Reference Guide

HP Notebook Series

Document Part Number: 370697-001

June 2004

This guide explains how to set up, operate, maintain, and troubleshoot your notebook. It also provides information on battery pack and power management, external device connections, and modem and network connections. The last chapter provides additional reference material on modem commands, safety, and regulatory information.

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1

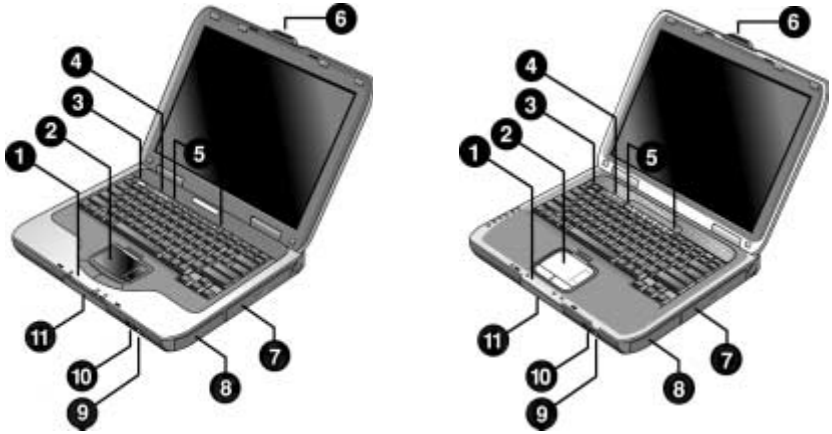
Getting Started with Your Notebook

Identifying Parts of the Notebook

Components included with the notebook may vary by geographical region and the features you selected. The following tables identify the standard external components included with most notebook models.

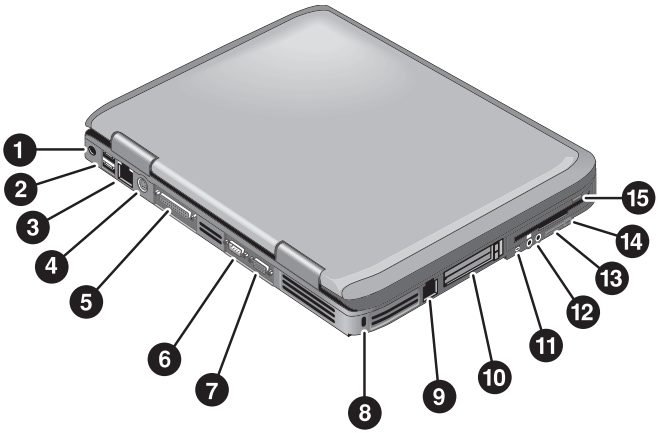
Find the illustrations that closely match your notebook to identify your components.

Front Panel and Right Panel Components



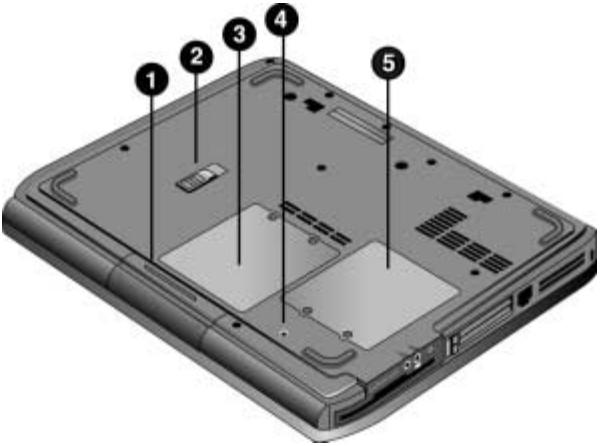
❶	Main status lights (left to right): power mode, hard drive activity, and battery	❼	CD-ROM, DVD, or other drive
❷	TouchPad, scroll pad, Click buttons, and an on-off button	❽	Battery pack
❸	Power button: turns the notebook on and off	❾	Wireless on-off button and indicator light (select models only)
❹	Keyboard status lights	❿	Infrared port (select models only)
❺	One-Touch buttons	⓫	Hard drive
❻	Notebook open/close latch		

Left Panel and Back Panel Components



❶	AC adapter jack	❾	RJ-11 jack: connects the modem cable
❷	Universal serial bus (USB) ports	❿	PC Card and CardBus slot and button (select models only; location varies by model)
❸	RJ-45 jack: connects a network cable	⓫	IEEE 1394 port (select models only)
❹	S-Video out jack (select models only)	⓬	Audio jacks (left to right): external microphone, audio out (headphones)
❺	Parallel port (LPT1): use this port for a parallel printer or other parallel device (select models only)	⓭	Volume control
❻	Serial port (COM1): use this port for a serial mouse, modem, printer, or other serial device (select models only)	⓮	Audio mute button and audio mute light
❼	External monitor port	⓯	Diskette drive (select models only)
❽	Cable lock slot (security connector)		

Bottom Panel Components



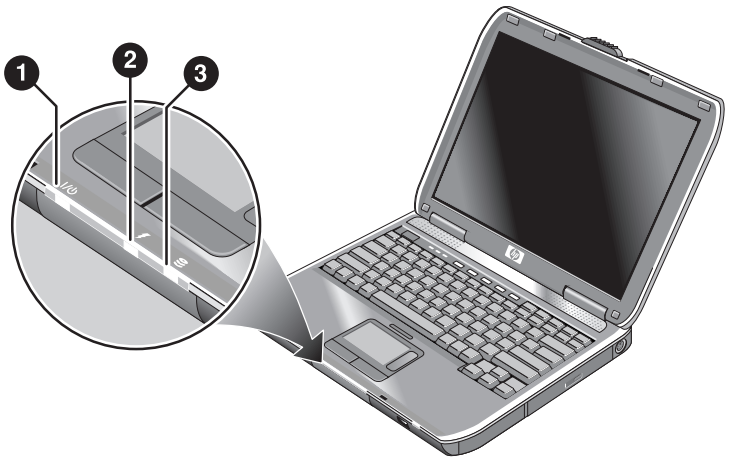
❶	Hard drive	❹	Reset button
❷	Battery latch	❺	Mini PCI cover (no user parts inside)
❸	RAM (memory) cover		

CAUTION: To prevent an unresponsive system and the display of a warning message, install only a Mini PCI device authorized for use in your notebook by the governmental agency that regulates wireless devices in your country. If you install a device and then receive a warning message, remove the device to restore notebook functionality. Then contact Customer Care.

Status Lights

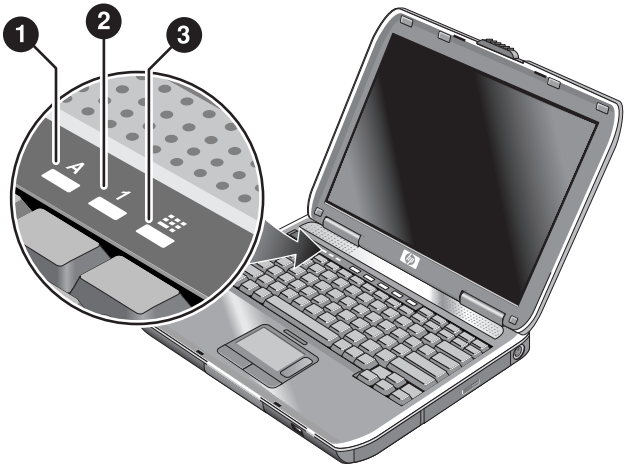
The notebook includes a number of status lights that report power and battery status, drive activity, and keyboard functions such as Caps Lock and Num Lock.

The following diagram shows the main status lights on the front of the notebook.



❶	Power mode ■ On—notebook is on (even if the display is off) ■ Blinking—notebook is in Standby ■ Off—notebook is off or in Hibernation
❷	Hard drive activity On—notebook is accessing the hard drive
❸	Battery status ■ Green—AC adapter is connected and the battery pack is fully charged ■ Amber—AC adapter is connected and the battery pack is charging ■ Blinking—AC adapter is connected and the battery pack is missing or has a fault ■ Off—AC adapter is not connected

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



❶	**Caps Lock On:** Caps Lock is active.
❷	**Num Lock On:** Num Lock is active. (The Keypad Lock must also be on to use the embedded keypad.)
❸	**Keypad Lock On:** The embedded keypad is active (**Fn+F8**). Num Lock must also be on for the numeric keys. Otherwise, cursor control is active (as marked on an external keyboard).

Setting Up Your Notebook

WARNING: To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup, posture, and health and work habits for computer users, and provides important electrical and mechanical safety information. This guide is located on the Web at http://www.hp.com/ergo and on the hard drive or on the *Documentation* CD that is included with the product.

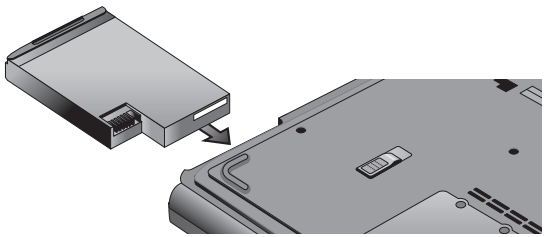
When you set up your notebook for the first time, you will connect the AC adapter, charge the battery pack, turn on the notebook, and run the Microsoft® Windows® Setup program.

Step 1: Insert the Battery Pack

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

To install the battery pack:

1. Turn the notebook upside down.
2. Insert the connector end of the battery pack into the battery pack compartment, then slide the battery pack in until it latches.

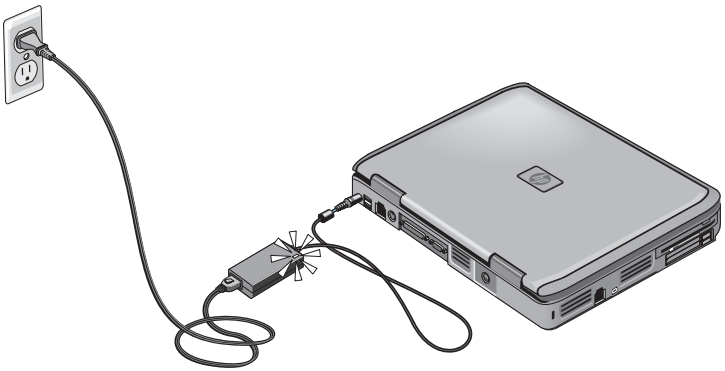


Step 2: Connect AC Power

CAUTION: Use only the AC adapter included with your notebook (or other approved adapter that meets the power requirements of the notebook). Using the wrong AC adapter could damage the notebook or adapter, cause data loss, and may void your warranty.

1. Plug the AC adapter into the notebook.
2. Connect the power cord to the AC adapter.
3. Plug the power cord into a wall outlet. The notebook battery starts charging.

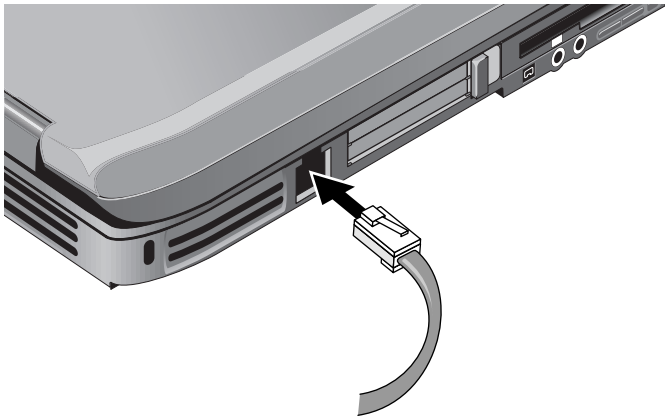
When unplugging the power cord, unplug it from the outlet before unplugging it from the AC adapter.



While the battery pack is charging, you can continue with the section "Step 3: Connect a Phone Line."

Step 3: Connect a Phone Line

1. Make sure the telephone line is an analog line, sometimes called a data line. (Do not use a digital line.)
2. Connect the telephone cord (RJ-11) into a telephone jack.
3. Plug the other end of the telephone cord into the RJ-11 modem jack on the notebook.



For details about using the modem, see "Using the Modem."

Step 4: Turn On the Notebook

Press the power button above the left side of the keyboard. The notebook boots up, and Windows starts automatically.

If your notebook does not turn on when operating on battery power, the battery pack may be out of power. Plug in the AC adapter, then press the power button again. Leave the AC adapter plugged in for several hours to fully charge the battery pack. Charge times will vary.

WARNING: This notebook is designed to run demanding applications at full power. As a result of increased power consumption, it is normal for the notebook to feel warm or hot when used continuously. To avoid potential discomfort or burns, do not block the air vents or use the notebook on your lap for extended periods. The notebook complies with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

Step 5: Set Up Windows

Your notebook has the Microsoft Windows operating system preinstalled on its hard drive. The first time you turn on your notebook, the Windows Setup program runs automatically and includes opportunities to customize your setup.

1. Follow the Setup program instructions on the screen. If the program prompts you to enter the Product ID code, locate the code on the bottom of the notebook.
2. Check the modem country or region settings. Select Start > Control Panel > Printers and Other Hardware > Phone and Modem Options, then choose your country/region.

2

Basic Operation

Operating Your Notebook

You can start and stop your notebook by using the power button. At other times, power considerations, types of active connections, and startup time may cause you to use alternative methods to start or stop your notebook. This chapter describes several methods.

Default Power Settings

Power mode	To enter this mode	Function
ON—Power status light will turnon.	Briefly press the power button.	Powers on the notebook.
OFF—Power status light will turn off.	Select Start > Turn Off Computer > Turn Off. If the system has stopped responding and Windows shutdown procedures cannot be used, press and hold the power button for 4 seconds to turn off the notebook.	Powers off the notebook.
Standby—Power status light will blink.	Select Start > Turn Off Computer > Stand By. -or- Allow the system to time out.	■ Saves significant power. ■ Turns off the display and other components. ■ Maintains current session in RAM. ■ Restarts quickly. ■ Restores network connections.
Hibernation—Power status light will turn off.	If the notebook is already on, briefly press the power button. -or- Press **Fn+F12.** -or- Allow the system to time out.	■ Saves maximum power. ■ Saves current session to disk, then shuts down. ■ Restores network connections.

You can also customize the way these power modes work. See the "Battery Packs and Power Management" chapter in this guide.

To Reset the Notebook

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

- If possible, shut down Windows. Press **ctrl+alt+del,** then select Shut Down > Restart.

  -or-

- Press the power button for at least 4 seconds until the display shuts down. Unsaved data will be lost. Press the power button again to restart.

  -or-

- Insert the tip of a paper clip into the reset button on the bottom of the notebook, then press the power button to restart.

To Change the Boot Device

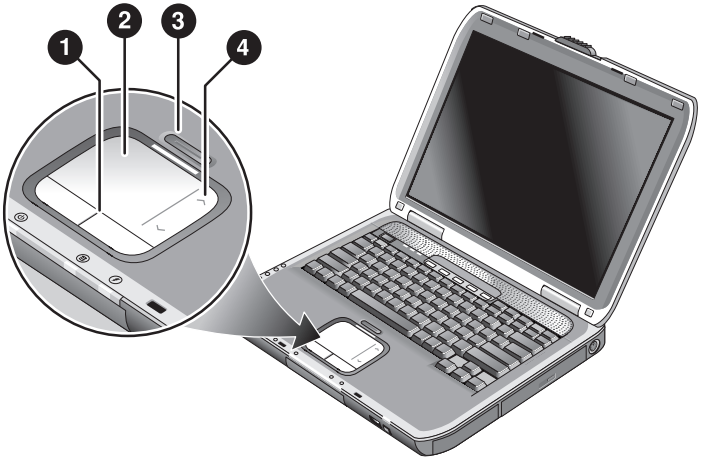
The notebook normally boots from its internal hard drive. You can also boot the notebook from a diskette drive, a CD-ROM drive, or an internal network interface card.

1. Select Start > Turn Off Computer > Restart.
2. When the logo screen appears, press **esc** to display the Boot menu.
3. Use the arrow keys to select the boot device, then press **enter.**

If you want to boot from a specific device whenever it is present, change the boot order using the BIOS Setup utility. See "Configuring Your Notebook" in the "Troubleshooting" chapter in this guide.

To Use the TouchPad

The TouchPad includes an on-off button so you can turn off the TouchPad to avoid moving the pointer accidentally when you are typing. The indicator light turns off when you turn off the TouchPad.



❶	**Click buttons.** The Click buttons work like the left and right buttons on a standard mouse
❷	**TouchPad** (touch-sensitive pointing device).
❸	**TouchPad on-off button and indicator light.**
❹	**Scroll pad.** The scroll pad scrolls vertically to display the contents of the active window.

To Use the Tap to Click Function of the TouchPad

The Tap to Click function of your TouchPad is enabled by default. To disable it, follow the instructions included here:

1. Select Start > Control Panel > Printers and Other Hardware > Mouse. The Mouse Properties dialog box opens.
2. Select the Tapping tab.
3. In the left panel, clear the Tapping check box.
4. Select Apply > OK.

The Tap to Click function is now disabled.

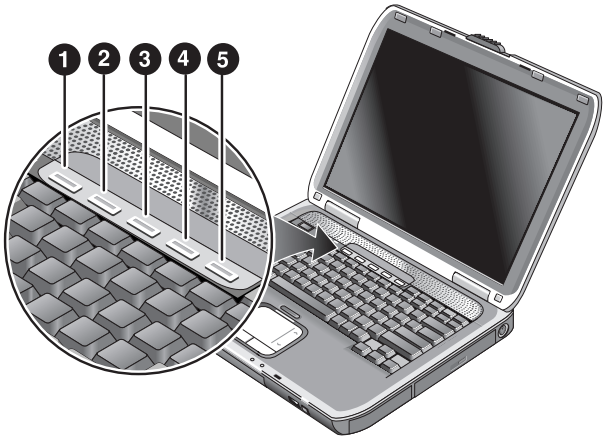
To Use the Function Hot Keys

The combination of the **Fn** key plus another key creates a hot key—a shortcut key sequence—for various system controls. To use a hot key, press and hold **Fn,** press the appropriate second key, then release both keys.

This hot key	Does this
Fn+F1	Decreases the display brightness.
Fn+F2	Increases the display brightness.
Fn+F5	Toggles the external monitor on and off.
Fn+F8	Toggles the built-in keypad on and off. Does not affect an external keyboard. If Num Lock is on, then the numeric functions are active; otherwise, cursor control is active (as marked on an external keyboard).
Fn+F12	Initiates Hibernation.
Fn+NumLock	Toggles Scroll Lock on and off.
Fn+Page Up	Increases the audio volume and cancels the mute setting.
Fn+Page Down	Decreases the audio volume.
Fn+Backspace	Mutes/unmutes the audio output.

To Use the One-Touch Buttons

Your notebook includes 5 One-Touch buttons that can start any application or open a document or Web site by pressing a single key.



Press a One-Touch button to open the corresponding application, document, or Web site.

To program a One-Touch button:

1. Select Start > All Programs > Utilities > One-Touch.
2. On the One-Touch tab, select the button you want to reprogram.
3. Type a label for the button, then select the application, document, folder, or Web site you want the button to open.
4. If you want a label to appear onscreen when you press a One-Touch button, select that option on the Onscreen Display tab.

To Use the Windows and Applications Keys

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

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

This key combination	Does this
Windows key+E	Runs Windows Explorer
Windows key+F1	Runs Windows Help
Windows key+F	Runs Windows Find: Search
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 Type Alternate Graphics Using the ALT GR Key

Non-U.S. keyboards have an **ALT GR** key to the right of the spacebar and keys on the keyboard that show International characters. These special characters appear on the lower-right corner of some keys on the keyboard. For example:

❶	Shifted
❷	Unshifted
❸	ALT GR

» To type an ALT GR character, press and hold the **ALT GR** key, then press the key containing the ALT GR character you want to display.

✎ If your keyboard does not have an **ALT GR** key, you can use the **ALT** key instead of the **ALT GR** key to get the same result.

Using CDs or DVDs

To Insert or Remove a CD or DVD

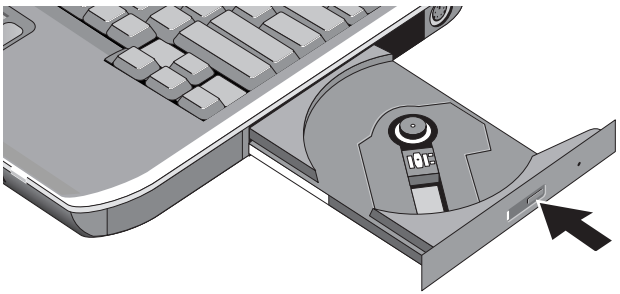
CAUTION: Do not remove a CD or DVD while the notebook is reading it, or the notebook could stop responding and you could lose data. To avoid damage to the disk or drive, be sure to press the CD or DVD firmly onto the spindle.

The location of the CD or DVD drive varies by model.

1. Press the button on the face of the CD or DVD drive. If you are using this drive for the first time, be sure to remove the cardboard packing insert if present.
2. Press the CD or DVD gently but firmly onto the spindle (label facing up).

   -or-

   Remove the CD or DVD.
3. Slide the tray back into the module to close it.



If your notebook loses power, you can manually open the drive to remove a CD. Insert a straightened paper clip into the recessed hole on the front of the drive to open it.

To Play DVD Movies

If your notebook is equipped with a DVD or other DVD readable drive, it also includes DVD player software that lets you play DVD movies.

» Select Start > All Programs > Multimedia > DVD Player > InterVideo WinDVD.

For best performance while playing movies on battery power, set the Control Panel Power Scheme to Portable/Laptop.

DVDs can have regional codes embedded in the disc data. These codes prevent DVD movies from being played outside the region of the world in which they are sold. If you get a region code error, you are trying to play a DVD intended for a different region.

Most DVD drives let you change the region code only a limited number of times (usually no more than 4). When you reach this limit, your last change to the region code will be hard-coded on the DVD drive and will be permanent. Your warranty does not cover the expense of correcting this situation. Refer to the Help for your DVD player software for details about setting region codes.

To Write to DVD Media (Select Models Only)

If your notebook is equipped with a DVD+RW/R and CD-RW Combo Drive, you must install your DVD burning software from the CDs included with your notebook before you can write to DVD media.

When writing to DVD+R or DVD+RW media, observe the following guidelines:

- Place the notebook on a flat, stable surface.
- Ensure that the AC adapter is connected to the notebook and an AC electrical outlet.
- Close and exit all other software applications, except the CD burning software (when writing a data disc) or DVD burning software (when writing a video disc).

To Create or Copy CDs

If your notebook is equipped with a DVD/CD-RW Combo Drive, it also includes CD software that lets you copy or create CDs. Follow the instructions that are included with the software. Read and write quality may vary by media.

Securing Your Notebook

To Set Up Password Protection

You can protect your notebook from access by another user when you set up password protection, which is available through Windows and through the BIOS Setup utility. See "Configuring Your Notebook" in the "Troubleshooting" chapter. For complete protection, set passwords in Windows as well as through BIOS Setup.

To cancel password protection, set an empty password.

Windows

1. Select Start > Control Panel > User Accounts, then select your account.
2. Select Create a Password, then set the password.
3. Select Start > Control Panel > Performance and Maintenance > Power Options.
4. On the Advanced tab, select the option to prompt for a password when the notebook leaves Standby.

To Lock Your Notebook

To protect against unauthorized access while your notebook is running, lock the notebook before leaving it unattended, or set up a screen saver with a Windows password. You can lock the notebook these ways:

- If a One-Touch button is assigned to Quick Lock, press that button.

  -or-

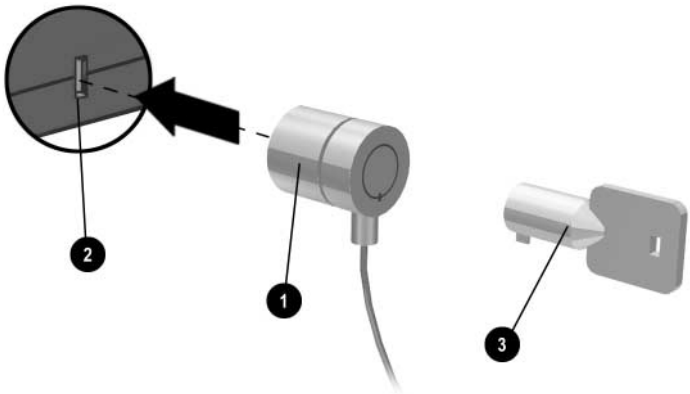
- Press **ctrl+alt+del,** then select Lock Computer.

To unlock the notebook, follow your normal logon steps.

To Attach an Optional Security Cable

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

1. Wrap the cable around a secure object.
2. Insert the cable into the security cable slot on the notebook.
3. Lock it with the cable lock key, then store the key in a safe place away from the notebook.



To Protect Against Viruses

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

Your notebook comes equipped with Norton AntiVirus software.

Because new viruses appear frequently, you will also want to keep the program virus definitions up to date. Norton AntiVirus updates are on the Web at http://www.symantec.com. You can also get detailed instructions from the program's online Help.

To Lock the Hard Drive

The notebook enables you to lock its internal hard drive to help keep your information secure.

CAUTION: When you enable the hard drive lock, the current BIOS user password (or administrator password if that is the only password set) is encoded on the hard drive. *If you move the hard drive to another notebook, you cannot access the drive until you set the user (or administrator) password to match the drive password.* After you match the drive password, you can change the notebook (and drive) password. If you forget the password, you cannot recover your data.

1. Select Start > Turn Off Computer > Restart.
2. When the logo screen appears, press **F2** to enter the BIOS Setup utility.
3. From the Security menu, enable Password Required to Boot.
4. From the Security menu, enable Internal hard drive lock.
5. Press **F10** to save and exit BIOS Setup.

Taking Care of Your Notebook

Follow these recommendations to maintain your notebook during everyday use and prevent potential physical damage or data loss.

To Protect Your Hard Drive

Hard 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 notebook while traveling over bumpy terrain.

- Put the notebook in Standby or shut it down before transporting it. This turns off the hard drive. A drop of a few inches onto a rigid surface while the hard drive is operating could destroy data or damage the drive.
- Carry the notebook in a padded case to protect against bumps and jolts.
- Set down the notebook gently.

To Maintain Your Notebook

- Provide adequate ventilation around the notebook. Always set the notebook on a flat surface, so that air can flow freely around and underneath it.
- Always shut down the notebook or put it in Hibernation mode before putting it in a carrying case or other enclosed space.
- Do not pick up or carry the notebook by its display.
- Do not use the notebook outside in the rain or snow (inclement weather). If the notebook is cold, warm it gradually to avoid condensation.
- Maintain your battery pack for best performance. See the "Battery Packs and Power Management" chapter.

To Safeguard Your Data

- Do not use a pointing device or activate any other device that interrupts operation while the system is starting or stopping.
- Back up your work regularly. Copy files to diskettes, CDs, DVDs, and other media, or network drives.
- Use a virus-scanning program (such as the Norton AntiVirus program included with your notebook) to check your files and operating system.
- Check your disk using the Tools tab in the disk Properties window.

To Extend the Life of the Display

- Set the display brightness to the lowest comfortable level (**Fn+F1**).
- When working at your desk, connect an external monitor and turn off the internal display (press the optional TV Now! One-Touch button at the top of the keyboard).
- If you are not using an external monitor, set the Turn off monitor timeouts (for both AC and battery pack operation) to the shortest comfortable interval.
- Avoid using a screen saver or other software that prevents the notebook from changing to Display-off or Standby mode after a timeout period. If you use a screen saver, enable the option to shut off the display after a time delay.
- Do not disable Display-off or Standby timeouts.
- If you are using AC power and have no external monitor attached, put the notebook in Standby mode when not in use.

To Clean Your Notebook

- You can clean the notebook with a soft cloth dampened with clean water or with water containing a mild detergent. Do not use an excessively wet cloth, and take care to keep water out of the case.
- Do not use abrasive cleaners, especially on the display. Do not apply any cleaner directly to the display. Instead, apply the cleaner to a soft cloth, then gently wipe the display.

3

Battery Packs and Power Management

Managing Power Consumption

When you are running your notebook on battery power, you can maximize operating time without compromising performance. Your notebook is designed to help you reduce power consumption and extend battery life.

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

How the Notebook Manages Power Automatically

Your notebook enters Hibernation and Standby automatically, and turns off the hard drive and display based on values set in Windows.

When this occurs	The result is	To resume
No keyboard, pointing device, or other input activity occurs for the specified interval	**Display turns off.** Turns off the display to conserve battery power and extend the life of the display.	Briefly press any key or move a pointing device to turn on the display.
The hard drive is not accessed for a specified interval	**Hard drive turns off.** This is usually set to occur shortly after the display is turned off.	Begin using the notebook, and the hard drive turns on.
No pointing devices are used, no disk drive is accessed, and no port (serial, parallel, or infrared) is active for the specified interval	**Standby is initiated.** Maintains your current session in RAM, and turns off the display and other components to conserve battery power.	Briefly press the power button to return to your current session.
The notebook stays in Standby for the specified interval	**Hibernation is initiated.** Saves your current session to the hard drive, and turns off the notebook.	Press the power button to return to your previous session.

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

The notebook can also enter Hibernation if battery power reaches a critically low level. If this happens, you will find on resuming that all your data has been saved, but some functions may be disabled. To resume normal operation, restore power by connecting an AC adapter or installing a charged battery pack, then shut the notebook off and restart it.

To Change Timeout Settings and Create Power Schemes

You can adjust the length of timeouts after which your notebook automatically shuts down components or enters a power-saving mode. You can also save these settings as a power scheme.

1. Select Start > Control Panel > Performance and Maintenance > Power Options.
2. Select the Power Schemes tab, then enter the settings you want. If you do not want a particular timeout to occur, set the value to Never. See Windows Help for details.

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

CAUTION: Do not disable Hibernate support in the Power Options settings or you will lose any unsaved data if the battery pack runs down completely.

Using Battery Power

To Check Battery Status

From the battery status light

» Check the battery status light on the notebook.

From the Windows taskbar

The Windows taskbar can display a power icon that provides detailed battery status information (see Windows Help for details). The icon resembles a battery when a battery pack is the notebook's sole source of power.

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

From the Windows Control Panel

» Select Start > Control Panel > Performance and Maintenance > Power Options, then select the Power Meter tab to see the battery status. The Alarms and Advanced tabs provide additional power information options.

On the battery pack

1. Remove the battery pack from the notebook. See the "Getting Started with Your Notebook" chapter in this guide.
2. Press the contact pad on the side of the battery pack. The number of lights that turn on indicates the remaining charge (each light represents 20 percent of a full charge).

To Respond to a Low-Battery Warning

The notebook automatically alerts you when the battery power drops to a critically low level. The notebook first emits a high-pitched beep or displays a warning message. Then, if you do not restore power within a short time, the notebook goes into Hibernation.

After the notebook enters Hibernation in this way, you will not be able to turn it on again until you restore power by doing one of the following procedures:

- Replace the battery pack with a charged one.
- Plug in the AC adapter.

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

To Recharge the Battery Pack

CAUTION: The AC adapter is normally warm when plugged into an AC outlet. The notebook is normally warm while recharging. Do not recharge the notebook in a briefcase or other confined space, or the battery pack could overheat.

» Plug the AC adapter into the notebook.

Charging can take several hours. If you continue working while the battery pack charges, the charging time may increase.

The operating time for a fully charged battery pack depends on the notebook model, power management settings, and level of use.

To Get the Most from Your Battery Packs

Follow these suggestions to make your battery power last as long as possible:

- Plug in the AC adapter, especially when using a CD-ROM or DVD-ROM drive, or any external connections such as a PC Card or a modem.
- Set the display brightness to the lowest comfortable level (**Fn+F1**).
- Put the notebook in Standby when you will not be using it for a short while.
- Put the notebook in Hibernation whenever you want to save your current session but will not be using the notebook for a day or more.
- Set the automatic timeout settings to emphasize saving power. If your notebook has a multispeed processor, use the lower speed on battery power (the default settings conserve battery power).

- If your notebook has a wireless on-off button, turn off the wireless function when you are not using it. Press the wireless on-off button to turn off the light.
- If you have a PC Card, such as a network card, remove it when you are not using it. Some PC Cards use significant power even while they are inactive.
- If you work with an application that uses the serial port or a PC Card, exit the application when you finish using it.

In addition, follow these suggestions to extend the life of your battery packs:

- Do not leave battery packs unused for long periods. If you have more than one, rotate them.
- Unplug the AC adapter when the notebook is not in use.
- If the notebook will be unused and unplugged for more than 2 weeks, remove and store the battery pack.

CAUTION: To prevent damage to the battery pack, do not expose it to high temperatures for extended periods of time.

- High temperatures accelerate the self-discharge rate of a stored battery pack. To prolong the charge of a stored battery pack, place it in a cool, dry location.
- To maintain the accuracy of battery charge displays, calibrate a battery pack that has been stored for one month or more before using it.
- Avoid using or charging battery packs at high temperatures.

Disposing of a Used Battery Pack

WARNING: There is a risk of fire and chemical burn if a battery pack is handled improperly. Do not disassemble, crush, or puncture a battery pack or short the contacts on a battery pack. Do not expose a battery pack to temperatures higher than 60°C (140°F) or dispose of a battery pack in water or fire.

When a battery pack has reached the end of its useful life, do not dispose of it in general household waste.

- In Europe, dispose of or recycle battery packs by using the public collection system or by returning them to HP, your service partner, or their agents.
- In other regions, refer to the *Worldwide Telephone Numbers* booklet, included with the notebook, to contact HP and request information about battery pack disposal.

For more information about battery pack precautions and disposal and the complete text of governmental agency notices, refer to the *Regulatory and Safety Notices* guide on the *Documentation* CD.

4

Modem and Network Connections

Using the Modem

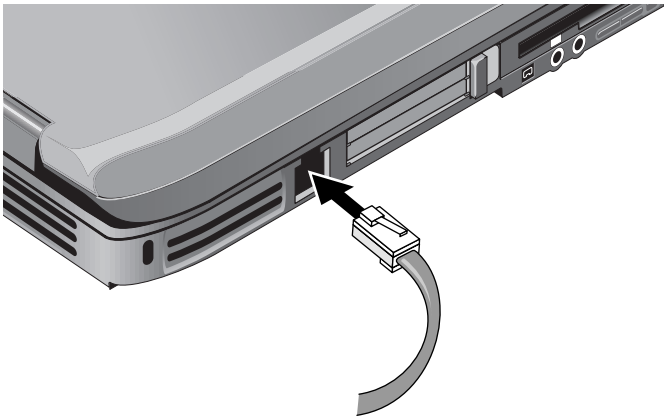
You can connect your modem to a telephone line and communicate throughout the world. You can explore the Internet, send and receive e-mail messages, and use your notebook to send and receive faxes. Your notebook contains several software programs that work with your modem:

- Internet Explorer, for browsing the World Wide Web
- Outlook Express, for sending and receiving e-mail messages
- Windows Fax Console, for sending and receiving faxes

For best performance, you can connect to any Internet Service Provider (ISP) or modem network that has V.90 or V.92 interoperable modems. Check with your ISP for a list of telephone numbers that support V.90 or V.92. (V.92 enables modem on-hold technology that allows an Internet session to be interrupted to answer a phone call, then resumes the Internet session after the call is complete.)

The maximum speed for faxing is 14.4 Kbps, even though the modem is capable of downloading at higher speeds.

To Connect the Modem



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.

Special Restrictions in Certain Countries

- Many countries impose a blackout period after a modem repeatedly fails to connect to a service provider. The number of failed attempts and the period you must wait before trying again differ from country to country. Check with your telephone company.

  For example, if you are dialing from Italy and fail to connect to your server or cancel the connection, you must wait 1 minute before dialing that number again. If you dial before then, you will get the message “delay.” After the fourth failed connection, you must wait 1 hour before trying the number again. If you dial before the hour is up, you will get the message “black list.”

- When using a modem, an external surge protector can prevent notebook damage by lightning or other electrical surges. Connect any approved surge protector to the modem cable whenever you are using the modem.

To Change Your Modem Settings

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

- **Control Panel.** Open Phone and Modem Options in Control Panel to change many modem settings. On the Modems tab, select Properties to set connection speeds, or on the Dialing Rules tab, select Edit to set dialing options.
- **Communications software.** Many communications applications provide options for controlling modem settings. See the Help for your software.
- **AT commands.** You can control many aspects of modem operation using modem AT commands. AT commands are special strings of characters sent to the modem to set up specific conditions. Those command strings normally start with "AT." For a list of AT commands for the built-in modem, see the *Documentation* CD.

  Open Phone and Modem Options in Control Panel. On the Modems tab, select Properties. You can type AT commands on the Advanced tab in the space for extra settings.

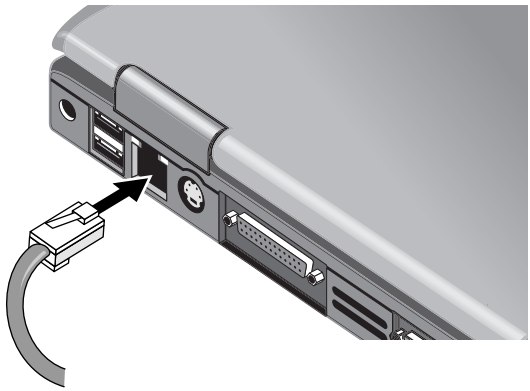
Connecting to a Local Area Network (LAN)

You can connect to local area networks (LANs). LANs give you access to network resources, such as printers and file servers on your corporate network, and possibly to the Internet.

To connect to a LAN:

1. Check that the existing LAN supports Ethernet 10Base-T (10 Mbps) or 100Base TX (100 Mbps) connections.
2. Plug the LAN cable (not supplied) into the built-in LAN port. The cable must have an RJ-45 connector.
3. Windows automatically detects and sets up a LAN connection. To edit settings, open Network and Dial-up Connections in Control Panel.

See Windows Help for information about setting up and using LAN connections. Select Start > Help and Support. Contact your network administrator for network information.



Two lights at the LAN port indicate the connection status:

- The yellow light indicates network activity.
- The green light indicates a 100 Mbps link.

Making Wireless Network Connections (Select Models Only)

If your notebook includes a wireless on-off button, you can connect by radio to an 802.11 wireless local area network (WLAN) and access computers and other resources on the network.

A wireless network provides all the functions of a typical "wired" network, but also provides for "roaming." Since your notebook connects to the network by radio rather than through cables, you can move from place to place within the network—from your office to a conference room, for example—and remain on the network the entire time.

WARNING: Exposure to Radio Frequency Radiation.
The radiated output power of this device is below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna should not be less than 20 cm (8 inches) during normal operation, including when the notebook display is closed.

To Turn Wireless Communication On and Off

For instructions to enable WLAN communications, refer to the *Go Wireless* booklet included with your notebook (select models only).

Wireless networks and cellular modems are examples of devices that use wireless communication. Such devices may be restricted in some situations or environments, such as when traveling in an airplane. If in doubt, be sure to ask for authorization *before* turning on your notebook wireless networking.

In Italy, Singapore, and possibly other countries, you may be required to purchase a license before using the wireless function.

Turning On Communication and Making a Connection

If your notebook has wireless 802.11 capabilities, the wireless indicator light on the front of the notebook turns on when 802.11 communication is turned on. You must use the Wireless Configuration software to control the individual wireless functions.

1. If the notebook is not on, turn it on.
2. If you normally press the wireless on-off button on the front of the notebook to turn wireless 802.11 communication on and off, press the button so the indicator light turns on. This restores your previous wireless configuration.

   -or-

   Select Start > Control Panel > Network and Internet Connections > Network Connections, then select the wireless network connection icon.

If you are within range of your wireless network, your notebook automatically connects. To check the status of your wireless connection, open Network Connections in Control Panel, then select the connection.

Turning Off Communication and Ending a Connection

1. Close any files that reside on other network notebooks.
2. To turn off the wireless 802.11 communication without turning off the notebook, press the wireless on-off button.

   -or-

   Right-click the wireless network connection icon in the taskbar, then select Disable.

Putting the notebook in Standby or shutting it down also turns off the wireless function.

5

Add-On Devices

Connecting External Devices

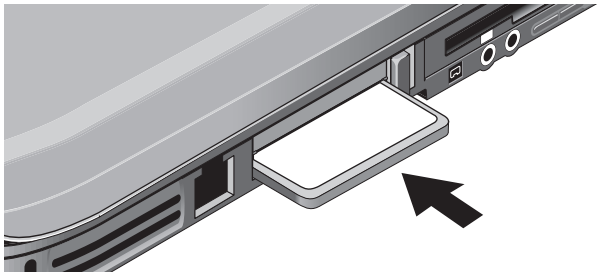
To Insert or Remove a PC Card

The notebook PC Card slot supports standard Type II and Type III PC Cards (PCMCIA and CardBus).

The location and number of the PC Card slots vary by model series.

Inserting a PC Card

1. Hold the PC Card label side up and its connectors facing the card slot.
2. Aligning the PC Card along the bottom of the slot, slide the PC Card until it is seated. Most cards are properly seated when the outer edge is flush with the casing of the notebook, but some cards are designed to protrude from the case.



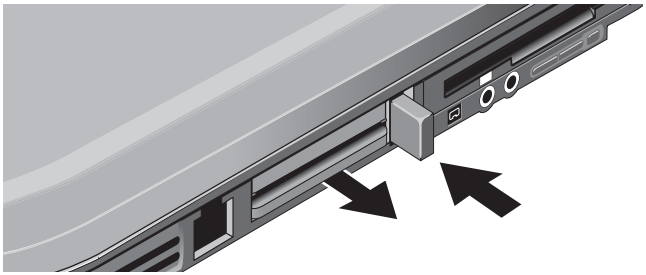
Removing a PC Card

CAUTION: Before removing a PC Card, you must use the Eject Hardware or Safely Remove Hardware icon in the taskbar, or shut down the notebook. Otherwise, you could lose data.

1. Select the Eject Hardware or Safely Remove Hardware icon in the taskbar, select the card you want to remove, then remove the card. This protects your data and helps avoid unexpected problems.

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

2. Press the eject button to extend the button, then press the button again to eject the PC Card.



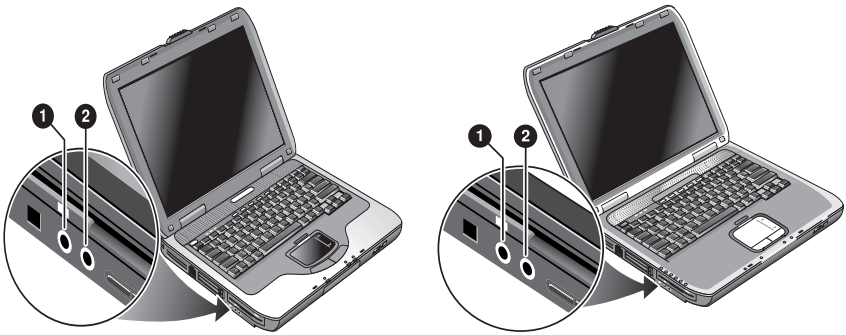
Before you connect any device, check its documentation to see if you need to make any settings or adjustments to the equipment before using it. This might include setting switches to configure the equipment so that it will operate properly with your notebook and the software you plan to use.

To Connect an Audio Device

You can plug in an external microphone, external speakers, or headphones.

CAUTION: The headphone and line-in jacks are three-terminal stereo jacks. They are not compatible with two-terminal mono plugs. Connecting a mono plug into either of these jacks may damage the notebook.

» Attach the audio cable to the corresponding audio port on the notebook. Match your notebook to one of the following illustrations and locate the audio ports on your notebook.



1	External microphone connector (pink)
2	Audio out (headphones) connector (green)

When you plug a device into the headphone port, the built in speakers automatically turn off.

To Connect a TV to Your Notebook (Select Models Only)

1. Plug a standard 4-pin S-Video cable to the optional S-Video out jack on your notebook (yellow connector on the back panel). Plug the other end of the cable to the S-Video in jack on your television.

   ✎ Although your notebook may have a 7-pin S-Video out jack, the notebook accepts either a 7-pin or 4-pin cable connection.

2. Select Start > Control Panel > Appearance and Themes > Display. Then, select the Settings tab > Advanced button > Display tab.
3. To enable the TV, select the red button next to TV.

   ✎ If the S-Video cable is not plugged into your notebook and TV, the red button will not be displayed.

4. Select Apply to accept the changes.
5. If you are prompted to restart Windows, select Yes.

Switching the Display to the External Monitor (Select Models Only)

Press the TV Now! One-Touch button, which is identified with a TV icon, at the top of your keyboard to switch the display to the TV-Out mode. If a TV is not connected to the notebook, your default media application will launch.

Adjusting Monitor Resolution and Other Settings

1. Select Start > Control Panel > Appearance and Themes > Display.
2. On the Settings tab, adjust the Screen area. Other settings are also available.

If you need to increase the refresh rate on the external monitor, you can switch to only the external monitor. An alternative is to make one display a “secondary” display so you can select independent refresh rates:

1. Select Start > Control Panel > Appearance and Themes > Display.
2. On the Settings tab, select the Advanced button, then the Display or Monitor tab. Set the refresh rate on the Monitor tab.

Using Dual Display Mode

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

1. Select Start > Control Panel > Appearance and Themes > Display.
2. Select the Settings tab.
3. Select the second display, then select the option to extend the desktop.

You can set different resolutions and numbers of colors for each display. However, using the Extended Desktop requires video memory for each display. For this reason, higher resolutions and higher numbers of colors may cause unexpected behavior on the displays. Try starting with 1024 × 768 resolution on the external display and 64 K colors (16-bit) on both displays. You can then try higher settings to see whether they work for your applications. In addition, certain operations such as playing DVDs and running 3D graphics require extra video memory, so you may have to adjust display settings.

If you play a DVD movie, the movie will show only on the primary display. To change the primary display, go to the Settings tab of Display Properties (see the steps above), right-click the display you want, and select Primary.

To Connect a 1394 Device (Select Models Only)

If your notebook has a 1394 port (also known as firewire), you can use it to connect devices such as audio and video equipment, disk drives, printers, and other notebooks.

Attach the device cable to the 1394 port. Windows automatically recognizes the device.

The 1394 port is a 4-wire port. If you want to connect a device that has a 6-wire plug, you can purchase a simple adapter if the device is unpowered, or a hub if the device requires power.

If you have problems making this connection, go to the device manufacturer Web site for the latest version of the driver for the device.

To Connect an Infrared Device (Select Models Only)

Select models include an infrared port. By default, the infrared port is enabled.

If your model has an infrared port (a small, rectangular lens located on the front of the notebook), then your notebook has wireless serial communication capability. That is, your notebook and other infrared devices, such as printers or other notebooks, can communicate wirelessly using this port.

Using the Infrared Port

- Make sure the infrared port of your notebook and the infrared port of the device with which you want to communicate are positioned in a straight line facing each other. The 2 ports should be no more than 3.3 feet (1 meter) apart with no obstructions in between. Noise from nearby equipment can cause transmission errors.
- To check the status of communications, open Wireless Link by selecting Start > Control Panel > Printers & Other Hardware > Wireless Link.

Avoiding Standby While Using Infrared

Standby is not compatible with infrared transmission.

If the notebook is in Standby, an infrared transmission cannot be initiated.

If Standby is initiated during an infrared transmission, the transmission stops. The transmission should resume when the notebook exits Standby, or you may need to resend the infrared transmission. To exit Standby, briefly press the power button.

Printing to an Infrared Printer

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

Transferring Files Through an Infrared Connection

You can use your notebook infrared port to transfer files by using Wireless Link. See the Windows online Help for instructions on using Wireless Link.

Installing Additional RAM (Memory)

The notebook has 2 slots that hold 2 RAM modules. At least 1 slot contains a RAM module installed at the factory. You can use both slots to expand your RAM.

To Install a RAM Expansion Module

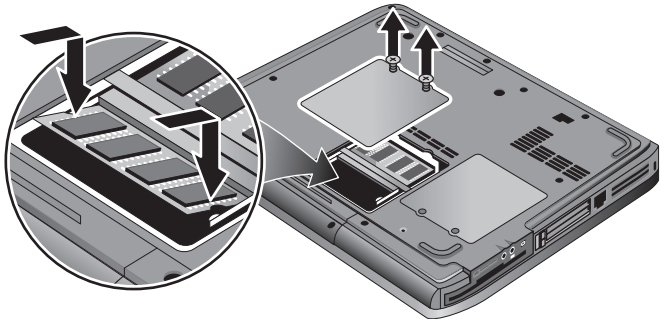
Use only PC2100 DDR-266 MHz or higher RAM.

You will need a small Phillips screwdriver for these steps.

CAUTION: The internal components of your notebook are extremely sensitive to static electricity and can be permanently damaged by it. Handle the RAM module only by its edges. Before installing the memory module, discharge static electricity by touching the metal shielding around the connectors on the back of the notebook.

1. Select Start > Turn Off Computer > Turn Off.
2. Unplug the AC adapter, if present, then remove the battery pack.
3. Turn the unit bottom-side up, loosen the screws holding the RAM cover, then remove the cover.

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



5. Replace the cover.
6. Insert the battery pack.

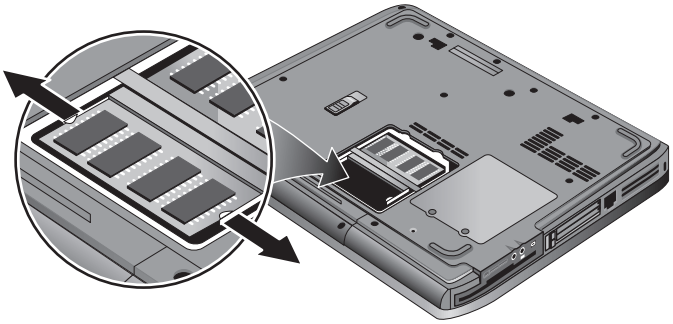
To Remove a RAM Expansion Module

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

CAUTION: Your notebook internal components are extremely sensitive to static electricity and can be permanently damaged by it. Handle the RAM module only by its edges. Before installing the memory module, discharge static electricity by touching the metal shielding around the connectors on the back of the notebook.

1. Select Start > Turn Off Computer > Turn Off.
2. Unplug the AC adapter, if present, then remove the battery pack.
3. Turn the unit bottom-side up, loosen the screws holding the RAM cover, then remove the cover.

4. Release the 2 latches at the sides of the RAM board, so the free edge of the board pops up. Match your notebook to the following illustration.



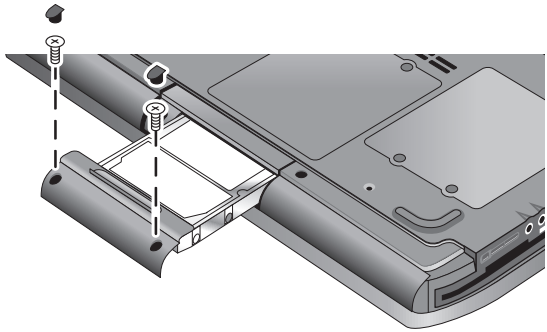
5. Pull the board out of the connector.
6. Replace the cover.
7. Insert the battery pack.

Replacing the Hard Drive

To Replace the Hard Drive

You will need a small Phillips screwdriver for this procedure.

1. Unplug the AC adapter, if connected.
2. Remove the battery pack.
3. Turn the unit bottom side up.
4. Use a pointed tool to remove the plugs from the 2 or 3 screw holes, then remove the screws. The number of screws varies by model. Match your notebook to the following illustration.



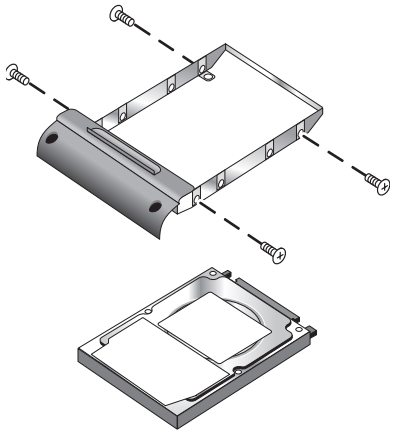
5. Gently pull the hard drive out of the notebook.
6. Gently slide the new drive into the hard drive compartment. Press firmly to make sure the connector seats properly.
7. Reinstall the hard drive screws and plugs.

If you are installing a new hard drive, you should create a Utility partition on the drive before loading any software.

To Replace the Hard Drive Holder

If you are installing a new hard drive that does not have a holder, you can remove the holder parts from the hard drive you are removing. You will need a small Phillips screwdriver for this procedure.

1. Remove the 4 screws from the sides of the holder and drive case, then slide the drive out of the holder.
2. Notice that the hard drive has a pin connector attachment at one end. Carefully remove this connector from the end of the drive. Work alternately at each end so that the connector slides off evenly without bending the connector pins.



3. Carefully put the pin connector attachment back onto the pins on the end of the new hard drive. Work alternately at each end so that the connector slides on evenly without bending the connector pins.
4. Insert the drive into the holder.
5. Reinstall the screws into the holder and drive case.

To Prepare a New Hard Drive

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

If you want to restore the Windows software and operating system that were originally installed on your notebook, follow the system recovery procedures described in the "Troubleshooting" chapter of this guide.

6

Troubleshooting

Troubleshooting Your Notebook

This chapter contains solutions to many types of problems you might have with your notebook. Try the solutions one at a time, in the order in which they are presented.

Here are some other sources of information for troubleshooting:

- Use the Windows troubleshooters. Select Start > Help and Support.
- Select the question mark One-Touch key located at the top of the keyboard.
- See the Microsoft Windows manual shipped with the notebook.
- Refer to the *Worldwide Telephone Numbers* booklet to contact a Customer Care Center for help and support.

Audio Problems

If No Sound is Audible

- If your model has a volume control, press the + (plus) button to increase the volume.
- Select the speaker icon on the taskbar (if present). Clear the Mute all check box if selected. If your model has an audio mute button, press it so the indicator light goes off.
- When you are operating your notebook 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

- Plug in an external microphone. The notebook does not have a built-in microphone.
- Check the software controls for recording sound. Select Start > All Programs > Accessories > Multimedia (or Entertainment) > Sound Recorder.
- In Volume Control, select Option > Properties, and make sure the microphone is enabled in the recording controls.

If You Hear Loud, High-Pitched Feedback from the Speakers

- In the Volume Control, try reducing the Master volume by selecting the speaker icon in the taskbar.
- In Volume Control, select Options > Properties, then select the microphone option for the playback settings. Also in Volume Control, make sure the microphone is muted.

CD-ROM and DVD Problems

If You Cannot Boot from a CD or DVD

- Make sure the CD or DVD is bootable.
- Make sure the CD-ROM/DVD drive is selected as the boot device. See the "Basic Operation" chapter in this guide to change the boot sequence.
- Restart the notebook. Select Start > Turn Off Computer > Restart.

If a DVD Plays Erratically

- Dirt or smudges can cause a disc to skip. Clean the disc with a soft cloth. If the disc is badly scratched, it will probably have to be replaced.
- If you are playing the DVD on battery power, try changing the power scheme.

If You Get a Region Code Error When Playing a DVD Movie

DVDs can have regional codes embedded in the disc data. These codes prevent DVD movies from being played outside the region of the world in which they are sold. If you get a Region Code error, you are trying to play a DVD intended for a different region.

If the Notebook Cannot Read a CD or DVD

- For a single-sided CD or DVD, make sure the disc is placed in the drive with the label facing up.
- Clean the disc.
- Wait 5 to 10 seconds after closing the tray to give the notebook time to recognize the disc.

- Restart the system: remove the disc from the drive, and select Start > Turn Off Computer > Restart.
- If you created the CD on a DVD/CD-RW combo-type drive, try using a different media brand. Read and write quality may vary for media.

If a DVD Movie Does Not Fill the Screen

Each side of a double-sided DVD has a different format (standard or widescreen). In widescreen format, black bands appear at the top and bottom of the screen. To view the standard format, flip the disc over and play the other side.

If a DVD Does Not Play with Two Displays

If you are using the Extended Desktop (dual displays), move the player window to the display selected as primary. If you are not using Extended Desktop and both displays are active, press the TV Now! One-Touch button at the top of the keyboard to switch to one display.

If the Notebook Cannot Find Wordpad.exe After Inserting a CD

The system is trying to open a .doc file in WordPad, but cannot find the Wordpad.exe program file. The system displays an error message asking for the path. In the dialog box, type C:\Program Files\Accessories.

Display Problems

If the Notebook Is On, But the Screen Is Blank

- Move the mouse or tap the TouchPad. This will wake the display if it is in Display-off mode.
- If the notebook is cold, allow it to warm up.

If the Screen Is Difficult to Read

- Try setting the display resolution to its default setting of 1024 × 768 or higher, depending on your model. Select Start > Control Panel > Appearance and Themes > Display.
- Try adjusting the size of the desktop icons and labels.

If an External Display Does Not Work

- Check the connections.
- The external monitor may not be detected. In the BIOS Setup utility, try setting Video Display Device to Both in the System Devices menu.
- If you are using a TV connected to the optional S-Video port, you must activate the TV.

Hard Drive Problems

If the Notebook Hard Drive Does Not Spin

- Make sure the notebook has power. If necessary, connect the AC adapter, and make sure it is fully plugged into a power source and into the back of the notebook.
- Remove and reinsert the hard drive.

If the Hard Disk Makes a Buzzing or Whining Noise

- See whether the noise is coming from elsewhere, such as from the fan or a PC Card drive.
- Back up the drive immediately.

If Files Are Corrupted

- Open My Computer, and the disk you want to scan. Select File > Properties. Select the Check Now box under the Error-checking section of the Tools tab.
- Run the virus-scanning program.
- If necessary, you can format the hard disk and reinstall the original factory software using the system recovery features described in the "Troubleshooting" chapter of this guide.

Heat Problems

Your notebook normally gets warm during routine operation.

If the Notebook Gets Abnormally Hot

- Always set the notebook on a flat surface, so that air can flow freely around and underneath it.
- Make sure the air vents on the bottom and sides of the notebook are clear.
- Keep in mind that games and other programs that drive CPU usage toward 100 percent can increase the notebook temperature.

Infrared Problems

By default, the optional infrared port is enabled, so you must enable it before you can use it.

If You Have Problems with Infrared Communications

- Make sure the line of sight between the 2 infrared ports is not blocked, and that the ports face each other as squarely as possible. (The notebook infrared port is located on the front of the notebook.) The ports should be no more than 1 meter apart.

- Check settings in the Device Manager:
  1. Select Start > Control Panel > Performance and Maintenance > System.
  2. On the Hardware tab, select Device Manager and expand the infrared devices. Select the infrared port and make sure that the device is enabled.
- Make sure only one application is using the infrared port.

Keyboard and Pointing Device Problems

Use these suggestions for built-in or external devices.

If the Pointer Is Difficult to Control

Adjust the pointer controls. Select Start > Control Panel > Printers and Other Hardware > Mouse.

If the TouchPad Does Not Work

- Press the TouchPad on-off button to turn on the light.
- Do not touch the TouchPad while the notebook is rebooting or resuming from Standby mode. If this happens, try the following: press a key on the keyboard to restore normal operation.
- If an external mouse is connected, the built-in pointing devices are normally disabled. You can change this setting with the BIOS Setup utility. See "Configuring Your Notebook" in this chapter.
- Restart the notebook. Select Start > Turn Off Computer > Restart.

If the TouchPad Moves the Pointer or Cursor While You Type

Press the TouchPad on-off button to turn off the TouchPad while you type.

Local Area Network (LAN) Problems

If the Built-In Network Adapter Does Not Connect to the LAN

- Check all cables and connections. Try connecting at a different network station, if available.
- Make sure the LAN cable is Category 3, 4, or 5 for 10Base-T operation, or Category 5 for 100Base-TX operation. Maximum cable length is 330 feet (100 meters).
- Select Start > Help and Support > and use the Networking troubleshooter.
- Open the hardware Device Manager. Select Start > Control Panel > Performance and Maintenance > System. If the network interface is disabled, try to enable it. If it has a conflict, try disabling another device.

If You Cannot Browse the Network Neighborhood or My Network Places

Select Start > Search > Notebooks or People to look for a notebook.

If You Cannot Log In to Netware Servers

If a Netware server is using IPX/SPX protocol, you may need to force your frame type to match the server frame type. Check with your network administrator.

If a Network Connection Responds Slowly

If your network connection uses a proxy server, try enabling the option for bypassing the proxy server for local addresses. You can do this in Control Panel under your network connection properties.

Memory Problems

If a Message Reports You Are Out of Memory

- Make sure drive C is not running low on free space.
- If you are having memory problems while running MS-DOS programs, use the MS-DOS or Application and Software troubleshooter in Windows Help. Select Start > Help and Support.
- The full amount of RAM in your notebook is not available for running applications. A certain amount of RAM is used for display memory. The amount of display memory is shown in the BIOS Setup utility.

If Memory Does Not Increase After Adding RAM

Make sure your notebook is using only PC2100 DDR 266 MHz or higher memory (RAM) modules.

If the Notebook Beeps But Does Not Start After Adding RAM

You installed an incompatible type of RAM. Remove the module.

Modem Problems

If the Modem Seems Slow

- Excess static or noise on a line reduces the overall transmission speed of the modem connection. If necessary, contact your telephone company about fixing this type of problem.
- If you are dialing internationally, line noise is often a problem that is difficult or impossible to eliminate.
- If you have call-waiting, disable it. Your telephone company can provide instructions. Call-waiting can cause symptoms similar to static.
- Eliminate extra connections in the line. If possible, connect directly to the wall jack.
- Try another telephone line, preferably one normally used for a fax machine or modem.

If the Modem Does Not Dial or No Dial Tone Is Detected

- Check all cables and connections.
- Connect a standard telephone to the phone line and make sure the line is working.
- Make sure someone else is not using the same phone line.
- Try another telephone line, preferably one normally used for a fax machine or modem.
- If you are in a foreign country, the dial tone may not be recognized by the modem. In Control Panel, open Phone and Modem Options. Try disabling the option that waits for a dial tone.

If the Modem Dials Incorrectly

- Check the telephone number you entered, including any digits required for outside access or long distance.
- In Control Panel, open Phone and Modem Options. Check the dialing options—look for duplicate digits for outside access or long distance.
- Make sure the number you are calling is not busy.
- If you are in a foreign country, the dial tone may not be recognized by the modem. In Control Panel, open Phone and Modem Options. Try disabling the option that waits for a dial tone.
- If you have call-waiting, disable it. Your telephone company can provide instructions.

If the Modem Dials, But Does Not Connect

- Make sure you are using an analog telephone line (2, 3, or 4 wires). You must not use a digital line. In a hotel, ask for a data line.
- Try another telephone line, preferably one normally used for a fax machine or modem.
- The modem at the other end may have a problem. Try dialing to a different modem.

If the Modem Is Not Detected

- Check the modem setup. In Control Panel, open Phone and Modem Options. Check the COM port.
- Open the hardware Device Manager. Select Start > Control Panel > Performance and Maintenance > System. If the modem is disabled, try to enable it. If it has a conflict, try disabling another device.
- If you are running fax software using fax Class 2, try using Class 1.

If the Modem Dials, But You Cannot Hear It

- If your model has an audio mute light, make sure it is turned off. If it is on, press the audio mute button.
- Check the speaker volume setting.
- In Control Panel, open Phone and Modem Options, then select the modem and select Properties. Check the volume setting on the General tab.

If the Modem Connects, But Transferred Data Is Bad

- In Control Panel, open Phone and Modem Options. Make sure the parity, speed, word length, and stop bits match on sending and receiving modems.
- Try a different phone line or dial a different server number.

If the Modem Causes an ERROR Message

A string of AT commands may contain an incorrect command. If you entered commands as extra settings for the modem in Control Panel or in your communications software, check the commands.

If the Modem Does Not Fax

- If you are using fax Class 2 in the fax software, try using Class 1.
- Close any other communications programs.
- If you are faxing by printing from an application, make sure you have selected the fax printer.
- Try turning off power management features temporarily.

If Excessive Line Current Is Detected

Make sure you are using an analog telephone line (2, 3, or 4 wires). You must not use a digital line. In a hotel, ask for a data line.

If the Modem Clicks Repeatedly, But Does Not Connect

- Make sure you are using an analog telephone line (2, 3, or 4 wires). You must not use a digital line. In a hotel, ask for a data line.
- Check all cables and connections.

PC Card (PCMCIA) Problems

If the Notebook Does Not Recognize a PC Card

- Remove and reinsert the PC Card.
- Restart the notebook. Select Start > Turn Off Computer > Restart.
- Try the card in another notebook to see whether the card functions properly.
- Zoomed Video is not supported.
- If the card requires an IRQ, make sure one is available. Open the hardware Device Manager. Select Start > Control Panel > Performance and Maintenance > System.

If a Network PC Card Stops Communicating Properly

- The card may have been reset if the notebook entered Standby or shut off. Exit any applications, then remove and reinsert the card.
- Check settings in the Control Panel.

If a PC Card Modem Is Not Working

Disable the internal modem:

1. Open the hardware Device Manager. Select Start > Control Panel > Performance and Maintenance > System.
2. Select Modem to list the current modem devices.
3. Select the internal modem, then select the option to disable the modem.

Performance Problems

If the Notebook Pauses or Runs Sluggishly

- This may be normal Windows behavior. Background processing can affect response time.
- Certain background operations (such as a virus-scanning program) can affect performance.
- Press **ctrl+alt+del** and use Task Manager to see if an application is not responding.
- Restart the notebook. Select Start > Turn Off Computer > Restart.
- Some file browsers respond slowly while processing graphics or waiting for broken network connections to time out.
- If the notebook hard drive frequently runs (as indicated by the hard drive light on the front of the notebook) while the notebook appears to be paused or running slowly, Windows is likely spending excess time writing to its swap file on the notebook hard disk. If this occurs frequently, consider installing additional memory.
- Check the amount of available free disk space. Delete temporary and unneeded files.

If the Notebook Stops Responding

- Press **ctrl+alt+del** and use Task Manager to end the application that is not responding.
- Press the power button for at least 4 seconds to turn off and reset the notebook. Unsaved data will be lost. Then press the power button again to turn the notebook back on.
- If nothing happens, insert the tip of a paper clip into the reset button on the bottom of the notebook. Then press the power button to turn the notebook back on.
- To avoid lockup problems, avoid pressing the TV Now! One-Touch button to switch display devices while graphic-intensive applications are running. Also avoid turning the notebook off or putting it into Standby while such applications are running.

Power and Battery Pack Problems

If the Notebook Turns Off Immediately After It Turns On

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

If the Notebook Keeps Beeping

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

If the Battery Pack Does Not Charge

- Make sure the AC adapter is fully plugged into the power source and the notebook, and that the battery charging light on the notebook is on.

- If you are using a power strip, remove the AC adapter from the power strip and plug it directly into a wall outlet.
- Make sure the battery pack is fully installed and locked in place.
- Make sure you are using only the AC adapter included with your notebook (or other approved adapter that meets the power requirements of the notebook). Do *not* use a 60-watt, 3.16-amp adapter.
- Move the notebook away from any nearby heat source. Unplug the AC adapter and allow the battery pack to cool down. If the battery pack gets too hot, it will not charge properly.
- If available, try another battery pack and AC adapter.

If the Notebook Has a Short Operating Time

- Conserve power using any of the suggestions listed in the "Battery Packs and Power Management" chapter in this guide.
- If you are running an application that has an automatic save feature (such as Microsoft Word), disable this feature or increase the specified save time to reduce hard disk access.
- If the operating time has gradually become shorter and the battery pack is more than a year or two old, you may need to replace the battery pack.
- Heavy modem use can impact battery-operating time.
- PC Card use can impact battery-operating time.
- Test and recondition the battery pack every 3 months.

If the Time Remaining for the Battery Pack Is Not Correct

The Time Remaining is an estimate, not a precise value, and is based on the rate at which the notebook is using power at the moment. This value therefore depends on your current task and assumes that you will continue using power at the same rate until the battery pack runs out. So, if you check the Time Remaining while the notebook is performing a task requiring a good deal of power (such as reading from a CD or DVD), the value will probably show less time remaining than you really have, since you will probably later switch to tasks that require less power.

If the Notebook Does Not Enter Standby Mode as Expected

- If you have a connection to another computer, the notebook will not enter Standby if the connection is active.
- If the notebook is performing an operation, it normally waits for the operation to finish before going into Standby.

If the Notebook Does Not Enter Hibernation as Expected

- Make sure Hibernation support is enabled. From Control Panel, open Power Options, then select the Hibernate tab.
- Check the Power Schemes tab. Make sure the Hibernation timeouts for both AC power and battery power are not set to Never.

Printing Problems

You will usually be able to solve most printing problems by using the Print troubleshooter in Windows Help. Select Start > Help and Support.

If a Serial or Parallel Printer Does Not Print

- Make sure the printer is on and has paper in it.
- Make sure you are using the correct printer cable or cable adapter, and that the cable is secure at both ends.
- Check for printer errors.

If the Left Edge of Printed Output Is Missing

Certain applications may not work properly with 600-dpi printers. If you are using such a printer, try selecting a compatible printer driver for a 300-dpi printer.

If an Infrared Printer Does Not Print

- Make sure the line of sight between the 2 infrared ports is not blocked, and that the ports face each other as squarely as possible. (The notebook infrared port is located on the front of the notebook.) The ports should be no more than 1 meter apart.
- Make sure the printer is on and has paper in it.
- Check for printer errors.

Make sure Windows is running; otherwise, infrared printing is not available.

Serial, Parallel and USB Problems

If a Serial Mouse Does Not Work

- Make sure you followed the manufacturer's installation instructions completely and have installed the mouse properly. If not, repeat the procedure.
- Make sure the port connection is secure.
- Restart the notebook. Select Start > Turn Off Computer > Restart.
- Check mouse settings in Control Panel. Select Start > Control Panel > Printers and Other Hardware > Mouse.
- Use a mouse that connects to the USB port.
- Check the port settings in Control Panel. Open the hardware Device Manager, then select Ports (COM & LPT).

If a Serial Modem Does Not Work Properly

- Make sure the port connection is secure.
- Use the Modem troubleshooter in Windows Help. Select Start > Help and Support.
- In Control Panel, open Phone and Modem Options, and check the modem settings.
- Disable the internal modem:
  1. Open the hardware Device Manager. Select Start > Control Panel > Performance and Maintenance > System.
  2. Select Modem to list the current modem devices.
  3. Select the internal modem, then select the option to disable the modem.
- Check the port settings in Control Panel. Open the hardware Device Manager, then select Ports (COM & LPT).

If the Serial or Parallel Port Is Not Working

- Make sure the port connection is secure.
- Check the port settings in Control Panel. Open the hardware Device Manager, then select Ports (COM & LPT).

If the USB Port Is Not Working

- Contact the vendor of the peripheral device for the latest USB drivers.
- Check the port settings in Control Panel. Open the hardware Device Manager, then select Universal Serial Bus Controller.

Startup Problems

If the Notebook Does Not Respond When You Turn It On

- Connect the AC adapter.
- Reset the notebook by inserting the tip of a paper clip into the reset button on the bottom of the notebook. Then press the power button to turn it on.
- If the notebook still does not respond, remove the battery pack and AC adapter, remove any PC Cards, and undock the notebook if docked. Then plug in the AC adapter again, and reset the notebook using the reset button.

If the Notebook Will Not Boot from Battery Power

- Make sure the battery pack is properly inserted and fully charged. Check the battery charge by removing it and pressing the pad on the side of the battery pack. The lights show the charge level.
- If available, try another battery pack.

If the Notebook Will Not Boot from the Diskette Drive

- Make sure the diskette drive is selected as the boot device. See the "Basic Operation" chapter in this guide for directions.
- If you are using a USB diskette drive, use the BIOS Setup utility to make sure Legacy USB Support is enabled. If your notebook also has a built-in diskette drive, use the BIOS Setup utility Boot menu to make sure the USB diskette drive is the first device under Removable Drive.

If the Notebook Stops Responding After Booting

Check whether you are connected to a TCP/IP network with no DHCP server. This can cause a long delay at startup because DHCP is enabled. Contact your network administrator to determine the proper TCP/IP configuration.

If the Notebook Takes a Long Time to Resume After Entering Standby

The notebook can routinely take a minute or more to resume if it has a network card installed. While the operating system is loading drivers and checking hardware and network connections, you will see a blinking cursor on your display. As soon as the hardware has been reinitialized, the Windows desktop will appear.

Wireless Problems

If You Have Problems with Wireless 802.11 Communication

- Make sure the wireless indicator light is on.
- Make sure you are using the correct SSID and channel settings.

- Make sure you are in range of an access point (for an infrastructure connection) or other wireless notebook (for an Ad Hoc connection).
- When you log on to an 802.11 network via an access point yet your notebook cannot connect to network resources, your notebook may not have been assigned an IP address. If the subnet mask for your wireless connection is 255.255.000.000, the network server did not assign an IP address to your notebook, and you may have to release and renew your network IP address. If releasing and renewing the IP address does not fix the problem, the access point may need to be rebooted.
- If you want to change the SSID to a different value to connect to a different access point, or if you want to change from Infrastructure mode to Ad Hoc mode, you may first have to release and renew the Internet IP address.
- See "Local Area Network (LAN) Problems" in this chapter.

If You Have Trouble Connecting to Another Notebook in the Network Neighborhood or My Network Places

- Wait a few minutes, then press **F5** to refresh the list of notebooks on the network.
- Select Start > Search > Notebooks or People to locate the notebook.

If You Cannot Connect to a Particular Notebook on the Network

- Make sure the notebook is properly connected to the network.
- Make sure your TCP/IP setup is correct for your network. Select Start > Control Panel > Network Connections.

If You Can Connect, But the Network Is Slow

- Check whether you might be in an area served by more than one wireless LAN. If so, the LANs could be interfering with each other.
- Move closer to the access point (for an infrastructure connection) or other wireless notebook (for an Ad Hoc connection). You could be too far away for high-speed communication.

Configuring Your Notebook

The BIOS Setup utility helps you configure your notebook operation.

To Run the BIOS Setup Utility

The BIOS (basic input and output system) Setup utility enables you to make changes to the notebook system configuration, and to tailor the operation of your notebook to your individual work needs.

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

1. Select Start > Turn Off Computer > Restart.
2. When the logo screen appears, press **F2** to enter BIOS Setup.
3. The pointing devices are not active in BIOS Setup, so you will need to use the keyboard to navigate:
   - ❏ Press the **left** and **right** arrow keys to move among menus.
   - ❏ Press the **up** and **down** arrow keys to move among parameters in a menu.
   - ❏ Press **+** or **-** to move through values for the current parameter, or press **enter** to change a setting.

4. After you select the options you want, press **F10** or use the Exit menu to exit BIOS Setup.
5. If the settings cause a conflict between devices during reboot, the system prompts you to run BIOS Setup, and marks the conflicting settings.

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

Main Menu

Setting	Description	Default
BIOS Revision	Shows the current BIOS version.	Detected automatically
System Time	Sets the time using 24-hour format. Values set take effect immediately.	
System Date	Sets the date using dd/mm/yy format (except English, which uses mm/dd/yy format).	
Language	Sets the language for BIOS Setup.	Detected automatically
Internal Hard Disk	Sets the hard drive type and various parameters.	Detected automatically
UMA Video Memory	Sets the video memory size allocated from total installed memory (RAM).	Auto
Memory	Shows the extended memory size.	Detected automatically
Serial Number	Displays the serial number as shown on the back of the unit.	Detected automatically

Main Menu *(Continued)*

Setting	Description	Default
Service ID	Displays an identifier used for repair service.	Detected automatically
UUID	Displays the value of the 16-byte UUID (Universally Unique ID) as 32 hex characters.	Detected automatically
MAC Address	Displays the MAC network address of the internal (wired) LAN.	Detected automatically

System Devices Menu

Setting	Description	Default
Video Display Device	Sets whether the built-in display automatically switches to an external display, if one is detected.	Auto
External Pointing Device	Disables the internal pointing devices when an external pointing device is connected.	Auto
Legacy USB Support	Enables BIOS support for USB mouse, keyboard, and diskette disk drive during startup.	Enabled
Wake On LAN from Power Off	Lets the notebook be turned on via the LAN port. If this option is enabled, the notebook uses increased power while it is shut down.	Disabled

Security Menu

Setting	Description	Default
User Password is	Shows if a user password is set.	Clear
Administrator Password is	Shows if an administrator password is set.	Clear
Set User Password	Press **enter** to set, change, or clear the user password. The password can have no more than 8 characters (0–9, A–Z), and cannot include special or accented characters.	Enter
Set Administrator Password	Press **enter** to set, change, or clear the administrator password, which protects BIOS Setup settings. The password can have no more than 8 characters (0–9, A–Z), and cannot include special or accented characters.	Enter
Require Password on Boot	Sets whether a user password is required when the notebook boots. Requires the administrator password for changes.	Disabled
Internal hard drive lock	Only if the Boot password option is enabled, encodes the current user password (or administrator password if that is the only password set) on the hard drive.	Disabled

Boot Menu

Setting	Description	Default
Hard Drive +Removable Devices CD-ROM Drive Built-in LAN	Shows the order of boot devices. Move the entries to change the order. If the notebook has more than 1 device in a + category, you can select the one scanned. Built-in LAN provides diskless boot from a network server.	1. Hard Drive 2. Removable devices 3. CD-ROM Drive 4. Built-in LAN

Exit Menu

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

Updating Software and Drivers from the Web

Software and driver updates for your notebook are available for download. For more information, visit the Web site at http://www.hp.com/support.

Using System Recovery Features

The notebook system recovery process provides several options for recovering optimal system functionality. System Restore and OS CDs (operating system CDs) enable you to recover or repair your notebook without losing personal data. The OS CD also enables reinstallation of the operating system software provided with the notebook.

For best results, attempt to recover optimal notebook functionality by using the following procedures *in the order described here.*

Safeguarding Your Data

Software or devices added to the notebook can cause your system to become unstable. To safeguard your documents, store personal files in the My Documents folder and periodically create a backup copy of My Documents. Setting System Restore points is also recommended.

Your notebook sets System Restore points (benchmarks) daily as you change your personal settings. The notebook may also set restore points when you add new software or devices. You should periodically set personal restore points when the notebook is functioning at optimal performance and before installing new software or devices. This enables you to return to a previous configuration restore point if you encounter problems.

To set a system restore point:

1. Select Start > Help & Support. Select the task Use Tools to view your computer information and diagnose problems. Select System Restore. A System Restore window opens.
2. Follow the on-screen directions for setting a restore point.

To restore the notebook to a previous date and time when it was functioning optimally:

1. Select Start > Help & Support > Tools > System Restore.
2. Follow the on-screen directions for restoring the notebook.

Operating System (OS) CD Repair

To repair the operating system without deleting your personal data, use the standard Microsoft OS CD that was shipped with the notebook. This CD contains the following preinstalled operating systems:

- Microsoft Windows XP Home or Pro (depending on configuration)
- Appropriate service pack

To repair the operating system:

1. Connect the notebook to external power and turn on the notebook.
2. Immediately insert the OS CD into the notebook.
3. Press and hold the power button for 5 seconds to turn off the notebook.
4. Press the power button again to start the notebook.
5. When prompted, press any key to boot from CD. After a few minutes, the Welcome to Setup screen is displayed.
6. Press **enter** to continue. A Licensing Agreement screen is displayed.
7. Press **F8** to accept the agreement and continue. The Setup window opens.
8. Press **R** to repair the selected Windows installation. The repair process begins. This process takes 1 to 2 hours to complete. The notebook restarts in Windows after the process is complete.

OS CD Reinstall

If other recovery efforts do not successfully repair the notebook, you can reinstall the operating system.

WARNING: Personal data and software you have installed on the notebook will be lost during the OS CD reinstall. To protect your data, make a backup copy of My Documents before reinstalling your operating system. Visit Help and Support to learn more about backing up your files.

To reinstall the operating system:

1. Connect the notebook to external power and turn on the notebook.
2. Immediately insert the OS CD into the notebook.
3. Press and hold the power button for 5 seconds to turn off the notebook.
4. Press the power button again to start the notebook.
5. When prompted, press any key to boot from the CD. After a few minutes, the Welcome to Setup screen opens.
6. Press **enter** to continue. A Licensing Agreement screen is displayed.
7. Press **F8** to accept the agreement and continue. The Setup window is displayed.
8. Press **esc** to continue installing a fresh copy of the operating system without repairing.
9. Press **enter** to set up the operating system.
10. Press **C** to continue setup using this partition.

11. Select Format the partition using the NTFS file system (Quick) and press **enter.** A caution is displayed that formatting this drive will delete all current files.
12. Press **F** to format the drive. The reinstallation process begins. This process takes 1 to 2 hours to complete. The notebook restarts in Windows after the process is complete.

When prompted for the product key, refer to the Microsoft Certificate of Authenticity located on the bottom of the notebook.

Reinstalling Drivers

After the OS installation process is complete, you must reinstall drivers. Use the *Driver Recovery* CD with the OS CD for hardware driver and system utility refresh and for full system software restoration.

To reinstall drivers:

1. While running Windows, insert the *Driver Recovery* CD into the optical drive.
2. If you do not have Autorun enabled, select Start > Run. Then type D:\SWSETUP\APPINSTL\SETUP.EXE (where D indicates the optical drive).
3. Select the desired driver(s) or system utility from the *Driver Recovery* CD menu.
4. Select Next to complete the installation.

Restoring Software Applications

After the drivers are reinstalled, you must reinstall any software you added to the notebook. Use the *Application Recovery* and third-party CDs to reinstall or continue restoring software applications. Follow the installation instructions provided with the software CDs included with the notebook.

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