3 Click **Properties** and click **Ports**.

4 Adjust the settings, as needed.

REINSTALL THE PRINTER DRIVER — See the printer documentation for information on reinstalling the printer driver.

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 (if the scanner has a locking tab or button).

RESTART THE COMPUTER AND TRY THE SCANNER AGAIN

CHECK THE CABLE CONNECTIONS —

• See the scanner documentation for information on cable connections.

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

VERIFY THAT THE SCANNER IS RECOGNIZED BY MICROSOFT WINDOWS —

Windows Vista:

1 Click **Start** 🪟 → **Control Panel**→ **Hardware and Sound**→ **Scanners and Cameras**.

2 If the scanner is listed, Windows recognizes the scanner.

REINSTALL THE SCANNER DRIVER — See the scanner documentation for instructions.

Sound and Speaker Problems

⚠ **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.

REINSTALL THE AUDIO DRIVER — See "Reinstalling Drivers and Utilities" on page 76.

DISCONNECT HEADPHONES FROM THE HEADPHONE CONNECTOR — Sound from the speakers is automatically disabled when headphones are connected to the computer's side-panel headphone connector.

No sound from external speakers

![Note icon] **NOTE:** The volume control in MP3 and other media players may override the Windows volume setting. Always check to ensure that the volume on the media player(s) has not been turned down or off.

CHECK THE SPEAKER CABLE CONNECTIONS — Ensure that the speakers are connected as shown on the setup diagram supplied with the speakers.

ENSURE THAT 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 computer's side-panel 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.

RUN THE SPEAKER DIAGNOSTICS — See "Dell Diagnostics" on page 65.

REINSTALL THE AUDIO DRIVER — See "Drivers" on page 75.

RUN THE HARDWARE TROUBLESHOOTER — See "Troubleshooting Software and Hardware Problems in the Microsoft® Windows® Vista™ Operating Systems" on page 78.

No sound from headphones

CHECK THE HEADPHONE CABLE CONNECTION — Ensure that the headphone cable is securely inserted into the headphone connector (see "Front View of the Computer" on page 15).

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.

Touch Pad Problems

CHECK THE TOUCH PAD SETTINGS —

1 Click **Start** → **Control Panel**→ **Printers and Other Hardware**→ **Mouse**.

2 Try adjusting the settings.

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

See "Mouse Problems" on page 58.

REINSTALL THE TOUCH PAD DRIVER — See "Reinstalling Drivers and Utilities" on page 76.

9

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 (see "Lockups and Software Problems" on page 56) and run the Dell Diagnostics before you contact Dell for technical assistance.

It is recommended that you print these procedures before you begin, if working from the electronic version of the document.

⊘ **NOTICE:** The Dell Diagnostics works only on Dell™ computers.

See "System Setup" on page 69 on page to review your computer's configuration information, and ensure that the device that you want to test displays in the system setup program and is active.

Start the Dell Diagnostics from your hard drive or from the *Drivers and Utilities* media.

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, see "Contacting Dell" on page 95.

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   When the DELL™ logo appears, press <F12> immediately. Select
    Diagnostics from the boot menu and 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:** If you see a message stating that no diagnostics utility partition has
    been found, run the Dell Diagnostics from the *Drivers and Utilities* media.

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 the *Drivers and Utilities* media.

2   Shut down and 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.

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

4   Select the **Boot from CD-ROM** option from the menu that appears and
    press <Enter>.

5   Type 1 to start the CD menu and press <Enter> to proceed.

6   Select **Run the 32 Bit Dell Diagnostics** from the numbered list. If
    multiple versions are listed, select the version appropriate for your
    computer.

7   When the Dell Diagnostics **Main Menu** appears, select the test you want
    to run.

Dell Diagnostics Main Menu

1   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

2   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 devices in the computer.

Option	Function
Express Test	Performs a quick test of devices in the system. This typically can take 10 to 20 minutes.
Extended Test	Performs a thorough check of devices in the system. This typically can take an hour or more.
Custom Test	Use to test a specific device or customize the tests to be run.
Symptom Tree	This option allows you to select tests based on a symptom of the problem you are having. This option lists the most common symptoms.

3 If a problem is 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 and see "Contacting Dell" on page 95.

NOTE: The Service Tag for your computer is located at the top of each test screen. If you contact Dell, technical support will ask for your Service Tag.

4 If you run a test from the **Custom Test or Symptom Tree** option, click the applicable tab described in the following table for more information.

Tab	Function
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 may indicate 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.

5 When the tests are complete, close the test screen to return to the **Main Menu** screen. To exit the Dell Diagnostics and restart the computer, close the **Main Menu** screen.

6 Remove the *Drivers and Utilities* media (if applicable).

10

System Setup

Overview

Use System Setup as follows:

- To change the system configuration information after you add, change, or remove any hardware in your computer

- To set or change a user-selectable option such as the user password

- To read the current amount of memory or set the type of hard drive installed

Before you use System Setup, it is recommended that you write down the System Setup screen information for future reference.

NOTICE: Unless you are an expert computer user, do not change the settings for this program. Certain changes can make your computer work incorrectly.

Entering System Setup

1. Turn on (or restart) your computer.

2. When the blue DELL™ logo is displayed, you must watch for the F2 prompt to appear.

3. Once the F2 prompt appears, press <F2> immediately.

NOTE: The F2 prompt indicates that the keyboard has initialized. This prompt can appear very quickly, so you must watch for it to display, and then press <F2>. If you press <F2> before you are prompted, this keystroke will be lost.

4. 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.

System Setup Screen

The System Setup screen displays current or changeable configuration information for your computer. Information on the screen is divided into three areas: the menu, the main window, the Help and key functions field.

Options List — The tabbed options contain features that define the configuration of your computer, including installed hardware, power conservation, and security features.

Option Field — This field contains information about each option. In this field you can view your current settings and make changes to your settings. Use the right- and left-arrow keys to highlight an option. Press <Enter> to make that selection active.

Help — This field provides context sensitive help based on the options selected. Key Functions — This field lists keys and their functions within the active System Setup field.

System Setup Options

📝 **NOTE:** Depending on your computer and installed devices, the items listed in this section may not appear, or may not appear exactly as listed.

Main	
System Date	Displays the system date.
System Time	Displays the system time.
SATA0, SATA1	Displays the currently installed drives, vendor, and size (hard drives only).
HDD S.M.A.R.T. capability (Disabled default)	Enables/disables integrated drive errors to be reported during system startup.
System Info	Displays **BIOS Info**, **System Info,** and the **Service Tag** **NOTE:** The system name listed in the BIOS may not appear exactly as the name that appears on the computer or in the computer's documentation.
Memory Info	Displays **Installed Memory**, **Usable Memory**, **Memory Speed, Memory Channel Mode,** and **Memory Technology.**

Advanced

CPU Type	Displays the **Type of Processor** installed in the system.
CPU Speed	Displays CPU Speed.
Cache L1, L2	Displays the amount of Cache RAM available.
Integrated peripherals (**enabled** default)	Displays information about **Serial ATA Configurations,** and enables/disables **Serial ATA Configuration**, **HD Audio**, **Onboard LAN** and **Onboard LAN Boot ROM**.
PnP/PCI Configurations (**PEG/IGD** default)	Permits selection of a primary graphics controller.
CPU Configuration (**Enabled** default)	Enables/disables **Intel SpeedStep® technology**. When **Enabled** is selected, CPU speed is controlled by the OS. When disabled, the default CPU speed is used.
USB Configuration (**Enabled** default)	Enables/disables the **USB controller.**

Power Management

ACPI Suspend Type (**S3** default)	Sets the computer's suspend mode. The options are **S1**, a suspend state in which the computer is running in a low-power mode, and **S3**, a suspend state in which the power is reduced or turned off for many components, however, system memory remains active.
Remote Wakeup (**Off** default)	This option allows the system to power up when a network interface controller receives a wake up signal.
Auto Power On (**disabled** default)	Enables/disables the **Auto Power On** function.

Auto Power On Date (**Every Day** default)	Sets the computer to automatically turn on. **Every Day** turns the computer on every day at the time set in **Auto Power Time**. **1-31** allows you to select a specific day of the month. **NOTE:** This feature does not work if you turn off your computer using the switch on a power strip or surge protector or if Auto Power On is set to disabled.
Auto Power On Time (**00:00:00** default)	Sets time to automatically turn on the computer. Time is kept in the standard 24-hour format (*hours:minutes:seconds*). Change the startup time by pressing the right- or left-arrow key to increase or decrease the numbers, or type numbers in both the date and time fields. **NOTE:** This feature does not work if you turn off your computer using the switch on a power strip or surge protector or if Auto Power On is set to disabled.
AC Recovery (**Power Off** default)	Determines how the system responds when AC power is re-applied after a power loss. **Power Off** commands the system to stay off when the power is re-applied. You must press the front-panel power button before the system turns on. **Power On** commands the system to turn on when the power is re-applied. **Last State** commands the system to return to the last power state the system was in just before it was turned off.

BOOT	
Boot Device Priority Hard Disk Boot Priority CD/DVD Boot Priority Other Boot Priority	Displays the boot device properties for all the bootable devices present on the system. It offers options for setting **Boot Device Priority, Hard Disk Boot Priority, CD/DVD Boot Priority, Boot Setting Configurations**, and **Security**.
Boot Settings Configuration	Enables/disables **Fast Boot** and **Numlock Key**.

Exit	
Exit options	Provides options to **Save Changes & Exit**, **Discard Changes and Exit**, **Load Optimal Defaults** or **Discard Changes**.

Boot Sequence

This feature allows you to change the Boot Device Property for devices.

Option Settings

- **Hard Disk —** The computer attempts to boot from the hard drive.
- **Removable —** The computer attempts to boot from a removable device, such as a USB key.
- **CD/DVD —** The computer attempts to boot from the disc drive.

Changing the Boot Sequence for the Current Boot

You can use this feature, for example, to restart your computer to a USB device, such as a floppy drive, memory key, or optical drive.

1 If you are booting to a USB device, connect the USB device to a USB connector.

2 Turn on (or restart) your computer.

3 When F2 = Setup, F12 = Boot Menu appears in the upper-right corner of the screen, press <F12>.

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.

4 The **Boot Menu** appears, listing all available boot devices.

5 Use the arrow keys to select the appropriate device (for the current boot only).

NOTE: To boot to a USB device, the device must be bootable. To ensure that a device is bootable, check the device documentation.

Changing the Boot Sequence for Future Boots

1 Enter System Setup (see "Entering System Setup" on page 69).

2 Press the left- and right-arrow keys to highlight the Boot tab.

3 Press the up- and down-arrow keys to highlight the appropriate Boot Device Property, then press <Enter>.

4 Press the up- and down-arrow keys to highlight the item you want to change, and then press <Enter>.

5 Press the up- and down-arrow keys to select the boot device you want to change, and then press <Enter>.

6 Press <F10> and then press <Enter> to exit System Setup and resume the boot process.

11

Reinstalling Software

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: The *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.

If your computer is running Microsoft Windows Vista™:

1   Click the Windows Vista Start button ![Start button], and right-click **Computer**.

2   Click **Properties**→ **Device Manager**.

> ![note icon] **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 to see if any device has an exclamation point (a yellow circle with a [!]) on the device icon.

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 76).

Reinstalling Drivers and Utilities

> ![notice icon] **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.

If your computer is running Windows Vista:

1   Click the Windows Vista Start button ![Start button], and right-click **Computer**.

2   Click **Properties**→ **Device Manager**.

> ![note icon] **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→ **Roll Back Driver**.

If Device Driver Rollback does not resolve the problem, then use System Restore (see "Restoring Your Operating System" on page 78) to return your computer to the operating state that existed before you installed the new driver.

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

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

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

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

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

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

📝   **NOTE:** The *Drivers and Utilities* media 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 by the *Drivers and Utilities* media. 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* media is detecting hardware in your computer appears.

    The drivers that are used by your computer are automatically displayed in the **My Drivers—The** *Drivers and Utilities* **media 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.

Troubleshooting Software and Hardware Problems in the Microsoft® Windows® Vista™ Operating Systems

If a device is either not detected during the operating system setup or is detected but incorrectly configured, you can use the Hardware Troubleshooter to resolve the incompatibility.

To start the Hardware Troubleshooter:

1   Click the Windows Vista Start button ⊕, and click **Help and Support.**

2   Type `hardware troubleshooter` in the search field and press <Enter> to start the search.

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 Windows Vista operating system in the following ways:

- 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.

- Dell Factory Image Restore returns your hard drive to the operating state it was in when you purchased the computer. It permanently deletes all data on the hard drive and removes any programs installed after you received the computer. Use Dell Factory Image Restore only if System Restore did not resolve your operating system problem.

- If you received an *Operating System* disc with your computer, you can use it to restore your operating system. However, using the *Operating System* disc also deletes all data on the hard drive. Use the disc *only* if System Restore did not resolve your operating system problem.

Using Microsoft Windows System Restore

The Windows operating system provides a System Restore option which allows 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.

Starting System Restore

⊘ **NOTICE:** Before you restore the computer to an earlier operating state, save and close any open files and exit any open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

If your computer is running Windows Vista:

1 Click **Start** 🪟.

2 In the Start Search box, type System Restore and 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.

If your computer is running Windows Vista:

1 Click **Start** 🪟.

2 In the Start Search box, type System Restore and press <Enter>.

3 Click **Undo my last restoration** and click **Next**.

Using Dell™ Factory Image Restore

NOTICE: Using Dell Factory Image Restore permanently deletes all data on the hard drive and removes any programs or drivers installed after you received your computer. If possible, back up the data before using these options. Use Factory Image Restore only if System Restore did not resolve your operating system problem.

NOTE: Dell Factory Image Restore may not be available in certain countries or on certain computers.

Use Dell Factory Image Restore (in Windows Vista) only as the last method to restore your operating system. These options restore your hard drive to the operating state it was in when you purchased the computer. Any programs or files added since you received your computer—including data files—are permanently deleted from the hard drive. Data files include documents, spreadsheets, e-mail messages, digital photos, music files, and so on. If possible, back up all data before using PC Restore or Factory Image Restore.

Windows Vista: Dell Factory Image Restore

1   Turn on the computer. When the Dell logo appears, press <F8> several times to access the Vista Advanced Boot Options Window.

2   Select **Repair Your Computer**.

    The System Recovery Options window appears.

3   Select a keyboard layout and click **Next**.

4   To access the recovery options, log on as a local user. To access the command prompt, type administrator in the User name field, then click **OK**.

5   Click **Dell Factory Image Restore**.

    NOTE: Depending upon your configuration, you may need to select **Dell Factory Tools**, then **Dell Factory Image Restore**.

    The Dell Factory Image Restore welcome screen appears.

6   Click **Next**.

    The Confirm Data Deletion screen appears.

NOTICE: If you do not want to proceed with Factory Image Restore, click **Cancel**.

7 Click the checkbox to confirm that you want to continue reformatting the hard drive and restoring the system software to the factory condition, then click **Next**.

The restore process begins and may take five or more minutes to complete. A message appears when the operating system and factory-installed applications have been restored to factory condition.

8 Click **Finish** to reboot the system.

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 76. 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 78.

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: The *Drivers and Utilities* media contains drivers that were installed during the assembly of the computer. Use the *Drivers and Utilities* media to load any required drivers. Depending on the region from which you ordered your computer, or whether you requested the media, the *Drivers and Utilities* media and *Operating System* media may not ship with your computer.

Reinstalling Windows Vista

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 *Drivers and Utilities* media provides options for reinstalling Windows Vista. The options can overwrite files and possibly affect programs that are installed on your hard drive. Therefore, do not reinstall Windows Vista 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* disc.

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** and press <Enter>.

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

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

12

Specifications

📝 **NOTE:** Offerings may vary by region. For more information regarding the configuration of your computer, click **Start** 🪟 → **Help and Support** and select the option to view information about your computer.

Processor	
Microprocessor types	Select Intel® Core™ 2 Duo, Intel® Pentium® D, and Intel®Celeron® processors
Cache	at least 512K (dependent upon processor choice)

System Information	
Northbridge	Intel G33
Southbridge	ICH9DH
Data bus width	64 bits
Address bus width	32 bits
DMA channels	eight
Interrupt levels	24
BIOS chip (NVRAM)	8 Mb
Memory speed	667/800 MHz
System bus frequency	800-, 1066-,or 1333-MHz data rate (depending on your processor)

Controller	
Hard drive	integrated serial ATA

Memory

Type	667-MHz and 800-MHz non-ECC DDR2 SDRAM **NOTE:** Your computer does not support registered, ECC, or buffered memory.
Memory connectors	two
Memory capacities	1 GB, or 2 GB
Minimum memory	1 GB
Maximum memory	4 GB
BIOS address	F0000h

Drives and Devices

Drives	one 3.5-inch hard-drive, one slim-line slot-load 5.25-inch disc drive
Available devices	serial ATA hard drive, Media Card Reader, USB memory devices, DVD and CD-RW combo drive, DVD+/- RW, Blu-Ray™

Ports and Connectors

External connectors:	
IEEE 1394a	side-panel: one 4-pin mini-connector back-panel: one 6-pin connector
Network adapter	RJ45 connector
USB 2.0	two side-panel, and four back-panel connectors
Audio	two side-panel connectors for microphone/line-in and headphones/line-out; two back-panel connectors for S/PDIF digital audio out, and 2.0 audio out

Ports and Connectors *(continued)*

Additional connectors/components available with optional TV tuner	**back-panel:** TV-in connector, special 10-pin connector for optional TV input device **optional TV input device:** S-video, composite video, left audio, and right audio connectors; IR blaster

Video

Type	Integrated Intel GMA 3100 or ATI Mobility Radeon™ HD 2400
LCD interface	LVDS
With optional TV tuner card only: TV support	dependent upon region: **NTSC/ATSC:** NTSC supported in RF, S-video, and composite modes. ATSC supported in RF mode. **PAL/SECAM/DVB-T:** PAL/SECAM supported in RF, S-video, and composite modes. DVB-T supported in RF mode. or **NTSC/ISDB-T:** NTSC supported in RF, S-video, and composite modes. ISDB-T supported in RF mode.

Audio

Type	integrated stereo High Definition Audio codec
Stereo conversion	20-bit analog-to-digital; 24-bit digital-to-analog
Speaker	two 5W, 140Hz speakers
Power rating	stereo 5W per channel with Class D amplification
Frequency response	140 Hz to 18,000 Hz

Audio *(continued)*	
Volume controls	keyboard shortcuts, program menus, media control buttons on front of display and optional optimized wireless keyboard

Communications	
NIC	Integrated network interface capable of 10/100/1000-Mbps communication:
	• Green — A good connection exists between a 10-Mbps network and the computer.
	• Orange — A good connection exists between a 100-Mbps network and the computer.
	• Yellow — A good connection exists between a 1000-Mbps (1-Gb) network and the computer.
	• Off — The computer is not detecting a physical connection to the network.
Wireless	802.11 a/b/g/n support Bluetooth wireless technology

Display	
Type (active-matrix TFT)	WSXGA
Maximum resolution:	1680 x 1050 at 16.7 million colors
Brightness (maximum)	300 nits
Response time (typical)	5-ms
Contrast Ratio	1000:1
Operating angle	5° forward to 25° back
Viewing angles:	
Horizontal	80°
Vertical	80°

Display *(continued)*

Controls	brightness can be controlled through keyboard shortcuts if you are using the optional wireless keyboard optimized for use with your computer (see "Key Combinations" on page 46)

Controls and Lights

Power control	push button
Power light	blue light — low-illumination blue in sleep state; solid blue for power-on state
	amber light — indicates a boot failure
Display power light	blue
Hard-drive access light	blue
Media control buttons	blue — light up when the user's hand is detected in the near vicinity
Link integrity light (on integrated network adapter and on front panel)	back panel integrated network adapter: green light for 10-Mb operation; orange light for 100-Mb operation; yellow light for a 1000-Mb (1-Gb) operation
Activity light (on integrated network adapter)	yellow blinking light when there is network activity

Power

Power supply:	
Wattage	200 W
Heat dissipation	682 BTU/hr
	NOTE: Heat dissipation is calculated based upon the power supply wattage rating.
Voltage	90 - 264 V at 50/60 Hz
Backup battery	3-V CR2032 lithium coin cell

Physical

Approximate height	15.9 inch (40.5 cm)
Approximate width	23.5 inch (59.7 cm)
Approximate depth (without cords or stand)	3.3 inch (8.38 cm)
Approximate depth with stand installed	7.3 inch (18.5 cm)
Approximate weight (typical)	28.2 lb (12.8 kg)

Environmental

Temperature:	
Operating	10° to 35°C (50° to 95°F)
Storage	–40° to 65°C (–40° to 149°F)
Relative humidity	20% to 80% (noncondensing)
Maximum vibration:	
Operating	0.26 Grms random for 2 min in all operational orientations
Storage	2.2 Grms random for 15 min
Maximum shock:	
Operating	Half-Sine Pulse: 40G for 2ms with a change in velocity of 20 in/s (51cm/s)
Storage	Half-Sine Pulse: 40G for 22ms with a change in velocity of 240 in/s (609 cm/s)
Altitude:	
Operating	–15.2 to 3048 m (–50 to 10,000 ft)
Storage	–15.2 to 10,668 m (–50 to 35,000 ft)

13

Getting Help

Obtaining Assistance

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 51 for information and procedures that
   pertain to the problem your computer is experiencing.

2 See "Dell Diagnostics" on page 65 for procedures on how to run Dell
   Diagnostics.

3 Fill out the "Diagnostics Checklist" on page 94.

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 90 for a more extensive list of
   Dell Support online.

5 If the preceding steps have not resolved the problem, see "Contacting
   Dell" on page 95.

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 Dell Support, see "Technical Support and Customer
Service" on page 90.

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 93, 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 95.

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 95.

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 95.

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"Contacting Dell" on page 95.

Returning Items for Warranty Repair or Credit

Prepare all items being returned, whether for repair or credit, as follows:

1   Call Dell to obtain a Return Material Authorization Number, and write it clearly and prominently on the outside of the box.

For the telephone number to call for your region, see "Contacting Dell" on page 95.

2   Include a copy of the invoice and a letter describing the reason for the return.

3   Include a copy of the Diagnostics Checklist (see "Diagnostics Checklist" on page 94), indicating the tests that you have run and any error messages reported by the Dell Diagnostics (see "Dell Diagnostics" on page 65).

4   Include any accessories that belong with the item(s) being returned (power cables, software floppy disks, guides, and so on) if the return is for credit.

5   Pack the equipment to be returned in the original (or equivalent) packing materials.

You are responsible for paying shipping expenses. You are also responsible for insuring any product returned, and you assume the risk of loss during shipment to Dell. Collect On Delivery (C.O.D.) packages are not accepted.

Returns that are missing any of the preceding requirements will be refused at Dell's receiving dock and returned to you.

Before You Call

NOTE: Have your Express Service Code ready when you call. The code helps Dell's automated-support telephone system direct your call more efficiently. You may also be asked for your Service Tag (located on the back or bottom of your computer).

Remember to fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 94). If possible, turn on your computer before you call Dell for assistance and call from a telephone at or near the computer. You may be asked to type some commands at the keyboard, relay detailed information during operations, or try other troubleshooting steps possible only at the computer itself. Ensure that the computer documentation is available.

CAUTION: Before working inside your computer, follow the safety instructions in your *Product Information Guide*.

Diagnostics Checklist

Name:

Date:

Address:

Phone number:

Service Tag (bar code on the back or bottom of the computer):

Express Service Code:

Return Material Authorization Number (if provided by Dell support technician):

Operating system and version:

Devices:

Expansion cards:

Are you connected to a network? Yes No

Network, version, and network adapter:

Programs and versions:

See your operating system documentation to determine the contents of the system's start-up files. If the computer is connected to a printer, print each file. Otherwise, record the contents of each file before calling Dell.

Error message, beep code, or diagnostic code:

Description of problem and troubleshooting procedures you performed:

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1 Visit **support.dell.com**.

2 Verify your country or region in the **Choose A Country/Region** drop-down menu at the bottom of the page.

3 Click **Contact Us** on the left side of the page.

4 Select the appropriate service or support link based on your need.

5 Choose the method of contacting Dell that is convenient for you.

14

Appendix

FCC Notice (U.S. Only)

FCC Class B

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

  1 This device may not cause harmful interference.

  2 This device must accept any interference received, including interference that may cause undesired operation.

NOTICE: The FCC regulations provide that changes or modifications not expressly approved by Dell Inc. could void your authority to operate this equipment.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

  • Reorient the receiving antenna.

  • Relocate the system with respect to the receiver.

  • Move the system away from the receiver.

  • Plug the system into a different outlet so that the system and the receiver are on different branch circuits.

If necessary, consult a representative of Dell Inc. or an experienced radio/television technician for additional suggestions.

The following information is provided on the device or devices covered in this document in compliance with the FCC regulations:

Product name:	Dell™ XPS One™ A2010
Model number:	MTG
Company name:	Dell Inc. Worldwide Regulatory Compliance & Environmental Affairs One Dell Way Round Rock, TX 78682 USA 512-338-4400

NOTE: For further regulatory information, see your *Product Information Guide*.

Glossary

Terms in this Glossary are provided for informational purposes only and may or may not describe features included with your particular computer.

A

AC — alternating current — The form of electricity that powers your computer when you plug the AC adapter power cable in to an electrical outlet.

ACPI — advanced configuration and power interface — A power management specification that enables Microsoft® Windows® operating systems to put a computer in standby or hibernate mode to conserve the amount of electrical power allocated to each device attached to the computer.

AGP — accelerated graphics port — A dedicated graphics port that allows system memory to be used for video-related tasks. AGP delivers a smooth, true-color video image because of the faster interface between the video circuitry and the computer memory.

AHCI — Advanced Host Controller Interface — An interface for a SATA hard drive Host Controller which allows the storage driver to enable technologies such as Native Command Queuing (NCQ) and hot plug.

ALS — ambient light sensor — A feature that helps to control display brightness.

antivirus software — A program designed to identify, quarantine, and/or delete viruses from your computer.

ASF — alert standards format — A standard to define a mechanism for reporting hardware and software alerts to a management console. ASF is designed to be platform- and operating system-independent.

B

battery life span — The length of time (years) during which a portable computer battery is able to be depleted and recharged.

battery operating time — The length of time (minutes or hours) that a portable computer battery powers the computer.

BIOS — basic input/output system — A program (or utility) that serves as an interface between the computer hardware and the operating system. Unless you understand what effect these settings have on the computer, do not change them. Also referred to as *system setup*.

bit — The smallest unit of data interpreted by your computer.

Blu-ray Disc™ (BD)— An optical storage technology offering storage capacity of up to 50 GB, full 1080p video resolution (HDTV required), and as many as 7.1 channels of native, uncompressed surround sound.

Bluetooth® wireless technology — A wireless technology standard for short-range (9 m [29 feet]) networking devices that allows for enabled devices to automatically recognize each other.

boot sequence — Specifies the order of the devices from which the computer attempts to boot.

bootable media — A CD, DVD, or floppy disk that you can use to start your computer. In case your hard drive is damaged or your computer has a virus, ensure that you always have a bootable CD, DVD, or floppy disk available. Your *Drivers and Utilities* media is an example of bootable media.

bps — bits per second — The standard unit for measuring data transmission speed.

BTU — British thermal unit — A measurement of heat output.

bus — A communication pathway between the components in your computer.

bus speed — The speed, given in MHz, that indicates how fast a bus can transfer information.

byte — The basic data unit used by your computer. A byte is usually equal to 8 bits.

C

C — Celsius — A temperature measurement scale where 0° is the freezing point and 100° is the boiling point of water.

cache — A special high-speed storage mechanism which can be either a reserved section of main memory or an independent high-speed storage device. The cache enhances the efficiency of many processor operations.

L1 cache — Primary cache stored inside the processor.

L2 cache — Secondary cache which can either be external to the processor or incorporated into the processor architecture.

carnet — An international customs document that facilitates temporary imports into foreign countries. Also known as a *merchandise passport*.

CD-R — CD recordable — A recordable version of a CD. Data can be recorded only once onto a CD-R. Once recorded, the data cannot be erased or written over.

CD-RW — CD rewritable — A rewritable version of a CD. Data can be written to a CD-RW disc, and then erased and written over (rewritten).

CD-RW drive — A drive that can read CDs and write to CD-RW (rewritable CDs) and CD-R (recordable CDs) discs. You can write to CD-RW discs multiple times, but you can write to CD-R discs only once.

CD-RW/DVD drive — A drive, sometimes referred to as a combo drive, that can read CDs and DVDs and write to CD-RW (rewritable CDs) and CD-R (recordable CDs) discs. You can write to CD-RW discs multiple times, but you can write to CD-R discs only once.

clock speed — The speed, given in MHz, that indicates how fast computer components that are connected to the system bus operate.

CMOS — A type of electronic circuit. Computers use a small amount of battery-powered CMOS memory to hold date, time, and system setup options.

COA — Certificate of Authenticity — The Windows alpha-numeric code located on a sticker on your computer. Also referred to as the *Product Key* or *Product ID*.

Control Panel — A Windows utility that allows you to modify operating system and hardware settings, such as display settings.

controller — A chip that controls the transfer of data between the processor and memory or between the processor and devices.

CRIMM — continuity rambus in-line memory module — A special module that has no memory chips and is used to fill unused RIMM slots.

cursor — The marker on a display or screen that shows where the next keyboard, touch pad, or mouse action will occur. It often is a blinking solid line, an underline character, or a small arrow.

D

DDR SDRAM — double-data-rate SDRAM — A type of SDRAM that doubles the data burst cycle, improving system performance.

DDR2 SDRAM — double-data-rate 2 SDRAM — A type of DDR SDRAM that uses a 4-bit prefetch and other architectural changes to boost memory speed to over 400 MHz.

device — Hardware such as a disk drive, printer, or keyboard that is installed in or connected to your computer.

device driver — See *driver*.

DIMM — dual in-line memory module — A circuit board with memory chips that connects to a memory module on the system board.

DIN connector — A round, six-pin connector that conforms to DIN (Deutsche Industrie-Norm) standards; it is typically used to connect PS/2 keyboard or mouse cable connectors.

disk striping — A technique for spreading data over multiple disk drives. Disk striping can speed up operations that retrieve data from disk storage. Computers that use disk striping generally allow the user to select the data unit size or stripe width.

DMA — direct memory access — A channel that allows certain types of data transfer between RAM and a device to bypass the processor.

docking device — provides port replication, cable management, and security features to adapt your notebook to a desktop workspace.

DMTF — Distributed Management Task Force — A consortium of hardware and software companies who develop management standards for distributed desktop, network, enterprise, and Internet environments.

domain — A group of computers, programs, and devices on a network that are administered as a unit with common rules and procedures for use by a specific group of users. A user logs on to the domain to gain access to the resources.

DRAM — dynamic random-access memory — Memory that stores information in integrated circuits containing capacitors.

driver — Software that allows the operating system to control a device such as a printer. Many devices do not work properly if the correct driver is not installed in the computer.

DSL — Digital Subscriber Line — A technology that provides a constant, high-speed Internet connection through an analog telephone line.

dual-core — A technology in which two physical computational units exist inside a single processor package, thereby increasing computing efficiency and multi-tasking ability.

dual display mode — A display setting that allows you to use a second monitor as an extension of your display. Also referred to as *extended display mode*.

DVD-R — DVD recordable — A recordable version of a DVD. Data can be recorded only once onto a DVD-R. Once recorded, the data cannot be erased or written over.

DVD+RW — DVD rewritable — A rewritable version of a DVD. Data can be written to a DVD+RW disc, and then erased and written over (rewritten). (DVD+RW technology is different from DVD-RW technology.)

DVD+RW drive — drive that can read DVDs and most CD media and write to DVD+RW (rewritable DVDs) discs.

DVI — digital video interface — A standard for digital transmission between a computer and a digital video display.

E

ECC — error checking and correction — A type of memory that includes special circuitry for testing the accuracy of data as it passes in and out of memory.

ECP — extended capabilities port — A parallel connector design that provides improved bidirectional data transmission. Similar to EPP, ECP uses direct memory access to transfer data and often improves performance.

EIDE — enhanced integrated device electronics — An improved version of the IDE interface for hard drives and CD drives.

EMI — electromagnetic interference — Electrical interference caused by electromagnetic radiation.

ENERGY STAR® — Environmental Protection Agency requirements that decrease the overall consumption of electricity.

EPP — enhanced parallel port — A parallel connector design that provides bidirectional data transmission.

ESD — electrostatic discharge — A rapid discharge of static electricity. ESD can damage integrated circuits found in computer and communications equipment.

expansion card — A circuit board that installs in an expansion slot on the system board in some computers, expanding the capabilities of the computer. Examples include video, modem, and sound cards.

expansion slot — A connector on the system board (in some computers) where you insert an expansion card, connecting it to the system bus.

ExpressCard — A removable I/O card adhering to the PCMCIA standard. Modems and network adapters are common types of ExpressCards. ExpressCards support both the PCI Express and USB 2.0 standard.

Express Service Code — A numeric code located on a sticker on your Dell™ computer. Use the Express Service Code when contacting Dell for assistance. Express Service Code service may not be available in some countries.

extended display mode — A display setting that allows you to use a second monitor as an extension of your display. Also referred to as *dual display mode*.

extended PC Card — A PC Card that extends beyond the edge of the PC Card slot when installed.

F

Fahrenheit — A temperature measurement scale where 32° is the freezing point and 212° is the boiling point of water.

FBD — fully-buffered DIMM — A DIMM with DDR2 DRAM chips and an Advanced Memory Buffer (AMB) that speeds communication between the DDR2 SDRAM chips and the system.

FCC — Federal Communications Commission — A U.S. agency responsible for enforcing communications-related regulations that state how much radiation computers and other electronic equipment can emit.

fingerprint reader — A strip sensor that uses your unique fingerprint to authenticate your user identity to help secure your computer.

folder — A term used to describe space on a disk or drive where files are organized and grouped. Files in a folder can be viewed and ordered in various ways, such as alphabetically, by date, and by size.

format — The process that prepares a drive or disk for file storage. When a drive or disk is formatted, the existing information on it is lost.

FSB — front side bus — The data path and physical interface between the processor and RAM.

FTP — file transfer protocol — A standard Internet protocol used to exchange files between computers connected to the Internet.

G

G — gravity — A measurement of weight and force.

GB — gigabyte — A measurement of data storage that equals 1024 MB (1,073,741,824 bytes). When used to refer to hard drive storage, the term is often rounded to 1,000,000,000 bytes.

GHz — gigahertz — A measurement of frequency that equals one thousand million Hz, or one thousand MHz. The speeds for computer processors, buses, and interfaces are often measured in GHz.

graphics mode — A video mode that can be defined as x horizontal pixels by y vertical pixels by z colors. Graphics modes can display an unlimited variety of shapes and fonts.

GUI — graphical user interface — Software that interacts with the user by means of menus, windows, and icons. Most programs that operate on the Windows operating systems are GUIs.

H

hard drive — A drive that reads and writes data on a hard disk. The terms hard drive and hard disk are often used interchangeably.

heat sink — A metal plate on some processors that helps dissipate heat.

hibernate mode — A power management mode that saves everything in memory to a reserved space on the hard drive and then turns off the computer. When you restart the computer, the memory information that was saved to the hard drive is automatically restored.

HTTP — hypertext transfer protocol — A protocol for exchanging files between computers connected to the Internet.

Hyper-Threading — Hyper-Threading is an Intel technology that can enhance overall computer performance by allowing one physical processor to function as two logical processors, capable of performing certain tasks simultaneously.

Hz — hertz — A unit of frequency measurement that equals 1 cycle per second. Computers and electronic devices are often measured in kilohertz (kHz), megahertz (MHz), gigahertz (GHz), or terahertz (THz).

I

IC — integrated circuit — A semiconductor wafer, or chip, on which thousands or millions of tiny electronic components are fabricated for use in computer, audio, and video equipment.

IDE — integrated device electronics — An interface for mass storage devices in which the controller is integrated into the hard drive or CD drive.

IEEE 1394 — Institute of Electrical and Electronics Engineers, Inc. — A high-performance serial bus used to connect IEEE 1394-compatible devices, such as digital cameras and DVD players, to the computer.

infrared sensor — A port that allows you to transfer data between the computer and infrared-compatible devices without using a cable connection.

integrated — Usually refers to components that are physically located on the computer's system board. Also referred to as *built-in*.

I/O — input/output — An operation or device that enters and extracts data from your computer. Keyboards and printers are I/O devices.

I/O address — An address in RAM that is associated with a specific device (such as a serial connector, parallel connector, or expansion slot) and allows the processor to communicate with that device.

IrDA — Infrared Data Association — The organization that creates international standards for infrared communications.

IRQ — interrupt request — An electronic pathway assigned to a specific device so that the device can communicate with the processor. Each device connection must be assigned an IRQ. Although two devices can share the same IRQ assignment, you cannot operate both devices simultaneously.

ISP — Internet service provider — A company that allows you to access its host server to connect directly to the Internet, send and receive e-mail, and access websites. The ISP typically provides you with a software package, user name, and access phone numbers for a fee.

K

Kb — kilobit — A unit of data that equals 1024 bits. A measurement of the capacity of memory integrated circuits.

KB — kilobyte — A unit of data that equals 1024 bytes but is often referred to as 1000 bytes.

key combination — A command requiring you to press multiple keys at the same time.

kHz — kilohertz — A measurement of frequency that equals 1000 Hz.

L

LAN — local area network — A computer network covering a small area. A LAN usually is confined to a building or a few nearby buildings. A LAN can be connected to another LAN over any distance through telephone lines and radio waves to form a wide area network (WAN).

LCD — liquid crystal display — The technology used by portable computer and flat-panel displays.

LED — light-emitting diode — An electronic component that emits light to indicate the status of the computer.

local bus — A data bus that provides a fast throughput for devices to the processor.

LPT — line print terminal — The designation for a parallel connection to a printer or other parallel device.

M

Mb — megabit — A measurement of memory chip capacity that equals 1024 Kb.

Mbps — megabits per second — One million bits per second. This measurement is typically used for transmission speeds for networks and modems.

MB — megabyte — A measurement of data storage that equals 1,048,576 bytes. 1 MB equals 1024 KB. When used to refer to hard drive storage, the term is often rounded to 1,000,000 bytes.

MB/sec — megabytes per second — One million bytes per second. This measurement is typically used for data transfer ratings.

media bay — A bay that supports devices such as optical drives, a second battery, or a Dell TravelLite™ module.

memory — A temporary data storage area inside your computer. Because the data in memory is not permanent, it is recommended that you frequently save your files while you are working on them, and always save your files before you shut down the computer. Your computer can contain several different forms of memory, such as RAM, ROM, and video memory. Frequently, the word memory is used as a synonym for RAM.

memory address — A specific location where data is temporarily stored in RAM.

memory mapping — The process by which the computer assigns memory addresses to physical locations at start-up. Devices and software can then identify information that the processor can access.

memory module — A small circuit board containing memory chips, which connects to the system board.

MHz — megahertz — A measure of frequency that equals 1 million cycles per second. The speeds for computer processors, buses, and interfaces are often measured in MHz.

Mini PCI — A standard for integrated peripheral devices with an emphasis on communications such as modems and NICs. A Mini PCI card is a small external card that is functionally equivalent to a standard PCI expansion card.

Mini-Card — A small card designed for integrated peripherals, such as communication NICs. The Mini-Card is functionally equivalent to a standard PCI expansion card.

modem — A device that allows your computer to communicate with other computers over analog telephone lines. Three types of modems include: external, PC Card, and internal. You typically use your modem to connect to the Internet and exchange e-mail.

module bay — See *media bay*.

MP — megapixel — A measure of image resolution used for digital cameras.

ms — millisecond — A measure of time that equals one thousandth of a second. Access times of storage devices are often measured in ms.

N

network adapter — A chip that provides network capabilities. A computer may include a network adapter on its system board, or it may contain a PC Card with an adapter on it. A network adapter is also referred to as a *NIC* (network interface controller).

NIC — See *network adapter*.

notification area — The section of the Windows taskbar that contains icons for providing quick access to programs and computer functions, such as the clock, volume control, and print status. Also referred to as *system tray*.

ns — nanosecond — A measure of time that equals one billionth of a second.

NVRAM — nonvolatile random access memory — A type of memory that stores data when the computer is turned off or loses its external power source. NVRAM is used for maintaining computer configuration information such as date, time, and other system setup options that you can set.

O

optical drive — A drive that uses optical technology to read or write data from CDs, DVDs, or DVD+RWs. Example of optical drives include CD drives, DVD drives, CD-RW drives, and CD-RW/DVD combo drives.

P

parallel connector — An I/O port often used to connect a parallel printer to your computer. Also referred to as an *LPT port*.

partition — A physical storage area on a hard drive that is assigned to one or more logical storage areas known as logical drives. Each partition can contain multiple logical drives.

PC Card — A removable I/O card adhering to the PCMCIA standard. Modems and network adapters are common types of PC Cards.

PCI — peripheral component interconnect — PCI is a local bus that supports 32-and 64-bit data paths, providing a high-speed data path between the processor and devices such as video, drives, and networks.

PCI Express — A modification to the PCI interface that boosts the data transfer rate between the processor and the devices attached to it. PCI Express can transfer data at speeds from 250 MB/sec to 4 GB/sec. If the PCI Express chip set and the device are capable of different speeds, they will operate at the slower speed.

PCMCIA — Personal Computer Memory Card International Association — The organization that establishes standards for PC Cards.

PIO — programmed input/output — A method of transferring data between two devices through the processor as part of the data path.

pixel — A single point on a display screen. Pixels are arranged in rows and columns to create an image. A video resolution, such as 800 x 600, is expressed as the number of pixels across by the number of pixels up and down.

Plug-and-Play — The ability of the computer to automatically configure devices. Plug and Play provides automatic installation, configuration, and compatibility with existing hardware if the BIOS, operating system, and all devices are Plug and Play compliant.

POST — power-on self-test — Diagnostics programs, loaded automatically by the BIOS, that perform basic tests on the major computer components, such as memory, hard drives, and video. If no problems are detected during POST, the computer continues the start-up.

processor — A computer chip that interprets and executes program instructions. Sometimes the processor is referred to as the CPU (central processing unit).

PS/2 — personal system/2 — A type of connector for attaching a PS/2-compatible keyboard, mouse, or keypad.

PXE — pre-boot execution environment — A WfM (Wired for Management) standard that allows networked computers that do not have an operating system to be configured and started remotely.

R

RAID — redundant array of independent disks — A method of providing data redundancy. Some common implementations of RAID include RAID 0, RAID 1, RAID 5, RAID 10, and RAID 50.

RAM — random-access memory — The primary temporary storage area for program instructions and data. Any information stored in RAM is lost when you shut down your computer.

readme file — A text file included with a software package or hardware product. Typically, readme files provide installation information and describe new product enhancements or corrections that have not yet been documented.

read-only — Data and/or files you can view but cannot edit or delete. A file can have read-only status if:

- It resides on a physically write-protected floppy disk, CD, or DVD.
- It is located on a network in a directory and the system administrator has assigned rights only to specific individuals.

refresh rate — The frequency, measured in Hz, at which your screen's horizontal lines are recharged (sometimes also referred to as its *vertical frequency*). The higher the refresh rate, the less video flicker can be seen by the human eye.

resolution — The sharpness and clarity of an image produced by a printer or displayed on a monitor. The higher the resolution, the sharper the image.

RFI — radio frequency interference — Interference that is generated at typical radio frequencies, in the range of 10 kHz to 100,000 MHz. Radio frequencies are at the lower end of the electromagnetic frequency spectrum and are more likely to have interference than the higher frequency radiations, such as infrared and light.

ROM — read-only memory — Memory that stores data and programs that cannot be deleted or written to by the computer. ROM, unlike RAM, retains its contents after you shut down your computer. Some programs essential to the operation of your computer reside in ROM.

RPM — revolutions per minute — The number of rotations that occur per minute. Hard drive speed is often measured in rpm.

RTC — real time clock — Battery-powered clock on the system board that keeps the date and time after you shut down the computer.

RTCRST — real-time clock reset — A jumper on the system board of some computers that can often be used for troubleshooting problems.

S

SAS — serial attached SCSI — A faster, serial version of the SCSI interface (as opposed to the original SCSI parallel architecture).

SATA — serial ATA — A faster, serial version of the ATA (IDE) interface.

ScanDisk — A Microsoft utility that checks files, folders, and the hard disk's surface for errors. ScanDisk often runs when you restart the computer after it has stopped responding.

SCSI — small computer system interface — A high-speed interface used to connect devices to a computer, such as hard drives, CD drives, printers, and scanners. The SCSI can connect many devices using a single controller. Each device is accessed by an individual identification number on the SCSI controller bus.

SDRAM — synchronous dynamic random-access memory — A type of DRAM that is synchronized with the optimal clock speed of the processor.

serial connector — An I/O port often used to connect devices such as a handheld digital device or digital camera to your computer.

Service Tag — A bar code label on your computer that identifies your computer when you access Dell Support at **support.dell.com** or when you call Dell for customer service or technical support.

setup program — A program that is used to install and configure hardware and software. The **setup.exe** or **install.exe** program comes with most Windows software packages. *Setup program* differs from *system setup*.

shortcut — An icon that provides quick access to frequently used programs, files, folders, and drives. When you place a shortcut on your Windows desktop and double-click the icon, you can open its corresponding folder or file without having to find it first. Shortcut icons do not change the location of files. If you delete a shortcut, the original file is not affected. Also, you can rename a shortcut icon.

SIM — Subscriber Identity Module — A SIM card contains a microchip that encrypts voice and data transmissions. SIM cards can be used in phones or portable computers.

smart card — A card that is embedded with a processor and a memory chip. Smart cards can be used to authenticate a user on computers equipped for smart cards.

S/PDIF — Sony/Philips Digital Interface — An audio transfer file format that allows the transfer of audio from one file to another without converting it to and from an analog format, which could degrade the quality of the file.

standby mode — A power management mode that shuts down all unnecessary computer operations to save energy.

Strike Zone™ — Reinforced area of the platform base that protects the hard drive by acting as a dampening device when a computer experiences resonating shock or is dropped (whether the computer is on or off).

surge protectors — Prevent voltage spikes, such as those that may occur during an electrical storm, from entering the computer through the electrical outlet. Surge protectors do not protect against lightning strikes or against brownouts, which occur when the voltage drops more than 20 percent below the normal AC-line voltage level.

Network connections cannot be protected by surge protectors. Always disconnect the network cable from the network connector during electrical storms.

SVGA — super-video graphics array — A video standard for video cards and controllers. Typical SVGA resolutions are 800 x 600 and 1024 x 768.

The number of colors and resolution that a program displays depends on the capabilities of the monitor, the video controller and its drivers, and the amount of video memory installed in the computer.

S-video TV-out — A connector used to attach a TV or digital audio device to the computer.

SXGA — super-extended graphics array — A video standard for video cards and controllers that supports resolutions up to 1280 x 1024.

SXGA+ — super-extended graphics array plus — A video standard for video cards and controllers that supports resolutions up to 1400 x 1050.

system board — The main circuit board in your computer. Also known as the *motherboard*.

system setup — A utility that serves as an interface between the computer hardware and the operating system. System setup allows you to configure user-selectable options in the BIOS, such as date and time or system password. Unless you understand what effect the settings have on the computer, do not change the settings for this program.

T

TAPI — telephony application programming interface — Enables Windows programs to operate with a wide variety of telephony devices, including voice, data, fax, and video.

text editor — A program used to create and edit files that contain only text; for example, Windows Notepad uses a text editor. Text editors do not usually provide word wrap or formatting functionality (the option to underline, change fonts, and so on).

TPM — trusted platform module — A hardware-based security feature that when combined with security software enhances network and computer security by enabling features such as file and e-mail protection.

travel module — A plastic device designed to fit inside the module bay of a portable computer to reduce the weight of the computer.

U

UAC — user account control— Microsoft Windows Vista™ security feature that, when enabled, provides an added layer of security between user accounts and access to operating system settings.

UMA — unified memory allocation — System memory dynamically allocated to video.

UPS — uninterruptible power supply — A backup power source used when the electrical power fails or drops to an unacceptable voltage level. A UPS keeps a computer running for a limited amount of time when there is no electrical power. UPS systems typically provide surge suppression and may also provide voltage regulation. Small UPS systems provide battery power for a few minutes to enable you to shut down your computer.

USB — universal serial bus — A hardware interface for a low-speed device such as a USB-compatible keyboard, mouse, joystick, scanner, set of speakers, printer, broadband devices (DSL and cable modems), imaging devices, or storage devices. Devices are plugged directly in to a 4-pin socket on your computer or in to a multi-port hub that plugs in to your computer. USB devices can be connected and disconnected while the computer is turned on, and they can also be daisy-chained together.

UTP — unshielded twisted pair — Describes a type of cable used in most telephone networks and some computer networks. Pairs of unshielded wires are twisted to protect against electromagnetic interference, rather than relying on a metal sheath around each pair of wires to protect against interference.

UXGA — ultra extended graphics array — A video standard for video cards and controllers that supports resolutions up to 1600 x 1200.

V

video controller — The circuitry on a video card or on the system board (in computers with an integrated video controller) that provides the video capabilities—in combination with the monitor—for your computer.

video memory — Memory that consists of memory chips dedicated to video functions. Video memory is usually faster than system memory. The amount of video memory installed primarily influences the number of colors that a program can display.

video mode — A mode that describes how text and graphics are displayed on a monitor. Graphics-based software, such as Windows operating systems, displays in video modes that can be defined as *x* horizontal pixels by *y* vertical pixels by *z* colors. Character-based software, such as text editors, displays in video modes that can be defined as *x* columns by *y* rows of characters.

video resolution — See *resolution*.

virus — A program that is designed to inconvenience you or to destroy data stored on your computer. A virus program moves from one computer to another through an infected disk, software downloaded from the Internet, or e-mail attachments. When an infected program starts, its embedded virus also starts.

A common type of virus is a boot virus, which is stored in the boot sectors of a floppy disk. If the floppy disk is left in the drive when the computer is shut down and then

turned on, the computer is infected when it reads the boot sectors of the floppy disk expecting to find the operating system. If the computer is infected, the boot virus may replicate itself onto all the floppy disks that are read or written in that computer until the virus is eradicated.

V — volt — The measurement of electric potential or electromotive force. One V appears across a resistance of 1 ohm when a current of 1 ampere flows through that resistance.

W

W — watt — The measurement of electrical power. One W is 1 ampere of current flowing at 1 volt.

WHr — watt-hour — A unit of measure commonly used to indicate the approximate capacity of a battery. For example, a 66-WHr battery can supply 66 W of power for 1 hour or 33 W for 2 hours.

wallpaper — The background pattern or picture on the Windows desktop. Change your wallpaper through the Windows Control Panel. You can also scan in your favorite picture and make it wallpaper.

WLAN — wireless local area network. A series of interconnected computers that communicate with each other over the air waves using access points or wireless routers to provide Internet access.

write-protected — Files or media that cannot be changed. Use write-protection when you want to protect data from being changed or destroyed. To write-protect a 3.5-inch floppy disk, slide its write-protect tab to the open position.

WWAN — wireless wide area network. A wireless high-speed data network using cellular technology and covering a much larger geographic area than WLAN.

WXGA — wide-aspect extended graphics array — A video standard for video cards and controllers that supports resolutions up to 1280 x 800.

X

XGA — extended graphics array — A video standard for video cards and controllers that supports resolutions up to 1024 x 768.

Z

ZIF — zero insertion force — A type of socket or connector that allows a computer chip to be installed or removed with no stress applied to either the chip or its socket.

Zip — A popular data compression format. Files that have been compressed with the Zip format are called Zip files and usually have a filename extension of **.zip**. A special kind of zipped file is a self-extracting file, which has a filename extension of **.exe**. You can unzip a self-extracting file by double-clicking it.

Zip drive — A high-capacity floppy drive developed by Iomega Corporation that uses 3.5-inch removable disks called Zip disks. Zip disks are slightly larger than regular floppy disks, about twice as thick, and hold up to 100 MB of data.

Index

USA-Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna
-Increase the distance between the equipment and the receiver.
-Connect the equipment to outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Caution: Exposure to Radio Frequency Radiation.
To comply with FCC RF exposure compliance requirements, for mobile configurations, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Canada – Industry Canada (IC)

This device complies with RSS 210 of Industry Canada.
Operation is subject to the following two conditions: (1) this device may not cause
interference, and (2) this device must accept any interference, including interference that
may cause undesired operation of this device."

L ' utilisation de ce dispositif est autorisée seulement aux conditions suivantes : (1) il ne
doit pas produire de brouillage et (2) l' utilisateur du dispositif doit étre prêt à accepter
tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de
compromettre le fonctionnement du dispositif.

The term "IC" before the equipment certification number only signifies that the Industry
Canada technical specifications were met.

To reduce potential radio interference to other users, the antenna type and its gain should
be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that
required for successful communication.

To prevent radio interference to the licensed service, this device is intended to be
operated indoors and away from windows to provide maximum shielding. Equipment (or
its transmit antenna) that is installed outdoors is subject to licensing.

Pour empecher que cet appareil cause du brouillage au service faisant l'objet d'une licence,
il doit etre utilize a l'interieur et devrait etre place loin des fenetres afin de Fournier un
ecram de blindage maximal. Si le matriel (ou son antenne d'emission) est installe a
l'exterieur, il doit faire l'objet d'une licence.

Caution: Exposure to Radio Frequency Radiation.

The installer of this radio equipment must ensure that the antenna is located or pointed
such that it does not emit RF field in excess of Health Canada limits for the general
population; consult Safety Code 6, obtainable from Health Canada's website www.hc-
sc.gc.ca/rpb.