**SEEK ERROR —** The operating system cannot find a specific track on the hard drive.

**SHUTDOWN FAILURE —** A chip on the system board may be malfunctioning. Run the System Set tests in the Dell Diagnostics (see "Dell Diagnostics" on page 87).

**TIME-OF-DAY CLOCK LOST POWER —** System configuration settings are corrupted. Connect your computer to an electrical outlet to charge the battery. If the problem persists, try to restore the data by entering the system setup program, then immediately exit the program (see "Using the System Setup Program" on page 161). If the message reappears, contact Dell (see "Contacting Dell" on page 152).

**TIME-OF-DAY CLOCK STOPPED —** The reserve battery that supports the system configuration settings may require recharging. Connect your computer to an electrical outlet to charge the battery. If the problem persists, contact Dell (see "Contacting Dell" on page 152).

**TIME-OF-DAY NOT SET-PLEASE RUN THE SYSTEM SETUP PROGRAM —** The time or date stored in the system setup program does not match the system clock. Correct the settings for the **Date** and **Time** options (see "Using the System Setup Program" on page 161).
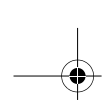
**TIMER CHIP COUNTER 2 FAILED —** A chip on the system board may be malfunctioning. Run the System Set tests in the Dell Diagnostics (see "Dell Diagnostics" on page 87).

**UNEXPECTED INTERRUPT IN PROTECTED MODE —** The keyboard controller may be malfunctioning, or a memory module may be loose. Run the System Memory tests and the Keyboard Controller test in the Dell Diagnostics (see "Dell Diagnostics" on page 87).

**X:\ IS NOT ACCESSIBLE. THE DEVICE IS NOT READY —** Insert a disk into the drive and try again.

**WARNING: BATTERY IS CRITICALLY LOW —** The battery is running out of charge. Replace the battery, or connect the computer to an electrical outlet; otherwise, activate hibernate mode or shut down the computer.
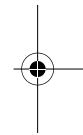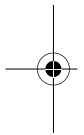
## ExpressCard Problems

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

**CHECK THE EXPRESSCARD** — Ensure that the ExpressCard is properly inserted into the connector.

**CHECK THAT THE CARD IS RECOGNIZED BY WINDOWS** — Double-click the **Safely Remove Hardware** icon in the Windows taskbar. Some cards do not support this feature. If the card supports this Windows feature, the card will be listed.

**IF YOU HAVE PROBLEMS WITH A DELL-PROVIDED EXPRESSCARD** — Contact Dell (see "Contacting Dell" on page 152). Also, for Mobile Broadband (WWAN) ExpressCards, see "Mobile Broadband (Wireless Wide Area Network [WWAN])" on page 107.

**IF YOU HAVE PROBLEMS WITH AN EXPRESSCARD NOT PROVIDED BY DELL** —

Contact the ExpressCard manufacturer.

## IEEE 1394 Device Problems

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

**ENSURE THAT THE IEEE 1394 DEVICE IS RECOGNIZED BY WINDOWS** —

1 Click Start ⊕ →Control Panel →System and Maintenance →Device Manager.

   ✎ **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.
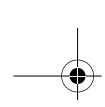
   If your IEEE 1394 device is listed, Windows recognizes the device.

**IF YOU HAVE PROBLEMS WITH A DELL-PROVIDED IEEE 1394 DEVICE** — Contact Dell or the IEEE 1394 device manufacturer (see "Contacting Dell" on page 152).

**IF YOU HAVE PROBLEMS WITH AN IEEE 1394 DEVICE NOT PROVIDED BY DELL** —

Contact Dell or the IEEE 1394 device manufacturer (see "Contacting Dell" on page 152).

Ensure that the IEEE 1394 device is properly inserted into the connector

# Keyboard 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 151 as you perform the various checks.

📝 **NOTE:** Use the integrated keyboard when running the Dell Diagnostics or the system setup program. When you attach an external keyboard, the integrated keyboard remains fully functional.

## External Keyboard problems

📝 **NOTE:** When you attach an external keyboard, the integrated keyboard remains fully functional.

**CHECK THE KEYBOARD CABLE —** Shut down the computer, disconnect the keyboard cable and check it for damage, then firmly reconnect the cable.

If you are using a keyboard extension cable, disconnect it and connect the keyboard directly to the computer.

**CHECK THE EXTERNAL KEYBOARD —**

1 Shut down the computer, wait 1 minute, and then turn it on again.

2 Verify that the numbers, capitals, and scroll lock lights on the keyboard blink during the boot routine.

3 From the Windows desktop, click **Start** 🟦 →**All Programs** → **Accessories** →**Notepad**.

4 Type some characters on the external keyboard and verify that they appear on the display.

   If you cannot verify these steps, you may have a defective external keyboard.

**TO VERIFY THAT THE PROBLEM IS WITH THE EXTERNAL KEYBOARD, CHECK THE INTEGRATED KEYBOARD —**

1 Shut down the computer.

2 Disconnect the external keyboard.

3 Turn on the computer.

4 From the Windows desktop, click **Start** → **All Programs** → **Accessories** → **Notepad**.

5 Type some characters on the internal keyboard and verify that they appear on the display.

If the characters appear now, but did not with the external keyboard, you may have a defective external keyboard. Contact Dell (see "Contacting Dell" on page 152).

**RUN THE KEYBOARD DIAGNOSTICS TESTS —** Run the PC-AT Compatible Keyboards tests in the Dell Diagnostics (see "Dell Diagnostics" on page 87). If the tests indicate a defective external keyboard, contact Dell (see "Contacting Dell" on page 152).

### Unexpected characters

**DISABLE THE NUMERIC KEYPAD —** Press <Num Lk> to disable the numeric keypad if numbers are displayed instead of letters. Verify that the numbers lock light is not lit.
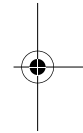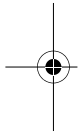
# Lockups and Software Problems

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

### The computer does not start

**CHECK THE AC ADAPTER —** Ensure that the AC adapter is firmly connected to the computer and to the electrical outlet.

The AC adapter shuts down when there is a fault. The green light turns off when this happens. To bring it back on, disconnect the AC adapter from the power source for 10 seconds, and then connect it back on.

### The computer stops responding

⬤ **NOTICE:** You might lose data if you are unable to perform an operating system shutdown.

**TURN THE COMPUTER OFF —** If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds until the computer turns off, then restart your computer.
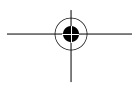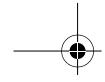
### A program stops responding or crashes repeatedly

END THE PROGRAM —

1 Press <Crtl><Shift><Esc> simultaneously.

2 Click the **Applications** tab and select the program that is no longer responding.

3 Click **End Task**.

*NOTE:* The chkdsk program may run when you restart the computer. Follow the instructions on the screen.

CHECK THE SOFTWARE DOCUMENTATION — If necessary, uninstall and then reinstall the program. Software usually includes installation instructions in its documentation or on a floppy disk or CD.

### A program is designed for an earlier Microsoft® Windows® operating system

RUN THE PROGRAM COMPATIBILITY WIZARD — Program compatibility is a mode in Windows that lets you run programs written for earlier versions of Windows. For more information, search for the keyword *program compatibility wizard* in Windows Help and Support.

### A solid blue screen appears

TURN THE COMPUTER OFF — If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds until the computer turns off, then restart your computer.
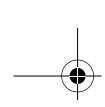
### Dell MediaDirect problems

CHECK THE DELL MEDIADIRECT HELP FILE FOR INFORMATION — Use the **Help** menu to access Dell MediaDirect Help.

TO PLAY MOVIES WITH DELL MEDIADIRECT, YOU MUST HAVE A DVD DRIVE AND THE DELL DVD PLAYER — If you purchased a DVD drive with your computer, this software should already be installed.

VIDEO QUALITY PROBLEMS — Turn off the **Use Hardware Acceleration** option. This feature takes advantage of the special processing in some graphics cards to reduce processor requirements when playing DVDs and certain types of video files.

**CANNOT PLAY SOME MEDIA FILES —** Because Dell MediaDirect provides access to media files outside the Windows operating system environment, access to licensed content is restricted. Licensed content is digital content that has Digital Rights Management (DRM) applied to it. The Dell MediaDirect environment cannot verify the DRM restrictions, so the licensed files cannot be played. Licensed music and video files have a lock icon next to them. You can access licensed files in the Windows operating system environment.

**ADJUSTING THE COLOR SETTINGS FOR MOVIES THAT CONTAIN SCENES THAT ARE TOO DARK OR TOO BRIGHT —** Click **EagleVision** to use a video enhancement technology that detects video content and dynamically adjusts the brightness/contrast/saturation ratios.

**NOTICE:** You cannot reinstall the Dell MediaDirect feature if you voluntarily reformat the hard drive. Contact Dell for assistance (see "Contacting Dell" on page 152).

## Other software problems

**CHECK THE SOFTWARE DOCUMENTATION OR CONTACT THE SOFTWARE MANUFACTURER FOR TROUBLESHOOTING INFORMATION —**

- Ensure that the program is compatible with the operating system installed on your computer.

- Ensure that your computer meets the minimum hardware requirements needed to run the software. See the software documentation for information.

- Ensure that the program is installed and configured properly.

- Verify that the device drivers do not conflict with the program.

- If necessary, uninstall and then reinstall the program.

**BACK UP YOUR FILES IMMEDIATELY**

**USE A VIRUS-SCANNING PROGRAM TO CHECK THE HARD DRIVE, FLOPPY DISKS, OR CDS**

**SAVE AND CLOSE ANY OPEN FILES OR PROGRAMS AND SHUT DOWN YOUR COMPUTER THROUGH THE START MENU**
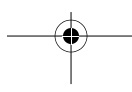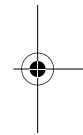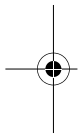
**SCAN THE COMPUTER FOR SPYWARE —** If you are experiencing slow computer performance, you frequently receive pop-up advertisements, or you are having problems connecting to the Internet, your computer might be infected with spyware. Use an anti-virus program that includes anti-spyware protection (your program may require an upgrade) to scan the computer and remove spyware. For more information, go to **support.dell.com** and search for the keyword *spyware*.

**RUN THE DELL DIAGNOSTICS —** If all tests run successfully, the error condition is related to a software problem (see "Dell Diagnostics" on page 87).

# Memory Problems

Fill out the "Diagnostics Checklist" on page 151 as you complete these checks.

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

**IF YOU RECEIVE AN INSUFFICIENT MEMORY MESSAGE —**

- Save and close any open files and exit any open programs you are not using to see if that resolves the problem.

- See the software documentation for minimum memory requirements. If necessary, install additional memory (see "Memory" on page 128).

- Reseat the memory modules to ensure that your computer is successfully communicating with the memory (see "Memory" on page 128).

- Run the Dell Diagnostics (see "Dell Diagnostics" on page 87).

**IF YOU EXPERIENCE OTHER MEMORY PROBLEMS —**

- Reseat the memory modules to ensure that your computer is successfully communicating with the memory (see "Memory" on page 128).

- Ensure that you are following the memory installation guidelines (see "Memory" on page 128).

- Run the Dell Diagnostics (see "Dell Diagnostics" on page 87).
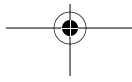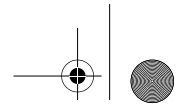
# Network Problems

Fill out the "Diagnostics Checklist" on page 151 as you complete these checks.

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

**CHECK THE NETWORK CABLE CONNECTOR —** Ensure that the network cable is firmly inserted into both the network connector on the back of the computer and the network jack.

**CHECK THE NETWORK LIGHTS ON THE NETWORK CONNECTOR —** No light indicates that no network communication exists. Replace the network cable.

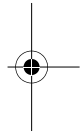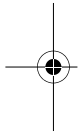**RESTART THE COMPUTER AND LOG ON TO THE NETWORK AGAIN**

**CHECK YOUR NETWORK SETTINGS —** Contact your network administrator or the person who set up your network to verify that your network settings are correct and that the network is functioning.

## Mobile Broadband (Wireless Wide Area Network [WWAN])

📝 **NOTE:** The Dell Mobile Broadband Card Utility user's guide and the Mobile Broadband ExpressCard user's guide are available through Windows Help and Support (click **Start** →**Help and Support**). You can also download the Dell Mobile Broadband Card Utility user's guide from **support.dell.com**.

📝 **NOTE:** The icon appears in the notification area if the computer has a Dell WWAN device installed. Double-click the icon to launch the utility.

**ACTIVATE THE MOBILE BROADBAND EXPRESSCARD —** You must activate the Mobile Broadband ExpressCard before you can connect to the network. Position the mouse over the icon in the notification area to verify the status of the connection. If the card is not activated, follow the card activation instructions located within the Dell Mobile Broadband Card Utility. To access the utility, double-click the icon located in the taskbar, at the lower-right corner of your screen. If your ExpressCard is not a Dell-branded card, see the manufacturer's instructions for your card.

**CHECK NETWORK CONNECTION STATUS IN THE DELL MOBILE BROADBAND CARD UTILITY —** Double-click the 📶 icon to launch the Dell Mobile Broadband Card Utility. Check the status in the main window:

- **No card detected** — Restart the computer, and launch the Dell Mobile Broadband Card Utility again.

- **Check your WWAN service** — Contact your cellular service provider to verify your plan coverage and supported services.

# Power Problems

Fill out the "Diagnostics Checklist" on page 151 as you complete these checks.

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

**CHECK THE POWER LIGHT —** When the power light is lit or blinking, the computer has power. If the power light is blinking, the computer is in Sleep state—press the power button to exit Sleep state. If the light is off, press the power button to turn on the computer.

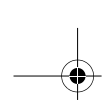✍️ **NOTE:** For information on Sleep power state, see "Using the Sleep Power State" on page 43.

**CHARGE THE BATTERY —** The battery charge may be depleted.

1 Reinstall the battery.

2 Use the AC adapter to connect the computer to an electrical outlet.

3 Turn on the computer.

✍️ **NOTE:** Battery operating time (the time the battery can hold a charge) decreases over time. Depending on how often the battery is used and the conditions under which it is used, you may need to purchase a new battery during the life of your computer.

**CHECK THE BATTERY STATUS LIGHT —** If the battery status light flashes amber or is a steady amber, the battery charge is low or depleted. Connect the computer to an electrical outlet.

If the battery status light flashes blue and amber, the battery is too hot to charge. Shut down the computer, disconnect the computer from the electrical outlet, and then let the battery and computer cool to room temperature.

If the battery status light rapidly flashes amber, the battery may be defective. Contact Dell (see "Contacting Dell" on page 152).

**CHECK THE BATTERY TEMPERATURE —** If the battery temperature is below 0°C (32°F), the computer will not start.

**TEST THE ELECTRICAL OUTLET —** Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

**CHECK THE AC ADAPTER —** Check the AC adapter cable connections. If the AC adapter has a light, ensure that the light is on.

**CONNECT THE COMPUTER DIRECTLY TO AN ELECTRICAL OUTLET —** Bypass power protection devices, power strips, and extension cables to verify that the computer turns on.

**ELIMINATE POSSIBLE INTERFERENCE —** Turn off nearby fans, fluorescent lights, halogen lamps, or other appliances.

**ADJUST THE POWER PROPERTIES —** See "Configuring Power Management Settings" on page 42.

**RESEAT THE MEMORY MODULES —** If the computer power light turns on, but the display remains blank, reinstall the memory modules (see "Memory" on page 128).
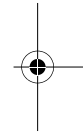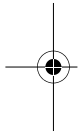
## Printer Problems

Fill out the "Diagnostics Checklist" on page 151 as you complete these checks.

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

✎ **NOTE:** If you need technical assistance for your printer, contact the printer's manufacturer.
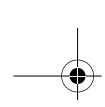
**CHECK THE PRINTER DOCUMENTATION —** See the printer documentation for setup and troubleshooting information.

**ENSURE THAT THE PRINTER IS TURNED ON**

**CHECK THE PRINTER CABLE CONNECTIONS —**

• See the printer documentation for cable connection information.

• Ensure that the printer cables are securely connected to the printer and the computer.
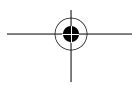
**TEST THE ELECTRICAL OUTLET —** Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

**VERIFY THAT THE PRINTER IS RECOGNIZED BY WINDOWS —**

1 Click **Start** → **Control Panel** → **Hardware and Sound** → **Printers**.

2 Right-click the printer icon.

3 Click **Properties**, and then click the **Ports** tab. For a parallel printer, ensure that the **Print to the following port(s):** setting is **LPT1 (Printer Port)**. For a USB printer, ensure that the **Print to the following port(s):** setting is **USB**.

**REINSTALL THE PRINTER DRIVER —** See the printer documentation for instructions.

# Scanner Problems

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

📝 **NOTE:** If you need technical assistance for your scanner, contact the scanner's manufacturer.

**CHECK THE SCANNER DOCUMENTATION —** See the scanner documentation for setup and troubleshooting information.

**UNLOCK THE SCANNER —** Ensure that your scanner is unlocked.

**RESTART THE COMPUTER AND TRY THE SCANNER AGAIN**
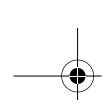
**CHECK THE CABLE CONNECTIONS —**

• See the scanner documentation for cable connection information.

• Ensure that the scanner cables are securely connected to the scanner and the computer.

**VERIFY THAT THE SCANNER IS RECOGNIZED BY MICROSOFT WINDOWS —**

Click **Start** → **Control Panel** → **Hardware and Sound** → **Scanners and Cameras**. If your scanner is listed, Windows recognizes the scanner.

**REINSTALL THE SCANNER DRIVER —** See the scanner documentation for instructions.
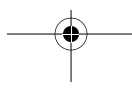
# Sound and Speaker Problems

Fill out the "Diagnostics Checklist" on page 151 as you complete these checks.

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

## No sound from integrated speakers

**ADJUST THE WINDOWS VOLUME CONTROL —** Double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted. Adjust the volume, bass, or treble controls to eliminate distortion.

**ADJUST THE VOLUME USING KEYBOARD SHORTCUTS —** Press <Fn><End> to disable (mute) or re-enable the integrated speakers.

**REINSTALL THE SOUND (AUDIO) DRIVER —** See "Reinstalling Drivers and Utilities" on page 116.

## No sound from external speakers

**ENSURE THAT THE SUBWOOFER AND THE SPEAKERS ARE TURNED ON —** See the setup diagram supplied with the speakers. If your speakers have volume controls, adjust the volume, bass, or treble to eliminate distortion.

**ADJUST THE WINDOWS VOLUME CONTROL —** Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

**DISCONNECT HEADPHONES FROM THE HEADPHONE CONNECTOR —** Sound from the speakers is automatically disabled when headphones are connected to the headphone connector.

**TEST THE ELECTRICAL OUTLET —** Ensure that the electrical outlet is working by testing it with another device, such as a lamp.
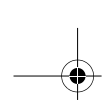
**ELIMINATE POSSIBLE INTERFERENCE —** Turn off nearby fans, fluorescent lights, or halogen lamps to check for interference.

**REINSTALL THE AUDIO DRIVER —** See "Reinstalling Drivers and Utilities" on page 116.

**RUN THE DELL DIAGNOSTICS —** See "Dell Diagnostics" on page 87.

✎ **NOTE:** The volume control in some MP3 players overrides the Windows volume setting. If you have been listening to MP3 songs, ensure that you did not turn the player volume down or off.
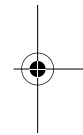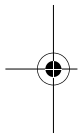
### No sound from headphones

**CHECK THE HEADPHONE CABLE CONNECTION —** Ensure that the headphone cable is securely inserted into the headphone connector.

**ADJUST THE WINDOWS VOLUME CONTROL —** Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

# Remote Control Problems

**APPLICATION DOES NOT RESPOND TO REMOTE CONTROL WITHIN THE SPECIFIED MAXIMUM RANGE**

- Check that the battery is placed correctly with the "+" side facing up. Check that the battery is also not weak.
- Point your remote control to the receiver. The receiver is underneath the touch pad of your computer.
- Move the remote control closer to your computer.

**REMOTE CONTROL IS STUCK IN THE SLOT**

Check that you have not incorrectly stored the remote control into a non-Express Card slot. Contact Dell Technical Support for removing it.

# Touch Pad or Mouse Problems

**CHECK THE TOUCH PAD SETTINGS —**

1. Click Start ⊕ →Control Panel →Hardware and Sound →Mouse.
2. Adjust the settings, as needed.

**CHECK THE MOUSE CABLE —** Shut down the computer, disconnect the mouse cable and check it for damage, then firmly reconnect the cable.

If you are using a mouse extension cable, disconnect it and connect the mouse directly to the computer.

**TO VERIFY THAT THE PROBLEM IS WITH THE MOUSE, CHECK THE TOUCH PAD —**

1. Shut down the computer.
2. Disconnect the mouse.

**3** Turn on the computer.

**4** At the Windows desktop, use the touch pad to move the cursor around, select an icon, and open it.

If the touch pad operates correctly, the mouse may be defective.

**CHECK THE SYSTEM SETUP PROGRAM SETTINGS —** Verify that the system setup program lists the correct device for the pointing device option (the computer automatically recognizes a USB mouse without making any setting adjustments).

**TEST THE MOUSE CONTROLLER —** To test the mouse controller (which affects pointer movement) and the operation of the touch pad or mouse buttons, run the Mouse test in the **Pointing Devices** test group in the "Dell Diagnostics" on page 87.

**REINSTALL THE TOUCH PAD DRIVER —** See "Reinstalling Drivers and Utilities" on page 116.

# Video and Display Problems

Fill out the "Diagnostics Checklist" on page 151 as you complete these checks.

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

## If the display is blank

📝 **NOTE:** If you are using a program that requires a higher resolution than your computer supports, it is recommended that you attach an external monitor to your computer.

**CHECK THE BATTERY —** If you are using a battery to power your computer, the battery charge may be depleted. Connect the computer to an electrical outlet using the AC adapter, and then turn on the computer.

**TEST THE ELECTRICAL OUTLET —** Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

**CHECK THE AC ADAPTER —** Check the AC adapter cable connections. If the AC adapter has a light, ensure that the light is on.

**CONNECT THE COMPUTER DIRECTLY TO AN ELECTRICAL OUTLET —** Bypass power protection devices, power strips, and extension cables to verify that the computer turns on.
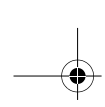
**ADJUST THE POWER PROPERTIES** — Search for the keyword *sleep* in Windows Help and Support.

**SWITCH THE VIDEO IMAGE** — If your computer is attached to an external monitor, press <Fn><F8> to switch the video image to the display.

### If the display is difficult to read

**ADJUST THE BRIGHTNESS** — Press <Fn> and the up- or down-arrow key.

**MOVE THE EXTERNAL SUBWOOFER AWAY FROM THE COMPUTER OR MONITOR** — If your external speaker system includes a subwoofer, ensure that the subwoofer is at least 60 cm (2 ft) away from the computer or external monitor.

**ELIMINATE POSSIBLE INTERFERENCE** — Turn off nearby fans, fluorescent lights, halogen lamps, or other appliances.

**ROTATE THE COMPUTER TO FACE A DIFFERENT DIRECTION** — Eliminate sunlight glare, which can cause poor picture quality.

**ADJUST THE WINDOWS DISPLAY SETTINGS** —

1  Click **Start** 🎮 →**Control Panel** →**Appearance and Personalization** → **Personalization** →**Display Settings**.

2  Click the area you want to change or click the **Display** icon.

Try different settings for **Resolution** and **Colors**.

**RUN THE VIDEO DIAGNOSTICS TESTS** — If no error message appears and you still have a display problem, but the display is not completely blank, run the **Video** device group in the "Dell Diagnostics" on page 87, then contact Dell (see "Contacting Dell" on page 152).

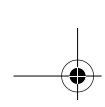**SEE "ERROR MESSAGES"** — If an error message appears, see "Error Messages" on page 96.

### If only part of the display is readable

**CONNECT AN EXTERNAL MONITOR** —

1  Shut down your computer and connect an external monitor to the computer.

2  Turn on the computer and the monitor, and then adjust the monitor brightness and contrast controls.

If the external monitor works, the computer display or video controller may be defective. Contact Dell (see "Contacting Dell" on page 152).

# Drivers

## What Is a Driver?

A driver is a program that controls a device such as a printer, mouse, or keyboard. All devices require a driver program.

A driver acts like a translator between the device and any other programs that use the device. Each device has its own set of specialized commands that only its driver recognizes.

Dell ships your computer to you with required drivers already installed—no further installation or configuration is needed.

**◯ NOTICE:** Your *Drivers and Utilities* media may contain drivers for operating systems that are not on your computer. Ensure that you are installing software appropriate for your operating system.

Many drivers, such as the keyboard driver, come with your Microsoft® Windows® operating system. You may need to install drivers if you:

- Upgrade your operating system.
- Reinstall your operating system.
- Connect or install a new device.
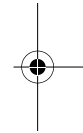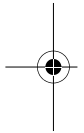
## Identifying Drivers

If you experience a problem with any device, identify whether the driver is the source of your problem and, if necessary, update the driver.

1 Click **Start**, and then right-click **Computer**.

2 Click **Properties**, and then click **Device Manager**.

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

Scroll down the list of devices and check for an exclamation point (a circle with a [!]) next to the device name. If an exclamation point is next to the device name, you may need to reinstall the driver or install a new driver (see "Reinstalling Drivers and Utilities" on page 116).
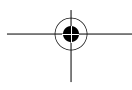
## Reinstalling Drivers and Utilities

**NOTICE:** The Dell Support website at **support.dell.com** and your *Drivers and Utilities* media provide approved drivers for Dell computers. If you install drivers obtained from other sources, your computer might not work correctly.

### Using Windows Device Driver Rollback

If a problem occurs on your computer after you install or update a driver, use Windows Device Driver Rollback to replace the driver with the previously installed version.
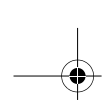
1. Click **Start** , and then right-click **Computer**.

2. Click **Properties**, and then click **Device Manager**.

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

3. Right-click the device for which the new driver was installed and click **Properties**.

4. Click the **Drivers** tab, and then click **Roll Back Driver**.

If Device Driver Rollback does not resolve the problem, use System Restore (see "Restoring Your Operating System" on page 118) to return your computer to the operating state that existed before you installed the new driver.

### Using the Drivers and Utilities Media

If using Device Driver Rollback or System Restore (see "Restoring Your Operating System" on page 118) does not resolve the problem, reinstall the driver from your *Drivers and Utilities* media.

1. With the Windows desktop displayed, insert your *Drivers and Utilities* media.

   If this is your first time to use your *Drivers and Utilities* media, continue to step 2. If not, proceed to step 5.

2. When the *Drivers and Utilities* installation program starts, follow the prompts on the screen.

   **NOTE:** In most cases, the *Drivers and Utilities* program starts running automatically. If it does not, start Windows Explorer, click your media drive directory to display the media contents, and then double-click the **autorcd.exe** file.

3. When the **InstallShield Wizard Complete** window appears, remove the *Drivers and Utilities* disc and click **Finish** to restart the computer.

**4** When you see the Windows desktop, reinsert the *Drivers and Utilities* disc.

**5** At the **Welcome Dell System Owner** screen, click **Next**.

> **NOTE:** The *Drivers and Utilities* program displays drivers only for hardware that came installed in your computer. If you installed additional hardware, the drivers for the new hardware might not be displayed. If those drivers are not displayed, exit the *Drivers and Utilities* program. For drivers information, see the documentation that came with the device.

A message stating that the *Drivers and Utilities* program is detecting hardware in your computer appears.

The drivers that are used by your computer are automatically displayed in the **My Drivers—The ResourceCD has identified these components in your system** window.

**6** Click the driver that you want to reinstall and follow the instructions on the screen.

If a particular driver is not listed, then that driver is not required by your operating system.
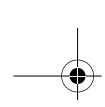
### Manually Reinstalling Drivers

> **NOTE:** If your computer has a Consumer IR port and you are reinstalling a Consumer IR driver, you must first enable the Consumer IR port in the system setup program (see "Using the System Setup Program" on page 161) before continuing with the driver installation (see "Reinstalling Drivers and Utilities" on page 116). For information about components installed on your computer, see "Determining Your Computer's Configuration" on page 19.

**1** After extracting the driver files to your hard drive, as described in the previous section, click **Start** , and then right-click **Computer**.

**2** Click **Properties**, and then click **Device Manager**.

**3** Double-click the type of device for which you are installing the driver (for example, **Modems** or **Infrared devices**).

**4** Double-click the name of the device for which you are installing the driver.

**5** Click **Driver** tab, and then click **Update Driver**.

**6** Click **Install from a list or specific location (Advanced)**, and then click **Next**.

**7** Click **Browse** and browse to the location to which you previously copied the driver files.

**8**  When the name of the appropriate driver appears, click **Next**.

**9**  Click **Finish**, and then restart your computer.

# Troubleshooting Software and Hardware Problems

If a device is either not detected during the operating system setup or is detected but incorrectly configured, use Windows Vista Help and Support to resolve the incompatibility:

**1**  Click **Start** →**Help and Support**.

**2**  Type hardware troubleshooter in the search field, then press <Enter>.

**3**  In the search results, select the option that best describes the problem and follow the remaining troubleshooting steps.

# Restoring Your Operating System

You can restore your operating system in the following ways:

- Windows Vista System Restore returns your computer to an earlier operating state without affecting data files. Use System Restore as the first solution for restoring your operating system and preserving data files. For instructions, see "Using Microsoft Windows System Restore" on page 118.

- If you received *Operating System* media with your computer, you can use it to restore your operating system. However, using the *Operating System* media also deletes all data on the hard drive. Use the media *only* if System Restore did not resolve your operating system problem. For instructions, see "Using the Operating System Media" on page 119.

### Using Microsoft Windows System Restore

The Windows operating system provides System Restore to allow you to return your computer to an earlier operating state (without affecting data files) if changes to the hardware, software, or other system settings have left the computer in an undesirable operating state. Any changes that System Restore makes to your computer are completely reversible.
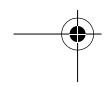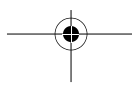
**NOTICE:** Make regular backups of your data files. System Restore does not monitor your data files or recover them.

**NOTE:** The procedures in this document were written for the Windows default view, so they may not apply if you set your Dell computer to the Windows Classic view.

1   Click **Start** →**Help and Support**.

2   Type System Restore in the search field, then press <Enter>.

   **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.

3   Click **Next** and follow the remaining prompts on the screen.

In the event that System Restore did not resolve the issue, you may undo the last system restore.

### Undoing the Last System Restore

**NOTICE:** Before you undo the last system restore, save and close all open files and exit any open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

1   Click **Start** →**Help and Support**.

2   Type System Restore in the search field and press <Enter>.

3   Click **Undo my last restoration**, and then click **Next**.
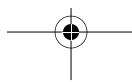
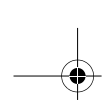## Using the Operating System Media

### Before You Begin

If you are considering reinstalling the Windows operating system to correct a problem with a newly installed driver, first try using Windows Device Driver Rollback (see "Using Windows Device Driver Rollback" on page 116). If Device Driver Rollback does not resolve the problem, then use System Restore to return your operating system to the operating state it was in before you installed the new device driver (see "Using Microsoft Windows System Restore" on page 118).

**NOTICE:** Before performing the installation, back up all data files on your primary hard drive. For conventional hard drive configurations, the primary hard drive is the first drive detected by the computer.

To reinstall Windows, you need the following items:

- Dell *Operating System* media
- Dell *Drivers and Utilities* media

**NOTE:** Your *Drivers and Utilities* media contains drivers that were installed during assembly of the computer. Use your *Drivers and Utilities* media to load any required drivers, including the drivers required if your computer has a RAID controller.

### Reinstalling Windows

The reinstallation process can take 1 to 2 hours to complete. After you reinstall the operating system, you must also reinstall the device drivers, virus protection program, and other software.

**NOTICE:** The *Operating System* media provides options for reinstalling Windows. The options can overwrite files and possibly affect programs that are installed on your hard drive. Therefore, do not reinstall Windows unless a Dell technical support representative instructs you to do so.

1 Save and close any open files and exit any open programs.

2 Insert the *Operating System* media.

3 Click **Exit** if the Install Windows message appears.

4 Restart the computer.

When the DELL logo appears, press <F12> immediately.

**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:** The next steps change the boot sequence for one time only. On the next start-up, the computer boots according to the devices specified in the system setup program.

5 When the boot device list appears, highlight **CD/DVD/CD-RW Drive**, and then press <Enter>.

6 Press any key to **Boot from CD-ROM**.

7 Follow the instructions on the screen to complete the installation.

**NOTE:** You cannot reinstall Dell MediaDirect if you voluntarily reformat the hard drive. You need the installation software to reinstall Dell MediaDirect. Contact Dell for assistance (see "Contacting Dell" on page 152).
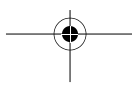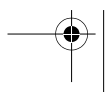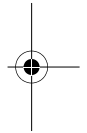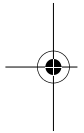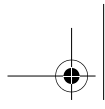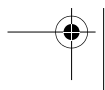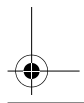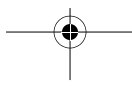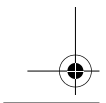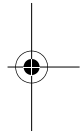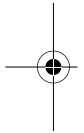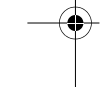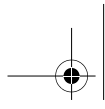
2

# Adding and Replacing Parts

## Before You Begin

This chapter provides procedures for removing and installing the components in your computer. Unless otherwise noted, each procedure assumes that the following conditions exist:

- You have performed the steps in "Turning Off Your Computer" (see "Turning Off Your Computer" on page 123) and "Before Working Inside Your Computer" (see "Before Working Inside Your Computer" on page 124).

- You have read the safety information in your Dell™ *Product Information Guide.*

- A component can be replaced or—if purchased separately—installed by performing the removal procedure in reverse order.

### Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program (see the Dell Support website at **support.dell.com**)

### Turning Off Your Computer

**NOTICE:** To avoid losing data, save and close any open files and exit any open programs before you turn off your computer.

 1  Shut down the operating system:

 **a**  Save and close any open files, exit any open programs, click the **Start** button, and then click **Turn Off Computer**.

 **b**  In the **Turn off computer** window, click **Turn off**.

The computer turns off after the operating system shutdown process finishes.

2   Ensure that the computer and any attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for at least 8 to 10 seconds until the computer turns off.

## Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help ensure your own personal safety.

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

⚠ **CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.**

➡ **NOTICE:** Damage due to servicing that is not authorized by Dell is not covered by your warranty.

➡ **NOTICE:** When you disconnect a cable, pull on its connector, not on the cable itself. Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

➡ **NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).

➡ **NOTICE:** To avoid damaging the computer, perform the following steps before you begin working inside the computer.

1   Ensure that the work surface is flat and clean to prevent the computer cover from being scratched.

2   Turn off your computer. See "Turning Off Your Computer" on page 123.

➡ **NOTICE:** To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3   Disconnect any telephone or network cables from the computer.

**NOTICE:** To avoid damaging the system board, you must remove the battery before you service the computer.

4 Disconnect your computer and all attached devices from their electrical outlets.

5 Remove the battery. Slide and hold the battery-bay latch release on the bottom of the computer, and then remove the battery from the bay.
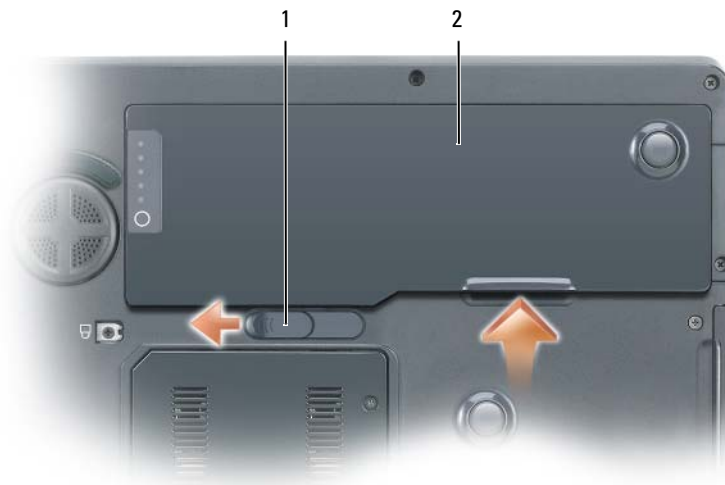


1 battery-bay latch release  2 battery

6 Press the power button to ground the system board.

7 Remove any installed ExpressCards from the ExpressCard slot.

# Hard Drive

**CAUTION: If you remove the hard drive from the computer when the drive is hot, *do not touch* the metal housing of the hard drive.**

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

> **NOTICE:** To prevent data loss, turn off your computer (see page 123) before removing the hard drive. Do not remove the hard drive while the computer is on, in standby mode, or in hibernate mode.

> **NOTICE:** Hard drives are extremely fragile; even a slight bump can damage the drive.

> **NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).

> **NOTICE:** To avoid damaging the system board, you must remove the battery before you begin working inside the computer.

> **NOTE:** Dell does not guarantee compatibility or provide support for hard drives from sources other than Dell.

> **NOTE:** If you are installing a hard drive from a source other than Dell, you need to install an operating system, drivers, and utilities on the new hard drive. See "Restoring Your Operating System" on page 118 and "Reinstalling Drivers and Utilities" on page 116.

To replace the hard drive:

1 Follow the procedures in "Before You Begin" on page 123.

2 Turn the computer over, and remove the hard drive screws.
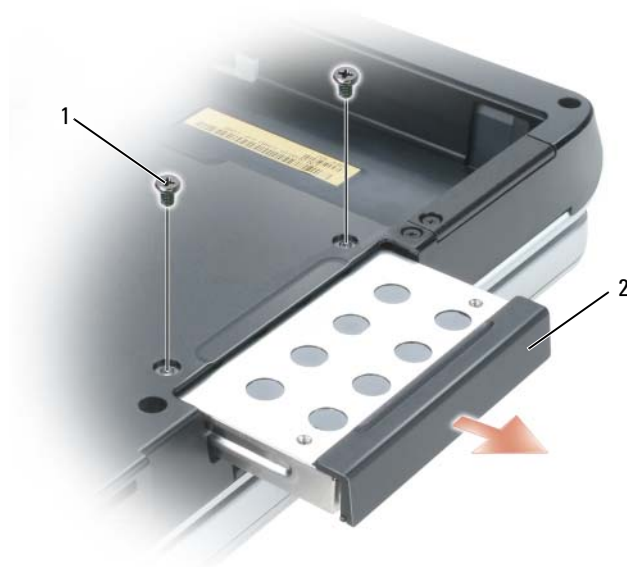
| | 1 | hard drive screws (2) | | 2 | hard drive |

**NOTICE:** When the hard drive is not in the computer, store it in protective antistatic packaging. See "Protecting Against Electrostatic Discharge" in the *Product Information Guide*.

3 Slide the hard drive out of the computer.

4 Remove the new drive from its packaging.

Save the original packaging for storing or shipping the hard drive.

**NOTICE:** Use firm and even pressure to slide the drive into place. If you use excessive force, you may damage the connector.

5 Slide the hard drive into the bay until it is fully seated.

6 Replace and tighten the screws.

7 If the new hard drive is not already pre-imaged, install the operating system and drivers for your computer. See "Restoring Your Operating System" on page 118 and "Reinstalling Drivers and Utilities" on page 116.

### Returning a Hard Drive to Dell

Return your old hard drive to Dell in its original or comparable foam packaging. Otherwise, the hard drive may be damaged in transit.
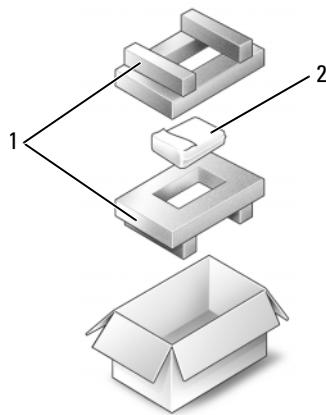
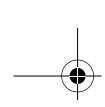

| 1 | foam packaging | 2 | hard drive |

# Memory

You can increase your computer memory by installing memory modules on the system board. See "Specifications" on page 153 for information on the memory supported by your computer. Install only memory modules that are intended for your computer.

**NOTE:** In order to take advantage of the dual channel bandwidth capability, both memory slots must be populated and must match in size.

**NOTE:** Memory modules purchased from Dell are covered under your computer warranty.

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

**NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).

**NOTICE:** To avoid damaging the system board, you must remove the battery before you begin working inside the computer.

1  Follow the procedures in "Before You Begin" on page 123.

2  Ground yourself by touching one of the metal connectors on the back of the computer.

   **NOTE:** If you leave the area, ground yourself again when you return to the computer.

3  Turn the computer over, loosen the captive screws on the memory module cover, and then remove the cover.
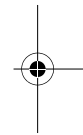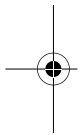


**NOTICE:** To prevent damage to the memory module connector, do not use tools to spread the memory-module securing clips.

4  If you are replacing a memory module, remove the existing module:

   a  Use your fingertips to carefully spread apart the securing clips on each end of the memory module connector until the module pops up.

   b  Remove the module from the connector.
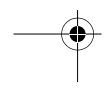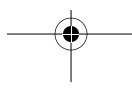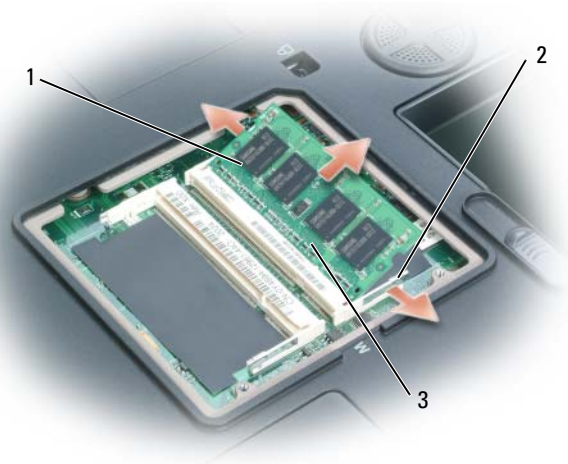
| 1 | memory module | 2 | securing clips (2 per connector) | 3 | memory module connector |

**NOTE:** If the memory module is not installed properly, the computer may not boot properly. No error message indicates this failure.

5 Ground yourself and install the new memory module:

 a Align the notch in the module edge connector with the tab in the connector slot.

 b Slide the module firmly into the slot at a 45-degree angle, and rotate the module down until it clicks into place. If you do not feel the click, remove the module and reinstall it.

**6** Replace the memory module cover.

**NOTICE:** If the cover is difficult to close, remove the module and reinstall it. Forcing the cover to close may damage your computer.

**7** Insert the battery into the battery bay, or connect the AC adapter to your computer and an electrical outlet.

**8** Turn on the computer.

As the computer boots, it detects the additional memory and automatically updates the system configuration information. If prompted, press <F1> to continue.

To confirm the amount of memory installed in the computer, click the **Start** button, click **Help and Support**, and then click **Computer Information**.

# Mini-Card

If you ordered a Mini-Card with your computer, the card is already installed.

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

**NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).
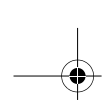
⊘ **NOTICE:** To avoid damaging the system board, you must remove the battery before you begin working inside the computer.

1   Follow the procedures in "Before You Begin" on page 123.

2   Turn the computer over and loosen the captive screws from the Mini-Card/modem cover.

3   Place your finger under the cover at the indentation, and lift the cover to remove it.



4   If a Mini-Card is not already installed, go to step 5. If you are replacing a Mini-Card, remove the existing card:

   a   Disconnect the antenna cables from the Mini-Card.

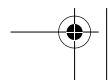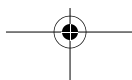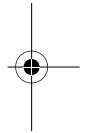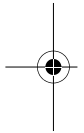| 1 | antenna cables (2) | 2 | Mini-Card | 3 | Mini-Card connector |

**b** Release the Mini-Card by pushing the metal securing clips toward the back of the computer until the card pops up slightly.

**c** Lift the Mini-Card out of its connector.
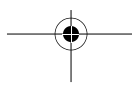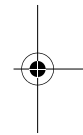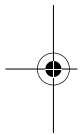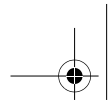
| **1** | securing clips | **2** | Mini-Card |

**NOTICE:** The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors and realign the card.

5 Install the replacement Mini-Card:

a Align the Mini-Card with the connector at a 45-degree angle, and press the Mini-Card down into the securing clips until the card clicks into place.



| 1 | securing clips | 2 | antenna connectors (2) | 3 | Mini-Card connector |

**NOTICE:** To avoid damaging the Mini-Card, never place cables under the card.

b Connect the antenna cables to the antenna connectors on the Mini-Card by matching the color of the cable to the color of the triangle above the connector. Connect the main antenna cable (white) to the antenna connector with the white triangle. Connect the auxiliary antenna cable (black) to the antenna connector with the black triangle.

Adding and Replacing Parts | **135**

**NOTE:** If your computer has a gray cable, connect it to the connector with the gray triangle, if one is available on your card.



**6** Replace the Mini-Card/modem cover.

# Hinge Cover

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

**NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).

**NOTICE:** To avoid damaging the system board, you must remove the battery before you begin working inside the computer.

**1** Follow the procedures in "Before You Begin" on page 123.

**2** Remove the hinge cover:

  **a** Open the display all the way (180 degrees) so that it lies flat against your work surface.

**NOTICE:** To avoid damaging the hinge cover, do not lift the cover on both sides simultaneously.

**b** Insert a scribe into the indent to lift the hinge cover on the right side.

**c** Ease the hinge cover up, moving from right to left, and remove it.



1

1    hinge cover

When replacing the hinge cover, first insert the left edge and then press from left to right until the cover snaps into place.

# Keyboard

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

⊘ **NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).

⊘ **NOTICE:** To avoid damaging the system board, you must remove the battery before you begin working inside the computer.

**1** Follow the procedures in "Before You Begin" on page 123.

**2** Open the display and remove the hinge cover. See "Hinge Cover" on page 136.

**3** Remove the keyboard:

   **a**    Remove the two screws at the top of the keyboard.

**NOTICE:** The key caps on the keyboard are fragile, easily dislodged, and time-consuming to replace. Be careful when removing and handling the keyboard.

   **b**    Lift the keyboard and hold it up and slightly forward to access to the keyboard connector.

   **c**    To disconnect the keyboard cable from the keyboard connector on the system board, rotate the keyboard connector latch toward the front of the computer.

   **d**    Slide the keyboard cable out of the keyboard connector on the system board.



| 1 | keyboard | 2 | keyboard screws (2) | 3 | keyboard cable |
|---|----------|---|---------------------|---|----------------|
| 4 | keyboard connector latch | 5 | keyboard tabs | | |

**NOTICE:** To avoid scratching the palm rest when replacing the keyboard, hook the five tabs along the front edge of the keyboard into the palm rest, and then secure the keyboard in place.

## Coin-Cell Battery

**CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.**
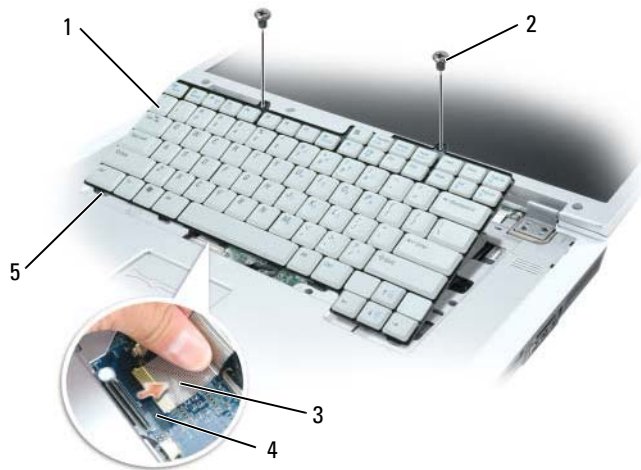
⊘ **NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).

⊘ **NOTICE:** To avoid damaging the system board, you must remove the battery before you begin working inside the computer.

1  Follow the procedures in "Before You Begin" on page 123.

2  Remove the hinge cover. See "Hinge Cover" on page 136.

3  Remove the keyboard. See "Keyboard" on page 137.

4  Remove the existing coin-cell battery:

   **a**  Pull up on the connector to disconnect the battery cable from the system board.

   **b**  Press the release latch on the side of the coin-cell battery compartment, and lift the battery.
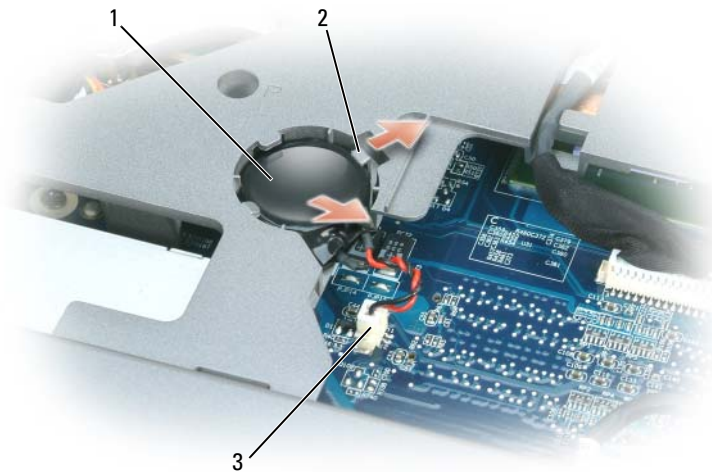


| 1 | coin-cell battery | 2 | release latch | 3 | battery cable connector |

5  Install the replacement battery:

   **a**  Insert the battery at a 30-degree angle under the release latch with the positive side up, and then push the battery into place.

Adding and Replacing Parts  |  **139**

**b** Connect the battery cable to the connector on the system board.

**6** Replace the keyboard.

**7** Replace the hinge cover.

# Optical Drive

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

**1** Follow the procedures in "Before You Begin" on page 123.

**2** Turn the computer over.

**3** Remove the optical-drive security screw.

**4** Insert a scribe into the notch and push it to the side to release the drive from the bay.
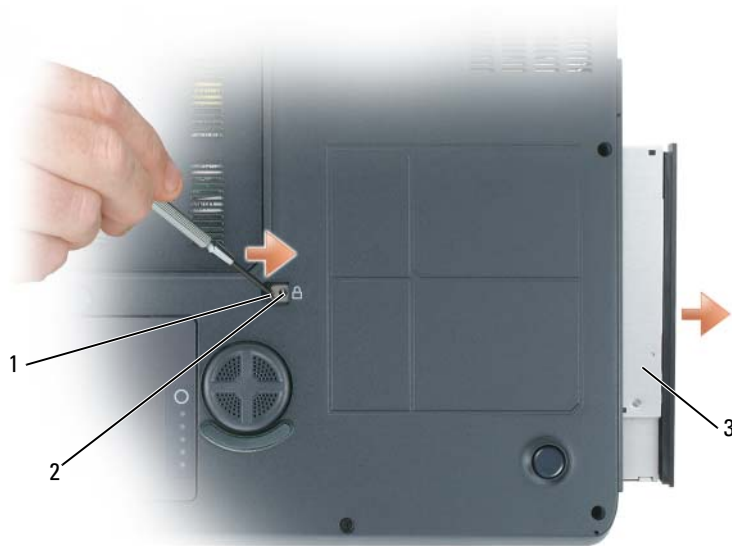


| 1 | notch | 2 | optical-drive security screw | 3 | optical drive |

**5** Slide the drive out of the bay.

To reinstall the optical drive, slide the drive into the drive bay and snap it into place. Then replace the optical-drive security screw.

# Internal Card With Bluetooth® Wireless Technology

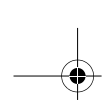⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.**

**NOTICE:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).
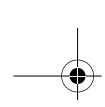
**NOTICE:** To avoid damaging the system board, you must remove the battery before you begin working inside the computer.

If you ordered a card with Bluetooth wireless technology with your computer, it is already installed.

1 Follow the procedures in "Before You Begin" on page 123.

2 Remove the battery. See "Replacing the Battery" on page 44.

3 Loosen the captive screw and remove the card cover from the computer.

4 Pull the card out of the compartment so that you can disconnect the card from its cable and remove it from the computer.
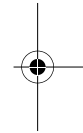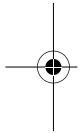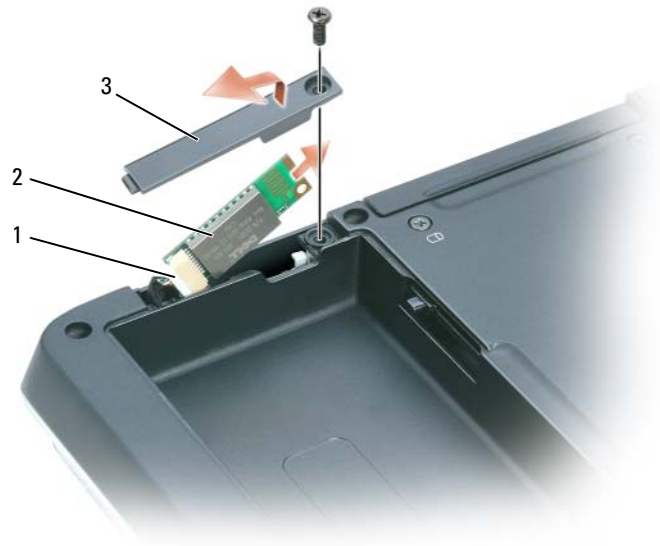
| 1 | cable connector | 2 | card | 3 | card cover |

5 To replace the card, connect the card to the cable and then carefully insert it into the compartment.

6 Replace the card cover and tighten the screw.

7 Replace the battery.
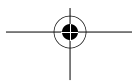
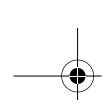**13**

# Dell™ QuickSet Features

📝 **NOTE:** This feature may not be available on your computer.

Dell QuickSet provides you with easy access to configure or view the following types of settings:

- Network connectivity
- Display
- System information

Depending on what you want to do in Dell QuickSet, you can start it by either *clicking*, *double-clicking*, or *right-clicking* the QuickSet icon in the Microsoft® Windows® notification area. The notification area is located in the lower-right corner of your screen.

For more information about QuickSet, right-click the QuickSet icon and select **Help**.
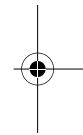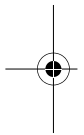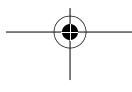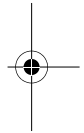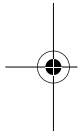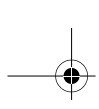
**14**

# Traveling With Your Computer

## Identifying Your Computer

- Attach a name tag or business card to the computer.
- Write down your Service Tag and store it in a safe place away from the computer or carrying case. Use the Service Tag if you need to report a loss or theft to law enforcement officials and to Dell.
- Create a file on the Microsoft® Windows® desktop called **if_found**. Place information such as your name, address, and phone number in this file.
- Contact your credit card company and ask if it offers coded identification tags.

## Packing the Computer

- Remove any external devices attached to the computer and store them in a safe place.
- Fully charge the main battery and any spare batteries that you plan to carry with you.
- Shut down the computer.
- Disconnect the AC adapter.

**⊘ NOTICE:** When the display is closed, extraneous items on the keyboard or palm rest could damage the display.

- Remove any extraneous items, such as paper clips, pens, and paper, from the keyboard and palm rest and close the display.
- Use the optional Dell carrying case to pack the computer and its accessories together safely.
- Avoid packing the computer with items such as shaving cream, colognes, perfumes, or food.

**⊘ NOTICE:** If the computer has been exposed to extreme temperatures, allow it to acclimate to room temperature for 1 hour before turning it on.
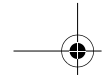
- Protect the computer, the batteries, and the hard drive from hazards such as extreme temperatures and overexposure to sunlight, dirt, dust, or liquids.

- Pack the computer so that it does not slide around in the trunk of your car or in an overhead storage compartment.

# Travel Tips

**NOTICE:** Do not move the computer while using the optical drive to prevent loss of data.

**NOTICE:** Do not check the computer as baggage.

- Consider disabling wireless activity on your computer to maximize battery operating time. To disable wireless activity, use the wireless switch.

- Consider changing your power management options to maximize battery operating time (see "Configuring Power Management Settings" on page 42).

- If you are traveling internationally, carry proof of ownership—or of your right to use the computer if it is company-owned—to speed your passage through customs. Investigate the customs regulations of the countries you plan to visit, and consider acquiring an international carnet (also known as a *merchandise passport*) from your government.

- Find out what type of electrical outlets are used in the countries you will visit, and have appropriate power adapters.

- Check with your credit card company for information about the kinds of emergency travel assistance it offers to users of portable computers.
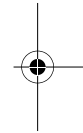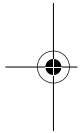
## Traveling by Air

**NOTICE:** Do not walk the computer through a metal detector. Send the computer through an X-ray machine or have it hand-inspected.

- Ensure that you have a charged battery available in case you are asked to turn on the computer.

- Prior to entering the airplane, verify that using a computer is permitted. Some airlines forbid the use of electronic devices during flight. All airlines forbid the use of electronic devices during takeoff and landing.
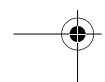
**15**

# Getting Help

## Obtaining Assistance

⚠️ **CAUTION: If you need to remove the computer cover, first disconnect the computer power and modem cables from all electrical outlets.**

If you experience a problem with your computer, you can complete the following steps to diagnose and troubleshoot the problem:

1 See "Troubleshooting" on page 87 for information and procedures that pertain to the problem your computer is experiencing.

2 See "Dell Diagnostics" on page 87 for procedures on how to run Dell Diagnostics.

3 Fill out the "Diagnostics Checklist" on page 151.

4 Use Dell's extensive suite of online services available at Dell Support (**support.dell.com**) for help with installation and troubleshooting procedures. See "Online Services" on page 148 for a more extensive list of Dell Support online.

5 If the preceding steps have not resolved the problem, see "Contacting Dell" on page 152.

📝 **NOTE:** Call Dell Support from a telephone near or at the computer so that the support staff can assist you with any necessary procedures.

📝 **NOTE:** Dell's Express Service Code system may not be available in all countries.

When prompted by Dell's automated telephone system, enter your Express Service Code to route the call directly to the proper support personnel. If you do not have an Express Service Code, open the **Dell Accessories** folder, double-click the **Express Service Code** icon, and follow the directions.

For instructions on using the Dell Support, see "Technical Support and Customer Service" on page 148.

📝 **NOTE:** Some of the following services are not always available in all locations outside the continental U.S. Call your local Dell representative for information on availability.

### Technical Support and Customer Service

Dell's support service is available to answer your questions about Dell™ hardware. Our support staff uses computer-based diagnostics to provide fast, accurate answers.

To contact Dell's support service, see "Before You Call" on page 150, and then see the contact information for your region or go to **support.dell.com**.

### DellConnect

DellConnect is a simple online access tool that allows a Dell service and support associate to access your computer through a broadband connection, diagnose your problem and repair it all under your supervision. For more information, go to **support.dell.com** and click DellConnect.

### Online Services

You can learn about Dell products and services on the following websites:

> **www.dell.com**
>
> **www.dell.com/ap** (Asian/Pacific countries only)
>
> **www.dell.com/jp** (Japan only)
>
> **www.euro.dell.com** (Europe only)
>
> **www.dell.com/la** (Latin American and Caribbean countries)
>
> **www.dell.ca** (Canada only)

You can access Dell Support through the following websites and e-mail addresses:

- Dell Support websites
  **support.dell.com**

  **support.jp.dell.com** (Japan only)

  **support.euro.dell.com** (Europe only)

- Dell Support e-mail addresses
  mobile_support@us.dell.com

  support@us.dell.com

  la-techsupport@dell.com (Latin America and Caribbean countries only)

  apsupport@dell.com (Asian/Pacific countries only)
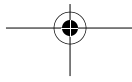
- Dell Marketing and Sales e-mail addresses

  apmarketing@dell.com (Asian/Pacific countries only)

  sales_canada@dell.com (Canada only)

- Anonymous file transfer protocol (FTP)

  **ftp.dell.com**

  Log in as user: anonymous, and use your e-mail address as your password.

### AutoTech Service

Dell's automated support service—AutoTech—provides recorded answers to the questions most frequently asked by Dell customers about their portable and desktop computers.

When you call AutoTech, use your touch-tone telephone to select the subjects that correspond to your questions. For the telephone number to call for your region, see "Contacting Dell" on page 152.

### Automated Order-Status Service

To check on the status of any Dell products that you have ordered, you can go to **support.dell.com**, or you can call the automated order-status service. A recording prompts you for the information needed to locate and report on your order. For the telephone number to call for your region, see "Contacting Dell" on page 152.

## Problems With Your Order

If you have a problem with your order, such as missing parts, wrong parts, or incorrect billing, contact Dell for customer assistance. Have your invoice or packing slip handy when you call. For the telephone number to call for your region, see "Contacting Dell" on page 152.

## Product Information

If you need information about additional products available from Dell, or if you would like to place an order, visit the Dell website at **www.dell.com**. For the telephone number to call for your region or to speak to a sales specialist, see the "Contacting Dell" on page 152.