


*Power***Turning the Notebook or Display On or Off**

<b>Task</b>	<b>Procedure</b>	<b>Results</b>
Turn on the notebook.	Press the power button.  Pressing the power button turns on the notebook from Standby, Hibernation, or shutdown.	<ul style="list-style-type: none"> <li>■ Power/standby light turns on.</li> <li>■ Operating system loads.</li> </ul>
Shut down the notebook.*	Select Start > Turn Off Computer > Turn Off.	<ul style="list-style-type: none"> <li>■ Power/standby light turns off.</li> <li>■ Operating system shuts down.</li> <li>■ Notebook turns off.</li> </ul>
Turn off the display when the notebook is closed.	Close the notebook.	When the notebook is closed, the display presses the display switch, which then turns off the display.

\*If the system is unresponsive, and you are unable to shut down the notebook with this procedure, see “Using Emergency Shutdown Procedures” next in this section.

**Using Emergency Shutdown Procedures**



If the notebook does not respond to the Windows shutdown procedure (Start > Turn Off Computer > Turn Off), try the following emergency shutdown procedures in the sequence provided:

- If the notebook is running Windows XP Professional: Press **ctrl+alt+delete**. Select the Shut Down button, then select Shut down from the drop down list.
- Press and hold down the power button for at least 4 seconds.
- Unplug the notebook from external power and remove the battery pack. For battery pack removal instructions see the “Replacing a Battery Pack” section, later in this chapter.

## Initiating or Resuming from Standby

Task	Procedure	Result
User-initiated Standby	<p>With the notebook on, use either of the following procedures:</p> <ul style="list-style-type: none"> <li>■ Press the <b>Fn+F5</b> hotkeys.</li> <li>■ Select Start &gt; Turn off Computer &gt; Stand by.</li> </ul>	<ul style="list-style-type: none"> <li>■ Power/standby light flashes.</li> <li>■ Screen clears.</li> </ul>
System-initiated Standby	If the notebook is running on external power, the system does not initiate Standby.	
	If the notebook is running on battery power, the system initiates Standby after 10 minutes of notebook inactivity.	<ul style="list-style-type: none"> <li>■ Power/standby light flashes.</li> <li>■ Screen clears.</li> </ul>
Resume from user-initiated or system-initiated Standby.	<ul style="list-style-type: none"> <li>■ Briefly press the power button, or move (or click any button on) an optional external USB mouse.</li> <li>■ If the display was closed while the notebook was in Standby, open the display.</li> </ul>	<ul style="list-style-type: none"> <li>■ Power/standby light turns on.</li> <li>■ Your work returns to the screen.</li> </ul>

## Initiating or Restoring from Hibernation

Task	Procedure	Result
User-initiated Hibernation	<p>With the notebook on, use either of the following procedures:</p> <ul style="list-style-type: none"> <li>■ Briefly press the power button.</li> <li>■ Select Start &gt; Shut Down &gt; Hibernate. (If the Hibernate option is not displayed, press and hold <b>shift</b>.)</li> </ul> <p> If the notebook is in Standby, you must resume from Standby before you can initiate Hibernation.</p>	<ul style="list-style-type: none"> <li>■ Power/standby light turns off.</li> <li>■ Screen clears.</li> </ul>
System-initiated Hibernation	<p>If the notebook is running on external power, the system does not initiate Hibernation.</p> <p>If the notebook is running on battery power, the system initiates Hibernation:</p> <ul style="list-style-type: none"> <li>■ After 30 minutes of notebook inactivity, or</li> <li>■ When an inserted battery pack reaches a critical low-battery condition (1 percent of a full charge remaining).</li> </ul>	<ul style="list-style-type: none"> <li>■ Power/standby light turns off.</li> <li>■ Screen clears.</li> </ul>
Restore from user-initiated or system-initiated Hibernation.	<p>Press the power button.</p> <p> If the system initiated Hibernation because of a critical low-battery condition, connect external power or insert a charged battery pack before you press the power button.</p>	<ul style="list-style-type: none"> <li>■ Power/standby light turns on.</li> <li>■ Your work returns to the screen.</li> </ul>

## Setting Power Control Preferences

By default, when the notebook is on:

- Briefly pressing the power button initiates Hibernation.
- Pressing the **Fn+F5** hotkeys, called the “sleep button” in the operating system, initiates Standby.
- The display switch turns off the display. The display switch is activated by closing the display. (At default and all custom settings, the display switch also turns on the notebook if the display is opened while the notebook is in Standby.)

To change the function of the power button, the **Fn+F5** hotkeys, or the display switch:

1. Select Start > Control Panel > Performance and Maintenance icon > Power Options icon > Advanced tab.
  - To change the power button function, select a function from the drop-down list for When I Press The Power Button On My Computer.
  - To change the function of the **Fn+F5** hotkeys, select a function from the drop-down list for When I Press The Sleep Button On My Computer.
  - To change the display switch function, select a function from the drop-down list for When I Close The Lid Of My Portable Computer.
2. Select the OK button.

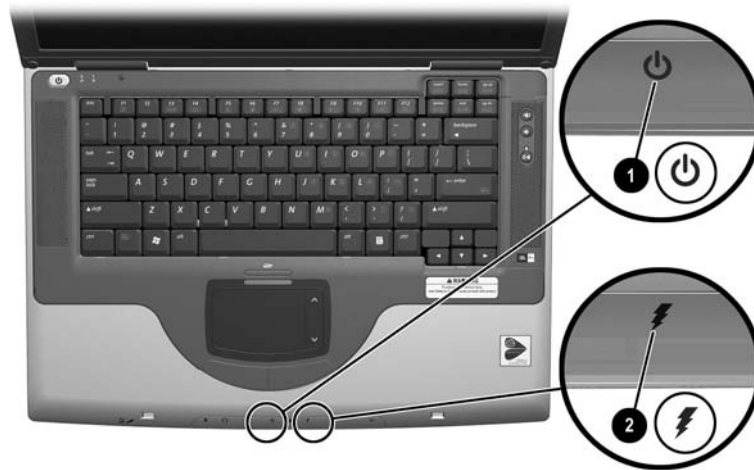
The Hibernate function is available in the power button, sleep button, and display switch drop-down lists only if Hibernation is enabled.

## Using Battery Power

### Identifying the Battery and Power/Standby Lights

Battery pack procedures refer to the:

- ❶ Power/standby light
- ❷ Battery light



*Identifying the battery and power/standby lights*

## Switching Between Battery and External Power

The notebook switches between external power and battery power according to the availability of external power. To conserve the charge in an inserted battery pack, the notebook runs on external power whenever external power is available. External power can be supplied from an electrical outlet through an AC adapter or an optional DC cable.

If the notebook contains a charged battery pack and is running on external power, the notebook switches to battery power only if the AC adapter or DC cable is disconnected from the notebook.

The Power Meter icon in the system tray changes shape whenever the power source changes between battery power and external power.

## Charging a Battery Pack

The battery pack charges whenever the notebook is connected to external power through an AC adapter or an optional DC cable.

The battery pack charges whether the notebook is turned off or turned on, but charges most quickly when the notebook is turned off. When the notebook is turned on, charging times are longer and vary with system activity.

The battery light displays charge status:

- On and amber: the battery pack is charging.
- On and green: the battery pack is fully charged.
- Flashing: the battery pack is malfunctioning and may need to be replaced.

## Monitoring the Charge in a Battery Pack

### Obtaining Accurate Charge Information

To increase the accuracy of all battery charge displays:

- Allow the battery pack to discharge to less than 10 percent of a full charge through normal use before charging it.
- Charge the battery pack fully. Even a new battery pack can display charge information inaccurately if it has not been fully charged.
- If a battery pack has not been used for one month or more, the battery pack may need to be calibrated.

### Displaying Charge Information

To display battery charge information on the screen, use the operating system Power Meter feature. To access Power Meter displays, select Start > Control Panel > Performance and Maintenance icon > Power Options icon > Power Meter tab.

Power Meter displays battery status in both percent and time:

- The percent indicates the amount of charge remaining in the battery pack.
- The time indicates the approximate running time remaining on the battery pack *if the battery pack continues to provide power at the current level*. For example, the time remaining will decrease if you start playing a DVD and will increase if you stop playing a DVD.

## Managing Low-Battery Conditions

The information in this section describes default alerts and system responses.


### Identifying Low-Battery Conditions

When the battery pack is the only power source for the notebook and drops to 10 percent of a full charge, the notebook has reached a *low-battery condition*. A text warning message appears on the screen.

If a low-battery condition is not resolved and the amount of charge remaining in the battery pack continues to drop, the notebook eventually enters a *critical low-battery condition*. Then, if the notebook is on or in Standby:

- If Hibernation is enabled, the system initiates Hibernation. Unsaved work may be lost.
- If Hibernation is disabled, the notebook remains briefly in Standby, then shuts down. The power/standby light turns off, and the notebook cannot save system memory to the hard drive.

### Resolving Low-Battery Conditions

 **CAUTION:** If the notebook has reached a critical low-battery condition and has begun to initiate Hibernation, do not restore power until Hibernation is complete. When Hibernation is complete, the power/standby light turns off.

*If external power is available*, connect the notebook to the external power source.

*If a charged battery pack is available*, shut down the notebook or initiate Hibernation. Insert a charged battery pack, then turn on the notebook.

*If no power source is available*, save your work. Then initiate Hibernation or shut down the notebook.



## Calibrating a Battery Pack

### When to Calibrate

Even if a battery pack is heavily used, it should not be necessary to calibrate it more than once a month. It is not necessary to calibrate a new battery pack before first use. Calibrate the battery pack under the following conditions:

- When battery charge displays seem inaccurate.
- When you observe a significant change in battery run time.
- When the battery pack has not been used for one month or more.

### How to Calibrate

To calibrate a battery pack, you must fully charge, fully discharge, then fully recharge the battery pack.

### Charging the Battery Pack

Charge the battery pack while the notebook is in use. To charge the battery pack:


1. Insert the battery pack into the notebook. For instructions, see “Replacing a Battery Pack” later in this chapter.
2. Connect the notebook to external power. (The battery light is on and amber as the battery pack charges.)
3. Leave the notebook connected to external power until the battery pack is fully charged. (The battery light turns green.)

### Discharging the Battery Pack

Before you begin the full discharge, disable Hibernation. To disable Hibernation, select Start > Control Panel > Performance and Maintenance > Power Options > Hibernate tab. Then clear the Enable Hibernation check box.

If you use the notebook occasionally during the discharge procedure and have set energy-saving timeouts, expect the following performance from your system during the discharge process:

- The monitor will not turn off automatically.
- Hard drive speed will not decrease automatically while the notebook is idle.
- System-initiated Standby will not occur.

 **CAUTION:** If you plan to leave the notebook unattended during discharge, save your work before starting the discharge procedure.

To fully discharge the battery pack:

1. Select the power icon on the taskbar or select Start > Control Panel > Performance and Maintenance icon > Power Options icon > Power Schemes tab.
2. Record all settings in the Plugged In column and all settings in the Running On Batteries column, so you can reset them after calibration.
3. Use the drop-down lists to set each item in both columns to Never.
4. Select the OK button.
5. Disconnect the notebook from the external power source, but do *not* turn off the notebook.
6. Run the notebook on battery power until the battery pack is fully discharged. When the battery pack is fully discharged, the battery light turns off and the notebook shuts down.

## Recharging the Battery Pack

1. Connect the notebook to external power and keep the notebook connected until the battery pack is fully recharged and the battery light turns green.

You can use the notebook while the battery pack is recharging, but the battery pack will charge faster if the notebook is turned off.

2. Select the Power icon on the taskbar or select Start > Control Panel > Performance and Maintenance icon > Power Options icon > Power Schemes tab.
3. Reenter the settings you recorded for the items in the Plugged In column and the Running on Batteries column.
4. Select the OK button.



**CAUTION:** After calibrating the battery pack, reenable Hibernation: select Start > Control Panel > Performance and Maintenance > Power Options > Hibernate tab, then select the Enable Hibernation check box.

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## Storing a Battery Pack

If the notebook will be unused and unplugged for more than 2 weeks, remove and store the battery pack.



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

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High temperatures, which may be present in parked cars or some workplaces, accelerate the self-discharge rate of a stored battery pack. To prolong the charge of a stored battery pack, place it in a location that is cool and dry.

To maintain the accuracy of battery charge displays, calibrate a battery pack that has been stored for one month or more before using it.

## Battery Conservation Settings and Procedures

Using the following battery conservation settings and procedures extends the run time of a battery pack.

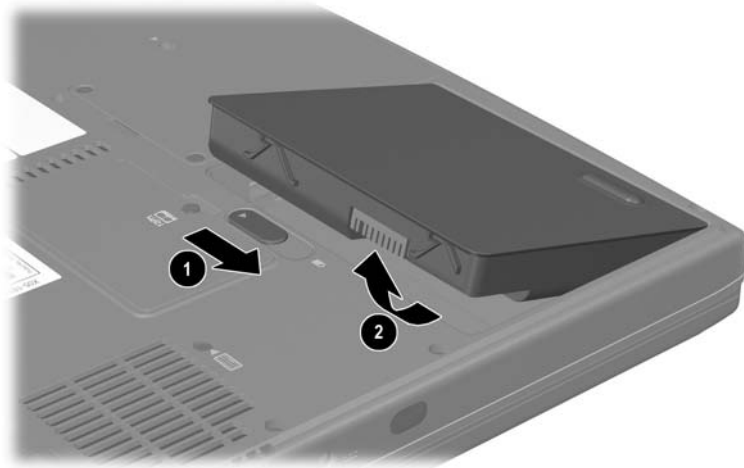
- Turn off wireless and local area network (LAN) connections and exit modem applications when you are not using them.
- Disconnect from the notebook any external devices that use power from the notebook. Battery run time is not affected by external devices that are plugged into an external power source.
- Stop or remove a PC Card you are not using.
- Disable or remove an SD (Secure Digital) Card or MMC (multimedia card) you are not using.
- Lower screen brightness. Screen brightness can be lowered by pressing the **Fn+F7** hotkeys.
- Lower system volume. Volume can be lowered with the decrease volume button.
- Turn off a device connected to the S-Video connector. A device connected to the S-Video connector can be turned off by using the **Fn+F4** hotkeys to switch the image from the S-Video device to the notebook display.
- If you leave your work, initiate Standby or Hibernation or shut down the notebook.
- Select a short wait time, 5 minutes or less, for the monitor timeout. To change monitor timeout settings, select Start > Control Panel > Performance and Maintenance icon > Power Options icon > Power Meter tab. Select a short wait time from the Turn Off Monitor drop-down list, then select OK.

## Replacing a Battery Pack

**CAUTION:** To prevent loss of work when removing a battery pack that is the only power source, initiate Hibernation or turn off the notebook before removing the battery pack.

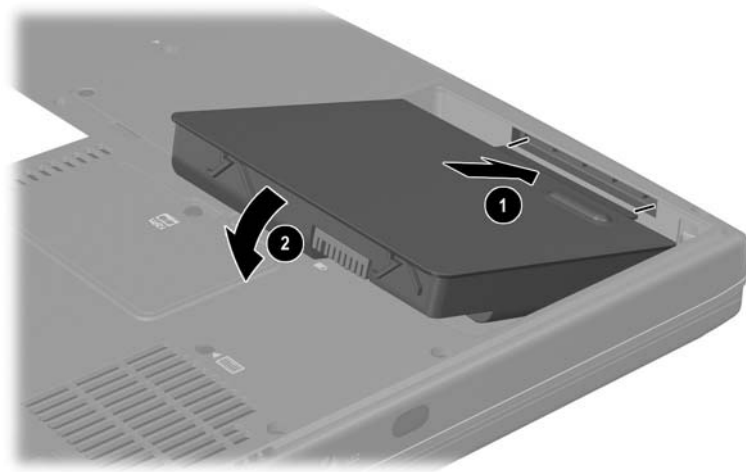
To replace the battery pack:

1. Turn the notebook underside up.
  - ❑ To remove a battery pack, slide the battery release latch **1**. (The battery pack tilts upward.) Then pull the battery pack out of the battery bay **2**.



*Removing a battery pack*

- ❑ To insert a battery pack, insert the alignment tab on the battery pack into the alignment slot on the notebook ❶, then tilt the battery pack downward until it snaps into place ❷.



*Inserting a battery pack*

2. To restore from Hibernation or to turn on the notebook, press the power button.

## Recycling or Disposing of a Used Battery Pack

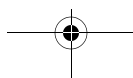
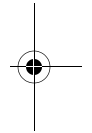
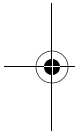


For information about recycling or disposing of a used battery pack, refer on the *Documentation Library CD* to the *Regulatory and Safety Notices* guide, “Battery Notice” section.



*Power*

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# 5

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## Drives and Drive Media

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## Understanding Drive and Drive Media Terms

*Hard drives* are for the permanent storage of data files and of software such as system files, applications, and drivers. A hard drive is sometimes called a *hard disk drive*.

*Diskette drives* support *diskettes*, which are used to store or transport data. The notebook can read or write to any diskette. A diskette drive is sometimes called a *floppy disk drive*.


*Optical drives* include CD and DVD drives. Optical drives support CDs and DVDs, often called *discs*, which are used to store or transport data and to play music and movies. DVDs have higher capacities than CDs. The notebook can read or write to optical drives as described in the following table.

<b>Optical Drive</b>	<b>Read</b>	<b>Write</b>
CD-ROM drive	Yes	No
DVD-ROM drive	Yes	No
CD-RW drive	Yes	Yes
DVD/CD-RW drive	Yes	Yes


A *drive designation* is a letter of the alphabet that the notebook uses to identify the drive. To display the drive designation of all the drives in the system, select Start > My Computer.

A *diskette* or *disc* that can be inserted or removed from a drive is referred to as a *drive medium*. For example, the term *drive media* includes diskettes, CDs, and DVDs.

## Caring for Drives and Drive Media

 **CAUTION:** To prevent damage to the notebook or a drive and loss of work:

- Do not remove the internal hard drive except for repair or replacement. For instructions, see the "Replacing the Internal Hard Drive" section later in this chapter.
- Electrostatic discharge can damage electronic components. To prevent electrostatic damage to the notebook or a drive, follow these 2 precautions: (1) Discharge yourself from static electricity before handling a drive by touching a grounded metal object and (2) Avoid touching the connectors on a drive. For more information about preventing electrostatic damage, refer on the *Documentation Library* CD to the *Regulatory and Safety Notices* guide, "Electrostatic Discharge" section.
- Excessive force can damage drive connectors. When you insert a drive, use only enough force to seat the drive.
- Handle a drive carefully. Do not drop it.
- Avoid exposing a hard drive or a diskette to devices with magnetic fields. Products with magnetic fields include video and audio tape erasure products, monitors, and speakers. Security devices with magnetic fields include airport walk-through devices and security wands. The airport security devices that check carry-on luggage, usually while it is placed on a conveyor belt, use x-rays instead of magnetism and will not damage a hard drive or a diskette.
- Do not spray a drive with cleaners.
- Avoid exposing a drive to liquids or temperature extremes.
- If you mail a drive, ship it in packaging that protects it from shock, vibration, extreme temperatures, and high humidity. Label the package "FRAGILE."

 **CAUTION:** To prevent damage to drive media:

- Do not open the metal shutter of a diskette or touch the disk within the diskette case.
- Do not expose a diskette to a strong magnetic field, such as the security field used by a walk-through security device or a handheld security wand.
- Clean a CD or DVD only with a disc cleaning kit, available from most electronics retailers.

## Adding a Drive to the System

The internal hard drive and optical drive are standard features of the notebook. The type of optical drive varies by notebook model.

An optional drive can be added to the system by connecting it, as instructed in the drive documentation, to one of the USB (universal serial bus) connectors or to the 1394 connector. Hard drive capacity can also be added with a microdrive PC Card. An SD Card or MMC (multimedia card) can provide additional data storage.

## Using the IDE Drive Light

The IDE (Integrated Drive Electronics) light turns on when the internal hard drive or optical drive is being accessed.

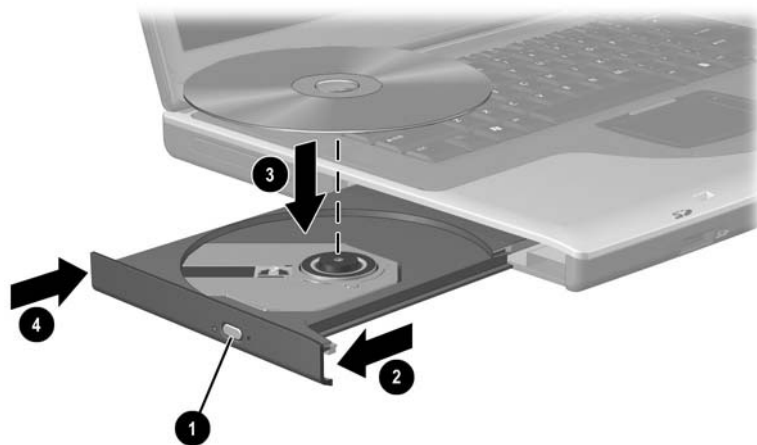


*Identifying the IDE drive light*

## Inserting or Removing a Disc

### Inserting a Disc

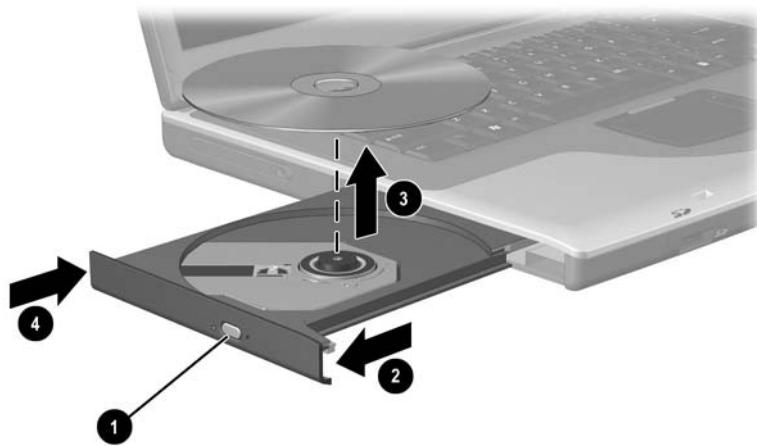
1. Turn on the notebook.
2. Press the release button **1** on the drive bezel to release the media tray, then pull the tray outward until it is fully extended **2**.
3. Position a CD or one-sided DVD over the tray, label side up.
4. Gently press the center of the disc onto the tray spindle **3** until the disc snaps into place. Handle the disc by the edges, not the flat surfaces. (If the media tray is not fully extended, tilt the disc to position it over the tray spindle, then press it downward into position.)
5. Close the media tray **4**.



*Inserting a disc into the optical drive*

## Removing a Disc (With Power)

1. Turn on the notebook.
2. Press the release button **1** on the drive bezel to release the media tray, then pull the tray outward until it is fully extended **2**.
3. Remove the disc from the tray by gently pushing down on the spindle while pulling up on the outer edges of the disc **3**. Handle the disc by the edges, not the flat surfaces. If the media tray is not fully extended, tilt the disc as you remove it.
4. Close the media tray **4**.
5. Place the disc in a protective case.

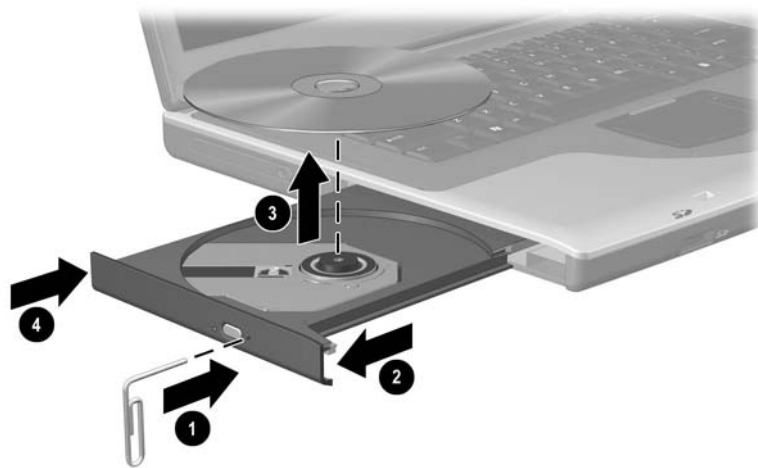


*Removing a disc from the optical drive when power is available*

## Removing a Disc (Without Power)

If the notebook is turned off or if no power is available, the release button on the optical drive will not work. To remove a disc from an optical drive without using the release button:

1. Insert the end of a small object like a paper clip into the release access ❶ in the front bezel of the drive.
2. Press gently on the paper clip until the media tray is released, then pull the tray outward until it is fully extended ❷.
3. Remove the disc from the tray by gently pushing down on the spindle while pulling up on the outer edges of the disc ❸. Handle the disc by the edges, not the flat surfaces. If the media tray is not fully extended, tilt the disc as you remove it.
4. Close the media tray ❹.
5. Place the disc in a protective case.



*Removing a disc from the optical drive when power is not available*

## Playing a Disc

You can play a CD in a CD drive or a DVD drive. You can play a DVD only in a DVD drive.

The information in this section applies to most optical drives and most disc software. For information about specific disc software, including Windows Media Player, WinDVD, and Easy CD Creator, see the “Using Multimedia Software” section in Chapter 6.


## Displaying Media Contents


When you insert a CD or DVD into the system, the notebook can play the medium, display its contents, take no action, or display a response prompt on the screen. You can choose how the notebook responds to the insertion of a medium by using the operating system AutoPlay feature.

The notebook responds to the following procedures at most AutoPlay settings:

- To prevent an audio CD from opening when AutoPlay is enabled on the drive containing it, press the **shift** key as you insert the CD.
- To display the contents of a drive medium when the contents are not displayed by AutoPlay:
  1. Insert the medium into the drive.
  2. Select Start > Run, then type:  
explorer x:  
(where x = the drive designation of the drive containing the medium).
  3. Select the OK button.

## Protecting Playback

 **CAUTION:** Inserting or removing any device while running any multimedia application may pause or stop the play.

 **CAUTION:** Initiating Standby or Hibernation while playing a drive medium may stop the play or diminish the quality of the play.

If Standby or Hibernation is accidentally initiated during playback:

- If you see the warning message “Putting the computer into Hibernation or Standby may stop the playback. Do you want to continue?” select No. (Audio and video may resume or you may need to restart the drive medium.)
- If Standby or Hibernation initiates and no warning message is displayed, resume from Hibernation or Standby by briefly pressing the power button, then restart the medium.

## Observing the Copyright Warning

It is a criminal offense, under applicable copyright laws, to make unauthorized copies of copyright-protected material, including computer programs, films, broadcasts, and sound recordings. This notebook should not be used for such purposes.



## Setting the Boot Order

By default, the notebook starts up from the internal hard drive. You can set the notebook to start up from any bootable CD or DVD in the optical drive. A bootable CD or DVD contains files needed by the notebook to start up and operate properly. On some models, you can also start up from a drive connected to the notebook by USB.

Startup preferences are set in the Setup utility. The Setup utility is not a Windows utility and does not support the TouchPad. For information about using the Setup utility, see the “Using the Setup Utility” section in Chapter 9.

## Replacing the Internal Hard Drive

The hard drive in the hard drive bay is the internal hard drive. Remove the internal hard drive only for repair or replacement.

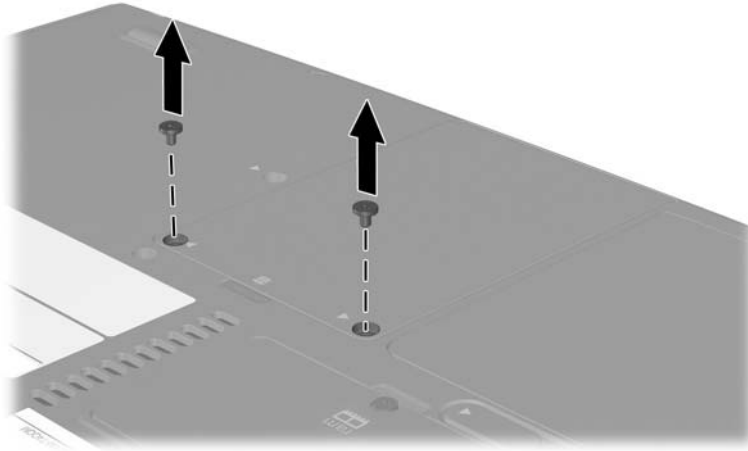


**CAUTION:** To prevent an unresponsive system and loss of work, do not begin this procedure until you have:

- Saved your work, closed all open applications, and shut down the notebook.
- Disconnected the notebook from external power and removed the battery pack.

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1. Save your work and close all open applications.
  2. Shut down the notebook and close the display.
  3. Disconnect the notebook from external power.
  4. Remove the battery pack.

5. Turn the notebook underside up.
6. Remove the 2 hard drive retaining screws.

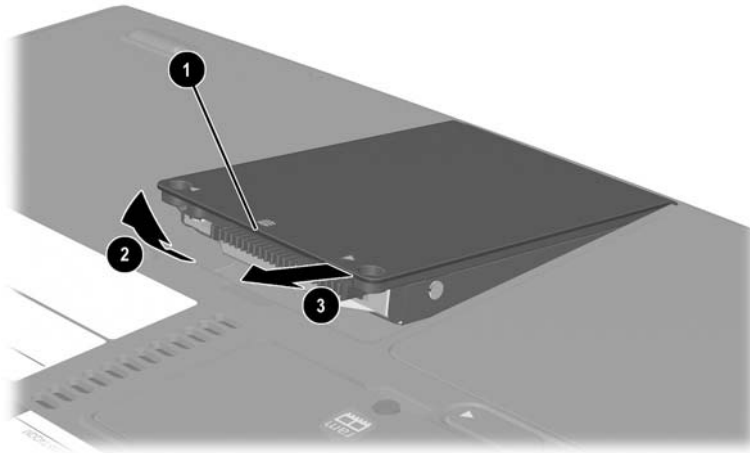


*Removing the hard drive retaining screws*

## Drives and Drive Media

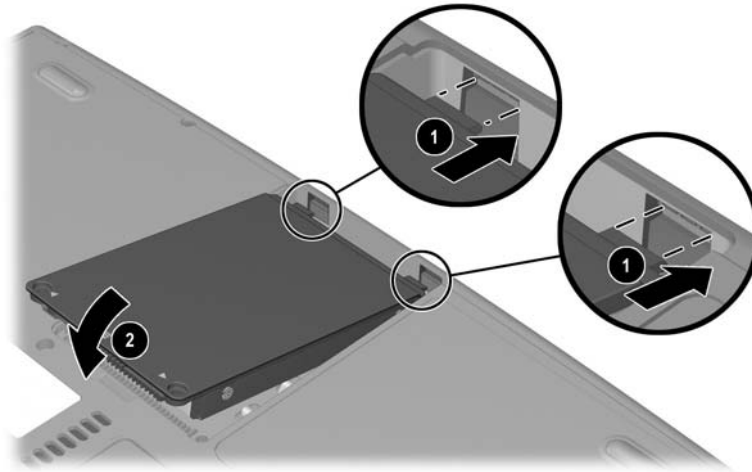
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7. To remove a hard drive, grasp the hard drive assembly (the hard drive, the hard drive cover, and the hard drive bracket) using the hard drive recess **1**. Tilt the hard drive assembly upward **2**, then pull the assembly from the hard drive bay **3**.



*Removing an internal hard drive from the hard drive bay*

8. To insert a hard drive, insert the 2 alignment tabs on the hard drive cover into the 2 alignment slots on the hard drive bay **1**, then tilt the hard drive assembly downward into the hard drive bay until it is seated **2**.

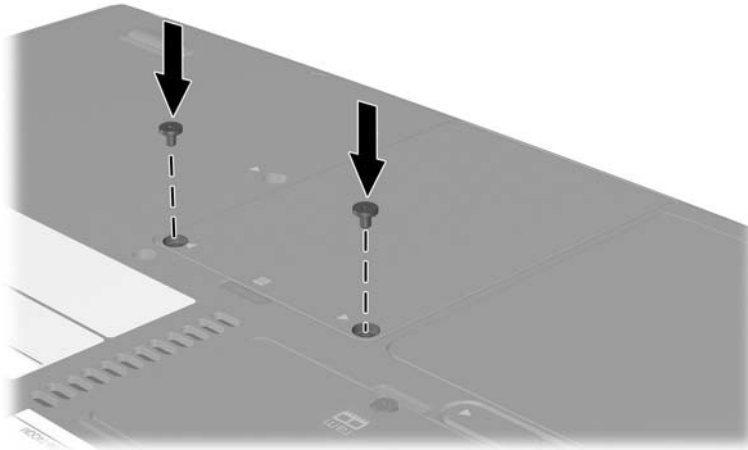


*Inserting an internal hard drive into the hard drive bay*

*Drives and Drive Media*

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9. If you have inserted a hard drive, reinsert the 2 hard drive retaining screws. (If you removed but did not replace a hard drive, put the retaining screws in a safe place.)



*Replacing the hard drive retaining screw*

# 6

## Multimedia

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## Adjusting Volume

Volume can be adjusted by using the audio buttons on the notebook or by using operating system or application volume control software. The mute button overrides all software volume settings.

To adjust volume using the audio buttons:

- To increase volume, press the increase volume button ❶.
- To decrease volume, press the decrease volume button ❷.
- To mute or restore volume, press the mute button ❸.

When volume is muted, the mute light ❹ turns on. When volume is restored, the mute light turns off.



Identifying the audio buttons and mute light

## Using the Internal Speakers

The internal speakers play sound in stereo from applications, the operating system, games, drive media, the Internet, and other sources.

If an external device, such as a headset, is connected to the audio-out jack, the internal speakers are disabled.



*Identifying the internal speakers*

## Connecting an Audio Device

**WARNING:** To reduce the risk of personal injury, adjust the volume before putting on headphones or a headset.

**CAUTION:** To prevent possible damage to an external device, do not plug a monaural (single sound channel) plug into the audio-out jack.



## Multimedia

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The notebook has 2 audio jacks:

- The microphone jack ❶ connects an optional monaural or stereo microphone. If a monaural microphone is connected, the same information is recorded on both channels.
- The audio-out jack ❷, sometimes called a *line-out* jack, connects headphones or powered external stereo speakers. The audio-out jack is also used to connect the audio functions of an audio/video device such as a television or VCR. When you connect a device to the audio-out jack:
  - ❑ Use only a 3.5-mm plug.
  - ❑ The internal speakers are disabled.



*Identifying the audio jacks*

## Connecting an S-Video Device

### Connecting the Audio

The S-Video jack supports video signals only.

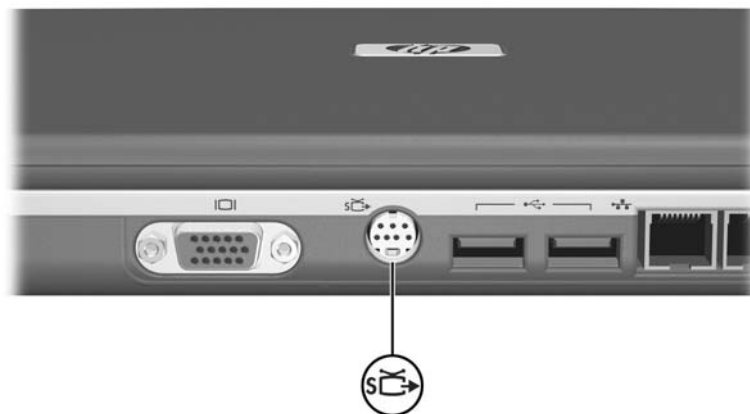
If you are setting up a configuration that combines audio and video functions, such as playing a DVD movie on your notebook and displaying it on your television, you will need a standard 3.5-mm audio cable available from most computer or electronics retailers.

Plug the stereo end of the audio cable into the notebook audio-out jack. Plug the other end of the cable into the audio *input* jack on the external device.

### Connecting the Video

To transmit video signals through the S-Video jack, you will need a standard S-Video cable available from most computer or electronics retailers.

Plug either end of the S-Video cable into the notebook S-Video jack. Plug the other end of the cable into the S-Video *input* jack on the external device.



Identifying the S-Video jack

## Turning a Video Device On and Off

To turn on a video device that is connected to the notebook, start or restart the notebook. Or, repeatedly press the **Fn+F4** hotkeys to switch the image. Pressing the **Fn+F4** hotkeys switches the image among the notebook display, any connected displays, and simultaneous display on the notebook and all connected displays.

- Switching the image to a connected video device turns on the video device.
- Switching the image to the notebook display only turns off the video device.

## Changing the Color Television Format

Color television formats are modes by which television video signals are sent and received. To send signals between the notebook and a television, both the notebook and the television must be using the same color television format.

The NTSC format is common in the United States, Canada, Japan, and South Korea. The PAL format is common in Europe, China, Russia, and Africa, and the PAL-M format is common in Brazil. Other South American and Central American countries may use NTSC, PAL, or PAL-M.

Region-specific formats are set at the factory for most notebooks, but the region setting can be changed on any notebook.

Color television format settings are changed in the Setup utility. The Setup utility is not a Windows utility and does not support the TouchPad. For information about using the Setup utility, see the “Using the Setup Utility” section in Chapter 9.

## Using Multimedia Software

### Using Windows Media Player

Use Windows Media Player primarily for playing audio CDs. Although video CDs can be played using Windows Media Player, InterVideo WinDVD provides higher quality playback.

To open Windows Media Player, insert a CD into the optical drive, then close the tray. Wait several seconds. If Windows Media Player does not open, select Start > All Programs > Windows Media Player.

To play or stop the CD, use the on-screen Play button or Stop button, or use the media hotkeys described in the “Hotkeys” section of Chapter 3.

### Using WinDVD

WinDVD is an application that enables you to play DVD movies or video CDs. If WinDVD is included with your notebook, the application is preinstalled.

### Playing a DVD or Video CD

For best playback quality, save and close all files and software unrelated to playing the DVD or video CD.

If a DVD displays a Playback Of Content From This Region Is Not Permitted error message, stop the DVD, change the region setting, then restart the DVD. For information about changing the region setting, see “Managing DVD Region Settings” next in this chapter.

To play a DVD or video CD:

1. Insert the DVD or video CD into the optical drive.
2. Assign WinDVD to play the video:
  - ❑ If the Microsoft Windows XP AppPicker window is displayed, select Play Video By Using WinDVD.

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## Multimedia

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- ❑ If the Microsoft Windows XP AppPicker window is not displayed, select Start > All Programs > InterVideo WinDVD > InterVideo WinDVD.


3. Follow the instructions on the screen.

### Managing DVD Region Settings

Most DVDs that contain copyrighted files also contain region codes. The region codes help protect copyrights internationally.

You can play a DVD containing a region code only if the region code on the DVD matches the region setting on your DVD drive.

If the region code on a DVD does not match the region setting on your drive, a Playback Of Content From This Region Is Not Permitted message is displayed when you insert the DVD. To play the DVD, you must change the region setting on your DVD drive.

 **CAUTION:** The region setting on your DVD drive can be changed only 5 times.

- The region setting you select the fifth time becomes the permanent region setting on the drive.
- The number of allowable region changes remaining on the drive is displayed in the Remaining Times Until Permanent field in the WinDVD window. The number in the field includes the fifth and permanent change.

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To change the region setting on drive media:

1. Insert the DVD into the optical drive.
2. If WinDVD does not open after a short pause, select Start > All Programs > InterVideo WinDVD > InterVideo WinDVD.
3. Select the Properties icon in the lower right corner of the window.
4. Select the General tab.
5. Select the button for the region.
6. Select the OK button.

## Using Easy CD Creator

Easy CD Creator is a data transfer utility that enables you to create or duplicate optical drive media. The utility is installed on select models and can be used with any CD or DVD supported by any optical drive in the system.

When Easy CD Creator is installed, a “Burn CD & DVDs with Roxio” icon is displayed at Start > All Programs > Start Menu.

## Understanding Easy CD Creator Features

Easy CD Creator includes 2 applications: DirectCD and Easy CD Creator. The Easy CD Creator application includes CD Copier.

- Use DirectCD with Windows Explorer to drag-and-drop data files between your hard drive and a CD or DVD or between your hard drive and a network drive. DirectCD is often used to back up data files or to share them with other people. Although DirectCD can be used with most application data files, including Microsoft Office data files, it cannot be used with audio files such as MP3 files.
- Use Easy CD Creator, which includes CD Copier, to copy either data files such as Microsoft Office files, or audio files such as MP3 files, to a CD or DVD.
  - Use Easy CD Creator to copy individual audio files to a CD or DVD, for example, to create a CD containing only your favorites.
  - Use CD Copier to duplicate a CD or DVD.

## Multimedia

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### Preparing to Use Easy CD Creator

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**CAUTION:** To prevent loss of work and damage to a CD or DVD:

- Before writing to a CD or DVD, connect the notebook to a reliable external power source. Do not write to a CD or DVD while the notebook is running on battery power.
  - Before writing to a CD or DVD, close all open applications (including screen savers and antivirus software) except Easy CD Creator Basic.
  - Do not copy directly from a CD or DVD to another CD or DVD or from a network drive to a CD or DVD. Instead, copy from a CD, DVD, or a network drive to your hard drive, then copy from your hard drive to the CD or DVD.
  - Do not type on the notebook keyboard or move the notebook while the notebook is writing to a CD or DVD. The write process is sensitive to vibration.
- 

### Choosing Recording Media

HP recommends using high-quality media that correspond to the maximum speed of the optical drive. The notebook can write or copy to CDs and DVDs which provide one-time, non-erasable recording or to CDs and DVDs which provide erasable recording.

### Responding to the UDF Prompt

The first time you insert a CD or DVD into an optical drive, you may be prompted to install Universal Disk Format (UDF) Reader. When UDF Reader is installed, a CD or DVD created with DirectCD on your notebook can be used in another computer on which DirectCD is not installed.



Even if UDF Reader is installed on your notebook, a CD or DVD created with DirectCD software can be used in a compatible optical drive only if you select the Rearrange the Files option as you create the CD or DVD.

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## Formatting Recording Media

You can purchase optical drive media that either are or are not formatted for DirectCD.

- To use DirectCD, use a CD or DVD formatted for DirectCD.
- To use Easy CD Creator or CD Copier, do not use a CD or DVD formatted for DirectCD.

To erase DirectCD formatting from a CD or DVD so the CD or DVD can be used with Easy CD Creator or CD Copier:

1. Insert the CD or DVD into the optical drive.
2. Select Start > All Programs > Easy CD Creator Basic > CD-RW Eraser.
3. Select the Erase button.
4. Select the OK button.

## Selecting Easy CD Creator Settings

To use DirectCD, Easy CD Creator, or CD Copier, the default settings shown in the following table must be selected. These settings are compatible; for example, the settings for DirectCD do not conflict with the settings for CD Copier.

Application	Required Settings
DirectCD	Enable Auto Insert Notification
Easy CD Creator	Disable Disk-at-Once and Enable Track-at-Once
CD Copier	Disable Disk-at-Once



## Multimedia

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- Auto Insert Notification settings are selected through the operating system.
- To select Disk-at-once settings:
  1. Select Start > All Programs > Roxio Easy CD Creator 5 > Applications > CD Copier.
  2. Select the Advanced tab.
  3. Clear the Disk-at-Once check box.
  4. Select the Set as Default button.
- To select Track-at-once settings:
  1. Select Start > All Programs > Roxio Easy CD Creator 5.
  2. The fourth item on the status bar at the lower edge of the CD Project window indicates whether Track-at-Once or Disk-at-Once is selected.
    - ◆ If Track-at-Once is displayed on the status bar, Track-at-Once is already enabled.
    - ◆ If Disk-at-Once is selected, double-click Disk-at-Once to enable Track-at-Once.

# 7

## Communications

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## Modem

All notebook models include an RJ-11 telephone jack, and some models ship with a preinstalled modem. A modem cable with RJ-11 connectors at each end is included with select models.

You need a modem cable to connect a modem. If your model did not include a modem cable, a modem cable can be purchased from most computer or electronics retailers.

If you purchased a notebook with an internal modem in a country where RJ-11 telephone jacks are not standard, a country-specific modem adapter is included with the notebook.

An internal modem supports:


- All applications supported by the operating system.
- V.34 ITU (International Telecommunications Union) analog modem recommendations for speeds up to 33.6 Kbps.
- V.44 data compression algorithm.
- V.90/V.92 ITU digital/analog modem pair recommendations for speeds up to 56 Kbps.


The digital/analog modem pair rates allow faster downloads only from compliant digital sources. Maximum achievable download rates are currently unknown, may not reach 56 Kbps, and will vary with line conditions. Maximum achievable upload rates are limited to 48 Kbps, may not reach 48 Kbps, and will vary with line conditions.

## Connecting the Modem

### Selecting Connectors

A modem must be connected to an analog telephone line.

 **WARNING:** To reduce the risk of electric shock, fire, or damage to the equipment, do not plug a telephone cable into the RJ-45 network jack.

 **CAUTION:** Jacks for digital PBX systems may resemble RJ-11 telephone jacks, but are not compatible with the modem.

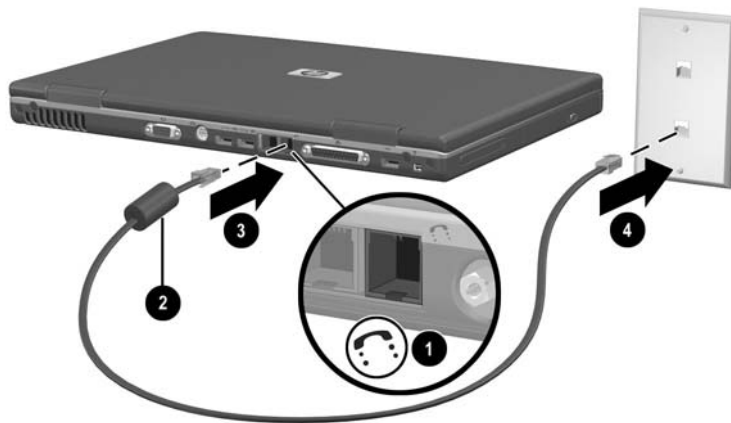
Jacks for analog telephone lines and procedures for connecting the modem vary by country:

- If you are connecting a modem in a country where RJ-11 telephone jacks are standard, follow the instructions in “Connecting a Modem to an RJ-11 Jack” next in this section.
- If you are connecting a modem in a country where RJ-11 telephone jacks are not standard, a modem adapter specific to the country in which you purchased the notebook is included with the notebook. Follow the instructions in “Connecting a Modem with an Adapter” later in this section.
- If you plan to use a modem outside the country in which you purchased the notebook, you can purchase adapters specific for the countries on your itinerary from most computer or electronics retailers. For information about using country-specific software configurations, see “Using the Modem While Traveling Internationally” later in this section.

## Connecting a Modem to an RJ-11 Jack

To connect a modem to an analog telephone line that has an RJ-11 telephone jack:

1. Identify the RJ-11 **1** jack on the notebook.
2. If your modem cable has noise suppression circuitry **2**, which prevents interference with TV and radio reception, orient the circuitry end of the cable toward the notebook.
3. Plug the modem cable into the RJ-11 telephone jack (not the RJ-45 network jack) on the notebook **3**.
4. Plug the other end of the modem cable into an RJ-11 telephone jack (not into an RJ-45 network jack or a PBX jack) **4**.



*Connecting a modem to an RJ-11 telephone wall jack (Telephone wall jacks vary in appearance by region and country.)*

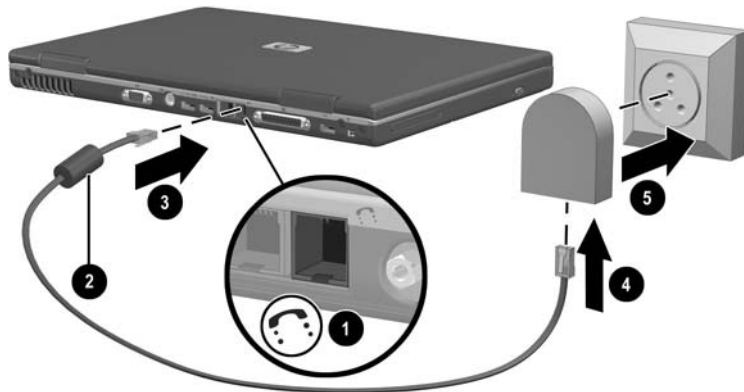


**WARNING:** To reduce the risk of electric shock, disconnect the modem from the telephone network before accessing an internal compartment of the notebook. Internal compartments include the memory compartment and the battery and hard drive bays.

## Connecting a Modem with an Adapter

To connect a modem to an analog telephone line that does not have an RJ-11 telephone jack:

1. Identify the RJ-11 jack **1** on the notebook.
2. If the modem cable has noise suppression circuitry **2**, which prevents interference with TV and radio reception, orient the circuitry end of the cable toward the notebook.
3. Plug the modem cable into the RJ-11 telephone jack (not the RJ-45 network jack) on the notebook **3**.
4. Plug the modem cable into the country-specific modem adapter **4**.
5. Plug the country-specific modem adapter into the telephone jack **5**.



*Connecting a modem with a modem adapter (Telephone wall jacks vary in appearance by region and country.)*



**WARNING:** To reduce the risk of electric shock, disconnect the modem from the telephone network before accessing an internal compartment of the notebook. Internal compartments include the memory compartment and the battery and hard drive bays.


## Using the Modem While Traveling Internationally


An internal modem is configured to function in, and meet the operating standards of, the country in which you purchased the notebook. To use an internal modem in other countries, you must add country-specific modem configurations.

### Displaying the Current Country Configuration

To display the current country configuration, select Start > Control Panel > Date, Time, Language, and Regional Options category > Regional and Language Options icon > Regional Options tab. The current country configuration of the modem is displayed in the Location panel.

### Adding a Country Configuration

 **CAUTION:** To prevent the loss of your current country configuration, do not delete or replace your current country configuration. Additional country configurations can be added without deleting the current configuration.

 **CAUTION:** To prevent modem malfunction and violation of telecommunications regulations and laws, use the modem only with the country configuration for the country in which you are using the modem.

To add a country configuration:

1. Select Start > Control Panel > Network and Internet Connections category.
2. From the See Also menu in the left column of the window, select Phone and Modem Options > Dialing Rules tab.
3. Select the New button, then type a name for the new location in the Location Name field.

4. Select a country or region for the new location from the Country/Region list.

If you select a country or region that is not supported by the modem, the country configuration defaults to USA or UK.

5. Select the OK button > OK button.

## Solving Travel Connection Problems

If you experience connection problems while using a modem outside the country in which you purchased the notebook, the following suggestions may be helpful.

Before changing any settings, you may want to write down your current settings so you can quickly replace those settings when you return home.

### Check the Line

A modem requires an analog, not a digital, telephone line. A line described as a PBX line is usually a digital line. A telephone line described as a data line, fax machine line, modem line, or standard telephone line is probably an analog line.

### Check the Dialing Mode

Dial a few digits on the telephone, then listen for clicks or tones. Clicks indicate that the telephone line supports pulse dialing. Tones indicate that the telephone line supports tone dialing. To set an internal modem to support a dialing mode:

1. Select Start > Control Panel > Network and Internet Connections category.
2. From the See Also menu in the left column of the window, select Phone and Modem Options > Dialing Rules tab.
3. Select your location, then select the Edit button.
4. Select the Tone or Pulse radio button.
5. Select the OK button > OK button.



## Check the Telephone Number

Dial the telephone number on the telephone, verify that the remote modem is answering, then hang up.

## Check the Dial Tone

If a modem receives a dial tone it does not recognize, the modem will not dial and will display a No Dial Tone error message.

- To set the modem to ignore all dial tones before dialing:
  1. Select Start > Control Panel > Network and Internet Connections category.
  2. From the See Also menu in the left column of the window, select Phone and Modem Options > Modems tab.
  3. Select your modem > Properties button > Modem tab.
  4. Clear the Wait For Dial Tone Before Dialing check box.
  5. Select the OK button > OK button.
- If you continue to receive the No Dial Tone error message after clearing the check box:
  1. Select Start > Control Panel > Network and Internet Connections category.
  2. From the See Also menu in the left column of the Network and Internet Connections window, select Phone and Modem Options > Dialing Rules tab.
  3. Select your location, then select the Edit button.
  4. Select your location from the Country/Region list.

If you select a country or region that is not supported by the modem, the country configuration defaults to USA or UK.
  5. Select the OK button.
  6. In the Phone and Modem Options window, select the Modems tab.

7. Select your modem > Properties button > Modem tab.
8. Clear the Wait For Dial Tone Before Dialing check box.
9. Select the OK button > OK button.

## Accessing Communication Software

To access preinstalled modem software, including software for terminal emulation and data transfer, select Start > All Programs > Accessories > Communications, then select an application, wizard, or utility.

## Finding AT Command Information

It is not necessary to use AT commands with most modem software. If you prefer to use AT commands, refer on the *Documentation Library* CD to:

- *Modem Commands Guidelines (Advanced Users Only)* for information about accessing HyperTerminal, identifying the modem model in your notebook, and using AT commands.
- The *Lucent/Agere Command Set (Advanced Users Only)* guide for the AT commands supported by a Lucent/Agere modem. If your notebook shipped with an internal modem, that modem supports the Lucent/Agere command set. For command updates and supplementary information about your Lucent/Agere modem, visit:

<http://www.agere.com>

The Lucent/Agere command set guide is provided on the *Documentation Library* CD in English only.

## **Network**

All notebook models ship with an RJ-45 network jack. A network cable with RJ-45 connectors at each end is included with select models.

The notebook can be connected to a network whether or not the internal modem is connected to a telephone line.

If your notebook is connected to a network, you may want to confer with your network administrator before changing network settings.

The notebook supports network speeds up to 10 Mbps when connected to a 10BaseT network and 100 Mbps when connected to a 100BaseTX network.