Configure your hard drive partitions.

10. Select the C: drive and press Enter to install Windows 2000.

11. Select the type of file system to install, then press Enter.

12. Press Enter to accept the default Windows directory or type in another directory.

13. Click Next at the Welcome screen.

14. Click Next to accept the Regional settings or click Customize.

15. Enter your name and organization, then click Next.

16. Enter a computer name, and an Administration password twice, then click Next. This
    password is used to administer User IDs and Windows security. Click Next. This
    name is used by other computers on the network to access your computer.

17. Enter the correct Time Zone and Date and Time, then click Next.

18. Click Finish.

To install video support

If you have installed retail Windows you need to install the video driver. The video driver
is contained in the \HP\DRIVERS\W2K\VIDEO subdirectory.

1. Run SETUP.EXE from the \HP\DRIVERS\W2K\VIDEO directory. You will see the
    Digital Signature not found message. Click Yes.

2. Follow the instructions on the screen to install the video driver.

The driver will be installed after the system reboots.

Upon successful installation, an ATI icon appears on the bottom right corner of the
taskbar.

To install audio support

If you have installed retail Windows you need to install the audio drivers. The audio
drivers are contained in the \HP\DRIVERS\W2K\AUDIO subdirectory.

1. Run SETUP.EXE from the \HP\DRIVERS\W2K\AUDIO directory.

Note   If your Notebook came with an ESS soft modem, SETUP.EXE will also install modem
              drivers.

2. Follow the instructions on the screen to install the drivers.

Note   If you are installing the driver on a notebook which does not contain an ESS soft
              modem, you may see the message "Modem Install False." If you see the message, press
              the OK button and the installation will continue without error.

The drivers will be installed after the system reboots.

To install pointing device support

If you've installed a retail version of Windows 2000, you can install pointing device support.

The integrated pointing device(s) is fully supported by the Synaptics Touchpad driver. With the standard PS/2 mouse driver the integrated pointing device(s) will function, but will be without most special features.

The touchpad files are located on the Recovery CD under \HP\DRIVERS\W2K\Touchpad.

1. Double-click SETUP.EXE in the Touchpad directory.

2. Follow the instructions on the screen.

For more detailed information about the touchpad drivers, see the readme.txt file in the touchpad directory.

To install the Hewlett-Packard Configuration Interface (HPCI)

If you've installed a retail version of Windows 2000, you'll need to install the Hewlett-Packard Configuration Interface (HPCI) driver. This driver is located on the Recovery CD in \HP\DRIVERS\W2K\HPCI.

The HP Configuration Interface device implements the following features:

*   Undock security using the physical undock button located on the front of the docking station.

*   Auto standby on undock based on the bios settings.

*   Fn+F12 hibernate hot key.

*   Volume implemented through the operating system which will actively be reflected in the user interface.

1. Run SETUP.EXE in the HPCI directory on the Recovery CD.

2. Choose Install the HP Configuration Interface Software and click OK.

3. Click OK to confirm the software has been successfully installed.

4. Restart the computer.

Note

Reset your video settings to 1024 x 768 if needed.

To install the Intel® SpeedStep™ Technology applet

If you've installed a retail version of Windows, you'll need to install the Intel® SpeedStep™ technology Applet if you have a dual-speed Pentium III processor.

The Intel SpeedStep files are located on the Recovery CD under \HP\DRIVERS\W2K\SPEEDSTP.

1. Double-click SETUP.EXE in the SpeedStep directory.

2. When prompted, click NEXT.

3. Click FINISH to reboot your computer.

To configure power management

You may want to change the default power management settings in Windows 2000. The BIOS Power Management settings are ignored if ACPI is activated.

1. From Control Panel, double-click Power Options.

2. Click the Hibernate tab.

3. Check Enable hibernate support.

4. Click Apply.

5. Click the Power Schemes tab.

6. Change the Plugged in options for Standby and Hibernate to never.

7. Click the Advanced tab.

8. Check Always show icon on the taskbar.

9. Click Apply.

10. Change the Power buttons options to your desired settings.

11. Click the Alarms tab.

12. Set the Low battery alarm action by clicking the Alarm Action button.

13. Check "When the alarm goes off, the computer will:"

14. Select "Hibernate" in the drop-down list.

15. Click OK and close the Power Control panel.

Using the Docking Solutions

Windows 2000 is designed to support notebook docks. You can dock or undock the OmniBook when it is on, off, or in suspend mode in Windows 2000. The first time you dock the OmniBook into a dock it will create a Windows 2000 hardware profile. This allows you to access different hardware while in the dock without rebooting. You can also set different configuration information for each profile (such as the video resolution). Each time you dock or undock, the OmniBook will automatically switch between the docked and undocked hardware profile.

It is possible to have multiple dock hardware profiles. If you dock your OmniBook into the Port Replicator or Mini Dock it will create one profile for all Docking Solutions of the same type. The Docking System will create a separate profile each time you insert your OmniBook into a new Docking system for the first time. Each Docking System requires a separate docking profile since each Docking System may contain different PCI Cards and/or SCSI/IDE devices.

The following table describes the possible docking hardware profiles with OmniBook Docking Solutions.

Docking Solution	Docking hardware profile
Port Replicator	One profile for every Port Replicator
Mini Dock	One profile for every Mini Dock
Docking System	One profile for EACH Docking System

Note

Hot Swap is not supported in the Docking System module bay. You must restart the OmniBook when changing modules in the Docking System module bay.

Hot Docking is not supported with an external video adapter is installed in the Docking System. Always shutdown and turn off the OmniBook before docking or undocking the OmniBook if you are using an external video adapter. Also do not suspend the OmniBook while using an external video adapter. Power Management is not supported with an external video adapter.

Installing HP/3Com 10/100 Ethernet+ 56K Global Modem Mini-PCI Card Support

This section describes how to:

- Install Ethernet support.

- Install modem support.

To install Ethernet support

If you have installed retail Windows and your HP Notebook contains a 3Com 10/100 Mini PCI Ethernet Adapter, you need to install the LAN drivers. The LAN drivers are contained in the \HP\DRIVERS\W2K\LAN subdirectory.

1. Make sure that the 3Com network adapter is connected to the network.

2. Open the Device Manager: Right-click on My Computer and select Properties, click the Hardware tab, and then click the Device Manager button.

3. Double-click "Ethernet Controller."

4. Click Reinstall Driver on the General tab.

5. Click Next.

6. Select "Display a list of the known drivers for this device so that I can choose a specific driver" and click Next.

7. Double-click "Network Adapters."

8. Click Have Disk and browse to \HP\Drivers\W2K\LAN

9. Click OK.

10. Select 3COM 10\100 Mini PCI Ethernet Adapter and click Next.

11. Click Yes.

12. Click Next.

13. Click Yes.

14. Click Finish.

15. Close the Device Properties and the Device Manager.

To install modem support

If you have installed retail Windows and your HP Notebook contains a built-in 3Com 56K V.90 Mini PCI Modem, you need to install the modem drivers. The modem drivers are contained in the \HP\DRIVERS\W2K\MODEM\3COM subdirectory

1. Open the Device Manager: Right-click on My Computer and select Properties, click the Hardware tab, and then click the Device Manager button.

2. Double-click PCI Simple Communications Controller.

3. Click Reinstall Driver on the General tab.

4. Click Next.

5. Click "Display a list of the known drivers for this device So that I can choose a specific driver," and click Next.

6. Double-click Modems.

7. Click "Have Disk." Browse to the HP\Drivers\Modems\3COM and double-click WDHABBE.INF.

8. Click OK.

9. Select 3COM 56K V.90 Mini PCI Modem.

10. Click Next.

11. Click Next.

12. Click Yes.

13. Click Finish and close the Device Manager.

Using Windows 98

Installing Windows 98

Windows 98 Second Edition comes factory-installed on your HP Notebook. The following procedure installs a retail version of Windows 98. If you install a retail version of Windows 98, you'll also need to manually install drivers that support the HP Notebook.

This section describes how to:

- Prepare for software installation.

- Install Windows 98.

- Install video support.

- Install audio support.

- Install pointing device support.

- Install infrared support.

To prepare for software installation

To install Windows 98, you must have the following:

- HP Notebook with floppy drive and cable, and internal CD-ROM/DVD drive.

- Windows 98 CD-ROM.

- Blank, formatted floppy disk.

- HP Notebook drivers for Windows 98

  Location: On the Product Recovery CD in \HP\DRIVERS\W98, or they can be downloaded from www.hp.com/go/support.

HP recommends that you repartition and format your hard disk before installing retail Windows 98. Follow the instructions below to repartition your hard disk.

You will need a computer with a working Windows operating system to make a support utility disk.

1. Insert the Recovery CD in the CD-ROM drive.

2. Insert a blank floppy disk in the A: drive.

3. Open the MS-DOS Prompt.

4. Go to the \HP\BOOTDISK directory on the Recovery CD. If D: is the drive letter of your CD-ROM drive, type:

   D:

   CD \HP\BOOTDISK

5. Type MAKESUPP.

6. Enter A as the Floppy drive.

7. Enter Y to continue.

8. Press any key to continue.

9. Enter N when complete.

10. Close the MS-DOS Prompt.

11. Remove the Recovery CD from the CD-ROM drive.

12. Shutdown, and restart booting from the floppy disk.

13. Type FORMAT C: /Q /U.

14. Enter Y to format the C: drive.

15. Enter your desired Volume Label and press enter.

16. Insert the Recovery CD into the CD-ROM drive.

17. Type SYS C:.

18. Insert the Windows 98 Installation CD-ROM.

19. Type the following commands to copy the Windows 98 files to the C: drive.

   C:

   MD \WINDOWS

   MD \WINDOWS\OPTIONS

   MD \WINDOWS\OPTIONS\CABS

   COPY A:\DOS\HIMEM.SYS C:\

   COPY D:\WIN98*.* C:\WINDOWS\OPTIONS\CABS

   COPY CON C:\CONFIG.SYS

   DEVICE=C:\HIMEM.SYS /MACHINE:2

Press F6 then Enter.

20. Remove the Windows 98 CD and the floppy disk.

To install Windows 98

1. Restart the HP Notebook and Enter: C:\WINDOWS\OPTIONS\CABS\SETUP /IS

2. Select "I accept the Agreement" and click Next.

3. Enter the Product Key, then click Next. The Product Key is located on the Certificate of Authenticity that you received with your retail version of Windows 98.

4. When prompted, select "Other Directory" and click Next.

5. Enter C:\WINDOWS for the path, click Next.

6. Click Yes to continue with the specified directory.

7. Choose "Portable" on the Setup Options screen, then click Next.

8. Enter the appropriate User Information, then click Next.

9. Select "Install The Most Common Components (recommended)", then click Next.

10. Select your country or region and click Next.

11. Click Next to create a Windows 98 Startup Disk.

12. Click Cancel to skip creating the startup disk.

13. Click Next to start Copying Windows 98 Files to Your Computer.

14. When prompted with the PC Card Wizard click Next, Next, then Finish.

15. When prompted, enter your computer and workgroup names and click Close.

16. Enter any changes when the system displays the Time Zone screen. The Windows 98 Setup Wizard will now configure the Control Panel, programs on the start Menu, Windows help, and MS-DOS program settings. Afterwards, Windows will automatically reboot.

17. Windows 98 will automatically reboot. Enter a Windows Password and confirm.

To install video support

If you have installed retail Windows you need to install the video driver. The video driver is contained in the \HP\DRIVERS\W98\VIDEO subdirectory.

1. Run SETUP.EXE from the \HP\DRIVERS\W98\VIDEO directory.

2. Follow the instructions on the screen to install the video driver.

The driver will be installed after the system reboots.

Upon successful installation, an ATI icon appears on the bottom right corner of the taskbar.

To install audio support

If you have installed retail Windows you need to install the Audio drivers. The Audio drivers are contained in the \HP\DRIVERS\W98\AUDIO subdirectory.

1. Run ESSETUP.EXE from the \HP\DRIVERS\W98\AUDIO directory.

Note

If your Notebook came with an ESS soft modem, ESSETUP.EXE will also install modem drivers.

2. Follow the instructions on the screen to install the drivers.

The drivers will be installed after the system reboots.

To install pointing device support

If you've installed a retail version of Windows 98, you can install pointing device support.

The integrated pointing device(s) is fully supported by the Synaptics Touchpad driver. With the standard PS/2 mouse driver the integrated pointing device(s) will function, but will be without most special features.

The touchpad files are located on the Recovery CD under \HP\DRIVERS\W98\Touchpad.

1. Run SETUP.EXE from the \HP\DRIVERS\W98\Touchpad subdirectory.

2. Follow the instructions and restart to complete the installation.

For more detailed information about the touchpad drivers, see the readme.txt file in the touchpad directory.

To install infrared support

Before you use your infrared port to transfer files or to print to an infrared printer, you must enable the infrared port in the BIOS. Follow these steps to use either the standard infrared driver or the enhanced driver.

1. Reboot your computer.

2. Press F2 when you see the HP logo, and are prompted to press F2 to enter Setup.

3. Select System Device.

4. Set IrDA port setting to Enabled.

5. Set Mode to FIR.

6. Press F10 to save the changed values and continue reboot. Windows will detect the IR port and reboot again.

Using the Docking Solutions

This section describes how to:

- Use the docking system.

- Install the HP Notebook docking system support.

To use the docking system

Windows 98 is designed to support notebook docks. You can dock or undock the
OmniBook when it is on, off, or in suspend mode in Windows 98. The first time you
dock the OmniBook into a dock it will create a Windows 98 hardware profile. This
allows you to access different hardware while in the dock without rebooting. You can
also set different configuration information for each profile (such as the video resolution).
Each time you dock or undock, the OmniBook will automatically switch between the
docked and undocked hardware profile.

It is possible to have multiple dock hardware profiles. If you dock your OmniBook into
the Port Replicator or Mini Dock it will create one profile for all Docking Solutions of
the same type. The Docking System will create a separate profile each time you insert
your OmniBook into a new Docking system for the first time. Each Docking System
requires a separate docking profile since each Docking System may contain different PCI
Cards and/or SCSI/IDE devices.

The following table describes the possible docking hardware profiles with OmniBook
Docking Solutions.

Docking Solution	Docking hardware profile
Port Replicator	One profile for every Port Replicator
Mini Dock	One profile for every Mini Dock
Docking System	One profile for EACH Docking System

Note

Hot Swap is not supported in the Docking System module bay. You must restart the OmniBook when changing modules in the Docking System module bay.

Hot Docking is not supported with an external video adapter is installed in the Docking System. Always shutdown and turn off the OmniBook before docking or undocking the OmniBook if you are using an external video adapter. Also do not suspend the OmniBook while using an external video adapter. Power Management is not supported with an external video adapter.

To install the HP Notebook docking system support

If you are going to use the HP Notebook Docking System you must install a new IDE driver in Windows 98. Perform this procedure before inserting the HP Notebook into the dock.

The HP Notebook Docking System IDE driver is located on the Recovery CD at \HP\DRIVERS\W98\DOCKING\IDE and \HP\DRIVERS\W98\DOCKING\SCSI.

1. From the Start menu, click Run, and then enter
   D:\HP\DRIVERS\W98\Docking\IDE\SETUP.EXE and click OK,

2. When prompted to install the CMD Bus Master IDE Driver, click Yes.

3. When prompted to restart, click No.

4. Open a DOS window and type the following:

   D:

   CD \HP\DRIVERS\W98\DOCKING

   COPY HWP2280.INF C:\WINDOWS\INF /Y

   CD SCSI

   COPY SYMC8XX.INF C:\WINDOWS\INF /Y

   COPY SYMC8XX.MPD C:\WINDOWS\SYSTEM\IOSUBSYS /Y

5. Close the DOS window and shut down the HP Notebook.

6. Insert the HP Notebook in the HP Notebook Docking System and power on the HP Notebook.

7. Windows 98 will detect the "PCI standard PCI to PCI bridge". Click Next to continue.

8. Click Next to Search for the best driver for your device.

9. Click Next to search in the default locations.

10. Click Next to install the driver, and then click Finish.

11. Click Next to search for a new driver.

12. Click Next to Search for the best driver for your device.

13. Click Next to search in the default locations.

14. Click Next to search for a new driver.

15. Click Finish and click OK for the new configuration.

16. Click Yes to Restart an OK to reboot.

Installing HP/3Com 10/100 Ethernet+ 56K Global Modem Mini-PCI Card Support

This section describes how to:

- Install Ethernet support.

- Install modem support.

To install Ethernet support

If you have installed retail Windows and your HP Notebook contains a built-in 3Com 10/100 Mini PCI Ethernet Adapter, you need to install the LAN drivers. The LAN drivers are contained in the \HP\DRIVERS\W98\LAN subdirectory.

1. Make sure that the 3Com network adapter is connected to the network.

2. Open the Device Manager: Right-click on My Computer and select Properties, and then click the Device Manager tab.

3. Double-click "Ethernet Controller."

4. Click the Driver tab and click Update Driver.

5. Click Next.

6. Select "Display a list of the known drivers for this device so that I can choose a specific driver" and click Next.

7. Double-click "Network Adapters."

8. Click Have Disk and browse to \HP\Drivers\W98\LAN

9. Click OK.

10. Select 3COM 10\100 Mini PCI Ethernet Adapter and click Next.

11. Click Yes.

12. Click Next.

13. Click Yes.

14. Click Finish.

15. Close the Device Properties and the Device Manager.

To install modem support

If you have installed retail Windows and your HP Notebook contains a built-in 3Com 56K V.90 Mini PCI Modem, you need to install the modem drivers. The modem drivers are contained in the \HP\DRIVERS\W98\MODEM\3COM subdirectory.

1. Open the Device Manager: Right-click on My Computer and select Properties, and then click the Device Manager tab.

2. Double-click PCI Simple Communications Device.

3. Click the Driver tab and click Update Driver.

4. Click Next.

5. Click "Display a list of the known drivers for this device So that I can choose a specific driver," and click Next.

6. Double-click Modems.

7. Click Have Disk and browse to the driver subdirectory on the Product Recovery CD: \HP\DRIVERS\W98\MODEM\3COM and double-click on WMHABBE.INF.

8. Click OK.

9. Select 3COM 56K V.90 Mini PCI Modem.

10. Click Next.

11. Click Next.

12. Click Yes.

13. Click Finish and close the Device Manager.

Using Windows 95

Installing Windows 95

Windows 95 OEM Service Release 2.5 comes factory-installed on the HP Notebook. The following procedure installs Windows 95 OSR2.5 and configures the appropriate device drivers.

This section describes how to:

- Prepare for software installation.
- Install Windows 95 OSR 2.5.
- Install video support.
- Install audio support.
- Install pointing device support.
- Install PC Card support.
- Install Intel SpeedStep support.
- Install infrared support.
- Install USB support.
- Install accessory module hot swap support.
- Install Euro Key currency symbol support.
- Install Windows 95 Y2K update.
- Install the 2nd HDD accessory module support.
- Disable automatic CD-ROM detection.

To prepare for software installation

To install Windows 95, you must have the following:

- HP Notebook with floppy drive and cable, and internal CD-ROM/DVD drive.
- Blank, formatted floppy disk.
- Windows 95 OSR 2.5 CD-ROM.

- HP Notebook drivers for Windows 95

  Location: On the Product Recovery CD in \HP\DRIVERS\W95, or they can be downloaded from www.hp.com/go/support.

It is recommended you repartition your hard disk before installing Windows 95. Follow the instructions below to format your hard disk.

You will need a computer with a working Windows operating system to make a support utility disk.

1. Insert the CD-ROM module into the HP Notebook accessory bay.

2. Use the FDD cable to connect the floppy drive module to the parallel port of the HP Notebook, and then reboot the HP Notebook.

3. Insert the first Recovery CD of the set into the CD-ROM drive.

4. Insert a blank formatted floppy disk into the A: drive.

5. Open an MS-DOS Prompt.

6. Go to the \HP\BOOTDISK directory on the Recovery CD. If D: is the drive letter of your CD-ROM drive, type

   D:

   CD \HP\BOOTDISK

7. Type MAKESUPP.

8. Enter A as the Floppy drive.

9. Enter Y to continue.

10. Press any key to continue.

11. Enter N when complete.

12. Close the MS-DOS Prompt.

    The rest of the procedure must be executed on your target HP Notebook.

13. If you were using the HP Notebook for the previous operations, shutdown your system.

14. Insert the CD-ROM in the module bay and connect the floppy with the floppy cable (F1473A) to the parallel port of the HP Notebook. Restart your system using the floppy disk you just created. Make sure the Recovery CD-ROM is not in the CD-ROM drive at that time.

15. After booting you will get "A:>" DOS prompt.

16. Type Format C: /q /u.

17. Enter Y to format the C: drive.

18. Enter your desired Volume Label and press ENTER.

19. Insert the first Recovery CD of the set, wait for the CD-ROM drive to be ready and type SYS C:.

20. Insert the Windows 95 OSR 2.5 Installation CD-ROM.

21. Type the following commands to copy the Windows 95 files to the C: drive.

    C:

    MD \WINDOWS

    MD \WINDOWS\OPTIONS

    MD \WINDOWS\OPTIONS\CABS

    Copy G:\WIN95*.* C:\WINDOWS\OPTIONS\CABS

22. Remove the Windows 95 CD and the floppy disk, but do not reset or shutdown the computer.

To install Windows 95 OSR 2.5

1. Enter:

   C:\WINDOWS\OPTIONS\CABS\SETUP /IS

2. Click Continue at the Welcome screen.

3. Click Yes to accept the license.

4. Click Next to allow Windows 95 Setup to collect information about your computer.

5. When prompted, select "Other Directory" and click Next.

6. Enter C:\WINDOWS for the path, click Next.

7. Click Yes to continue with the specified directory.

8. Choose Portable on the Setup Options screen, then click Next.

9. Enter the Product Identification Number, then click Next. The Product Identification Number is located on the Certificate of Authenticity that you received with your version of Windows 95.

10. Enter the appropriate User Information, then click Next.

11. Do not detect any CD-ROM drive, Network, Sound, MIDI, or Video Capture Card devices, then click Next.

12. Select "Install The Most Common Components (recommended)", then click Next.

13. Click "No, I do not want a startup disk", then click Next.

14. Click Next to start Copying Windows 95 Files to Your Computer.

15. When prompted, click Finish to restart Windows 95.

16. The Windows 95 Setup Wizard will now configure hardware, Control Panel, programs on the Start menu, Windows help, the MS-DOS program settings, Time Zone, and Microsoft Exchange. Enter any changes when the system displays the Time Zone screen. If you chose Microsoft Exchange during the installation, enter the information or click Cancel to enter it later.

17. When prompted to set up a printer, install your printer or click Cancel.

18. Click OK to restart the HP Notebook. IE 4.0 will be installed after you restart the Notebook

19. Insert the first HP Notebook Recovery CD-ROM of the set.

20. Open Windows Explorer.

21. Click View, then Folder options.

22. Select "Show all files" under View, uncheck "Hide file extensions for known file types", then click OK.

23. Copy (drag and drop) the files from the Recovery CD in \HP\DRIVERS\W95\PIIX4UPD to C:\WINDOWS\INF by highlighting and dragging all files. (If prompted, click Yes to All to replace all files.)

24. From Control Panel, double-click System, then click Device Manager.

25. Remove the "PCI Bridge" devices (not PCI CardBus Bridge devices) from the "Other devices" category. Click OK in the Confirm Device Removal dialog box.

26. There are two items in "Hard disk controllers" category that must be removed in the correct order. Remove the "Standard Dual PCI IDE Controller" from the "Hard disk controllers". Click OK in the Confirm Device Removal dialog box.

27. When prompted to restart Windows 95, click No.

28. Remove the "Standard IDE/ESDI Hard Disk Controller" from the "Hard disk controllers." Click OK in the Confirm Device Removal dialog box.

29. Close the System Properties window.

30. Shut down and restart Windows 95.

31. Click Next in the Update Device Driver Wizard window.

32. Click on Finish.

33. The Primary IDE controller is detected. When prompted to restart Windows 95, click on No.

34. The Secondary IDE controller is detected. When prompted to restart Windows 95, click on Yes.

To install video support

If you have installed retail Windows you need to install the video driver. The video driver is contained in the \HP\DRIVERS\W95\VIDEO subdirectory.

Important   **You must first run SETUP.EXE in the HP\DRIVERS\W95\DirectX directory.**

1. Run SETUP.EXE from the \HP\DRIVERS\W95\VIDEO directory.

2. Follow the instructions on the screen to install the video driver.

The driver will be installed after the system reboots.

If your operating system asks you for settings, set the Resolution to 1024 x 768, and the Color Palette to 65536 colors.

Upon successful installation, an ATI icon appears on the bottom right corner of the taskbar.

To install audio support

If you have installed retail Windows you need to install the audio drivers. The audio drivers are contained in the \HP\DRIVERS\W95\AUDIO subdirectory.

1. Run SETUP.EXE from the \HP\DRIVERS\W95\AUDIO directory.

2. Follow the instructions on the screen to install the audio driver.

The driver will be installed after the system reboots.

Note   If your Notebook came with an ESS soft modem, it will be detected and drivers will be automatically installed.

To install pointing device support

If you've installed a retail version of Windows 95, you can install pointing device support.

The integrated pointing device(s) is fully supported by the Synaptics Touchpad driver. With the standard PS/2 mouse driver the integrated pointing device(s) will function, but will be without most special features.

The touchpad files are located on the Recovery CD under \HP\DRIVERS\W95\Touchpad.

1. Run SETUP.EXE from the \HP\DRIVERS\W95\Touchpad subdirectory.

2. Follow the instructions and restart to complete the installation.

For more detailed information about the touchpad drivers, see the readme.txt file in the touchpad directory.

To install PC Card Support

If you have installed Windows 95, you will need to install PC Card support. This driver is located on the Recovery CD in \HP\DRIVERS\W95\PCCARD.

1. Copy all files from \HP\DRIVERS\W95\PCCARD\950CONLY on the Recovery CD to C:\WINDOWS\OPTIONS\CABS.

2. Copy the PCMCIA.INF file from the \HP\DRIVERS\W95\PCCARD\950CONLY on the Recovery CD to C:\WINDOWS\INF.

3. Click Yes to overwrite any files.

4. From Control Panel, open System, then Device Manager.

5. Remove both "PCI CardBus Bridge" devices under Other Devices. Click OK in the Confirm Device Removal dialog box each time.

6. Click on the Refresh button to redetect the Texas Instruments PCI TI-1420 Cardbus Controller.

7. Close the Device Manager.

8. Click Yes to restart Windows 95.

To install the Intel® SpeedStep™ Technology applet

If you've installed a retail version of Windows, you'll need to install the Intel® SpeedStep™ technology applet if you have a dual-speed Pentium III processor.

The Intel SpeedStep files are located on the Recovery CD under \HP\DRIVERS\W95\SPEEDSTP.

1. Double-click SETUP.EXE in the SpeedStep directory.

2. When prompted, click NEXT.

3. Click FINISH to reboot your computer.

Upon successful installation, a SpeedStep icon appears on the bottom right corner of the taskbar.

To install infrared support

If you've installed Windows 95 and you wish to use infrared, you'll need to install infrared support. These drivers are located on the HP Notebook's hard drive or on the Recovery CD in \HP\DRIVERS\W95\IRDA.

1. Reboot the HP Notebook.

2. When you see the HP logo, press F2 to enter the BIOS Setup utility.

3. Go to the System Devices menu.

4. Set the Infrared Port to Enabled. FIR mode will be selected by default.

5. Save and exit the BIOS Setup utility.

6. When Windows starts, it will detect a new device, use the default answers to any installation questions.

7. From the Start Menu, click Run.

8. Enter D:\HP\DRIVERS\W95\IRDA\SETUP.

9. Click Next.

10. Click Next to accept the default directory.

11. Click Next to accept the default Program Folder.

12. Select the "Generic IR Serial Port" and click Next.

13. Click Finish to reboot.

14. The driver is installed when Windows reboots.

To install USB support

If you have installed Windows 95 OSR 2.x and you wish to use USB, you will need to install USB support. These drivers are located on the Recovery CD in \HP\DRIVERS\W95\USB.

1. Copy the \HP\DRIVERS\W95\USB directory and its contents from the Recovery CD to C:\WINDOWS\TEMP.

2. Open the MS-DOS Prompt.

3. Type: CD \WINDOWS\TEMP\USB and press Enter.

4. Type: ATTRIB -R *.* /S and press Enter.

5. Type: OEMUSB /Q:1 /T:C:\WINDOWS\TEMP\USB\USB1 /N:E and press Enter.

6. Type: USBUPD2 /Q:1 /T:C:\WINDOWS\TEMP\USB\USB2 /N:E and press Enter.

7. From Control Panel, double-click System, then click Device Manager.

8. Remove the "PCI Universal Serial Bus" device under Other Devices. Click OK in the Confirm Device Removal dialog box.

9. Click on Refresh to redetect the USB Controller.

10. Click Next to search for the driver.

11. Click Other locations to search for the driver.

12. Browse to C:\WINDOWS\TEMP\USB\USB1 and click OK.

13. Click OK.

14. Click Finish to restart the HP Notebook. The driver loads when Windows reboots.

To install accessory module hot swap support (Agate Tioman)

If you've installed a retail version of Windows, you can install software that will allow accessory modules to be changed in the unit without rebooting. This software must be installed manually.

The Hot Swap files are located on the Recovery CD under
\HP\DRIVERS\W95\HOTSWAP.

1. From the Recovery CD, run \HP\DRIVERS\W95\HOTSWAP\SETUP.

2. Click Next.

3. Click Next to accept the default directory.

4. Click Finish to restart the computer.

To install Euro Key currency symbol support

Microsoft has created a software patch that allows you to type the new euro currency
symbol. If you select a different keyboard layout in the Control Panel, you must reinstall
the patch again. The Euro Key Patch is located on the Recovery CD in
\HP\DRIVERS\W95\EURO.

1. From Start Menu, click Run.

2. Click the Browse button.

3. Browse the directory of the Euro Key Patch.

4. Double-click on the W95euro.exe and click OK. Click yes again when you see the
   message.

5. Click Yes to confirm the installation of the Windows 95 Euro Update.

6. Click Yes to accept the license agreement.

7. When the installation is finished, click OK.

8. When prompted, click Yes to restart the computer.

To install the Windows 95 Y2K update

Microsoft has created a software patch that makes Windows 95 Year 2000 compliant.
You must have installed Internet Explorer 4.01 SP2 before installing the Y2K Update.
The Y2K Patch is located on the Recovery CD in \HP\DRIVERS\W95\Y2K.

1. From Start Menu, click Run.

2. Click the Browse button.

3. Browse the directory of the Euro Key Patch.

4. Double-click on the W95y2k.exe

5. Click Yes to accept the license agreement.

6. When the installation is finished, click OK to restart the computer.

7. The installation of Internet Explorer will start when the Notebook restarts.

To install the 2nd HDD accessory module support

If you intend to use a 2nd HDD in the Module Bay, you will have to update the Windows 95 hard-disk driver. That update is located on the Recovery CD-ROM in the \HP\DRIVERS\W95\PATCHES\ESDI_506.

1. Open a MS-DOS Prompt.

2. Copy the update from the Recovery CD to C:\WINDOWS\SYSTEM\IOSUBSYS:

   COPY D:\HP\DRIVERS\W95\PATCHES\ESDI_506
   C:\WINDOWS\SYSTEM\IOSUBSYS

   Confirm with Y when you are prompted to overwrite the ESDI_506.PDR file.

3. Restart the computer.

To disable automatic CD-ROM detection

Windows 95 will automatically detect and respond when you insert a CD. However, this prevents the HP Notebook from automatically turning off after a period of inactivity if the CD-ROM drive is present. To disable this feature:

1. From Control Panel, double-click System, then click Device Manager.

2. Double-click CD-ROM drive.

3. Select the CD-ROM driver displayed, then click Properties.

4. Click Settings, then uncheck "Auto Insert Notification".

5. Click OK to close the CD-ROM Properties window.

6. Click OK to close the System Properties window.

7. Click Yes to restart Windows 95.

Using the Docking Solutions

This section describes how to:

- Use the docking system.

- Install the HP Notebook docking system support.

- Configure a docked hardware profile.

To use the docking system

Windows 95 is designed to support notebook docks. You can dock or undock the OmniBook when it is on, off, or in suspend mode in Windows 95. The first time you dock the OmniBook into a dock it will create a Windows 95 hardware profile. This allows you to access different hardware while in the dock without rebooting. You can also set different configuration information for each profile (such as the video resolution). Each time you dock or undock, the OmniBook will automatically switch between the docked and undocked hardware profile.

It is possible to have multiple dock hardware profiles. If you dock your OmniBook into the Port Replicator or Mini Dock it will create one profile for all Docking Solutions of the same type. The Docking System will create a separate profile each time you insert your OmniBook into a new Docking system for the first time. Each Docking System requires a separate docking profile since each Docking System may contain different PCI Cards and/or SCSI/IDE devices.

The following table describes the possible docking hardware profiles with OmniBook Docking Solutions.

Docking Solution	Docking hardware profile
Port Replicator	One profile for every Port Replicator
Mini Dock	One profile for every Mini Dock
Docking System	One profile for EACH Docking System

Note

Hot Swap is not supported in the Docking System module bay. You must restart the OmniBook when changing modules in the Docking System module bay.

Hot Docking is not supported with an external video adapter is installed in the Docking System. Always shutdown and turn off the OmniBook before docking or undocking the OmniBook if you are using an external video adapter. Also do not suspend the OmniBook while using an external video adapter. Power Management is not supported with an external video adapter.

To install the HP Notebook docking system support

If you are going to use the HP Notebook Docking System you must install a new IDE driver in Windows 95. Perform this procedure before inserting the HP Notebook into the dock.

The HP Notebook Docking System IDE driver is located on the Recovery CD at \HP\DRIVERS\W95\DOCKING\IDE and \HP\DRIVERS\W95\DOCKING\SCSI.

1. Copy the CMDDMA.INF file from \HP\DRIVERS\W95\DOCKING\IDE to C:\WINDOWS\INF.

2. Insert the HP Notebook in the HP Notebook Docking System.

3. Windows 95 will build a Docking Hardware profile.

4. Click OK in the Configuration Setup Window.

5. When prompted for the IDE drivers, enter \HP\DRIVERS\W95\DOCKING\IDE on the Recovery CD and click OK.

6. From Control Panel, double-click Display, then click Settings.

7. Change the Display Resolution to the appropriate setting and click OK.

8. Click Yes to save your change.

9. From Control Panel, double-click System, then click Device Manager.

10. Open "PCI NCR C810 SCSI Host Adapter" under SCSI Controllers.

11. Click Driver then Update Driver.

12. Click Select from a list and double-click PCI NCR C810 SCSI Host Adapter.

13. Click Other Locations.

14. Enter the \HP\DRIVERS\W95\DOCKING\SCSI directory on the Recovery CD and click OK.

15. Click Finish.

16. Enter the \HP\DRIVERS\W95\DOCKING\SCSI directory on the Recovery CD and click OK.

17. Click Yes to Restart.

To configure a docked hardware profile

When Windows 95 installs a new Dock device (such as a network card), it may include the device in both the docked and undocked configurations. To prevent problems when undocking, remove the device from the undocked configuration. You will also need to remove the SCSI controller from the undocked configuration. This problem has been improved in Windows 95B OEM Service Release 2.5, but may still occur.

1. Double-click My Computer, Control Panel, System.

2. Click the Device Manager tab and find the device you installed.

3. Select the card, then click Remove.

4. When the Confirm Device Removal box appears, select Remove From Specific Configuration.

5. If the Remove From Specific Configuration is not an option, then Windows 95 has configured the card correctly. Choose Cancel.

    -or-

    Under Configuration, select Undocked, then choose OK.

Note   Do not remove devices such as the keyboard, mouse, or display from any configuration.

Refer to your Microsoft Windows 95 documentation for more information about configuring hardware profiles and installing drivers.

Installing HP/3Com 10/100 Ethernet+ 56K Global Modem Mini-PCI Card Support

This section describes how to:

- Install Ethernet support.

- Install modem support.

To install Ethernet support

If you have installed Windows 95 and your HP Notebook contains a built-in 3Com 10/100 Mini PCI Ethernet Adapter, you need to install the LAN drivers. The LAN drivers are contained in the \HP\DRIVERS\W95\LAN subdirectory.

1. Make sure that the 3Com network adapter is connected to the network.

2. Open the Device Manager: Right-click on My Computer and select Properties, and then click the Device Manager tab.

3. Remove "PCI Ethernet driver" in "Other Devices."

4. Restart the computer. Windows will detect the PCI Ethernet Controller.

5. Click Next.

6. Click Other Locations.

7. Browse to the driver on the CD at \HP\Drivers\95\LAN.

8. Click OK.

9. Click Finish.

10. Click OK.

11. Browse to the driver on the CD at \HP\Drivers\95\LAN.

12. Click OK.

13. Click OK.

14. Browse to Windows cab (Windows\Options\CABS) files on the Windows 95 installation CD.

15. Click OK.

16. Follow the instructions on the screen to complete the installation.

17. Restart your computer.

To install modem support

If you have installed retail Windows and your HP Notebook contains a built-in 3Com
56K V.90 Mini PCI Modem, you need to install the modem drivers. The modem drivers
are contained in the \HP\DRIVERS\W95\MODEM\3COM subdirectory.

1. Open the Device Manager: Right-click on My Computer and select Properties, and
   then click the Device Manager tab.

2. Select "Other Devices" and double-click on "PCI Communication Device."

3. Click the Driver Tab and click "Update Driver."

4. Click Yes (recommended).

5. Click "Other Locations."

6. Browse to Modem driver directory: \HP\Drivers\95\Modem\3COM.

7. Click Finish.

8. Click OK.

Using Windows NT 4.0

Installing Windows NT 4.0

Windows NT 4.0 with Service Pack 5 comes factory-installed on your HP Notebook. The following procedure installs a retail version of Windows NT 4.0 and configures the appropriate device drivers.

This section describes how to:

- Prepare for software installation.

- Install Windows NT 4.0.

- Install Service Pack 5.

- Install video support.

- Install audio support.

- Install pointing device support.

- Install IDE support.

- Install Intel® SpeedStep™ technology applet.

- Disable automatic CD-ROM detection.

To prepare for software installation

To install Windows NT, you must have the following:

- HP Notebook with floppy drive and cable, and internal CD-ROM/DVD drive.

- Blank, formatted floppy disk.

- Retail Windows NT Workstation CD.

- HP Notebook Drivers for Windows NT 4.0

    Location: On the Product Recovery CD in \HP\DRIVERS\NT4, or they can be downloaded from www.hp.com/go/support.

If you install a retail version of Windows NT 4.0, you'll also need to manually install the drivers that support the hardware in your computer.

It is recommended you repartition your hard disk before installing Windows NT 4.0. If you are installing retail Windows NT 4.0 over the HP Notebook Windows 95/98 image,

you must repartition the hard disk. The HP Notebook Windows 95/98 image uses a FAT32 partition. Windows NT 4.0 does not support FAT32. Follow the instructions below to repartition your hard disk.

1. Connect the ac adapter to the Notebook.

2. Insert the CD-ROM/DVD Drive in the Notebook.

3. Insert the bootable Recovery CD into the CD-ROM/DVD drive.

4. Reboot, press ESC twice when you see the HP Notebook logo.

5. Select the "CD-ROM/DVD Drive" as the boot device.

6. Click 2 Continue.

7. Click 2 Advanced.

8. Select your desired Hibernate Partition Size.

9. Check "Do not load operating system".

10. Select "Hibernate partition only".

11. Click 1 Continue.

12. Click Ok.

To install Windows NT 4.0

1. Insert the Windows NT Workstation CD into the CD-ROM drive.

2. Reboot, press ESC twice when you see the HP Notebook logo.

3. Select the "CD-ROM/DVD Drive" as the boot device.

4. At the Welcome Screen, press Enter to begin.

5. Press Enter to accept the IDE CD-ROM mass storage device.

6. If prompted that the drive contains more than 1024 cylinders, press Enter.

7. Read the Windows NT Licensing Agreement. Press Page Down until you reach the end of the document. Press F8 to agree.

8. Press Enter to accept the default hardware and software components.

9. Select the first unpartitioned space, then press C.

10. Enter the size of the partition desired and press Enter.

If you are going to format as FAT enter 2048 or less.

If you are going to format as NTFS enter 4090 or less.

11. Select the C: partition and press Enter to install Windows NT.

12. Select the type of file system to install, then press Enter.

13. Press Enter to accept the default Windows NT directory or type in another directory.

14. Press Enter to allow Windows NT setup to examine your hard disk drive for corruption.

15. When prompted, press Enter to reboot. (Do not remove the CD-ROM.)

16. Click Next to allow Setup to gather information about your computer.

17. Choose Typical from the Setup Options, then click Next. (If hard disk space is limited, choosing Portable will install only the necessary components).

18. Enter your name and organization, then click Next.

19. Enter the 10-digit CD-key, then click Next.

    The CD-key is located on the back of the CD jacket.

20. Enter a computer name, then click Next. This name is used by other computers on the network to access your computer.

21. Enter an Administration password twice, then click Next. This password is used to administer User IDs and Windows NT security.

22. Choose "No, do not create an emergency repair disk", then click Next.

23. Choose "Install the most common components", then click Next.

24. Click Next to Install Windows NT Networking.

25. Choose "Do not connect the computer to a network at this time", then click Next.

26. Click Finish to finish setting up Windows NT.

27. Enter the correct Time Zone and Date and Time, then click Close.

28. Click OK twice to accept the VGA-Compatible Display Adapter (The video driver will be installed in the next section.)

29. When prompted, click Restart Computer.

To install Service Pack 5

If you've installed a retail version of Windows NT 4.0, you'll need to install Service Pack 5. This is located on Recovery CD in the root directory \NT4_SP5. You can also download the service pack from
http://www.microsoft.com/ntserver/nts/downloads/recommended/sp5/allsp5.asp

1. Insert the HP Notebook Recovery CD in the CD-ROM drive.

2. From the Start menu, click Run.

3. From the CD-ROM drive, run \NT4_SP5\SP5I386.EXE.

4. Select "Accept the Software License Agreement".

5. Deselect "Backup files" and click Install.

6. When prompted, click Restart.

To install video support

If you have installed retail Windows you need to install the video driver. The video driver is contained in the \HP\DRIVERS\NT4\VIDEO subdirectory.

1. Run SETUP.EXE from the \HP\DRIVERS\NT4\VIDEO directory.

2. Follow the instructions on the screen to install the VIDEO driver.

The driver will be installed after the system reboots.

If your operating system asks you for settings, set the Resolution to 1024 x 768, and the Color Palette to 65536 colors.

Upon successful installation, an ATI icon appears on the bottom right corner of the taskbar.

To install audio support

If you have installed retail Windows you need to install the audio drivers. The audio drivers are contained in the \HP\DRIVERS\NT4\AUDIO subdirectory.

1. Run SETUP.EXE from the \HP\DRIVERS\NT4\AUDIO directory.

Note	If your Notebook came with an ESS soft modem, SETUP.EXE will also install modem drivers.

2. Follow the instructions on the screen to install the drivers.

The drivers will be installed after the system reboots.

To install pointing device support

If you've installed a retail version of Windows NT, you can install pointing device support.

The integrated pointing device(s) is fully supported by the Synaptics Touchpad driver. With the standard PS/2 mouse driver the integrated pointing device(s) will function, but will be without most special features.

The touchpad files are located on the Recovery CD under \HP\DRIVERS\NT4\Touchpad.

1. Run SETUP.EXE from the \HP\DRIVERS\NT4\Touchpad subdirectory.

2. Follow the instructions and restart to complete the installation.

For more detailed information about the touchpad drivers, see the readme.txt file in the touchpad directory.

To install IDE support

Windows NT 4.0 installs a generic IDE Controller device driver. To increase performance, install the Intel PIIX4 PCI Bus Master IDE Controller driver that's in the \HP\DRIVERS\NT4\PIIX4 directory on the HP Notebook Recovery CD.

1. From the Control Panel, double-click on the "SCSI Adapters" icon.

2. Click on the folder tab labeled "Drivers". The currently installed SCSI adapter drivers will be listed in the Drivers menu.

3. Select the default driver ("IDE CD-ROM (Atapi 1.2)/Dual-Channel PCI IDE") Then, click on the "Remove" button to remove the driver.

4. Click Yes to Confirm.

5. Click "Add..." to add a new driver.

6. From the "Install Driver" dialog box, Click on the "Have Disk" button.

7. A dialog box will appear prompting for the path of the installation files. Browse to the location of the driver installation directory when prompted to do so.

8. Double-click Piixide.inf then click OK.

9. Click on "Intel PIIX PCI Bus Master IDE Controller" driver and then click OK.

10. When prompted, reboot the system as directed in order for the changes to take effect.

To install the Intel® SpeedStep™ Technology applet

If you've installed a retail version of Windows, you'll need to install the Intel® SpeedStep™ technology Applet if you have a dual-speed Pentium III processor.

The Intel SpeedStep files are located on the Recovery CD under \HP\DRIVERS\NT4\SPEEDSTP.

1. Double-click SETUP.EXE in the SpeedStep directory.

2. When prompted, click NEXT.

3. Click FINISH to reboot your computer.

Upon successful installation, a SpeedStep icon appears on the bottom right corner of the taskbar.

To disable automatic CD-ROM detection

Windows NT 4.0 will automatically detect and respond when you insert a CD. However, this prevents the HP Notebook from automatically turning off after a period of inactivity if the CD-ROM drive is present. To disable this feature:

1. From Start Menu, click Run.

2. Enter REGEDT32 then click OK.

3. Select the HKEY_LOCAL_MACHINE window and go to SYSTEM\CurrentControlSet\Services\Cdrom.

4. Double click on the Autorun key.

5. Enter 0 and click OK.

6. Close the Registry Editor and restart Windows NT 4.0.

Installing Mobile Enhancements

The HP Notebook Mobile enhancements add the following capabilities to Windows NT 4.0:

- Advanced Power Management (APM).

- Plug and Play for PC Cards.

The following applications:

- Phoenix CardExecutive for Windows NT 4.0.

- Phoenix APM for Windows NT 4.0.

You need to install the HP Notebook Mobile Enhancements for Windows NT 4.0 for both the retail and factory-installation.

You can download the Phoenix APM and CardExecutive documentation from the following websites:

http://www.phoenix.com/platform/apm-portables.html and

http://www.phoenix.com/platform/cardexec.html.

Requirements

- HP Notebook with Windows NT 4.0 and Service Pack 3, 4 or 5 installed.

- Windows NT 4.0 HP Notebook Mobile Enhancements.

  Location: Recovery CD in \HP\DRIVERS\NT4\APM and \HP\DRIVERS\NT4\PCCARD.

To install APM

Phoenix APM adds the following capabilities to the HP Notebook:

- Improved battery life under Windows NT 4.0.

- PC Card power management.

- Convenient user control and monitoring of power settings and status.

1. Go to the APM directory and run Setup.exe.

2. Click the APM button to start installation.

3. Click OK.

4. When prompted, restart Windows NT. (If you wish to install Phoenix CardExecutive, do not restart at this time.)

To install the Card Executive

To take advantage of Card Executive's plug-n-play for PCMCIA network cards, you must install Card Executive before installing Windows NT networking.

Card Executive adds the following capabilities to your HP Notebook:

- Plug and Play for PC Cards using standard Windows NT drivers.

- Plug and Play for supported network PC Cards.

- Automatic configuration of PC Cards utilizing advanced "Wizard" technology to allocate system resources.

- Suspend/Resume functions and simplified administration of PC Cards when integrated with Phoenix APM.

1. Go to the PCCard directory and run Setup.exe

2. Click the Card Executive button to begin the installation process.

3. Click "I Understand" then click OK.

4. Click Restart Now and eject the CD.

5. After reboot, click Next to run the PC Card Diagnostics.

6. Make sure there are no PC Cards installed in the HP Notebook and click Next to start the Diagnostics.

7. Click Finish to reboot.

After reboot, the PC Card icon appears on the Taskbar.

Using the Docking Solutions

This section describes how to:

- Use the docking system.

- Install the HP Notebook docking system support.

To use the docking system

Windows NT 4.0 does not support notebook docks. If you are using the Mini Dock with a PC Card in the dock or the Docking System, you must shut down before docking or undocking. You can dock or undock when the OmniBook is on, or in suspend mode when using the Port Replicator since Windows NT does not recognize it as different hardware.

Note

Do not suspend in Windows NT when docked. The IDE and SCSI drivers are not power management aware. To make sure the OmniBook does not suspend do the following:

- Do not press the power button for less than four seconds.

- Confirm that Power management while on AC power is disabled in the BIOS.

To install the HP Notebook docking system support

To use the HP Notebook in the full dock, you will need to configure additional hardware profiles, install additional IDE and SCSI drivers, and then configure which drivers will be enabled in which profile. In addition, you may wish to configure two undocked profiles, one that uses networking and one that doesn't.

The HP Notebook Docking System IDE driver is located on the Recovery CD at \HP\DRIVERS\W98\DOCKING\IDE and \HP\DRIVERS\W98\DOCKING\SCSI.

1. Open Windows Explorer.

2. Click the View menu, then Options.

3. Select "Show all files" and uncheck "Hide file extensions for known file types", then click OK.

4. Copy the DOCKING directory to C:\TEMP on the local hard-drive.

5. From the Control Panel, double-click SCSI Adapters, then click Drivers.

6. Click Add.

7. Click "Have Disk".

8. Enter C:\TEMP\DOCKING\IDE\WINNT and click OK.

9. Click OK to accept the "CMD 64xx 32-Bit IDE Adapter".

10. Enter C:\TEMP\DOCKING\IDE\WINNT and click Continue.

11. Click No when asked if you want to restart the system.

12. Click Add.

13. Click Have Disk.

14. Enter the C:\TEMP\DOCKING\SCSI\MINIPORT directory and click OK.

15. Click OK to accept the "Symbios Logic PCI (53c8XX)".

16. Enter the C:\TEMP\DOCKING\SCSI\MINIPORT directory and click Continue.

17. Click Yes to restart the HP Notebook.

To configure a docked hardware profile

You can now dock the HP Notebook in the HP Notebook Docking System. When you start Windows NT out of the HP Notebook Docking System you may receive errors concerning these drivers. These errors will cease to occur when you create hardware profiles and disable the appropriate docked hardware in the undocked profile.

To create Windows NT Hardware profiles, do the following:

1. Double-click the System icon in the Control Panel.

2. Click the "Hardware Profiles" tab.

3. Click the original configuration profile, then click Copy, and enter a name for your docked configuration.

4. For each profile, click Properties on the Hardware Profiles tabs.

   • For the docked profile, click "This is a portable computer" on the "General" tab and click "The computer is docked". Click OK to close the profile properties window.

- For the undocked profile, click "The computer is undocked". Click OK to close the profile properties window.

5. Move the profile you wish to be the default to the top by clicking the side arrows.

6. Click OK to close the "System Properties" window.

7. Double-click the Devices icon in the Control Panel. You will need to disable the appropriate devices in each hardware profile.

8. Locate device "Csa64xx" and click HW Profiles. This is the dock IDE driver, and should be disabled in all undocked profiles. Highlight each undocked profile and click Disable. Click OK to exit.

9. Locate device "Piixide" and click HW Profiles. This is the notebook IDE driver, and should be disabled in all docked profiles. (The dock IDE driver will take over.) Highlight each docked profile and click Disable. Click OK to exit.

10. Locate device Symc88xx and click HW Profiles. This is the dock SCSI driver, and should be disabled in all undocked profiles. Highlight each undocked profile and click Disable. Click OK to exit.

11. Click Close to close the Devices window.

You can now reboot your computer. At each reboot you will be prompted for the appropriate profile to be used.

Installing HP/3Com 10/100 Ethernet+ 56K Global Modem Mini-PCI Card Support

This section describes how to:

- Install Ethernet support.

- Install modem support.

To install Ethernet support

If you have installed retail Windows and your HP Notebook contains a built-in 3Com 10/100 Mini PCI Ethernet Adapter, you need to install the LAN drivers. The LAN drivers are contained in the \HP\DRIVERS\NT4\LAN subdirectory.

Before you begin, create a directory on C: called "OPTIONS" and copy the i386 directory of the Windows NT installation CD into the C:\OPTIONS directory.

The following Windows NT setup procedure assumes that networking has not been installed on your computer.

Before setting up the adapter, you will need to know:

- Your network file server name, network account user name, and password

- Protocol used in the Microsoft Windows network (NWLink IPX/SPX Compatible transport, TCP/IP protocol, NetBEUI protocol)

- NT Server domain or workgroup to which you belong

- Your IP address (unless you are using DHCP)

Follow these steps to install the 3Com 10/100 Mini PCI Ethernet Adapter driver when networking has not been installed:

1. In the Control Panel, double-click Network.

2. When the system prompts: "Windows NT Networking is not installed. Do you want to install it now?", click Yes. This opens the Network Setup Wizard.

3. Check Wired to the network, and then click Next.

4. When the system prompts to have setup start searching for a network adapter, click Select from list.

5. Click Have Disk. Enter the directory which contains the LAN drivers (\HP\Drivers\NT4\LAN), and then click OK.

6. When the Select OEM Option window opens, select 3Com 10/100 Mini PCI Ethernet Adapter, and then click OK.

7. The Network Adapters list shows a check mark next to the 3Com network adapter. Click Next to continue.

8. In the Network Protocols list, place a check mark next to each network protocol required for your site, and then click Next.

9. In the Network Services window, there are four default options. Unless you are following specific guidelines from your MIS department, select the default settings.

10. Click Next to install the selected components, and then click Next again.

11. When prompted, enter the path to the Windows NT installation files (C:\OPTIONS\i386), and then click Continue.

12. When the system prompts again for NT files, enter D:\HP\Drivers\NT4\LAN.

13. In the 3Com network adapter window, accept the default settings, and then click Continue. Values are assigned automatically.

14. Answer the network questions. If you don't the answers ask your network administrator.

15. When the window for enabling or disabling protocols opens, click Next.

16. When NT is ready to start the network, click Next to copy the network files.

17. Provide your computer name and workgroup or domain name when prompted.

18. When the system displays "Networking has been installed on your computer," click Finish.

19. When prompted to reboot the computer click Yes.

20. If you had Service Pack 3 or later installed prior to setting up the network adapter, you should reinstall it after NT has finished rebooting.

To install modem support

If you have installed retail Windows and your HP Notebook contains a built-in 3Com 56K V.90 Mini PCI Modem, you need to install the modem drivers. The modem drivers are contained in the \HP\DRIVERS\NT4\MODEM\3COM subdirectory

1. Open the Device Manager: Right-click on My Computer and select Properties, click the Hardware tab, and then click the Device Manager button.

2. Double-click PCI Simple Communications Controller.

3. Click Reinstall Driver on the General tab.

4. Click Next.

5. Click "Display a list of the known drivers for this device So that I can choose a specific driver," and click Next.

6. Double-click Modems.

7. Click "Have Disk." Browse to the HP\Drivers\Modems\3COM and double-click WDHABBE.INF.

8. Click OK.

9. Select 3COM 56K V.90 Mini PCI Modem.

10. Click Next.

11. Click Next.

12. Click Yes.

13. Click Finish and close the Device Manager.

Troubleshooting Your Computer

Troubleshooting Techniques

This section contains solutions to a many types of problems you might have with 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:

- Click Start, Help, Contents, Troubleshooting, and use the Windows Troubleshooters.

- See the Microsoft Windows manual shipped with the computer.

- See the HP Notes in the online HP Library for updated information.

- 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 DiagTools test program. See "Testing the Hardware" on page 169.

- Contact your dealer or Hewlett-Packard—see "To contact the HP Customer Care Center" on page 176. Please have your computer with you when you call.

Audio Problems

If no sound is audible

- Press the back end of the volume control several times, or press Fn+UP ARROW several times.

- Click the speaker icon on the taskbar, and make sure that Mute is not checked and the Volume Control slider is not set to the bottom.

- Press the audio-off button on the right side of the computer once or twice until the indicator light goes off.

- When you are operating your computer in MS-DOS mode (for example, when running MS-DOS games), you may find that the sound does not operate properly. Use Windows applications for full use of sound capabilities.

If sound does not record

- Check the software controls for recording sound: click Start, Programs, Accessories, Multimedia (or Entertainment), Sound Recorder.

- Test the audio with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

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

- In the Volume Control, try reducing the Master volume: double-click the speaker icon in the taskbar.

- In Volume Control, click Options, Properties, and select the microphone option for the playback settings. Then in Volume Control, make sure the microphone is muted.

- Avoid using the built-in microphone and built-in speaker at the same time.

CD-ROM and DVD Problems

If you can't boot from a CD or DVD in the CD/DVD drive

- Make sure the CD or DVD is bootable, such as the *Recovery CD*.

- If you want the computer to boot from a CD or DVD whenever one is present, check the boot order in the BIOS Setup utility:

  1. Click Start, Shut Down, Restart.

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

  3. Open the Boot menu. The default boot order is (1) Removable Device, (2) Hard Disk, and (3) CD-ROM/DVD Drive.

  4. Select CD-ROM/DVD Drive for first boot device.

  5. Press F10 to exit BIOS Setup.

- Restart the computer: click Start, Shut Down, Restart.

- Test the DVD drive with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

If a DVD plays erratically

- Dirt or smudges can cause a disc to skip. Clean the disc with a soft cloth. If the disc is badly scratched, it will probably have to be replaced.

If a DVD movie stops playing in the middle

- The DVD may be double-sided. Open the DVD tray, and read the text near the center hole of the disc. If it says Side A, flip the disc over, close the tray, and press the Play button to continue playing the movie.

- You may have accidentally paused the DVD movie. Press the Play button to resume.

If you get a Region Code error when playing a DVD movie

- DVDs can have regional codes embedded in the disc data. These codes prevent DVD movies from being played outside the region of the world in which they are sold. If you get a Region Code error, you are trying to play a DVD intended for a different region.

If the computer cannot read a CD or DVD

- For a single-sided CD or DVD, make sure the disc is placed in the drive with the label facing up.

- Clean the disc.

- Wait 5 to 10 seconds after closing the tray to give the computer time to recognize the disc.

- Restart the system: Remove the disc from the drive, and click Start, Shut Down, Restart.

If a DVD movie doesn't fill the screen

- Each side of a double-sided DVD has a different format (standard or widescreen). In widescreen format, black bands appear at the top and bottom of the screen. To view the standard format, flip the disc over and play the other side.

If the computer can't find Wordpad.exe after inserting a CD

- The system is trying to open a .doc file in WordPad, but cannot find the Wordpad.exe program file. Type C:\Program Files\Accessories in the error message box.

Display Problems

If the computer is on, but the screen is blank

- Move the mouse or pointing stick, or tap the touch pad. This will wake the display if it is in Display-off mode.

- 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, Display, Settings.

If an external display does not 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.

- Test the display with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

Docking Problems

If a port on a dock isn't working

- Check that ac power is connected to the dock.

- Try using the corresponding port on the computer while undocked.

- Make sure the computer is fully inserted into the dock.

- See the manual for the dock.

If the operating system hangs when you dock or undock

- Your system may hang if you dock or undock your computer while you are suspending or resuming. Make sure your computer has completely suspended or resumed before you dock or undock it.

If the drive A icon is missing for the floppy drive when docked

- For Windows 98, if you insert the floppy drive after docking, the drive A icon may not be available. To be recognized, the drive must be present when the computer

docks or boots. If the drive A icon is missing, either dock the computer again with the floppy drive installed, or reboot the computer.

If the computer hangs after inserting a PC Card in a dock

- For Windows 95, if you use a PC card in a dock, you should insert the card only when the computer is running or after it is shut down, and remove the card only after stopping the card using the PC Card icon in the taskbar or after shutting down. If you remove the card while the computer is suspended, the computer may stop responding.

If an IDE drive in a docking system doesn't work

- If you install an IDE drive in a docking system PC device bay, you should set the IDE jumpers on the drive to the Single or Cable Select setting. Whenever you want to partition or format a drive that's larger than 8 GB, you must first use Device Manager to turn on the Int 13 setting for the IDE drive.

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 "Replacing a Hard Disk Drive" on page 90.

If the hard disk makes a buzzing or whining noise

- Back up the drive immediately.

- See whether the noise is coming from elsewhere, such as from the fan or a PC Card drive.

If files are corrupted

- In Windows 95 or 98, run the Scandisk surface scan to check the hard disk. 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.

- Run the VirusScan program. See "To use the VirusScan utility" on page 41.

- Test the hard disk drive with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

- If necessary, you can format the hard disk and reinstall the original factory software. See "To recover the factory installation of your hard disk" on page 171.

Heat Problems

Your computer normally gets warm during routine operation.

If the computer gets abnormally hot

- Always set the computer on a flat surface, so that air can flow freely around and underneath it.

- Make sure the air vents on the bottom and right side of the computer are clear.

- Keep in mind that games and other programs that drive CPU usage toward 100% can increase the computer's temperature.

Infrared Problems

By default, the infrared port is not enabled, so you must enable it before you can use it.

If you have problems with infrared communications

- Make sure the line between the two infrared ports is not blocked, and that the ports face each other as squarely as possible. (The computer's infrared port is located on its right side, beneath the volume control.) The ports should be no more than 1 meter apart.

- Check settings in the BIOS Setup utility:

  1. Restart the computer: click Start, Shut Down, Restart.

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

  3. From the System Devices menu, make sure Infrared Port is enabled and FIR mode is selected.

  4. Press F10 to save and exit BIOS Setup.

- To use infrared communications with Windows 95, you must first install an infrared driver that matches the mode selected in the BIOS Setup utility. For details, refer to the driver's Readme file located in C:\hp\Drivers.

- Make sure only one application is using the infrared port.

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

Keyboard and Pointing Device Problems

If the pointer is difficult to control

- Adjust the pointer controls: click Start, Settings, Control Panel, the double-click Mouse.

If the touch pad or pointing stick doesn't work

- Don't move the pointer or touch the touch pad 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 sleep button.

  - Shut down and restart Windows.

- If an external mouse is connected, the built-in pointing devices are normally disabled. You can change this setting with the BIOS Setup utility—see "Using the BIOS Setup Utility" on page 80.

- Restart the computer: click Start, Shut Down, Restart.

If the touch pad moves the pointer or cursor while you type

- Increase the PalmCheck setting for the touch pad:

  1. Double-click the touch pad icon in the taskbar.
     –or–
     Click Start, Settings, Control Panel, then double-click Mouse.

  2. Click the Touch tab, and select the touch pad device.

  3. Adjust the PalmCheck slider, and click Apply.

- Disable the touch pad: on the Touch tab, select the touch pad device, then select Disable and click Apply.

If a PS/2 scroll mouse doesn't work

- The built-in pointing devices must be disabled for the mouse's scroll feature to work. In the BIOS Setup utility, make sure the PS/2 Pointing Devices option in the System Devices menu is set to Auto. See "To run the BIOS Setup utility" on page 80.

- Suspend or shut down the computer before you attach the scroll mouse, so that it will be detected properly.

  If you want to use the touch pad again, you must suspend or shut down the computer before you detach the scroll mouse.

- Test the keyboard and pointing devices with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

If the embedded numeric keypad doesn't work

- To type numbers, make sure Num Lock is on.

- 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.

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

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

- Left CTRL+left ALT on an external keyboard should work like the Fn key. However, only Fn+F5, Fn+F7, and Fn+F12 are supported on an external keyboard.

- In the BIOS Setup utility, make sure External Fn Key is enabled in the System Devices menu. See "To run the BIOS Setup utility" on page 80.

If you can't type the euro symbol

- Hold ALT GR when you press the marked key.

- 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.

- 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.

Memory Problems

If a message says you are out of memory

- If you're using Windows 95 or 98, use the Memory Troubleshooter in Windows Help: click Start, Help, Contents, Troubleshooting.

- If you are having memory problems while running MS-DOS programs, use the MS-DOS Troubleshooter in Windows Help: click Start, Help, Contents, Troubleshooting.

- Not all third-party memory cards have been tested for use with the computer. Please check the HP Notebook Web site (www.hp.com/notebooks) for a list of approved and tested memory cards.

- Test your computer's memory with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

If memory doesn't increase after adding RAM

- Make sure your computer is using only PC-100 memory (RAM) modules.

Modem Problems

If the modem seems slow

- Check for excess static or noise on a line reduces the overall transmission speed. If necessary, contact your telephone company about fixing this type of problem.

- If you're dialing internationally, line noise is often a problem that's difficult or impossible to eliminate.

- If you have call-waiting, disable it—your telephone company can provide instructions. It can cause symptoms similar to static.

- Eliminate extra connections in the line. If possible, connect directly to the wall jack.

- Try another telephone line, preferably one normally used for a fax machine or modem.

If the modem doesn't dial or no dial tone is detected

- Check all cables and connections.

- Connect a standard telephone to the phone line and make sure the line is working.

- Make sure someone else isn't using the same phone line.

- Try another telephone line, preferably one normally used for a fax machine or modem.

- If you're in a foreign country, the dial tone may not be recognized by the modem. In Control Panel, open Modems (Windows 95 or 98) or Phone And Modem Options (Windows 2000). Try disabling the option that waits for a dial tone.

If the modem dials incorrectly

- Check the telephone number you entered, including any digits required for outside access or long distance.

- In Control Panel, open Modems (Windows 95 or 98) or Phone And Modem Options (Windows 2000). Check the dialing options—look for duplicate digits for outside access or long distance.

- Make sure the number you're calling isn't busy.

- If you're in a foreign country, the dial tone may not be recognized by the modem. In Control Panel, open Modems (Windows 95 or 98) or Phone And Modem Options (Windows 2000). Try disabling the option that waits for a dial tone.

- If you have call-waiting, disable it—your telephone company can provide instructions.

If the modem dials but doesn't connect

- Make sure you're using an analog telephone line (2, 3, or 4 wires). You must not use a PBX or digital line. In a hotel, ask for a data line.

- Try another telephone line, preferably one normally used for a fax machine or modem.

- The modem at the other end may have a problem. Try dialing to a different modem.

- Try disabling error correction and data compression.

If the modem isn't detected

- Check the modem setup. In Control Panel, open Modems (Windows 95 or 98) or Phone And Modem Options (Windows 2000). Check the COM port.

- Click Start, Settings, Control Panel, System and open the hardware Device Manager. If the modem is disabled, try to enable it. If it has a conflict, try disabling another device.

- If you're running fax software using fax Class 2, try using Class 1.

If the modem dials but you can't hear it

- Make sure the audio-off light is turned off. If it's on, press the audio-off button.

- Check the speaker volume setting.

- In Control Panel, open Modems (Windows 95 or 98) or Phone And Modem Options (Windows 2000). Select the modem and click Properties, then check the volume setting on the General tab.

If the modem connects, but transferred data is bad

- In Control Panel, open Modems (Windows 95 or 98) or Phone And Modem Options (Windows 2000). Make sure the parity, speed, word length, and stop bits match on sending and receiving modems.

- Try disabling error correction and data compression.

If the modem causes an ERROR message

- A string of AT commands may contain an incorrect command. If you entered commands as extra settings for the modem in Control Panel or in your communications software, check the commands.

If the modem doesn't fax

- If you're using fax Class 2 in the fax software, try using Class 1.

- Close any other communications programs.

- If you're faxing by printing from an application, make sure you've selected the fax printer.

- Try turning off power management features temporarily.

If excessive line current is detected

- Make sure you're using an analog telephone line (2, 3, or 4 wires). You must not use a PBX or digital line. In a hotel, ask for a data line.

If the modem clicks repeatedly but doesn't connect

- Make sure you're using an analog telephone line (2, 3, or 4 wires). You must not use a PBX or digital line. In a hotel, ask for a data line.

- Check all cables and connections.

Network Problems

If the built-in network adapter doesn't connect to the LAN

- Check all cables and connections. Try connecting at a different network station, if available.

- If the green light next to the LAN port does not light, the LAN cable may not be connected to the network or the network may be down. Try connecting a different computer to the cable.

- For Windows 95 or 98, open Network in Control Panel. Make sure you have the correct clients and protocols installed.

- Make sure the LAN cable is Category 3, 4, or 5 for 10Base-T operation, or Category 5 for 100Base-TX operation. Maximum cable length is 100 meters (330 feet).

- Click Start, Help, Contents, Troubleshooting and use the Network Troubleshooter.

- Click Start, Settings, Control Panel, System and open the hardware Device Manager. If the network interface is disabled, try to enable it. If it has a conflict, try disabling another device.

- Run the LAN diagnostic software—click Start, Programs, 3Com NIC Diags, Setup to install the software.

If you can't browse the Network Neighborhood

- Check with your network administrator to make sure NetBEUI protocol is supported on the network.

- Click Start, Find, Find Computer to look for a computer.

If you can't log in to Netware servers

- If a Netware server is using IPX/SPX protocol, you may need to force your frame type to match the server's frame type. Check with your network administrator.

If the computer stops responding after booting

- Check whether you have a TCP/IP network with no DHCP server. This can cause a long delay at startup because DHCP is enabled. Contact your network administrator to determine the proper TCP/IP configuration.

If you have slow or dropped connections on a 10/100 network switch or hub

- The switch may be forced to 10 Mbps. For Windows 95 or 98, use Network in Control Panel to disable Auto Polarity for the network adapter.

PC Card (PCMCIA) Problems

If the notebook doesn't recognize a PC Card

- Remove and reinsert the PC Card.

- Insert the PC Card in a different slot.

- Press the blue sleep button to suspend the computer, then press it again to resume.

- Restart the computer: click Start, Shut Down, Restart.

- If the card requires an IRQ, make sure one is available**.** If necessary, set the IRQ to an unused value manually (Windows 95 or 98 only): Click Start, Settings, Control Panel, then double-click System and use the Device Manager tab.

- Check the HP Customer Care Web site (www.hp.com/go/support) for information about installing certain PC Cards.

- Make sure your computer supports the problem PC card: check the HP Notebook Web site (www.hp.com/notebooks) for a list of approved and tested PC Cards.

- Try the card in another computer to see whether the card functions properly.

- Zoomed Video is supported in the lower card slot only.

- Certain Xircom CE2 (IIps) LAN 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.

- Test the PC card with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

If an I/O card stops communicating properly

- The card may have been reset if the computer suspended or turned off. Exit any applications, then remove and reinsert the card.

If a PC card modem is not working

- Disable the internal modem:

    1. Click Start, Settings, Control Panel, then double-click System.

    2. Open the hardware Device Manager.

    3. Double-click Modem to list the current modem devices.

    4. Double-click the internal modem, then select the option to disable the modem.

If an I/O card stops communicating properly

- Exit and restart the application. The card may have been reset if the computer suspended or turned off.

- Check settings in Control Panel.

Performance Problems

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

If the computer pauses or runs sluggishly

- This may be normal Windows behavior. Background processing can affect response time.

- Certain background operations (such as VirusScan) can affect performance.

- Press CTRL+ALT+DEL to see if an application is not responding.

- Restart the computer: click Start, Shut Down, Restart.

- Some file browsers respond slowly while processing graphics or waiting for broken network connections to time out.

- If the computer's hard disk drive frequently runs (as indicated by the hard drive light on the front of the computer) while the computer appears to be paused or running slowly, Windows is likely spending excess time writing to its swap file on the computer's hard disk. If this occurs frequently, consider installing additional memory.

- Check the amount of available free disk space. Delete temporary and unneeded files.

- Check settings in the BIOS Setup utility:

    1. Click Start, Shut Down, Restart.

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

3. From the Power menu, set the Power Management Mode to Max. Performance.

4. Press F10 to save and exit BIOS Setup.

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 right side of the computer. Then press the blue sleep button to turn the computer back on.

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 or insert a charged battery.

If the computer keeps beeping

- The computer beeps for 15 seconds when battery power is low. Save your work, shut down Windows immediately, and insert a charged battery or plug in the ac adapter.

If the battery doesn't charge

- Make sure the ac adapter is fully plugged into the power source and the computer, 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.

If a secondary battery doesn't charge

- The computer's secondary battery won't charge until the main battery is fully charged.

- Make sure the ac adapter is fully plugged into the power source and the computer, and that the light on the adapter is on.

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

If the computer has a short operating time

- Try conserving power using any of the suggestions listed in "To maximize battery operating time" on page 50.

- If you are running an application that has an automatic save feature (such as MS Word), disable this feature or increase the specified save time to reduce hard disk access.

- If the operating time has gradually become shorter and the battery is more than a year or two old, you may need to replace the battery.

- Heavy modem use can affect battery operating time.

- PC card use can affect battery operating time.

If the Time Remaining for the battery is not correct

- The Time Remaining is an estimate, not a precise value, and is based on the rate at which the computer is using power at the moment. This value therefore depends on your current task, and assumes that you will continue using power at the same rate until the battery runs out. So, if you check the Time Remaining while the computer is performing a task requiring a good deal of power (such as reading from a CD or DVD), the value will probably show less time remaining than you really have, since you will probably later switch to tasks that require less power.

If the computer doesn't suspend to Standby mode as expected

- If you have a connection to another computer, the computer won't suspend if the connection is active.

- If the computer is performing an operation, it normally waits for the operation to finish before suspending.

- For Windows 95, if a CD-ROM drive is present, make sure auto insert notification is disabled (the default factory setting). This is not required for Windows 98 or 2000.

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

If the computer doesn't automatically hibernate as expected

- For Windows 2000, make sure hibernate support is enabled. From Control Panel, open Power, then click the Hibernate tab.

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

- For Windows 95 or 98, check the Hibernate timeout in BIOS Setup—see "To run the BIOS Setup utility" on page 80.

Printing Problems

Hint

You will usually be able to solve most printing problems by using the Print Troubleshooter in Windows Help: click Start, Help, Contents, Troubleshooting.

If a serial or parallel printer doesn't print

- Make sure the printer is on and has paper in it.

- Make sure you are using the correct printer cable or cable adapter, and that the cable is secure at both ends.

- Check for printer errors.

If the left edge of printed output is missing

- Certain applications may not work properly with 600-dpi printers. If you're using such a printer, try selecting a compatible printer driver for a 300-dpi printer. For example, if you were using a 600-dpi HP LaserJet printer, you might try using the HP LaserJet IIIsi driver (300-dpi).

If an infrared printer doesn't print

- Make sure the line between the two infrared ports is not blocked, and that the ports face each other as squarely as possible. (The computer's infrared port is on its right side, beneath the volume control.) The ports should be no more than 1 meter apart.

- Make sure the printer is on and has paper in it.

- Check for printer errors.

- Make sure Windows is running; otherwise infrared printing is not available.

- See "Infrared Problems" on page 153.

Serial, Parallel, and USB Problems

If a serial mouse doesn't work

- Make sure you followed the manufacturer's installation instructions completely and have installed the mouse properly. If not, repeat the procedure.

- Make sure the port connection is secure.

- Press the blue sleep button to suspend and resume.

- Restart the computer: click Start, Shut Down, Restart.

- Check mouse settings in Control Panel: click Start, Settings, Control Panel, then double-click Mouse.

- Make sure the serial port is enabled in BIOS Setup—see "To run the BIOS Setup utility" on page 80.

- Use a mouse that connects to the PS/2 port. If you have a PS/2 keyboard connected, use a PS/2 Y adapter (HP accessory F1469A).

- Check the port settings in Control Panel:

    1. Click Start, Settings, Control Panel, then double-click System.

    2. Open the hardware Device Manager, then double-click Ports (COM & LPT).

If a serial modem doesn't work properly

- See "Modem Problems" on page 156.

- Use the Modem Troubleshooter in Windows Help: click Start, Help, Contents, Troubleshooting.

- Make sure the port connection is secure.

- Check the modem settings in Control Panel: click Start, Settings, Control Panel, then double-click Modems (Windows 95 or 98) or Phone and Modem Options (Windows 2000).

- Make sure the serial port is enabled in BIOS Setup—see "To run the BIOS Setup utility" on page 80.

- Disable the internal modem:

    1. Click Start, Settings, Control Panel, then double-click System.

2. Open the hardware Device Manager.

3. Double-click Modem to list the current modem devices.

4. Double-click the internal modem, then select the option to disable the modem.

- Check the port settings in Control Panel:

  1. Click Start, Settings, Control Panel, then double-click System.

  2. Open the hardware Device Manager, then double-click Ports (COM & LPT).

If the serial or parallel port is not working

- Make sure the port connection is secure.

- Check the port settings in Control Panel:

  1. Click Start, Settings, Control Panel, then double-click System.

  2. Open the hardware Device Manager, then double-click Ports (COM & LPT).

- Use the BIOS Setup utility to make sure the serial and parallel ports are enabled—see "To run the BIOS Setup utility" on page 80.

- Test the ports with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

If the USB port is not working

- Contact the vendor of the peripheral device—as well as HP—for the latest versions of the USB drivers.

- Check the port settings in Control Panel:

  1. Click Start, Settings, Control Panel, then double-click System.

  2. Open the hardware Device Manager, then double-click Universal Serial Bus Controller.

- Contact the vendor of the peripheral device—and the HP Notebook Web site (www.hp.com/notebooks)—for the latest version of the driver for the device.

- Test the USB port with the DiagTools diagnostics. See "Testing the Hardware" on page 169.

Startup Problems

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

- Connect the ac adapter.

- Press the blue sleep button to try turning on the unit.

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

- If the computer still doesn't respond, remove the battery and ac adapter, remove any PC cards, and undock the computer if docked. Then plug in the ac adapter again, and reset the computer using the system-off switch.

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 and try starting the computer.

- If available, try another battery.

If the computer won't boot from the floppy disk drive

- Make sure the drive is installed or connected correctly.

- Check the boot order in the BIOS Setup utility:

  1. Click Start, Shut Down, Restart.

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

  3. Open the Boot menu. The default boot order is (1) Removable Device, (2) Hard Disk, and (3) CD-ROM/DVD Drive.

  4. If Removable Device is not option 1, use the arrow keys to select Removable Device, and move it to position 1.

  5. If an LS-120 drive is also installed, expand the Removable Device category and move the floppy drive to the first position.

  6. In the Security menu, make sure the Removable Device Boot setting is Enabled.

  7. Press F10 to save and exit BIOS Setup.

If the computer takes a long time to resume after being suspended

- The computer can routinely take a minute or more to resume if it has a network card installed. While the operating system is loading drivers and checking hardware and network connections, you will see a blinking cursor on your display. As soon as the hardware has been re-initialized, the Windows desktop will appear.

Testing the Hardware

The 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 DiagTools diagnostic test

1. Click Start, Shut Down, Restart.

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

3. Go through the first several screens.

4. When the hardware detection finishes, 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 80.

5. **Run the basic test**. Press F2 to start the basic hardware test.

   If the basic test fails, you can press F6 and start a Wizard that runs a set of advanced tests for the failed component.

6. If you intend to exit without running the advanced tests, press F4 to save system and test information in the Support Ticket log file. Then press F3 to exit.

7. **Optional: Run the advanced tests**. Press F2 to open the advanced test screen.

8. 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.

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

10. **Optional: Save the Support Ticket.** Press F4 to save system and test information in the Support Ticket log file.

11. **Exit.** Press F3 to exit and reboot.

12. **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 HP Customer Care Web site, www.hp.com/go/support.)

Recovering and Reinstalling Software

You can use the *Recovery CD* to recover the original software build 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

Use the *Recovery CD* to reinstall the original factory software on your computer's hard disk. You use the same process to create a larger Hibernate/diagnostics partition on your hard disk (Windows 95 or 98 only) or to create a Hibernate/diagnostics partition on a new hard disk.

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 drive.

4. Click Start, Shut Down, Restart.

5. When you see the HP logo, press ESC twice.

6. Select the CD or DVD drive as the boot device.

7. 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.

8. When prompted to reboot the computer, press CTRL+ALT+DEL and follow any instructions that appear onscreen.

To replace a damaged Recovery CD

If you lose or damage the *Recovery CD,* take your computer to a local HP service center to get a replacement CD. Call the HP Customer Care Center for the address and telephone number of an HP service center near you—see "To contact the HP Customer Care Center" on page 176.

To update the computer BIOS

Hewlett-Packard may provide updates to the BIOS to enhance the capabilities of your computer. Updates will be available from the HP Customer Care Web site (www.hp.com/go/support). Download the BIOS update and follow the instructions in the Readme.txt file on how to create the BIOS update floppy disk.

CAUTION

Because a BIOS update replaces the previous version, you must follow these instructions exactly, or you risk damaging your computer. The BIOS update process resets the configuration settings in the BIOS Setup utility, except for the PC Identification and BIOS passwords.

1. Remove any PC Cards.

2. If the notebook is docked, undock it.

3. Connect the ac adapter to the notebook.

4. Insert the BIOS update disk in the floppy disk drive.

5. Restart the computer: click Start, Shut Down, Restart.

6. Follow the onscreen instructions. This starts a process that takes approximately one minute. Once the update process begins, do not interrupt it.

7. When the process is completed, reset the computer by inserting a straightened paper clip into the system-off switch on the right side of the computer.

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 support, technical information, and software updates.

  www.hp.com/go/support

  Click Assistance, then Self-Help Tools for information about bulletin boards, CD-ROM subscriptions, and service parts.

- **HP Notebook Computer Web site.** Get the latest information about technical support, including e-mail and telephone support, plus information about warranty and support programs.

  www.hp.com/notebooks

To contact the HP Customer Care Center

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:

- 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.

To contact the Customer Care Center by email, visit the HP Customer Care Web site (www.hp.com/go/support).

For the latest list of phone numbers, see the HP Notebook Web site (www.hp.com/notebooks) under Support.

North America
United States: (970) 635-1000
Canada (English): (970) 635-1000
Canada (French): (800) 387-3867
Mexico: 326 4600, Guadalejara 669 9500,
Monterrey 378 4240

Central/South America
Argentina: 541781 4061 69
Brazil: 5511 709 1444
Venezuela: 58 2 239 5664

Europe
Austria: (+43) 0711 420 10 80
Belgium (French): (+32) 02 626 88 07
Belgium (Dutch): (+32) 02 626 88 06
Czech Republic: (+420) 2 61307 310
Denmark: (+45) 39 29 40 99
Finland: (+358) 0203 472 88
France: (+33) 01 43 62 34 34
Germany: (+49) 0180 525 81 43
Greece: (+30) 1-619-6411
Hungary: (+36) 1-382-1111
Israel: (+972) 9-9524848
Italy: (+39) 02-26410350
Netherlands: (+31) 020 606 87 51
Norway: (+47) 22 11 62 99
Poland: (+48) 22-519-0600
Portugal: (+351) 21 317 6333
R.O. Ireland: (+353) 01 662 55 25

Russia: Moscow (+7) 095 797 3520, St.
Petersburg (+7) 812 346 7997
South Africa: RSA 086 000 1030, outside RSA
(+27) 11 258 9301
Spain: (+34) 902 32 11 23
Sweden: (+46) 08 619 21 70
Switzerland: (+41) 084 880 11 11
Turkey: (+90) 212-221-6969
United Kingdom: (+44) 0207 512 5202

Asia and Australia
Australia: (61-3) 8877-8000
China: (800) 810-5959
Hong Kong: (852) 800-96-7729
India: (91-11) 682-6035
Indonesia: (62-21) 350-3408
Japan: (81-3) 3335-8333
Korea: (82-2) 3270-0700
Malaysia: (60-3) 295-2566
New Zealand: (64-9) 356-6640
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
41 22 780 71 11

To receive repair service

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 the HP Customer Care Center" on page 176. 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 includes 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 the HP Customer Care Center" on page 176). 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 plug-in module 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 171) 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 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. 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.

Specifications and Regulatory 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	Size (14-inch display): 316 × 261 × 33 mm (12.4 × 10.3 × 1.3 in). Size (15-inch display): 325 × 261 × 35 mm (12.8 × 10.3 × 1.4 in). Weight: 2.3–2.9 kg (5.0–6.4 lb), depending on configuration. Magnesium display cover.
Processor and Bus Architecture	550-MHz Celeron processor with 128-KB four-way set-associative L2 cache. –or– 600-, 650-, or 700-MHz Intel Mobile Pentium III processor with Speed Step technology 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.
Graphics	14.1- or 15.0-inch XGA active-matrix (TFT) display (1024 × 768 × 16M colors). Zoomed Video support for lower 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 with LED charge-level gauge (11.1 or 14.8 Vdc). Battery life (one battery): up to 3 hours typical (varies with model and usage). Fast battery recharge: 80% in 1.5 hour, 100% in 2 hours. Low-battery warning. Suspend/resume capability. Universal 60-watt ac adapter: 100–240 Vac (50/60 Hz) input, 19 Vdc output. Optional secondary battery available for module bay.
Mass Storage	6-, 12-, or 18-GB removable hard drive. 1.44-MB floppy drive module. 24x CD-ROM or 6x DVD drive module (or higher). Optional drive modules available.
RAM	Two slots for RAM expansion up to 512 MB. 64 or 128 MB RAM installed in one slot. 100-MHz RAM bus.

Audio System	16-bit Sound Blaster Pro–compatible stereo sound. Stereo sound via two built-in speakers (500 Hz to 10 KHz range). 3D-enhanced PCI bus audio with Zoomed Video support. Built-in microphone. Separate audio-off button with indicator light. Headphone-out, microphone-in, and audio line-in.
Keyboard and Pointing Devices	87-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.
Communications	**LAN/Modem Models (3Com):** LAN - Ethernet 10Base-T (10 Mbps) and 100Base-TX (100 Mbps) support. - Supports wake-on-LAN, remote wake-up (Windows 98), fast IP, DMI, dRMON. - MBA (Managed Boot Agent) support for PXE/BINL, BOOTP, NCP/IPX, DHCP. Modem - 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. **Modem-Only Models (Ambit):** 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, 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.
Input/Output	Universal serial bus (USB). 9-pin, 115,200-bps serial (16550 UART). 25-pin bi-directional ECP/EPP parallel. 15-pin VGA video-out with DDC support. (Resolution up to 1600 × 1200 × 64K or 16M colors. Refresh rate up to 60 to 100 Hz, depending on resolution.) Dual display. PS/2 keyboard/mouse. 4-Mbps IrDA-compliant infrared port.
Expandability	One Type III or two Type II 16-/32-bit PC Card slots (3.3- and 5-V support). CardBus enabled. Plug-in module bay for accessory modules. Optional port replicator, mini dock, and docking system.

Software	Microsoft Windows 95, 98, or 2000. Windows 95/98/2000-compatible Plug-and-Play. Advanced Power Management (APM) (Windows 95 and 98 only). DMI with HP TopTools. HP e-center (North America English only). Adobe Acrobat Reader. Agaté Tioman for HP (Hot Swap) (Windows 95 and 98 only). QuickLink (Windows 98 only). DiagTools. VirusScan. Online *Reference Guide*. *Recovery CD* included. Centralized worldwide BIOS and driver update service.
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). Storage temperature: –20 to 50 °C (–4 to 122 °F).
Major ICs	CPU: Intel Mobile Pentium III or Celeron processor. South Bridge: PIIX4M. Display controller: ATI Mobility M or M1. Audio controller: ESS Maestro-3E and ESS ES1921. CardBus controller: TI PCI 1420. Keyboard/embedded controller: National PC87570. BIOS flash: SST28SF040. Super I/O: National NS97338.

Modem Reference Information

If your computer has a modem port, you can customize the operation of the modem using AT commands and S-registers. You can do this from Modem (Windows 95 or 98) or Phone And Modem Options (Windows 2000) in Control Panel, from most communications software, or by using terminal mode in your software. See "To change your modem settings" on page 62.

Note   You should have a good understanding of modems and how they operate before you change default settings.

This section contains summary information about AT commands, S-registers, and selected result codes for the built-in modem:

- 3Com Modem. If your computer has a LAN port and a modem port, you have a 3Com modem.

- Ambit Modem. If your computer has a modem port but no LAN port, you have an Ambit modem.

Modem Reference (3Com)

In the following AT command table, default settings are shown in bold. All listed AT commands except +++, /, and A/ must be preceded by "AT."

AT Commands (3Com)

Command	Function (3Com)
+++	Escape to online command mode (not preceded by AT)
/	Pause (not preceded by AT), 125 ms default
A	Answer manually
A/	Repeat last command (not preceded by AT)
D...	Dial a phone number and issue other optional commands: 0-9=Dial digit, T=Tone dial, P=Pulse dial, R=Call an originate-only modem, W=Wait for second dial tone (X2, X4), @=Wait for answer (X3, X4), (comma)=Pause in dialing, !=Flash switch hook, #=Auxiliary tone dial digit, *=Auxiliary tone dial digit, ;=Stay in command mode after dialing, $=Wait for calling card bong, &=Wait for calling card bong, "=Dial the letters that follow.
D$	Display a list of dial commands
DL	Redial last number
DL?	Display last dialed number
DSn	Dial stored number (n=0,1,2,3)
E0	Turn command echo off
E1	Turn command echo on

Command	Function (3Com)
F0	Turn online echo on
F1	Turn online echo off
H0	Hang up (go on-hook)
H1	Pick up (go off-hook)
I0	Display the 4-digit product code
I1	Display the checksum
I2	Display the RAM test results
I3	Display the firmware version
I4	Display the current modem settings
I5	Display user profiles
I7	Display the product configuration
I8	Display blacklist screen
I10	Display VXD configuration screen
I11	Display V.34 link screen
L0	Set modem speaker volume off
L1	Set modem speaker volume on (low)
L2	Set modem speaker volume on (medium)
L3	Set modem speaker volume on (high)
M0	The modem's speaker is always off
M1	The modem's speaker is on until a connection is made
M2	The modem's speaker is always on
M3	The modem's speaker is off during dialing, and on after dialing until the connection is made
O0	Return to online mode
O1	Return to online mode and retrain (automatically return to the highest speed)
S$	Display the list of S-register settings
Sr=n	Set S-Register "r" to "n"
Sr?	Display the value of S-Register "r"
V0	Display result codes in numeric form
V1	Display result codes in verbose form (words)
X0	Report basic call progress result codes, i.e., OK, CONNECT, RING, NO CARRIER, (also, for busy, if enabled, and dial tone not detected), NO ANSWER and ERROR
X1	Report basic call progress result codes and the connect rates—OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER, CONNECT XXXX and ERROR
X2	Report basic call progress result codes and the connect rates i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled), NO DIAL TONE, NO ANSWER, CONNECT XXXX and ERROR
X3	Report basic call progress result codes and connection rate i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY and ERROR
X4	Report all call progress result codes and connection rate i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, NO DIAL TONE and ERROR
Y0	On the next reset, use &W0 settings
Y1	On the next reset, use &W1 settings
Y2	On the next reset use, &F0 settings
Y3	On the next reset, use &F1 settings
Y4	On the next reset, use &F2 settings
Z0	Reset the modem according to the settings of ATY
Z1	Reset the modem and use &W0 settings
Z2	Reset the modem and use &W1 settings
Z3	Reset the modem using &F0 settings and load factory default profile 1
Z4	Reset the modem using &F1 settings and load factory default profile 0

Command	Function (3Com)
Z5	Reset the modem using &F2 settings and load factory default profile 2
$	Display the list of AT commands
&$	Display the list of ampersand commands
&A0	Disable data compression result codes
&A1	Enable data compression result codes
&A2	Enable modulation result codes
&A3	Enable data compression result codes and add V.42bis and MNP 5 protocol indicators
&B0	Use a floating DTE speed
&B1	Use a fixed DTE speed
&B2	Use a fixed DTE speed when using data compression
&C0	Carrier detect is always on
&C1	Carrier detect is controlled by the modem.
&D0	Ignore DTR
&D1	Use online command mode
&D2	DTE controls DTR
&D3	DTE controls DTR and reset
&F0	Set the factory profile that uses hardware (RTS/CTS) flow control (this is the active profile when the modem is shipped)
&F1	Set the factory profile that uses hardware (RTS/CTS) flow control
&F2	Set the factory profile that uses software (XON/XOFF) flow control
&G0	No guard tone
&G1	Use 550 Hz guard tone
&G2	Use 1800 Hz guard tone
&H0	Flow control for transmitted data - Disable flow control
&H1	Flow control for transmitted data - Enable hardware flow control (RTS/CTS)
&H2	Flow control for transmitted data - Enable software (XON/XOFF)
&H3	Flow control for transmitted data - Enable both software and hardware flow control
&I0	Flow control for received data - Disable flow control
&I1	Flow control for received data - send XON/XOFF signals to modems on both ends
&I2	Flow control for received data - send XON/XOFF signals to your modem only
&I3	HP Eng/Ack in Host mode
&I4	HP Eng/Ack in Terminal Mode
&I5	Flow control for received data - If error correction is used, send XON/XOFF signals to your modem only; if data compression is not used, look for incoming XON/XOFF
&K0	Disable data compression
&K1	Enable data compression (V.42bis, MNP 5, NONE)
&K2	Enable data compression (forces V.42bis)
&K3	Use selective data compression
&M0	Disable error correction in 1200 bps and faster transfers
&M4	Allow V.42 or MNP error correction in 1200 bps and faster transfers
&M5	Allow either V.42 or MNP error correction in 1200 bps and faster transfers
&Nn	Set link speed (bps): **0=Highest speed**, 1=300, 2=1200, 3=2400, 4=4800, 5=7200, 6=9600, 7=12000, 8=14400, 9=16800, 10=19200, 11=21600, 12=24000, 13=26400, 14=28800, 15=31200, 16=33600, 17=28000, 18=29333, 19=30666, 20=32000, 21=33333, 22=34666, 23=36000, 24=37333, 25=38666, 26=40000, 27=41333, 28=42666, 29=44000, 30=45333, 31=46666, 32=48000, 33=49333, 34=50666, 35=52000, 36=53333, 37=54666, 38=56000, 39=57333
&R1	Ignore RTS
&R2	Receive to DTE/RTS high
&S0	Data Set Ready (DSR) is always on

Command	Function (3Com)
&S1	Data Set Ready (DSR) signals that the modem is ready to send data
&Un	Set minimum link rate (bps): **0=Variable**, 1=300 , 2=1200, 3=2400, 4=4800, 5=7200, 6=9600, 7=12000, 8=14400, 9=16800, 10=19200, 11=21600, 12=24000, 13=26400, 14=28800, 15=31200, 16=33600, 17=28000, 18=29333, 19=30666, 20=32000, 21=33333, 22=34666, 23=36000, 24=37333, 25=38666, 26=40000, 27=41333, 28=42666, 29=44000, 30=45333, 31=46666, 32=48000, 33=49333, 34=50666, 35=52000, 36=53333, 37=54666, 38=56000, 39=57333
&W0	Store user profile 0 to memory
&W1	Store user profile 1 to memory
&Zn=s	Store phone number (n= 0,1,2,3)
&Zn?	Display phone number

S-Registers (3Com)

Register	Function (3Com)	Range	Default
S0	Number of rings before the modem auto-answers a call (0 means auto-answer is disabled and manual answer is in effect)	0-255	0 rings
S1	Counts and logs the number of rings	0-255	0 rings
S2	Designates the ASCII character used to indicate an escape character	0-127	43
S3	Designates the ASCII character used for carriage returns	0-127	13
S4	Designates the ASCII character used for line feeds	0-127	10
S5	Designates the ASCII character used for backspaces	0-127	8
S6	Dial tone wait time; if AT command X is set to X2 or X4, the modem ignores this register and dials as soon as it detects a dial tone (seconds)	2-255	3
S7	Carrier wait time (seconds)	1-255	60
S8	Pause in dialing time (comma in dialing string) (seconds)	0-255	2
S9	Carrier detect validation time (1/10 second)	1-255	6
S10	Delay time between lost carrier and hang up; if S10=255, the modem will not hang up when the carrier is lost; dropping DTR hangs up the modem (1/10 second)	1-255	7
S11	Duration of the touchtone dialing tone spacing (in milliseconds)	50-255	70
S12	Guard time for the escape code (1/50 second)	0-255	1
S13	Bitmapped register. 1=Reset on DTR loss 2=Reduced non-ARQ transmit buffer 4=Set DEL=backspace 8=Do DS0 on DTR 16=Do DS0 on Reset 128=Escape code hangup	0-255	0
S15	Bitmapped register. 1=MNP/V.42 disabled in V.22 2=MNP/V.42 disabled in V.22bis 4=MNP/V.42 disabled V.32, V.34 8=Disable MNP handshake 16=Disable MNP level 4 32=Disable MNP level 3 64=Unusual MNP incompatibility 128=Disable V.42 136=Disable V.42 detection phase	0-255	0
S16	Bitmapped test register. 2=Dial test	2	0

Register	Function (3Com)	Range	Default
S18	Test timer for AT command &T - when AT&T=0, the timer is disabled (seconds)	0-255	0
S19	Duration for inactivity timer; S19=0 disables the timer (minutes)	0-255	0
S21	Sets error correction break length (1/100 second)	0-255	1
S22	Designates the ASCII character code for XON	0-127	17
S23	Designates the ASCII character code for XOFF	0-127	19
S25	DTR debounce time indicator (1/100 second)	0-255	0
S27	Bitmapped register. 1=V.21 mode 2=Disable TCM 4=Disable V.32 8=Disable 2100Hz 16=Enable V.23 fallback 32=Disable V.32bis 128=Software compatibility mode		0
S28	V.32 Handshake Time (1/10 second)	0-255	8
S29	V.21 Answer Mode Fallback Timer (1/10 second)	0-255	20
S32	Connection bitmapped operations. 1=V.8 call indicate enable 2=Enable V.8 mode 8=Disable V.34 modulation 16=Disable V.34+ modulation 32=Disable X2 modulation 64=Disable V.90 modulation		2
S33	V.34 and V.34+ connection setup bitmapped control flags. 1=Disable 2400 symbol rate 2=Disable 2743 symbol rate 4=Disable 2800 symbol rate 8=Disable 3000 symbol rate 16=Disable 3200 symbol rate 32=Disable 3429 symbol rate 128=Disable shaping		0
S34	V.34 and V.34+ connection setup bitmapped control flags 16=Disable nonlinear coding 32=Disable transmit level deviation 64=Disable preemphasis 128=Disable precoding		0
S38	Delay before forced hangup (optional) (seconds)	0-255	0

Selected Result Codes (3Com)

Code	Meaning
0	OK
1	CONNECT
2	RING
3	NO CARRIER
4	ERROR
5	CONNECT 1200
6	NO DIAL TONE
7	BUSY
8	NO ANSWER

Modem Reference (Ambit)

In the following AT command table, default settings are shown in bold. All listed AT commands except A/ must be preceded by "AT."

AT Commands (Ambit)

Command	Function (Ambit)
A/	Re-execute command (not preceded by AT)
A	Go off-hook and attempt to answer a call
B0	Select V.22 connect @1200 bps
B1	Select Bell 212A connect @1200 bps
C1	Return OK message
Dn	Dial modifier
E0	Turn off command echo
E1	Turn on command echo
H0	Initiate a hang-up sequence
H1	If on-hook, go off-hook and enter command mode
I0	Report product code
I1	Report pre-computed checksum
I2	Report "OK" if the calculated checksum equals the prestored checksum or if the prestored checksum value is FFh
I3	Report firmware revision, model, and interface type
I4	Report response programmed by OEM
I5	Report the country code parameter
I6	Report modem data pump model and code revision
I7	Report the DAA code
L0	Set low speaker volume
L1	Set low speaker volume
L2	Set medium speaker volume
L3	Set high speaker volume
M0	Turn speaker off
M1	Turn speaker on during handshaking and turn speaker off while receiving carrier
M2	Turn speaker on during handshaking and while receiving carrier

Command	Function (Ambit)
M3	Turn speaker off during dialing and receiving carrier and turn speaker on during answering
N0	Turn off automode detection
N1	Turn on automode detection
O0	Go on-line
O1	Go on-line and initiate a retrain sequence
P	Force pulse dialing
Q0	Allow result codes to DTE
Q1	Inhibit result codes to DTE
Sn	Select S-Register n as default
Sn?	Return the value of S-Register n
Sn=v	Set default S-Register n to value v
T	Force DTMF dialing
V0	Report short form result codes
V1	Report long form result codes
W0	Report DTE speed only
W1	Report line speed, EC protocol and DTE speed
W2	Report DCE speed only
X0	Report basic call progress result codes, i.e., Ok, Connect, Ring, No Carrier (also, for busy, if enabled, and dial tone not detected), No Answer and Error
X1	Report basic call progress result codes and connections speeds (Ok, Connect, Ring, No Carrier (also, for busy, if enabled, and dial tone not detected), No Answer, Connect XXXX, and Error
X2	Report basic call progress result codes and connections speeds, i.e., Ok, Connect, Ring, No Carrier (also, for busy, if enabled, and dial tone not detected), No Answer, Connect XXXX, and Error
X3	Report basic call progress result codes and connections rate, i.e., Ok, Connect, Ring, No Carrier, No Answer, Connect XXXX, Busy, and Error
X4	Report all call progress result codes and connections rate, i.e., Ok, Connect, Ring, No Carrier, No Answer, Connect XXXX, Busy, No Dial Tone and Error
Y0	Disable long space disconnect before on-hook
Y1	Enable long space disconnect before on-hook
Z0	Restore stored profile 0 after warm reset
Z1	Soft reset and restore stored profile 1 after warm reset
&C0	Soft reset and force RLSD active regardless of the carrier state
&C1	Allow RLSD to follow the carrier state
&D0	Interpret DTR On-to-OFF transition per &Qn &Q0, &Q5, &Q6: The modem ignores DTR &Q1, &Q4: The modem hangs up &Q2, &Q3: The modem hangs up
&D1	Interpret DTR On-to-OFF transition per &Qn &Q0, &Q1, &Q4, &Q5, &Q6: Asynchronous escape &Q2, &Q3: The modem hangs up
&D2	Interpret DTR On-to-OFF transition per &Qn &Q0 through &Q6: The modem hangs up
&D3	Interpret DTR On-to-OFF transition per &Qn &Q0, &Q1, &Q4, &Q5, &Q6: Soft reset &Q2, &Q3: The modem hangs up
&F0	Restore factory configuration 0
&F1	Restore factory configuration 1
&G0	Disable guard tone
&G1	Disable guard tone

Command	Function (Ambit)
&G2	Enable 1800 Hz guard tone
&J0	Set S-Register response only for compatibility
&J1	Set S-Register response only for compatibility
&K0	Disable DTE/DCE flow control
&K3	Enable RTS/CTS DTE/DCE flow control
&K4	Enable XON/XOFF DTE/DCE flow control
&K5	Enable transparent XON/ XOFF low control
&K6	Enable both RTS/CTS and XON/XOFF flow control
&L0	Select dial up line operation
&M0	Select direct asynchronous mode
&M1	Select sync connect with async off-line command mode
&M2	Select sync connect with async off-line command mode and enable DTR dialing of directory zero
&M3	Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch
&P0	Set 10 pps pulse dial with 39%/61% make/break
&P1	Set 10 pps pulse dial with 33%/67% make/break
&P2	Set 20 pps pulse dial with 39%/61% make/break
&P3	Set 20 pps pulse dial with 33%/67% make/break
&Q0	Select direct asynchronous mode
&Q1	Select sync connect with async off-line command mode
&Q2	Select sync connect with async off-line command mode and enable DTR dialing of directory zero
&Q3	Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch
&Q4	Select Hayes AutoSync mode
&Q5	Modem negotiates an error corrected link
&Q6	Select asynchronous operation in normal mode
&R0	CTS tracks RTS (sync) or CTS is normally ON and will turn OFF only if required by flow control (async)
&R1	CTS is always active (sync) or CTS is normally ON and will turn OFF only if required by flow control (async)
&S0	DSR is always active
&S1	DSR will become active after answer tone has been detected and inactive after the carrier has been lost
&T0	Terminate any test in progress
&T1	Initiate local analog loopback
&T2	Returns ERROR result code
&T3	Initiate local digital loopback
&T4	Allow remote digital loopback (RDL)
&T5	Disallow remote digital loopback request
&T6	Request an RDL without self-test
&T7	Request an RDL with self-test
&T6	Request an RDL without self-test
&T7	Request an RDL with self-test
&T8	Initiate local analog loop with self-test
&V	Display current configuration and stored profiles
&V1	Display last connection statistics
&W0	Store the current configuration as profile 0
&W1	Store the current configuration as profile 1
&X0	Select internal timing for the transmit clock
&X1	Select external timing for the transmit clock
&X2	Select slave receive timing for the transmit clock
&Y0	Recall stored profile 0 upon power up
&Y1	Recall stored profile 1 upon power up
&Zn=x	Store dial string x (up to 34 digits) to location n (0 to 3)

Command	Function (Ambit)
%E0	Disable line quality monitor and auto retrain
%E1	Enable line quality monitor and auto retrain
%E2	Enable line quality monitor and fallback/fall forward
%L	Return received line signal level
%Q	Report the line signal quality
%TTn	PTT testing of signal level: 00-09=DTMF dial 0-9, 0A=DTMF *, 0B=DTMF #, 0C=DTMF A, 0D=DTMF B, 0E=DTMF C, 0F=DTMF D, 10=V.21 Channel 1mark symbol, 11=V.21 Channel 2mark symbol, 15=V.22 originate signaling at 1200bps, 16=V.22bis originate signaling at 2400bps, 17=V.22 answering signaling , 18=V.22bis answer signaling, 19=V.21 Channel 1space symbol, 1A=V.21 Channel 2 space symbol, 20=V.32 9600bps, 21=V.32bis 14400bps, 30=Silence, 31=V.25 answer tone, 32=1800Hz guard tone, 33=V.25 calling tone (1300Hz), 34=Fax calling tone (1100Hz), 40=V.21 channel 2, 41=V.27ter 2400bps, 42=V.27ter 4800bps, 43=V.29 7200bps, 44=V.29 9600bps, 45=V.17 7200bps long, 46=V.17 7200bps short, 47=V.17 9600bps long, 48=V.17 9600bps short, 49=V.17 12000bps long, 4A=V.17 12000bps short, 4B=V.17 14400bps long, 4C=V.17 14400bps short, 60=2400bps (V.34 only), 61=4800bps (V.34 only), 62=7200bps (V.34 only), 63=9600bps (V.34 only), 64=12000bps (V.34 only), 65=14400bps, 66=16800bps, 67=19200bps, 68=21600bps, 69=24000bps, 6A=26400bps, 6B=28800bps, 6C=31200bps, 6D=33600bps
	When modem receives a break from the DTE:
\K0,2,4	Enter on-line command mode, no break sent to the remote modem
\K1	Clear buffers and send break to remote modem
\K3	Send break to remote modem immediately
\K5	Send break to remote modem in sequence with transmitted data
	When modem receives \B in on-line command state:
\K0,1	Clear buffers and send break to remote modem
\K2,3	Send break to remote modem immediately
\K4,5	Send break to remote modem in sequence with transmitted data
	When modem receives break from the remote modem:
\K0,1	Clear data buffers and send break to DTE
\K2,3	Send a break immediately to DTE
\K4,5	Send a break with received data to the DTE
\N0	Select normal speed buffered mode
\N1	Select direct mode
\N2	Select reliable link mode
\N3	Select auto reliable mode
\N4	Force LAPM mode
\N5	Force MNP mode
\V0	Connect messages are controlled by the command settings X, W, and S95
\V1	Connect messages are displayed in the single line format
+MS=a,b,c,d	Select modulation (b, c, and d are optional) a is the mode (bps): 0=V.21 (300), 1=V.22 (1200), 2=V.22bis (2400, 1200), 3=V.23 (1200, 300), 9=V.32 (9600, 4800), 10=V.32bis (14400, 12000, 9600, 7200, 4800), 11=V.34 (33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400), 17=X2, V.90 (57333-33333), 64=Bell 103 (300) b is automode: 0=disabled, 1=enabled c is minimum rate (bps): 300-33600 d is maximum rate (bps): 300-33600
+H0	Disable Rockwell Protocol Interface (RPI)/Video ready mode
+H1	Enable RPI and set DTE speed to 19200 bps
+H2	Enable RPI and set DTE speed to 38400 bps
+H3	Enable RPI and set DTE speed to 57600 bps

Command	Function (Ambit)
+H11	Enable RPI+ mode
+H16	Enable Video Ready mode
**0	Download to flash memory at last sensed speed
**1	Download to flash memory at 38.4 kbps
**2	Download to flash memory at 57.6 kbps
-SDR=0	Disable distinctive ring
-SDR=1	Enable distinctive ring type 1
-SDR=2	Enable distinctive ring type 2
-SDR=3	Enable distinctive ring type 1 and 2
-SDR=4	Enable distinctive ring type 3
-SDR=5	Enable distinctive ring type 1 and 3
-SDR=6	Enable distinctive ring type 2 and 3
-SDR=7	Enable distinctive ring type 1, 2 and 3
ECC Commands	
%C0	Disable data compression
%C1	Enable MNP 5 data compression
%C2	Enable V.42 bis data compression
%C3	Enable both V.42 bis and MNP 5 compression
\A0	Set maximum block size in MNP to 64
\A1	Set maximum block size in MNP to 128
\A2	Set maximum block size in MNP to 192
\A3	Set maximum block size in MNP to 256
\Bn	Send break of n × 100 ms
MNP 10 Commands	
-K0	Disable MNP 10 extended services
-K1	Enable MNP 10 extended services
-K2	Disable MNP 10 extended services detection only
-SEC=0	Disable MNP 10-EC
-SEC=1, [<tx level>]	Enable MNP 10-EC and set transmit level <tx level> 0 to 30 (0 dBm to -30 dBm)
FAX Class 1	
+Fclass=1	Service class
+FAE=0	Disable data/fax auto answer
+FAE=1	Enable data/fax auto answer
+FRH=n	Receive data with HDLC framing
+FRM=n	Receive data
+FRS=n	Receive silence, n×10 ms
+FTH=n	Transmit data with HDLC framing
+FTM=n	Transmit data
+FTS=n	Stop transmission and wait, n×10 ms
AT* Commands	
*B	Display black-listed number
*Cn	Data calling tone selection
*NCn	Select country parameters: 0=US, 1=Japan, 2=Germany, 3=UK, 4=France, 5=Netherlands, 6=Italy, 7=Australia, 8=Sweden, 9=Denmark, 10=New Zealand, 11=Korea, 12=China, 13=Singapore, 14=Malaysia, 15=South Africa, 16=Poland, 17=Czech Republic, 18=Hungary, 19=Hong Kong, 20=Turkey, 21=Spain.

S-Registers (Ambit)

Register	Function (Ambit)	Range/units	Default
S0	Rings to auto-answer	0-255/rings	0
S1	Ring counter	0-255/rings	0
S2	Escape character	0-255/ASCII	43
S3	Carriage return character	0-127/ASCII	13
S4	Line feed character	0-127/ASCII	10
S5	Backspace character	0-255/ASCII	8
S6	Wait time for dial tone	2-255/s	2
S7	Wait time for carrier	1-255/s	50
S8	Pause time for dial delay modifier	0-255/s	2
S9	Carrier detect response time	1-255/.1 s	6
S10	Carrier loss disconnect time	1-255/.1 s	14
S11	DTMF tone duration	50-255/.001 s	95
S12	Escape prompt delay	0-255/.02 s	50
S14	General bit mapped options status		138 (8Ah)
S16	Test mode bit mapped options status (&T)		0
S18	Test timer	0-255/s	0
S19	AutoSync options		0
S20	AutoSync HDLC address or BSC Sync character	0-255	0
S21	V.24/general bit mapped options status		52 (34h)
S22	Speaker/results bit mapped options status		117 (75h)
S23	General bit mapped options status		62 (3Dh)
S24	Sleep inactivity timer	0-255/s	0
S25	Delay to DTR off	0-255/s or .01s	5
S26	RTS-to-CTS delay	0-255/.01 s	1
S27	General bit mapped options status		73 (49h)
S28	General bit mapped options status		0
S29	Flash dial modifier time	0-255/10 ms	70
S30	Disconnect inactivity timer	0-255/10 s	0
S31	General bit mapped options status		194 (C2h)
S32	XON character	0-255/ASCII	17 (11h)
S33	XOFF character	0-255/ASCII	19 (13h)
S36	LAPM failure control		7
S37	Line connection speed		0
S38	Delay before forced hangup	0-255/s	20
S39	Flow control bit mapped options status		3
S40	General bit mapped options status		104 (68h)
S41	General bit mapped options status		195(C3h)
S46	Data compression control		138
S48	V.42 negotiation control		7
S82	LAPM break control		128 (40h)
S86	Call failure reason code		0-255
S91	PSTN transmit attenuation level	0-15/dBm	10 (country dependent)
S92	Fax transmit attenuation level	0-15/dBm	10 (country dependent)
S95	Result code messages control		0

Selected Result Codes (Ambit)

Code	Meaning
0	OK
1	CONNECT
2	RING
3	NO CARRIER
4	ERROR
5	CONNECT 1200
6	NO DIAL TONE
7	BUSY
8	NO ANSWER

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 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, contact your local Hewlett-Packard dealer or Sales and Service office.

Country	Rated Voltage and Current	HP Part Number
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

Ergonomics

<table>
<tr><td>

WARNING

</td><td>

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.

</td></tr>
</table>

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 HP notebook models. See "To contact the HP Customer Care Center" on page 176 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 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).

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 the HP Customer Care Center" on page 176.

- 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 the HP Customer Care Center" on page 176.

- 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

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.

The computer generates and uses radio frequency energy and may interfere with radio and television reception. The computer 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 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

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 6000

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.

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.

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。

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)

Address:	Hewlett-Packard Company Mobile Computing Division 19310 Pruneridge Ave. Cupertino, CA 95014
	declares that the following product
Product name:	HP OmniBook 6000
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 IEC 825-1:1993 / EN 60825-1:1994, Class 1

EMC:	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

Supplementary Information:	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 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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