HP OmniBook XE3

Corporate Evaluator's Guide

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Edition History

Edition 1 . . . . July 2000

This manual is printed on recycled paper.

Contents

Introducing the Notebook Computer

Taking Inventory

Your HP notebook PC is shipped with these items:

- battery

- AC adapter and power cord

- *Quick Start* sheet

- HP notebook PC *Startup Guide*

- Recovery CD (or CDs), used to restore Windows and all software included with your computer

- Microsoft Windows manual (Windows 98 or Windows 2000)

- telephone cord (if your computer has a built-in modem)

Software bundled on your computer

Your HP notebook PC comes with preinstalled software, and various models are configured with different combinations of software. To see the list of software included with your computer, check HP Notes in the HP Library: click Start, Programs, HP Library, HP Notes—or double-click the HP Notes icon on the desktop.

To buy accessories

You can buy accessories for your computer online. For the latest accessories and options, visit us at www.hp.com/notebooks. As new accessories become available, you'll find them listed here.

At this time, HP offers the following accessories and replacement modules:

- port replicator

- auto/airline adapter

- AC adapter

- ultraslim AC adapter

- primary lithium ion battery

- PS/2 Y adapter for mouse and keyboard

- additional RAM—HP SDRAM:

  - 64 MB

  - 128 MB

To find more information

The following table lists other sources of information about your HP notebook PC and related products.

Source	Description
Quick Start sheet	This pictorial inttroduction shows you how to get the computer up and running quickly.
Startup Guide	The *Startup Guide* is the printed HP manual that came with your computer. It shows how to set up and operate your computer and where to go for help if you run into trouble.
Reference Guide	The *Reference Guide* is a help file located on your hard drive. It provides you with detailed information about your notebook PC (Start, Programs, HP Library, Reference Guide).
HP Notes	This document contains late-breaking information available after the *Reference Guide* was completed (Start, Programs, HP Library, HP Notes—or double-click the HP Notes icon on the desktop).
Introductory Microsoft manual for Windows	This manual contains information about using the standard features of Microsoft Windows (Windows 98 or Windows 2000, depending on which operating system your computer is shipped with).
HP Notebook PC Web Site	www.hp.com/notebooks
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 Notebook

Top and right side view
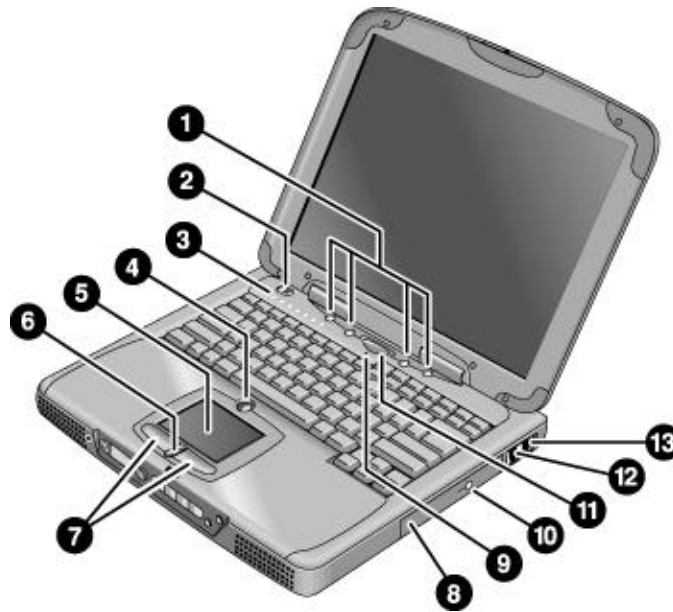
1	One-Touch buttons	8	CD-ROM drive or DVD
2	Power switch	9	Microphone
3	Status lights (see "Status lights" on page 17)	10	CD-ROM or DVD eject button
4	Pad Lock touch pad on/off button	11	Blue standby button
5	Touch pad (pointing device)	12	Modem port (on certain models)
6	Scroll up/down toggle	13	LAN port (networking—on certain models)
7	Click buttons		

Front view
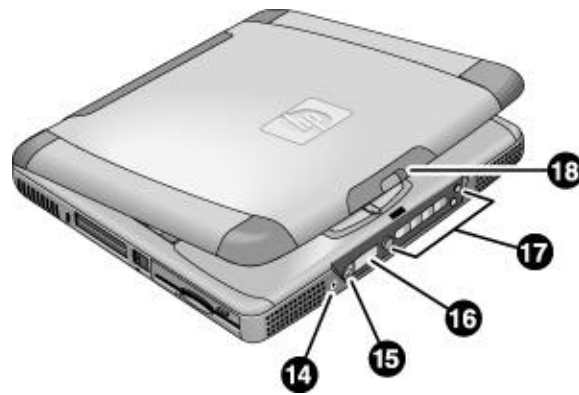
14   Headphone audio jack

15   Status panel mode select button

16   Status panel

17   Multimedia buttons (see "Multimedia Buttons" on page 17)

18   Latch (to open computer)

Rear and left side view

19	AC adapter (power) jack	26	USB ports
20	PS/2 port (external mouse or keyboard)	27	Microphone jack
21	Serial port	28	Kensington lock slot (security connector)
22	Parallel port	29	PC card slots
23	VGA port (external monitor)	30	System-off button (for resetting computer)
24	Infrared port	31	PC card eject buttons
25	TV output port	32	Floppy disk drive

Bottom view
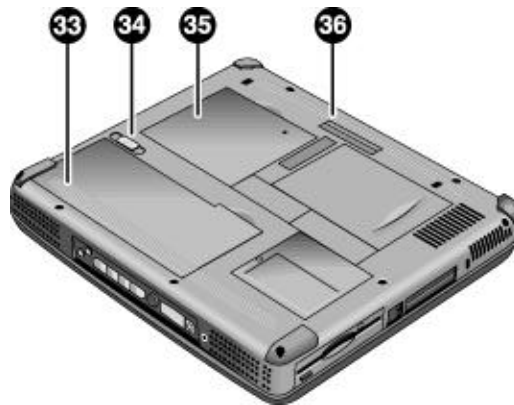
33	Battery
34	Battery latch
35	RAM expansion cover
36	Port replicator (docking) connector

Status lights
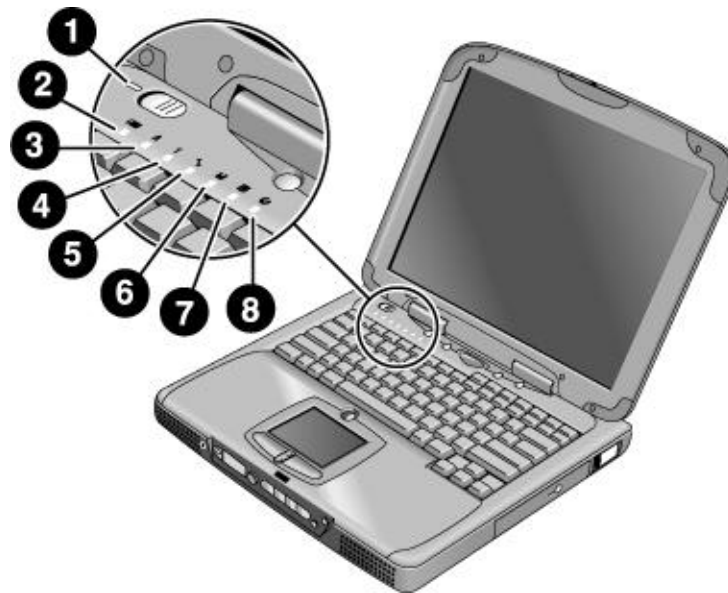
1	Power
2	Battery
3	Caps lock (capital letters)
4	Num lock (numeric keypad)
5	Scroll lock
6	Floppy disk drive access
7	Hard disk drive access
8	CD-ROM drive or DVD access

Multimedia buttons

The multimedia buttons are on the front of the computer, to the right of the status display. They control the computer's CD (or DVD) player in the same way the controls of a standalone multimedia player control its functions.

The buttons also work if the system is turned on, though in that case you don't need to use the multimedia power switch to turn on the player. When the computer is on, the volume control buttons also govern the volume for most other audio applications.

If the system is turned off (or in standby or hibernate mode), you can still use the player for audio CD playback. Slide the multimedia power switch to the left to activate the player without turning on the computer.
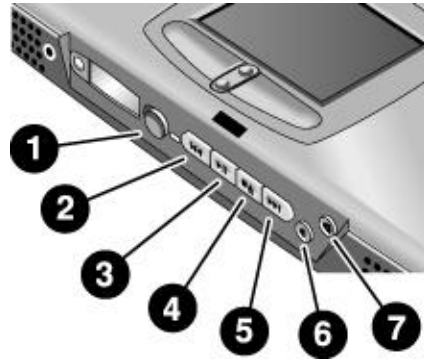
1	Multimedia power (use only when system is turned off or in standby or hibernate mode)
2	Previous track
3	Play/pause
4	Stop (when computer is on)* Stop/eject (when computer is off)
5	Next track
6	Volume control down
7	Volume control up
	*You can eject a CD or DVD by pressing the eject button on the CD/DVD drive.

Status panel

The status panel on the front of the computer provides information about CD playback status, system power management, system date and time, and battery status. Messages are displayed on the 8-character LCD display, and you can switch from one kind of message to another by pressing the mode button to the left of the display.

When the computer is on (or when the computer is off and the AC adapter is plugged in), these modes are displayed sequentially as you press the mode button:

- power management status: on, off, standby (STBY), or hibernate (ZZZZ)

- battery charging status: percentage charged

- date

- time

When the CD player is on and the computer is off, the CD playback mode is displayed. It shows the CD track number, the time elapsed, and an arrow when the CD is playing or two parallel lines when it is paused—and when you press the mode button, you can also display sequentially the four modes listed above.

When the computer is off, the CD player is off, and the AC adapter is not connected, you can view the status panel by sliding the multimedia power switch to the left to turn it on. Remember to turn it off when you are through checking the status panel.

If you change the Windows time or date (from Control Panel or the taskbar), the change displays on the status panel only after you shut down and restart the computer. Click Start, Shut Down, Shut down; and after the power is off, slide the power switch to restart.

If you want to change the format displayed for date or time in the status panel, change it in the BIOS; see "Using the BIOS Setup Utility" on page 74.

Power switch and standby button

There are two controls above the keyboard that affect power in the HP notebook PC. The switch at the top left turns computer power on and off, and the large blue button in the top center puts the system in standby mode—or, if it is already in standby mode, returns it to normal operation.

To use the power switch

To turn on the computer when it is off, slide the power switch to the left and release it. If the computer is plugged into AC power or contains a charged battery, the system turns on and Windows starts automatically.

When the computer is on, you can also use the power switch to turn the system off. In most situations, however, it is preferable to shut down Windows instead. Click Start, Shut Down, then select Shut down and click OK. Windows will shut down, and the computer will automatically turn off.

To use the standby button

You can use the standby button to save the current state of your computer and then to return quickly to the same state when you are ready to resume work.

To put the computer in standby mode when it is on, press the large blue standby button, which is found in the middle of the four smaller One-Touch buttons above the center of the keyboard. Pressing the standby button turns off the display and the hard disk drive, and it saves your current session to RAM. (Standby can also occur automatically when the timeout setting in the Power Management Properties is reached.)

To return the computer to normal operation when it is in standby mode, press the standby button again. The display and the hard disk drive will turn on, and the session you were working on earlier will be recovered from RAM.

Hint

If your notebook does not turn on when operating on battery power, the battery may not be sufficiently charged. Plug in the AC adapter and slide the power switch to the left and release it. Keep the adapter plugged in until your battery is charged again.

Setting Up Your Computer

To install the battery

Your computer is shipped with the battery installed. If the battery has been removed, you can install it by inserting it into the battery bay on the bottom of your computer. Insert the back edge first, as shown, then press down the front edge until the battery latch clicks shut.

Once you have installed the battery, connect the AC adapter to the computer and recharge the battery while you work. You can also replace a low battery with another that is more fully charged.

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

To connect AC power

Plug in the AC adapter, then connect the AC adapter to the rear of the computer. The battery starts charging.

CAUTION

Use only an HP AC adapter intended for this product, either the adapter that came with the computer or another authorized HP adapter. Using an unauthorized AC adapter can damage the computer and may void your warranty. Refer to the warranty statement for your product.

To connect a phone line

Selected models of the HP notebook PC include a built-in modem. If you prefer, you can instead use a PC card modem or an external modem to connect a phone line.

1. Plug one end of the phone line into the modem phone jack on the computer. Be sure it clicks into place.
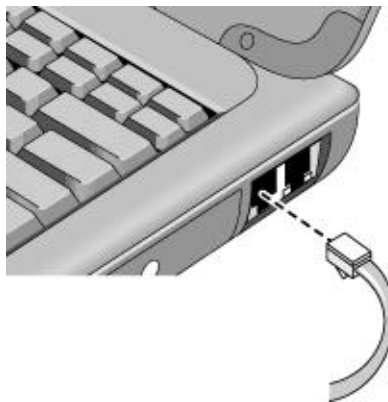
2. Plug the other end of the phone line into a telephone jack. (If the phone line does not fit your telephone jack, you may need to use an adapter.)

CAUTION   **Your built-in modem may not work with multiple phone lines or a private branch exchange (PBX), cannot be connected to a coin-operated telephone, and does not work with party lines. Some of these connections may result in excess electrical voltage and could cause a malfunction in the internal modem. Check your telephone line type prior to connecting your phone line.**

To turn on the computer

Slide the power switch to the left—it's the control above the left side of the keyboard. Windows starts automatically. If you are turning on the computer for the first time, go to "To set up Windows" on page 23.

The power status light next to the power switch (see "Status lights" on page 17) reports the following:

- steady green light: computer is on

- steady amber light: computer is in system standby (or suspend) mode

- no light: computer is off or in hibernate mode

See "Managing Power Consumption" on page 44 for additional information about turning off your computer.

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 slide the power switch to the left again.

To set up Windows

Your HP notebook has Microsoft Windows—either Windows 98 or Windows 2000—preinstalled on the hard disk drive. The first time you turn on your computer, a Windows Setup program will automatically run so that you can customize your setup.

Before you begin, connect the AC adapter to your notebook, since your battery may not be sufficiently charged to complete the Windows setup. Also, be sure to connect the notebook to a phone line; see "To connect a phone line" .

1. Slide the power switch to the left.

2. The Windows Setup program starts automatically.

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

    During setup, you are prompted to:

    - enter a user name
    - accept the License Agreement

You can also register your computer at this time. Follow the instructions on the screen during setup, or—if registration does not occur during setup—double-click the HP Notebook Registration icon on the desktop.

Note

You may be required to enter your Windows ID number. To locate it, look on the Certificate of Authenticity packaged with the Microsoft Windows manual or look for a sticker in the battery compartment.

If you have any connection problems with your modem, try redialing. If that doesn't work, you can skip registration for now.

To register your computer

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

There are three ways to register:

- by modem
- by phone
- by fax

By modem

If you have Windows 98, you are prompted automatically to register. To register by modem, see that the phone is connected, then follow the onscreen instructions.

If you have Windows 2000, you are not prompted to register, but you can register by modem if you double-click the HP Notebook Registration icon on the desktop or click the Register link in the Windows 2000 welcome screen. See that the phone line is connected and follow the onscreen instructions.

With either operating system, if you choose not to register right away, you can register by modem later by double-clicking the Registration icon on the desktop. This icon disappears after you register.

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

By phone

You can call your HP Customer Care Center and register by phone. Check "To call the HP Customer Care Center" on page 126 for the phone number.

By fax

If a printer is connected to your computer, you can print a copy of your registration and fax it to HP. You will find the fax number on the registration form.

By completing registration, you will:

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

- Record your ownership of the Windows 98 operating system with Microsoft. If you have Windows 2000, please contact Microsoft separately for registration of the operating system.

To connect to an Internet Service Provider

Before you can connect to the Internet, you need to set up an account with an Internet Service Provider (ISP). In some countries, Hewlett-Packard provides easy Internet signup so that you can connect quickly to an ISP.

1. Connect the included telephone cord to your built-in modem. (If your computer does not have a built-in modem, you can instead use a PC card modem or an external modem.)

2. Double-click the desktop icon labeled "Connect to the Internet." This will launch the Internet Connection wizard, which will help you locate an ISP in your area.

OR

Click Start, Programs, Online Services and select one of the listed ISPs. This begins the registration process for the ISP you have chosen.

You can also make arrangements with an ISP of your choice for Internet connection.

To reset your computer

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

1. If possible, shut down Windows (Start, Shut Down, Shut down, OK).

2. If the computer does not shut down, slide and hold the power switch for five seconds, then release it.

3. If the computer still does not shut down, insert a pin or straightened paper clip into the recess on the left side of the computer, underneath the PC card eject buttons.
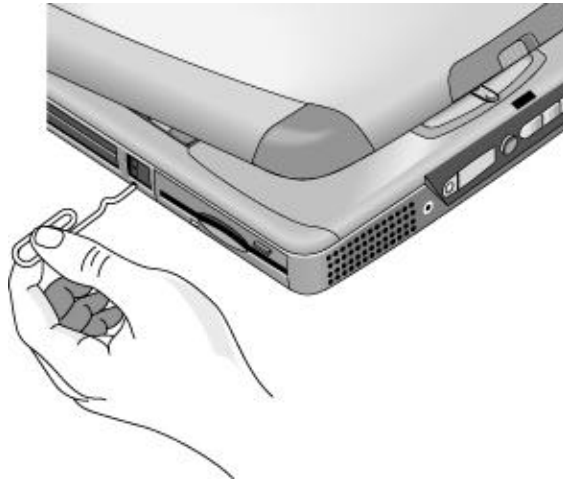
4. After the computer shuts down, slide the power switch and release it to turn the computer on again.

Using Your Computer

Operating Your Computer

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. Press *and hold* Fn while pressing the appropriate key. (When using an external keyboard, press and hold Ctrl+Alt with the appropriate key—use the Ctrl and Alt keys on the left side of the keyboard.)

Hot key	Does this
Fn+F1	Decreases the display's brightness
Fn+F2	Increases the display's brightness
Fn+F5	Switches among the built-in display, an external display, and simultaneous displays
Fn+F7	Toggles the sound on and off (mutes sound)
Fn+F8	Toggles the numeric keypad on and off
Fn+F12	Enters hibernate mode (in Windows 2000 only)
Fn+Lock key*	Toggles Scroll Lock on and off (except on external keyboard)
Fn+Up arrow	Increases sound volume (except on external keyboard)
Fn+Down arrow	Decreases sound volume (except on external keyboard)

*The Lock key is in the top row of the keyboard:

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 click the right mouse button while pointing at the application.

Windows key combinations

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

To use the embedded keypad

After pressing Fn+F8 to activate the numeric keypad, press the Lock key
(in the top row of the keyboard) to turn number lock on or off:

When number lock is on:

- Keys change to the numeric or arithmetic designations printed on the right side of the keys in the numeric keypad area.

- The Num Lock status indicator is lit.

To use the ALT GR key

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

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

1. Shifted.

2. Unshifted.

3. ALT GR.

To adjust the display brightness

You can adjust the brightness of your notebook's display.

- To decrease the brightness, press Fn+F1.

- To increase the brightness, press Fn+F2.

When you are using battery power, the display dims automatically to conserve power. You can use the brightness controls to override this adjustment.

To adjust the volume

From the keyboard

- To increase the volume, press Fn+Up arrow.

- To decrease the volume, press Fn+Down arrow.

- To temporarily silence the speaker without changing the volume setting, press Fn+F7. Press Fn+F7 again to restore the speaker output.

In Windows

1. Click the speaker symbol in the taskbar.

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

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

With the multimedia buttons

When the computer is on, the volume control buttons on the front of the computer govern volume for most audio applications, including the CD player. When the computer is off, you can use these buttons to adjust the volume for music CDs.

- To increase the volume, press the volume control up button.

- To decrease the volume, press the volume control down button.

From within an application

Many audio applications contain volume controls within the software; consult help in an application to use such controls. In some cases, the application responds only to those controls.

To use the touch pad

The touch pad, a touch-sensitive pointing device that controls the motion and speed of the pointer on the screen, is built into your computer.
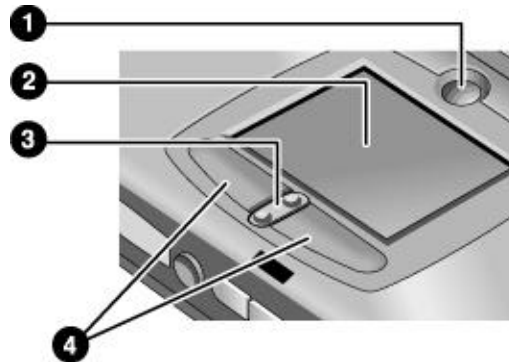
1	Pad Lock touch pad on/off button
2	Touch pad (pointing device)
3	Scroll up/down toggle
4	Click buttons

- Move a thumb or finger across the touch pad in the direction you want the pointer to move.

- Use the click buttons, which function like the left and right buttons on a mouse, to make your selection. You can also tap on the touch pad instead of clicking a button.

- To open an application, move the pointer over the icon, then press the left click button twice rapidly (double-click). You can instead tap twice on the touch pad.

- To make a menu selection, move the pointer to the item and click the left click button once.

- To open the shortcut menu for an item, move the pointer over the item and click the right click button.

- To drag an item, move the pointer over the item. Press and hold the left click button while you move the pointer to the new location. Release the button.

- To scroll up and down, press the top or bottom of the center toggle below the touch pad.

- To disable the touch pad, press the Pad Lock button. (The amber touch pad indicator lights.) To reenable it, press the Pad Lock button again. You may wish to disable the touch pad, for example, when you are entering text and do not want to move the cursor accidentally. Avoid contact with the touch pad itself at the same time you are pressing the Pad Lock button (to disable or to reenable); simultaneous contact will not allow the Pad Lock button to work properly.

To customize the operation of the touch pad (and an external PS/2 or serial mouse, if installed), double-click the Synaptics Touch Pad icon to access Mouse Properties; you will find the icon in the taskbar, toward the lower right corner of your screen. Select the tab corresponding to the characteristics you want to configure, including:

- button configuration for right-handed or left-handed operation (Button tab for mouse, Button Actions tab for touch pad)

- double-click speed, pointer speed, and pointer trail

- click sensitivity

Note   The touch pad is inactive when an external mouse is installed.

To use the One-Touch buttons

The One-Touch buttons on your HP notebook allow you to start your e-mail or a Web browser—or any other application—by pressing a single button. The buttons are configured initially for specific applications, but you can change the configuration to start any applications you want.

When you press a One-Touch button, the name of the application that's starting appears onscreen. You can modify the appearance of the name by selecting the color, size, and style you prefer.

To configure a One-Touch button

1. Click Start, Settings, Control Panel.

2. Double-click Keyboard.

3. Select the One-Touch buttons tab.

4. Click on the button of the key you want to reconfigure.

5. In the Button Label field, type the name of the application you want to start with this button. This name will appear onscreen when you press the button.

6. From the list of preinstalled applications, select the application to be associated with the button.

   OR

   If the desired application is not on the list, select "Select a file on your computer" and click the Browse button to choose any file on your notebook.

   OR

   If you want to attach a Web page to the button, select "Type in a Web site address" and then select a Favorites page or type the URL of the page you want.

7. If you want the computer to start automatically (and then start this application—or find this website), select "Enable system wake-up for this button."

8. Click Done, then OK.

To format display of application names

When you press a One-Touch button on your HP notebook, the name of the application that is starting appears onscreen. You can change the size, color, and font of the display, as well as the length of time it appears. (These settings also affect the display of multimedia messages when you play an audio CD or a movie DVD.)

To format the display

1. Click Start, Settings, Control Panel.

2. Double-click Keyboard.

3. Select the One-Touch buttons tab.

4. Click Change Onscreen Display.

5. Follow the instructions below for specific formatting actions.

To change the font of the display

1. Select Change Font.

2. Choose the desired typeface and style.

3. Click OK, then Done, then OK.

To change the color of the display

1. Select Change Color.

2. Click on the desired color swatch.

3. Click OK, then Done, then OK.

To enable or disable Onscreen Display

1. Check Enable to enable onscreen display. (Or uncheck Enable to disable.)

2. Click Done, then OK.

To change the size of the display

1. Click the Size arrow.

2. Select the desired size.

3. Click Preview to see a sample message displayed in that size.

4. Click Done, then OK.

To change the length of time the display appears

1. Click a Timeout arrow repeatedly to choose a number from 1 to 10 seconds.

2. Click Preview to see a sample message displayed for that time.

3. Click Done, then OK.

Securing Your Computer

It is important to maintain security of the computer and of your data. You can improve security by—among other methods—using a password, locking the computer with a cable, or setting up virus protection.

To set up password protection

You can protect your computer from access by another user when you set up password protection, which is available either through Windows (software) or through the BIOS Setup utility (hardware). Both methods provide protection when the computer is rebooted: a user must then enter the password. However, the BIOS password protection does not ask for a password when your computer resumes after standby (suspend) or hibernate, while Windows does provide that security.

If you want to set up hardware password protection, see "Using the BIOS Setup Utility" on page 74.

To set up password protection in Windows 98

1. Click Start, Settings, Control Panel.
2. Double-click Passwords.
3. Select Change Passwords tab.
4. Click Change Windows Password.
5. Enter your old Windows password, if you had one; if not, leave Old Password blank.
6. Enter your new password twice.
7. Click OK and Close.

To activate password protection when resuming in Windows 98

1. Check that you have set up a Windows password, as described above.
2. Click Start, Settings, Control Panel
3. Double-click Power Management.
4. Select Advanced tab.
5. Check "Prompt for password when computer goes off standby."

6. Click OK.

To set up password protection in Windows 2000

1. Press Ctrl+Alt+Del.

2. Click Change Password.

3. Enter your old Windows password, if you had one; if not, leave Old Password blank.

4. Enter your new password twice.

5. Click OK.

6. Click Cancel

If you want to set up hardware password protection for a non-Administrator account, see Windows Help (click Start, Help).

To attach a security cable

Your computer has a built-in connector that allows you to secure the computer with a cable. The Kensington MicroSaver lock system works with this connector and is available at many computer stores.

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

2. Loop the cable to create a slipknot around the stationary object—make sure it can't slip off.

3. Insert the lock into the computer's security connector and release the key. Store the key in a safe place away from the computer.

To use virus-protection software

Virus-protection software can help protect the integrity of your data. This is especially important when you are connected to the Internet.

To access virus-protection software, click Start, Programs, VirusScan (or if you use a different application, click Start, Programs and the name of your software). Refer to help within the application for tips on usage.

Working in Comfort with a Notebook PC

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

Note that if you are using your portable computer as your primary computer, or using it for extended periods, you should use it with a full-size keyboard, monitor, and mouse. This will give your portable computer the adjustability and comfort features of a desktop unit. HP 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.

WARNING   **Improper use of keyboards and other input devices has been associated with ergonomic injury. For more information about reducing your risk, visit our ergonomics website or see *Working in Comfort* in the online HP Library.**

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. Your HP notebook computer has a built-in palm rest, which is ideal for this purpose.

- 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 1.5 and 4 kilograms (approximately 3 to 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.

Caring for Your Computer

Here are some recommendations for maintaining your computer during everyday use, as well as preventing potential physical damage or data loss.

To protect your hard disk drive

Hard disk drives, like 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.

- Standby 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 cause loss of data or damage to the drive.

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

- Set the computer down gently.

- When the computer has been in a very cold or very hot environment, do not start it again until it has returned to a more moderate temperature.

To take care of your computer

- Provide adequate ventilation around the computer. Ensure that the laptop is sitting on a flat surface, so that air is able to flow underneath the unit. See that there is adequate clearance to the rear and sides of the computer, so that fan vents are not blocked.

- Be sure to standby or shut down the computer before putting it in a carrying case or other enclosed space.

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

- Do not use the computer outside in the rain or snow (or other inclement weather) or in any extremes of temperature or humidity.

To safeguard your data

- Do not touch the touch pad or activate any other device that interrupts operation while the system is starting or stopping.

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

- Use a virus-scanning program, such as the included application (VirusScan, for example), 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 for VirusScan are on the Web at www.networkassociates.com; if you are using another application, see help for updating information.

- For Windows 98, check your disk using the scandisk utility (click Start, Programs, Accessories, System Tools, ScanDisk).

- For Windows 2000, check your disk using error-checking (open My Computer, select the disk you want to scan, click File, click Properties, select the Tools tab, and click Check Now).

To extend the life of the display

Observe the following guidelines to extend the life of the backlight in the computer display.

- 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.

- Set the brightness control to the minimum level for your comfort (Fn+F1 or Fn+F2).

To get the most from your batteries

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

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

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

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

- For long-term storage, the battery must be charged at 20–50% to minimize capacity loss by self-discharge and to avoid deterioration of battery performance.

- For a model with a dual-speed processor, use the lower speed on battery power (see "To control the processor speed" on page 49). The default settings conserve battery power.

To clean your computer

You can clean the computer with a soft cloth dampened either with clean water or with water containing a mild detergent.

- Do not use an excessively wet cloth or allow water inside the case.

- Do not use any abrasive cleaners, especially on the display. Do not apply any cleaner directly to the display. Instead, apply the cleaner to a soft cloth and then gently wipe the display.

- You can clean the keyboard with a vacuum cleaner to remove accumulated dust.

Traveling with Your Computer

Managing Power Consumption

When you are not using your computer, you will want to maximize battery operating time without compromising performance. It is not necessary to turn the computer off in order to reduce power consumption and extend battery life.

With Windows 98 and Windows 2000, Advanced Configuration and Power Interface (ACPI) provides both manual and automated tools for reducing power consumption.

- You can set power management options to occur automatically, based on timeout values that you have entered. See "To use automated power management" below.

- You can also invoke power management options manually at any time by pressing the appropriate key. See "To use manual power management" below.

To use automated power management

System standby, monitor, and hard disk timeouts automatically occur based on the values set in the Power Management Properties window. The following tables describe the power management timeouts you can set in Windows.

Turn off monitor

Action	Turns off the display. This conserves battery power and extends the life of the display.
When	No activity of the keyboard or mouse for the specified interval.
Resume	Press any key or move the pointer to return to your current session.

Turn off hard disk

Action	Turns off only the hard disk drive. This is usually set to occur shortly after the monitor is turned off.
When	No hard disk access for the specified interval.
Resume	Press any key or move the pointer to return to your current session.

System standby

Action	Turns off the display and hard disk drive to conserve battery power.
When	No activity of the keyboard or mouse, no disk drive access, and no port (serial, parallel, or IR) activity for the specified interval.
Resume	Press the blue standby button to return to your current session.

A message box appears 15 seconds before system standby takes effect. This allows you to stop the process and save your work if you have not recently done so. (In Windows 98 and Windows 2000, *standby* and *suspend* are equivalent terms.)

CAUTION

Make a habit of saving your work before allowing your computer to go to system standby. If there is an interruption in power while the computer is in standby, information that has not been saved will be lost.

You can also create power schemes that will automatically shut down the computer components after a specified period of nonuse. Define these schemes so that they best support the ways you use your computer.

To set power management properties

1. Click Start, Settings, Control Panel.

2. Double-click Power Management in Windows 98; double-click Power Options in Windows 2000. (For details see Windows help.)

3. Set the timeout periods you prefer. (You can choose Never, but that setting is not recommended for hibernate mode.)

4. Click OK.

To use manual power management

You can shut down your computer manually whenever you need to with any of the following three levels of shutdown.

System standby

Action	Turns off the display and hard disk drive.

When	Press the blue standby button.
Resume	Press the blue standby button to return to your current session.

System standby can also occur automatically when the timeout setting in the Power Management Properties window is reached. (In Windows 98 and Windows 2000, *standby* and *suspend* are equivalent terms.)

Hibernate

Action	Saves the current session to disk, then shuts down. Provides maximum power savings while still allowing you to recover the current session.
When	Press Fn+F12 (in Windows 2000 only).
Resume	Slide the power switch to the left to recover your current session. This takes several seconds.

In Windows 2000, hibernate mode also occurs automatically when battery power reaches a critically low level; see "To respond to a low-battery warning" on page 48.

In Windows 98, hibernate mode occurs automatically with low battery power, but manual initiation of hibernate is not available (except that, if you wish, you can modify the default setting for the power switch or the standby button to initiate hibernate mode instead).

Off

Action	Turning off your computer provides maximum power savings. The current session is not saved and unsaved data will be lost.
When	Start, Shut Down, Shut down.
Resume	Slide the power switch to the left to start a new session. This will take several seconds.

If the system stops responding and you are not able to turn off the computer as described above, you can still recover; see "To reset your computer" on page 26.

Note

When the system hibernates as a result of a critically low battery, you will find when resuming that all your data has been saved but that some functions may be disabled. To resume normal operation, restore power (by connecting AC power or installing a charged battery), perform a full shutdown, and then restart the computer.

Using Battery Power

You can operate the HP notebook PC on battery power for extended periods, but you should be prepared to save your work and shut down if the battery is low. Follow the tips in this section to maximize the length of time you can operate on battery power.

To check the battery status

From the battery status light

The battery status light reports the following information:

Green   AC attached—battery full

Amber   AC attached—battery charging

Red   AC attached—battery will not accept charge (abnormal)

From the Windows taskbar

The System Tray on the Windows taskbar includes a power icon that allows access to more detailed battery status information. The icon looks like a battery when AC is not connected.

• Place pointer over the power icon to display a percentage of remaining time.

• Right-click the power icon to view the options for displaying power information.

• Left-click the power icon to display a menu of the available power schemes.

From the status panel

Press the status panel mode button repeatedly until you see the battery icon and the percentage of charge remaining.

To respond to a low-battery warning

The computer automatically alerts you when the battery power drops to a critically low level. First you will hear a high-pitched beep. Then, if you have not taken restorative action within a short time, the system hibernates.

You won't be able to turn the computer on again until you restore power by one of the following actions:

• Plug in the AC adapter (see "To connect AC power" on page 21).

  OR

• Replace the battery with one that is charged (see "To install the battery" on page 21).

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

To optimize battery operating time

• Plug in the AC adapter, especially while using the CD-ROM drive or DVD, the floppy disk drive, or any external connections such as a PC card or a modem.

• 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 have finished using it.

- Turn off the CD player when you are not using it.

- For a model with a dual-speed processor, use the lower speed on battery power (see "To control the processor speed" on page 49). The default settings conserve battery power.

- See "Managing Power Consumption" on page 44 for other ideas about reducing power consumption while the computer is not in use.

To control the processor speed

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

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

To use automatic speed changes

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

- If you unplug the AC adapter while the computer is running or on standby, the processor changes to low speed.

- If you plug in the AC adapter while the computer is running or on standby, the processor changes to high speed.

To change speed settings

- To set the speed used by the processor at boot, or to disable the dual-speed feature, change the Intel SpeedStep Technology setting in BIOS Setup in the Power menu. For information on how to run BIOS Setup, see "Using the BIOS Setup Utility" on page 74.

- To set the speed used by the processor while Windows is running, double-click the Intel SpeedStep Technology icon in the taskbar or use the Control Panel Power icon.

Making Connections

Using the Modem

By connecting your modem to a telephone line, your PC can communicate with other networked computers. You can explore the Internet, send and receive e-mail messages, and send and receive faxes. Your HP notebook PC 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

- QuickLink III, for sending and receiving faxes (for Windows 98)

- Fax, for sending and receiving faxes (for Windows 2000)

Selected models of the HP notebook PC include a built-in high-speed V.90 modem. This modem allows you to connect to any Internet Service Provider (ISP) 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 14.4Kbps. Even though the built-in modem is capable of downloading at 56Kbps, your ISP may not operate at this speed; please check with your service provider for information. Transmission rates also depend on the condition of the telephone line.

If your computer does not have a built-in modem (or if you prefer to use a different modem), you can install a PC card modem or attach an external modem to the serial port.

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 (or connect to a PC card or external modem). If the plug on the phone cord doesn't fit the modem jack, you may need to buy an adapter.
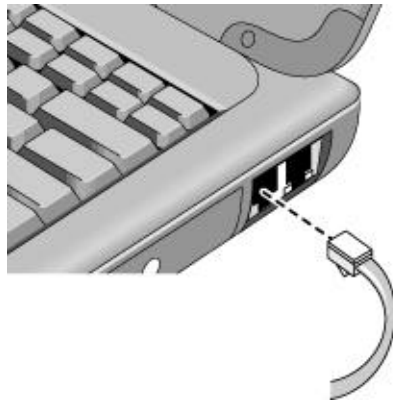
Special notes about using a modem in certain countries

- 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.

- Many countries impose a blackout period after a modem repeatedly fails to connect to a service provider. The number of failed attempts and the period of time you must wait before trying again differ from country to country. Check with your telephone company. For example, if you are dialing from Italy and you fail to connect to your server or cancel the connection, you must wait one minute before dialing that same number again. If you dial before then, you will get an error message that says "delay." After the fourth failed connection, you will need to wait one hour before trying the number again. If you dial before the hour is up, you will get a message that says "black list."

- When using a modem in the Republic of South Africa, an external surge protector may be necessary in order to prevent computer damage by lightning or other electrical surges. Connect any approved surge protector to the modem cable whenever you are using the modem.

To connect to the Internet

If you have not yet signed up with an Internet Service Provider (ISP), see "To connect to an Internet Service Provider" on page 25 for instructions.

When you have signed up with an ISP, you can connect to the Internet. Choose one of the following:

- If you signed up with AOL, double-click the AOL icon on the desktop.

- If you signed up with another ISP, double-click the Internet Explorer icon on the desktop, and then 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) next to the clock on the taskbar. You are now ready to explore the Internet. To go to a specific website, enter the address (for example, 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 use AOL as your ISP

When you use AOL as your Internet Service Provider, you can access the Internet only with AOL's own software; you can't use a standard browser like Internet Explorer. As a result:

- You cannot view websites by clicking on links (such as those in the electronic *Reference Guide* that link to the HP notebook website).

- You cannot go to a website by entering the address in Windows Explorer.

If you try to access the Internet without using the AOL software, the Internet Connection wizard automatically launches, asking you to sign up for an ISP. In that case, cancel the wizard and launch AOL.

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.

- To disconnect from AOL, use the Sign Off menu.

- To disconnect from other ISPs, double-click the connect icon (two connected computers next to the clock) on 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 98) or Phone And Modem Options (Windows 2000) in Control Panel to change many modem settings.

  For Windows 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" and contain additional characters. For a list of AT commands for the built-in modem, see "Modem Reference Information" " on page 145.

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

To send and receive e-mail

The steps for sending and receiving e-mail depend on your Internet provider. If you are using AOL, e-mail is part of your AOL service. For other ISPs, you can use Outlook Express (included with your computer) or an e-mail system of your choice. This section includes instructions for using Outlook Express.

To start Outlook Express

1. Double-click the Outlook Express icon 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. Start Outlook Express.

2. Click the New Mail tool on the toolbar.

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

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

To receive e-mail messages

1. Start Outlook Express.

2. Click the Send/Recv tool on the toolbar to have Outlook deliver new messages.

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

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

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 III fax software is included with Windows 98 on the hard disk.

To start QuickLink

With Windows 98:

- Click Start, Programs, QuickLink III, QuickLink III.

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

With Windows 98:

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 III, then print the document.

To receive faxes

With Windows 98, 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

With Windows 98:

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

With Windows 2000:

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

With Windows 2000:

- 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 the document.

To receive, view, and print faxes

With Windows 2000, if you enabled the modem to receive faxes, they are received automatically.

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 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 in some cases also 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.
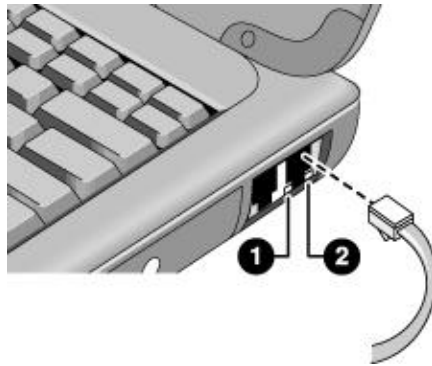
3. Windows 2000 automatically detects and sets up a LAN connection.

   For Windows 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 under 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 two PC card slots are available for storing data and expanding communication capabilities. Your computer supports standard Type I, II, and III PC cards (PCMCIA and CardBus). You can use one slot or both.

CAUTION

Do not remove a PC card while the computer is reading or writing data. If you do, you could lose data, or the computer could stop responding.

To insert a PC card

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

2. Slide the PC card into the upper or lower slot until it is flush with the computer.
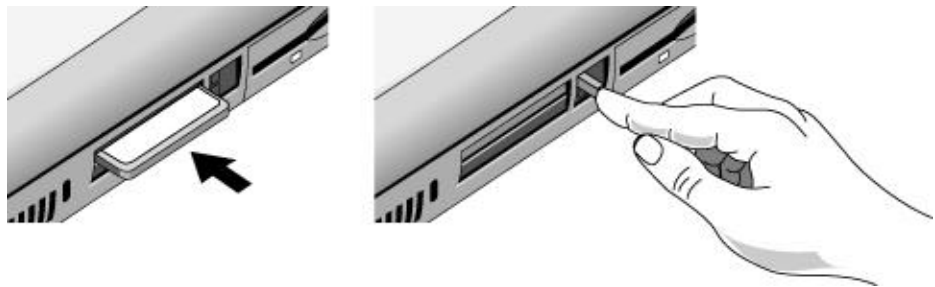
To remove a PC card

1. Stop the PC card:

    - Double-click on the PC card icon in the lower right of your screen.

    - In PC Card Properties, select the PC card you want to stop.

    - Click Stop.

2. Flip the eject button out, so that it sticks out from the side of the computer.

3. Press the eject button and pull out the PC card.

To reestablish network connection after resume

When you are using a network PC card, it is possible that you will lose network connection after a resume operation. If this occurs:

1. Stop the network PC card:

    - Double-click on the PC card icon in the lower right of your screen.

- In PC Card Properties, select the network card.
- Click Stop.

2. Flip the eject button out, so that it sticks out from the side of the computer.

3. Press the eject button and pull out the network card.

4. Insert the card again to reestablish network connection.

Connecting External Components

You can connect external components—such as a printer, mouse, monitor, or keyboard—directly to your computer or to the optional port replicator.

To identify the ports

Using the ports on the rear of the computer or on the port replicator, you can connect the following external components. Table numbers refer to numbers in the figures.

Component	Port location on	
	Notebook	**Port replicator**
Audio device (input)	—	10
Infrared device	8	—
Microphone	5	12
Modem (serial)	2	5
Monitor	3	7
Printer (parallel)	7	6
Printer (serial)	2	5
PS/2 keyboard	6*	3
PS/2 mouse	6*	2
Speakers	—	11
TV set	4	8
USB device	9	9

*You can use a Y adapter (HP F1469A) to connect both a keyboard and mouse to your computer.

Notebook ports

1   AC adapter jack
2   Serial port
3   VGA port (external monitor)
4   TV out
5   Microphone port
6   PS/2 port
7   Parallel port
8   Infrared port
9   USB ports

Port replicator ports

1	AC adapter jack
2	PS/2 mouse port
3	PS/2 keyboard port
4	LAN port (networking)
5	Serial port
6	Parallel port
7	VGA port (external monitor)
8	TV out
9	USB ports (2)
10	Audio in
11	Audio out (external speaker)
12	Microphone port

To connect a printer (or another parallel device)

The 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 parallel printer cable or other parallel cable to the parallel port of the computer or the port replicator.

Note   If you connect a Zip drive to the parallel port, you can enhance its performance by installing the accelerator software supplied with your Zip drive.

To connect an external keyboard or PS/2 mouse

The 6-pin PS/2 port allows you to attach an external keyboard or a PS/2-compatible mouse to the computer. While an external PS/2 mouse is connected, the touch pad is normally disabled. The computer provides one PS/2 port; the optional port replicator provides two PS/2 ports.

- Plug the mouse or keyboard PS/2 cable into the PS/2 port on the computer, or plug either or both PS/2 cables into the PS/2 ports on the port replicator.

- To connect both a mouse and keyboard to the computer, use the PS/2 Y adapter, which is available separately.

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

Note　　To use hot keys from an external keyboard, substitute Ctrl+Alt for the computer Fn key. Use the Ctrl and Alt keys on the left side of the keyboard. For example, to access Fn+F2 (increase display brightness), press Left Ctrl+Left Alt+F2.

To connect a USB device

Universal serial bus (USB) provides a bidirectional serial interface for adding peripheral devices—such as game controllers, serial and parallel ports, and scanners—on a single bus. The computer provides two USB ports; the optional port replicator also provides two USB ports.

- Attach the USB cable to the USB port on the computer or to either USB port on the port replicator. 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 vendor of the peripheral device, as well as the HP website, for the latest versions of the USB drivers.

To connect audio devices

There is a built-in microphone located just below the blue standby button. You can use it to record voice, sound, and music. You can also plug in an audio input source (such as a CD player or an external microphone) or an audio output device (such as external speakers or headphones).

- Attach the audio cable to the appropriate port—audio in, audio out, or microphone port on either the computer or the port replicator; see "To identify the ports".

Note　　When you plug a device into the 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 use infrared devices

You can communicate between your HP notebook PC and infrared devices without using cables.

To enable the infrared port

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:

1. Reboot your computer.

2. When you see the HP logo, press F2.

3. Select the System Devices menu.

4. Set Infrared Port to Enabled.

5. Set Mode to FIR.

6. If DMA channel conflicts with Parallel port DMA channel, change Parallel port Mode to EPP.

7. Save and Exit to continue reboot.

To set up the infrared connection

Your notebook provides one infrared (IR) port located on the rear panel. The infrared port provides wireless, serial communication between your computer and other IR-equipped devices such as printers and other computers.

- Line up the notebook's IR port and the other IR port in as straight a line as possible. The two ports should be no more than one meter apart, with no obstructions in between. Noise from nearby equipment can cause transmission errors.

- To check the status of communications in Windows 98, go to Infrared Monitor. To check the status of communications in Windows 2000, go to Wireless Link. You can find both under Start, Settings, Control Panel. If infrared communication is not enabled, you can enable it here; consult help in the application.

To print to an infrared printer

With Windows 2000, when you align the IR ports of the computer and the printer, the appropriate drivers are loaded autormatically. Follow the onscreen directions, and you can proceed to print.

With Windows 98, you must install the printer driver and assign it to the notebook's Infrared Printing (LPT) port, which is usually assigned to LPT3. Click Start, Settings, Printers, Add Printer, and follow the onscreen directions.

If you have already assigned a printer to the parallel port, you can assign the same printer to the infrared port by adding another printer. Windows will keep the same printer driver, and you can then also assign it to the infrared port.

You can print from your applications to an infrared printer in the same way as you would to a printer connected to the parallel port. Set the infrared printer as your default printer— or select it when you print from within the application. Be sure the computer and printer IR ports are properly aligned.

To transfer files with an infrared connection

To transfer files through the IR port, right-click on the name or icon of the file you want to transfer and click Send To, Infrared Recipient. In Windows 2000, "Infrared Recipient" appears only when the computer is aligned with another IR device and detects it.

For higher-performance file transfer, you can also use the Direct Cable Connection software built into Windows 98, or the Wireless Link software built into Windows 2000.

In Windows 98, you need to install the Direct Cable Connection software first:

1. From Control Panel, click Add/Remove Programs.

2. Click Windows Setup, Communications, and select Direct Cable Connection.

See the Windows online help for instructions about how to use Direct Cable Connection or Wireless Link.

To use an external monitor

You can connect your computer to an external monitor and then use either display—or both displays at once.

To connect an external monitor

1. Click Start, Shut Down, Shut down, OK.

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

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

4. Slide the power switch to turn on the computer.

To switch the display to the external monitor

- Close the computer lid.

  OR

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

To adjust monitor resolution

1. Click Start, Settings, Control Panel, Display.

2. On the Settings tab, adjust the Screen area.

To use dual display mode

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

Dual display mode requires that your computer display be set as shown in the table below. Click Start, Settings, Control Panel, Display, Settings tab to adjust these settings.

Notebook screen	Screen area	Colors
12-inch	800×600 pixels	256 colors or High Color (16 bit)
13-inch, 14-inch, or 15-inch	1024×768 pixels	256 colors or High Color (16 bit) or True Color (24 bit)

1. Set your notebook display settings according to the table above.

2. Click the Start Button and select Shut down.

3. Connect the monitor cable from the monitor to the VGA port on the rear of the computer or the port replicator.

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

5. Slide the power switch to turn on the computer. Windows will detect the second monitor and attempt to load the proper display driver. Follow the onscreen instructions.

6. Click Start, Settings, Control Panel, Display, Settings tab. Position the second monitor to the right or left of your notebook display to match your monitor location.

7. Make sure that the Settings box "Extend my Windows desktop onto this monitor" is checked.

You can change the Screen area and Colors settings for the second monitor by selecting Display #2. These settings can be different from your notebook display settings.

To use a TV set as monitor

You can connect your computer to a television set and then use it as a display. The computer's LCD display continues to be active when you use a TV set.

To connect a TV set

1. Connect a TV cable from the TV set to the TV out port on the rear of the computer or the port replicator. (You don't need to turn the computer off.)

2. Connect the TV set to a power source and turn it on.

To activate and adjust TV display

If a TV icon appears in the taskbar, click it and follow onscreen instructions. Check the application's help for more information.

You can also adjust the TV display by following these steps:

1. Click Start, Settings, Control Panel, Display.

2. Select Settings tab and click Advanced.

3. Select S3DuoVue tab and click TV.

4. To center the display in the TV set or to adjust other settings, click Settings under the TV graphic.

5. The TV Type for your country is automatically detected. (If it is incorrect, select the correct type: NTSC is used in North and South America, except for Argentina and Brazil; NTSC/Japan in Japan, South Korea, and Taiwan; and PAL in most other countries.)

To use the port replicator

With the optional port replicator, you can connect external components—and then avoid disconnecting and reconnecting them each time you take the computer on the road. You can find additional information about the port replicator in the manual that comes with it.

To connect to the port replicator

1. Plug in the AC adapter, then connect it to the rear of the port replicator. Make sure that the AC status light is on.

2. Align the computer with the locator pins on the port replicator.

3. Press the computer down until it clicks into place. Make sure that the dock status light is on.

4. Open the computer and slide the power switch to the left to turn it on.

   After the computer is turned on, you can close the lid while it is running.

To disconnect from the port replicator

1. Press down on the release tab on the right side of the port replicator.

2. Lift the computer from the port replicator.

Configuring and Expanding Your Computer

Using the BIOS Setup Utility

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

The settings made in the BIOS Setup utility control the hardware and therefore have a fundamental effect on how the computer operates.

To run the BIOS Setup utility

1. Shut down Windows and restart the computer (Click Start, Shut Down, Restart).

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

3. Select the options you want. You can find a complete list of available options in BIOS Setup utility options on page 134.

4. After you have finished making changes, press F10 (or select Exit, Saving Changes and Exit).

5. Press Enter, then Enter again, to confirm and reboot the computer.

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

The pointing devices are not active in the BIOS Setup utility. Press the Right and Left arrow keys to move from one menu to another. Press the Down and Up arrow keys to move among parameters in a menu. Press F5 or F6 to move through values for the current parameter or press Enter to change a setting.

Installing RAM modules

The notebook provides an optional memory expansion slot for installing up to two RAM expansion modules. Use HP SDRAM modules only; EDO RAM is not supported.

Your computer's computer chips are extremely static-sensitive. Static electricity can permanently damage computer chips. Carefully read the following caution information.

C A U T I O N | **Handle the RAM module only by its three nonconnector edges. Otherwise, you may damage the module due to electrostatic discharge. Static electricity can permanently damage computer chips. It is therefore important to discharge the static electricity from your body before touching or installing the memory module. Discharge your body's electricity by touching the metal shielding around the connectors on the rear of the computer.**

You'll need a small Phillips screwdriver to complete this procedure.

1. Click the Start Button and select Shut down.

2. Unplug the AC adapter and remove the battery.

3. Remove the RAM expansion cover located on the bottom of the computer, using a Phillips screwdriver.
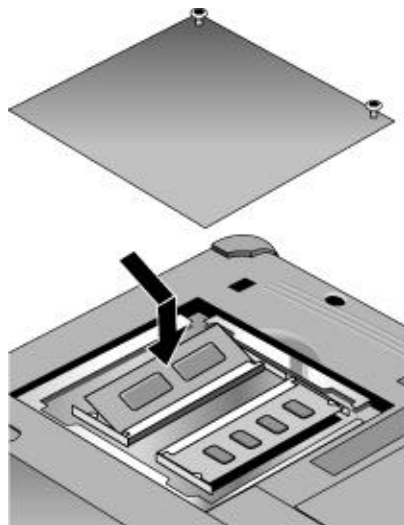
4. Insert the RAM expansion module into the connector at about a 30° angle until it's fully inserted. Then press down at both sides of the module until it latches.

5.Replace the RAM expansion module door.

6.Insert the battery.

Removing RAM modules

After you remove the RAM expansion cover:
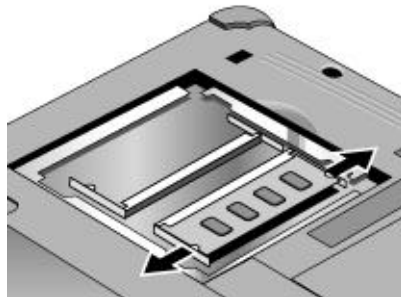
1. Release the two latches at the sides of the RAM expansion module by pushing them gently outward (away from the sides of the module). When you release the latches, the free edge of the module pops up.

2. Pull the module out of the connector.

3. Replace the RAM expansion module door.

Expanding the hibernate partition

You can create the hibernate partition by booting from the Recovery CD. The partitioning and recovery process takes approximately 10 or 15 minutes. Do not interrupt the process or unplug the AC adapter until the process is completed.

CAUTION   **This procedure will format the hard disk drive and erase all data on the disk. Be sure to back up all data from your hard disk before you begin this procedure. After the hard disk drive is formatted, you'll need to reinstall any applications.**

1. Back up all data from your hard disk.

2. If you wish to install additional RAM, do so now.

3. Connect the AC adapter to the computer.

4. Insert the Recovery CD in the CD-ROM (or DVD) drive. (If your system came with two Recovery CDs, insert Disc 1.)

5. Restart the computer, and when you see the HP logo, press Esc.

6. Select CD-ROM/DVD Drive as the first boot device, and press Return to continue.

7. If you want to choose a nondefault partition size. select the Advanced menu and select a size from the Hibernate Partition Size drop-down list.

8. If you want to create a hibernate partition without recovering the operating system, select the "Do not load operating system" checkbox and select one of the partition options.

9. Choose Continue.

10. Click OK to begin.

    If your system came with two Recovery CDs, you may be prompted to insert Disc 2 during the partitioning process.

11. When you are prompted to reboot your computer, remove the Recovery CD and press Ctrl+Alt+Delete.

12. Follow the onscreen instructions for setting up Windows.

13. When Windows setup is complete, reinstall any applications and restore backed-up data.

Updating Windows Drivers

To download the latest Windows drivers

Hewlett-Packard supports two operating systems (OSs) on your notebook—Windows 98 and Windows 2000—and your computer was shipped with one of these OSs. If you decide to install the other OS instead, be sure to download the latest drivers for it from the Web at www.hp.com/notebooks. You can also check this website to find updated drivers for your original OS.

To locate Windows drivers on your system

When you install hardware or otherwise change the configuration of your computer, you are sometimes asked to provide a location from which to copy driver files. Do not click the Browse button to find the folder for a driver, since this may cause the system to malfunction. Instead, type the path and filename of the location directly; for example, c:\hp\drivers\audio.

To use digitally signed drivers in Windows 98

If you have chosen to enable driver signing in Windows 98, you may need to obtain updated drivers for your notebook PC. During installation, Windows 98 expects each driver file to include a digital signature file (with a .cat extension) when driver signing is enabled. Since some files may not have been available at the time your computer was manufactured, it is possible that you will see a message prompting you for a digital signature file. If so, you need to obtain updated drivers, and when available they will be posted on the Web at www.hp.com/notebooks.

Most users, however, choose to use the default Windows 98 configuration, which disables driver signing. In that case, you can ignore any messages prompting you for a digital signature file (with a .cat extension) during installation. The drivers will function correctly without these files, so you can skip their installation.

Using Windows 2000

Installing Retail Windows 2000

Windows 2000 comes factory-installed on your OmniBook XE3. The following procedure installs a retail version of Windows 2000. If you install a retail version of Windows 2000, you need to manually install the OmniBook specific drivers.

This section describes how to:

- Prepare for software installation.

- Install a retail version of Windows 2000.

- Install video support for retail Windows 2000.

- Install audio and modem support for retail Windows 2000.

- Install integrated LAN support for retail windows 2000.

- Install TouchPad support for retail Windows 2000.

- Install Infrared support for retail Windows 2000.

- Install HP utilities.

Requirements

- OmniBook XE3

- Windows 2000 CD-ROM

- OmniBook drivers for Windows 2000
  Location: OmniBook hard drive and on the Recovery CD in \HP\DRIVERS\W2K

To prepare for software installation

HP recommends that you repartition and format your hard disk before installing retail Windows 2000. Follow the instructions below to partition your hard disk and create the hibernation partition.

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

2. Boot the OmniBook, press ESC twice and select the CD-ROM/DVD as the boot device.

3. Click "Continue" on the Recovery screen to enter the menu.

4. Click "Advanced" on the Recovery CD-ROM menu.

5. Choose the option "Do not load operating system" then choose "create FAT 16 partition" Or "create FAT 32 partition" and click Continue.

6. Click OK to proceed with repartitioning.

7. When message "Operation successful" appears on screen, press any key to shutdown the OmniBook.

A diagnostic partition has now been created, and Hewlett-Packard's hardware diagnostics software has been placed on this partition. To use this hardware diagnostics software in the future, press F10 during boot of the system.

To install a retail version of Windows 2000

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

2. Turn on the OmniBook, press ESC twice when you see the HP OmniBook logo and select the CD-ROM/DVD as the boot device.

3. At the "Press any key to boot from CD" message, press any key.

4. At the "Welcome to Setup" screen, press Enter to begin.

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

6. In the list of existing partitions select the C: partition and press ENTER.

7. Highlight your choice of file system, then press ENTER. After formatting and copying files the OmniBook will reboot and continue installation.

8. Click Customize to change your Regional settings if needed, then click Next to move forward.

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

10. 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 2000.

11. Enter a computer name and an Administration password. Confirm the Administrator password then click Next .

The password is used to administer User IDs and Windows NT security. The computer name is used by other computers on the network to access your computer.

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

13. At the "Completing the Windows 2000 Setup Wizard" window, remove the Windows 2000 CD-ROM and click Finish. The system will reboot.

14. At the "Welcome to the Network Identification Wizard" screen, click Next.

15. Give the appropriate choice on user logon, then click Next.

16. Click Finish to complete the Network Identification Wizard.

To install video support for retail Windows 2000

The driver is located on the Recovery CD-ROM in \HP\DRIVERS\W2K\VIDEO.

1. From the Control Panel, double-click System, choose the Hardware tab, and then click Device Manager button.

2. Double-click "Video Controller (VGA Compatible)" under "Other Devices".

3. Click on the "Reinstall Driver..." button.

4. Click Next on the "Welcome to the Upgrade Device Driver Wizard".

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

6. Double-click Display adapters.

7. Click Have Disk and browse to the driver subdirectory on the Recovery CD-ROM (\HP\DRIVERS\W2K\VIDEO) and double-click on S3SAVMX.INF.

8. Click OK to accept the driver location.

9. In the "Select a device driver window", click Next. Then click Next again to install the S3 Inc. Savage/IX Display driver.

10. Click Finish, close the Display Driver Properties dialog box. Click Yes to restart your computer.

11. From Control Panel, double-click Display select the Settings tab then Click Advanced button.

12. Select Monitor tab, then click Properties button.

13. Choose the Driver tab, then click the "Update Driver" button.

14. Click Next on the "Welcome to the Upgrade Device Driver Wizard".

15. Select "Display a list of the known drivers for this device" and click Next.

16. Select "Show all hardware of this device class".

17. Choose the appropriate Digital Flat Panel, then click Next.
    OmniBook XE3 with 15.1" Display: Digital Flat Panel (1024 x 768)
    OmniBook XE3 with 14.1" Display: Digital Flat Panel (1024 x 768)
    OmniBook XE3 with 12.1" Display: Digital Flat Panel (800 x 600)

18. Click Next to install the driver, then Finish to complete the installation.

19. Click Close then click OK.

20. Set the "Screen Area" in accordance with the display resolution chosen in step 17.
    and the "Colors" to "High Color (16 bits)", then click on the Apply button.

21. Click OK to apply the changes, then Yes to keep the settings.

To install audio and modem support for retail Windows 2000

The audio drivers are contained in the \HP\DRIVERS\W2K\AUDIO subdirectory. If your Notebook contains a built-in ESS soft modem, installing the audio drivers will also install the modem drivers.

1. Double-click \HP\DRIVERS\W2K\AUDIO\setup.exe

2. Click Next on the Allegro-1 Welcome screen.

3. Click OK to acknowledge that audio driver has been installed.

4. Click OK to acknowledge that modem driver has been installed.

5. Click Finish to complete the installation, the system will reboot.

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 integrated LAN support for retail Windows 2000

1. From Control Panel, double-click System, select the Hardware tab then click on the Device Manager button.

2. Double-click on the "Ethernet Controller" item under Other Devices.

3. Click on the "Reinstall Driver..." button.

4. When the hardware wizard appears, click Next.

5. Select "Search for a suitable driver for my device" and click Next.

6. Choose " Specify a location" then click Next.

7. Enter the directory of the LAN drivers on the Recovery CD-ROM (D:\HP\DRIVERS\W2K\LAN) and click OK.

8. Click Next to accept the installation of the Accton EN2242 Series MiniPCI Fast Ethernet adapter.

9. Click Next to accept the driver location

10. Click Finish, then close.

To install touchpad support for retail Windows 2000

If a retail version of Windows 2000 is installed, the touchpad support must be added. This driver is located on the Recovery CD-ROM in \HP\DRIVERS\W2K\TOUCHPAD.

1. Double-click \HP\DRIVERS\W2K\TOUCHPAD\SETUP.EXE on the Recovery CD-ROM.

2. Click Next at the Welcome screen then Next again.

3. Click Next to accept Current Settings.

4. Click Finish to reboot your computer.

To install infrared support for retail Windows 2000

1. Press F2 during boot to enter the Bios setup.

2. Use the arrow keys to go to "System Devices" then highlight the "Infrared Port".

3. Set the infrared port to "Enabled", and the Mode to "FIR".

4. Save changes and exit.

5. When system reboots Windows 2000 will detect new hardware and install the necessary drivers.

To install Hewlett-Packard Configuration Interface (HPCI) for retail Windows 2000

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-ROM 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 and mute control implemented through the operating system which will actively be reflected in the user interface.

- The Rewind, Play/Pause, Stop and FForward button controls for a music CD-ROM or DVD movie

Installing the Windows 2000 Hewlett-Packard Configuration Interface:

1. Double-click SETUP.EXE from the HPCI directory on the Recovery CD-ROM.

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.

To install the Intel(R) SpeedStep(TM) Technology Applet for retail Windows 2000

If you've installed a retail version of Windows 2000, you'll need to install the Intel(R) SpeedStep(TM) technology Applet if you have a dual-speed Pentium III processor.

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

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

2. When prompted, click on Next.

3. Click on Finish to reboot the OmniBook.

To install the OneTouch utility for retail Windows 2000

This utility enables the support for the four OneTouch buttons above the keyboard as
well as the multimedia buttons on the front of your OmniBook XE3.

1. Run the \HP\DRIVERS\W2K\ONETOUCH\setup.exe from the Recovery CD-ROM.

2. Click on OK to confirm the installation of the utility.

3. Click Yes to reboot the system at the "End of Installation" window.

Windows 2000 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. To configure the
power management do the following:

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

2. Select the Hibernate tab.

3. Check Enable hibernate support.

4. Click Apply.

5. Select the Power Schemes tab.

6. Change the "Plugged in" options for Standby to "3 hours" and Hibernate to "4
   hours".

7. Click the Advanced tab.

8. Check Always show icon on the taskbar.

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

10. Select the Alarms tab.

11. In the "Critical battery alarm" box click the "Alarm Action" button.

12. In the "Power level" box, choose Hibernate as the action for the computer to do when the alarm goes off, click OK then click Apply.

Using Windows 98

Installing Retail Windows 98 Second Edition

Windows 98 Second Edition comes factory-installed on your OmniBook XE3. The following procedure installs a retail version of Windows 98 Second Edition. If you install a retail version of Windows 98 Second Edition, you need to manually install OmniBook specific drivers.

This section describes how to:

- Prepare for software installation.

- Install a retail version of Windows 98 Second Edition.

- Install video support for retail Windows 98 Second Edition.

- Install audio and modem support for retail Windows 98 Second Edition.

- Install integrated LAN support for Windows 98 Second Edition.

- Install infrared support for retail Windows 98 Second Edition.

- Install TouchPad support for retail Windows 98 Second Edition.

- Install software patches for retail Windows 98 Second Edition.

- Install utilities.

Requirements

- OmniBook XE3.

- Windows 98 Second Edition CD-ROM.

- Blank, formatted floppy disk.

- OmniBook drivers for Windows 98 Second Edition.
  Location: OmniBook Recovery CD in \HP\DRIVERS\W98.

To prepare for software installation

Create a support Utility disk for use during installation. 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. Open the MS-DOS Prompt.

3. 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

4. Type MAKESUPP.

5. When asked to select a Floppy drive, type A.

6. Type Y to acknowledge warning and continue.

7. Insert a blank floppy disk in the A: drive and press any key to continue.

8. When copy is complete, type N.

9. Close the MS-DOS Prompt.

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

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

2. Boot the OmniBook, press ESC twice and select the CD-ROM/DVD as the boot device.

3. Click "Continue" on the Recovery screen to enter the menu.

4. Click "Advanced" on the Recovery CD-ROM menu.

5. Click the option "Do not load operating system".

6. Choose the size of your hibernation partition, default (recommended) is 256MB.

7. In the "File System Partition" section, select "Create FAT16 partition" or "Create FAT32 partition" depending which partition type you need. (If you are installing Windows NT 4.0, you will mandatory need a FAT 16 partition).

8. Click "Continue" to start repartitioning.

9. Click OK to acknowledge the chosen hibernation partition size.

10. When message "Remove CD and press any key to shutdown computer." appears on screen, remove the recovery CD-ROM.

A hibernation partition and a C: partition (FAT16 or FAT32) has been created and formatted for you. Hewlett-Packard's HW diagnostics software has been placed on the hibernation partition. To use this HW diagnostics software in the future, press F10 during boot of the system.

11. Boot from the Support Utility Disk you previously created,

12. From the A: prompt type SYS C:

The system is now ready for copying of the operating system files.

13. Insert the Windows 98 Second Edition retail CD-ROM in the CD drive

14. Copy the Windows 98 Second Edition installation files to your hard drive by typing the following commands:
C:
MD \WINDOWS
MD \WINDOWS\OPTIONS
MD \WINDOWS\OPTIONS\CABS
COPY X:\WIN98*.* C:\WINDOWS\OPTIONS\CABS

15. Remove the Windows 98 Second Edition CD-ROM and the support utility disk.

To install a retail version of Windows 98 Second Edition

1. At the C: prompt, type \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 Second Edition.

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 on the "Startup Disk" window.

12. When asked to insert a disk, Click cancel to skip creating the startup disk.

13. Click Next to start "Copying Windows 98 Second Edition files to Your Computer".

14. When finished copying Windows 98 Second Edition will automatically reboot.

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

16. Click OK on the Network window, then enter your computer and workgroup names and click Close.

17. Apply any changes when the system displays the Date/Time Properties screen, then click Close.

The Windows 98 Second Edition Setup Wizard will now configure the Control Panel, programs on the Start Menu, Windows help, and MS-DOS program settings. Afterwards, Windows 98 Second Edition will automatically reboot.

18. Enter a Windows Password and confirm.

Retail Windows 98 Second Edition is now installed on the system. The OmniBook specific drivers will be installed next.

To install video support for retail Windows 98 Second Edition

The driver is located on the Recovery CD-ROM in \HP\DRIVERS\W98\VIDEO.

1. From Control Panel, double-click on the Display icon, then select the "Settings" tab.

2. Click on the Advanced button, then select the Adapter tab.

3. Click on the Change button.

4. Click Next at the Update Device Driver Wizard.

5. Select "Display a list of all the drivers in a specific location" and click Next.

6. Click Have Disk.

7. Enter the directory of the video drivers on the Recovery CD-ROM (D:\HP\DRIVERS\W98\VIDEO), then click OK.

8. Click OK to select the "S3 Inc. Savage/IX w/MV" video driver.

9. Click Next to accept the driver location.

10. Click Finish.

11. Select Monitor, then click Change.

12. Select the appropriate Laptop Display Panel, then click OK.
    OmniBook XE3 with 15.1" Display: Laptop Display Panel (1024 x 768)
    OmniBook XE3 with 14.1" Display: Laptop Display Panel (1024 x 768)
    OmniBook XE3 with 12.1" Display: Laptop Display Panel (800 x 600)

13. Click Apply, and then Close. Click Yes to restart the computer.

To install DirectX7 for retail Windows 98 Second Edition

1. Double-click \HP\DRIVERS\W98\DirectX7\dx70aopk.exe on the Recovery CD-ROM.

The Installation of Direct X 7.0 will run silently. You will have to wait about 30 seconds for the installation to complete. To verify if installation went correctly go to C:\Program Files\DirectX\Setup and double-click DxDiag.

To install audio and modem support for retail Windows 98 Second Edition

If your Notebook contains a built-in ESS soft modem, installing the audio drivers will also install the modem drivers. Both of these drivers are located on the Recovery CD in \HP\DRIVERS\W98\AUDIO.

1. Double-click ESSETUP.EXE from the \HP\DRIVERS\W98\AUDIO directory on the Recovery CD.

2. On the Welcome screen, click Next.

3. Choose Upgrade Drivers and click Next.

4. Click Finish and reboot to finish installing the drivers.

To install integrated LAN support for retail Windows 98 Second Edition

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

2. Remove the "PCI Ethernet Controller" under Other Devices.

3. Shutdown then restart the system.

4. When the hardware wizard appears, click Next.

5. Select "Search for the best driver for your device" and click Next.

6. Enter the directory of the LAN drivers on the Recovery CD-ROM
   (D:\HP\DRIVERS\W98\LAN) under "Specify a location" and click Next.

7. Click Next to accept the Accton EN2242 Series MiniPCI Fast Ethernet adapter.

8. Click Next to accept the driver location.

9. Click Finish, then click Yes to reboot the system.

To install infrared support for retail Windows 98 Second Edition

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. When you see the HP logo, press F2.

3. Select System Devices.

4. Set IrDA port setting to Enabled.

5. Set Mode to FIR.

6. Press F10 to save the changed values and continue reboot.

7. Windows will detect the IR port and install drivers, click Yes to reboot.

8. Click on the infrared icon on the task bar and select the Options tab.

9. Click "Enable infrared communication", click Apply and then click OK to close
   window.

To install touchpad support for retail Windows 98 Second Edition

If a retail version of Windows 98 Second Edition is installed, the touchpad support must
be added. This driver is located on the Recovery CD in \HP\DRIVERS\W98\TOUCHPAD.

1. Double-click \HP\DRIVERS\W98\TOUCHPAD\SETUP.EXE on the Recovery CD.

2. Click Next at the Welcome screen.

3. Click Next to accept the Default Directory.

4. Click Next to accept Current Settings.

5. Click Finish to reboot your computer.

To install the SpeedStep utility for retail Windows 98 Second Edition

The SpeedStep (TM) utility enables additional power saving for an OmniBook with Intel PentiumIII SpeedStep CPU's, by lowering the processor speed when OmniBook is running on battery.

1. Double-click D:\HP\DRIVERS\W98\SPEEDSTP\setup.exe

2. Click Next on the Welcome screen.

3. Click Finish to reboot the system.

To install the OneTouch utility for retail Windows 98 Second Edition

This utility enables the support for the four OneTouch buttons above the keyboard as well as the multimedia buttons on the front of your XE3.

1. Double-click D:\HP\DRIVERS\W98\ONETOUCH\setup.exe

2. Click Finish to reboot the system.

To install software patches for retail Windows 98 Second Edition

These patches fix miscellaneous shutdown/suspend/resume issues. The patch can be found in \HP\DRIVERS\w98\QFE\SHUTDOWN

1. Double-click D:\HP\DRIVERS\QFE\SHUTDOWN\4756ms8.exe

2. Click Yes to install the Windows 98 SE Q239887 Update.

3. Click Yes to accept agreement. Patch will install.

4. Click Yes to finish installation and reboot.

Troubleshooting Your Computer

Troubleshooting Techniques

This section contains solutions to a few common problems and troubleshooting techniques for your HP notebook PC. 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 Hardware Operation" on page 117.

- Contact your dealer or Hewlett-Packard—see "To call the HP Customer Care Center" on page 126. Please have your computer with you when you call.

Audio problems

If sound is not audible

- Press Fn+Up arrow several times.

- Click the speaker icon on the taskbar to ensure that Mute is not checked.

- 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 software controls for recording sound: Click Start, Programs, Accessories, Multimedia (or Entertainment), Sound Recorder.

If the PC card detection beep(s) at startup are very loud and volume cannot be adjusted

- Download the latest audio driver from the technical support area of the HP notebook website (http://www.hp.com/notebooks).

You may also want to test the audio with diagnostics. See "Testing Hardware Operation."

CD-ROM drive problems

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

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

- If you always want to boot from a CD when one is present, check the boot order in BIOS Setup and change it.

    1. Click Start, Shut Down, Restart.

    2. When you see the HP logo, press Esc to open the Boot menu. The default boot order is (1) Floppy Drive, (2) Hard Drive, and (3) CD-ROM/DVD Drive.

    3. Select CD-ROM/DVD Drive for first boot device.

    4. Exit the BIOS Setup utility.

- Reboot the computer.

You may also want to test the CD-ROM drive with diagnostics. See "Testing Hardware Operation."

Display problems

If the computer is on, but the screen is blank

- Try pressing Fn+F2 to increase the brightness.

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

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

If the screen is difficult to read

- Check whether the display resolution is set to its default setting—800×600 for 12" displays or 1024×768 for larger displays.

    1. Click Start, Settings, Control Panel.

    2. Double-click Display.

    3. Click the Settings tab.

If part of the Windows desktop is not visible and you have to scroll down to see the taskbar

- Your display resolution may be set to 1024×768 on a 12" display, instead of 800×600. You need to set the monitor type to Laptop Display Panel (800×600).

    1. Click Start, Settings, Control Panel.

    2. Double-click Display.

    3. Click the Settings tab.

    4. Move the Screen area arrow to (800×600 pixels).

    5. Click OK.

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 LCD/CRT in the Main menu.

You may also want to test the display with diagnostics. See "Testing Hardware Operation."

DVD problems

If you can't boot from a CD or DVD in the DVD drive

- Make sure the CD or DVD is bootable, such as the Recovery CD.

- If you always want to boot from a CD or DVD when one is present, check the boot order in BIOS Setup and change it.

    1. Click Start, Shut Down, Restart.

    2. When you see the HP logo, press Esc to open the Boot menu. The default boot order is (1) Floppy Drive, (2) Hard Drive, and (3) CD-ROM/DVD Drive.

    3. Select CD-ROM/DVD Drive for first boot device.

    4. Exit the BIOS Setup utility.

- Reboot the computer.

If the DVD is playing 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 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 then press the Play button to continue playing the movie.

- You may have accidentally paused the DVD movie. Press the Play button to resume playing the movie.

If you get a Region Code error when playing a DVD movie

- DVDs may include regional codes that are embedded into the disc data. These codes prevent DVD movies from being played in regions of the world that are different from where they are sold. If you get a Region Code error, you are trying to play a DVD that is for a different region. Make sure you play a DVD designed for your region.

If you get a "System Error: Unable to read drive" message when running a CD program or a movie on the DVD drive

- For a single-sided CD or DVD, make sure the disc is placed into the drive with the label facing up.

- Make sure the DVD or CD is clean.

- Wait 5 to 10 seconds after closing the DVD tray to give the computer sufficient time to recognize the CD or DVD.

- Restart the system:

    1. Remove the CD or DVD.

    2. Click Start, Shut Down, Restart.

    3. Click OK.

If the DVD movie doesn't fill the screen

- On a double-sided DVD, each side may have a different format (standard or widescreen). In the 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.

You may also want to test the DVD drive with diagnostics. See "Testing Hardware Operation."

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, making sure it is plugged into a power source and into the rear of the computer.

If the hard disk makes a buzzing or whining noise

- Back up the drive immediately.

- Check for alternate noise sources, such as the fan or a PC card drive.

If files are corrupted

- Run the virus-scanning program.

- In Windows 98, run the ScanDisk surface scan to check the platter (click Start, Programs, Accessories, System Tools, ScanDisk).

- In Windows 2000, check your disk using error-checking (open My Computer, select the disk you want to scan, click File, click Properties, select the Tools tab, and click Check Now).

You may also want to test the hard disk drive with diagnostics. See "Testing Hardware Operation."

Heat problems

If the computer gets hot

- Make sure the air vents are clear.

- See that the fan is working properly.

- The computer warms up with normal use. When you charge the battery, it gets even hotter; and certain applications (like DOS games) use more CPU power than others and so contribute to a greater temperature increase.

You may also want to test the fan with diagnostics. See "Testing Hardware Operation."

Keyboard, touch pad, and mouse problems

If the touch pad is difficult to control

- Customize the touch pad by modifying Mouse properties.

    1. Click Start, Settings, Control Panel.

    2. Double-click Mouse.

If the pointing devices don't work

- Don't touch the touch pad while booting or resuming.

- Reset the computer.

If an external mouse doesn't work

- Standby or shut down the computer before you attach the mouse, to ensure that it will be detected properly.

    If you want to go back to using the touch pad, you must standby or shut down the computer before you detach the mouse.

If the embedded numeric keypad doesn't work

- Make sure Num Lock is on—that you have pressed Fn+F8 to activate the numeric keypad and that you have pressed the Lock key to turn on number lock.

- Don't touch the touch pad while booting or resuming.

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

- Make sure you installed any drivers included with the mouse.

- Shut down and resume the computer, so that the system will detect the PS/2 mouse.

You may also want to test the keyboard and pointing devices with diagnostics. See "Testing Hardware Operation."

Memory problems

If a message says you are out of memory

- In Windows Help, search for Memory Troubleshooter.

- If you are having memory problems running MS-DOS programs, in Windows Help search for MS-DOS Troubleshooter.

You may also want to test memory with the diagnostics. See "Testing Hardware Operation."

Modem problems

If the modem will not connect at 56K speed

- The host modem may not support a 56K (V.90) connection speed.

- The speed at which you connect depends on several factors, such as the current condition of the telephone line. If you try connecting at another time, it's possible you may be able to connect at 56K.

If the modem will not connect at any speed

- Make sure the telephone line goes from the RJ-11 modem phone jack on the right side of the computer to the telephone jack on the wall.

- If you have a single telephone line for voice and modem use, make sure no one else is using the line and that the phone is not off the hook.

- Contact your Internet Service Provider (ISP). It's possible that service may be unavailable temporarily or that your settings are incorrect.

- Try restarting your computer and attempt another connection.

- Try an alternative dial-in number.

- Download the latest modem driver from the technical support area of the HP notebook website (http://www.hp.com/notebooks).

- In Windows 98, run the modem diagnostics:

    1. Click Start, Settings, Control Panel.

    2. Double-click Modems.

    3. Click the Diagnostics tab.

    4. Click the port to which your modem is attached.

    5. Click More Info.

- In Windows 2000, run the modem diagnostics:

    1. Click Start, Settings, Control Panel.

    2. Double-click Phone and Modem Options.

    3. Click the Modems tab.

    4. Select the modem you want to test.

5. Click Properties, Diagnostics, Query Modem.

- In Windows Help, use the Modem Troubleshooter.

If the modem connection is dropped when transferring large files

- There may be static or interference on the phone line. Try connecting later.

- In Windows 98, if a serial or PC card modem is not working, disable the internal modem.

  1. Click Start, Settings, Control Panel.

  2. Double-click System.

  3. Click the Device Manager tab.

  4. Double-click Modem to list the current modem devices.

  5. Double-click the internal modem.

  6. Select the checkbox "Disable in this hardware profile."

- In Windows 2000, if a serial or PC card modem is not working, disable the internal modem.

  1. Click Start, Settings, Control Panel.

  2. Double-click Phone and Modem Options.

  3. Select the Modems tab.

  4. Select the internal modem.

  5. Click Remove.

  6. Click OK.

One-Touch button problems

If One-Touch buttons are not working properly

- Check that the applications associated with the buttons are the ones you want.

  1. Click Start, Settings, Control Panel.

  2. Double-click Keyboard.

  3. Select the One-Touch buttons tab.

4. Click on the button of the key you want to reconfigure.

5. Select the application or website you want associated with the button. (See "To configure a One-Touch button" for more detail.)

6. Click Done, then OK.

If the onscreen display does not appear when pressing a One-Touch button

- Check that the Onscreen Display is enabled.

    1. Click Start, Settings, Control Panel.

    2. Double-click Keyboard.

    3. Select the One-Touch buttons tab.

    4. Click Change Onscreen Display.

    5. Check Enable if it is not checked.

    6. Click Done, then OK.

PC card problems

If the notebook doesn't recognize a PC card

- Remove and reinsert the PC card.

- If the card requires an IRQ, check that there is one available. Look in Device Manager, Properties, Interrupt Request (IRQ).

- Check the HP notebook website for information about supported PC cards.

- Try the card in another computer.

- Reboot the computer.

If an I/O card stops communicating properly

- The card may have been reset if the computer in on standby or turned off. Exit any applications, then remove and reinsert the card.

If a PC card modem is not working

- In Windows 98, disable the internal modem.

    1. Click Start, Settings, Control Panel.

    2. Double-click System.

3. Click the Device Manager tab.

4. Double-click Modem to list the current modem devices.

5. Double-click the internal modem.

6. Select the checkbox "Disable in this hardware profile."

- In Windows 2000, disable the internal modem.

  1. Click Start, Settings, Control Panel.

  2. Double-click Phone and Modem Options.

  3. Select the Modems tab.

  4. Select the internal modem.

  5. Click Remove.

  6. Click OK.

You may also want to test the PC card with diagnostics. See "Testing Hardware Operation."

Performance problems

If the computer pauses or runs sluggishly

- Press Ctrl+Alt+Del to see if an application is not responding.

- Reboot the computer.

- Delete temporary and unneeded files.

- Certain background operations (such as virus-scanning software) can affect performance while they're running.

- Some file browsers may be unresponsive while they're processing a graphic image or waiting for broken network connections to time out.

- Install additional memory if Windows is spending a lot of time swapping to disk.

- Check the amount of available free disk space.

Port replicator problems

If a port on a port replicator isn't working

- Check that AC power is connected.

- While undocked, try using the corresponding notebook port.

- See the manual for the port replicator.

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 newly charged battery.

If the computer keeps beeping

- The computer beeps for 15 seconds when the battery is low. Save your work, shut down Windows immediately, and insert a charged battery or plug in the AC adapter.

If the computer has a short operating time

- Try conserving power by setting power timeouts to shorter periods. In Windows, you can adjust these settings in the Power Management applet in Control Panel.

- If you are running any applications with an automatic save feature, such as MS Word for Windows, you can extend the save time or disable this feature to reduce hard disk access.

- If the operating time has become shorter and the battery is more than a year or two old, you may need to replace the battery.

- Set the display brightness to the lowest comfortable level.

- Heavy modem use can affect battery operating time.

- PC card use can affect battery operating time.

If the battery doesn't charge

- Make sure the AC adapter is plugged into the power source 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.

- Check that the battery is fully installed and locked in place.

- Turn off the computer, then check that the battery contacts are clean and that the AC adapter cables are fully plugged in.

- Move the computer away from any nearby heat source. Unplug the AC adapter and allow the battery to cool down. An elevated battery temperature prevents charging.

- If another battery is available, try it.

- If another AC adapter is available, try it.

If the Time Remaining percentage for the battery is not correct

- The Time Remaining value on the power (battery) icon is an estimate based on your current usage, not a precise value.

If the computer stops responding

- Press Ctrl+Alt+Del to end the application that is not responding.

- Slide the power switch to the left, hold it for at least five seconds, and release it to turn off the computer. Then slide the power switch again to turn the computer back on.

- If nothing happens, insert a paper clip into the system-off button on the left side of the computer. Then slide the power switch to turn the computer on.

If the computer doesn't standby as expected

- If you have a connection to another computer, the computer doesn't standby if the connection is actively in use.

- If the computer is performing an operation, it normally waits for the operation to finish.

You may also want to test the power management system with diagnostics. See "Testing Hardware Operation" on page 117.

Printing problems

For most printing problems, use the Print Troubleshooter in Windows Help.

If a serial or parallel printer doesn't print

- Check that you are using a proper cable or cable adapter, and that the printer is on.

- Check for paper in the printer or other printer errors.

- Make sure the printer cable is securely attached at both ends.

If the left edge of printed output is missing

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

Serial, parallel, and USB problems

If a serial mouse doesn't work

- First, make certain you completely followed the manufacturer's installation instructions to install the mouse properly.
- Check the port connection to see if it's loose.
- Check settings in BIOS Setup.
    1. Click Start, Shut Down, Restart.
    2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
    3. From the System Devices menu, check that Serial Port is enabled.
- If you standby and resume, reboot the computer to reenable the mouse.

If a serial modem doesn't work properly

- In Windows Help use the Modem Troubleshooter.
- Check the port connection to see if it's loose.
- Check settings in BIOS Setup.
    1. Click Start, Shut Down, Restart.
    2. When you see the HP logo, press F2 to enter the BIOS Setup utility.
    3. From the System Devices menu, check that Serial Port is enabled.
- In Windows 98, disable the internal modem.
    1. Click Start, Settings, Control Panel.
    2. Double-click System.
    3. Click the Device Manager tab.
    4. Double-click Modem to list the current modem devices.

5. Double-click the internal modem.

6. Select the checkbox "Disable in this hardware profile."

- In Windows 2000, disable the internal modem.

  1. Click Start, Settings, Control Panel.

  2. Double-click Phone and Modem Options.

  3. Select the Modems tab.

  4. Select the internal modem.

  5. Click Remove.

  6. Click OK.

If the serial or parallel port is not working

- Check the port connection to see if it's loose.

- Check settings in BIOS Setup.

  1. Click Start, Shut Down, Restart.

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

  3. From the System Devices menu, check that Parallel Port or Serial Port is enabled.

If the USB port is not working

- Contact the vendor of the peripheral device, or check the HP notebook website, for the latest versions of the USB drivers.

You may also want to test the ports with diagnostics. See "Testing Hardware Operation."

Startup problems

If the computer doesn't respond at turn-on

- Connect the AC adapter.

- Slide the power switch to try turning on the unit.

- Use the system-off button to reset the computer.

- If you get no response, remove the battery and AC adapter, remove any PC cards, and undock the computer—then plug in the AC adapter and try resetting.

- If you still get no response, call HP for assistance.

If the computer doesn't boot from battery power

- Make sure the battery is properly inserted and fully charged.

- Check battery contacts.

- If another battery is available, try it.

If the computer doesn't boot from the floppy disk drive

- Check the boot order in the BIOS Setup utility.

    1. Click Start, Shut Down, Restart.

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

    3. Tab to the Boot menu. The default boot order is (1) Floppy Drive, (2) Hard Drive, and (3) CD-ROM/DVD Drive.

    4. Select Floppy Drive for first boot device.

    5. Exit the BIOS Setup utility.

Standby and resume problems

If the computer takes a long time to resume after being on standby

- In Windows, the computer can take a minute or longer to resume when a network card is 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 reinitialized, the Windows desktop will appear.

If the operating system hangs after you have gone on standby or resumed

- Your system may hang if you dock or undock your notebook while you are in the process of going on standby or resuming the computer. Make sure your computer has completely finished going on standby or completely resumed before you dock or undock it.

Testing Hardware Operation

The DiagTools program provides two levels of testing:

- Automated testing using the 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 nondestructive and are intended to preserve the state of the computer. The computer reboots when you exit the program, so that drivers can be loaded.

To run the diagnostic test

1. Reboot the computer and, when you see the HP logo , press F10.

2. When you see the initial diagnostics screen, press F2 twice to continue.

3. When the hardware detection finishes, check the list of detected hardware.

   If a device is not detected or fails its test, it may be configured incorrectly in the BIOS. You can confirm the problem by running BIOS Setup utility and checking the settings.

4. Press F2 twice to run the basic hardware test.

5. If you want to run additional hardware tests, press F2 twice. From the advanced test screen, 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.

6. When you have finished running advanced tests, press Esc to exit.

7. If you want to view or save system and test information, press F4 repeatedly (twice if you are at the advanced test screen, three times from the basic test screen) to create a Support Ticket log file. (You will need a blank floppy disk to save the Support Ticket—or you can save it on the hard disk by following onscreen instructions.)

8. If you want to view the Support Ticket, press F7.

9. Press F3 twice to exit and reboot.

Recovering and Reinstalling Software

You can use the Recovery CD to recover an original build, or you can use it to install the HP custom software over a user-installed alternate operating system. If you need to recover a specific application, you can reinstall the software directly from your hard drive; for instructions, see "To recover an application" on page 120.

The Recovery CD provides the HP notebook–specific Windows drivers to configure your custom system. You can find drivers:

- On the hard drive under c:\hp\drivers.

- On the Recovery CD, under \hp\drivers.

- On the HP notebook website at www.hp.com/notebooks. This website contains the latest updates of software drivers for your computer.

To recover the factory installation of your hard disk

The following procedure describes how to recover the original Windows software and operating system that came with your computer.

CAUTION

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

1. Back up all data from your hard disk.

2. Connect the AC adapter to the computer.

3. Insert the bootable Recovery CD in the CD-ROM drive.

4. Reboot and, when you see the HP logo, press F2.

5. Select the CD-ROM drive as the first boot device and reboot.

You can find more details about recovering the factory installation of Windows on the Recovery CD: the file readme.txt is in the CD's root directory.

The recovery process can take about 10 or 15 minutes. *Do not interrupt the process or unplug the AC adapter until the process is completed.*

Note

Windows 98 supports the FAT16 and FAT32 file systems. Windows 2000 supports the FAT16, FAT32, and NTFS file systems.

To replace a damaged Recovery CD

If you lose or damage the Recovery CD, call the HP Customer Care Center for information about replacing it. See "To call the HP Customer Care Center" on page 126 for the phone number.

To update the HP notebook BIOS

Hewlett-Packard may provide updates to the BIOS to enhance the capabilities of the computer. Updates will be available from HP Customer Care. Visit the technical support area of the HP notebook website at www.hp.com/notebooks. Download the BIOS update and follow the instructions in the readme.txt file on how to create the BIOS update floppy disk.

CAUTION

A BIOS update replaces the previous version, so it is important that you follow these instructions exactly. Otherwise, the computer may be damaged. The BIOS update process resets the configuration settings in the BIOS Setup utility, and it erases any 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.
6. Follow the onscreen instructions. Once the update process begins, do not interrupt it.
7. When the process is completed, remove the BIOS update disk from the floppy disk drive and reboot the computer by pressing the system-off button on the left side of the notebook.

To recover an application

If you remove an application from your hard disk and later decide you want it back, or if you accidentally delete application files, you can reinstall the original software. The setup programs for most of the applications that were factory-installed on your system are included on your hard drive in c:\hp\programs. Each application has its own folder that includes a file of instructions (readme.txt).

A few factory-installed applications do not have installation programs on the hard drive. If your computer came with one of these applications (for example, Microsoft Works, Microsoft Encarta, or Microsoft Money), you can reinstall it by using the appropriate CD-ROM.

Note

The Recovery CD restores all the software that was originally on your HP notebook PC, but the recovery program erases the hard drive in the process. Therefore, to reinstall specific applications, do not use the Recovery CD.

Removing and Reinstalling the Hard Disk Drive

Removing the hard disk drive is not a simple task since, to improve stability, the drive is located in the middle of the computer. If you do need to remove it, HP recommends that you back up your data and allow a qualified service person to do it. If you decide to remove the drive yourself, follow these instructions carefully.

If you decide to remove the hard disk drive

1. Shut down the computer, unplug the AC adapter, and remove the battery.

2. Close the display, and from the rear of the computer remove the two Phillips screws from the back of the plastic hinge covers.

3. Lean the display backward as far as possible, so that it is out of the way.

CAUTION   **Do not touch metal surfaces inside the computer until they have cooled off, especially if the computer has just been running.**

4. Carefully pry up the plastic cover above the keyboard at the hinges, using a flathead screwdriver, and remove it.

5. Unscrew the four Phillips screws at the top of the keyboard. (They remain attached to the keyboard.)
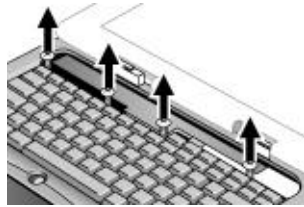

WARNING

Handle the hard drive by its edges only, since static electricity can permanently damage computer parts. Before touching the interior of the computer, discharge static electricity by touching the metal shielding around the connectors on the rear of the computer.

6. Slide the keyboard backward to detach it, then tilt it forward and turn it upside down. (Keep the keyboard cable attached.)
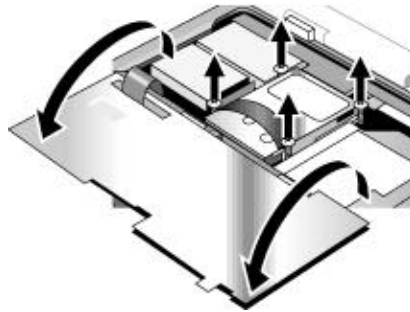
7. Unscrew the four Phillips screws from the sides of the hard disk drive case. (They remain attached to the case.)

8. Tilt up the rear of the hard disk drive case and, pulling gently by the strap, detach it from the connector and lift it out of the computer.

To install the hard disk drive again

If you have removed the hard disk drive when you shipped the computer for service or for some other reason, here's how to install it again:

1. Unplug the AC adapter and remove the battery.

2. Close the display, and from the rear of the computer remove the two Phillips screws from the back of the plastic hinge covers.

3. Lean the display backward as far as possible, so that it is out of the way.

4. Carefully pry up the plastic cover above the keyboard at the hinges, using a flathead screwdriver, and remove it.

5. Unscrew the four Phillips screws at the top of the keyboard. (They remain attached to the keyboard.)

6. Slide the keyboard backward to detach it, then tilt it forward and turn it upside down. (Keep the keyboard cable attached.)

7. **Important.** Move the wires to the left of the drive location out of the way.

8. Tilt up the rear of the hard disk drive you want to install and—rocking it carefully side to side—push the drive forward into the connector.

9. Fasten the hard disk drive with the four attached Phillips screws in the sides of the case.

10. Tilt the keyboard back, slide the flanges on the front edge forward into the slots, and fasten the keyboard with the four attached Phillips screws at the top.

11. Replace the plastic cover that is above the keyboard, front edge first.

12. Hold both hinge covers and snap the plastic cover in place. If necessary, push downward at each end of the cover to secure it.

13. Close the display and replace the two screws at the rear of the hinge covers.

14. Insert the battery, connect the AC adapter, and press the reset button.

15. If necessary, restore the original Windows software and operating system with the Recovery CD.

Service and Support

Getting Support for Your HP Notebook PC

HP offers a number of ways that you can get technical support for your computer. If you have questions or problems, here are the resources available to you:

- Look up information in the electronic *Reference Guide*.

- Visit the HP notebook website.

- Call HP support.

To get help from the HP notebook website

HP has a website on the Internet dedicated to HP notebook owners: www.hp.com/notebooks. This website contains information about the various HP notebook models, warranties, support, and special promotions.

To get help with your computer, click the Technical Support button. In the technical support area, you will have access to:

- answers to frequently asked questions

- software, driver, and BIOS updates

- electronic manuals

- troubleshooting solutions

- self-help tools, such as bulletin boards, CD-ROM subscriptions, and service parts information

- the basic services included with your warranty, as well as descriptions of enhanced and custom services

- latest support telephone numbers for HP products

To call the HP Customer Care Center

If you are unable to solve a problem with your computer, you can call the HP Customer Care Center. The Customer Care Center will assist you at no charge during the term of the warranty; you are responsible only for cost of the telephone call. During the free assistance period, HP will assist with questions about:

- applications and operating systems included with your computer

- HP-described operation environments and conditions

- HP accessories, HP upgrades, and basic operation and troubleshooting

HP will not be able to help with questions about:

- non-HP hardware, software, operating systems, or usage not intended for—or not included by HP with—the product

- how to repair the product yourself

- product development or custom installations

- consulting

To locate the Customer Care Center in your area, check the following table. HP Customer Care Centers will assist you for free during the term of the warranty; you are responsible only for the cost of the telephone call. Check the HP notebook website (www.hp.com/notebooks) for the most complete and current list of phone numbers

North America	
United States	+1 (970) 635-1000
Canada	+1 (905) 206-4663
Mexico City	+52 58 9922
Mexico (outside Mexico City)	+52 01 800 472 6684
Asia Pacific	
Australia	+61 (0)3 8877 8000
Hong Kong	+852 800 96 7729
Japan	+81 (0)3 3335 8333
Malaysia	+60 (0)3 295 2566
New Zealand	+64 (0)9 356 6640
People's Republic of China	+86 800 810 5959
Singapore	+65 272 5300
Europe	
Austria	+43 (0)7114 20 1080
Belgium (Dutch)	+32 (0)2 626 8806
Belgium (French)	+32 (0)2 626 8807
Czech Republic	+42 (0)2 6130 7310
Denmark	+45 39 29 4099
English (from outside UK)	+44 (0)207 512 52 02
Finland	+358 (0)203 47 288
France	+33 (0)1 43 62 34 34
Germany	+49 (0)180 52 58 143
Greece	+30 (0)1 619 64 11

Hungary	+36 (0)1 382 1111
Ireland	+353 (0)1 662 5525
Italy	+39 02 264 10350
Netherlands	+31 (0)20 606 8751
Norway	+47 22 11 6299
Poland	+48 22 519 06 00
Portugal	+351 21 317 6333
Russia (Moscow)	+7 095 797 3520
Russia (St. Petersburg)	+7 812 346 7997
Spain	+34 902 321 123
Sweden	+46 (0)8 619 2170
Switzerland	+41 (0)848 80 11 11
Turkey	+90 (0)212 221 69 69
United Kingdom	+44 (0)207 512 52 02
Africa/Middle East	
Israel	+972 (0)9 952 4848
South Africa	+27 (0)86-000-1030

To check the build version

When you communicate with an HP support person, you may need to find out what version of the software is installed on your computer. You can find information about the build in the file version.inf in the root directory of your hard disk. (This is a hidden file, so if you cannot see it, follow the instructions below.) Double-click on the filename to see the information.

To see hidden files in Windows 98

1. In My Computer, select View, Folder Options.

2. Click the View tab.

3. Under Hidden Files, choose "Show all files."

4. Click OK.

To see hidden files in Windows 2000

1. In My Computer, select Tools, Folder Options.

2. Click the View tab.

3. Choose "Show hidden files and folders."

4. Click OK.

Obtaining Repair Service

To receive warranty repair service

To receive warranty repair service, contact your HP Customer Care Center. See "To call the HP Customer Care Center" on page 126 for the phone number.

The support technician will help qualify your unit for warranty repair, based on the warranty applicable to your unit and original purchase date, and will provide you with repair processes. Warranty service may include the cost of shipping, handling, duties, taxes, freight, or fees to or from the service location.

To repair your computer outside the warranty period

If your PC is no longer in the warranty period, contact the appropriate Customer Care Center. The HP support person will let you know about repair charges and processes.

To prepare your computer for shipment

1. **Important.** Back up the contents of your hard disk drive to floppy disks, tape, or a network drive.

   While your computer is being repaired, the hard disk may be replaced or reformatted.

2. Hewlett-Packard cannot guarantee the return of removable components. Please remove the following before you send your computer for service:

   - PC cards

   - AC adapter and power cord

   - CDs in the CD player

   - floppy disks in the floppy disk drive

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

HP recommends that you leave the hard disk drive in the computer when you send it for repair. When the computer is returned, you can restore your data from the backup you made. If you nevertheless want to remove the hard disk drive for this (or some other) reason, see "Removing and Reinstalling the Hard Disk Drive" on page 122.

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 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 HP 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 and Software Specifications

You will find detailed information about your computer's hardware and software specifications in the *Reference Guide.* For the most up-to-date information on HP notebook PC specifications, go to the HP notebook website at www.hp.com/notebooks.

BIOS Setup utility options

The pointing devices are not active in the BIOS Setup utility. Press the Right and Left arrow keys to move from one menu to another. Press the Down and Up arrow keys to move among parameters in a menu. Press F5 or F6 to move through values for the current parameter or press Enter to change a setting. See the tables below for more information.

Main Menu		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 mm/dd/yyyy format.	
Floppy Drive	Sets the floppy drive type.	Detected and set automatically.
Internal Hard Disk	Sets the hard disk drive size.	Detected and set automatically.
Quiet Boot	When enabled, hides summary of power-on self-test and messages during boot.	Enabled
Video Display Device	Switches between sending video signals to both the built-in LCD display and an external CRT display (Both) and automatically switching to the external CRT if one is attached (Auto).	Auto

Video Expansion	When enabled, expands video image to cover entire LCD at lower resolutions.	Disabled
Television Type	NTSC or PAL standard.	NTSC
Base Memory	Shows the system memory size.	640KB
Extended Memory	Shows the extended memory size.	Detected automatically.
CPU Serial Number	When enabled, reports Intel CPU serial number to application software.	Enabled
System Devices Menu		**Default**
PS/2 Pointing Device	When an external PS/2 mouse is connected, enables internal pointing device also (Both) or disables it (External Only).	Both
External Fn key	Enables or disables Left Ctrl+Left Alt on external keyboard to simulate notebook keyboard Fn key.	Enabled
IDE Controller	Configures local bus IDE controller to enable primary channel (Primary), primary and secondary channel (Both), or neither (Disabled).	Both
FDD Controller	Enables or disables floppy disk drive controller.	Enabled
Serial Port	Sets how the serial port is configured—by the user (Enabled), automatically (Auto), or inactive (Disabled).	Enabled
Base I/O address	Sets the I/O address and interrupt.	3F8 IRQ4
Infrared Port	Sets how the infrared port is configured—by the user (Enabled), automatically (Auto), or inactive (Disabled).	Disabled

Mode	When IR port is enabled, sets the hardware to support SIR (Standard IR) or FIR (Fast IR) infrared communications.	FIR
Base I/O address	When IR port is enabled, sets the I/O address and interrupt.	2F8 IRQ3
DMA channel	When FIR mode is enabled, sets the DMA channel.	DMA 0
Parallel Port	Sets how the parallel port is configured—by the user (Enabled), automatically (Auto), or inactive (Disabled).	Enabled
Mode	When parallel port is enabled, sets the port to Normal, Bi-directional, ECP, or EPP mode.	ECP
Base I/O address	When EPP mode is not enabled, sets the I/O address.	378
Interrupt	Sets the interrupt.	IRQ 7
DMA channel	When ECP mode is enabled, sets the DMA channel.	DMA 3
LCD Status Panel Display	Enables or disables display of the status panel.	Enabled
LCD Status Panel Date Format	Set date format on the status panel.	mm/dd/yy (month/date/year)
LCD Status Panel Time Format	Set time format on the status panel.	hh:mm (24-hour format)

Security Menu		**Default**
User Password Is	Shows if a user password is set.	Clear
Supervisor Password Is	Shows if an supervisor password is set.	Clear

Set User Password	Sets, changes, or clears user password, after supervisor password is set. Password length can be no longer than 8 characters, 0-9, A-Z.	
Set Supervisor Password	Sets, changes, or clears supervisor password. This password protects BIOS Setup settings.	
Password Required to Boot	Sets whether a user password is required when the computer boots.	Enabled
Floppy Boot	Controls permission to boot system from floppy disk drive.	Enabled

Power Menu		**Default**
Intel SpeedStep Technology	Sets CPU high-speed/low-speed mode for AC and battery operation: boot at high speed with AC, otherwise low (Auto); no runtime support, boot at low speed (Disabled); boot at low speed (Battery Optimized); boot at high speed (Max. Performance); or boot at low speed with AC, otherwise high (Reverse).	Auto
Auto Turn-On on Dock	Enables or disables automatic system turn-on when computer is docked.	Enabled

Boot Menu		**Default**
	Indicates boot order of drives (change order with F5 and F6 keys).	Floppy Drive Hard Drive CD-ROM/DVD Drive

Exit Menu		
Saving Changes and Exit	Saves Setup changes to CMOS, exits, and reboots.	
Discarding Changes and Exit	Discards Setup changes since last save, exits, and reboots. Does not affect security, date, or time changes.	

Get Default Values	Restores default settings, stays in Setup. Does not affect security, date, or time changes.	
Load Previous Values	Discards Setup changes since last save, stays in Setup. Does not affect security, date, or time changes.	
Save Changes	Saves Setup changes to CMOS and stays in Setup. Security settings are saved when changed.	

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).

Dimensions	13.03"x10.72"x1.59" (331x272.3x40.5mm) for 12.1"–14.1" 13.03"x10.72"x1.65" (331x272.3x42.0mm) for 15"
Weight	6.5lbs (3.0kg) with 12.1" TFT LCD/LiIon battery/FDD/CD-ROM/64MB/HDD
CPU	Intel PIII/Celeron uPGA2 with SpeedStep (PIII only) 100MHz FSB
Chip Set	Intel 440ZXM-100
Main Memory	100MHz SDRAM (PC100) Maximum memory upgrade to 256MB by two 128MB SODIMM (144-pin/3.3V) modules in two 1.25" slots
Hard Disk Drive	9.5mm, 2.5" HDD PCI Bus Master Enhanced IDE Supports Ultra DMA/33
Floppy Disk Drive	12.7mm, 1.44MB (3-mode)
CD-ROM/DVD	12.7mm, 24X CD-ROM or 8X DVD
Display	800x600 SVGA TFT 12.1" LCD 1024x768 XGA TFT 13" LCD 1024x768 XGA TFT 14.1" LCD 1024 x768 XGA TFT 15" LCD

Video chip	S3 Savage/IX – Integrated 4MB SGRAM – Supports AGP 2X mode – 128-bit, single-cycle 3D architecture – Simultaneous LCD/CRT, LCD/CRT/TV capability – Optimized hardware motion compensation – New high-performance 128-bit 2D engine – Integrated single-channel 110MHz LVDS interface – Integrated NTSC/PAL TV encoder
PCMCIA	TI 1420 (two slots) HPC card 95 supporting one type III or two type II sockets PCI power management compliant ACPI 2.0 compliant PCI local bus specification Rev. 2.2 compliant 3.3V core logic with universal PCI interface compatible with 3.3V and 5V PCI signaling environments No ZV support
Keyboard	NS 87570 K/B controller – 87/88/90 keys with 101/102 key emulation – Supports Windows keys and Application key – Standard pitch, 3.0mm travel length – Spill-proof
Pointing Device	2-button design with on/off and scroll up/down buttons CCR enabled for Chinese localization only
Audio	ESS Allegro (1988) – Integrated AC'97 CODEC – HSP modem interface via MC'97 link – Supports wake up on ring. Modem CODEC ESS 2828 on mini-PCI slot
CD Player	OZ-163 controller Supports CD-play while system is off
Battery	LiIon: 9 cells, 5400mAh/11.1V, 18650 size NiMH: 9 cells, 4000mAh/10.8V, 17670 size 2.2 hrs charging time Smart pack, SM bus
AC Adapter	60-65W universal AC adapter 90-264V AC, 47-63Hz

I/O Ports	Serial port: 9 pins (RS232), 16550 compatible
	High-speed bidirectional parallel port: 25 pins, EPP/ECP capability
	VGA port: 15 pins with hot plug/unplug CRT detect
	PS/2: 6 pins, for keyboard, keypad or PS/2 mouse (Y adapter compatible)
	Microphone-in, headphone-out jacks
	Internal microphone
	Docking port: supports optional simple port replicator
	One FIR port
	Two USB ports
	DC-in jack
	Two Polk Audio stereo speakers
	Composite TV-out
Controls	Power switch
	Lid switch
	Reset off button
	Sleep button
	4 user-programmable One-Touch buttons
	CD-Player on/off switch
	CD-Player buttons: Previous, Play/Pause, Stop/Eject, Next, Volume-Up, Volume-Down
	Pad Lock touch pad on/off button
	Scroll up/down toggle
	Status panel mode button
Status LEDs	Caps/Num/Scroll lock LEDs (green)
	Pad Lock touch pad on/off LED (amber)
	Power status LED (dual color): power on green; standby amber
	Battery charging LED: charging amber; fully charged green; abnormal red
	HDD, FDD, CD-ROM activity LEDs (green)
	LCD dot matrix display (with 2 backlight LEDs)
	– When the unit is on, the display shows: power status, battery charging status, date, or time
	– When the unit is off and in CD-Player mode, the display shows, in addition: sleep status, track number, and time elapsed
	Backlight LEDs (green) for CD-Player buttons
	CD-Player on/off LED (green)
	2 LEDs on RJ-45 connector
Options	32/64/128MB PC-100 SODIMM: 3.3V, 144-pin, SDRAM
	SPR
	Mini-PCI modem, supporting Wake up on Ring# from D3 (cold) with AC-in
	Mini-PCI modem/LAN combo, supporting Wake up on Ring# & PME# from D3 (cold) with AC-in

Mechanical	Kensington lock Continuously variable fan speed
Simple Port Replicator	Serial Parallel VGA USB x2 TV-out PS/2 x2 RJ-45 Audio line-in Audio microphone-in Audio headphone-out DC-in (with AC adapter) LEDs: – SysON LED: green when system is on. – BATT Charge LED: amber when Batt in charging, green when fully charged, red for abnormal Power on/off slide switch Kensington lock
Environment	Operating temperature: 5 to 35°C (41 to 95°F) Storage temperature: -20 to 50°C (-4 to 122°F) Operating humidity: 20 to 90% RH (5 to 35°C) Operating shock: 60inch/sec, 2ms, half-sine Non-operating shock: 80inch/sec, 2ms, half-sine Operating vibration: 1G (5 to 500Hz) Non-operating vibration: 2.16G (5 to 500Hz) Hinge cycle life: 20K cycles Operating altitude: up to 3,000m (10,000 ft)
Standards	PC99 ACPI

Software specifications

Software	512KB flash BIOS ROM Standby to RAM/Disk Minimal APM 1.2 support Various hot keys for system control Password protection Autoconfiguration with Replicator PC99 ready with PnP Keyboard BIOS flashable ACPI 1.0b compatible Smart battery support DMI EEPROM (2KB) extension Bootable devices; FDD, HDD, DVD, CD-ROM WIN 98SE (ACPI mode), Win 2000 (ACPI mode)
Software Applications	Adobe Acrobat Reader MusicMatch MP3 software MediaMatics DVD player (for computers with DVD) One-Touch Button software Fax software (included in Windows 2000)
For additional information about software included with your computer, check HP Notes. Click Start, Program, HP Library; or double-click the HP Library icon on the desktop.	

Software system resources

The tables in this section show typical resource usage as set up by the HP notebook BIOS. Plug-and-play operating systems, drivers, and BIOS setup settings may change some of the entries. To see other, nondefault possibilities, refer to the BIOS Setup utility, which lists port configurations in the System Devices menu.

System Interrupts

0	System timer
1	Keyboard
2	Cascade from secondary interrupt controller
3	Free
4	COM1 (serial port)

5	Audio
6	Floppy disk drive
7	LPT1 (ECP parallel port)
8	Real-time clock
9	SCI
10	PCI IRQ (shared by all PCI devices)
11	Free (or MIDI, if enabled).
12	Touch pad, PS/2 mouse
13	Numeric coprocessor
14	Internal hard disk drive (primary IDE controller)
15	Internal CD-ROM drive (secondary IDE controller)

System Memory

00000 - 9FFFF	System memory
A0000 – BFFFF	Video
C0000 - CFFFF	Video BIOS
D0000 - DBFFF	Free (valid uses: upper memory blocks (UMBs) or PC card memory windows)
DC000 - FFFFF	System BIOS

System Input/Output Addresses (100-3FF)

170-177	Internal CD-ROM drive (secondary IDE controller)
1F0-1F7	Internal hard disk drive (primary IDE controller)
220-22F	DOS games (FM decoding)
376	Internal CD-ROM drive (secondary IDE controller)
378-37F	LPT1 (printer port)
388-38B	DOS games (FM decoding)
3B0-3BB	VGA adapter
3C0-3DF	VGA adapter
3E0-3E1	PCMCIA controller
3F0-3F5	Floppy disk drive controller

3F6	Internal hard disk drive (primary IDE controller)
3F7	Floppy disk drive controller
3F8-3FF	COM1 (serial port)

DMA Channels

0	Free
1	LPT1 (ECP parallel port)
2	Floppy disk drive
3	Free
4	Cascade from secondary DMA controller
5	Free
6	Free
7	Free

Modem Reference Information

If your computer has a built-in modem, you can customize the operation of the modem using AT commands and S-registers. You can do this from Modem (Windows 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 55.

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 (with an Ambit chip), which is included with selected models of the HP notebook PC.

AT Commands (Ambit)

In the following AT command table, default settings are shown in bold. All listed AT commands except A/ must be preceded by "AT."

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

Command	Function (Ambit)
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
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

Command	Function (Ambit)
&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
&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)

Command	Function (Ambit)
&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)
%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

Command	Function (Ambit)
	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
+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

Command	Function (Ambit)
-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

Register	Function (Ambit)	Range/units	Default
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 notebook 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 office.

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

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 call the HP Customer Care Center" on page 126 for your local HP contact.

- Do not disassemble. There are no serviceable parts inside. Do not dispose of the battery pack in fire or water.

- Handle a damaged or leaking battery with extreme care. If you come in contact with the electrolyte, wash the exposed area with soap and water. If it contacts the eye, flush the eye with water for 15 minutes and seek medical attention.

- Do not expose the battery pack to high storage temperatures, above 60° C (140° F).

- When 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).

- When discarding a battery pack, contact your local waste disposal provider regarding local restrictions on the disposal or recycling of batteries.

Laser Safety

The CD-ROM and DVD drives used with the HP notebook PC are certified as 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 representative—see the "Service and Support" section on page 125.

- Do not attempt to make any adjustment of the unit.

- Avoid direct exposure to the laser beam—do not disassemble the drive.

> CLASS 1 LASER
> PRODUCT
>
> LASER KLASSE
> 1
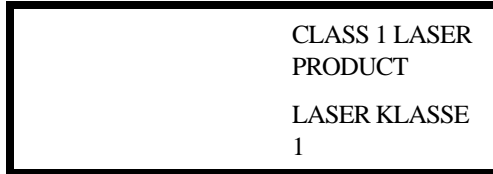
LED Safety

The infrared port located on the back panel of the notebook 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 the "Service and Support" section on page 125.

- 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
>
> LEDSCHÜTZKL
> ASSE 1
> PRODUKT
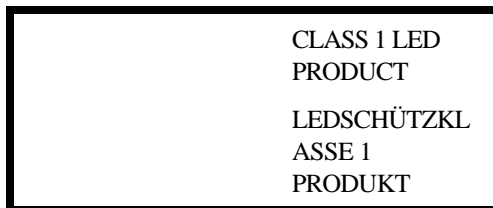
Regulatory Information

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

U.S.A.

The HP notebook PC generates and uses radio frequency energy and may interfere with radio and television reception. The HP notebook PC 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 (U.S.A.)

Responsible Party:	Hewlett-Packard Company
	Manager of Corporate Product Regulations
	3000 Hanover Street
	Palo Alto, CA 94304, U.S.A.
	+1 (650) 857-1501

declares that the product

Trade name:	Hewlett-Packard Company
Product name:	Notebook PC
Model Number(s):	OmniBook XE3, Pavilion N5*D* series Notebook PC
	(*D* is any digit 0–9)

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.

European Union

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

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

This equipment has been designed to work in all of the countries of the European Economic Area (Public Switched Telephone Networks). Network compatibility is dependent on internal software settings. Contact your equipment supplier if it is necessary to use the equipment on a different telephone network. For further product support, contact Hewlett-Packard at the phone numbers provided in the "To call the HP Customer Care Center" section on page 126.

Japan

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

Japan Telecommunications Approval

JATE approval number: A00-0143JP, A00-0434JP

Name of Equipment: T18M038.00, T18N040.00

Russia

??????? ?????????????? ? ??????? ???? ?

? ???? ?????????????? ? ??????? ????????????

CCЭ
Госсвязь России

International

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

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

Specifications and Regulatory Information
Regulatory Information

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

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

declares that the following product

Product Name:	Notebook PC
Model Number(s):	OmniBook XE3, Pavilion N5*D* series Notebook PC (*D* is any digit 0–9)
Product Options:	All

conforms to the following product specifications

Safety:	IEC 950: 1991 +A1,A2,A3,A4 / EN 60950: 1992 +A1,A2,A3,A4,A11 IEC 60825-1: 1993 +A1/EN60825-1: 1994 +A11 Class 1 (LED) GB4943-1995
EMC:	CISPR 22: 1993 +A1,A2 / EN 55022: 1994 +A1,1995 +A2: 1997　　Class B [1] 　EN 61000-3-2:1995 +A1: 1998 +A2: 1998 / EN 61000-3-3:1995 GB9254-1988　　　　　　　　FCC Title 47 CFR, Part 15 Class B/ANSI C63.4: 1992 AS/NZS 3548: 1995 Rules and Regulations of Class B 　EN50082-1: 1997

	EN 61000-4EN50082-1: 1997-2: 1995: 4kV CD, 8kV AD	EN 61000-4-5: 1995
	EN 61000-4-3: 1995: 3V/m	EN 61000-4-6: 1996
	EN 61000-4-4: 1995: 0.5kV Signal Lines	EN 61000-4-11: 1994
	1kV Power Lines	ENV 50204: 1995

Telecom:	TBR 21: 1998, EG 201 121: 1998
Supplementary Information:	The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC, amended by 92/31/EEC & 93/68/EEC, and the R&TTE Directive 1999/5/EC (Annex II) and carries the CE marking accordingly.
	[1] The product was tested in a typical configuration with Hewlett Packard Personal Computer peripherals.
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	The HP F1454A and F1781A AC/DC adapter used with this product is designed to operate on all power systems, other than IT power systems.

Corvallis, OR, May 4, 2000

Gary Howard, Quality Execution Section Manager

CE European Contact for regulatory topics only: Hewlett Packard GmbH, HQ-TRE, Herrenberger Straße 130, 71034 Boeblingen, Germany. Fax: +49 7031 143143).

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