HP Pavilion Notebook PC

Setup Guide

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Contents

Introducing Your HP Notebook PC

Taking Inventory

- HP notebook PC.

- Main battery.

- AC adapter and power cord.

- Telephone cord.

- Quick Start sheet.

- The HP notebook PC *Setup Guide*.

- Recovery CD (or CDs), used to restore Windows 98 and all software included with your computer.

- Microsoft Encarta CD.

- Microsoft Works CD.

- Microsoft Money CD.

- Microsoft Windows 98 manual.

Software bundled on your computer

Your HP notebook PC comes with a selection of the software listed here. Various models are configured with different combinations of software.

Software	Function
HP e-center	Provides easy access to e-pages and e-services—including Internet registraion, backup, e-mail, and fax transfer.
Microsoft Works	Offers word processing, spreadsheet, database, and calendar applications, all contained in a single software program. (A CD is included, in case you have to reinstall the software.)
Microsoft Encarta	Provides access to a CD-based encyclopedia.
Microsoft Money	Helps you manage finances at home and at the office using electronic checkbooks, online banking, and tools for investment tracking and tax planning. (A CD is included.)
Quicken Basic 2000	Allows you to manage and organize your finances, including checkbook balancing, bill paying, and budget development.

QuickLink III	Permits fax transfer to fax machines and fax software—and permits data transfer.
McAfee VirusScan	Protects your computer from files that can be harmful.
My Yahoo!	Provides access to Yahoo! Web site, including customizable My Yahoo! Web site in regions where available.
Adobe Acrobat Reader	Allows you to read documents in Acrobat format, which is used frequently on the Web.
HP DiagTools	Provides hardware diagnostic tests.
AudioRack 32	Controls play of audio CDs.
MusicMatch Jukebox	Controls play of MP3 music files.
DVD Player	For computers with a DVD drive, controls DVD play.

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 (HP F1738A).

- Auto/airline adapter (HP F1455A).

- AC adapter (HP F1454A).

- Ultraslim AC adapter (HP F1781A).

- Primary lithium ion battery (HP F1739A).

- Y adapter for mouse and keyboard (HP F1469A).

- Additional RAM—HP SDRAM:

  - 32 MB (F1456B).

  - 64 MB (F1457B).

  - 128 MB (F1622B).

To find more information

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

The *Quick Start* sheet shows how to get your computer up and running quickly.

This table lists other sources of information about your computer.

Source	Description
User's Guide	The *User's Guide* is a help file located on your hard drive. It provides you with detailed information about your notebook PC (Start, Programs, Pavilion Library—or double-click the Pavilion Library icon on the desktop).
Pavilion Notes	This document contains late-breaking information available after the manuals were completed (Start, Programs, Pavilion Library—or double-click the Pavilion Library icon on the desktop).
Introductory Microsoft manual for Windows 98.	This manual contains information about using the standard features of Microsoft Windows 98.
HP notebook Web site	www.hp.com/notebooks
HP Customer Care Web site	www.hp.com/cposupport

Identifying the Parts of the Notebook

Front view
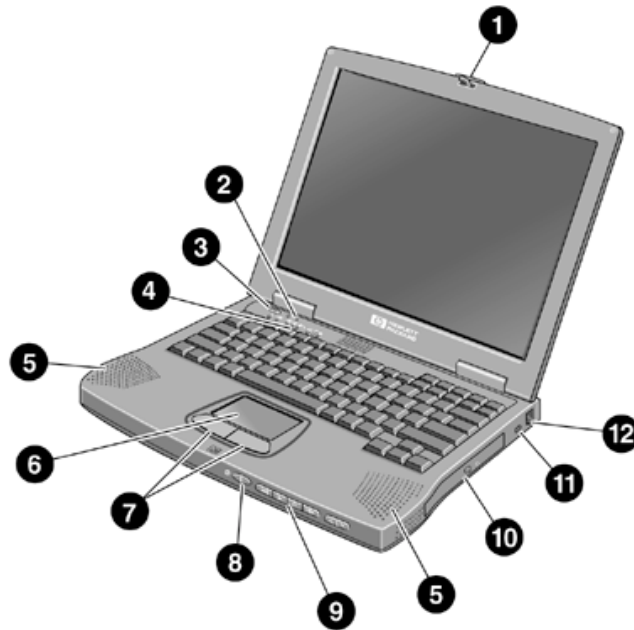
1   Latch to open the computer

2   Built-in microphone

3   Blue power button

4   Status lights (see "Status lights" on page 17)

5   Built-in speakers

6   Touch pad (pointing device)

7   Click buttons

8   CD player power

9   CD player buttons

10   CD-ROM drive or DVD drive

11   Kensington lock slot (security connector)

12   Modem phone jack

Side view
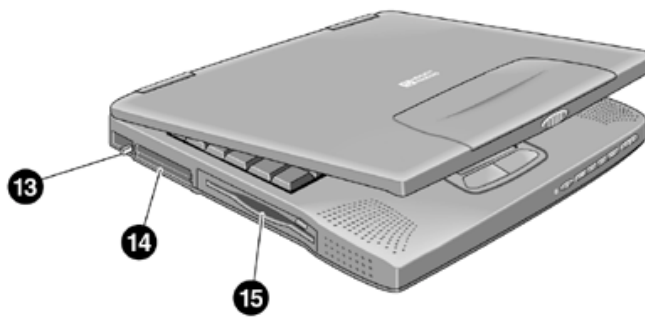
13   PC Card eject button

14   PC Card and CardBus slot (lower)

15   Floppy disk drive

Rear view
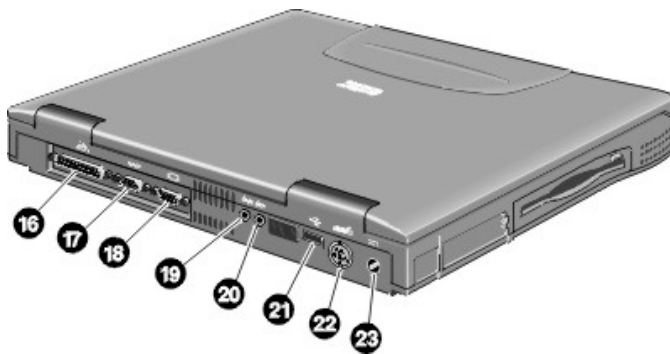
16   Parallel port

17   Serial port

18   VGA port (external monitor)

19   Audio out (external speaker)

20   Microphone jack

21   USB port

22   PS/2 port

23   AC adapter jack

Bottom view

24   Battery

25   Battery latch

26   RAM expansion cover

27   Hard disk drive

28   Hard disk drive latch and locking screw

29   System-off button (for resetting computer)

30   Port replicator connector

Status lights
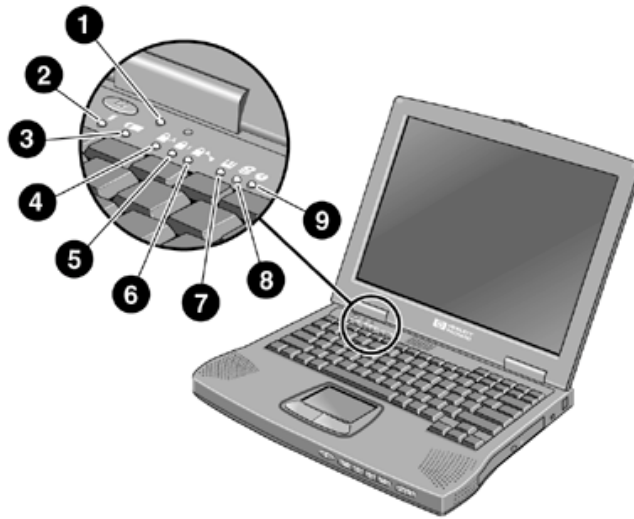
1   Power

2   AC connected

3   Battery

4   Caps Lock

5   Num Lock

6   Scroll Lock

7   Floppy disk drive access

8   Hard disk drive access

9   CD-ROM or DVD access

CD-ROM drive buttons

Selected models have CD-ROM buttons on the front. If you have a CD-ROM drive or a DVD drive, you can use these buttons to play music CDs when the system is off. (When the system is on, use the software controls in the Windows operating system.)
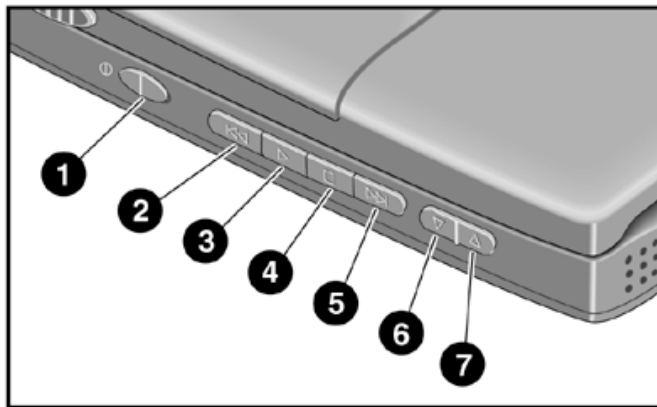
1	Power (slide to turn on or off)
2	Previous track
3	Play
4	Stop
5	Next track
6	Volume control down
7	Volume control up

Setting Up the Computer

To install the battery

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.**

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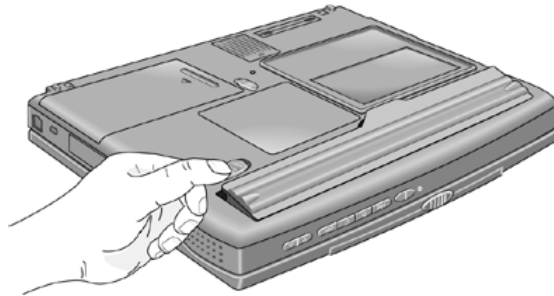
Once you have installed the battery, connect the AC adapter to the computer and recharge the battery while you work. You can also replace a low battery with another that is more fully charged.

To connect AC power

Use only the HP AC adapter intended for this product, model HP F1454A. Using any other AC adapter can damage the computer and may void your warranty. Refer to the warranty statement for your product.

Plug in the AC adapter, then connect the AC adapter to the rear of the computer, as shown. The battery starts charging.
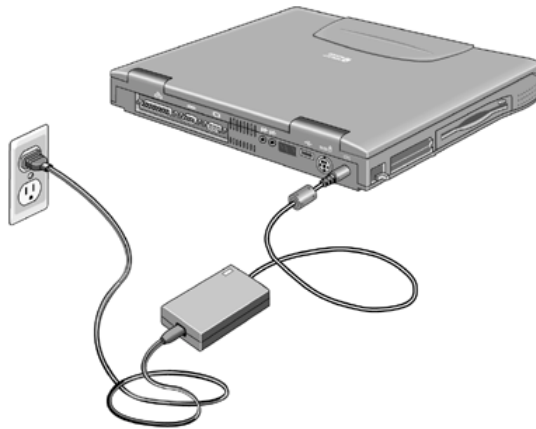
To connect a phone line

Your computer has a built-in modem. If you prefer, you can instead use a PC Card modem or an external modem to connect to 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.

NOTE

Your computer's modem supports the v.23 standard required for connecting to the MiniTel system in France. To connect to the MiniTel system, use MiniTel emulation software available in France.

To turn on the computer

Press the blue power button above the keyboard. Windows starts automatically. If you are turning on the computer for the first time, go to "To set up Windows" on page 22.

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

- Steady green light: computer is on.

- Slow blinking: computer is in System Standby or Suspend mode.

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

See "Managing Power Consumption" on page 52 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 press the blue power button again.

To set up Windows

Your HP notebook has Microsoft Windows 98 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.

Year 2000

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

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

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 the phone line. For information on connecting your modem, see "To connect a phone line" on page 20.

1. Press the blue power button.

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 registrations does not occur during setup—click Next on the desktop wallpaper or double-click the Registration icon on the desktop.

Note

If you experience any connection problems with your modem, you can try redialing. If that doesn't work, you can skip the product 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

Windows 98 automatically prompts you to register by modem. If you wish to do so, make sure that you have connected the phone line, then follow the onscreen instructions.

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.

By phone

You can call your HP Customer Care Center and register by phone. The number, in the U.S., is (970) 635-1000.

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.

- Optionally, record your ownership of the Windows 98 operating system with Microsoft.

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 you prefer, you can instead use a PC Card modem or an external modem to connect to an ISP.

2. If there is an Easy Internet Signup icon on the desktop, double-click it. This will launch an Internet setup 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.

2. Press and hold the blue power button until the display shuts down.

   −or, if this fails−

   Insert a pin or straightened paper clip into the recess on the bottom of the computer, toward the rear. (See "Bottom view" on page 16.)

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

To reset the screen saver

If your HP notebook PC was used as a demonstration unit in a retail store, it may have been configured to display the screen saver demo continuously.

To reset your computer:

1. Choose a different screen saver.

    - Right click on the desktop and select Properties.

    - Select the Screen Saver tab, and use the pulldown menu to choose a different screen saver.

    - Click Apply and click OK.

2. Reset the power management features.

    - Select Start, Settings, Control Panel, Power Management.

    - Reset power management features as you prefer. (For example, you can use the pulldown menu under Power schemes and select the Portable/Laptop power scheme, which is appropriate for most mobile users.)

    - Click Apply and click OK.

Using Your HP Notebook PC

Operating the 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. (Press and hold Ctrl+Alt with the appropriate key when using an external keyboard.)

Hot key	Does this
Fn + F1	Increases the display's contrast (HPA displays only).
Fn + F2	Decreases the display's contrast (HPA displays only).
Fn + F3	Enters Standby mode. (with Windows 98, identical to Suspend mode)
Fn + F4	Enters Suspend mode.
Fn + F5	Enters Hibernate mode.
Fn + F6	Toggles the sound on and off (mutes sound).
Fn + UP ARROW	Increases sound volume (except on external keyboard).
Fn + DOWN ARROW	Decreases sound volume (except on external keyboard).
Fn + F12	Switches among the built-in display, an external display, and simultaneous displays.
Fn + NumLock	Toggles Scroll Lock on and off.

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: File or Folders… dialog box
Windows key + M	Minimizes all displayed windows
Shift + Windows key + M	Returns all minimized windows to original size
Windows key + R	Runs the Windows Run dialog box

To use the embedded keypad

Press the Num lock key to turn number lock on or off. When Num Lock is on:

• Keys change to the numeric or arithmetic designations printed on the keys.

• 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

If your computer has an HPA display, you can adjust the display contrast.

- To increase the contrast, press Fn+F1.
- To decrease the contrast, press Fn+F2.

There is no brightness control.

If your computer has a TFT display, the contrast and brightness are preset. You cannot adjust them.

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+F6. Press Fn+F6 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 CD-ROM drive buttons

Selected HP notebook models also have CD-ROM drive buttons, which you can use with music CDs when the system is off.

• To increase the volume, press the volume control up button (to the far right of the front edge of the computer).

• To decrease the volume, press the volume control down button (to the left of the volume control up button).

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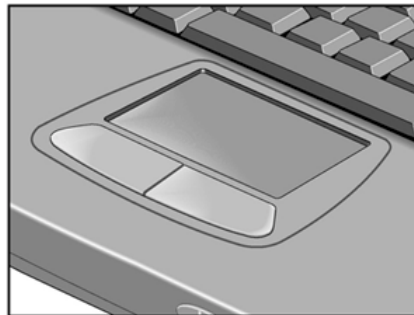
1. Move a thumb or finger across the touch pad in the direction you want the pointer to move.

2. 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 button twice** rapidly.

• To make menu selections, move the pointer to the item and press the **left** button once.

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

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

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.

Securing the Computer

To set up password protection

You can protect your computer from access by another user when you set up password protection, which is available either through Windows 98 (software) or through the BIOS Setup utility (hardware). Both 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, while Windows 98 does provide that security.

To set up password protection through Windows 98:

1. Select Start, Settings, Control Panel, Passwords.

2. Select Change Passwords tab.

3. Click Change Windows Password.

4. Enter your old Windows 98 password, if you had one; if not, leave the first field blank.

5. Enter your new password twice.

6. Click OK and Close.

To activate password protection when your computer resumes from standby or hibernation:

1. Check that you have set up a Windows 98 password, as described above.

2. Select Start, Settings, Control Panel, Power Management.

3. Select Advanced tab.

4. Check "Prompt for password when computer goes off standby."

5. Click OK.

If you also want to set up hardware password protection, see Using the BIOS Setup Utility.

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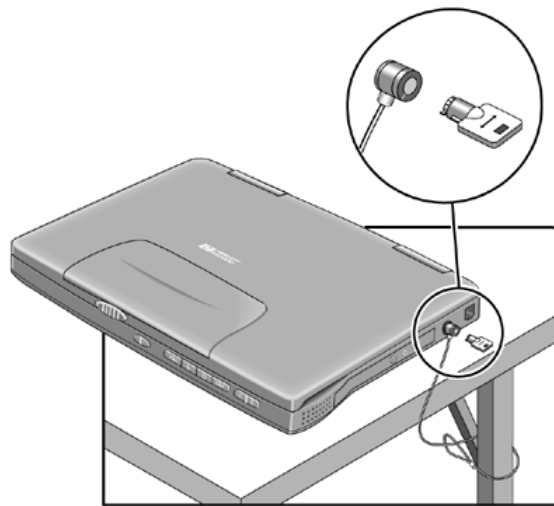
2. Loop the cable to create a slipknot around the stationary object—make sure it can't slip off.

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 the VirusScan utility

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

To access the VirusScan applications, click on Start, Programs, McAfee VirusScan, McAfee VirusScan Central. Refer to help within each of the VirusScan applications for tips on usage.

Working in Comfort

WARNING   **Improper use of keyboards and other input devices has been associated with ergonomic injury. For more information about reducing your risk, visit our ergonomics Web site at www.hp.com/ergo.**

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

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

In addition to the information on RSI given in this chapter, you may also consult the online version of Working in Comfort preloaded on the hard disk of your computer (Start, Programs, Pavilion Library, Working in Comfort), or visit HP's Working in Comfort Web site.

About Repetitive Strain Injury

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

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

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

What is RSI?

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

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

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

What causes RSI?

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

- Too many uninterrupted repetitions of an activity or motion.

- Performing an activity in an awkward or unnatural posture.

- Maintaining static posture for prolonged periods.

- Failing to take frequent short breaks.

- Other environmental and psychosocial factors.

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

What can I do to avoid RSI?

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

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

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

What if I experience discomfort?

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

Preparing Your Work Environment

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

Your Chair

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

- **A stable base, such as five legs with casters.** Make sure the casters are designed for the type of floor you have in your workspace, whether it is bare or carpeted.

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

- **A curved seat edge.** The front of the seat should be curved and finished in a "waterfall" edge.

- **An adjustable back support** in both height and forward and backward tilt. It is important that the backrest correctly supports the lower part, or lumbar curve, of the back.

- **A freely rotating swivel** so you can move easily from side-to-side.

- **Fully adjustable and padded armrests.** The chair arms should not interfere with adjusting the chair or moving it close to your work surface.

Your Work Surface

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

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

Your Work Posture

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

- **Back:** While sitting at your work surface, make sure your back is supported by the chair's backrest in an erect position or angled slightly backwards.

- **Arms:** Your arms should be relaxed and loose, elbows close to your sides, with forearms and hands approximately parallel to the floor.

- **Wrists:** Your wrists should be as straight as possible while using the keyboard, mouse or trackball. They should not be bent sideways, or more than 10 degrees up or down.

- **Legs:** Your thighs should be horizontal or angled slightly downward. Your lower legs should be near a right angle to your thighs. Your feet should rest flat on the floor. If necessary, use a footrest, but double check that you have your seat height adjusted correctly before getting a footrest.

- **Head:** Your head should be upright or tilted slightly forward. Avoid working with your head or trunk twisted.

- **Overall:** Change your position frequently and take regular breaks to avoid fatigue.

Setting Up Your HP Computing Equipment

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

Your HP Monitor

It is important that your monitor screen be clean and positioned correctly to improve readability and help you work comfortably. Glare, high contrast, reflections, dirt and dust will interfere with what you see on the screen. The recommendations that follow can help you achieve a comfortable arrangement.
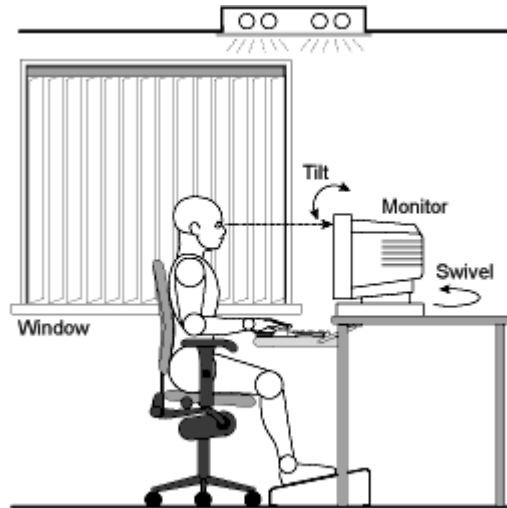
- The top of your monitor screen should be at or slightly below eye level. Most HP monitors come with a tilt-and-swivel feature that makes it easy to adjust the screen position.

- To avoid obscuring your view, the screen should be positioned perpendicular to your line of sight; that is, straight on.

- To avoid glare or reflection, try to position the monitor so the screen is at a right angle to your window rather than in front of it. If reflection or glare persists, tilting the screen forward may help.

- Maintain a comfortable viewing distance to the screen. Most people prefer a viewing distance of approximately 46 to 76 cm (18 to 30 inches), depending on monitor size. Character size and the amount of space available on the work surface can affect this distance.

- Text should be easy to read. To help ease eyestrain, adjust text attributes such as character size, spacing, and color. In addition, you will need to use the controls provided with your monitor to adjust the visual settings so that contrast and brightness levels are comfortable for you. High contrast and low brightness is usually the preferable combination.

- The monitor should be free from flicker. If the image on your screen is not stable, the monitor may require repair or adjustment.

- When possible, use a program that has a simple user interface, such as easily identifiable icons and pull-down menus. Also, screen information should be displayed in a structured and well-organized way.

Monitor Use Specifications

- When viewing your monitor, your head should not be tilted more than 15 degrees forward.

- You should not have to look up more than 5 degrees above horizontal or down more than 30 degrees below horizontal for normal work tasks, such as typing or reading.

Document Holders

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

- The document holder should be at approximately the same height and distance from your eyes as the screen, and as close to the monitor as possible to prevent neck twisting. Some users prefer a document holder mounted to the monitor while others prefer the document holder positioned between the screen and keyboard.

- If the primary task is to view documents rather than using the monitor, the document holder may be placed directly in front of the keyboard with the monitor slightly to the side.

- To help reduce stress on your neck and prevent eye fatigue, try to minimize the movement of your head and eyes while using a document holder.

Your HP Keyboard

The proper positioning and use of your HP keyboard is important when using HP computing equipment. Be sure to observe the following recommendations to optimize your comfort and safety:
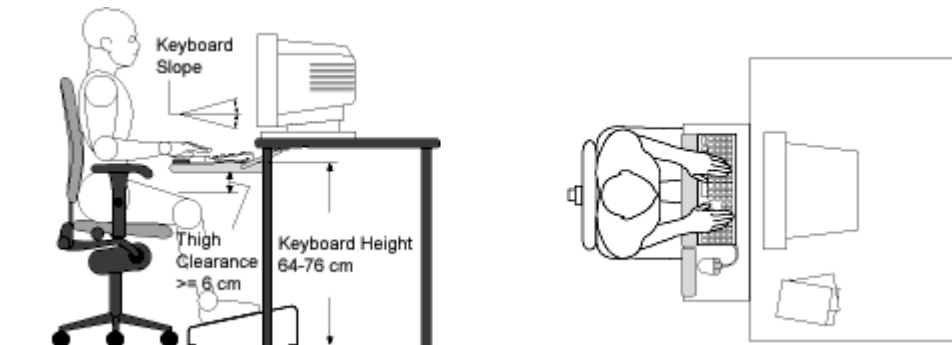
- We recommend you place your keyboard in front of the screen or document holder, whichever is viewed the most. Your HP keyboard has long cables so you can place it in the position that is most comfortable for you while you are using your system.

- Because HP keyboards vary in depth, you'll want to be sure that your work surface or keyboard tray has sufficient room to accommodate your model. The keyboard tray should be wide enough to hold both the keyboard and mouse or trackball: 66 to 71 cm (26 to 28 inches).

- Your HP keyboard may have a kickstand that can be opened or closed to raise or lower the keyboard angle. If you are in the correct sitting position with your elbows at about the same level as the work surface, you may not need to use it. However, if your elbows are below the work surface, you may wish to use the kickstand to raise the back of the keyboard.

- An adjustable keyboard tray may be useful if you cannot adjust your chair or work surface to the proper height for typing. It should adjust in height from 64 to 76 cm (25 to 30 inches) above the floor and tilt forward and backward to help you find the most comfortable position. Note that research has shown that there may be less muscle tension in shoulders and forearms with the keyboard tilted away from you.

- When using your HP keyboard, remember it takes very little pressure or force from your fingers to activate the keys. Improper typing style—the use of too much force— can place unnecessary stress on the tendons and muscles in your hands, wrists, and forearms.

- Make sure that your hands are in a neutral position when you use your keyboard. This means that your forearms, wrists, and hands should be in a straight line.

- The keyboard has a low profile to help prevent excessive bending of your wrists while typing. Literature suggests that you should not bend your wrists sideways or more than 10 degrees up or down. Keep your wrists straight by moving your entire hand and forearm over to use the function keys or numeric keypad.

- You may use a palm rest to help keep your hands and wrists in a comfortable and neutral position when you are not typing. Some HP keyboards come with an integrated palm rest. If you use a palm rest, see that it is rounded and padded, and flush in height with the front edge of the keyboard. Note that your palms—not your wrists—should rest on the palm rest. If you don't have a palm rest, try not to rest your wrists on a sharp edge, such as a work surface edge.

Mice and Other Input Devices

Various aspects of using mice and other input devices may increase your risk of discomfort or injury. If you connect an external mouse to your computer, observing the following recommendations may reduce that risk.
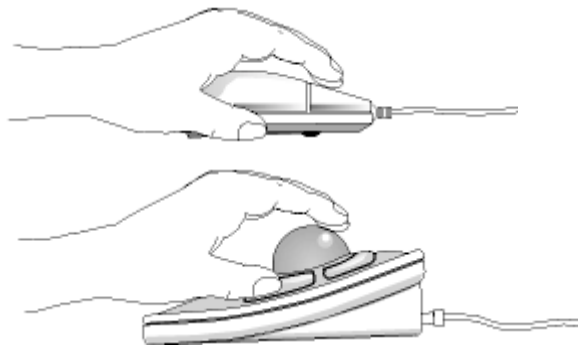
- As with the keyboard, try to keep your hand, wrist, and forearm in a neutral position while using your mouse or other input device.

- When using a stylus or light pen with a graphics tablet, don't grip the stylus tightly. Keep your hand and fingers relaxed and try to maintain a neutral posture in your hand, wrist and forearm.

- If you use your thumb to rotate the ball on a trackball or spaceball, keep it in a relaxed, natural shape, and maintain a neutral posture in your hand, wrist, and forearm.

- Hold the mouse gently by draping your fingers over it. Keep your hand relaxed and fingers loose. Do not grip the mouse tightly.

- It takes very little pressure or force from your fingers to activate the buttons or scroll wheel on your mouse, scrolling mouse, trackball, or other input device. Using too much force can place unnecessary stress on the tendons and muscles in your hands, wrists, and forearms.

- If you are using a scrolling mouse, be sure to keep your fingers and hand in a relaxed, neutral position when activating the scroll wheel. Also, this type of mouse features software that can minimize the number of mouse movements or button clicks.

- When using a mouse, trackball, stylus and graphics tablet, or other input device, position it as close to the keyboard as possible, and keep it at the same level so you do not have to stretch while using it.

- Use a good quality mouse pad to enable the mouse to work most effectively and reduce unnecessary hand and wrist movements.

- Be sure to keep your mouse and trackball clean. Regular removal of accumulated dust and dirt helps ensure proper tracking and reduces unnecessary hand and wrist motions.

Headphones and Speakers

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

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

Comfort and Safety Checklist

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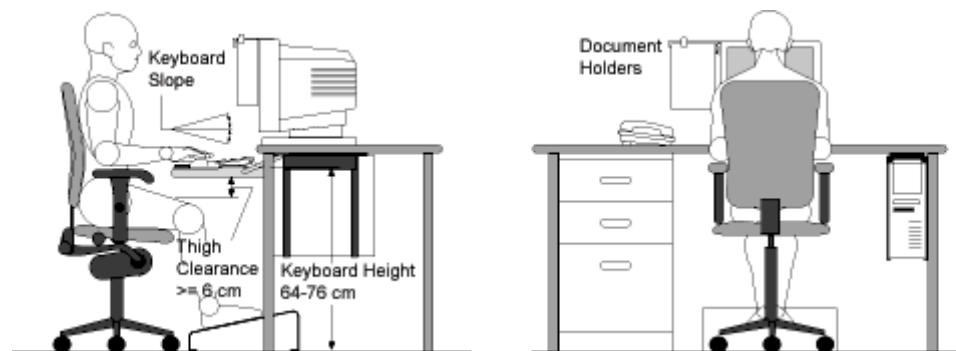
General

- **Work Surface Height:** Adjust either your seat height, work surface, or both, to position the work surface at approximately elbow height.

- **Work Surface Arrangement:** Make sure frequently used equipment is within easy reach. For example, if you are primarily using the keyboard, place it directly in front of you, not to the side. If you are primarily using the mouse, place it in front of your hand or arm. If you are using both a mouse and keyboard, place them both at the same work surface height and close together. If a palm rest is used, the height should be flush with the front edge of the keyboard. Other items, such as your telephone or notepad, also should be considered.

- **Monitor:** Place your monitor so that the top of the screen is at, or slightly below, eye level (up to 15 degrees).

- **Head:** Do not tilt your head forward by more than 15 degrees, and try not to turn your head toward the side.

- **Back:** While sitting at your work surface, make sure your back is supported by the chair's backrest in an erect position or angled slightly backwards.

- **Arms:** Make sure your arms and elbows are relaxed and loose, with your upper arm perpendicular to the floor or slightly forward. Keep your forearms and hands approximately parallel with the floor with elbows bent between 70 and 115 degrees. Keep your elbows close to your sides (less than 20 degrees away from your body).

- **Legs:** Your thighs should be horizontal or angled slightly downward. Your lower legs should be near a right angle to your thighs. Make sure there is sufficient room under the work surface for your legs.

- **Feet:** If after adjusting your chair you cannot rest your feet comfortably on the floor, use a footrest, preferably one that can be adjusted in height and angle.

Overall

- Look away from the screen from time to time to help reduce eyestrain. Focus on distant objects briefly, and blink periodically to lubricate your eyes. You also should have your eyes checked on a regular basis and ensure your eyeglass prescription is suitable for working on a monitor screen.

- Remember to occasionally shift position and move your body. Keeping your body in one position for long periods is unnatural and stressful. When prolonged work is required, take frequent short breaks. As a rule of thumb, a five- or ten-minute break every hour is a good idea. Short, frequent breaks are more beneficial than longer less frequent breaks. Data show that people who work for long periods of time without a break may be more prone to injury.

- Changing tasks frequently will help prevent muscle stiffness. Examples: alternating between keyboarding, reading, writing, filing, and moving around in your work environment, helps you maintain a relaxed posture. Occasionally stretch the muscles in your hands, arms, shoulders, neck, and back. You should stretch at least as often as you take brief task breaks—at least once every hour.

- Discomfort may be alleviated by using alternative ergonomic designs and accessories such as ergonomically personalized chairs, palm rests, keyboard trays, alternative input devices, prescription eyeglasses, anti-glare screens, and more. Seek additional information from the sources available to you, including your employer, doctor, local office supply store, and the information sources listed in the online version of *Working in Comfort,* which is preloaded on the hard disk of your HP computing equipment.

Your HP Notebook PC

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

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

Preparing Your Mobile Work Environment

- Use a chair that provides good support for your lower back. If an adjustable chair is not available, you can use a pillow or rolled-up towel to provide lower back support.

- Try to keep your thighs parallel to the floor and your feet flat on the floor. In a mobile environment, you can do this by using a phone book or briefcase to support your feet.

- Adjust the height of either your work surface or chair to keep your arms in a neutral position. Your arms should be relaxed and loose, elbows at your sides, with the forearms and hands parallel with the floor.

- Position your notebook computer display to minimize glare and reflection. For example, on an airplane, lower the window shade, or in a hotel room, draw the curtains. You also should maintain a comfortable viewing distance, approximately 40 to 60 cm (16 to 24 inches). Adjust the angle of your display to help keep your head angled slightly downward in a comfortable position.

Using Your Mobile Computer

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

- Try to type as lightly as possible. The notebook keyboard requires little force to activate.

- Take frequent, short rest breaks. This is especially important in a mobile computing environment.

- Portable computers weigh between approximately 1.4 and 3.7 kilos (3 and 8 pounds). When traveling, be sure to carry your computer properly to minimize strain on your body. Shift the bag containing your notebook equipment frequently between your left and right hands and shoulders.

Caring for Your Computer

The following are 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, as well as other internal components, are not indestructible and can be damaged by inappropriate handling and operation.

- Avoid bumps or jolts.

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

- Suspend or shut down the computer before transporting it. This turns off the hard drive. A drop of a few inches onto a rigid surface while the hard drive is operating could cause loss of data or damage to the drive.

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

- Set down the computer gently.

To take care of your computer

- Provide adequate ventilation around the computer. Ensure that the laptop is sitting on a flat surface, so that air is able to flow underneath the unit.

- Be sure to suspend 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 (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, tape or network drives.

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

- Check your disk using the scandisk utility.

To extend the life of the display

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+F12).

- 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.

Note

There are two types of LCD display available when you buy your notebook PC: HPA (high-performance addressing) and TFT (thin film transistor). HPA uses a passive-matrix technology that produces better contrast than conventional LCD displays. TFT, an active-matrix technology, is somewhat more expensive; it provides a crisper, brighter display that is visible from a greater angle.

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 of at least once a week using the battery as your power source.

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

- To preserve the life of 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.

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, Advanced Power Management (APM) provides both manual and automated tools for reducing power consumption.

- Power management options can be set to occur automatically, based on timeout values that you have entered.

- Power management options may be invoked manually at any time by pressing the appropriate key. See "To use manual power management" on page 54.

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 98.

Turn off monitor

Action	Turns off the display. This not only conserves battery power, but also 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 disks

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, and IR) activity for the specified interval.
Resume	Press the blue power 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, there is no difference between Standby and Suspend.)

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 which will automatically shut down the computer components after a specified period of non-use. 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, Power Management. For details see Windows help.

2. If you don't want a particular timeout to occur, set the value to Never.

3. Click Apply to activate your changes without closing the window.

   –or–

   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	Fn+F3 or Fn+F4 or Start, Shut Down, Standby.
Resume	Press the blue power 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, there is no difference between Standby and Suspend.)

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+F5.
Resume	Press the blue power button to recover your current session. This takes several seconds.

Hibernate can also occur automatically when:

- Battery power reaches a critically low level (see "To respond to a low-battery warning" on page 57).

- The timeout setting in the BIOS Setup utility is reached (default is one hour after System standby occurs).

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	Press the blue power button to start a new session. This will take several seconds.

Sometimes the system stops responding and you are not able to turn off the computer as described above. To recover, use the following in the order listed.

• If you are unable to access the Start menu, you can turn off the system by pressing and holding the blue power button for 4 seconds.

• If holding the blue power button fails, insert a pin or straightened paper clip into the system-off button on the bottom of the computer (see "Bottom view" on page 16).

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

To check the battery status

From the battery status light

The battery status light (second from left) reports the following information:

Green	AC attached—battery full
Orange	AC attached—battery charging
Red	AC attached—battery will not accept charge

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.

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 20).

    –or–

- Replace the battery with one that is charged (see "To install the battery" on page 19).

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 or DVD drive, 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.

- See "Managing Power Consumption" on page 52 for other ideas about reducing power consumption while the computer is not in use.

Making Connections

Using Your Modem

By connecting your modem to a telephone line, your PC can communicate with other computers throughout the world. 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

- eFax, a link to a Web site that allows you to receive faxes at your existing e-mail address

The computer comes with a high-velocity V.90 K56*flex*™ modem. This modem allows you to connect to any Internet Service Provider (ISP) that has K56*flex* or V.90 interoperable modems. Check with your ISP for a list of telephone numbers that support K56*flex* and/or V.90. In most cases, the V.90 phone number will be the same as the K56*flex* number.

Note that the maximum speed for faxing is 14.4Kbps. Even though the modem is capable of downloading at 56Kbps using K56flex technology, your ISP may not operate at this speed or support this technology. Please check with your service provider for information on its capabilities. Furthermore, download transmission rates depend on the condition of the telephone line.

To sign up with 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 you prefer, you can instead use a PC Card modem or an external modem to connect to an ISP.

2. If there is an Easy Internet Signup icon on the desktop, double-click it. This will launch an Internet setup 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 connect to the Internet

After 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.

    -or-

*   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 Web site, 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.

Using 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 Web sites by clicking on links (such as those in the electronic *User's Guide* that link to the HP notebook Web site).

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

*   You cannot use the eFax icon on the desktop.

If you try to access the Internet without using the AOL software, the Easy Internet Signup software automatically launches, asking you to sign up for an ISP. In that case, cancel the program 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 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 services are 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

The modem and QuickLink III fax software included with your notebook enable you to use the computer to send and receive faxes.

To start QuickLink III

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

The first time you start QuickLink, the Setup Wizard launches, stepping 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.

Sending a Fax

There are two ways to compose a fax. You can type a message in QuickLink III, or you can fax a file from any program that can print.

To send a fax composed in QuickLink III

1. Start QuickLink III.

2. Click the QuickFax tool on the QuickLink III main window toolbar.

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

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

5. Click Send Fax.

To fax a file

Software programs that can print can also send faxes. To send a fax, change the selected printer (in the Print dialog box) to QuickLink III, and then print as you normally do.

Receiving Faxes

QuickLink III also has the ability to receive, view, and print faxes. By default, faxes are automatically received when the QuickLink III program is running in an open or minimized window. To see if you have received any new faxes, look at the status box in the main QuickLink III window.

To receive a fax manually

1. When a fax call is coming in, choose Start on the QuickLink III menu bar.

2. Choose Manual Fax Receive.

To view and print a fax

1. In QuickLink III, 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 on the selected printer.

4. To see the next new fax, click the Next Fax button.

To select modem modes

If you have trouble connecting with your internal modem to other modems, you can try forcing the internal modem to certain modulations and connect rates. To select a modulation, use the +MS command. In addition to selecting the modulation, this command allows you to enable or disable automode and specify the lowest and highest connection rate. The format of the command is as follows:

+MS= <mode>,<automode>,<min_rate>,<max_rate>

The +MS command should be used as part of the modem initialization sequence in your communications program.

The following table indicates the mode value to use for each supported modulation as well as the possible rates that can be used for each modulation.

<mode>	Modulation	Possible Rate (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	57,333–33,333
64	Bell 103	300

For example, to force the internal modem to connect with the V.34 modulation:

1. Click Start, Settings, Control Panel.

2. Double-click Modem.

3. Click Properties.

4. Click the Connection tab.

5. Click Advanced.

6. In the "Extra settings" field, type AT+MS=11 and click OK.

Most Windows modem applications use the modulation command in the "Extra settings" field as part of the modem initialization.

The following table lists the other +MS parameters along with the acceptable values for each parameter.

Parameter	Acceptable Values
<automode>	0 (Automode Disabled) 1 (Automode Enabled)
<min_rate>	300 to 33600
<max_rate>	300 to 33600

To force a maximum rate, set the minimum rate to the same value as the maximum value.

To dial in France and Spain

If you purchased your computer in Spain, the pulse dialing feature is disabled. Because Loop Disconnect is not certified for your modem in Spain, you should use tone dialing connections only.

In order to access the MiniTel system in France, you will need the latest modem driver and MiniTel emulator software. The modem driver is available for download from the technical support area on the HP notebook Web site (http://www.hp.com/notebooks). Some HP notebooks include the TimTel Light software; if your computer does not include TimTel Light, you must purchase the emulator software separately.

Connecting PC Cards

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.

The PC Card slot is available for storing data and expanding the communication capabilities of the computer. Your computer supports standard Type I, II, and III PC Cards (PCMCIA and CardBus). You can use only one card at a time, since the upper slot does not have a connection.

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

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 lower slot until it is flush with the computer.
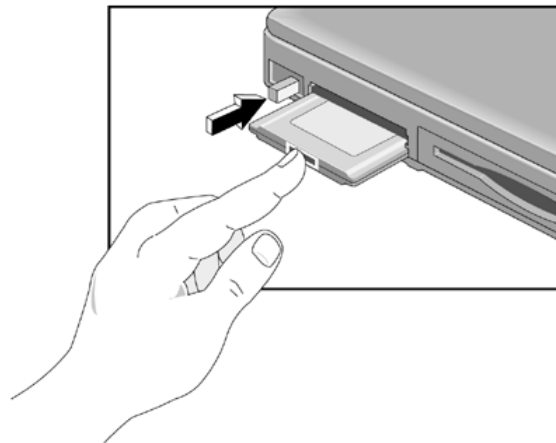
To remove a PC Card

1. Click the PC Card indicator in the taskbar, then click Stop. This protects your data and avoids unexpected problems. You can restart the card by removing it, then inserting it again.

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

3. Press the eject button to eject 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 your network card.

    • Click Stop.

2. Remove the PC card.

3. Insert the PC card again to reestablish network connection.

Connecting External Components

External components such as a printer, mouse, monitor, or keyboard may be connected directly to your computer. However, if you have purchased the optional port replicator, you can use it to connect external components without disconnecting them each time you wish to use the computer on the road.

To identify the ports

Using the ports on the rear of the computer or on the port replicator, the following external components are readily connected. Table numbers refer to a callout number on the figures.

	Port location on	
Component	**Notebook**	**Port replicator**
Printer (parallel)	1	10
Printer (serial)	2	9
Monitor	3	11
PS/2 mouse	7*	12
PS/2 keyboard	7*	12
USB device	6	13
Speakers	4	15
Microphone	5	16
Audio-in	--	14

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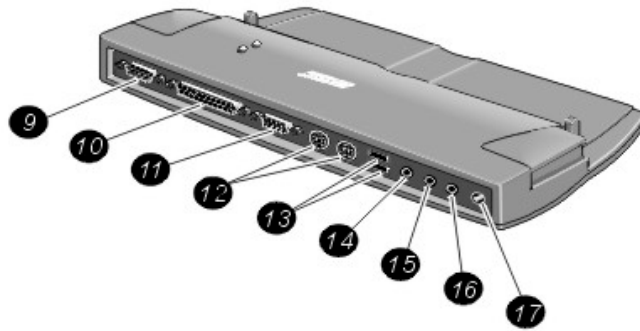
Notebook ports
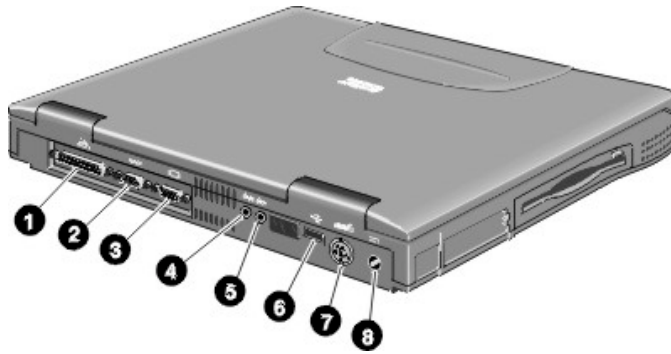
1   Parallel port

2   Serial port

3   VGA port (external monitor)

4   Audio out (external speaker)

5   Microphone jack

6   USB port

7   PS/2 port

8   AC adapter jack

Port replicator ports

9   Serial port

10   Parallel port

11   VGA port (external monitor)

12   PS/2 ports (2)

13   USB ports (2)

14   Audio In

15   Audio Out (external speaker)

16   Microphone jack

17   AC adapter jack

To use the port replicator

With the optional port replicator, you can connect external components without
disconnecting them each time you wish to use the computer on the road.

To connect to the port replicator

1. Plug in the AC adapter, then connect the AC adapter 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, as shown.

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

4. Open the computer and press the blue power button to turn it on.

   After the computer is turned on, you can close the lid while it is running.
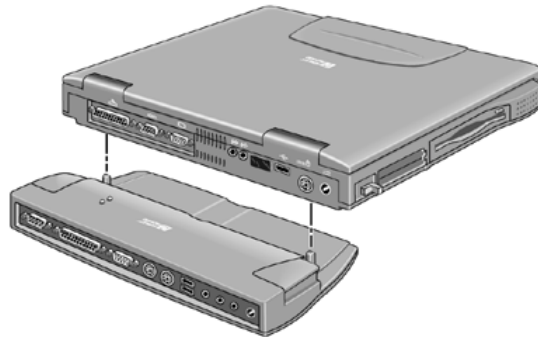
To disconnect from the port replicator

1. Press down on the two release tabs on the port replicator, as shown.

2. Lift the computer from the port replicator.

To connect a printer (or other parallel device)

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

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

Note   If you connect a Zip drive to the parllel port, you can enhance its performance by installing the accelerator that is 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.

• To connect both a mouse and keyboard, use the HP F1469A Y adapter.

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

Note   To use hot keys from an external keyboard, substitute CTRL+ALT for the computer Fn key. For example, to access Fn+F2, press CTRL+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 one USB port; the optional port replicator provides two USB ports.

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

Note

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

To connect audio devices

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

- Attach the audio cable to the corresponding audio port.

Note

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

To use an external monitor

Connecting an external monitor

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

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. Press the blue power button to turn on the computer.

Switching the display to the external monitor

- Close the computer lid.

    –or–

- Press Fn+F12 (or CTRL+ALT+F12 on an external keyboard) to cycle through the display options: notebook display, external monitor, both.

Adjusting monitor resolution

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

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

Using dual display mode

You can extend the desktop by connecting an external monitor to your notebook. With Windows 98, the dual display control panel is already installed.

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
12.1-inch or 13-inch	800×600 pixels	256 colors or High Color (16 bit)
14-inch	1024×768 pixels	256 colors

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 on the port replicator.

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

5. Press the blue power button 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.

There are a few limitations with dual display mode:

- Settings cannot be changed on the second monitor if DirectDraw is enabled—for example, if video is playing—since the display driver cannot reallocate the display memory for dual display support.

- Under dual display mode, only the software cursor can be used. There is no hardware cursor available under Virtual Refresh mode.

- Games that use the DirectDraw API cannot run in dual display mode. You will be prompted to disable the second monitor before running the game.

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. Close all applications, then shut down Windows and restart the computer.

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

3. After you select the options you want, use the Exit menu to exit the BIOS Setup utility.

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

To select options from the BIOS Setup utility

You can use the touch pad (or the mouse, if you have installed one) to select menus and options in the BIOS Setup utility. You can also use the keyboard: press ALT+RIGHT ARROW or ALT+LEFT ARROW to move among menus. Press DOWN ARROW and UP ARROW to move among options in a menu. Press ENTER to display a list of choices. Within a selection window, you can tab from one item to another.

Startup Menu		**Default**
Date and Time…	Sets the date and the time using 24-hour format. Values set take effect immediately.	
Boot Logo	When enabled, hides summary of power-on self-test and messages during boot.	Enabled
Boot Device…	Shows the order of boot devices. Select each entry to change the order.	1. Diskette A 2. Hard Disk C 3. CD-ROM/DVD

Configuring and Expanding Your Computer
Using the BIOS Setup Utility

Display Device…	Switches between Auto Sense, and LCD and CRT (both). Auto Sense chooses the external display (CRT) if it is attached, or the built-in display (LCD) if it is not.	LCD and CRT
Set Admin password…	Sets a new Administrator Password.	Clear
Set User password…	Sets a new User Password (after Admin password is set). The User Password allows the user to set only the Date and Time.	Clear
Memory Menu		**Default**
Video RAM Size…	Configures the Video Memory to 4MB, 8MB, or Auto. (Video memory uses part of RAM.)	Auto (8MB if 64MB memory or more)
Disks Menu		**Default**
Diskette Drives…	Enables (1.44MB) or disables (None) the floppy disk drive.	Enable (1.44MB)
Advanced Setting	Enables or disables internal hard disk controller (HDC).	Enable (Internal HDC)
Components Menu		**Default**
Serial Port…	Sets the serial port assignment.	COM 1, 3F8, IRQ 4
Parallel Port…	Configures the parallel port.	
Port Address	Sets the Parallel port assignment.	LPT1, Addr 378, IRQ 7
Port Definition	Sets Standard AT, Bidirectional (PS-2), Enhanced Parallel (EPP), or Extended Capabilities (ECP).	Extended Capabilities (ECP)
DMA Setting for ECP Mode	Changes DMA setting when Port definition is set to ECP.	DMA 3
Keyboard Numlock	Starts computer with Keyboard NUM LOCK enabled or disabled.	Disabled
Keyboard Repeat…	Sets the auto repeat delay and repeat rate	Key Repeat Rate=30cps, Key Delay=½ sec
Power Menu		**Default**
Enable Power Saving	Enables all power saving features	Enabled
Timeout Settings…	Customizes the Power Saving Settings	
Video Timeout	Sets the period of inactivity after which the screen is turned off.	Never
Disk Timeout	Sets the period of inactivity after which the hard disk stops spinning.	2.0 minutes

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Sleep Timeout	Sets the period of inactivity after which the computer turns off LCD panel and hard disks and minimal CPU support	2 minutes
Suspend Timeout	Sets the period of inactivity after which the computer enters suspend mode.	2 minutes
Suspend-to-disk	Sets the period of disk inactivity after which the computer enters suspend mode.	1 hour
Power Button…	Configures power button to power the unit on and off the unit or to enter power-saving suspend/resume.	Suspend/Resume
Lid Switch…	Configures the lid switch to turn off the LCD display or to enter power-saving suspend.	Turn Off LCD
Ring Resume	Sets whether the system resumes from Suspend if a ring signal is received.	Off
Resume Timer…	Enables timer features for resuming at a specified date and time.	
Alarm Resume	Sets whether the system resumes from Suspend at a defined time of day.	Disable
Resume Time	Sets the 24-hour time and date when the system resumes from Suspend if enabled.	
CPU COOLING MODES…	Sets mode for reduction of CPU temperature to Performance (more cooling) or Silence (less cooling).	Performance
Auto Turn on Dock	Sets the docking mode (selected models only). When enabled, the computer turns on (or resumes) automatically when you dock it. When disabled, it does not.	Disabled

Exit Menu

Save and Reboot…	Saves Setup changes to CMOS, exits, and reboots.	
Exit (No Save)…	Discards Setup changes since last save, exits, and reboots. Does not affect security, date, or time changes.	
Default Settings…	Reloads default setting to CMOS.	
Restore Settings…	Restores current setup to original custom values.	
BIOS Revision…	Reports the current BIOS version number.	

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.

CAUTION **Handle the RAM module only by its 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 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, if present, and remove the battery.

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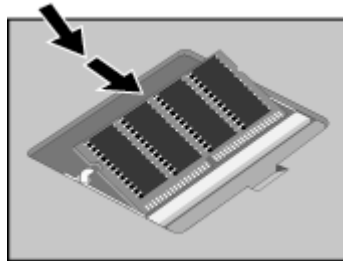
4. Insert the RAM expansion module into the connector at about a 30° angle until it's fully inserted. Then press down at both sides of the module until it latches.

5. Replace the RAM expansion module door.

6. Insert the battery.

Note

The computer comes with 32 or 64 megabytes (MB) of random access memory (RAM) installed, and the size of the Hibernate partition is set appropriately. However, if you add RAM so that your total RAM is greater than 256 MB, you must change the size of the Hibernate partition. This partition is automatically used to save your current session from RAM when battery level is low. As a result, you must provide a sufficiently large Hibernate partition to accommodate all the information stored in RAM; otherwise, you risk losing work in progress. See Expanding the Hibernate Partition.

Removing RAM modules

After you remove the RAM expansion cover, do the following:
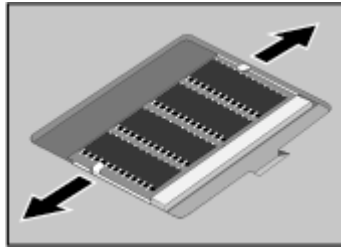
1. Release the two latches at the sides of the RAM expansion module by pushing them gently outward (away from the sides of the module).

2. When you release the latches, the free edge of the module pops up.
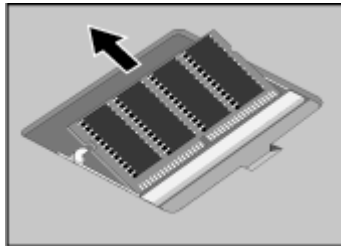
3. Pull the module out of the connector.

4. Replace the RAM expansion module door.

Replacing a hard disk drive

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

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

2. Unplug the AC adapter, if present, and remove the battery.

3. Turn the unit bottom side up.

4. Use a screwdriver to remove the hard disk drive locking screw.
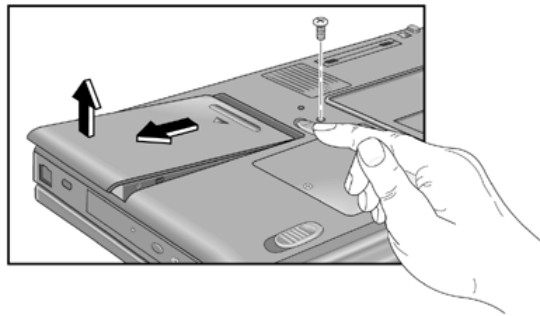
5. Slide and hold the hard disk drive latch.

6. Slide the hard disk drive toward the edge of the computer, then lift out.

7. Insert the new hard disk drive and the locking screw.

8. Insert the battery.

Note

If you are installing a new hard disk drive, you should create a Hibernate partition on the drive before loading any software. See "Expanding the Hibernate Partition" on page 83.

Expanding the Hibernate Partition

You can create the Hibernate partition by booting from the Recovery CD. The partitioning and recovery process takes approximately 20 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 as the first boot device, and press Return to continue.

7. 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 the other Recovery CD 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.

Service and Support

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.

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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.

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 this *User's Guide*.

- Visit the HP notebook Web site.

- Visit the HP Customer Care Web site.

- Call HP support.

To use the *User's Guide*

To locate information in the guide, use the Contents or Index tabs to search for information. The Contents tab lists the headings of all the topics in the guide. The Index tab provides an alphabetical list of the keywords in the guide; you can locate a keyword either by typing it in the box or by scrolling through the list.

To get help from the HP notebook Web site

HP has a Web site on the Internet dedicated to HP notebook owners: www.hp.com/notebooks. This Web site contains information about the various HP notebook models, warranties, 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

To get support from the HP Customer Care Web site

Another Web site useful to HP notebook owners is HP Customer Care:
www.hp.com/cpso-support/guide/home.html. This Web site provides information about:

- 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

- Obtaining software updates

- 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 in the U.S., at (970) 635-1000. The Customer Care Center will assist you at no charge during the term of the warranty; you are responsible only for the telephone charge. 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.

Checking 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, which is found in the root directory of your hard disk. Double-click on the filename to see the information.

To see hidden files:

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

2. Click the View tab.

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

4. Click OK.

Obtaining Repair Service

To receive warranty repair service

To receive warranty repair service, contact the HP Customer Care Center in the U.S., at (970) 635-1000.

The support technician will help qualify your unit for warranty repair based on the warranty applicable to your unit and original purchase date, and will provide you with repair processes. Warranty service includes the cost of shipping, handling, duties, taxes, freight, or fees to or from the service location. HP notebook PC service is currently provided for the continental U.S.

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 your hard disk 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 prior to sending your computer in for service:

   - PC cards

   - AC adapter and power cord

   - CDs in the CD player

   - Floppy disks in the floppy disk drive

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

Note   If the hard disk drive is defective, you will receive a replacement drive with the original HP software.

Solving Problems with Your Computer

Troubleshooting Techniques

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: Start, Programs, Accessories, Multimedia (or Entertainment), Sound Recorder.

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

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 Web site (http://www.hp.com/notebooks).

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.

    1. From the Start menu, shut down, then restart the computer.

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

   3. Select CD-ROM/DVD 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+F1 to increase the contrast or Fn+F2 to decrease the contrast. (On TFT displays, contrast control is not necessary and therefore is not available.)

- Press Fn+F12 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 12.1" or 13" displays or 1024×768 for larger displays. Check this in Start, Settings, Control Panel, Display, Settings.

- If you have an HPA display, try pressing Fn+F1 to increase contrast.

If the display refreshes slowly

- Increase the amount of RAM that is allocated to video display (if your computer has less than 64MB RAM). By default, a portion of your installed RAM is allocated to video display: 4MB if you have less than 64MB RAM, 8MB if you have 64MB RAM or more. (Using additional memory for video allows you to display more colors: True Color with 8MB versus High Color with 4MB. However, using additional memory for video results in less memory available for other computer operations.) You can change the Auto default to either 4MB or 8MB.

   1. From the Start menu, shut down, then restart the computer.

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

   3. Open the Memory menu.

   4. Select Video RAM Size.

5. Select 4MB or 8MB.

6. Exit the BIOS Setup utility.

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 12.1" or 13" 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. Click Advanced.

  5. Click the Monitor tab.

  6. Click Change.

  7. Click Next.

  8. Choose to manually select the monitor type.

  9. Select Laptop Display Panel (800×600) and click Next.

  10. Click Next and then Finish.

  11. Click Close.

  12. Reduce the resolution to 800×600 pixels and click Apply.

If an external display does not work

- Check the connections.

- Press Fn+F12 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.

    1. From the Start menu, shut down, then restart the computer.

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

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

    4. Exit the BIOS Setup utility.

- Reboot the computer.

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

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 on the taskbar.

    3. Choose Shut Down.

    4. Choose Restart.

If the DVD movie doesn't fill the screen

- On a double-sided DVD, each side has 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.

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 VirusScan program.

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

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.

- Note that it is normal for the computer to get warm. DOS games and other programs that drive CPU usage toward 100% can contribute to a temperature increase.

Keyboard, Touch Pad, and Mouse Problems

If the touch pad is difficult to control

- Customize the touch pad by using the Mouse applet in Control Panel (Start, Settings, Control Panel).

If the pointing devices don't work

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

- Reset the computer.

If a scroll mouse doesn't work

- Suspend or shut down the computer before you attach the scroll mouse, to ensure that the external mouse will be detected properly.

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

If the embedded numeric keypad doesn't work

- Make sure Num Lock is on.

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

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

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

- Suspend 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.

MIDI Problems

If the computer is sometimes unable to play MIDI files

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

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 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 Web site (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 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.

- 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."

PC Card (PCMCIA) 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 Web site for information about supported PC Cards.

- Try the card in another computer.

- Reboot the computer.

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

If an I/O card stops communicating properly

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

If a PC card modem is not working

- Disable the internal modem.

    1. Click Start, Settings, Control Panel.

    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."

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 VirusScan) can affect performance while they're running.

- Check the BIOS Setup settings.

    1. From the Start menu, shut down, then restart the computer.

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

    3.   From the Power menu, set CPU Cooling Modes to Performance.

    4.   Exit the BIOS Setup utility.

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

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

- Check amount of available free disk space.

Port Replicator Problems

If a port on a port replicator isn't working

- Check that AC power is connected.

- Try using the corresponding notebook port, while undocked.

- 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 98, 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.

- Check the Power Management settings in BIOS Setup.

    1. From the Start menu, shut down, then restart the computer.

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

    3. From the Power menu, make sure Enable Power Saving is enabled.

    4. Exit the BIOS Setup utility.

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 available, try another battery and AC adapter.

If the Time Remaining percentage for the battery is not correct

- When you place the pointer on the power (battery) icon on the Windows taskbar, you will see the percentage of remaining time left on the battery. The Smart Battery feature calculates the Time Remaining by dividing the battery capacity by the real time power consumed by the system. In other words, this percentage reflects the task you are performing at the moment. For example, if you are doing something that consumes a lot of battery power (such as reading a CD-ROM or DVD), the Time Remaining percentage will be lower than if you were performing a task that doesn't require as much power. (The system assumes you will continue with this same task until the battery runs out.) Therefore, the Time Remaining value should be viewed as an estimate, not a precise value.

If the computer stops responding

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

- Press the blue power button for at least 4 seconds to turn off the computer. Then press the blue button again to turn the computer back on.

- If nothing happens, insert a paper clip into the system-off button on the bottom of the computer. Then press the blue button to turn the computer on.

If the computer doesn't suspend as expected

- If you have a connection to another computer, the computer doesn't suspend 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.

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 secure 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.

Recovery CD Problems

If an error message "Windows cannot find wordpad.exe" appears after inserting the Recovery CD

- The system is trying to open the readme.doc file in WordPad, but cannot locate the wordpad.exe program file. Under Windows 98, this error message may appear after inserting the Recovery CD. To indicate the location of this file, type C:\Program Files\Accessories in the Program Not Found error message box.

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. From the Start menu, shut down, then restart the computer.

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

    3. From the Components menu, check that Serial Port is enabled.

- If you suspend 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 (it may be loose).

- Check settings in BIOS Setup.

    1. From the Start menu, shut down, then restart the computer.

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

    3. From the Advanced menu, check that Serial Port is enabled.

- 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."

If the serial or parallel port is not working

- Check the port connection (it may be loose).

- Check settings in BIOS Setup.

  1. From the Start menu, shut down, then restart the computer.

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

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

If the USB port is not working

- Contact the vendor of the peripheral device, as well as Hewlett-Packard, 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.

- Press the blue power button 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 available, try another battery.

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

- Check the boot order in the BIOS Setup utility.

  1. From the Start menu, shut down, then restart the computer.

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

  3. Select Diskette A for first boot device.

  4. Exit the BIOS Setup utility.

Suspending and Resuming Problems

If the computer takes a long time to resume after being suspended

- In Windows 98, 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 re-initialized, the Windows desktop will appear.

If the operating system hangs after you have suspended or resumed

- Your system may hang if you dock or undock your notebook while you are in the process of suspending or resuming the computer. Make sure your computer has completely suspended or 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 Setup utility. You can confirm the problem by running BIOS Setup 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.

F10   Runs all marked tests.

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 twice to create a Support Ticket log file. (If you want to view the Support Ticket, press F7.)

8. Press F3 twice to exit and reboot.

If you saved a Support Ticket, you can also view it later. From the directory
c:\dmi\hpdiags, run the file hpsuppt.exe. The Support Ticket will appear in that directory
as hpsuppt.txt.

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 113.

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:\Notebook\Drivers.

- On the Recovery CD, under \Notebook\Drivers\W98.

- On the HP notebook Web site at www.hp.com/notebooks. This Web site 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, exit from the BIOS Setup utility, 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 as long as 30 minutes. *Do not interrupt the process or unplug the AC adapter until the process is completed.*

To replace a damaged Recovery CD

If you lose or damage the Recovery CD, call the HP Customer Care Center—at
(970) 635-1000 in the U. S.—for information about replacing it.

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 Web site at http://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

**Because a BIOS update replaces the previous version, it is important 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. This starts a process that takes approximately 1
    minute. Once the update process begins, do not interrupt it.
7. When the process is completed, reboot the computer by pressing the system-off
    button on the bottom of the notebook.

To recover an application

The Recovery CDs restore 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, you will not use the Recovery CDs.

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 easily 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:\Notebooks\Programs. Each application has its own folder that includes a *readme* file of instructions.

A few applications do not have installation programs on the hard drive. To reinstall one of these applications (Microsoft Works, Microsoft Encarta, or Microsoft Money), use the appropriate CD-ROM that came with your computer.

Specifications and Regulatory Information

Hardware and Software Specifications

For the most up–to–date information on HP notebook PC specifications, go to the HP notebook Web site at www.hp.com/notebooks.

HP Notebook PC Hardware Specifications

Physical Attributes	Size: 311mm×249mm×42mm (12.24"×9.80"×1.64") closed. Weight: 3.0 kg (6.6 lb.).
Processor and Bus Architecture	475 or 500 Mhz AMD K62-P processor 2.5V low-power processor. 128KB L2 cache. 32-bit PCI bus.
Graphics	12.1-inch HPA display (800×600×64K colors) OR 13-inch HPA display (800×600×64K colors) OR 14-inch XGA active-matrix (TFT) display (1024×768×64K colors). Trident Cyberblade with External System RAM up to 8 Megabytes. Zoomed Video support for lower PC Card slot. Dual-monitor support.
Power	Rechargeable 8-cell lithium ion battery (14.4 Vdc, 3.2 AH, 46 watt-hours) 3.12 hours battery life time, or NiMH (9.6Vdc 4.0 AH, 38.4 watt-hours) 2.22 hours battery life. Fast battery recharge: 80% in 1.6 hours, 100% in 2.1 hours. Low-battery warning. Suspend/resume capability. 60-watt AC adapter: 115 to 230 Vac (47 to 63 Hz) input, 19 Vdc, 3.16 A output.
Storage	24X CD-ROM drive. 1.44MB floppy disk drive. 4.0-GB OR 6.0-GB hard disk drive.
RAM	32-MB or 64-MB SDRAM preinstalled. Two slots for RAM expansion up to 256 MB maximum.
Audio System	16-bit, Sound Blaster Pro-compatible. ESS M3 PCI audio. 64-voice wavetable synthesizer. Stereo sound via two built-in speakers. Built-in microphone. Stereo line-in and monophonic microphone-in jacks. ZV port audio interface.

Keyboard and Pointing Device	87/88-key touch-type keyboard with 101/102 key emulation. Embedded numeric keypad. 12 function (Fn) keys. Touch pad pointing device.
Modem	56Kbps (V.90) data speed maximum. 14.4Kbps fax speed, Class 1 and 2. Modulation: v.21, v.22, v.22bis, v.23(1), v.32, v.32bis, v.34, v.90, X2, Bell 103 Compression: v.42, v.42bis, MNP5 Fax: v.17, v.27ter, v.29 (1) To use v.23 modulation, you must have the latest modem driver. To download this driver, go to the software update area of the HP notebook Web site.
Input/Output	Universal serial bus (USB). 9-pin, 115,200-bps serial (16550 UART). 25-pin bi-directional ECP/EPP parallel. Video out: 800×600×16M or 1024x768x64K colors at 75-Hz refresh rate. PS/2 keyboard/mouse port.
Expandability	One Type III, Type II 16-/32-bit PC Card slot (3.3- and 5-V support). CardBus enabled. Zoomed Video support. Optional port replicator.
Security Features	User and administrator passwords. Kensington Microsaver lock slot.
Environmental Limits	Operating temperature: 5 to 35 ºC (41 to 95 ºF). Operating humidity: 20 to 80 percent RH. Storage temperature: –20 to 60 ºC (–4 to 140 ºF). Storage humidity: 8 to 90 percent RH.
Major ICs	CPU: AMD K62-P North Bridge: VIA VT82C501 South Bridge: VIA VT82C686A Video: Trident Cyberblade integrated to North Bridge Audio and Modem: ESS M3. CardBus: O2Micro 6812. Keyboard controller: National PC87570. Super I/O: Integrated to VIA chipset.

Software System Resources

The tables on this page 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 Components 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	Free in APM mode (SCI in ACPI mode)
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 PMA controller
5	Free
6	Free
7	Free

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 (HP F1454A), contact your local Hewlett-Packard dealer or Sales and Service office.

Country	Rated Voltage and Current	HP Part Number
Canada Mexico Philippines Taiwan United States	125 Vac (3 A)	8120-6313
Europe Egypt Saudi Arabia	250 Vac (2.5 A)	8120-6314
Hong Kong Singapore United Kingdom	250 Vac (2.5 A)	8120-8699
Australia New Zealand	250 Vac (2.5 A)	8120-6312
Japan	125 Vac (3 A)	8120-6316
India South Africa	250 Vac (2.5 A)	8120-6317
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. Check the *Support and Service* section of this *User's Guide* 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 the battery is not in use, store it in the battery pouch provided.

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

- To obtain a replacement battery, contact your local dealer or HP sales office.

- Do not charge the battery pack if the ambient temperature exceeds 45° C (113° F).

Laser Safety

The CD-ROM and DVD drives used with the 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 *Support and Service* section of this *User's Guide*.

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

- Avoid direct exposure to the laser beam—do not open the unit.

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.
	(415) 857-1501

declares that the product(s)

Trade name:	Hewlett-Packard Company
Product name:	HP Pavilion Notebook PC

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 you 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 your *User's Guide*.

Japan

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

International

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

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

Manufacturer:	Hewlett-Packard Company
Address:	Hewlett-Packard Company Mobile Computing Division 19310 Pruneridge Ave. Cupertino, CA 95014, U.S.A.
	declares that the following product
Product name:	HP Pavilion Notebook PC
Options:	All
	conforms to the following product specifications
Safety:	IEC 950:1991+A1,A2 ,A3, A4 / EN 60950 (1992)+A1,A2, A3, A4 GB4943-1995 IEC 825-1:1993/EN60825-1:1994
EMC:	CISPR 22:1993 / EN 55022 (1994): Class B [1] GB9254-1988
	EN 50082-1:1992
	IEC 801-2:1991 / prEN 55024-2 (1992): 4kV CD, 8kV AD
	IEC 801-3:1984 / prEN 55024-3 (1991): 3V/m
	IEC 801-4:1988 / prEN 55024-4 (1992): 0.5 kV signal lines, 1.0kV power lines
	FCC Title 47 CFR, Part 15 Class B
	ANSI C63.4: 1992
	AS/NZS 3548: 1995 Rules and Regulations of Class B

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC, EMC Directive 89/336/EEC and IEC 825-1 and carries the CE marking accordingly.

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 F1740A and F1454A AC/DC adapter used with this product is designed to operate on all power systems, other than IT power systems.

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

Quality Department
Hewlett-Packard Company
Mobile Computing Division

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