




## Using the Sleep Power State

Rather than shutting down your portable computer, use the Sleep power state to conserve power. Sleep automatically saves your work to your hard drive, and then returns you to your previous work session without restarting your computer.

 **NOTICE:** If your computer loses AC and battery power while in Sleep state, it may lose data.

To enter Sleep state:


- Click Start  →  → Sleep.  
or
- Depending on how you set the power management options in the Windows Power Options or Dell QuickSet, use one of the following methods:
  - Press the power button.
  - Close the display.
  - Press <Fn><Esc>.

To exit Sleep state, press the power button.

## Charging the Battery

When you connect the computer to an electrical outlet or install a battery while the computer is connected to an electrical outlet, the computer checks the battery charge and temperature. If necessary, the AC adapter then charges the battery and maintains the battery charge.

If the battery is hot from being used in your computer or being in a hot environment, the battery may not charge when you connect the computer to an electrical outlet.

The battery is too hot to start charging if the battery light  flashes alternately blue and amber. Disconnect the computer from the electrical outlet and allow the computer and the battery to cool to room temperature, then connect the computer to an electrical outlet to continue charging the battery.

For more information about resolving problems with a battery, see "Power Problems" on page 111.

# Replacing the Battery

**⚠ CAUTION:** Using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with a compatible battery purchased from Dell. The battery is designed to work with your Dell computer. Do not use batteries from other computers with your computer.

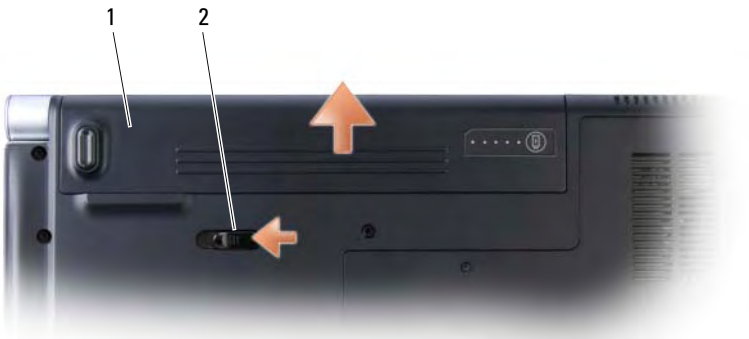
**⚠ CAUTION:** Before performing these procedures, turn off the computer, disconnect the AC adapter from the electrical outlet and the computer, disconnect the modem from the wall connector and the computer, and remove any other external cables from the computer.

**➡ NOTICE:** You must remove all external cables from the computer to avoid possible connector damage.

**➡ NOTICE:** If you choose to replace the battery with the computer in standby mode, you have up to 1 minute to complete the battery replacement before the computer shuts down and loses any unsaved data.

To remove the battery:

- 1 Ensure that the computer is turned off.
- 2 Slide the battery-bay latch release on the bottom of the computer, and then remove the battery from the bay.



1 battery      2 battery release latch

To replace the battery, follow the removal procedure in reverse order.

## Storing a Battery

Remove the battery when you store your computer for an extended period of time. A battery discharges during prolonged storage. After a long storage period, recharge the battery fully (see "Charging the Battery" on page 49) before you use it.



# Using Multimedia

## Playing Media


➔ **NOTICE:** Do not move the computer while playing media.

- 1 Press the eject button located above the keyboard on the center-control cover.
- 2 Slide the disc, label side up, in the drive opening.











1 drive opening

To format media for storing or copying data, see the media software that came with your computer.

 **NOTE:** Ensure that you follow all copyright laws when copying media.

A CD player includes the following basic buttons:












---

	Play
	Move backward within the current track
	Pause
	Move forward within the current track
	Stop
	Go to the previous track
	Eject
	Go to the next track

---

A DVD player includes the following basic buttons:

---

	Stop
	Restart the current chapter
	Play
	Fast forward
	Pause
	Fast reverse
	Advance a single frame while in pause mode
	Go to the next title or chapter
	Continuously play the current title or chapter
	Go to the previous title or chapter
	Eject


---

For more information on playing media, click **Help** on the media player (if available).

## Playing Media Using Dell Travel Remote Control

The Dell Travel Remote Control is designed to control Dell Media Direct and Windows Vista™ Media Center. It can work only with specified computers. For more details, refer to the Dell Support website at [support.dell.com](http://support.dell.com).


To play media using Dell Travel Remote Control:


- 1 Install the CR2106 coin-cell battery into your remote control.
- 2 Launch Windows Vista Media Center from **Start**  → **Programs**.
- 3 Use the remote control buttons to play media.



- |    |                      |    |              |
|----|----------------------|----|--------------|
| 1  | Infrared Transmitter | 2  | Page Up      |
| 3  | Page Down            | 4  | Arrow Up     |
| 5  | OK/Enter/Select      | 6  | Arrow Right  |
| 7  | Arrow Down           | 8  | Play/Pause   |
| 9  | Forward              | 10 | Skip Forward |
| 11 | Stop                 | 12 | Skip Back    |
| 13 | Reverse              | 14 | Back         |
| 15 | Arrow Left           | 16 | Mute         |
| 17 | Volume Down          | 18 | Volume Up    |

# Copying CD, DVD, and Blu-ray Disc™ (BD) Media

 **NOTE:** Ensure that you observe all copyright laws while copying media.


 **NOTE:** The types of optical drives offered by Dell may vary by country.


This section applies only to computers that have a DVD+/-RW, Combo, or BD-RE drive.


The following instructions explain how to make an exact copy of a CD, DVD or BD using Roxio Creator. You can also use Roxio Creator for other purposes, such as creating music CDs from audio files stored on your computer or backing up important data. For help, open Roxio Creator, and then press <F1>.


The DVD drives and BD drives installed in Dell computers do not support HD-DVD media. For a list of supported media formats, see "Using Blank CD, DVD, and BD Media" on page 57.

## How to Copy a CD, DVD or BD

 **NOTE:** Most commercial DVDs and BDs have copyright protection and cannot be copied using Roxio Creator Plus.

 **NOTE:** BD media can only be copied to other BD media.

 **NOTE:** Copying a BD-R to BD-RE does not produce an exact copy.

- 1 Click Start  → All Programs → Roxio Creator → Projects → Copy.
- 2 Under the **Copy** tab, click **Copy Disc**.
- 3 To copy the CD, DVD or BD:
  - *If you have one optical drive*, insert the source disc into the drive, ensure that the settings are correct, and then click the **Copy Disc** button to continue. The computer reads your source disc and copies the data to a temporary folder on your computer hard drive.  
When prompted, insert a blank disc into the drive and click **OK**.
  - *If you have two optical drives*, select the drive into which you have inserted your source disc and click the **Copy Disc** button to continue. The computer copies the data from the source disc to the blank disc.

Once you have finished copying the source disc, the disc that you have created automatically ejects.



## Using Blank CD, DVD, and BD Media

DVD-writable drives can write to both CD and DVD recording media.

BD-writable drives can write to CD, DVD and BD recording media.

Use blank CD-Rs to record music or permanently store data files. After creating a CD-R, you cannot write to that CD-R again (see the Sonic documentation for more information). Use a blank CD-RW if you plan to erase, rewrite, or update information on that disc later.

Blank DVD+/-R or BD-R media can be used to permanently store large amounts of information. After you create a DVD+/-R or BD-R, you may not be able to write to that disc again if the disc is *finalized* or *closed* during the final stage of the disc creation process. Use blank DVD+/-RW or BD-RE media if you plan to erase, rewrite, or update information on that disc later.

### CD-Writable/DVD-ROM Drives

Media Type	Read	Write	Rewritable
CD-R	Yes	Yes	No
CD-RW	Yes	Yes	Yes

### DVD-Writable Drives and Combo Drives

Media Type	Read	Write	Rewritable
CD-R	Yes	Yes	No
CD-RW	Yes	Yes	Yes
DVD+R	Yes	Yes	No
DVD-R	Yes	Yes	No
DVD+RW	Yes	Yes	Yes
DVD-RW	Yes	Yes	Yes
DVD+R DL	Yes	Yes	No
DVD-R DL	Yes	No	No

## Blu-ray Drives

Media Type	Read	Write	Rewritable
CD-R	Yes	Yes	No
CD-RW	Yes	Yes	Yes
DVD+R	Yes	Yes	No
DVD-R	Yes	Yes	No
DVD+RW	Yes	Yes	Yes
DVD-RW	Yes	Yes	Yes
DVD+R DL	Yes	Yes	No
DVD-R DL	Yes	No	No
BD-R	Yes	Yes	No
BD-RE	Yes	Yes	Yes

### Helpful Tips

- Use Microsoft® Windows® Explorer to drag and drop files to a CD-R or CD-RW only after you start Roxio Creator Plus and open a Creator project.
- Use CD-Rs to burn music CDs that you want to play in regular stereos. CD-RWs do not play in most home or car stereos.
- You cannot create audio DVDs with Roxio Creator Plus.
- Music MP3 files can be played only on MP3 players or on computers that have MP3 software installed.
- Commercially available DVD players used in home theater systems may not support all available DVD formats. For a list of formats supported by your DVD player, see the documentation provided with your DVD player or contact the manufacturer.
- Commercially available BD players used in home theater systems may not support all available BD formats. For a list of formats supported by your BD player, see the documentation provided with your BD player or contact the manufacturer.
- Do not burn a blank CD-R or CD-RW to its maximum capacity; for example, do not copy a 650-MB file to a blank 650-MB CD. The CD-RW drive needs 1–2 MB of blank space to finalize the recording.

- Use a blank CD-RW to practice CD recording until you are familiar with CD recording techniques. If you make a mistake, you can erase the data on the CD-RW and try again. You can also use blank CD-RWs to test music file projects before you record the project permanently to a blank CD-R.
- See the Sonic website at [sonic.com](http://sonic.com) for additional information.

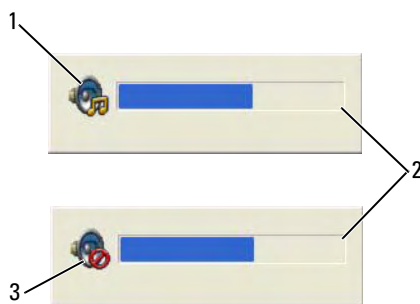
## Adjusting the Volume

 **NOTE:** When the speakers are muted, you do not hear the media playing.

- 1 Right-click the volume icon in the notification area.
- 2 Click **Open Volume Mixer**.
- 3 Click and drag the bar to slide it up or down to increase or decrease the volume.

For more information on volume control options, click **Help** in the **Volume Mixer** window.

The Volume Meter displays the current volume level, including mute, on your computer. Either click the **QuickSet** icon in the notification area and select or deselect **Disable On Screen Volume Meter**, or press the volume control buttons to enable or disable the Volume Meter on the screen.



- |   |             |   |              |
|---|-------------|---|--------------|
| 1 | volume icon | 2 | volume meter |
| 3 | mute icon   |   |              |


When the meter is enabled, adjust the volume with the volume control buttons or by pressing the following keys:

- Press <Fn> <PageUp> to increase volume.
- Press <Fn> <PageDn> to decrease volume.
- Press <Fn> <End> to mute volume.

For more information about QuickSet, right-click the icon in the taskbar and click **Help**.

## Adjusting the Picture

If an error message notifies you that the current resolution and color depth are using too much memory and preventing media playback, adjust the display properties:

- 1 Click the **Start**  → **Control Panel** → **Appearance and Personalization**.
- 2 Under **Personalization**, click **Adjust Screen Resolution**.  
The **Display Properties** window appears.
- 3 Under **Resolution**, click and drag the bar reduce the resolution setting.
- 4 In the drop-down menu under **Colors**, click **Medium (16 bit)**.
- 5 Click **OK**.

## Using Dell MediaDirect™

Dell MediaDirect is an instant-on multimedia playback mode for digital media. Press the Dell MediaDirect button, located on the hinge cover, to launch Dell MediaDirect. When your computer is turned off or in Sleep state, you can press the Dell MediaDirect button to start the computer and automatically launch the Dell MediaDirect application.



1 Dell MediaDirect button

➡ **NOTE:** If you voluntarily reformat the hard drive, reinstall Dell MediaDirect using the Dell MediaDirect re-installation media that was shipped with your computer. For more information, see the *Reinstalling Dell MediaDirect* techsheet that accompanied your computer.

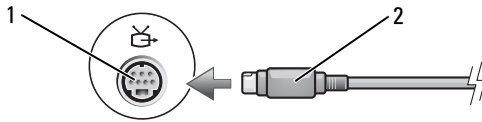
For more information on using Dell MediaDirect, use the **Help** menu in the Dell MediaDirect application.

## Connecting Your Computer to a TV or Audio Device

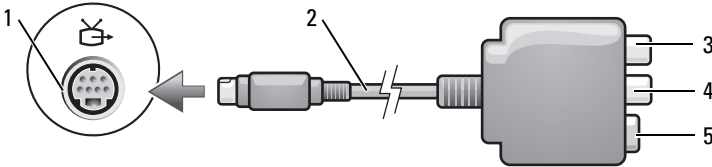
📎 **NOTE:** Video and audio cables for connecting your computer to a TV or other audio device may not be included with your computer. Cables and TV/digital audio adapter cables are available for purchase from Dell.

Your computer has an S-video TV-out connector and a HDMI connector that enable you to connect the computer to a TV with the help of either a standard S-video cable, a composite video adapter cable, HDMI cable or a component video adapter cable (available from Dell).

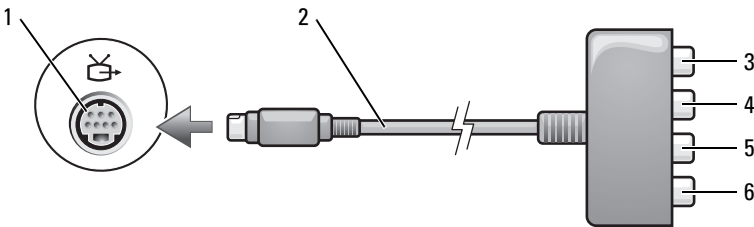
Your TV has either an S-video input connector, a composite video-input connector, or a component video-input connector. Depending on what type of connector is available on your TV, you can use a commercially available S-video cable, composite video cable, or component video cable to connect your computer to your TV.



1 S-video TV-out connector    2 S-video connector




1 S-video TV-out connector    2 composite video adapter  
 3 S/PDIF digital audio connector    4 composite video-output connector  
 5 S-video connector



1 S-video TV-out connector    2 component video adapter  
 3 S/PDIF digital audio connector    4 Pr (red) component video-output connector  
 5 Pb (blue) component video-output connector    6 Y (green) component video-output connector

If you want to connect your computer to a TV or audio device, it is recommended that you connect video and audio cables to your computer in one of the following combinations:

- S-video and standard audio
- Component-out video and standard audio
- Composite video and standard audio

 **NOTE:** See the diagrams at the beginning of each subsection to help you determine which method of connection you should use.

When you finish connecting the video and audio cables between your computer and your TV, you must enable your computer to work with the TV. See "Enabling the Display Settings for a TV" on page 69 to ensure that the computer recognizes and works properly with the TV.

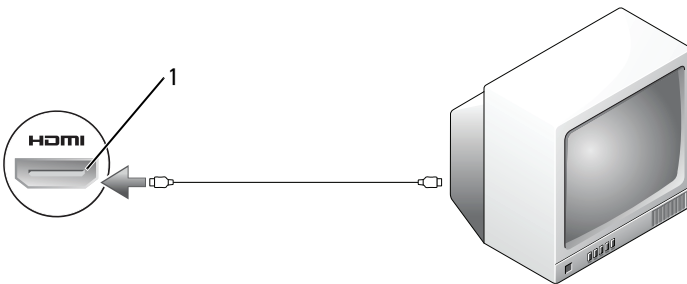
## HDMI

HDMI (High-Definition Multimedia Interface) connector carries an uncompressed all digital signal to produce hi-definition video and audio.

- 1 Plug one end of the HDMI cable into the HDMI output connector on the computer.

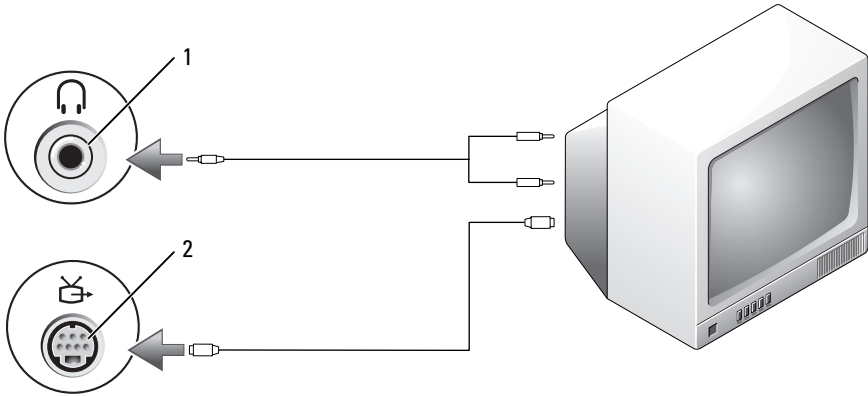


- 2 Plug the other end of the HDMI cable into the HDMI input connector on your TV.

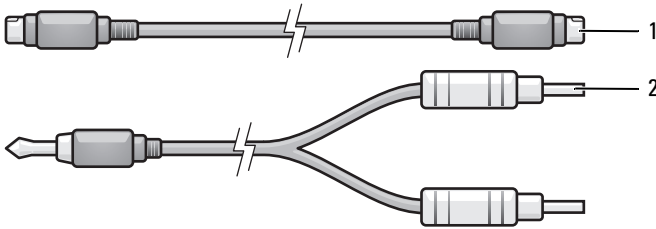


1 HDMI connector

## S-Video and Standard Audio



1 audio connector      2 S-video TV-out connector



1 standard S-video cable      2 standard audio cable

- 1 Turn off the computer and the TV and/or audio device that you want to connect.

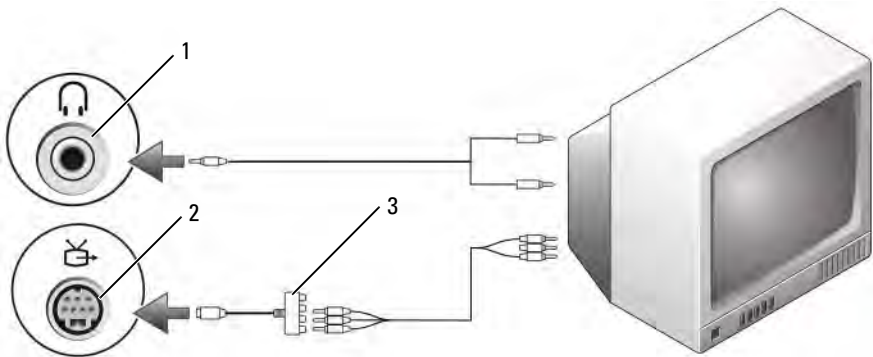
**NOTE:** If your TV or audio device supports S-video but not S/PDIF digital audio, you can connect an S-video cable directly to the S-video TV-out connector on the computer (without the TV/digital audio adapter cable).

- 2 Plug one end of the S-video cable into the S-video output connector on the computer.
- 3 Plug the other end of the S-video cable into the S-video input connector on your TV.

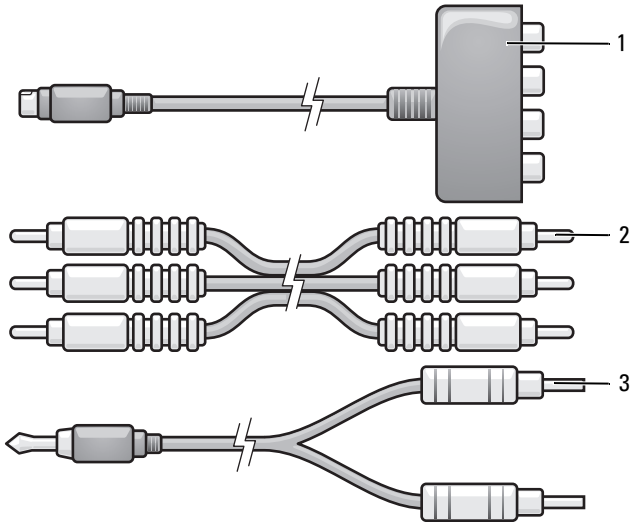


- 4 Plug the single-connector end of the audio cable into the headphone connector on your computer.
- 5 Plug the two RCA connectors on the other end of the audio cable into the audio input connectors on your TV or other audio device.
- 6 Turn on the TV and any audio device that you connected (if applicable), and then turn on the computer.
- 7 See "Enabling the Display Settings for a TV" on page 69 to ensure that the computer recognizes and works properly with the TV.

### Component Video and Standard Audio

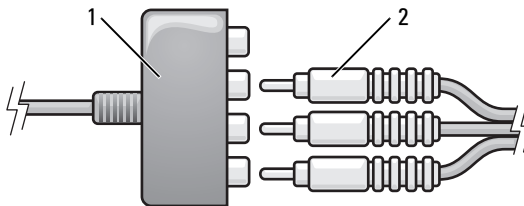


- |   |                         |   |                          |
|---|-------------------------|---|--------------------------|
| 1 | audio input connector   | 2 | S-video TV-out connector |
| 3 | component video adapter |   |                          |



- 1 component video adapter
- 2 component video cable
- 3 standard audio cable

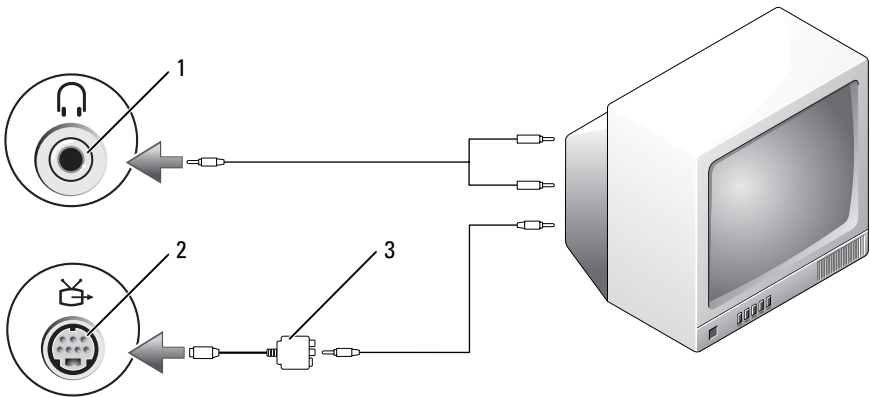
- 1 Turn off the computer and the TV and/or audio device that you want to connect.
- 2 Connect the component video adapter to the S-video TV-out connector on your computer.
- 3 Plug all three ends of the component video cable into the component video-output connectors on the component video adapter. Make sure that the red, green, and blue colors of the cable match the corresponding adapter ports.



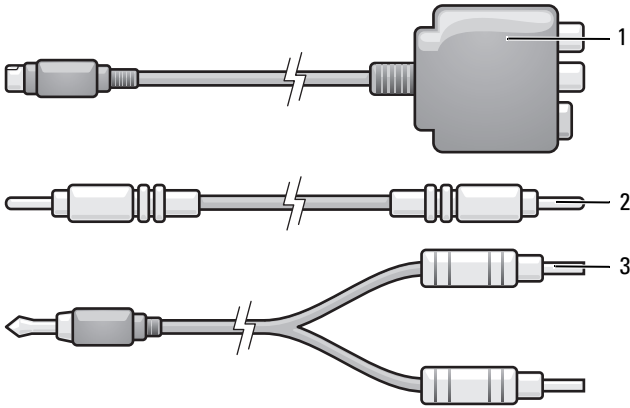
- 1 component video adapter
- 2 component video cable

- 4 Plug all three connectors from the other end of the component video cable into the component video-input connectors on the TV. Make sure that the red, green, and blue colors of the cable match the colors of the TV input connectors.
- 5 Plug the single-connector end of the audio cable into the headphone connector on the computer.
- 6 Plug the two RCA connectors on the other end of the audio cable into the audio input connectors on your TV or audio device.
- 7 Turn on the TV, turn on any audio device that you connected (if applicable), and then turn on the computer.
- 8 See "Enabling the Display Settings for a TV" on page 69 to ensure that the computer recognizes and works properly with the TV.

## Composite Video and Standard Audio

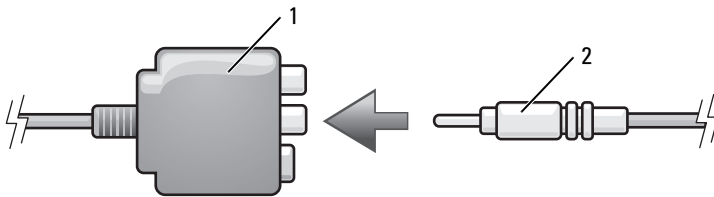


- |   |                         |   |                          |
|---|-------------------------|---|--------------------------|
| 1 | audio input connector   | 2 | S-video TV-out connector |
| 3 | composite video adapter |   |                          |



- 1 composite video adapter
- 2 composite video cable
- 3 standard audio cable

- 1 Turn off the computer and the TV and/or audio device that you want to connect.
- 2 Connect the composite video adapter to the S-video TV-out connector on your computer.
- 3 Plug one end of the composite video cable into the composite video-output connector on the composite video adapter.



- 1 composite video adapter
- 2 composite video cable


- 4 Plug the other end of the composite video cable into the composite video-input connector on the TV.

- 5 Plug the single-connector end of the audio cable into the headphone connector on the computer.
- 6 Plug the two RCA connectors on the other end of the audio cable in to the audio input connectors on your TV or other audio device.
- 7 Turn on the TV, turn on any audio device that you connected (if applicable), and then turn on the computer.
- 8 See "Enabling the Display Settings for a TV" on page 69 to ensure that the computer recognizes and works properly with the TV.


## Enabling the Display Settings for a TV



**NOTE:** To ensure that the display options appear correctly, connect the TV to the computer before you enable the display settings.

- 1 Click **Start**  → **Control Panel** → **Appearance and Personalization**.
- 1 Under **Personalization**, click **Adjust Screen Resolution**.  
The **Display Properties** window appears.
- 2 Click **Advanced**.
- 3 Click the tab for your video card.



**NOTE:** To determine the type of video card installed in your computer, see *Windows Help and Support*. To access *Help and Support*, click **Start**  → **Help and Support**. Under **Pick a Task**, click **Use Tools to view your computer information and diagnose problems**. Then, under **My Computer Information**, select **Hardware**.

- 4 In the display devices section, select the appropriate option for using either a single display or multiple displays, ensuring that the display settings are correct for your selection.

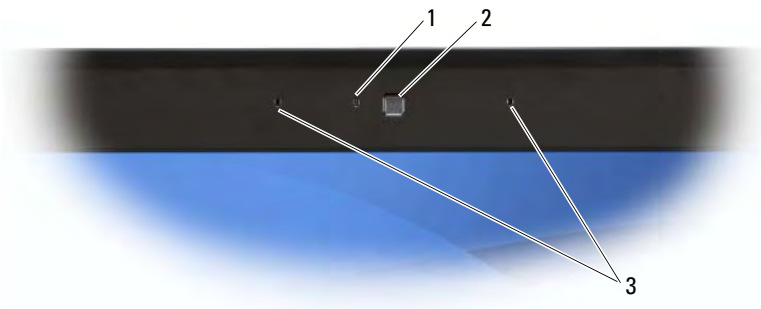


## Using the Optional Camera

If you ordered a camera when you bought your computer, the camera is integrated in the computer display. The camera and its integrated dual digital microphones allow you to take photos and videos and to communicate visually and verbally with other computer users. The blue camera light appears when the camera is turned on. For more information about camera features, see "Specifications" on page 155.



**NOTE:** It is normal for the camera to feel warm to the touch when the computer is running and when the camera is in use.




1 camera indicator

2 camera

3 dual digital microphones


## Accessing the Camera's Help File

To access the camera's *Video Software Help* file, right-click the  icon in the notification area and click **Launch Webcam Center**. Click **Help** from the menu and select **Contents**.




## Manually Adjusting the Camera Settings

If you do not want the camera to use automatic settings, you can manually adjust the camera settings.

- 1 Right-click the  icon in the notification area and click **Launch Webcam Console**.
- 2 In the **Webcam Console** window:
  - Click the **Camera** tab to adjust video settings, such as contrast and brightness.
  - Click the **Effects** tab to adjust audio settings, such as the volume level.

For more information about camera settings and other camera-related topics, see the camera's *Video Software Help* file (see "Accessing the Camera's Help File" on page 71).

## Creating a Picture or a Video

- 1 Click the  icon in the notification area and click **Launch Webcam Center**.
- 2 To take a picture, click the **Photo Capture** tab and then click **Start**.  
To record a video, click the **Video Recording** tab and then click **Start**.

The blue camera light turns on. You can now direct the camera to point at the object or person that you want to record. The screen shows you the camera target view.

- 3 To take a picture, click **Capture**.  
To record a video, click **Record**.

Unless you designate a different location, the picture or video is automatically saved to the **My Documents –Dell Webcam Center** folder on your hard drive.

For more information about creating pictures or videos, see the camera's *Video Software Help* file (see "Accessing the Camera's Help File" on page 71).



# Using ExpressCards

ExpressCards provide additional memory, wired and wireless communications, multimedia and security features. For example, you can add an ExpressCard to make wireless wide area network (WWAN) connectivity available on your computer.

ExpressCards support two form factors:

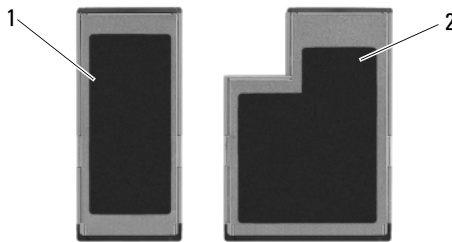
- ExpressCard/34 (34 mm wide)
- ExpressCard/54 (54 mm wide in an L-shape with a 34 mm connector)

The 34 mm card fits into both the 34 mm and 54 mm card slots. The 54 mm card only fits into a 54 mm card slot.

See "Specifications" on page 155 for information on supported ExpressCards.



**NOTE:** An ExpressCard is not a bootable device.



1 ExpressCard/34

2 ExpressCard/54

## ExpressCard Blanks

Your computer shipped with a plastic blank installed in the ExpressCard slot. Blanks protect unused slots from dust and other particles. Save the blank for use when no ExpressCard is installed in the slot; blanks from other computers may not fit your computer.

Remove the blank before installing an ExpressCard. To remove the blank, see "Removing an ExpressCard or Blank" on page 74.

## Installing an ExpressCard

You can install an ExpressCard while the computer is running. The computer automatically detects the card.

ExpressCards are generally marked with a symbol (such as a triangle or an arrow) or a label to indicate which end to insert into the slot. The cards are keyed to prevent incorrect insertion. If card orientation is not clear, see the documentation that came with the card.

**⚠ CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

To install an ExpressCard:

- 1 Hold the card with its orientation symbol pointing into the slot and the top side of the card facing up.
- 2 Slide the card into the slot until the card is completely seated in its connector.  
If you encounter too much resistance, do not force the card. Check the card orientation and try again.



The computer recognizes the ExpressCard and automatically loads the appropriate device driver. If the configuration program tells you to load the manufacturer's drivers, use the media that came with the ExpressCard.

## Removing an ExpressCard or Blank

**⚠ CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

Press the card or blank into the slot to release it from the card reader. When it is partially ejected, remove the card or blank.

Save a blank to use when no ExpressCard is installed in a slot. Blanks protect unused slots from dust and other particles.

# Using the Memory Card Reader

The memory card reader provides a fast and convenient way to view and share digital photos, music, and videos stored on a memory card.



**NOTE:** A memory card is not a bootable device.

The 8-in-1 memory card reader reads the following memory cards:

- Secure Digital (SD)
- SDIO
- MultiMediaCard (MMC)
- Memory Stick
- Memory Stick PRO
- xD-Picture Card
- Hi Speed-SD
- Hi Density-SD

## Memory Card Blanks

Your computer shipped with a plastic blank installed in the 8-in-1 memory card reader. Blanks protect unused slots from dust and other particles. Save the blank for use when no memory card is installed in the slot; blanks from other computers may not fit your computer.

Remove the blank before installing a memory card. To remove the blank, see "Removing a Memory Card or Blank" on page 76.

## Installing a Memory Card

You can install a 8-in-1 memory card in the computer while the computer is running. The computer automatically detects the card.

Memory cards are generally marked with a symbol (such as a triangle or an arrow) or a label to indicate which end to insert into the slot. The cards are keyed to prevent incorrect insertion. If card orientation is not clear, see the documentation that came with the card.

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

To install a memory card:

- 1 Hold the card with the top side of the card facing up.
- 2 Slide the card into the slot until the card is completely seated in its connector.



If you encounter too much resistance, do not force the card. Check the card orientation and try again.



The computer recognizes the memory card and automatically loads the appropriate device driver. If the configuration program tells you to load the manufacturer's drivers, use the media that came with the memory card, if applicable.

## Removing a Memory Card or Blank


 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

-  **NOTICE:** Click the  icon in the notification area to select a card and stop it from functioning before you remove it from the computer. If you do not stop the card, you could lose data.

Press the card into the slot to release it from the card reader. When it is partially ejected, remove the card.

## Setting Up and Using Networks


Setting up a computer network provides connectivity between your computer and the Internet, another computer, or a network. For example, with a network set up in a home or small office you can print to a shared printer, access drives and files on another computer, browse other networks, or access the Internet. You can set up a local area network (LAN) using a network or broadband modem cable or set up a wireless LAN (WLAN).

The Microsoft® Windows Vista™ operating system provides a wizard to help guide you through the process of networking computers. For more information about Networking, access Windows Help and Support (click **Start** , and then click **Help and Support**).


### Connecting a Network or Broadband Modem Cable

Before you connect your computer to a network, the computer must have a network adapter installed and a network cable connected to it.

- 1 Connect the network cable to the network adapter connector on the back of your computer.


 **NOTE:** Insert the cable connector until it clicks into place, and then gently pull on the cable to ensure that it is securely attached.

- 2 Connect the other end of the network cable to a network connection device or a network wall connector.

 **NOTE:** Do not use a network cable with a telephone wall connector.



# Setting Up a Network in the Microsoft Windows Vista™ Operating System

- 1 Click Start  →Connect To→Set up a connection or network.
- 2 Select an option under **Choose a connection option**.
- 3 Click Next, and then follow the instructions in the wizard.

## Wireless Local Area Network (WLAN)

A wireless local area network (WLAN) is a series of interconnected computers that communicate with each other over the air waves rather than through a network cable connected to each computer. In a WLAN, a radio communications device called an access point or wireless router connects network computers and provides Internet, or network access. The access point or wireless router and the wireless network card in the computer communicate by broadcasting data from their antennas over the air waves.

### What You Need to Establish a WLAN Connection

Before you can set up a WLAN, you need:


- High-speed (broadband) Internet access (such as cable or DSL)
- A broadband modem that is connected and working
- A wireless router or access point
- A wireless network card for each computer that you want to connect to your WLAN
- A network cable with a network (RJ-45) connector

### Checking Your Wireless Network Card

Depending on what you selected when you purchased your computer, the computer has a variety of configurations. To confirm that your computer has a wireless network card and to determine the type of card, use:

- The Device Manager
- The order confirmation for your computer

## Device Manager

- 1 Click **Start** , and then click **Control Panel**.
- 2 Click **Classic View** on the menu on the left side of the **Control Panel**.
- 3 Double-click **Device Manager**.



**NOTE:** The **User Account Control** window may open.

- 4 Click **Continue** on the **User Account Control** window if it opens.
- 5 Click the + next to **Network adapters** to list the utility that manages your wireless network card.

If a network adapter is not listed, you may not have a wireless network card.


If a network adapter is listed, you have a wireless network card. To view detailed information about the wireless network card:

- 1 Right-click the name of the network adapter.
- 2 Click **Properties**.


## The Order Confirmation for Your Computer

The order confirmation that you received when you ordered your computer lists the hardware and software that shipped with your computer.

## Setting Up a New WLAN Using a Wireless Router and a Broadband Modem

- 1 Contact your Internet service provider (ISP) to obtain specific information about the connection requirements for your broadband modem.
- 2 Ensure that you have wired Internet access through your broadband modem before you attempt to set up a wireless Internet connection (see "Connecting a Network or Broadband Modem Cable" on page 77).
- 3 Install any software required for your wireless router. Your wireless router may have been shipped with installation media. Installation media usually contains installation and troubleshooting information. Install the required software according to the instructions provided by the router manufacturer.
- 4 Shut down your computer and any other wireless-enabled computers in the vicinity through the Windows Vista **Start** button .
- 5 Disconnect your broadband modem power cable from the electrical outlet.

- 6 Disconnect the network cable from the computer and the modem.
- 7 Disconnect the AC adapter cable from your wireless router to ensure that there is no power connected to the router.

 **NOTE:** Wait for a minimum of 5 minutes after disconnecting your broadband modem before continuing with the network setup.

- 8 Insert a network cable into the network (RJ-45) connector on the unpowered broadband modem.
- 9 Connect the other end of the network cable into the Internet network (RJ-45) connector on the unpowered wireless router.
- 10 Ensure that no network or USB cables, other than the network cable connecting the modem and the wireless router, are connected to the broadband modem.

 **NOTE:** Restart your wireless equipment in the order described below to prevent a potential connection failure.

- 11 Turn on *only* your broadband modem and wait for at least 2 minutes for the broadband modem to stabilize. After 2 minutes, proceed to step 12.
- 12 Turn on your wireless router and wait for at least 2 minutes for the wireless router to stabilize. After 2 minutes, proceed to the step 13.
- 13 Start your computer and wait until the boot process completes.
- 14 See the documentation that came with your wireless router to do the following in order to set up the wireless router:
  - Establish communication between your computer and your wireless router.
  - Configure your wireless router to communicate with your broadband router.
  - Find out your wireless router's broadcast name. The technical term for the name of your router's broadcast name is Service Set Identifier (SSID) or network name.
- 15 If necessary, configure your wireless network card to connect to the wireless network (see "Connecting to a WLAN" on page 81).



## Connecting to a WLAN



**NOTE:** Before you connect to a WLAN, ensure that you have followed the instructions in "Wireless Local Area Network (WLAN)" on page 78.



**NOTE:** The following networking instructions do not apply to internal cards with Bluetooth® wireless technology or cellular products.

This section provides general procedures for connecting to a network using wireless technology. Specific network names and configuration details vary. See "Wireless Local Area Network (WLAN)" on page 78 for more information about how to prepare for connecting your computer to a WLAN.

Your wireless network card requires specific software and drivers for connecting to a network. The software is already installed.




**NOTE:** If the software is removed or corrupted, follow the instructions in the user documentation for your wireless network card. Verify the type of wireless network card installed in your computer and then search for that name on the Dell™ Support website at [support.dell.com](http://support.dell.com). For information on the type of wireless network card that is installed in your computer, see "Checking Your Wireless Network Card" on page 78.

## Determining the Wireless Network Device Manager

Depending on the software installed on your computer, different wireless configuration utilities may manage your network devices:

- Your wireless network card's client utility
- The Windows Vista operating system

To determine which wireless configuration utility is managing your wireless network card in Windows Vista:

- 1 Click **Start**  → **Connect To** → **Manage wireless networks**.
- 2 Double-click a profile to open the wireless network properties screen.

For specific information about the wireless configuration utility installed on your computer, see your wireless network documentation in the Windows Help and Support Center (see "Windows Help and Support" on page 17).

## Completing the Connection to the WLAN

When you turn on your computer and a network (for which your computer is not configured) is detected in the area, a pop-up appears near the network icon in the notification area (in the lower-right corner of the Windows desktop).

Follow the instructions provided in any utility prompts that appear on your screen.

Once you have configured your computer for a wireless network, another pop-up notifies you that your computer is connected to that network.

Thereafter, whenever you log on to your computer within the range of the wireless network that you selected, the same pop-up notifies you of the wireless network connection.



**NOTE:** If you select a secure network, you must enter a WEP or WPA key when prompted. Network security settings are unique to your network. Dell cannot provide this information.



**NOTE:** Your computer can take up to 1 minute to connect to the network.

## Monitoring the Status of the Wireless Network Card Through Dell QuickSet

The wireless activity indicator provides you with an easy way to monitor the status of your computer's wireless devices. To turn the wireless activity indicator on or off, click the QuickSet icon in the taskbar and select **Hotkey Popups**. If **Wireless Activity Indicator Off** is not checked, the indicator is on. If **Wireless Activity Indicator Off** is checked, the indicator is off.

The wireless activity indicator displays whether your computer's integrated wireless devices are enabled or disabled. When you turn the wireless networking function on or off, the wireless activity indicator changes to display the status.

For more information about the Dell QuickSet wireless activity indicator, right-click the QuickSet icon in the taskbar, and then select **Help**.

# Mobile Broadband/Wireless Wide Area Network (WWAN)

A Mobile Broadband network, also known as a Wireless Wide Area Network (WWAN), is a high-speed digital cellular network that provides Internet access over a much wider geographical area than a WLAN, which typically covers only from 100 to 1000 feet. Your computer can maintain Mobile Broadband network access as long as the computer is within a cellular-data coverage zone. Contact your service provider for coverage of a high-speed digital cellular network.



**NOTE:** Even if you are able to make a call from your cellular phone in a specific geographical location, that location may not necessarily be within a cellular-data coverage zone.

## What You Need to Establish a Mobile Broadband Network Connection



**NOTE:** Depending on your computer, you can use either a Mobile Broadband ExpressCard or Mini Card, but not both, to establish a Mobile Broadband network connection.


To set up a Mobile Broadband network connection, you need:

- A Mobile Broadband ExpressCard or Mini-Card (depending on your computer's configuration)



**NOTE:** For instructions on using ExpressCards, see "Using ExpressCards" on page 73.

- An activated Mobile Broadband ExpressCard or activated Subscriber Identity Module (SIM) for your service provider
- The Dell Mobile Broadband Card Utility (already installed on your computer if you purchased the card when you purchased your computer, or on the media that accompanied your card if purchased separately from your computer)


If the utility is corrupted or deleted from your computer, see the Dell Mobile Broadband Card Utility user's guide in Windows Help and Support (click **Start** , and then click **Help and Support**) or on the media that accompanied your card if you purchased it separately from your computer.

## Checking Your Dell Mobile Broadband Card


Depending on what you selected when you purchased your computer, the computer has a variety of configurations. To determine your computer configuration, see one of the following:

- Your order confirmation
- Microsoft Windows Help and Support


To check your Mobile Broadband card in the Windows Help and Support Center:



- 1 Click **Start**  → **Help and Support** → **Use Tools** to view your computer information and diagnose problems.
- 2 Under **Tools**, click **My Computer Information** → **Find information about the hardware installed on this computer**.

On the **My Computer Information - Hardware** screen, you can view the type of Mobile Broadband card installed in your computer as well as other hardware components.

 **NOTE:** The Mobile Broadband card is listed under **Modems**.

## Connecting to a Mobile Broadband Network

 **NOTE:** These instructions only apply to Mobile Broadband ExpressCards or Mini Cards. They do not apply to internal cards with wireless technology.

 **NOTE:** Before you connect to the Internet, you must activate Mobile Broadband service through your cellular service provider. For instructions and for additional information about using the Dell Mobile Broadband Card Utility, see the user's guide available through Windows Help and Support (click **Start** , and then click **Help and Support**). The user's guide is also available on the Dell Support website at [support.dell.com](http://support.dell.com) and on the media included with your Mobile Broadband card if you purchased the card separately from your computer.

Use the Dell Mobile Broadband Card Utility to establish and manage a Mobile Broadband network connection to the Internet:

1 Click the Dell Mobile Broadband Card Utility icon  in the Windows notification area to run the utility.

2 Click **Connect**.



**NOTE:** The **Connect** button changes to the **Disconnect** button.

3 Follow the instructions on the screen to manage the network connection with the utility.

OR

1 Click **Start**  → **All Programs** → **Dell Wireless**.

2 Click **Dell Wireless Broadband** and follow the instructions on the screen.

## Enabling/Disabling the Dell Mobile Broadband Card



**NOTE:** If you are unable to connect to a Mobile Broadband network, ensure that you have all the components for establishing a Mobile Broadband connection (see "What You Need to Establish a Mobile Broadband Network Connection" on page 83), and then verify that your Mobile Broadband card is enabled by verifying the setting of the wireless switch.

You can turn your Mobile Broadband card on and off using the wireless switch on your computer.

You can turn your computer's wireless devices on and off with the wireless switch on the left side of the computer (see "Left Side View" on page 31).

If the switch is in the *on* position, move the switch to the *off* position to disable the switch and the Mobile Broadband card. If the switch is in the *off* position, move the switch to the *on* position to enable the switch and the Dell Mobile Broadband card. For information about the wireless switch positions, see "Dell Wi-Fi Catcher™ Network Locator" on page 86.

To monitor the status of your wireless device, see "Monitoring the Status of the Wireless Network Card Through Dell QuickSet" on page 82.

## Dell Wi-Fi Catcher™ Network Locator

The wireless switch on your Dell computer uses the Dell Wi-Fi Catcher Network Locator to scan for wireless networks in your vicinity.


To scan for a wireless network, press the Wi-Fi catcher button (see "Right Side View" on page 32) for a few seconds. The Wi-Fi Catcher Network Locator functions regardless of whether your computer is turned on or off, or in Sleep state, as long as the switch is configured through Dell QuickSet or the BIOS (system setup program) to control WiFi network connections.

The Wi-Fi Catcher Network Locator is enabled and configured for use when your computer is shipped to you.


For more information on the Wi-Fi Catcher Network Locator and to enable the feature through Dell QuickSet, right-click the QuickSet icon in the notification area, and then select **Help**.

# Securing Your Computer

## Security Cable Lock

 **NOTE:** Your computer does not ship with a security cable lock.

A security cable lock is a commercially available antitheft device. To use the lock, attach it to the security cable slot on your Dell computer. For more information, see the instructions included with the device.

 **NOTICE:** Before you buy an antitheft device, ensure that it will work with the security cable slot on your computer.



# Passwords

Passwords prevent unauthorized access to your computer. When using passwords, observe the following guidelines:

- Choose a password that you can remember, but not one that is easy to guess. For example, do not use the names of family members or pets for passwords.
- It is recommended that you do not write down your password. If you do write it down, however, ensure that the password is stored in a secure location.
- Do not share your password with other people.
- Ensure that people are not watching you when you type your password.



**NOTICE:** Passwords provide a high level of security for data in your computer or hard drive. However, they are not foolproof. If you require more security, obtain and use additional forms of protection such as data encryption programs.

Use the **User Accounts** option in the Control Panel in the Microsoft® Windows® operating system to create user accounts or to change passwords. Once you create a user password, you must enter it each time you turn on or unlock your computer. If you do not enter a password within 2 minutes, the computer returns to its previous operating state.

For more information, see your Windows documentation.

If you forget any of your passwords, such as the hard drive and BIOS passwords, contact Dell (see "Contacting Dell" on page 154). For your protection, Dell technical support staff will ask you for proof of your identity to ensure that only an authorized person can use the computer.

## Fingerprint Reader (optional)

If your computer has the optional fingerprint reader, you can use the Fingerprint Reader Suite to add biometric security to your computer. The Fingerprint Reader Suite gives you the ability to enhance your security in the following ways:

- Associate digitized images of your fingerprints with your user name, password, and generated security keys in your own secure *passport*
- Use the fingerprint reader to manage OS-level authentication



- Register applications and web pages in a *password bank* so that you can use the fingerprint reader to enter your password
- Launch a favorite application by swiping your finger over the fingerprint reader
- Store confidential information in an encrypted folder

If for some reason, the fingerprint reader is damaged, a backup password can be used to access the function of Fingerprint Reader Suite. The backup password can be created during enrollment.

## Computer Tracking Software

Computer tracking software may enable you to locate your computer if it is lost or stolen. The software is optional and may be purchased when you order your Dell™ computer, or you can contact your Dell sales representative for information about this security feature.



**NOTE:** Computer tracking software may not be available in certain countries.



**NOTE:** If you have computer tracking software and your computer is lost or stolen, you must contact the company that provides the tracking service to report the missing computer.

## If Your Computer Is Lost or Stolen

- Call a law enforcement agency to report the lost or stolen computer. Include the Service Tag in your description of the computer. Ask that a case number be assigned and write down the number, along with the name, address, and phone number of the law enforcement agency. If possible, obtain the name of the investigating officer.



**NOTE:** If you know where the computer was lost or stolen, call a law enforcement agency in that area. If you do not know, call a law enforcement agency where you live.

- If the computer belongs to a company, notify the security office of the company.
- Contact Dell customer service to report the missing computer. Provide the computer Service Tag, the case number, and the name, address, and phone number of the law enforcement agency to which you reported the missing computer. If possible, give the name of the investigating officer.

The Dell customer service representative will log your report under the computer Service Tag and record the computer as missing or stolen. If someone calls Dell for technical assistance and gives your Service Tag, the computer is identified automatically as missing or stolen. The representative will attempt to get the phone number and address of the caller. Dell will then contact the law enforcement agency to which you reported the missing computer.

# Troubleshooting

## Dell Technical Update Service

The Dell Technical Update service provides proactive e-mail notification of software and hardware updates for your computer. The service is free and can be customized for content, format, and how frequently you receive notifications.

To enroll for the Dell Technical Update service, go to [support.dell.com/technicalupdate](http://support.dell.com/technicalupdate).

## Dell Diagnostics



**CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

### When to Use the Dell Diagnostics

If you experience a problem with your computer, perform the checks in "Lockups and Software Problems" on page 107 and run the Dell Diagnostics before you contact Dell for technical assistance.

It is recommended that you print these procedures before you begin.



**NOTE:** The Dell Diagnostics only operate on Dell computers.

Enter system setup, review your computer's configuration information, and ensure that the device you want to test displays in system setup and is active (see "Using the System Setup Program" on page 165).


Start the Dell Diagnostics from your hard drive or from your *Drivers and Utilities* media (see "Drivers and Utilities Media" on page 13).

### Starting the Dell Diagnostics From Your Hard Drive


The Dell Diagnostics is located on a hidden diagnostic utility partition on your hard drive.




**NOTE:** If your computer cannot display a screen image, contact Dell (see "Contacting Dell" on page 154).


 **NOTE:** If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

- 1 Ensure that the computer is connected to an electrical outlet that is known to be working properly.
- 2 Turn on (or restart) your computer.
- 3 Start the Dell Diagnostics in one of the following two ways:
  - a When the DELL™ logo appears, press <F12> immediately. Select Diagnostics from the boot menu, and then press <Enter>.

 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop, then shut down your computer and try again.

 **NOTE:** Before attempting option B, the computer must be powered down completely.

- b Press and hold the <Fn> key while powering the computer on.

 **NOTE:** If you see a message stating that no diagnostics utility partition has been found, run the Dell Diagnostics from your *Drivers and Utilities* media.




The computer runs the Pre-boot System Assessment, a series of initial tests of your system board, keyboard, hard drive, and display.

- During the assessment, answer any questions that appear.
- If a failure is detected, the computer stops and beeps. To stop the assessment and restart the computer, press <n>; to continue to the next test, press <y>; to retest the component that failed, press <r>.
- If failures are detected during the Pre-boot System Assessment, write down the error code(s) and contact Dell.

If the Pre-boot System Assessment completes successfully, you receive the message `Booting Dell Diagnostic Utility Partition`. Press any key to continue.


- 4 Press any key to start the Dell Diagnostics from the diagnostics utility partition on your hard drive.

## Starting the Dell Diagnostics From the Drivers and Utilities Media

- 1 Insert your *Drivers and Utilities* media.
- 2 Shut down and restart the computer.
- 3 When the DELL logo appears, press <F12> immediately.
  -  **NOTE:** Keyboard failure may result when a key on the keyboard is held down for extended periods of time. To avoid possible keyboard failure, press and release <F12> in even intervals until the boot device menu appears.
- 4 At the boot device menu, use the up- and down-arrow keys to highlight CD/DVD/CD-RW, and then press <Enter>.
  -  **NOTE:** The Quickboot feature changes the boot sequence for the current boot only. Upon restart, the computer boots according to the boot sequence specified in system setup.
- 5 Select the **Boot from CD-ROM** option from the menu that appears, and then press <Enter>.
- 6 Type 1 to start the *Drivers and Utilities* menu, and then press <Enter>.
- 7 Select **Run the 32 Bit Dell Diagnostics** from the numbered list. If multiple versions are listed, select the version appropriate for your computer.
- 8 At the Dell Diagnostics **Main Menu**, select the test you want to run.
  -  **NOTE:** Write down any error codes and problem descriptions exactly as they appear and follow the instructions on the screen.
- 9 After all tests have completed, close the test window to return to the Dell Diagnostics **Main Menu**.
- 10 Remove your *Drivers and Utilities* media, then close the **Main Menu** window to exit the Dell Diagnostics and restart the computer.

## Dell Diagnostics Main Menu

After the Dell Diagnostics loads and the **Main Menu** screen appears, click the button for the option you want.

-  **NOTE:** It is recommended that you select **Test System** to run a complete test on your computer.

Option	Function
Test Memory	Run the stand-alone memory test
Test System	Run System Diagnostics
Exit	Exit the Diagnostics

After you have selected the **Test System** option from the main menu, the following menu appears.



**NOTE:** It is recommended that you select **Extended Test** from the menu below to run a more thorough check of the devices in the computer.

Option	Function
Express Test	Performs a quick test of system devices. The test typically takes 10 to 20 minutes and requires no interaction on your part. Run Express Test first to increase the possibility of tracing the problem quickly.
Extended Test	Performs a thorough check of system devices. The test typically takes an hour or more and periodically requires your input to answer specific questions.
Custom Test	Tests a specific device in the system and can be used to customize the tests you want to run.
Symptom Tree	Lists a number of common symptoms and allows you to select a test based on the symptom of the problem you are having.

For any problem encountered during a test, a message appears with an error code and a description of the problem. Write down the error code and problem description exactly as it appears and follow the instructions on the screen. If you cannot resolve the problem, contact Dell (see "Contacting Dell" on page 154).



**NOTE:** The Service Tag for your computer is located at the top of each test screen. When contacting Dell support, have your Service Tag ready.

The following tabs provide additional information for tests run from the **Custom Test** or **Symptom Tree** option:

<b>Tab</b>	<b>Function</b>
Results	Displays the results of the test and any error conditions encountered.
Errors	Displays error conditions encountered, error codes, and the problem description.
Help	Describes the test and any requirements for running the test.
Configuration	Displays your hardware configuration for the selected device.  The Dell Diagnostics obtains configuration information for all devices from system setup, memory, and various internal tests, and it displays the information in the device list in the left pane of the screen. The device list may not display the names of all the components installed on your computer or all devices attached to your computer.
Parameters	Allows you to customize the test by changing the test settings.

## **Dell Support Utility**

The Dell Support Utility is customized for your computing environment. This utility provides self-support information, software updates, and health scans for your computer. Use this utility to do the following:


- Check your computing environment
- View the Dell Support Utility settings
- Access the help file for the Dell Support Utility
- View frequently asked questions
- Learn more about the Dell Support Utility
- Turn the Dell Support Utility off

For more information about the Dell Support Utility, click the question mark (?) at the top of the Dell Support window.


To access the Dell Support Utility:

- Click the Dell Support icon  in the notification area.



**NOTE:** The  icon functions vary when clicking, double-clicking, or right-clicking.

or

- Click the Start  → All Programs → Dell Support → Dell Support Settings. Ensure that the Show icon on the taskbar option is checked.



**NOTE:** If the Dell Support Utility is not available from the Start menu, go to [support.dell.com](http://support.dell.com) and download the software.

## Drive Problems



**CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

Fill out the "Diagnostics Checklist" on page 153 as you complete these checks.

### ENSURE THAT MICROSOFT® WINDOWS® RECOGNIZES THE DRIVE —

- Click Start  → Computer.

If the drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.

### TEST THE DRIVE —

- Insert another floppy disk, CD, DVD, or BD to eliminate the possibility that the original media is defective.
- Insert a bootable floppy disk and restart the computer.

**CLEAN THE DRIVE OR DISK —** See "Cleaning Your Computer" on page 168.

**ENSURE THAT THE CD, DVD OR BD MEDIA IS SNAPPED ONTO THE SPINDLE**

**CHECK THE CABLE CONNECTIONS**

**RUN THE HARDWARE TROUBLESHOOTER —** See "Troubleshooting Software and Hardware Problems" on page 121.

**RUN THE DELL DIAGNOSTICS —** See "Dell Diagnostics" on page 91.



## Optical drive problems



**NOTE:** High-speed optical drive vibration is normal and may cause noise, which does not indicate a defect in the drive or the media.



**NOTE:** Because of different regions worldwide and different disc formats, not all DVD titles work in all DVD drives.

### Problems writing to an optical drive

**CLOSE OTHER PROGRAMS** — CD-RW, DVD+/-RW, and BD-RE drives must receive a steady stream of data when writing. If the stream is interrupted, an error occurs. Try closing all programs before you write to the drive.

**TURN OFF SLEEP STATE IN WINDOWS BEFORE WRITING TO A CD/DVD/BD DISC** — See "Using the Sleep Power State" on page 49 for information on Sleep state.

**CHANGE THE WRITE SPEED TO A SLOWER RATE** — See the help files for your CD, DVD, or BD creation software.

### The drive makes an unfamiliar scraping or grinding sound

- Ensure that the sound is not caused by the program that is running.
- Ensure that the disc is inserted properly.

## Hard drive problems

**ALLOW THE COMPUTER TO COOL BEFORE TURNING IT ON** — A hot hard drive may prevent the operating system from starting. Try allowing the computer to return to room temperature before turning it on.

### RUN CHECK DISK —

- 1 Click Start  → Computer.
- 2 Right-click Local Disk (C:).
- 3 Click Properties → Tools → Check Now.



**NOTE:** The User Account Control window may appear. If you are an administrator on the computer, click **Continue**; otherwise, contact your administrator to continue the desired action.

- 4 Click to check Scan for and attempt recovery of bad sectors, and then click Start.

# E-Mail, Modem, and Internet Problems



**CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.



**NOTE:** The modem is an optional feature on this computer. You can purchase an external modem through Dell. Therefore, the steps in this section only apply if you have purchased an external modem.

**CHECK THE MICROSOFT OUTLOOK® EXPRESS SECURITY SETTINGS** — If you cannot open your e-mail attachments:

- 1 In Outlook Express, click **Tools**—**Options**—**Security**.
- 2 Click **Do not allow attachments** to remove the checkmark.

**CHECK THE TELEPHONE LINE CONNECTION**


**CHECK THE TELEPHONE JACK**

**CONNECT THE MODEM DIRECTLY TO THE TELEPHONE WALL JACK**

**USE A DIFFERENT TELEPHONE LINE**

- Verify that the telephone line is connected to the jack on the modem (the jack has either a green label or a connector-shaped icon next to it).
- Ensure that you hear a click when you insert the telephone line connector into the modem.
- Disconnect the telephone line from the modem and connect it to a telephone, then listen for a dial tone.
- If you have other telephone devices sharing the line, such as an answering machine, fax machine, surge protector, or line splitter, then bypass them and connect the modem directly to the telephone wall jack. If you are using a line that is 3 m (10 ft) or more in length, try a shorter one.

**RUN THE MODEM DIAGNOSTIC UTILITY** —

Click **Start**  → **Programs** → **Modem Diagnostic Tool** → **Modem Diagnostic Tool**. Follow the instructions on the screen to identify and resolve modem problems (Modem Diagnostic Utility is not available on certain computers).

**VERIFY THAT THE MODEM IS COMMUNICATING WITH WINDOWS** —

- 1 Click **Start**  → **Control Panel** → **Hardware and Sound** → **Phone and Modem Options** → **Modems**.
- 2 Click the COM port for your modem → **Properties** → **Diagnostics** → **Query Modem** to verify that the modem is communicating with Windows.

If all commands receive responses, the modem is operating properly.